FIVE-YEAR REVIEW REPORT
FOR
ATLAS ASBESTOS MINE SUPERFUND SITE
AND
COALINGA ASBESTOS MINE (JOHNS-MANVILLE MILL) SUPERFUND SITES
FRESNO COUNTY, CALIFORNIA

September 2006

Prepared for
Contract No. 68-W-98-225/WA NO. 215-FRFE-0934
U.S. Environmental Protection Agency
Region IX
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September 28, 2006

Final Report

Five-year Review Report Atlas Asbestos Mine and Coalinga Asbestos Mine (Johns-Manville Mill) Superfund Sites Fresno County, California

September 2006

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List of Acronyms

ARARs	applicable or relevant and appropriate requirements
ATCM	Airborne Toxic Control Measure
BLM	Bureau of Land Management
CARB	California Air Resources Board
CCMA	Clear Creek Management Area
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DTSC	Department of Toxic Substances Control
DWR	California Department of Water Resources
FS	feasibility study
JMM	Johns-Manville Mill
LFR	Levine-Fricke Rincon
LUC	land use covenant
MFL	million fibers per liter
MWD	Metropolitan Water District of Southern California
NPL	National Priorities List
O&M	operations and maintenance
OU	operable unit
PCLC	Pine Canyon Land Company
PLM	polarized light microscope
PRP	potentially responsible party
RI	remedial investigation
RI/FS	remedial investigation/feasibility study
ROD	Record of Decision
SPLC	Southern Pacific Land Company
SPTC	Southern Pacific Transportation Company
USBR	United States Bureau of Reclamation
USEPA	United States Environmental Protection Agency
WMU	waste management unit

Executive Summary

A 5-year review of the Atlas and Coalinga Asbestos Mine Superfund Sites in Fresno County, California was completed between March and June 2006. The 5-year review was required by statute because hazardous substances, pollutants, or contaminants remain at the site above levels that allow for unrestricted use and unlimited exposure. This is the second 5-year review for the Atlas Asbestos Mine Site and the third 5-year review for the Coalinga Asbestos Mine Site. The triggering actions for these statutory reviews are the dates of the previous 5-year reviews (September 27 and 28, 2001).

The Atlas Asbestos Mine Superfund Site consists of two operable units (OUs) and two geographic areas. The Coalinga Asbestos Mine Superfund Sites consists of two OUs. The Atlas Asbestos Mine Superfund Site consists of the Atlas Mine Area OU (OU1), City of Coalinga OU (City OU) (OU2), the Clear Creek Management Area (CCMA), and the Arroyo Pasajero Ponding Basin (Ponding Basin). The CCMA and Ponding Basin geographic areas were included in the site because of concerns that asbestos mining and milling waste from the Atlas Mine Area were being transported to these areas by water or wind. The Coalinga Asbestos Mine Site consists of the Johns-Manville Mill (JMM) OU (OU1) and the previously-mentioned City OU (OU2), which is considered part of the Coalinga Asbestos Mine Site due to historic operations.

The Atlas Mine Area is an abandoned asbestos mine within a region of naturally-occurring asbestos minerals (the CCMA). The Atlas Mine Area included surface stockpiles of asbestos waste material generated from three open-pit asbestos mines, an abandoned mill building, a settling pond, and debris. The area is drained by intermittent streams, which drain into the White Creek Watershed and into Los Gatos Creek, a tributary to the Ponding Basin. During historic heavy flooding, asbestos-laden water has filled the Ponding Basin and been released into the California Aqueduct.

The abandoned JMM OU consists of a former asbestos mine, former processing mill, former support buildings, and asbestos tailings. The area is drained by Pine Canyon Creek, which flows into the Los Gatos Creek, a tributary to the Ponding Basin.

Asbestos product from both the Atlas Mine Area OU and the JMM OU was transported offsite to the 107-acre City OU, located approximately 20 miles to the southeast, along Highway 198 at the southwestern end of the City of Coalinga. Within the City OU, asbestos was stored prior to handling and shipment. Contamination in the northern portion of this area was associated with asbestos from the Atlas Mine Area OU and contamination in the southern portion was associated with the JMM OU. The United States Environmental Protection Agency (USEPA) decided it would be expeditious to combine the cleanup of the entire 107-acre area by designating it a single OU.

Based on concentrations of asbestos that were detected at these sites, risk assessments concluded that the levels of asbestos present at the Atlas and Coalinga Sites presented an elevated risk of lung cancer due to the potential for exposure to airborne asbestos. When inhaled, asbestos can be permanently lodged in the lungs creating a chronic source of

irritation. The longer the exposure and greater the number of fibers inhaled, the greater the potential for developing lung cancer, mesothelioma, or asbestosis.

The remedy for the Atlas Mine Area OU and the JMM OU included the removal of contaminated material, stabilization of erosion-prone areas, structural improvements and additions, access control, and institutional controls. The remedy for the City OU included the removal and burial of contaminated soils and materials beneath an onsite cap (Waste Management Unit [WMU]). The remedy also included institutional controls. The Superfund Final Closeout Report for Coalinga Asbestos Mine site (JMM OU and City OU) was signed on August 19, 1997, and this Superfund Site was removed from the Superfund National Priorities List on April 24, 1998 (USEPA 1997). The Atlas Mine Area OU remains on the list.

This 5-year review—which included a review of documents, applicable or relevant and appropriate requirements, and institutional controls; site inspections; and an interview—identified the following issues / recommendations:

- The land use covenants (LUC) (also known as deed restrictions) recorded for the JMM OU and City OU should be re-recorded so that they run with the land pursuant to the current Department of Toxic Substances Control (DTSC) regulations for LUCs.
- Alternate access roads to the Rover Pit / Channel A and Pond A at the Atlas Mine Area OU should be identified.
- The signs along the perimeter fence at the WMU at the City OU should be updated with a current DTSC phone number.
- The USEPA has recently revised asbestos risk assessment guidance to conclude that "the 1 area-percent threshold for asbestos in soil / debris as an action level may not be protective of human health in all instances of site cleanups" (USEPA 2004). This new information is a change from the exposure assumption made at the City OU, which was the basis for the 1 percent soil cleanup level. Therefore, the remedy for the unrestricted portion of the City OU may not be protective of human health and the environment, and further information is needed to determine protectiveness. The WMU at the City OU is unaffected by this new information. The WMU is protective because human exposure pathways are eliminated by engineering and institutional controls.

The remedy for the Atlas Mine Area OU is protective of human health and the environment due to the removal of contaminated material, stabilization of erosion prone areas, structural improvements and additions, the installation of access controls and warning signs, and regular maintenance.

The remedy for the JMM OU is protective of human health and the environment due to the removal of contaminated material, diversion of water around erosion prone surfaces / materials, stabilization of erosion prone areas, structural improvements and additions, the installation of access controls and warning signs, and regular maintenance.

The protectiveness of the remedy for the City OU is deferred until further information is obtained. Since the City OU is shared by two Sites—Atlas Asbestos Mine and Coalinga Asbestos Mind Sites—the sitewide protectiveness of both Sites is deferred until further information is obtained.

5-year Review Summary Form

SITE IDENTIFICATION

Site name : Atlas Asbestos Mine Superfund Site and Coalinga Asbestos Mine (Johns-Manville Mill [JMM]) Superfund Site

EPA ID: CAD980496863 (Atlas) and CAD980817217 (Coalinga)

CERCLIS ID #: 0934 (Atlas) and 0935 (Coalinga)

Region: 9 **State:** CA **City/County:** Coalinga/Fresno

SITE STATUS

NPL status: ☐ Final ☐ Deleted ☑ Other (specify) Coalinga Site Operable Unit (OU1 and OU2) has been deleted from the NPL, Atlas Mine Area OU (OU1) on Final NPL.

Remediation status (choose all that apply): ☐ Under Construction ☐ Operating ☑ Complete

Multiple OUs? ☑ YES ☐ NO **Construction completion date:** Coalinga City OU: May 1993; Atlas Mine Area OU: September 1999; JMM OU: March 1995

Has site been put into reuse? ☑ YES ☐ NO Portions of the site have been put into reuse

REVIEW STATUS

Reviewing agency: ☑ EPA ☐ State ☐ Tribe ☐ Other Federal Agency _____

Author name: Lynn Suer

Author title: Remedial Project Manager **Author affiliation:** EPA Region IX

Review period: March – September 2006

Date(s) of site inspection: April 13, 14, and May 2, 2006

Type of review: ☑ Statutory

☐ Policy (☐ Post-SARA ☐ Pre-SARA ☐ NPL-Removal only

☐ Non-NPL Remedial Action Site ☐ NPL State/Tribe-lead

☐ Regional Discretion)

Review number: ☐ 1 (first) ☐ 2 (second) ☐ 3 (third) ☑ Other (specify) 3rd Review for City OU and JMM OU, 2nd Review for Atlas Mine Area OU

Triggering action:

☐ Actual RA Operation of Groundwater ☐ Actual RA Start at OU#_____

☐ Remedial Systems ☑ Previous 5-year Review Report

☐ Construction Completion

☐ Other (specify) _____

Triggering action date: City OU and JMM OU: September 27, 2001

Atlas Mine Area OU: September 28, 2001

Due date (five years after triggering action date): September 27, 2006

5-year Review Summary Form

Issues:

- The deed restrictions recorded for JMM OU and City OU do not run with the land. They are also not consistent with current Department of Toxic Substances Control (DTSC) regulations.
- At the Atlas Mine Area, the road to the Rover Pit/Channel A is likely to fail sometime in the future due to an active landslide. In addition, the road to Pond A may also become inaccessible to vehicular traffic in the future due to erosion.
- The DTSC phone number shown on signs along the perimeter fences surrounding the WMU at the City OU is no longer valid.
- U.S. Environmental Protection Agency (USEPA) has recently revised asbestos risk assessment guidance to conclude that "the 1 area-percent threshold for asbestos in soil/debris as an action level may not be protective of human health in all instances of site cleanups" (USEPA 2004). This new information is a change from the exposure assumption made at the City OU, which was the basis for the 1 percent soil cleanup level. Therefore, the remedy for the unrestricted portion of the City OU may not protect human health and the environment. This is not an issue for the WMU within the City OU because human exposure pathways at the WMU have been eliminated by a soil cap, fencing, and access restrictions.

Recommendations and Follow-up Actions:

- The deed restrictions at the JMM and City OUs should be re-recorded consistent with current DTSC regulations for land use covenants, 22 California Code of Regulations Section 67391.1.
- Alternate access roads to the Rover Pit/Channel A and to Pond A should be identified prior to failure of the existing roads.
- The signs along the perimeter fences at the WMU at the City OU should be updated with a current DTSC phone number.
- An evaluation of the protectiveness of the asbestos cleanup level specified by the Record of Decision should be performed for the unrestricted portion of the City OU. This evaluation will occur in three phases. The first phase will involve a review of information pertaining to the cleanup. This will determine the extent to which soils with residual (<1 percent) asbestos were left onsite and whether residual asbestos in soils could, potentially, compromise protectiveness. The second phase will only occur if it is determined under the first phase that protectiveness may be compromised. The second phase consists of developing a workplan to address potential risks. A third phase consists of evaluating the results of work conducted under the workplan and specify what, if any, further actions may be needed to ensure protectiveness.

Protectiveness Statement(s):

The remedial action at the Atlas Mine Area OU is protective of human health and the environment due to the removal of contaminated material, stabilization of erosion prone areas, structural improvements and additions, the installation of access controls and warning signs, and regular maintenance of the Atlas Mine Area OU.

The remedial action at the JMM OU is protective of human health and the environment due to the removal of contaminated material, diversion of water around erosion prone surfaces/materials, stabilization of erosion prone areas, structural improvements and additions, the installation of access controls and warning signs, and regular maintenance of the JMM OU.

The protectiveness of the remedial action for the City OU is deferred until further information is obtained regarding potential human health risks of residual (<1 percent) asbestos in soils that may be present in the unrestricted portion of the OU.

Sitewide Protectiveness Statement(s):

Because the determination of protectiveness is deferred for the City OU, and because the City OU is shared by the Atlas Asbestos Mine Site and the Coalinga Asbestos Mine Site, the sitewide protectiveness determination for both Superfund Sites is deferred until further information is obtained.

SECTION 1.0

Introduction

The United States Environmental Protection Agency (USEPA) has conducted a 5-year review of the remedial actions implemented at the Atlas Asbestos Mine Superfund Site (also referred to as the Atlas Site) and the Coalinga Asbestos Mine Superfund Site (also referred to as the Coalinga Site), located in Fresno County, California. This review was conducted between March and June 2006. CH2M HILL was contracted under the USEPA's Response Action Contract IX to prepare this report that documents the results of the 5-year review.

The purpose of the 5-year review process is to evaluate whether the remedial measures implemented at the sites are protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in 5-year review reports. In addition, 5-year review reports identify deficiencies found during the review, if any, and provide recommendations for addressing these deficiencies.

This review is required by statute. USEPA must implement 5-year reviews consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan. CERCLA Section 121(c), as amended, states:

> 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 five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented.

The National Oil and Hazardous Substances Pollution Contingency Plan at Section 300.430(f)(4)(ii) of the Code of Federal Regulations states:

> If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.

Consequently, this 5-year review has been performed because hazardous substances, pollutants, or contaminants remain at the site above levels that allow for unrestricted use and unlimited exposure.

This is the second 5-year review for the Atlas Asbestos Mine Site and the third 5-year review for the Coalinga Asbestos Mine Site. The triggering actions for these statutory reviews are the dates of the previous 5-year reviews (September 27 and 28, 2001).

The Atlas Asbestos Mine Superfund Site consists of two operable units (OUs) and two geographic areas. The Coalinga Asbestos Mine Superfund Sites consists of two OUs. The Atlas Asbestos Mine Superfund Site consists of the Atlas Mine Area OU (OU1), City of

Coalinga OU (City OU) (OU2), the Clear Creek Management Area (CCMA), and the Arroyo Pasajero Ponding Basin (Ponding Basin). The CCMA and Ponding Basin geographic areas were included in the site because of concerns that asbestos mining and milling waste from the Atlas Mine Area were being transported to these areas by water or wind. The Coalinga Asbestos Mine Site consists of the Johns-Manville Mill (JMM) OU (OU1) and the previously-mentioned City OU (OU2), which is considered part of the Coalinga Asbestos Mine Site due to historic operations.

The report is organized into sections that describe the history and setting of the site, remedial action decisions and implementation, and an evaluation of remedial actions. The report is organized in the following manner:

- Section 2.0 discusses chronology of events at the sites.
- Section 3.0 discusses physical characteristics, land use, the history of contamination, basis for taking action, and initial response.
- Section 4.0 presents the remedial actions implemented, current status of the remedies, and operations and maintenance (O&M) activities.
- Section 5.0 presents the progress made since the last 5-year reviews.
- Section 6.0 outlines activities performed during the 5-year review process.
- Section 7.0 presents technical assessments of the remedial actions implemented at the sites.
- Section 8.0 discusses issues and recommendations for the sites.
- Section 9.0 provides protectiveness statements for the sites.
- Section 10.0 presents a schedule for the next 5-year review.
- Section 11.0 provides list of works cited during the preparation of this document.

SECTION 2.0

Site Chronology

Table 2-1 provides a chronology of events at the Atlas and Coalinga Sites.

TABLE 2-1
Chronology of Site Events

Event	Date	OU(s)/ Geographic Area
JMM was constructed and used to process asbestos.	1962 to mid-1974	JMM OU 01
Atlas Mine was used for active asbestos mining and milling.	1967 to 1979	Atlas OU 01
JMM was used for chromite milling.	1975 to 1977	JMM OU 01
Atlas Asbestos Company and Wheeler Properties cited for violating the National Emissions Standards for Hazardous Air Pollutants regulations regarding control of asbestos emissions.	December 3, 1976 and February 15, 1980	Atlas OU 01
The Metropolitan Water District of Southern California detected elevated levels of asbestos in California Aqueduct water samples. Subsequent sampling suggested that the JMM and Atlas Mine Area were probable sources of asbestos.	1980	JMM OU 01 and Atlas OU 01
USEPA performed additional inspection of the JMM.	May 1980	JMM OU 01
Central Valley Regional Water Quality Control Board (Water Board) and California Department of Health Services inspected the Atlas Mine Area and the JMM and concluded additional corrective measures should be taken.	October 17, 1980	JMM OU 01 and Atlas OU 01
Water Board collected surface water samples in the Arroyo Pasajero watershed and results were rated using the hazard ranking system.	March and June 1983	JMM OU 01 and Atlas OU 01
Southern Pacific Land Company (SPLC) submitted a remediation plan to the Water Board.	August 18, 1983	JMM OU 01
Coalinga and Atlas Sites were placed on the National Priority List (NPL).	September 21,1984	JMM OU 01and Atlas OU 01
USEPA initiated remedial investigation/feasibility study (RI/FS) activities at JMM and Atlas Mine Area.	1985	JMM OU 01 and Atlas OU 01
USEPA performed sampling and studies at the Atlas and Coalinga Sites as part of the remedial investigation (RI). High levels of airborne asbestos were measured in the City of Coalinga. Subsequently, the 107-acre City OU of the Atlas and Coalinga Sites was created.	1986 and 1987	City OU 02
USEPA issued an administrative order pursuant to CERCLA Section 106 (Order No. 87-04) to Southern Pacific Transportation Company (SPTC) to perform an RI.	August 1987	City OU 02

TABLE 2-1
Chronology of Site Events

Event	Date	OU(s)/ Geographic Area
SPTC began RI and performed interim measures, including limiting access to contaminated areas with fencing, posting warning signs, spraying biodegradable sealant to control dust emissions, and covering waste ore piles with plastic sheeting.	Fall 1987	City OU 02
SPLC signed Administrative Order on Consent and agreed to conduct an RI/FS for the JMM.	November 16, 1987	JMM OU 01
Agency for Toxic Substances and Disease Registry issued a health assessment for the Atlas/Coalinga Mine sites and concluded that these sites were a potential public health concern.	November 1988	City OU 02
USEPA released the OU Feasibility Study (FS) and Hazardous Substance Containment Report.	February 9, 1989	City OU 02
Record of Decision (ROD) for City OU was signed.	July 19, 1989	City OU 02
SPTC entered into a Consent Decree with USEPA and agreed to implement the remedies specified in the ROD.	July 27, 1989	City OU 02
Remedial activities commenced at the City OU.	October 1989	City OU 02
RI Report for JMM OU submitted to USEPA.	January 17, 1990	JMM OU 01
RI/FS Report and Proposed Plan for the Atlas Site released for public comment.	April 1990	Atlas OU 01
FS for JMM OU submitted to USEPA.	May 3, 1990	JMM OU 01
An amended Consent Decree with SPTC and USEPA that included the City of Coalinga as a signatory was filed for City OU.	May 17, 1990.	City OU 02
Deed restriction was recorded with the Recorder's Office, Fresno County, prohibiting anyone in possession of property from interfering with maintenance and operation of the waste management unit (WMU) at City OU.	June 22, 1990	City OU 02
ROD for JMM OU was signed.	September 21, 1990	JMM OU 01
Remedial activities began at the City OU.	October 1990	City OU 02
ROD for Atlas Mine Area OU was signed.	February 14, 1991	Atlas OU 01
USEPA accepted the Final Remedial Action Report and Operation and Maintenance Plan for City OU.	April 1992	City OU 02
Pine Canyon Land Company (PCLC), Santa Fe Pacific Corporation, and Catellus Development Corporation entered into a Consent Decree with USEPA at JMM OU.	August 11, 1992	JMM OU 01
Atlas Corporation and Vinnell Mining and Minerals Corporation, entered into a Consent Decree with USEPA at Atlas Mine Area OU.	August 13, 1992	Atlas OU 01
Deed restriction amendment recorded for the City OU.	September 24, 1992	City OU 02

TABLE 2-1
Chronology of Site Events

Event	Date	OU(s)/ Geographic Area
Public Notice issues by EPA regarding Status of CCMA and the Ponding Basin	December, 1992	CCMA, Ponding Basin
USEPA approved the Remedial Design Work Plan for the JMM OU.	April 1, 1993	JMM OU 01
Remedial activities began at JMM OU.	May 17, 1993	JMM OU 01
Certificate of completion issued to the City of Coalinga.	May 18, 1993	City OU 02
Deed restriction was recorded with the Recorder's Office, Fresno, County, prohibiting anyone in possession of property from interfering with the implementation of remedy at JMM OU.	July 2, 1993	JMM OU 01
Remedial Action Design Plan approved at Atlas Mine Area OU.	June 22, 1994	Atlas OU 01
Remedial activities began at Atlas Mine Area OU.	October 20, 1994	Atlas OU 01
City OU First 5-year review.	March 1995	City OU 02
USEPA issued a preliminary closeout report for the JMM OU.	March 1995	JMM OU 01
Environmental Solutions of Glendale, California conducted a study of asbestos levels in the ambient air and soil of the Ridgeview Apartment Complex within the City OU for the California Housing Finance Agency.	July 1995	City OU 02
Atlas Mine Site Committee submitted a revised remedial design modifications letter to USEPA for supplemental site modifications to the Remedial Action Design Plan at Atlas Mine Area OU.	October 19, 1995	Atlas OU 01
USEPA approved design modifications for Remedial Action at Atlas Mine Area OU.	February 1, 1996	Atlas OU 01
Superfund Final Closeout Report prepared for Coalinga Site.	August 11, 1997	JMM OU 01 and City OU 02
JMM OU First 5-year review.	December 15, 1997	JMM OU 01
Coalinga site removed from NPL.	April, 24 1998	JMM OU 01 and City OU 02
USEPA issued a preliminary closeout report for the Atlas Area OU.	September 2, 1999	Atlas OU 01
O&M Plan and Remedial Action Completion Report prepared for Atlas Mine Area OU.	December 31, 1999	Atlas OU 01
Preliminary Closeout Report for Atlas Mine Area OU signed.	January 18, 2000	Atlas OU 01
JMM OU and City OU second 5-year review. Atlas Mine Area OU first 5-year review.	September 2001	JMM OU 01, City OU 02, and Atlas OU 01
JMM Revised Operation and Maintenance Plan	May 2, 2002	JMM OU 01
JMM OU 2002 Annual Inspection Report	May 3, 2002	JMM OU 01

TABLE 2-1
Chronology of Site Events

Event	Date	OU(s)/ Geographic Area
City OU 2002 Annual Inspection Report	June 17, 2002	City OU 02
Atlas OU 2002 Annual Inspection Report	February 10, 2003	Atlas OU 01
JMM OU 2003 Annual Inspection Report	April 18, 2003	JMM OU 01
City OU 2003 Annual Inspection Report	July 11, 2003	City OU 02
Atlas OU 2003 Annual Inspection Report	December 19, 2003	Atlas OU 01
JMM OU 2004 Annual Inspection Report	June 1, 2004	JMM OU 01
City OU 2004 Annual Inspection Report	October 12, 2004	City OU 02
JMM OU 2005 Annual Inspection Report	June 6, 2005	JMM OU 01
Atlas OU 2005 Annual Inspection Report	October 2005	Atlas OU 01
City OU 2005 Annual Inspection Report	November 4, 2005	City OU 02
Construction maintenance activities at the Atlas Mine Area OU implemented.	March 30 to August 18, 2005	Atlas OU 01
USEPA conducted air sampling events in CCMA.	September/November 2004, and February/November 2005	CCMA

SECTION 3.0

Site Background

This section provides site background including the land and resource use, the physical setting, the history of contamination, initial responses, and basis for taking action.

3.1 Physical Characteristics

The City of Coalinga is in Pleasant Valley in Fresno County, California on the western margin of the central San Joaquin Valley in an area that includes the foothills of the Southern Diablo Range Mountains. According to the 2000 census, the City of Coalinga has a population of approximately 11,700. The New Idria Formation is located approximately 20 miles northwest of Coalinga in the Diablo Range (Figure 3-1) and is the largest known serpentine deposit in the Coalinga region. The formation consists of a 30,000-acre outcrop margin of naturally-occurring chrysotile asbestos, as well as other minerals associated with serpentine. Extensive mining has been conducted in the southeastern third of the New Idria Formation for chromite ore, chrysotile asbestos ore, and other serpentine-related minerals.

The Atlas Mine Area is an abandoned asbestos mine within the New Idria Formation. It is approximately 20 miles northwest of Coalinga in Fresno County, California. The mine area is approximately 140 acres and is situated between 4,000 and 5,000 feet above sea level. The Atlas Mine Area is also located within the Bureau of Land Management's (BLM's) CCMA, which includes approximately 75,000 acres of public land. The portion of the CCMA located within the New Idria Formation is designated a Hazardous Asbestos Area. It is managed by the BLM through the January 2006 CCMA Resource Management Plan Amendment and Route Designation ROD (BLM 2006) (Figure 3-1).

The Ponding Basin is approximately 30 miles east of the Atlas Mine Area. It is located between State Highway 198 and Gale Avenue to the West of the California Aqueduct. Intermittent streams in the Atlas Mine and JMM Area drain into Los Gatos Creek, a tributary to the Ponding Basin. The Ponding Basin is designed to hold floodwaters from the Arroyo Pasajero alluvial fan.

The JMM is a privately-owned, 120-acre tract of land in upper Pine Canyon on the southern flank of Joaquin Ridge in the Diablo Range in western Fresno County, California. The site is approximately 0.5 mile downslope from the main outcrop margin of the New Idria Formation. The City of Coalinga is the nearest population center and is 16 miles to the southeast (Figure 3-1).

The City OU is located along Highway 198 at the southwestern end of the City of Coalinga in Fresno County, California. The City OU consists of approximately 107 acres situated between Fourth Street and the intersection of Lucille Avenue and Highway 198. The nearest population center is an apartment complex and housing development that is located just northeast of the WMU and within the boundaries of the OU. In addition, a retail center is located within the OU.

3.2 Land and Resource Use

3.2.1 Atlas Mine Area OU

As presented in the previous section, the Atlas Mine Area OU lies within the New Idria Formation, which contains large amounts of naturally-occurring chrysotile asbestos. It included surface stockpiles of asbestos waste material from three open-pit asbestos mines, an abandoned mill building, a settling pond, and debris. The area is drained by intermittent streams, which drain into the White Creek Watershed and into Los Gatos Creek, a tributary to the Ponding Basin. Adjacent land uses at the Atlas Mine Area include mining, ranching, farming, and recreation (camping, hiking, hunting, and mineral collection). The site is accessed by either a BLM dirt road north of the site or from a private dirt road located north of Los Gatos Road. Both access roads to the site contain locked gates, with keys managed by BLM.

3.2.2 Johns-Manville Mill OU

The abandoned JMM OU consists of a former asbestos mine, former processing mill, former support buildings, and asbestos tailings. The area is drained by Pine Canyon Creek, which flows into the Los Gatos Creek, a tributary to the Ponding Basin. Areas adjacent to the JMM OU are rural. Land uses include mining, ranching, farming, and recreation (camping, hunting, hiking, mineral collecting, and riding off-highway vehicles). The JMM is currently in an access-restricted area, fenced, and subject to a deed restriction. However, the existing deed restriction has issues with enforceability that are discussed further in Section 8.0.

3.2.3 City OU

The Southern Pacific Railroad property within the 107-acre City OU consisted partly of a portion of the original operating right-of-way acquired by Southern Pacific Railroad Company (a predecessor of SPTC) pursuant to the July 27, 1866 Act of Congress, and partly of ancillary lands acquired pursuant to the same Act patented July 10, 1894. During SPTC's ownership, several properties were leased to various entities active in the milling, manufacture, storage and/or transportation of asbestos materials from the mid-1950s until approximately 1980. Over time, most of SPTC's holdings were sold. The land that contains the City OU WMU is currently owned by the City of Coalinga pursuant to a "Stipulated Judgment Quieting Title, APN: 900-700-12 (formerly APN 083-020-59SU)", issued by the United States District Court for the Eastern District of California on October 21, 2005 (Case: 1:05-CV-00210-OWW-SMS).

Currently, commercial and residential redevelopment has occurred or is in progress on portions of the site where there is no deed restriction, consistent with USEPA's Brownfield Initiative. Redevelopment in the area has included the construction of a K-Mart store and residential structures. Recent development since the last 5-year review includes construction of additional residential housing in the area north of the WMU.

3.2.4 Ponding Basin

The Ponding Basin was designed to hold floodwaters from the Arroyo Pasajero alluvial fan. During rainy seasons, the California State Department of Water Resources (DWR)

historically drained the water from the Ponding Basin to the California Aqueduct. The water in the California Aqueduct is used to supply municipalities with drinking water and farmers with water for agricultural purposes such as irrigation. Because water in the California Aqueduct historically contained high levels of dispersed asbestos fibers, municipalities are required to treat drinking water to a maximum contaminant level of less than 7,000,000 fibers per liter, or 7 million fibers per liter (MFL) of asbestos under the Safe Drinking Water Act (SDWA).

3.2.5 Clear Creek Management Area

The designated Hazardous Asbestos Area in BLM's CCMA has been mined for mercury, chromite, asbestos, and other minerals since the mid-1800s, and contains numerous mines and exploration cuts, as well as hundreds of roads and trails. It is also a popular recreation area used by off-highway vehicle enthusiasts, hikers, campers, hunters, and rock-collectors. The San Benito Mountain Research Natural Area, which is approximately 4,082 acres, is located within the Hazardous Asbestos Area. This area was designated because of the unique vegetative communities associated with the serpentine soils. Its primary purpose is to provide research and educational opportunities while protecting this unique assemblage of vegetation.

3.3 History of Contamination

3.3.1 Atlas Mine Area OU

In the mid-1950s, an investigation by the California Division of Mines and Geology indicated that the serpentine matrix of the New Idria Formation was mainly chrysotile asbestos. Subsequent investigation in the southeastern third of the New Idria Formation demonstrated that the asbestos ore could be mined and milled to produce a marketable short-fiber asbestos product. From 1959 through 1962, the Coalinga and Los Gatos Creek areas experienced an intensive land rush for asbestos mining claims. In 1962, the Atlas Minerals Division of the Atlas Corporation acquired title to a large block of claims and began construction of an asbestos mill at the Atlas Mine Area. Asbestos mining and milling at the Atlas Mine Area occurred from 1967 to 1979. The Vinnell Mining and Minerals Corporation (Vinnell), in a joint venture with California Minerals Corporation, owned and operated the mining and milling operation from 1967 until 1974, when they sold it to Wheeler Properties. Wheeler Properties operated the facility until 1979 and filed for bankruptcy shortly thereafter.

The mining activity included digging the asbestos ore out of surface pits and then milling the ore. The byproducts of the milling process (mill tailings) were bulldozed into piles near the mill building. Approximately 3 million cubic yards of asbestos ore and asbestos tailings remain at the Atlas Mine Area OU.

On December 3, 1976 and on February 15, 1980, Atlas Asbestos Company and Wheeler Properties were cited for violating the National Emissions Standards for Hazardous Air Pollutants regulation regarding control of asbestos emissions.

In early 1980, the Metropolitan Water District of Southern California (MWD)detected elevated levels of asbestos in water samples collected from the California Aqueduct near

Los Angeles. An extensive sampling program along the aqueduct, conducted by the MWD in August through September of 1980, suggested that the Atlas Mine was one probable source of asbestos in the California Aqueduct. Asbestos levels of up to 2,500 MFL were measured. In March of 1983, four surface water samples were collected during a period of high run-off in the Arroyo Pasajero watershed. Asbestos fiber concentrations in these samples ranged from 80,000 to 240,000 MFL.

On October 17, 1980, the Central Valley Regional Water Quality Control Board (Water Board) and the California Department of Health Services inspected the Atlas Mine Area to determine if waste discharges from these facilities were in compliance with state regulations. The Water Board concluded that additional corrective measures should be taken to prevent mine- and mill-generated asbestos from entering the drainage basins.

3.3.2 Johns-Manville Mill OU

The Southern Pacific Railroad originally acquired this tract from the federal government as part of a land grant under the 1871 Railway Act. From 1959 through 1962, extensive mining and milling of asbestos was conducted in the Coalinga and Los Gatos Creek areas. For a 25-year period, SPLC leased part of the property to the Coalinga Asbestos Company. The Coalinga Asbestos Company—a joint venture between the Johns-Manville Corporation, the Kern County Land Company, and private investors—constructed and operated an asbestos milling operation at the site from approximately 1962 to mid-1974. During this period, ore from local open-pit mines was processed and sorted, and product was transported offsite by tractor trailers. Tailings and other wastes from the operation were bulldozed into the eastern fork of Pine Canyon Creek. The local open pit mines supplying ore to the mill included the Jensen Mine and the Christy Mine (which are not part of the JMM OU). An estimated 450,000 cubic yards of ore and tailings remain at the site.

In November 1975, the Coalinga Asbestos Company assigned the lease to the Marmac Resource Company / Mareco (Marmac), which used the JMM to conduct a chromite milling operation. Though milling operations are thought to have ceased in October 1977, Marmac retained a lease on the property until July 31, 1981.

In early 1980, the MWD detected elevated levels of asbestos in water samples collected from the California Aqueduct near Los Angeles. An extensive sampling program along the aqueduct, conducted by the MWD in August through September of 1980, determined that drainage flowing from the JMM Area contained asbestos that ultimately entered the aqueduct during periods of high surface water runoff. In May 1980, analysis of samples from the tailings pile showed chrysotile asbestos concentrations ranging from 20 to 40 percent.

3.3.3 City OU

During investigation of the Atlas Mine Area and the JMM in 1986 and 1987, USEPA conducted an airborne asbestos sampling program in which high asbestos levels were measured in the City of Coalinga. A limited soil / waste material sampling and analytical program performed in June 1987 indicated chrysotile asbestos levels ranging from less than 1 area-percent to 50 area-percent in the Coalinga area. Further investigation revealed that asbestos had been transported from the mines and mills to storage areas within the City of

Coalinga for handling and shipment. Contamination in the northern portion of this area was associated with the storage, handling, and shipping operations conducted at the Atlas Mine Area, while contamination in the southern portion was associated with storage, handling, and shipping operations conducted at the JMM. Although cleanup could have proceeded as two separate OUs, USEPA decided it would be more expeditious to combine the cleanup of the entire 107-acre area into a single OU, designating it the City OU, which is part of both the Atlas and Coalinga Sites.

3.4 Initial Responses

On June 14, 1983, the risks presented by asbestos at the Atlas and Coalinga Sites were rated using the Hazard Ranking System. The Atlas and Coalinga Sites were then placed on the NPL in September 1984. RI/FS activities were initiated by the USEPA in 1985.

In August of 1987, USEPA issued an administrative order pursuant to CERCLA Section 106 (Order No. 87-04) to SPTC, a landowner in the contaminated area, requiring them to conduct an RI at the City OU. Soil sampling performed as part of the RI confirmed the presence of elevated levels of asbestos and nickel in the City OU. SPTC was also ordered to perform an FS to develop and evaluate remedial alternatives to address the contamination. USEPA released the FS and information concerning the proposed USEPA plan for cleanup of the City OU on February 9, 1989.

In response to Order No. 87-04, SPTC also performed interim measures to stabilize the waste materials at the City OU during the more detailed investigation. These tasks included: (1) limiting access to contaminated areas with fencing, (2) posting warning signs, (3) spraying biodegradable sealant to control dust emissions, and (4) covering waste ore piles with plastic sheeting. These interim measures were performed in fall 1987. A second spraying of sealant took place in spring 1988, and a third spraying took place in June 1989.

Atlas Minerals Division of the Atlas Corporation, Vinnell, Wheeler Properties Inc., the California Mineral Corporation, and the BLM were identified as potentially responsible parties (PRPs) at the Atlas Mine OU. General notice letters were sent on October 13, 1987 and June 23, 1988, notifying the PRPs of their potential liability.

The Santa Fe Pacific Railroad Company (formerly known as SPLC), the Marmac Resources Company, Kern County Land Company, and the Manville Sales Corporation were identified as PRPs at the JMM OU. General notice letters were sent on June 26, 1986 and June 23, 1988, notifying the PRPs of their potential liability for cleanup. On November 16, 1987, USEPA and SPLC entered into a Consent Order that called for SPLC to complete the RI/FS for the site. These were completed and submitted to USEPA in 1990.

3.5 Basis for Taking Action

Asbestos has been released to soil, water, and air at the Atlas and Coalinga Sites. Elevated concentrations of nickel have also been detected in soil and ore waste at the City OU. Asbestos is considered a known carcinogen, Group 1 human carcinogen, and Group A human carcinogen by the United States Department of Health and Human Services, the International Agency for Research on Cancer, and the USEPA, respectively. Uncontrolled asbestos can be transported by erosion, wind, and water to populated areas where exposure

can occur.

Asbestos can come in many different forms, including fibers, bundles, matrices, and clusters. Fiber is the structure with the greatest toxicological significance. It is believed that fibers, especially long fibers, when inhaled, can be permanently lodged in the lungs creating a chronic source of irritation. The longer the exposure and the greater the number of fibers inhaled, the greater the potential for developing lung cancer, mesothelioma, or asbestosis (Health Consultation). Some epidemiology studies have also associated larynx, pharynx, gastrointestinal tract, kidney, ovarian cancer, and certain respiratory diseases such as pneumonia with asbestos exposure.

The two general routes of exposure to asbestos at the Atlas and Coalinga Sites are inhalation and ingestion. The potentially-exposed populations include: (1) individuals who use the Atlas Mine Area, the JMM, and other areas in the CCMA for recreational off-highway vehicle driving, camping, hunting, ranching, and other public uses; (2) individuals who live in proximity to the Atlas Mine Area, the JMM, and the CCMA; and (3) populations of communities in Fresno and San Benito Counties, such as Huron, Coalinga, Idria, Five Points, Stratford, Kettleman City, Priest Valley, Lonoak, Panoche, and Avenal. Based on concentrations of asbestos detected in the area, risk assessments concluded that the levels of asbestos at the Atlas and Coalinga Sites presented an elevated risk of lung cancer due to the potential for asbestos exposure. Because of the determination that these potential risks existed, USEPA decided that remedial action was necessary.

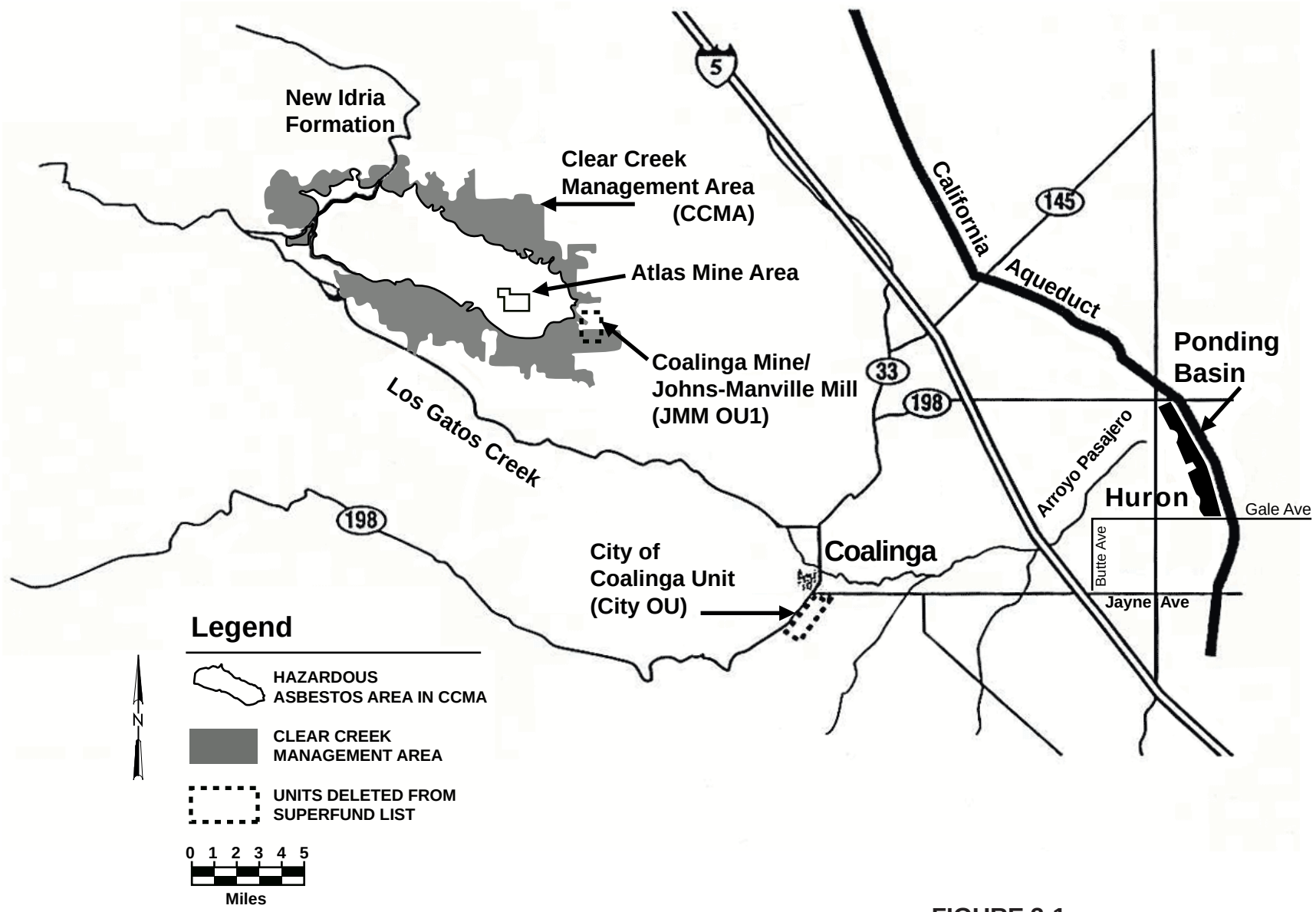


FIGURE 3-1
LOCATION MAP
FIVE-YEAR REVIEW REPORT FOR THE ATLAS ASBESTOS MINE AND COALINGA ASBESTOS MINE SUPERFUND SITES
COALINGA, CALIFORNIA

CH2MHILL

ES052006007BAO_Fig 3-1 location map_ai_5/5/06_ll

SECTION 4.0

Remedial Actions

The following section summarizes the remedial actions selected and implemented at the Atlas and Coalinga sites, and also presents a summary of the operational and maintenance activities for the selected remedies.

4.1 Remedy Selection

4.1.1 Atlas Mine Area OU

The ROD for the Atlas Mine Area OU was signed on February 14, 1991. Asbestos waste at the Atlas Mine Area OU presented three major problems:

- Vehicular or other human disturbance generated airborne asbestos on-site.
- Asbestos was transported from the Atlas Mine Area to external areas by vehicles that traveled through the Atlas Mine Area.
- Chrysotile asbestos was released from the Atlas Mine Area into local creeks during heavy rains, and there was consequently potential for this asbestos to become airborne at downstream locations.

The objective of the remedy was to control the release of asbestos into air and local streams from the Atlas Mine Area and restrict access to the Atlas Mine Area using engineering and institutional controls to provide long-term protection of human health and the environment. The selected remedy entails (USEPA 1991a):

- Fencing or other appropriate controls to restrict access to the Atlas Mine Area.
- Paving the road through the Atlas Mine Area or implementing an appropriate road maintenance alternative.
- Constructing stream diversions and sediment trapping dams to minimize the release of asbestos into local creeks.
- Conducting a revegetation pilot project to determine whether revegetation is an appropriate means of increasing stability and minimizing erosion of the disturbed areas and implementing revegetation if it is found to be appropriate.
- Dismantling of the mill building and disposing of debris.
- Filing deed restrictions on privately held lands at Atlas Mine Area OU.
- Implementing an O&M program.

Stabilization and control of asbestos waste were to minimize the release of asbestos, to provide long-term protection of human health and the environment. The ROD included implementation of an O&M program to ensure the effectiveness of the response action.

USEPA provided in the ROD that it is not taking any action in the CCMA because the BLM will revise its land use plan to minimize airborne asbestos emissions and the threat to public health from the CCMA. The ROD further provided that USEPA will evaluate whether the BLM's plan protects human health and the environment and will publish a public notice of its determination. At that time, EPA will decide whether further action under CERCLA in the CCMA is necessary. Similarly, USEPA provided in the ROD that it is not taking any action in the Ponding Basin because the United States Bureau of Reclamation (USBR) and the DWR are considering actions to minimize the generation of asbestos-laden dust and to prevent run-off to the aqueduct from the Ponding Basin. The ROD further provides that USEPA will evaluate whether USBR's and DWR's plan protects human health and the environment and will publish a public notice of its determination. At that time, EPA will decide whether further action under CERCLA in the Ponding Basin is necessary.

4.1.2 Johns-Manville Mill OU

The ROD for the JMM OU was signed on September 21, 1990. The objective of the remedy was to maintain the effectiveness of the sediment trapping dam by minimizing the hydraulic transport rate of asbestos waste material into Pine Canyon Creek and restricting access to the JMM to control the release of asbestos into the air and local streams from the JMM. The major components of the remedy selected in the ROD include (USEPA 1990):

- Constructing a cross-canyon stream diversion to divert water flow away from the tailings pile.
- Improving the existing sediment trapping dam to minimize the release of asbestos into Pine Canyon Creek.
- Constructing a fence around the mine perimeter and around the disturbed areas to limit access.
- Conducting a revegetation pilot project to determine whether revegetation is a practical means of increasing stability and minimizing erosion of the disturbed areas.
- Dismantling of the mill building and disposing debris.
- Performing road paving or an appropriate engineering alternative.
- Filing deed restrictions.

4.1.3 City OU

The ROD for the City OU was signed on July 19, 1989. The objective of the remedy was to minimize the release of asbestos fibers to the air from the asbestos- and nickel-contaminated soils to protect residential areas from airborne emissions. The major components of the remedy selected in the ROD include the following (USEPA 1989):

- Removing and consolidating the asbestos- and nickel-contaminated soils at this site that: (1) exceed 1 area-percent asbestos using polarized light microscopy (PLM), (2) display the light-grey coloring characteristics of asbestos-contaminated soils, and / or (3) contain nickel at levels in excess of background.

- Removing and consolidating waste materials and equipment that exceed the levels set forth in the bullet above.
- Decontaminating buildings to less than or equal to 1 area-percent by PLM.
- Constructing an underground, onsite WMU to bury permanently the consolidated contaminated substances under an impermeable cap. The impermeable cap was to consist of a compacted soil foundation layer overlain by an impermeable clay mat, covered by a second soil layer.
- Using strict dust control measures to limit the release of asbestos fibers from the site during implementation of the remedy.
- Performing confirmation sampling to ensure achievement of the cleanup standards.
- Performing groundwater monitoring and continuous monitoring of soil moisture content using neutron probes.
- Regrading areas where contaminated soils have been removed.
- Filing a deed restriction on the property where the WMU and soil cover exist to prevent the disturbance of the cap and prevent possible release of asbestos fibers or nickel contaminants.

4.2 Remedial Action Implementation

This section describes the implementation of the remedies for the three OUs, including any deviations from the remedies selected in the RODs.

4.2.1 Atlas Mine Area OU

Atlas Corporation and Vinnell entered into the Consent Decree with the USEPA on August 13, 1992 and agreed to implement the remedy selected in the ROD. The BLM subsequently entered into a separate agreement with the Atlas Corporation and Vinnell to perform the operation, maintenance, and revegetation at the site. The Remedial Action Design Plan was approved on June 22, 1994 (HLA 1993).

Remedial activities began on October 20, 1994 and continued until May 5, 1995, when rain and surface-water accumulation forced suspension of construction activities. Activities resumed on September 11, 1995 and were completed on November 14, 1996. The remedial action consisted of construction of stream diversions and sediment trapping dams, grading and other slope stabilization elements, performing a revegetation pilot study, road paving, mill dismantling, disposal of debris, implementing access restrictions, and implementing an O&M plan. Appendix A provides additional details on the implementation of the remedy at the Atlas Mine Area OU. The remedial features at the Atlas Mine Area OU are presented in Figure 4-1. USEPA issued a preliminary closeout report for the Atlas Area OU on September 2, 1999 confirming that the construction phase of the remedy was completed and operating properly (USEPA 1999).

In Section VII(A)(6) of the 1992 Consent Decree for the Atlas Mine Area OU, the United States specifically provided that “the Defendants (Atlas Corp. and Vinnell) are not required to implement the deed restriction requirement of the Consent Decree other than as provided

in Section VI (Notice of Obligations to Successors-in-Title)" Section VI only required the Defendants to file a copy of the Consent Decree with the Fresno County Recorder's Office, which the Defendants have done. Because Northrop Grumman Space & Mission System Corporation (Northrop) is the successor to Vinnell, it is also bound by the terms of the 1992 Consent Decree. Accordingly, if Northrop sells its Atlas Mine Area OU property (San Benito and Fresno Counties Parcel No. 030-250-004-0) to another entity, USEPA should ensure that such future owner file a deed restriction that runs with the land for this privately-owned portion of the site to prevent future disturbance of the contaminated material left onsite.

Two additional privately-owned parcels that comprise the Atlas Mine Area OU list Wheeler Properties, Inc. (Wheeler), as the title owner (Fresno County Parcel Nos. 45-240-09 and 45-240-12). Because Wheeler filed for bankruptcy in 1980, and was administratively dissolved in 1991, there is no discernible property owner for these parcels who could record a deed restriction.

As specified by the ROD for the Atlas Mine Area OU, USEPA published a public notice in 1992 regarding the status of the CCMA and Ponding Basin. This notice is presented in Appendix B (USEPA 1992). USEPA stated it would remain involved in BLM's planning and analysis process for the CCMA in order to help ensure protection of public health and the environment from the asbestos in the area. USEPA also stated that plans for the Ponding Basin, established by the USBR and DWR, were adequate to address the threat from asbestos in the Ponding Basin. These plans included (1) planting cover crops to reduce exposure to airborne asbestos and (2) expanding the Ponding Basin to reduce chances of asbestos run-off from entering the Aqueduct. USEPA stated it would take no further action regarding the Ponding Basin under CERCLA. USEPA continues to work with BLM to determine how its Resource Management Plan should be altered to address asbestos risks.

Since the activities prescribed by the ROD for the CCMA and Ponding Basin have been satisfied, and since these areas are considered "geographical areas" rather than OUs, the CCMA and Ponding Basin will not be considered further in this 5-Year Review. However, updated technical information for these areas is provided in Appendix C for completeness.

4.2.2 Johns-Manville Mill OU

PCLC, Santa Fe Pacific Corporation, and Catellus Development Corporation, the responsible parties for the JMM OU, agreed to implement the selected remedy as defined in the ROD by entering into a Consent Decree with the USEPA (*U.S.A. v. Pine Canyon Land Co., et al.*, No. F-92-5734 (OWW) U.S. District Court, Eastern District of California, Fresno Division, August 11, 1992). A Remedial Design Work Plan provided the overall management strategy for performing the design, construction, O&M, and monitoring of the remedial action at the JMM OU. The USEPA approved the Remedial Design Work Plan on April 1, 1993.

Remedial action at the JMM commenced on May 17, 1993. The remedial action consisted of mill dismantling, grading, cross-canyon stream diversion, improvements to an existing sediment trapping dam, implementing access restrictions, performing a revegetation pilot study, and road paving. The PRPs also carried out a program to revegetate disturbed areas of the site with native plants even though the Consent Decree required only a pilot study. Remedial features at the JMM are presented in Figure 4-2. The remedy was certified to be operational by the Supervising Engineer and the prefinal inspection was performed

on April 28, 1994. USEPA issued a preliminary closeout report for the JMM OU in March 1995 confirming that the construction phase of the remedy was completed and operating properly (USEPA 1995).

A deed restriction was recorded on July 2, 1993, prohibiting anyone in possession of the property from interfering with the implementation of the remedy at JMM OU. However, upon closer scrutiny, USEPA has determined that this is not a legally enforceable instrument that runs with the land. Appendix D1 further evaluates the institutional controls at the JMM OU.

On April 24, 1998, the Coalinga Site was removed from the NPL. USEPA based its decision on the observation that all appropriate response actions required for the site had been implemented. Following de-listing, agency oversight responsibilities were transferred to the Site Mitigation Unit of the Department of Toxic Substances Control (DTSC).

4.2.3 City OU

SPTC agreed to implement the selected remedy for the City OU by entering into a Consent Decree with USEPA on July 27, 1989. A first Amended Consent Decree, which included the City of Coalinga as a signatory, was filed on May 17, 1990. The contaminated structures and areas at the site were divided into four areas based on geography:

- The Marmac Warehouse located on Elm Avenue (Highway 198).
- The storage yard located approximately 1 mile south of the Marmac Warehouse on Elm Avenue.
- The Atlas shipping yard located in the vicinity of Glenn Avenue and Sixth Street.
- The U.S. Asbestos Company at the southern border of the site that contained piles of raw asbestos ore.

Remedial activities began in October 1989 (USEPA 1997). Cleanup of the site included the removal and consolidation of contaminated soils that exceeded 1 area-percent asbestos using PLM, soils that contained nickel at levels in excess of background, and any soils that displayed light-grey coloring characteristics of asbestos contamination. These consolidated soils, equipment, and other waste materials were permanently buried in the onsite WMU. Two buildings known as the Marmac Warehouse and the Echo Transport Building were partially dismantled, and the contaminated material was also placed in the WMU. The remaining steel superstructures of the buildings were left onsite after being decontaminated by steam cleaning and application of an encapsulant. Figure 4-3 presents the location of the WMU in the City OU.

After the construction of the WMU, confirmation sampling indicated that the cleanup levels had been met, and a final inspection was conducted in October 1991. USEPA accepted the final Remedial Action Report and an O&M Plan for the WMU in April 1992, and issued a certificate of completion to the City OU on May 18, 1993 (USEPA 1993).

Following remedial response, a deed restriction was recorded on June 22, 1990 for the onsite WMU. On September 24, 1992, an amended deed restriction was recorded. It provided a legal description of the area restricted under the June 22, 1990 deed restriction. However, upon close scrutiny, USEPA has determined that the deed restriction and amended deed restriction are not legally enforceable documents and do not run with the land. Appendix D2 further evaluates the institutional controls implemented at the City OU.

As mentioned in Section 4.2.2, the Coalinga Site, including the City OU, was removed from the NPL on April 24, 1998.

4.3 Operation and Maintenance

This section summarizes routine preventive O&M activities at the Atlas and Coalinga Sites. O&M activities are performed to protect the public health, welfare, and environment from the release of asbestos by ensuring the effectiveness of engineering and institutional controls.

4.3.1 Atlas Mine Area OU

PRPs have conducted routine site inspections and O&M activities at the Atlas Mine Area since 1996, when construction of the remedy was completed. An O&M Plan, dated November 15, 1999, was developed for engineered systems at the site and was included in the Remedial Action Completion Report (ESC 1999). BLM is the designated O&M manager for the site and has been administering the O&M Plan. USEPA is the regulatory agency responsible for oversight of the O&M work at the site.

The O&M Plan originally specified that routine inspections of the engineering systems and access restrictions occur quarterly for the first 2 years and thereafter be conducted semiannually for the remaining 28 years of the implementation period. However, in a letter dated January 2000, USEPA approved a reduction in the inspection frequency to annually. In addition to routine inspections, emergency inspections are to be conducted when precipitation greater than 2 inches falls on the site within a 24-hour period, as measured at the Spanish Lake Meteorological Station, or if seismic activity of magnitude 4.8 or greater on the Richter Scale occurs within 50 miles of the site. Inspections triggered by rainfall or seismic events should occur within one week of the triggering event.

The 2003 annual inspection report concluded that the remedy for the Atlas Mine Area was performing as intended, but the report recommended maintenance activities be implemented to ensure that the remedy continue to perform as intended (R2 2003). These maintenance activities were planned for the spring of 2004, but were not implemented until the spring of 2005 due to delays in getting legal access to the Atlas Mine Area and due to heavy winter rains. The 2005 maintenance activities consisted of:

- Repairing four gullies on the outboard slope of the tailings pile south of the Regional Sediment Storage Area.
- Removing existing culvert and repairing and stabilizing the erosion area in the road to Rover Pit.

- Regrading a portion of the road to Pond A adjacent to the Pond B highwall and re-establishing the diversion channel above the area to prevent runoff.
- Stabilizing of the Channel A terminus.
- Removing material from Channel B that has been sloughed from the adjacent cut slope.

The locations of maintenance activities performed in 2005 are indicated on Figure 4-1. The only recommendation from the 2004 annual inspection that was not implemented was the regrading of the sediment disposal piles east of Pond C (R2 2004, 2005a). In 1999, BLM directed the removal of excess sediment in Pond C. This sediment was disposed of at an area adjacent to Pond C, rather than being transported to one of the regional storage facilities. Over time, this pile acquired a surface crust that prevents wind and water erosion. Therefore, regrading was removed from the 2005 scope of work for maintenance activities. However, the pile will continue to be monitored during routine inspections to evaluate the potential for erosion. If future potential exists, re-grading or alternative methods for preventing erosion will be considered. Via the 1993 BLM-Atlas Mine Site Committee settlement agreement, BLM has the responsibility to address impacts that may result from the placement of these materials.

Since the last 5-year review, O&M inspections have been performed annually by either a contractor to BLM (ESC) or contractors to Northrop Grumman (GE Enterprise or R2 Incorporated), except in 2004. The 2004 annual inspection was scheduled to be performed after the completion of maintenance activities. Due to delays in maintenance work, the inspection did not occur. The most recent annual O&M inspection occurred on June 2, 2005 (R2 2005b). A summary of the observations and recommendations made during the last 5-year review site inspection and during subsequent annual inspections is presented in Table 4-1.

According to estimates from BLM (Moore 2006), BLM annual oversight and administrative costs for the site are approximately $19,000, which is consistent with the estimate identified in the ROD for annual O&M of the remedy. Non-routine maintenance activities performed to address erosion concerns at the site resulted in additional costs of approximately $300,000 in 2005.

Since the 2005 maintenance activities, a draft revised O&M Plan has been developed to include O&M activities that will address site improvements made in 2005. This plan is currently being reviewed by the USEPA.

4.3.2 Johns-Manville Mill OU

As specified in the Consent Decree, the PRPs implemented an O&M Plan in January 1995 to ensure the integrity of the stream diversions and sediment retention structures for a minimum of 30 years. Periodic inspections of the engineering systems were conducted by contractors to the PRPs every 6 months for the first 3 years after completion of remedial action construction and annually after the third year. In 2002, a revised O&M Plan was created by Levine-Fricke Rincon (LFR), a contractor to PCLC, the current PRP (LFR 2002). According to the new O&M plan, annual inspections are to be performed by the owners of the ranch located adjacent to the site. They are also responsible for making minor repairs to the site access gates.

TABLE 4-1
USEPA 2001 5-year and 2002-2005 Annual Inspection Summaries

Problems/ Concerns	2001 EPA 5-year Review	2002 Annual Inspection	2003 Annual Inspection	2004 Maintenance Activities	2005 Annual Inspection
Road to Rover Pit	Noted partial road failure; No remedial measures recommended	Road not passable; No action recommended; Proposes an alternative access road could be made available	Road not passable; Proposed repairs include reestablishing culvert, grading, and riprap; In addition, the road will be cleared of rock debris and widened	Removed existing culvert, repaired erosion damage, and stabilized roadway in the vicinity of the culvert	Existing landslide still active; No action recommended
Road to Pond A	Impassable; Remedial measures recommended, Proposes an alternative access route be located	Road failing; No action recommended; Proposes an alternative access road if needed in future	Road failing; Proposed repairs includes backfilling the inside road ditch and reconfiguring the road; Also, road drainage alternatives will be considered	Regraded portion of the road adjacent to Pond B highwall, construct a berm on the outboard side of the road, and reestablish the diversion channel above the area to be regraded to prevent runoff	Highwall slope above Pond B continues to slough; Recommend monitoring adjacent drainage ditch to ensure it remains unblocked to prevent ponding; Monitor runoff to see if it flows over the Pond B highwall Evidence of runoff overflowing the drainage ditch above the diversion channel; Recommend local deepening of portion of drainage ditch above the new diversion
Improve water bar on access road to Pond A above Pond B	No problem noted	Road ditch and water bar are not functioning as designed	Road ditch and water bar will be repaired to relieve water from the inside road ditch	Removed sediment and direct surface water runoff toward the crossing	Not discussed
Outboard Slope of the Regional Sediment Storage Area	Erosional gullies noted; EPA recommended a study to determine rite best means of addressing the problem	Erosion in tailing piles and waste rocks; No action recommended	Erosion in tailing piles and waste rocks; Engineer designed repair and drainage system will be submitted by 1/24/04	Repaired four gullies on the outboard slope of the tailings pile south of the Regional Sediment Storage Area; Subdrain installed; buttress emplaced	Minor erosion on north side of Regional Sediment Storage Area
Re-vegetation	Not thriving; Nurturing recommended	Not thriving; Nurturing recommended	Not discussed-Pilot Revegetation Program is completed	Not Applicable	Not discussed

TABLE 4-1
USEPA 2001 5-year and 2002-2005 Annual Inspection Summaries

Problems/ Concerns	2001 EPA 5-year Review	2002 Annual Inspection	2003 Annual Inspection	2004 Maintenance Activities	2005 Annual Inspection
Evidence of use by unauthorized persons/vehicles	No problem noted; Continued patrolling recommended	No problem noted; Continued patrolling recommended	Evidence of trespassers in one area; Continued patrolling is required	Not Applicable	Motorcycle marks on ground; hacksaw marks on lock and gate; Recommend assessing where unauthorized persons are entering when doing O&M activities; Possibly install additional fencing to prevent unauthorized entry
Site entry Gate	No problem noted	No problem noted	No problem noted	Not Applicable	Hacksaw marks observed on site entry upper gate; Recommend checking the integrity of gate
Channel A	No problem noted	Undercutting in terminus noted; No action recommended; Risk of offsite sedimentation impacts appeared minimal	Problem noted; riprap or designed alternative recommended to control erosion	Stabilized the Channel A terminus	No problem noted; Monitor during routine inspections
Channel B and Sediment trap area up-gradient of Channel B	No problem noted	Possible future concern; Sediment from depressed sediment trap area up gradient of Channel B inlet may need to be removed in future	Sediment trap area does not require future maintenance activities Excessive sediment has accumulated above portion of Channel B	Remove material that has sloughed from the adjacent cut slope and transported them to the sediment storage area adjacent to Pond B	Areas of course grained sediment buildup was observed (up to 14 inches thick); Recommend removing sediments when they begin to detrimentally impact flow
Pond A	No problem noted	Shallow rills < 6 inches observed on downstream embankments	Shallow rills < 6 inches observed on downstream embankments	Not Applicable	Shallow rills < 6 inches observed on upstream and downstream embankment; monitor rill depth during routine inspections

TABLE 4-1
USEPA 2001 5-year and 2002-2005 Annual Inspection Summaries

Problems/ Concerns	2001 EPA 5-year Review	2002 Annual Inspection	2003 Annual Inspection	2004 Maintenance Activities	2005 Annual Inspection
Pond B	No problem noted	Minor rills noted	Minor rills noted	Not Applicable	Shallow rills < 6 inches observed on upstream and downstream embankment; monitor rill depth during routine inspections Sediment Markers could not be seen; Should check sediment levels to see if sediment should be removed
Pond C	No problem noted	Shallow rills < 6 inches observed on upstream embankments	Shallow rills < 6 inches observed on upstream and downstream embankments	Not Applicable	Shallow rills < 6 inches observed on upstream and downstream embankment; monitor rill depth during routine inspections. Sediment and vegetation has accumulated in inlet to the culvert; Recommend clearing
Sediment Disposal Piles east of Pond C	In 1999, BLM directed the removal of excess sediment in Pond C; Sediment was disposed at an area adjacent to Pond C	Not discussed	Not discussed	Via the 1993 BLM-Atlas Mine Site Committee settlement agreement, BLM has responsibility to address impacts that may result from the placement of these materials; Re-grading the sediment disposal piles east of Pond C was removed from the scope of work	Not discussed
Pond D	No problem noted	Erosion of re-graded asbestos piles and cut up gradient slope noted; No action recommended	No action required	Not Applicable	Outlet channel is partially blocked due to deposition of material from runoff from road to Pond A; Monitor channel outlet during routine inspections to check that it does not become completely blocked

TABLE 4-1
USEPA 2001 5-year and 2002-2005 Annual Inspection Summaries

Problems/ Concerns	2001 EPA 5-year Review	2002 Annual Inspection	2003 Annual Inspection	2004 Maintenance Activities	2005 Annual Inspection
Pond E	No problem noted	No problem noted	No problem noted	Not Applicable	Shallow rills < 6 inches observed on upstream and downstream embankment; monitor rill depth during routine inspections
Pond G	No problem noted	Possible future concern; Below Pond G and above Channel B—small sediment tilling basin may need maintenance	Possible future concern; Below Pond G and above Channel B—small sediment tilling basin may need maintenance	Sediment has been removed	No problem noted; Monitor during routine inspections
Institutional Control	Place Deed Restrictions on property; access control agreement	Not discussed	Not discussed	Not Applicable	DTSC has assumed responsibility for this effort

In addition to periodic inspections, inspections are to be conducted when precipitation greater than 3 inches falls on the site within a 24-hour period, as measured at the Birdwell Ranch rain gauge, or if seismic activity of magnitude 5 or greater occurs within 50 miles of the site, as measured by the seismograph at West Hills College in Coalinga. Inspections triggered by rainfall or seismic events should occur within one week of the triggering event. The engineering systems that require inspection include the cross-canyon diversion channel and spillway, fencing, gates, signs, sediment trapping dam, graded slopes, and the tailings pile drainage system. Maintenance items discovered during these inspections are repaired by the PRP, as necessary, to maintain the integrity of the remedial action.

Since the last 5-year review, one rain event and one seismic event triggered site inspections at the JMM. The rain-event occurred in January of 2001. The seismic-event consisted of an earthquake of magnitude 6.0 occurring near Parkfield, California, approximately 20 miles south of Coalinga on September 28, 2004. Visual inspection of the site did not indicate that any damage had threatened the integrity of the engineering systems (LFR 2001, 2004). The most recent regularly-scheduled O&M inspection was performed in conjunction with the 5-year review site inspection on April 13, 2006. No deficiencies or other issues were noted at that time (LFR 2006). Please see Section 6.5 for further discussion on the recent site inspection.

4.3.3 City OU

The O&M Plan for the City OU was implemented by SPTC, the predecessor PRP, to monitor and maintain the WMU (SPTC 1992). Quarterly inspections of the engineering systems were conducted by SPTC for the first 3 years after the completion of remedial action construction (starting in June 1991) and annually after the third year to assess the condition of the WMU and document any damaged areas or areas requiring corrective action. Vadose zone monitoring for moisture was performed quarterly for the first year, semiannually for the second and third years, and annually for the fourth and fifth years. Regularly-scheduled vadose zone monitoring was terminated after 5 years, with the final event in May 1995, because no increases in moisture content greater than 5 percent over background baseline conditions (adjusted after the early quarterly events in 1991) were detected. Future vadose zone monitoring is only anticipated in the event of a natural disaster such as a flood, in which case Union Pacific Railroad Company, successor to SPTC, will immediately report the results to USEPA. In that event, Union Pacific Railroad Company will compare the vadose zone monitoring results to baseline conditions to determine if an increase in moisture above the 5 percent limit has occurred, and if the groundwater monitoring program initially developed should be initiated. Should groundwater monitoring be required, the program would entail the installation of three monitoring wells and quarterly sampling for nickel and asbestos.

Current O&M activities at the WMU, as stated in the O&M Plan, include annual inspections for cap integrity, surface water ponding, and fence integrity. The Union Pacific maintenance contractor also visits the WMU once per month to monitor cap vegetation, apply fertilizer, or to reseed if necessary, clear vegetation from the area immediately surrounding the WMU, remove deep-rooted vegetation that might damage the integrity of the WMU, and fill burrow holes. In the event of a natural disaster, such as a 100-year flood or a catastrophic earthquake, an additional inspection will be conducted.

The most recent inspection was conducted in May 2005 by Kennedy Jenks, a contractor to Union Pacific Railroad Company. At the time of the inspection, the integrity of the cover, vegetative growth, and fences were in good condition. A few minor issues identified include a non-functional irrigation system, an incorrect DTSC phone number on the signs along the fence, and an increase in the size and number of burrow holes in the vicinity of the WMU. (KJ 2005) An investigation completed in 2004 identified the California ground squirrel to be the cause of the burrows (KJ 2004). No remedial actions were recommended at that time for the irrigation system until it is necessary to maintain vegetative growth. Recommended actions included adding the new DTSC contact phone number to signs and installing fencing material with a smaller screen size to the lower 3 feet of the perimeter fence (KJ 2005). In October 2005, the new fencing material was installed and extended approximately 3 feet below ground to prevent small animals from entering the site and burrowing into the cap of the WMU.

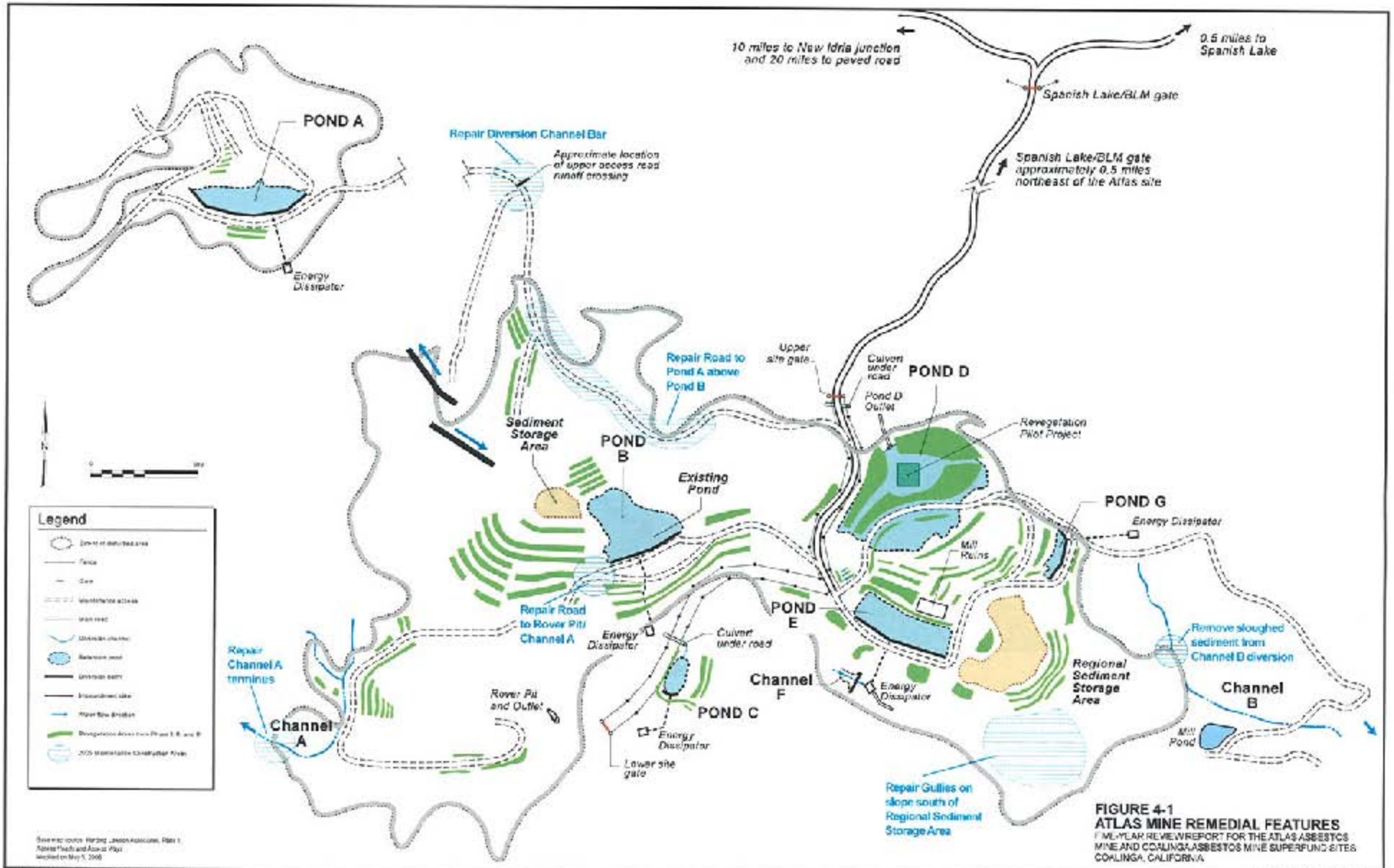
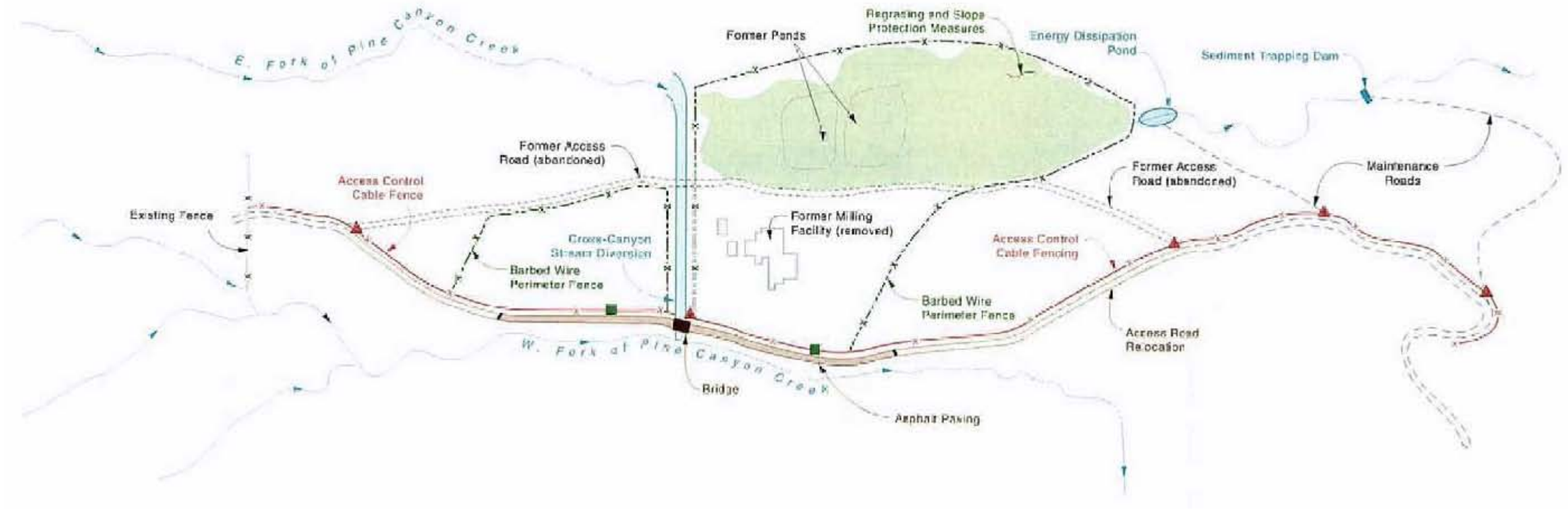


FIGURE 4-1
ATLAS MINE REMEDIAL FEATURES
FIVE-YEAR REVIEW REPORT FOR THE ATLAS ASBESTOS MINE AND COALINGA ASBESTOS MINE SUPERFUND SITES
COALINGA, CALIFORNIA

CH2MHILL



Legend

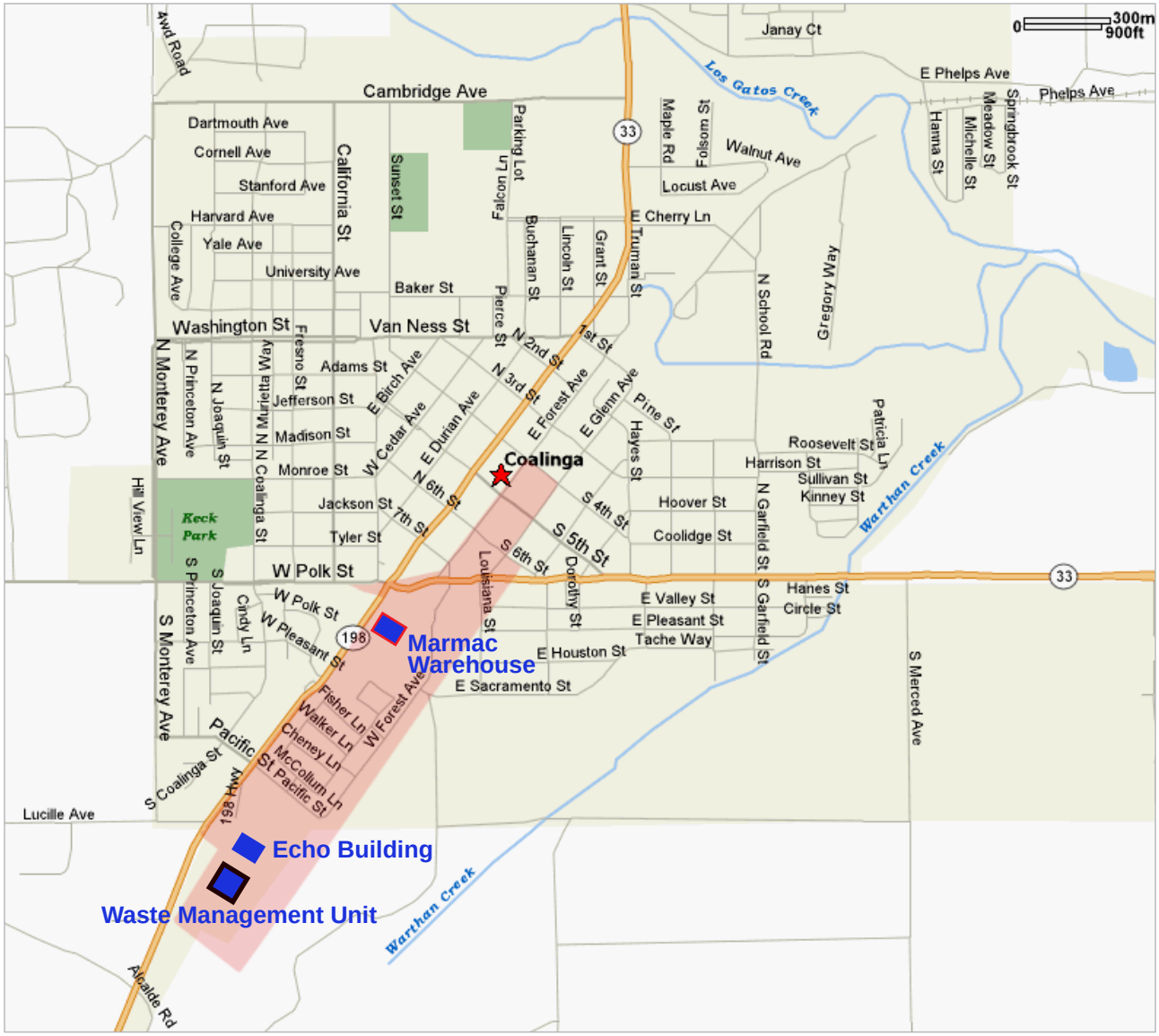
- Perimeter Fence Gate
- Cable Fence Access Gate
- Tailings Pile

Note: Modified from Levine.Fricke's *2002 Revised Operations and Maintenance Plan, Johns-Manville Coalinga Mill Area Operation Unit*.

FIGURE 4-2
JOHNS-MANVILLE MILL REMEDIAL FEATURES
FIVE-YEAR REVIEW REPORT FOR THE ATLAS ASBESTOS MINE AND COALINGA ASBESTOS MINE SUPERFUND SITES
COALINGA, CALIFORNIA

CH2MHILL

ES052006007BAO_FIG 4-2_JMMRemedialFeatures_ai_050506_ll



Legend

- Demolished Building
- Existing Building
- Waste Management Unit
- Approximate Boundary of Operable Unit

Note: Modified from Mapquest 2006

FIGURE 4-3
CITY OF COALINGA OPERABLE UNIT
FIVE-YEAR REVIEW REPORT FOR THE ATLAS ASBESTOS MINE AND COALINGA ASBESTOS MINE SUPERFUND SITES
COALINGA, CALIFORNIA

CH2MHILL

ES052006007BAO_Fig 4-3 cityofcoalinga_operableunit _ai_5/5/06_ll

SECTION 5.0

Progress Since Last 5-year Review

5.1 Protectiveness Statements

The protectiveness statements identified for the Atlas Mine Area OU, the JMM OU, and the City OU in the last 5-year review reports are presented in this section.

5.1.1 Atlas Mine Area OU

The last 5-year review report conducted at the Atlas Site was signed and dated by USEPA on September 28, 2001. The protectiveness statement for the Atlas Mine Area OU identified in the *Final First Five-Year Review Report for Atlas Asbestos Mine Site* is as follows (USEPA 2001a):

> *The remedy at the Atlas Mine Area OU is protective of human health and the environment, and exposure pathways that could result in unacceptable risks are being controlled. All threats at the site have been addressed through the removal of contaminated material, stabilization of erosion prone areas, structural improvements and additions, the installation of access controls and warning signs, regular maintenance of the Atlas Mine Area OU, and the implementation of an institutional control.*

5.1.2 Johns-Manville Mill OU

The last 5-year review conducted at the Coalinga Site was signed and dated by USEPA on September 27, 2001. The protectiveness statement for the JMM OU identified in the *Final Second Five-Year Review Report for Coalinga Asbestos Mine Superfund Site, Coalinga* is as follows (USEPA 2001b):

> *The remedy at the JMM OU is protective of human health and the environment, and exposure pathways that could result in unacceptable risks are being controlled. All threats at the site have been addressed through the removal of contaminated material, the diversion of water around erosion prone surfaces/materials, stabilization of erosion prone areas, structural improvements and additions, the installation of access controls and warning signs, regular maintenance of the JMM OU, and the implementation of institutional controls.*

5.1.3 City OU

Both 5-year reviews (Atlas and Coalinga Mine Site) issued in 2001, *Final First Five-Year Review Report for Atlas Asbestos Mine Site* (USEPA 2001a) and the *Final Second Five-Year Review Report for Coalinga Asbestos Mine Superfund Site, Coalinga* (USEPA 2001b) identified the following protectiveness statement for the City OU:

> *The remedy at the City OU is protective of human health and the environment, and exposure pathways that could result in unacceptable risks are being controlled. All threats at the City OU have been addressed through the burial of contaminated material in the WMU, the installation of fencing and warning signs, regular maintenance of the WMU, and the implementation of institutional controls.*

5.2 Status of Recommendations from Last Review and Results of Implemented Actions

This section provides a summary of the status of recommendations and results of implemented actions for Atlas Mine OU, JMM OU, and the City OU. Additional details regarding the status of recommendations from the last review and results of implemented actions are presented in Appendix E.

5.2.1 Atlas Mine Area OU

During the construction maintenance activities performed in the spring of 2005, two recommendations from the last 5-year Review ([1] Repair road or find another route to access Pond A area and [2] Perform a study to determine the best means of addressing eroding soil at the erosion prone area near the Regional Sediment Storage Area) were largely addressed. Repairs to the road to Pond A and the four gullies in the vicinity of the Regional Sediment Storage Area were designed to prevent further erosion from occurring in the existing gullies and to reduce the potential for additional gullies from forming. An alternate route to access Pond A, the second component of the first recommendation, has not been identified.

Since the last 5-year review, the recommendation for more frequent maintenance of revegetation was not performed. However, in an April 2002 e-mail to an Atlas Representative (George Robinson, R2 Inc.), Shea Jones, the USEPA remedial project manager, decided that further revegetation efforts would not be required. This decision was based on a consideration of the very limited success of the $1.5 million revegetation pilot program. In June 2006, this decision was reaffirmed in a teleconference that included representatives of Northrop Grumman, DTSC, BLM, and USEPA. The reason for this reaffirmation is that routine inspections indicate that since the last 5-year review, new vegetation is evident both within and outside of the boundaries of the pilot project. Enhanced vegetation has resulted from natural processes of vegetation dispersal, especially during wet years. It is assumed that natural processes will continue, over time, to produce sustainable vegetation. However, if vegetation abundance does not continue to increase, or if significant degradation is observed, beyond natural variation in vegetation patterns, then revegetation efforts may be reconsidered.

The recommendation to place deed restrictions on property and develop access control agreement has not been implemented. DTSC is currently working with Northrop Grumman to develop the deed restriction for their privately owned property at the Atlas Mine Site.

Other maintenance activities performed in 2005 consist of the following:

1. Removed existing culvert, and repaired and stabilized the erosion area in the road to Rover Pit
2. Stabilized the Channel A terminus
3. Removed material from Channel B that has been sloughed from the adjacent cut slope
4. The drainage ditch on the Road to Pond A was locally deepened to prevent the runoff to the road

5.2.2 Johns-Manville Mill OU

No recommendations or follow-up actions were specified in the last 5-year review. No activities have occurred at the site other than regular O&M activities.

5.2.3 City OU

Recommendations identified for the City OU in the last 5-year review (repair animal burrows at WMU cap and repair damaged signs) were completed during regular O&M activities since the last 5-year review. In addition, in October 2005, fencing material with a smaller screen size was added to the perimeter fence to decrease the number of burrows in the cap of the WMU.

SECTION 6.0

Five-year Review Process

6.1 Administrative Components of the 5-year Review Process

Lynn Suer, USEPA Remedial Project Manager, led the 5-year review, with CH2M HILL providing technical support. At the initiation of the 5-year review, the PRPs (PCLC, Union Pacific Railroad Company, BLM, and Northrop Grumman), the PRPs' contractors (LFR, Kennedy Jenks Consultants, and Camp Dresser & McKee, Inc.) DWR, USBR, and DTSC were notified.

This 5-year review of the Atlas and Coalinga sites involved:

- Reviewing relevant documents, including routine operations, monitoring, and analytical data.
- Reviewing federal and state applicable or relevant and appropriate requirements (ARAR) cited in the RODs for each of the OUs.
- Reviewing implementation of institutional controls.
- Conducting an interview.
- Performing site inspections of each of the OUs.
- Informing the public of the findings of this 5-year review.

6.2 Community Notification and Involvement

A public notice indicating the start of the 5-year Review was published in Freelance (San Benito County) and Coalinga Record (Fresno County) newspapers on February 15, 2006. This 5-year review report will be placed in site information repositories, and a fact sheet will be prepared to inform the public of the findings of this 5-year review. The public will be able to submit to USEPA any comments or concerns about the remedy to date.

6.3 Document Review

As a part of the 5-year review process, CH2M HILL conducted a review of numerous documents related to site activities. The documents chosen for review ranged in publication date from 1989 to 2006. Documents reviewed include RODs, annual inspection reports, and O&M Plans. Appendix F provides a list of the documents reviewed as part of this 5-year review. ARARs were also reviewed to determine if any regulatory changes had occurred since the last 5-year review that would impact the protectiveness of the remedy.

6.4 Data Review

No field and analytical data were reviewed as part of this 5-year Review for the Atlas Mine OU, JMM OU, or the City OU.

6.5 Site Inspections

Site inspections were performed at the Atlas Mine Area OU, the JMM OU, and the WMU in the City OU. These were performed between April 13 and May 2, 2006. A summary of the inspection findings is presented below. The site inspection checklists and photos taken during the inspection are provided in Appendix G.

6.5.1 Atlas Mine Area OU

The site inspection of the Atlas Mine Area OU was performed on May 2, 2006. Representatives from USEPA, CH2M HILL, BLM, Northrop Grumman Corporation, and Camp Dresser McKee were in attendance during the site inspection. During the site inspection, the ponds, paved road, and diversion channels were generally noted to be in good condition, with a few exceptions. Sediment has accumulated in Pond B due to erosion of the highwall slope north of the pond. However, the volume of sediment in the pond is uncertain because the sediment marker is submerged by water. All other ponds appear to be in good condition. Along the road to Pond A, the culvert at the end of the drainage channel is partially blocked by sediment and vegetation. Removal of sediment from Pond B and from the culvert at the end of the drainage channel along the road to Pond A may be necessary during future routine maintenance activities.

Much of the erosion across the site has been mitigated by installation of drain rock, berms, subsurface piping for conveying surface water, surface water diversion structures, and vegetation. However, some indications of erosion were observed on the southern side of the road to Pond A and the road to Rover Pit. An active landslide is still present along the road to Rover Pit. This landslide is likely to eventually prevent vehicular access to Channel A and Rover Pit. Alternative routes to Pond A and Channel A should be identified in the event that erosion and sliding continue to occur along the existing roads to Pond A and Rover Pit.

Many of the original plants from the revegetation pilot study did not survive, but a significant number survived to reproduce so that plants are now growing in areas outside the boundaries of the original restoration project. It is expected that plants will continue to grow and disperse to new areas over the long term. Although this natural process is slow, it is likely to result in sustainable, increasing vegetation cover over time.

Fences, gates, and locks were noted to be in good condition. Occasional signs of trespassing have been observed in the past but were not observed during this site inspection. The site inspection form for the Atlas Mine Area and photos from the site inspection are presented in Appendix G1.

6.5.2 Johns-Manville Mill OU

The site inspection of the JMM OU was performed on April 13, 2006. Representatives from USEPA, CH2M HILL, DTSC, BNSF, and LFR were in attendance during the site inspection. The site caretaker and adjacent property owner, Ken Birdwell, also participated in the site inspection. During the site inspection it was noted that the site was secure, and the fence and signs were in good condition. The stream and surface water diversions, outlet works, dam, and the paved road on the JMM were in good condition. Vegetation on the tailings pile is becoming more established with time. No indications of vandalism or trespassing were

observed within the fenced, restricted portions of the site. The site inspection form for the JMM and photos from the site inspection can be found in Appendix G2.

6.5.3 City OU

The site inspection of the City OU was performed on April 14, 2006. Representatives from CH2M HILL, DTSC, and Kennedy Jenks Consultants were in attendance during the site inspection. It was noted that the land north of the WMU has been developed into residential housing since the last 5-year review. The property occupied by the WMU was secure, and the fence was in good condition. The WMU cover was observed to be in good condition. Holes from burrowing animals were identified around the perimeter/base of the cap, but the number and size of holes have decreased significantly since the addition of a fence with a smaller screen size. No indications of vandalism or trespassing were observed within the fenced, restricted portions of the site during the site inspection. The only deficiency noted during the site inspection was an inactive DTSC phone number listed on the signs on the perimeter fence. The site inspection form for the City OU and photos from the site inspection can be found in Appendix G3.

6.6 Interview

Steven Ross, DTSC Project Manager for the Atlas and Coalinga Sites, was interviewed on May 24, 2006. Mr. Ross is responsible for the oversight of O&M, implementation and enforcement of deed restrictions, and support on 5-year reviews at the Coalinga Site. He also provides oversight at the Atlas Site to determine if it is eligible for deletion from the NPL.

Mr. Ross is pleased with the recent repairs that have been made to mitigate erosion concerns at the Atlas Mine Area OU, especially at the Regional Sediment Storage Area and along access roads. He feels further evaluation should be performed to determine whether the perimeter fence in the northern portion of the site should be repaired to prevent access to the site. Mr. Ross feels the remedy is working well at the City OU and the JMM OU. He is working with the responsible party contractor to update the DTSC contact information on the signs surrounding the WMU at the City OU.

With regards to institutional controls, he noted that deed restrictions recorded in 1990 and 1993 for the JMM OU and the City OU are not consistent with DTSC's current regulations for land use covenants (LUC). The deed restrictions for both these sites should be updated to be consistent with current DTSC regulations for LUCs. An O&M agreement will be required at these sites to provide for the long-term monitoring and enforcement of the deed restrictions. Mr. Ross is currently working with Northrop Grumman at the Atlas Mine Area OU to develop a deed restriction for the privately-owned portions of the site. He will oversee the long-term O&M associated with the pending deed restriction for the Atlas Mine Area OU.

The interview summary form is provided in Appendix H.

SECTION 7.0

Technical Assessment

7.1 Question A: Is the remedy functioning as intended by the decision documents?

7.1.1 Atlas Mine Area OU

7.1.1.1 Remedial Action Performance

The purpose of the remedy at the Atlas Mine Area OU is to prevent asbestos-containing material from leaving the site via air or surface water discharge. The remedy appears to be functioning as intended by the ROD based on observations made during the site inspection and based on a review of documents and ARARs. Asbestos-containing sediment collects in sedimentation ponds that have been constructed across the site, resulting in a decrease in loadings of asbestos to surface water downstream of the site. Fencing and signage prevent access to the site and paved roads are maintained to further mitigate the potential for generation of airborne asbestos. Deed restrictions are a component of the remedy selected in the ROD and have not been recorded for this site; however, DTSC is working with Northrop Grumman to develop the deed restrictions for the privately-owned portions of the site.

7.1.1.2 Operations and Maintenance

O&M of the Atlas Mine Area OU has, on the whole, been effective. Annual inspections are performed to identify any need for maintenance activities at the site. Many of the concerns regarding erosion have been mitigated as a result of repairs made in 2005. A revised O&M Plan (currently being reviewed by USEPA) has been developed to include O&M activities pertaining to the site improvements made in 2005. The remedy is expected to be protective in the future if routine inspections continue and maintenance activities are performed as necessary.

7.1.1.3 Opportunities for Optimization

Some indications of erosion were observed at the naturally-unstable highwall above Pond B along the road to Pond A and at the active landslide along the road to Rover Pit. Monitoring and regular maintenance of these areas should continue. Alternate access roads to Rover Pit and Pond A should be identified in the event that erosion and/or sliding prevent access to Channel A/Rover Pit area and Pond A in the future.

7.1.1.4 Early Indicators of Potential Issues

There are currently no indicators of potential remedy failure at the Atlas Mine Area OU.

7.1.1.5 Implementation of Institutional Controls and Other Measures

Access controls at the Atlas Mine Area effectively prevent exposure to asbestos. Fences, gates, and locks at the site are intact and in good condition. It should be noted, however, that in past years, BLM has noted that the site has been accessed by unauthorized persons and vehicles. As such, BLM will continue to patrol the site.

While deed restrictions, a component of the selected remedy for the Atlas Mine Area OU, have not been recorded for the site, DTSC is currently working with Northrop Grumman on developing deed restrictions to restrict future uses of the site.

7.1.2 Johns-Manville Mill OU

7.1.2.1 Remedial Action Performance

The purpose of the remedy at the JMM OU is to divert surface water in the Pine Canyon Creek away from the tailings pile, minimize the release of asbestos to the creek, pave the road through the Mill Area to suppress dust, dismantle the mill building and dispose of the debris, and restrict access to the site. The remedy appears to be functioning as intended by the ROD based on observations made during the site inspection and based on a review of documents and ARARs. The remedial activities and subsequent monitoring have achieved the remedial objectives.

7.1.2.2 Operations and Maintenance

O&M at the JMM OU has been effective. The maintenance contractor regularly inspects the OU and makes minor repairs to the site. In 2002, the O&M Plan was updated and revised. There are no indications of any difficulties with O&M of the remedy. In addition, the revegetation project appears to be successful.

7.1.2.3 Opportunities for Optimization

There were no opportunities for system optimization identified during this review.

7.1.2.4 Early Indicators of Potential Issues

There are no indicators of potential issues identified at this time.

7.1.2.5 Implementation of Institutional Controls and Other Measures

Access controls at the JMM effectively prevent exposure to asbestos. The fence and signs around the site are intact and in good condition. The JMM and surrounding area appeared to be undisturbed and secure during the site inspection.

A deed restriction for the JMM was recorded on July 2, 1993 prohibiting anyone in possession of property from interfering with the implementation of remedy at the JMM OU. Through a review of institutional controls performed as part of this 5-year review, it was discovered that the deed restriction is not identified in the preliminary title report for this parcel. More importantly, the deed restriction is not legally enforceable and does not run with the land. Therefore, a new legally enforceable deed restriction needs to be recorded on this parcel consistent with the new DTSC regulations for LUCs.

7.1.3 City OU

7.1.3.1 Remedial Action Performance

The purpose of the remedy at the City OU is to prevent exposure to asbestos-laden materials in Coalinga City that resulted from activities at the Atlas Mine Area OU and the JMM OU. The WMU appears to be functioning as intended by the ROD based on observations made during the site inspection, and based on a review of documents and ARARs. The City OU has achieved the remedial objectives to reduce exposure to asbestos.

7.1.3.2 Operations and Maintenance

Operation and maintenance of the WMU has been effective. The Union Pacific maintenance contractor regularly inspects and performs minor repairs to the site. Holes from burrowing animals were identified around the perimeter/base of the cap, but the number and size of holes have decreased significantly since the addition of fences with a smaller screen size. There are no indications of any difficulties with O&M of the remedy.

7.1.3.3 Opportunities for Optimization

There were no opportunities for system optimization identified during this review.

7.1.3.4 Early Indicators of Potential Issues

There are no indicators of potential issues identified at this time.

7.1.3.5 Implementation of Institutional Controls and Other Measures

As presented in Appendix D2, a deed restriction to prevent the disturbance of the cap on the WMU, and prevent possible release of asbestos fibers and nickel contaminants from the WMU, was recorded on June 22, 1990. On September 24, 1992, an amended deed restriction was recorded and provided a legal description of the area restricted under the June 22, 1990 deed restriction. Two issues associated with the institutional controls for this site were identified through this 5-year review: (1) the deed restriction is not legally enforceable and does not run with the land, and (2) the surveyed coordinates included in the deed restriction amendment are incorrect and do not include the portion of the restricted area that is within the Southern Pacific Railroad right-of-way. A new legally enforceable deed restriction needs to be recorded consistent with the new DTSC regulations for LUCs.

7.2 Question B: Are the exposure assumptions, toxicity data, cleanup levels and remedial action objectives used at the time of the remedy selection still valid?

The ARARs for the Atlas and Coalinga Sites (as established in the RODs and reviewed in previous 5-year reviews) were evaluated as part of this 5-year review. The results of this evaluation are presented in Appendix I and summarized in the following sections. The basis for ARARs is the laws and regulations applicable to the sites' locations, remedy actions, and contaminants of concern. The contaminants of concern include asbestos, heavy metals including nickel, mining waste, and particulate matter less than 10 microns.

Changes in toxicity data and progress towards meeting remedial action objectives are also presented in the following sections.

7.2.1 Atlas Mine Area OU

7.2.1.1 Changes to ARARs

There were no changes to existing action-specific ARARs for the Atlas Mine Area OU identified during this 5-year review; however, the following changes to chemical- and location-specific ARARs were identified:

- **Chemical-specific ARAR.** The California Air Resources Board (CARB) issued the Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations on July 29, 2002. This regulation was not established in any of the decision documents; however, it is applicable as a chemical-specific ARAR for the Atlas Mine Area OU. It requires each Air Pollution Control District to implement and enforce this regulation. Road construction and maintenance activities are to be conducted in compliance with CARB ATCM, Section 93105(d) pursuant to the California Health and Safety Code, Section 39666(d) and CARB ATCM for construction and surfacing applications (that is, roads).
- **Location-specific ARAR.** A LUC regulation issued by DTSC (effective April 19, 2003) is a relevant and appropriate location-specific ARAR for the Atlas Mine Area OU. Title 22, California Code of Regulations, Chapter 39, Section 67391.1(a), (b), (d), (g), & (i) requires all LUCs to be signed by DTSC and the landowner, and to be recorded in the county where the land is located.

7.2.1.2 Changes in Toxicity and Other Contaminant Characteristics

No other information was identified as part of this 5-year review that calls into question the assumptions made during selection of the remedies. There have been no new contaminants or contaminant sources identified at the sites. There also have been no changes in the physical conditions at the sites that would affect the protectiveness of the selected remedies.

7.2.1.3 Expected Progress towards Meeting Remedial Action Objectives

According to the documents reviewed, site inspections, and interview, the remedial activities and subsequent inspections at the Atlas Mine Area OU have achieved the remedial action objectives of reducing the exposure to asbestos.

7.2.2 Johns-Manville Mill OU

7.2.2.1 Changes to Action-Specific, Chemical-Specific, and Location-Specific ARARs

Similar to the Atlas Mine Area OU, there were no changes to existing action-specific ARARs for the JMM OU identified during this 5-year review; however, changes to chemical- and location-specific ARARs identified for the Atlas Mine Area OU are also ARAR for the JMM OU.

7.2.2.2 Changes in Toxicity and Other Contaminant Characteristics

No other information was identified as part of this 5-year review that calls into question the assumptions made during selection of the remedies. There have been no new contaminants or contaminant sources identified at the sites. There also have been no changes in the physical conditions at the sites that would affect the protectiveness of the selected remedies.

7.2.2.3 Expected Progress towards Meeting Remedial Action Objectives

According to the documents reviewed, site inspections, and interview, the remedial activities and subsequent inspections at the JMM OU have achieved the remedial action objectives of reducing the exposure to asbestos.

7.2.3 City OU

7.2.3.1 Changes to Action-Specific, Chemical-Specific, and Location-Specific ARARs

Similar to the Atlas Mine Area OU, there were no changes to existing action-specific ARARs for the City OU identified during this 5-year review; however, changes to chemical- and location-specific ARARs identified for the Atlas Mine Area OU are also ARAR for the City OU.

7.2.3.2 Changes in Toxicity and Other Contaminant Characteristics

At the time of remedy selection for City OU, USEPA selected a cleanup goal of less than 1 area-percent asbestos by PLM, as consistent with CERCLA's requirements and with past agency decisions regarding asbestos cleanup levels at other Superfund sites. This level was assumed to be protective of human health and environment. Remedial activities included removal and consolidation of contaminated soils and other materials containing greater than 1 area-percent asbestos into an onsite WMU with an impermeable cap. Buildings were also decontaminated to less than or equal to 1 area-percent.

More recent experience at Libby, Montana and other sites has led USEPA to conclude that "the 1 area-percent threshold for asbestos in soil / debris as an action level may not be protective of human health in all instances of site cleanups" (USEPA 2004). In addition, the understanding of the types of dust-generating activities that might result in significant exposures has been evolving. This new information is a change from the exposure assumption made at the City OU that soils containing less than 1 area-percent asbestos are sufficiently protective of human health. This change may affect the protectiveness of the remedy in the unrestricted portion of the City OU.

No other information was identified as part of this 5-year review that calls into question the assumptions made during selection of the remedies. There have been no new contaminants or contaminant sources identified at the sites. There also have been no changes in the physical conditions at the sites that would affect the protectiveness of the selected remedies. USEPA has recently initiated a reassessment of the toxicity values used for asbestos risk assessment, although this effort is not expected to be finalized in the immediate future. It is recommended that the next 5-year review consider any revised toxicity values.

7.2.3.3 Expected Progress towards Meeting Remedial Action Objectives

While the remedy at the City OU reduced exposure to asbestos, it may not have adequately reduced the risk in the unrestricted portion of the OU, based on new toxicity information regarding potential risks associated with soil asbestos concentrations less than 1 percent.

7.3 Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

7.3.1 Atlas Mine Area OU

An ecological risk assessment was performed as part of the RI for the Atlas Mine Area OU. Upon review of the RI, it was noted that "from an ecological standpoint, the most significant impacts of the site appeared to be associated with habitat destruction [from mining activities], rather than the effects of asbestos" (USEPA 1991b). In addition, an Environmental Impact Statement was issued for the CCMA in 1995 when BLM was evaluating land-use alternatives. Review of Environmental Impact Statement did not reveal any information that calls into question the protectiveness of the remedy (DOI et al. 1995). Because of the lack of changes in land use, it was deemed unnecessary to perform an evaluation of the previous ecological risk assessment as part of this 5-year review.

No weather- or seismic-related events have affected the protectiveness of the remedy. There is no other information that calls into question the protectiveness of the remedy.

7.3.2 Johns-Manville Mill OU

An ecological risk assessment was performed as part of RI activities for the JMM OU (USEPA 1991b). Because of the lack of changes of land use at the site and surrounding area, it was deemed unnecessary to perform an evaluation of the previous ecological risk assessment as part of this 5-year review.

No weather- or seismic-related events have affected the protectiveness of the remedy. There is no other information that calls into question the protectiveness of the remedy.

7.3.3 City OU

There have been no changes in the physical conditions of the City OU or any weather- or seismic-related events that would affect the protectiveness of the remedy. There is no other information, aside from the information provided in Section 7.2.2, that calls into question the protectiveness of the remedy.

7.4 Technical Assessment Summary

According to the documents and ARARs reviewed, site inspections, and interview, the remedies implemented at the Atlas Mine Area OU and the JMM OU are functioning as intended by the RODs. There have been no changes in the physical conditions at the sites that would affect the protectiveness of the remedies.

During the regulatory review, new ARARs were identified. A recent DTSC regulation for LUCs is identified as a relevant and appropriate location-specific ARAR for the Atlas Mine Area OU, JMM OU, and the City OU. The recorded deed restrictions for the City OU and

the JMM OU should be re-recorded consistent with the DTSC LUC regulation. The legal description presented in the deed restriction for the City OU should also be updated to include the portion of the restricted area (WMU) that is within the Southern Pacific Railroad right-of-way. Should Northrop Grumman sell its privately owned parcel that comprises part of the Atlas Mine Area OU, the new owner should file a deed restriction consistent with the DTSC LUC regulations.

A regulation for road construction and maintenance activities (CARB ATCM for Construction, Grading, Quarrying, and Surface Mining Operations) is identified as a chemical-specific ARARs for the three OUs.

The toxicity and exposure scenarios for asbestos are currently being evaluated by USEPA. Based on this evaluation, the assumption made in the ROD for the City OU that soils containing less than 1 area-percent asbestos are sufficiently protective of human health may be called into question. Based on new toxicity information, the toxicity and exposure of asbestos at the City OU should be re-evaluated. There has been no other information that calls into question the assumptions made during the remedy selection process.

Overall, O&M has been effective at the three OUs. Alternate access roads to Rover Pit / Channel A and Pond A at the Atlas Mine Area OU should be identified in the event that erosion and / or sliding prevent access to these locations in the future. At the City OU, an outdated DTSC phone number on signs on the perimeter fence around the WMU should be updated.

SECTION 8.0

Issues and Recommendations

This section discusses the issues identified during the 5-year review process in detail and provides recommendations for improvement. Several issues were identified for the Atlas Mine Area OU, JMM OU, and the City OU. Table 8-1 summarizes these issues and recommendations and presents the party responsible, oversight agency, milestone date for completion, and the effect that these recommendations have on the protectiveness of the environment and human health currently and in the future.

8.1 Atlas Mine Area OU

Issue

Some indications of erosion were observed at the naturally-unstable highwall above Pond B along the road to Pond A, which could reduce the width of the road to the point where vehicular access to Pond A could be affected. An active landslide along the road to Rover Pit / Channel A will likely eventually prevent vehicular access to Channel A.

Recommendation

Alternate access roads to Rover Pit and Pond A should be identified in the event that erosion and / or sliding prevent access to Rover Pit / Channel A and Pond A.

8.2 Johns-Manville Mill OU

Issue

The deed restriction recorded for the JMM OU is not legally enforceable and does not run with the land.

Recommendation

The deed restriction should be re-recorded consistent with the 2003 DTSC LUCs regulations.

8.3 City OU

Issue

USEPA has recently revised asbestos risk assessment guidance to conclude that “the 1 area-percent threshold for asbestos in soil / debris as an action level may not be protective of human health in all instances of site cleanups” (USEPA 2004). This new information is a change from the exposure assumption made at the City OU, which was the basis for the 1 percent soil cleanup level. Therefore, the remedy for the unrestricted portion of the City OU may not protect human health and the environment. This is not an issue for the WMU within the City OU, as human exposure pathways at the WMU are eliminated by a soil cap, fencing, and access restrictions.

Recommendation

An evaluation of the protectiveness of the asbestos cleanup level specified by the ROD should be performed for the unrestricted portion of the City OU. This evaluation will occur in three phases. The first phase will involve a review of information pertaining to the cleanup. This will determine the extent to which soils with residual (< 1 percent) asbestos were left onsite and whether residual asbestos in soils could, potentially, compromise protectiveness. The second phase will only occur if it is determined under the first phase that protectiveness may be compromised. The second phase consists of developing a workplan to address potential risks. A third phase consists of evaluating the results of work conducted under the workplan and specify what, if any, further actions may be needed to ensure protectiveness.

Issue

A deed restriction was recorded for the City OU, but it is not legally enforceable and does not run with the land. In addition, the surveyed coordinates identified in the deed restriction amendment are incorrect and do not include the portion of the restricted area that is within the Southern Pacific Railroad right-of-way.

Recommendation

The deed restriction should be re-recorded to: (1) be consistent with current DTSC regulations for LUCs, and (2) reflect the accurate boundaries of the restricted area (WMU). Parties responsible for O&M of the deed restriction should also be identified.

Issue

The DTSC phone number shown on signs along the fence surrounding the WMU is no longer valid.

Recommendation

The signs should be updated with a current phone number for DTSC.

TABLE 8-1
Summary Table - Issues, Recommendations and Follow-up Actions
Atlas and Coalinga Superfund Site, Coalinga, California

Issue	Recommendations and Follow-up Actions	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness (Y/N)	
					Current	Future
Atlas Mine Area OU						
Erosion at roads to Rover Pit/Channel A and Pond A; Landslide along road to Rover Pit/Channel A	Identify alternate access roads to Rover Pit/Channel A area and Pond A	Northrop Grumman/ BLM	USEPA	3/2008	N	N
JMM OU						
Recorded deed restriction does not run with land	Re-record deed restriction to be consistent with current DTSC regulations	PCLC	DTSC	6/2008	N	N
City OU						
New exposure assumptions indicate 1 percent asbestos soil cleanup level specified in the ROD may not be protective of human health and the environment for the unrestricted area of the City OU	Evaluate the protectiveness of the asbestos cleanup level (<1 percent) in three phases	USEPA	USEPA		D*	D*
	Phase 1: Review information and determine the extent of soil with residual asbestos left onsite			10/2008 (Phase 1)		
	Phase 2: Develop workplan			10/2009 (Phase 2)		
	Phase 3: Evaluate results from workplan and identify potential further actions			10/2010 (Phase 3)		
Recorded deed restriction does not run with land and contains incorrect legal description of the restricted area	Re-record deed restriction to be consistent with current DTSC regulations and contain an accurate legal description of the restricted area	City of Coalinga (per Quiet Title Judgment)	DTSC	6/2008	N	N
DTSC phone number on signs is no longer valid	Signs should be updated with a current phone number for DTSC	Union Pacific	DTSC	3/2007	N	N

* D = Deferred. Protectiveness determination deferred until further information is obtained regarding potential human health risks of residual asbestos in soil located in the unrestricted portion of the City OU.

SECTION 9.0

Protectiveness Statement

9.1 Atlas Mine Area OU

The remedial action at the Atlas Mine Area OU is protective of human health and the environment due to the removal of contaminated material, stabilization of erosion prone areas, structural improvements and additions, the installation of access controls and warning signs, and regular maintenance of the Atlas Mine Area OU.

9.2 Johns-Manville Mill OU

The remedial action at the JMM OU is protective of human health and the environment due to the removal of contaminated material, diversion of water around erosion prone surfaces / materials, stabilization of erosion prone areas, structural improvements and additions, the installation of access controls and warning signs, and regular maintenance of the JMM OU.

9.3 City OU

The protectiveness of the remedial action for the City OU is deferred until further information is obtained regarding potential human health risks of residual (< 1 percent) asbestos in soils that may be present in the unrestricted portion of the OU.

9.4 Site-wide Protectiveness Statements

Because the determination of protectiveness is deferred for the City OU, and because the City OU is shared by the Atlas Asbestos Mine Site and the Coalinga Asbestos Mine Site, the sitewide protectiveness determination for both Superfund Sites is deferred until further information is obtained.

SECTION 10.0

Next 5-year Review

The next 5-year review should be performed in 2011. A report to document the results of that review shall be completed by September 30, 2011.

SECTION 11.0

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Appendix A
Additional Information for Remedial Action Implementation at Atlas Mine Area OU

APPENDIX A

Remedial Action Implementation - Atlas Asbestos Mine Superfund Site

The purpose of this appendix is to provide information on the remedial actions implemented at the Atlas Asbestos Mine Superfund Site (Atlas Mine Area) including any deviations from the selected remedy. The remedial actions were conducted to mitigate potential endangerment of human health and/or the environment.

Remedial Action Implementation

Atlas Corporation and Vinnell Mining and Minerals Corporation, the responsible parties for the Atlas Mine Area, entered into the consent decree with the United States Environmental Protection Agency (USEPA) on August 13, 1992 and agreed to implement the remedy selected in the Record of Decision (ROD). Bureau of Land Management (BLM) subsequently entered into a separate agreement with the Atlas Corporation and Vinnell Corporation to perform the operation, maintenance, and revegetation at the site. The Remedial Action Design Plan (RADP) was approved on June 22, 1994 (HLA 1993).

Construction activities began on October 20, 1994, and continued until May 5, 1995, when rain and surface-water accumulation forced suspension of construction activities. Construction resumed on September 11, 1995, and was completed on November 14, 1996. USEPA issued a preliminary closeout report for the Atlas Area OU on September 2, 1999, confirming that the construction phase of the remedy was completed and operating properly (USEPA 1999). The remedial features at the Atlas Asbestos Mine site are described in the following sections.

Surface Impoundments

Ponds A, B, D, E, and G were constructed as designed in the RADP to retain sediment from stormwater runoff. Pond F was deleted from the remedial action as part of the Remedial Design Modifications (Revised) letter from the potentially responsible parties (PRPs) to the USEPA dated October 19, 1995. Pond C construction was completed without removing all of the silt that had accumulated in the bottom during the heavy rains of spring 1995. The impoundments were constructed to pass the flow from a 100-year storm event through a piped spillway or outlet structure and discharge into the existing channels downstream. The Pond F area was graded to direct surface water into a ditch that intersects Pond E dissipater pad area.

Ponds A, B, C, E, and G were constructed with a piped outlet structure and Pond D was constructed with an open channel spillway structure. Two sediment storage areas were constructed: one near Ponds A and B that has at least a one-year pond capacity and one near Pond E that has at least a six-year site capacity. These storage areas are located adjacent, or as near as possible, to the impoundments so as not to interfere with runoff or contribute to sediment deposition within the impoundments.

Channel Protection

Channels were constructed to prevent further erosion of existing tailings from the previous asbestos mining operation. The two channels constructed are Channel A and Channel B, located on the west and northeast areas of the site, respectively. The graded channels are protected with rock-filled gabions with filter fabric beneath the gabions to prevent fine-grained underlying soil from migrating through the gabions. Channel A is approximately 1,500 feet in length with slopes ranging from approximately 10 percent to 41 percent. The lower end of Channel A was shortened by approximately 30 feet to minimize destruction of existing vegetation stabilizing slopes in the area against erosion. Channel B cuts through native soil and rock adjacent to tailings on the east side of the site. The channel is approximately 1,400 feet in length with slopes ranging from approximately 1 percent to 26 percent. Sideslopes are nearly vertical where the channel was constructed into existing rock. The lower end of Channel B was shortened by approximately 30 feet due to groundwater seeps and narrowed by approximately 3 feet in areas with steep, rocky side slopes.

Other Diversions and Site Improvements

The roadside ditch along the Pond A access road was constructed to intercept surface water flow and divert the water away from the site toward Diversion Channel B. The Pond A access road was realigned along the cutslope above Pond B in order to maintain access to Pond A during substantial storm events. Storm water diversion berms were constructed north of Pond B area to divert runoff from upland areas around disturbed areas toward Diversion Channel A and to divert runoff from within the disturbed area to surface impoundments.

A double bituminous paved cap was constructed on the main access road through the site to minimize dust emissions and provide improved access for future maintenance activities. The cap was constructed with two layers of imported chipped and cleaned rock and bituminous material conforming to American Society for Testing and Materials Standard D2397. The gates on the main access road were relocated as shown on the Record Drawings in the Remedial Action Completion Report (RACR). A soil stabilizer was applied to ponds access roads to minimize dust emissions.

Mill Site Area

Two steel storage tanks containing asbestos and miscellaneous scrap metal were demolished from the former Mill Site area. The scrap metal and material were buried in the disposal area shown on the Record Drawings (which can be found in the RACR). Although not a part of the approved remedial design, a pool of oil located near the Mill Site area was mixed with chemical nutrients to encourage bioremediation and buried in the disposal area.

Supplemental Site Modifications

Supplemental site modifications were constructed at the Rover Pit area and the Pond A access road in response to an USEPA request dated June 13, 1995, a site inspection coordinated with Ecology and Environment, Inc. (E&E), and several teleconferences among all parties associated with the project. The final revised design modifications were submitted to the USEPA in a letter from the PRPs dated October 19, 1995. Supplemental

design modifications were approved by USEPA on February 1, 1996. Construction of the design modifications is described below.

- The bottom of the Rover Pit was regraded and compacted to route runoff to an armored controlled outlet. The outlet was lined with filter fabric and filled with riprap to minimize erosion. The modification was constructed to minimize uncontrolled flow from the mining face through the pit.
- A surface-water diversion was constructed across a part of the Pond A access road north of the road realignment. The original design specified the installation of an 18-inch corrugated metal pipe (CMP) of. During the 1995 field construction activities, a field modification by the supervising construction manager was made where it was decided that a water bar (diversion) would provide better drainage than an 18-inch CMP. The decision was made to minimize future CMP maintenance requirements.
- Channel B and sedimentation storage markers were modified (telephone poles were used instead of staff gauges due to unavailability of material) at the request of USEPA under the direction of Environmental Strategies Corporation. The site modifications were reviewed and approved by USEPA's contractor CH2M HILL in September 1999, constructed in October 1999, and approved in November 1999.

Revegetation

The selected remedy specified by the ROD required that a revegetation study be conducted to evaluate whether native vegetation could be established on disturbed areas of the Atlas Mine Area OU. Consequently, in 1994 the BLM contracted with Bitterroot Native Growers (BNG) of Corvallis, Montana to conduct a revegetation project for the site. The project involved a pilot study followed by three phases of planting. During the planting phases, 3,100 cubic yards of soil amendment were applied to 18.5 treatment acres, over 10,000 individual plants were planted, and 9.26 acres of the treated area were hydroseeded.

Field trials were conducted in late 1994 and 1995 with the planting of a Pilot Project study area, located within the perimeter of Pond D, to test the species and soil amendments at the site and to determine effective field techniques for conducting full-scale revegetation. A revegetation pilot program was implemented in the southwest section of Pond D above the high-water line, as required in the Consent Decree. The pilot study was designed to evaluate whether native vegetation could be established on disturbed areas.

During the following years, full-scale planting was implemented to reduce wind and water erosion through: the application of soil amendment with organic composts, slow-release fertilizer, and gypsum; contour strip planting of live shrubs inoculated with site-specific mycorrhizal inoculum; and grass/forb seed applied as a hydroseeded slurry. The work was conducted in three phases, with BNG conducting annual planting and monitoring of the previous year's efforts.

In June 1999, USEPA's contractor, CH2M HILL, conducted a brief visual survey to determine the relative success, up to that point of time, of the revegetation efforts at the site. At the time of the survey, much of the vegetation from the three phases of planting was living and appeared to be potentially viable. Overall, each successive phase of planting appeared to be increasingly successful. This was possibly because the results of the previous

year's planting demonstrated the more efficient plant species and soil amendments and provided data for BNG botanists. The areas from the three phases of planting are presented in Figure 4-1 of the 5-year Report.

Deviations from Approved Construction Documents

The following section identifies deviations that occurred during construction. The USEPA and their representative from E&E were formally informed of the revisions during onsite meetings and monthly conference calls. Design modifications from approved construction documents were approved by USEPA in their February 1, 1996 letter.

- Pond A outlet modifications included reducing the slope angle of the corrugated metal pipe (CMP) outlet to achieve a safer operating condition during construction.
- The access road north of Diversion Channel B at the inlet to the channel was excavated to an elevation of 4,166 feet instead of 4,170 feet to minimize ponding of water near the outlet of Pond G overflow pipe and dissipater pad.
- The sideslope angles of the Regional Sediment Storage Area were changed to avoid construction of sliver fills and to modify the existing slope at an isolated location to catch the tailings pile above the deviation which resulted in a slope of 2.8:1 (horizontal:vertical). The slope height at 2.8:1 is approximately 13 feet vertical, transitioning back to the designed slope of 3:1 for 40 feet horizontal both north and south of the erosion channel.
- The northeast leg of Diversion Channel A was shortened by approximately 30 feet to minimize destruction of existing vegetation that is currently stabilizing the slopes in this area against erosion.
- The sideslopes of Diversion Channel B in the areas determined to be rocky during excavation were changed to an angle of approximately 1:1 in order to minimize disturbance of existing dense and well-established vegetation.
- Loose rock on top of geotextile fabric was installed for the lowest 30 feet of Diversion Channel B due to water flowing from a local spring.
- Approximately 1,040 feet of gabions were installed as part of Diversion Channel B with a width of 18 feet instead of 21 feet due to the steep slope on the eastern side of the channel.
- The bottom of Pond C was not compacted due to water accumulation at the pond bottom from local seeps.
- The slope of the main berm of Pond C exceeds 2:1 due to water accumulation at the pond bottom from local seeps.
- Approximately 120 feet of the upper left fork of Diversion Channel A was constructed with 1-1/2-foot depth gabions instead of two 9-inch depth gabions.
- Polyfelt TS 500 geotextile fabric as used to complete construction of Diversion Channel A, the dissipater pads for Pond C and Pond E, and the Pond A access road crossing due to unavailability of the specified Mirafi 700X geotextile fabric.

- The 80-foot length of channel downstream of the Pond E overflow dissipater pad was constructed using geotextile fabric and loose rock instead of installing gabions. The channel is relatively flat, and standing water prevented the excavator from tracking down the channel to fill the gabions with rock.
- An access gate was not installed near the main road by Pond C because better access to Pond C may be obtained on the construction road located at the northeast corner of the pond.
- Treated Class 4 Douglas fir telephone poles were substituted for the staff gauges specified due to unavailability of material.
- Pond B and Pond C staff gauges were not installed at the locations shown on the Design Drawings due to inaccessibility from water accumulation in the ponds.
- Both layers of the double-chip seal road were constructed using 3/8-inch No. 6 washed rock due to unavailability of the rock specified.
- BLM gates originally located at Spanish Lake and at the lower entrance were relocated in accordance with the Design Drawings. Gates from Pond A and Pond B access roads were removed and reinstalled with new gate posts at the original locations.
- Improved drainage ditches near Pond A and Pond B entrance gates, along west side of main road, and east side of entrance to Pond E.
- Extended fence at north site access gate.

An inspection was conducted on December 13, 1995, and was attended by Richard E. Blubaugh and Jim Fontana from the Atlas Mine Site Committee (AMSC), Richard Procunier with USEPA, Tim Moore with BLM, Ron Anderson with E&E, Rich Wesenberg with Harding Lawson Associates (HLA), and Bill Gore and Gene Wilson with Scrivner Environmental Services, Inc. A prefinal inspection of the Altas Mine Area OU was subsequently conducted by USEPA on August 22, 1996. Based upon this inspection, USEPA issued a letter to the PRPs, dated November 14, 1996, confirming that the construction phase of the remedy was completed and operating properly, and subsequently issued a preliminary closeout report for the Atlas Area OU on September 2, 1999 (USEPA 1999).

Access Controls

Portions of the perimeter of the site have been fenced, and berms along White Creek road have been constructed by the BLM to discourage access of the Atlas Mine Area. The site is routinely inspected by BLM to discourage trespassing and to identify activities of vandalism. In addition, access to the site is further limited by two locked gates on White Creek Road above the site and two locked gates on the same road below the site. Signs are clearly posted and maintained by BLM. The locks are managed by BLM.

References

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Appendix B
USEPA 1992 Public Notice

EPA

December 1992

Atlas and Coalinga Asbestos Mines Superfund Sites

Coalinga, California

United States Environmental Protection Agency, Region IX, San Francisco

✦ PUBLIC NOTICE ✦

Status of Clear Creek Management Area and Arroyo Pasajero Ponding Basin

FRESNO AND SAN BENITO COUNTIES

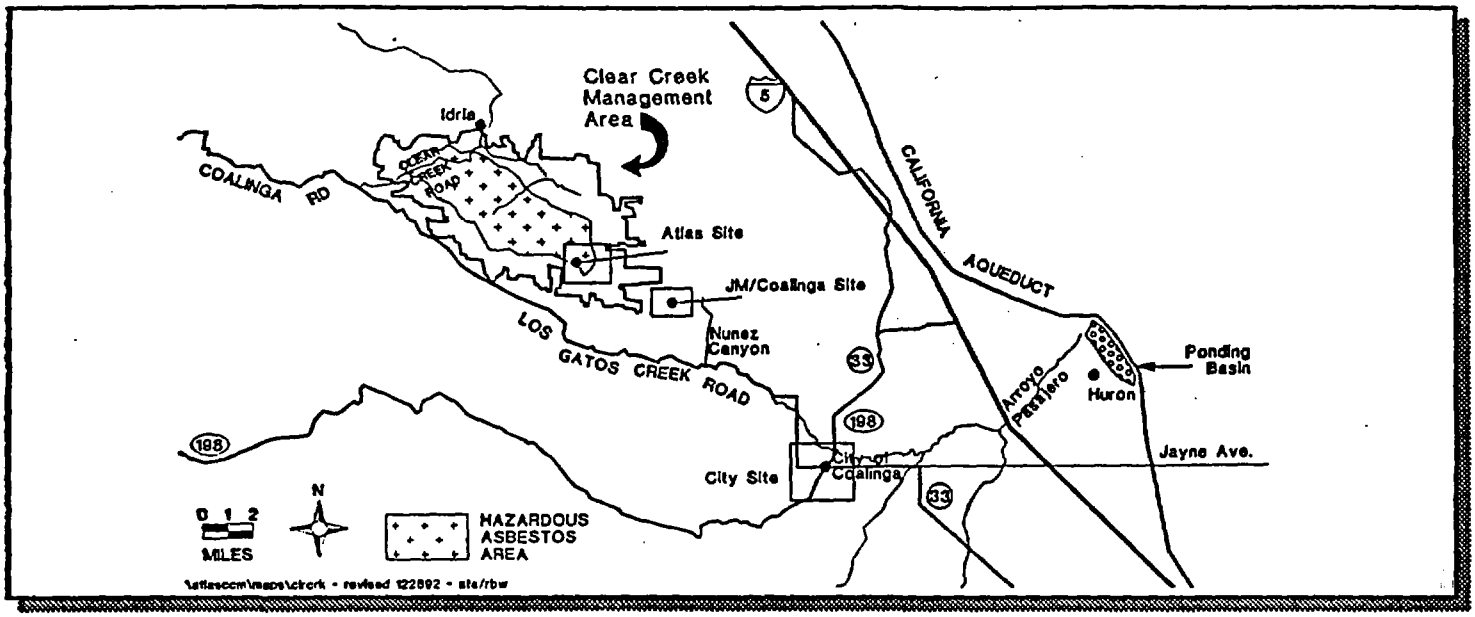
In September of 1990 and February of 1991, the United States Environmental Protection Agency (EPA) issued Records of Decision for the Coalinga Superfund Site and the Atlas Superfund Site, respectively. In those decision documents, EPA announced the remedies selected for the asbestos waste at certain areas of those Superfund sites. EPA also indicated that, by the end of 1992, it would evaluate whether further action by EPA was necessary at the Clear Creek Management Area, which is part of the Atlas Site, and at the Arroyo Pasajero Ponding Basin which is part of both the Atlas and Coalinga Sites. This public notice announces the results of those evaluations.

CLEAR CREEK MANAGEMENT AREA:

The Bureau of Land Management (BLM) of the Department of Interior has assessed the risks posed by naturally occurring asbestos and asbestos waste in the Clear Creek Management Area. BLM has not yet determined how its Resource Management Plan should be altered to address these risks. It will issue a draft revision of its plan and an Environmental Impact Statement for public comment in 1993. EPA will remain involved in BLM's planning and analysis process in order to help ensure protection of public health and the environment from the asbestos waste in this area.

ARROYO PASAJERO PONDING BASIN:

The Bureau of Reclamation (BOR) of the Department of Interior and the California Department of Water Resources (DWR) jointly manage the Arroyo Pasajero Ponding Basin water project. EPA is satisfied that these agencies' plans are adequate to address the threat from asbestos waste in the Ponding Basin. The two threats identified by EPA were the generation of airborne asbestos during agricultural activities and the overflow of asbestos laden run-off into the California Aqueduct. To address these threats BOR and DWR plan to (1) plant cover crops, which will reduce agricultural activities and resulting airborne asbestos, and (2) expand the ponding basin and take other actions which will reduce the chances of asbestos run-off entering the Aqueduct. As a result, EPA will take no further action under the Comprehensive Environmental Response Compensation and Liability Act (Superfund law) in this area.



FOR MORE INFORMATION

If you have any questions, want to add a name to our mailing list or would like more information on the Atlas Mine, Johns Manville Coalinga Asbestos or the City of Coalinga Superfund sites, please contact:

INFORMATION REPOSITORIES

Coalinga District Library
305 N. 4th Street
Coalinga, CA 93210
(209) 935-1676

Avenal Public Library
501 East Kings
Avenal, CA 93204
(209) 386-5741

Huron City Hall
36311 Lassen Ave.
Huron, CA 93234
(209) 945-2241

Kings County Library
401 North Douty
Hanford, CA 93230
(209) 582-0261

U.S. EPA
75 Hawthorne St.
San Francisco, CA 94105
Toll Free 1-800/231-3075

Dick Procunier (H-6-2)
Superfund Project Manager
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Angeles Herrera (H-1-1)
Community Relations Coordinator
415/744-2182

United States Environmental Protection Agency
Region 9
75 Hawthorne Street (H-1-1)
San Francisco, CA 94105
Attn: Angeles Herrera

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INSIDE: Update on Activities at the Atlas / Coalinga Asbestos Superfund Site

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Appendix C
Geographic Areas of Atlas Mine Area OU

Appendix C1
Arroyo Pasajero Ponding Basin

APPENDIX C1

Arroyo Pasajero Ponding Basin

The purpose of this appendix is to provide the status and updated technical information on the Arroyo Pasajero Ponding Basin (Ponding Basin). The Ponding Basin, which is geographically located within the Atlas Asbestos Mine Superfund Site, was identified because of concerns that asbestos mining and milling waste from the Atlas Mine Area were being transported to this area by water or wind.

Background

The Ponding Basin is approximately 30 miles east of the Atlas Mine Area. It is located between State Highway 198 and Gale Avenue to the West of the California Aqueduct. Intermittent streams in the Atlas Mine Area and Johns Manville Mill Area drain into Los Gatos Creek, a tributary to the Ponding Basin. The Ponding Basin is designed to hold floodwaters from the Arroyo Pasajero alluvial fan.

In the Record of Decision (ROD) for the Atlas Mine Area Operable Unit (USEPA 1991), the United States Environmental Protection Agency (USEPA) states that it is not taking any action in the Ponding Basin because the United States Bureau of Reclamation (USBR) and the Department of Water Resources (DWR) are considering actions to minimize the generation of asbestos-laden dust and to prevent run-off to the California Aqueduct. The ROD further provided that USEPA will evaluate whether USBR's and DWR's plan protects human health and the environment, and will publish a public notice of its determination.

In 1992, USEPA published a public notice regarding the status of the Ponding Basin (Appendix B). In that notice, USEPA stated that plans for the Ponding Basin established by the USBR and DWR were adequate to address the threat from asbestos. These plans included (1) planting cover crops to reduce exposure to airborne asbestos and (2) expanding the ponding basin to reduce chances of asbestos run-off from entering the California Aqueduct. USEPA stated it would take no further action regarding the Ponding Basin under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). However, because the Ponding Basin is a geographic area within the Atlas Mine Area, activities that have occurred at the Ponding Basin in the last five years are summarized in this appendix for completeness.

Site Inspection

A site inspection of the Ponding Basin was performed on May 2, 2006. Representatives from USEPA, CH2M HILL, and DWR were in attendance. It was noted that areas adjacent to Gale Avenue have been developed agriculturally; however, these areas are not within the boundaries of the Ponding Basin specified in the ROD.

Vegetation and gravel-covered roads were observed to be in satisfactory condition and prevent airborne asbestos from being generated; however, trespassers are driving in areas

without gravel or vegetation, which likely results in generation of airborne asbestos. Fencing and signage are partially installed along the aqueduct and portions of the Ponding Basin, but are not adequate for preventing trespassers from accessing the site.

The site inspection form for the Ponding Basin, as well as photos from the site inspection, can be found in Attachment 1.

Status of Recent Activities at the Ponding Basin

Expansion of Ponding Basin and Flood Control

From approximately 2004 to 2005, the Ponding Basin was expanded to provide flood protection against 100-year flood events. In addition, flood control structures were installed south of Gale Avenue to provide 25-year flood protection. To prevent water from entering the vegetated areas and the California Aqueduct, gabion weirs were installed at the southern end of the Ponding Basin.

Water is discharged from inlet drains in the Ponding Basin to the California Aqueduct approximately once every 7 years for flood control purposes. Prior to discharge, surface water samples are collected to ensure elevated constituent concentrations are not released into the aqueduct. The last discharge occurred on January 13, 2005. Attachment 2 presents the analytical data from the samples collected during that discharge event.

Three samples were collected from this event and analyzed for asbestos fibers with lengths greater than 10 micrometers (μm). The first sample was collected prior to discharge. It contained asbestos detected at a concentration of 4.4 million fibers per liter (MFL). After discharge, a sample collected from the California Aqueduct at a location directly downstream at Gale Avenue contained asbestos detected at a concentration of 2.2 MFL. A third sample collected from the California Aqueduct at Quail Avenue's crossing, 12 miles downstream of discharge point, did not contain asbestos at a concentration above the detection limit of 2.2 MFL.

In addition, from April 1981 to August 2003, data were collected from monitoring stations upstream and downstream of the Ponding Basin in the California Aqueduct. Banks Pumping Plant monitoring station is approximately 120 miles upstream of the Ponding Basin. Kettleman City monitoring station is approximately 20 miles downstream, and Station 41 is approximately 100 miles downstream of the Ponding Basin. As presented in Attachment 2, chrysotile asbestos (fibrous serpentine) was not detected above detection limits (0.2 MFL to 2.2 MFL) in samples collected both upstream and downstream of the Ponding Basin.

Recent Soil Sampling Event and the Construction of Dikes

From February 9 to February 11, 2004, samples were collected by DWR's Division of Environmental Services, Environmental Site Assessment Section personnel at five locations west of the Ponding Basin (DWR 2004). The purpose of the sampling event was to determine the presence or absence of naturally-occurring asbestos in the soil matrix in the vicinity of the Ponding Basin and to assess the appropriateness for use of the soil matrix as fill material for construction activities. These five locations include: Arroyo Pasajero Channel, Huron Waste Water Treatment Plant, San Joaquin Valley Railroad Crossing, Gale Avenue, and the western embankment of the San Luis Canal.

One hundred samples were collected and sent to Asbestos TEM Laboratory for analysis of asbestos using polarized light microscope, California Air Resources Board (CARB) Method 435. Asbestos fibers detected in all samples were characterized as chrysotile. No other asbestos types were detected. Approximately 44 percent of the samples had reported asbestos contents of less than 0.25 percent. Fifty-four percent of the samples had reported asbestos contents ranging from 0.25 percent to 1.00 percent. Two percent of the samples had a reported asbestos concentration greater than 1.00 percent. Attachment 3 presents the analytical data and locations for these samples.

This soil was used to construct dikes that serve as roads west of the Ponding Basin along the north side of Gale Avenue. Four to six inches of clean gravel were placed over the soil to prevent exposure to the asbestos. Because reported asbestos concentrations in the soil exceeded 0.25 percent in 56 percent of the samples, construction activities at the Ponding Basin were subject to the CARB Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations and the CARB ATCM for Surfacing Applications. The soil with reported asbestos concentrations greater than 1.0 percent was subject to permissible exposure limits specified in Section 1529(c) of Title 8, California Code of Regulations (DWR 2004).

Summary and Recommendations

Currently, discharges to the California Aqueduct are controlled with the expansion of the Ponding Basin, and installation of flood control structures and gabion weirs. Controlled releases are only made when necessary for flood control purposes, and samples are collected prior to such releases to ensure elevated constituent concentrations are not released to the aqueduct.

In the vicinity of the Ponding Basin, vegetation and gravel-covered roads prevent airborne asbestos from being generated by vehicular and human activities; however, a maintenance program should be developed to ensure that the gravel layer on top of the recently-constructed levee roads is maintained over time to prevent exposure to asbestos in the roads. In addition, fencing and signage at the perimeter of the Ponding Basin should be improved to prevent future access to the Ponding Basin by trespassers. At the request of USEPA, DWR has indicated that they will identify measures to address these issues and will incorporate these measures into an existing maintenance plan for the Ponding Basin (DWR 2006).

References

Department of Water Resources (DWR). 2004. Sampling of Designated Borrow Areas for Naturally-Occurring Asbestos Sampling Report. May.

_____. 2006. Telephone conversation between Ghassan Algaser/DWR and Lynn Suer/USEPA on July 27, 2006.

United States Environmental Protection Agency (USEPA). 1991. *EPA Superfund Record of Decision – Atlas Asbestos Mine OU #01*. February.

Attachment 1
Site Inspection

Site Inspection Checklist for the Arroyo Pasajero Ponding Basin

PREPARED FOR: United States Environmental Protection Agency

PREPARED BY: Alexa Stamets/CH2M HILL

DATE: May 18, 2006

The site inspection checklist for the Arroyo Pasajero Ponding Basin, which is geographically located within the Atlas Asbestos Mine Superfund Site, is presented in this technical memorandum. This site inspection was performed between on May 2, 2006. The individuals that were present are indicated in Table 1.

TABLE 1
Site Inspection Team Roster for the Arroyo Pasajero Ponding Basin, May 2, 2006
Five-Year Review Report, Atlas Asbestos Mine Superfund Site and Coalinga Asbestos Mine (Johns-Manville Mill) Superfund Site, Fresno County, California

Name	Title	Affiliation
Lynn Suer, Ph.D.	Remedial Project Manager	U.S. EPA
Alexa Stamets, P.E.	Project Manager	CH2M HILL (contractor to U.S. EPA)
Ghassan ALQaser, Ph.D.		State of California Department of Water Resources

Five-Year Review Site Inspection Checklist
Arroyo Pasajero Ponding Basin, Atlas Mine Superfund Site

I. SITE INFORMATION	
Site name: Arroyo Pasajero Ponding Basin, Atlas Mine Superfund Site	**Date of inspection:** May 2, 2006
Location and Region: Coalinga, CA, Region IX	**EPA ID:** 0934, CAD980496863
Agency, office, or company leading the five-year review: EPA Region IX	**Weather/temperature:** Sunny, approximately 70 °F.

Remedy Includes: (Check all that apply)

Landfill cover/containment
Access controls
Institutional controls
Groundwater pump and treatment
Surface water collection and treatment
Other:

Attachments: ☑ Inspection team roster attached ☑ Site map attached [in report]

II. INTERVIEWS (Check all that apply)

1. **O&M site manager:** N/A

2. Local regulatory authorities and responsible 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: State of California Department of Water Resources (DWR)

Contact: Ghassan ALQaser, 916/653-8374

III. ONSITE DOCUMENTS AND RECORDS VERIFIED (Check all that apply)

1. **O&M Documents**

O&M manual	Readily available	Up to date
As-built drawings	Readily available	Up to date
Maintenance logs	Readily available	Up to date

Remarks: An O&M Manual has not been developed for this site. As-built drawings documenting recent construction activities have not been developed.

2. **Site-Specific Health and Safety Plan** Readily available Up to date
Contingency plan/emergency response plan Readily available Up to date
Remarks: Not available during the site inspection.

3.	**O&M and OSHA Training Records** Readily available Up to date N/A Remarks: Not available during the site inspection.	
4.	**Permits and Service Agreements** Air discharge permit Readily available Up to date ☑ N/A Effluent discharge Readily available Up to date ☑ N/A Waste disposal, POTW Readily available Up to date ☑ N/A Other permits _____ Readily available Up to date ☑ N/A Remarks:	
5.	**Gas Generation Records** Readily available Up to date ☑ N/A Remarks:	
6.	**Settlement Monument Records** Readily available Up to date ☑ N/A Remarks:	
7.	**Groundwater Monitoring Records** Readily available Up to date ☑ N/A Remarks:	
8.	**Leachate Extraction Records** Readily available Up to date ☑ N/A Remarks:	
9.	**Discharge Compliance Records** Air Readily available Up to date ☑ N/A Water (effluent) Readily available Up to date N/A Remarks: The DWR indicated that they would provide analytical data for grab surface water samples collected from the ponding basin prior to releasing water to the California Aqueduct for flood controls purposes. The DWR indicated that they compare this data to constituent concentrations in the aqueduct to make sure that water with constituent concentrations greater than those already present in the aqueduct is not released to the aqueduct.	
10.	**Daily Access/Security Logs** Readily available Up to date ☑ N/A Remarks:	
	IV. O&M COSTS	
1.	**O&M Organization** State in-house: DWR, United States Bureau of Reclamation Contractor for State: N/A	
2.	**O&M Cost Records** Readily available Up to date Funding mechanism/agreement in place ☑ Not Available	
3.	**Unanticipated or Unusually High O&M Costs During Review Period** Describe costs and reasons: N/A	
	V. ACCESS AND INSTITUTIONAL CONTROLS ☑ Applicable	
A. Fencing		
1.	**Fencing** Location shown on site map ☑ Gates secured N/A Remarks: The site is only partially fenced. Locked gates on the access road along the aqueduct prevent access to the aqueduct. However, because the site is not completely fenced, trespassers continue to access the site and the aqueduct.	

B. Other Access Restrictions

1. **Signs and other security measures** Location shown on site map N/A
Remarks: No signs warning visitors and trespassers that asbestos is present were observed during the site inspection.

C. Institutional Controls

1. **Implementation and enforcement**

Site conditions imply ICs not properly implemented	Yes	No	☑ N/A
Site conditions imply ICs not being fully enforced	Yes	No	☑ N/A

Type of monitoring (e.g., self-reporting, drive by): N/A
Frequency: N/A
Responsible party/agency: N/A

Reporting is up-to-date	Yes	No	☑ N/A
Reports are verified by the lead agency	Yes	No	☑ N/A
Specific requirements in deed or decision documents have been met	Yes	No	☑ N/A
Violations have been reported	Yes	No	☑ N/A

Other problems or suggestions:

2. **Adequacy** ICs are adequate ☑ ICs are inadequate N/A
Remarks: Institutional controls may be appropriate to prohibit sensitive uses of the site.

D. General

1. **Vandalism/trespassing** Location shown on site map No vandalism evident
Remarks: The presence of trash and tire tracks on the ground surface at the site suggests that trespassers access and use the site. According to Ghassan ALQaser/DWR, trespassers access the site by coming over flood control levees and generally come through the site to fish in the California Aqueduct. Mr. ALQaser indicated large volumes of trash generated by trespassers have been removed from the site.

2. **Land use changes onsite**
Remarks: Land within the ponding basin adjacent to Gale Avenue is used to grow crops.

3. **Land use changes offsite**
Remarks: None noted during the site inspection. The surrounding area is largely agricultural.

VI. GENERAL SITE CONDITIONS

A. Roads ☑ Applicable

1. **Roads** Location shown on site map ☑ Roads adequate N/A
Remarks: Access roads are located parallel to the aqueduct and parallel to Gale Avenue. The roads are composed of soil with elevated concentrations of asbestos. However, a 4-6" thick gravel layer covers the road to prevent exposure to asbestos in soil. These roads should be maintained over time to mitigate exposure to asbestos in soils that compose the roads.

VII. LANDFILL COVERS ☑ Not Applicable

A. Landfill Surface ☑ N/A

1.	**Settlement** (Low spots) Location shown on site map Settlement not evident Areal extent_____ Depth Remarks:
2.	**Cracks** Location shown on site map Cracking not evident Lengths _____ Widths_____Depth Remarks:
3.	**Erosion** Location shown on site map Erosion not evident Areal extent_____ Depth Remarks:
4.	**Holes** Location shown on site map Holes not evident Areal extent_____ Depth Remarks:
5.	**Vegetative Cover** Grass Cover properly established No signs of stress Trees/Shrubs (indicate size and locations on a diagram) Remarks:
6.	**Alternative Cover** (armored rock, concrete, etc.) N/A Remarks:
7.	**Bulges** Location shown on site map Bulges not evident Areal extent_____ Height Remarks:
8.	**Wet Area/Water Damage** Wet areas/water damage not evident Wet areas Location shown on site map Areal extent Ponding Location shown on site map Areal extent Seeps Location shown on site map Areal extent Soft subgrade Location shown on site map Areal extent Remarks:
9.	**Slope Instability** Slides Location shown on site map No evidence of slope instability Areal extent Remarks:
B. Benches Applicable ☑ N/A (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.)	
1.	**Flows Bypass Bench** Location shown on site map N/A Remarks:
2.	**Bench Breached** Location shown on site map N/A Remarks:
3.	**Bench Overtopped** Location shown on site map N/A Remarks:

C. Letdown Channels Applicable ☑ N/A

(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.)

1. **Settlement** Location shown on site map No evidence of settlement
   Areal extent_____ Depth
   Remarks:

2. **Material Degradation** Location shown on site map No evidence of degradation
   Material type_____ Areal extent
   Remarks:

3. **Erosion** Location shown on site map No evidence of erosion
   Areal extent_____ Depth
   Remarks:

4. **Undercutting** Location shown on site map No evidence of undercutting
   Areal extent_____ Depth
   Remarks:

5. **Obstruction** Type_____ No obstruction
   Location shown on site map Areal extent
   Size
   Remarks:

6. **Excessive Vegetative Growth** Type
   No evidence of excessive growth
   Vegetation in channels does not obstruct flow
   Location shown on site map Areal extent
   Remarks:

D. Cover Penetrations Applicable ☑ N/A

1. **Gas Vents** Active Passive
   Properly secured/located Functioning Routinely sampled Good condition
   Evidence of leakage at penetration
   Remarks:

2. **Gas Monitoring Probes**
   Properly secured/located Functioning Routinely sampled Good condition
   Evidence of leakage at penetration
   Remarks:

3. **Monitoring Wells** (within surface area of landfill)
   Properly secured/located Functioning Routinely sampled Good condition
   Evidence of leakage at penetration
   Remarks:

4. **Leachate Extraction Wells**
Properly secured/located Functioning Routinely sampled Good condition
Evidence of leakage at penetration Needs O&M N/A
Remarks:

5. **Settlement Monuments** Located Routinely surveyed N/A
Remarks:

E. Gas Collection and Treatment Applicable ☑ N/A

1. **Gas Treatment Facilities**
Flaring Thermal destruction Collection for reuse
Good condition Needs O&M
Remarks:

2. **Gas Collection Wells, Manifolds and Piping**
Good condition Needs O&M
Remarks:

3. **Gas Treatment Facilities** (e.g., gas monitoring of adjacent homes or buildings)
Good condition Needs O&M N/A
Remarks:

F. Cover Drainage Layer Applicable ☑ N/A

1. **Outlet Pipes Inspected** Functioning N/A
Remarks:

2. **Outlet Rock Inspected** Functioning N/A
Remarks:

G. Detention/Sedimentation Ponds ☑ Applicable N/A

1. **Siltation** ☑ Siltation not evident
Remarks: Detention pond is covered in vegetation.

2. **Erosion** Areal extent_____ Depth
☑ Erosion not evident
Remarks:

3. **Outlet Works** ☑ Functioning N/A
Remarks: Water in the vegetative detention pond is released to California Aqueduct. Surface water is drained from the pond to the aqueduct only when needed for flood control purposes.

4. **Dam** Functioning ☑ N/A
Remarks:

H. Retaining Walls Applicable ☑ N/A

1. **Deformations** Location shown on site map Deformation not evident
Horizontal displacement_____ Vertical displacement
Rotational displacement_____
Remarks:

2. **Degradation** Location shown on site map Degradation not evident
Remarks:

I. Perimeter Ditches/Off-Site Discharge ☑ Applicable N/A

1. **Siltation** Location shown on site map ☑ Siltation not evident
Areal extent_____ Depth
Remarks:

2. **Vegetative Growth** Location shown on site map N/A
Vegetation does not impede flow
Remarks: Significant vegetative growth in detention pond at Gale Avenue.

3. **Erosion** Location shown on site map ☑ Erosion not evident
Areal extent_____ Depth
Remarks:

4. **Discharge Structure** ☑ Functioning N/A
Remarks: Gabion weir for discharge from the ponding basin to vegetative detention pond. Flood control drain inlets on California aqueduct for discharge from the vegetative detention pond to the aqueduct.

VIII. VERTICAL BARRIER WALLS ☑ **Not Applicable**

1. **Settlement** Location shown on site map Settlement not evident
Remarks:

2. **Performance Monitoring** Type of monitoring
Performance not monitored
Frequency_____ Evidence of breaching
Head differential
Remarks:

IX. GROUNDWATER/SURFACE WATER REMEDIES ☑ **Not Applicable**

A. Groundwater Extraction Wells, Pumps, and Pipelines

1. **Pumps, Wellhead Plumbing, and Electrical**
Good condition All required wells located Needs O&M N/A
Remarks:

2. **Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances**
Good condition Needs O&M
Remarks:

3. **Spare Parts and Equipment**
Readily available Good condition Requires upgrade Needs to be provided
Remarks:

B. Surface Water Collection Structures, Pumps, and Pipelines

1. **Collection Structures, Pumps, and Electrical**
Good condition Needs O&M
Remarks:

2.	**Surface Water Collection System Pipelines, Valves, Valve Boxes, and Other Appurtenances** Good condition Needs O&M NA Remarks:
3.	**Spare Parts and Equipment** Readily available Good condition Requires upgrade Needs to be provided NA Remarks:
C. Treatment System	
1.	**Treatment Train** (Check components that apply) Metals removal Oil/water separation Bioremediation Air stripping Carbon adsorbers Filters Additive (e.g., chelation agent, flocculent) Good condition Needs O&M Sampling ports properly marked and functional Sampling/maintenance log displayed and up to date Equipment properly identified Quantity of groundwater treated annually Quantity of surface water treated annually Remarks:
2.	**Electrical Enclosures and Panels** (properly rated and functional) N/A Good condition Needs O&M Remarks:
3.	**Tanks, Vaults, Storage Vessels** Remarks:
4.	**Discharge Structure and Appurtenances** Good condition Needs O&M Remarks:
5.	**Treatment Building(s) – support building** N/A Good condition (especially roof and doorways) Needs repair Chemicals and equipment properly stored Remarks:
6.	**Monitoring Wells** (pump and treatment remedy) Properly secured/locked Functioning Routinely sampled Good condition All required wells located Needs O&M N/A Remarks:
D. Monitored Natural Attenuation	
1.	**Monitoring Wells** (natural attenuation remedy) Properly secured/locked Functioning Routinely sampled Good condition All required wells located Needs O&M Remarks:
X. OTHER REMEDIES	

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.

XI. OVERALL OBSERVATIONS

A. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).

The United States Environmental Protection Agency (USEPA) provided in ROD that it is not taking any action in the Ponding Basin because the United States Bureau of Reclamation (USBR) and the Department of Water Resources (DWR) are considering actions to minimize the generation of asbestos-laden dust and to prevent run-off to the California Aqueduct from the Ponding Basin. In 1992, USEPA published a public notice regarding the status of the Ponding Basin (Appendix B). In that notice, USEPA stated that plans for the Ponding Basin established by the USBR and DWR were adequate to address the threat from asbestos in the Ponding Basin and stated it would take no further action regarding the Ponding Basin under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

Run-off to the aqueduct from the Ponding Basin is currently controlled. Controlled releases are only made when necessary for flood control purposes, and samples are collected prior to such releases to ensure elevated constituent concentrations are not released to the aqueduct. Vegetation and gravel-covered roads prevent airborne asbestos from being generated. However, trespassers are driving in areas without gravel or vegetation, which is likely to result in generation of airborne asbestos. Additional actions should be taken to prevent trespassers from accessing the site.

B. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

The existing O&M is inadequate. Routine inspections should be performed to determine if the gravel road or site fencing requires maintenance. Repairs should be made as necessary.

C. Early Indicators of Potential Remedy Failure

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of .unscheduled repairs, that suggest that the protectiveness of the remedy may be compromised in the future.

Trespassers to the site may be exposed to asbestos. Additional security measures (i.e., fencing, locks, and signage) should be implemented to prevent trespassers from accessing the site. Institutional controls may be appropriate to prohibit sensitive uses of the site.

D. Opportunities for Optimization

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.

See responses above.

The vegetative detention pond, showing the gabion weir along the perimeter of the pond and the drain control structure that releases water from the pond to the California Aqueduct when necessary for flood control. This detention pond is located immediately north of Gale Avenue on the western side of the California Aqueduct. The California Aqueduct is visible on the right side of the photograph.

The gabion wall extends along the western side of the vegetative detention pond. The gabion weir prevents water from entering this vegetative area. No significant volume of water was observed in this pond during the site inspection.

Portion of the ponding basin west (upstream) of the gabion weir along Gale Avenue. Surface water collects behind the gabion weir, as presented in this photograph.

Further west along Gale Avenue, land within the ponding basin is used to grow crops.

Southern embankment of access road running parallel to Gale Avenue. This slope has been seeded to promote vegetation growth and to prevent erosion. Approximately 4 to 6 inches of gravel was placed over the access road to prevent exposure to elevated asbestos levels in the dirt road. This gravel layer is visible in the photograph.

Railroad tracks that run through the ponding basin and across the California Aqueduct. Tire tracks and garbage in this area of the site suggest that trespassers access this area.

Presence of tire tracks on the dirt surface and garbage suggest that trespassers access this area.

Trespass access route through ponding basin.

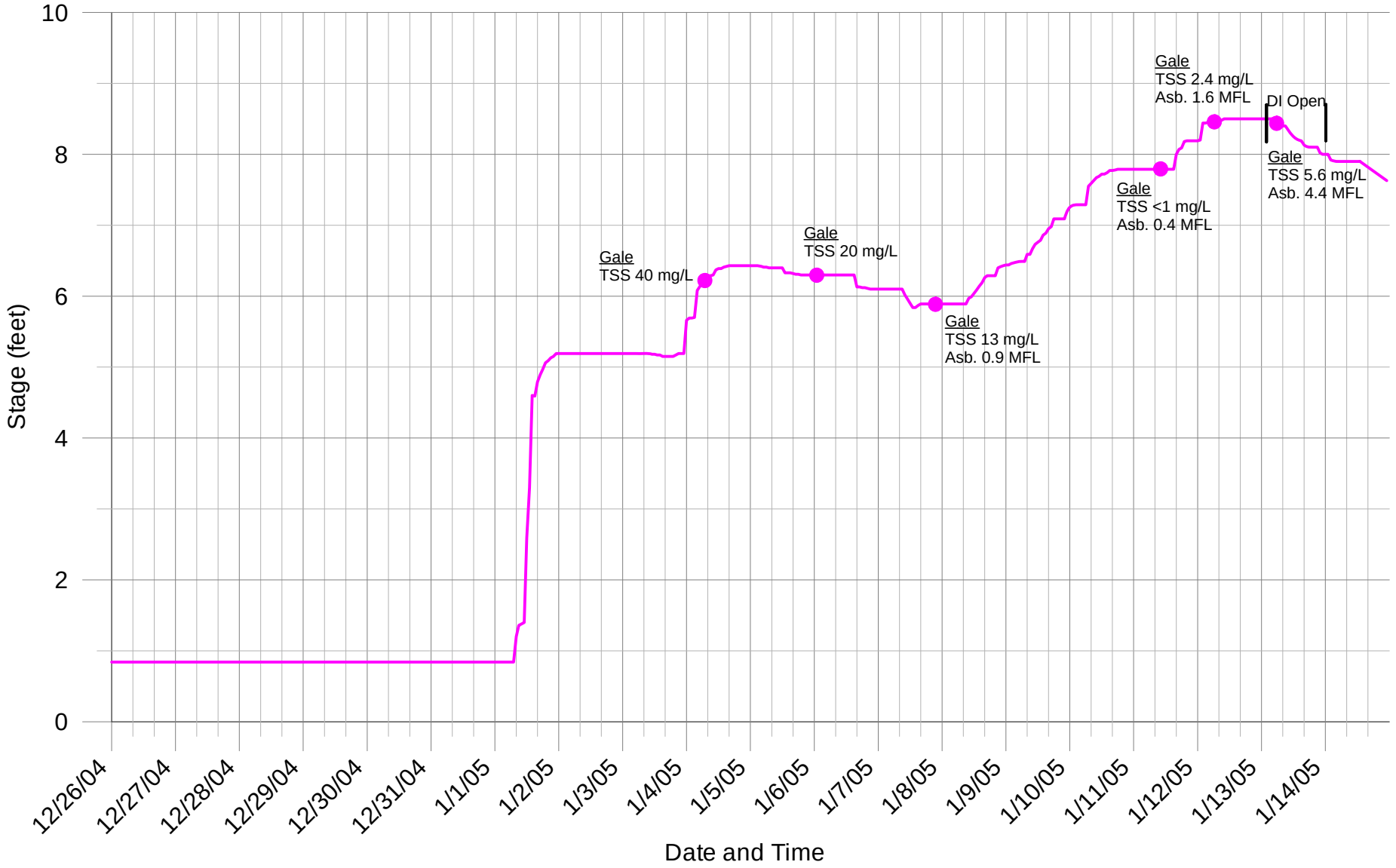
Attachment 2
Analytical Data from Water Samples

Analytical results for asbestos in the Arroyo Pasajero basin near the gabions and/or inlet gates

Station	Sample Taken		Field		Concentration >10μm (MFL)	Sensitivity >10μm (MFL)
	Date	Time	Stage (ft)	Flow (cfs)		
Basin at Gale Avenue	1/13/2005	12:00	324.2		4.4	2.2
Basin at Gale Avenue	1/12/2005	10:45	324.5		0.4	0.2
Basin at Gale Avenue	1/11/2005	12:30	323.9		1.6	0.2
Basin at Gale Avenue	1/7/2005	13:40	321.8		0.9	0.2
Basin at Gale Avenue	1/5/2005	9:20			2.2	2.2
Basin at Gale Avenue	1/3/2005	15:20	321.0		4.4	2.2

Source: Provided by the Department of Water Resources in 2006

January 2005
Arroyo Pasajero at Gale Avenue
Stage and Water Quality Comparison



Source: Provided by the Department of Water Resources in 2006

Data from selected monitoring stations at the California Aqueduct

Station	StationName	SampleDate	SampleTime	SampleType	FieldTurb	FiberLength	CrysotileMFL	CrysotileDetectionLimit
KA000331	BANKS P.P.	2/28/2001	0	Normal Sample		>10	0	1
KA000331	BANKS P.P.	5/16/2001	0	Normal Sample		>10	0	0.5
KA000331	BANKS P.P.	9/19/2001	705	Normal Sample		>10	0	0.4
KA000331	BANKS P.P.	2/20/2002	845	Normal Sample		>10	0	0.4
KA000331	BANKS P.P.	5/15/2002	645	Normal Sample	16.4	>10	0	0.4
KA000331	BANKS P.P.	8/23/2002	1140	Normal Sample	10.1	>10	0	0.5
KA000331	BANKS P.P.	2/19/2003	715	Normal Sample		>10	0	0.101
KA000331	BANKS P.P.	5/21/2003	0	Normal Sample	8.3	>10	0	0.205
KA017226	Cal. Aqu. Check 21	2/15/2001	1331	Normal Sample	21.33	>10	0	2.2
KA017226	Cal. Aqu. Check 21	2/20/2001	1446	Normal Sample	3.4	>10	0	0.2
KA017226	Cal. Aqu. Check 21	5/15/2001	1235	Normal Sample		>10	0	0.2
KA017226	Cal. Aqu. Check 21	8/14/2001	1142	Normal Sample	10.5	>10	0	0.4
KA017226	Cal. Aqu. Check 21	11/13/2001	1322	Normal Sample	3.7	>10	0	0.2
KA017226	Cal. Aqu. Check 21	2/19/2002	1316	Normal Sample	9.3	>10	0	0.4
KA017226	Cal. Aqu. Check 21	5/14/2002	1430	Normal Sample	4	>10	0	0.2
KA017226	Cal. Aqu. Check 21	8/20/2002	1415	Normal Sample		>10	0	0.2
KA017226	Cal. Aqu. Check 21	2/18/2003	1437	Normal Sample	5.2	>10	0	0.117
KA017226	Cal. Aqu. Check 21	5/19/2003	1039	Normal Sample	5.3	>10	0	0.205
KA017226	Cal. Aqu. Check 21	8/13/2003	917	Normal Sample	6.1	>10	0	20.894
KA030341	Cal. Aqu. Check 41	2/21/2001	800	Normal Sample	4.4	>10	0	0.4
KA030341	Cal. Aqu. Check 41	5/17/2001	810	Normal Sample		>10	0	0.2
KA030341	Cal. Aqu. Check 41	11/14/2001	800	Normal Sample	10.6	>10	0	0.2
KA030341	Cal. Aqu. Check 41	2/20/2002	1030	Normal Sample	18.8	>10	0	0.4
KA030341	Cal. Aqu. Check 41	5/15/2002	800	Normal Sample	7.3	>10	0	0.4
KA030341	Cal. Aqu. Check 41	8/21/2002	0	Normal Sample	7.3	>10	0	0.2
KA030341	Cal. Aqu. Check 41	11/21/2002	800	Normal Sample	7.36	>10	0	0.2
KA030341	Cal. Aqu. Check 41	5/14/2003	900	Normal Sample	8.03	>10	0	0.205

Notes:
"0" in Crysotile field indicates concentration was not detected above detection limit
Source: Provided by the Department of Water Resources in 2006

Attachment 3
Analytical Data from Soil Samples

Table 4. Summary of Analytical Results

DWR ID #	Sequoia ID #	Depth (feet)	% Asbestos	Type
[A] Arroyo Pasajero Channel				
A1	S402339-01	3	<0.25%	C
A1A	S402363-07	2	0.75%	C
A1B	S402363-08	4	0.75%	C
A2	S402339-02	2	0.75%	C
A3[D]	S402339-03	2	0.25%	C
A4	S402339-04	0	<0.25%	C
A5	S402339-05	1	0.25%	C
[B] Huron WWTP				
B1	S402339-06	5	0.25%	C
B2[D]	S402339-07	5	0.25%	C
B3	S402339-08	6	<0.25%	C
B4	S402339-09	9	0.50%	C
B5	S402339-10	10	0.75%	C
B6	S402339-11	0	ND	
B7	S402339-12	1	<0.25%	C
B8	S402339-13	5	0.50%	C
B9	S402339-14	6	0.25%	C
B10	S402339-15	2	0.50%	C
B11	S402339-16	5	1.50%	C
B12	S402339-17	6	0.50%	C
B13[D]	S402339-18	6	0.50%	C
B14	S402339-19	9	0.50%	C
B15	S402339-20	1	<0.25%	C
B16[D]	S402339-21	1	<0.25%	C
B17	S402339-22	4	<0.25%	C
B18	S402339-23	6	0.50%	C
B19	S402339-24	9	1.75%	C
B20	S402339-25	0	ND	
B21	S402339-26	4	<0.25%	C
B22	S402339-27	10	0.25%	C
B23	S402339-28	11	0.25%	C
B24	S402339-29	0	ND	
B25	S402339-30	3	1.00%	C
B26	S402339-31	7	0.25%	C
B27	S402339-32	8	0.25%	C
B28	S402339-33	1	ND	
B29[D]	S402339-34	1	0.25%	C
B30	S402339-35	6	0.50%	C
B31	S402339-36	7	0.25%	C
B32	S402339-37	10	<0.25%	C
B33	S402339-38	0	<0.25%	C
B34	S402339-39	1	<0.25%	C
B35	S402339-40	2	0.25%	C
B36	S402339-41	11	<0.25%	C
[C] SJV Rail Road Crossing				
C1	S402339-42	3	0.25%	C
C2	S402339-43	1	<0.25%	C
C3	S402339-44	11	0.25%	C
C4	S402339-45	0	ND	
C5	S402339-46	0	ND	
C6	S402339-47	5	0.25%	C
C7	S402339-48	9	0.75%	C
C8	S402339-49	1	ND	
C8A	S402363-09	0	<0.25%	C
C8B	S402363-10	2	<0.25%	C
C9[D]	S402339-50	1	ND	
[D] Gale Avenue				
D1	S402339-51	2	<0.25%	C
D2	S402339-52	5	0.25%	C
D3	S402339-53	8	0.50%	C
D4	S402339-54	10	0.50%	C
D5	S402339-55	2	<0.25%	C
D6	S402339-56	6	0.25%	C
D7	S402339-57	8	0.50%	C
D8	S402339-58	10	0.75%	C
D9	S402339-59	2	<0.25%	C
D10	S402339-60	5	0.50%	C
D11	S402339-61	5	0.25%	C
D12	S402339-62	7	ND	
D13	S402339-63	9	0.25%	C
D14	S402339-64	4	0.25%	C
D15	S402339-65	7	0.75%	C
D16	S402339-66	8	0.25%	C
D17[D]	S402339-67	8	1.00%	C
D18	S402339-68	10	0.50%	C
D19	S402339-69	4	1.00%	C
D20	S402339-70	7	<0.25%	C
D21	S402339-71	9	0.25%	C
D22	S402339-72	11	<0.25%	C
D23	S402339-73	2	0.50%	C

Table 4. Summary of Analytical Results (continued)

DWR ID #	Sequoia ID #	Depth (feet)	% Asbestos	Type
[D] Gale Avenue (continued)				
D24	S402339-74	4	<0.25%	C
D25[D]	S402339-75	4	<0.25%	C
D26	S402339-76	8	0.25%	C
D27	S402339-77	9	<0.25%	C
D28	S402339-78	5	0.25%	C
D29	S402339-79	6	0.75%	C
D30	S402339-80	9	<0.25%	C
D31	S402339-81	11	<0.25%	C
D32	S402339-82	4	<0.25%	C
D33[D]	S402339-83	4	ND	
D34	S402339-84	6	<0.25%	C
D35	S402339-85	8	0.50%	C
D36	S402339-86	9	<0.25%	C

DWR ID #	Sequoia ID #	Depth (feet)	% Asbestos	Type
[E] Proposed Construction Site				
E1	S402339-87	0	<0.25%	C
E2	S402339-88	0	0.25%	C
E3	S402339-89	0	<0.25%	C
E4	S402339-90	0	<0.25%	C
E5	S402363-01	0	<0.25%	C
E6	S402363-02	0	0.25%	C
E7[D]	S402363-03	0	1.00%	C
E8	S402363-04	0	<0.25%	C
E9	S402363-05	0	<0.25%	C
E10	S402363-06	0	0.25%	C

[D] = Duplicate (Replicate)

C = Chrysotile

Below Action Level ➔	
ND (Non-Detectable) - < 0.25%	44% of samples
0.25% - 1.0%	54% of samples
> 1.0% - 1.75%	2% of samples

Regulatory Compliance Considerations

Construction Activities:

Any soil or other substrate with a reported asbestos content of 0.25 percent or greater (≥ 0.25%), would exceed the action level upon which compliance with the CARB *Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations* will be required. This ATCM was adopted into Section 93105 of Title 17, California Code of Regulations (CCR) in July 2002.

Surfacing Applications:

Any soil or other substrate with a reported asbestos content of 0.25 percent or greater (≥ 0.25%), would be considered a "restricted material" and subject to regulation under the CARB *Asbestos Airborne Toxic Control Measure (ATCM) for Surfacing Applications*. This ATCM was adopted into Section 93106 of Title 17, California Code of Regulations (CCR) in November 2001.

Occupational Health and Safety:

Any soil or other substrate with a reported asbestos content of greater than 1.0 percent (>1.0%) is, by definition, an "asbestos containing material (ACM)" pursuant to Section 1529, Subchapter 4: Construction Safety Orders of Title 8 CCR and,

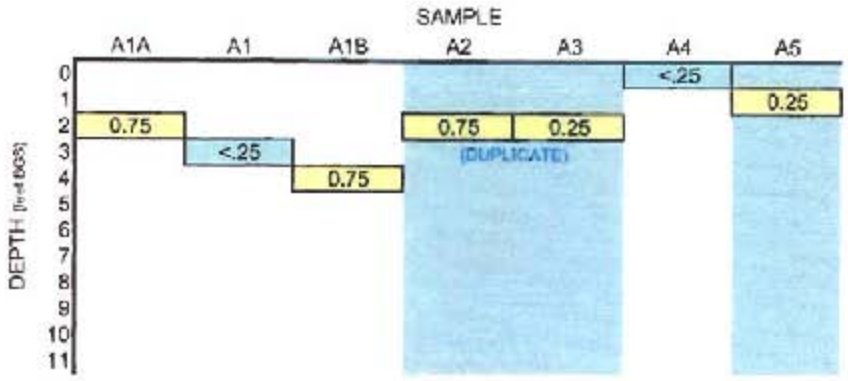
ARROYO PASAJERO / WEST SIDE DETENTION BASIN

NATURALLY OCCURRING ASBESTOS STUDY

NOA Sampling and Characterization, February 9-11, 2004

SAMPLE RESULTS

ARROYO PASAJERO CHANNEL BORROW SITE



= Sample results less than 0.25%

= Sample results between 0.25% and 1.0%

= Sample results greater than, or equal to, 1.0%

= Approximate borrow site boundary

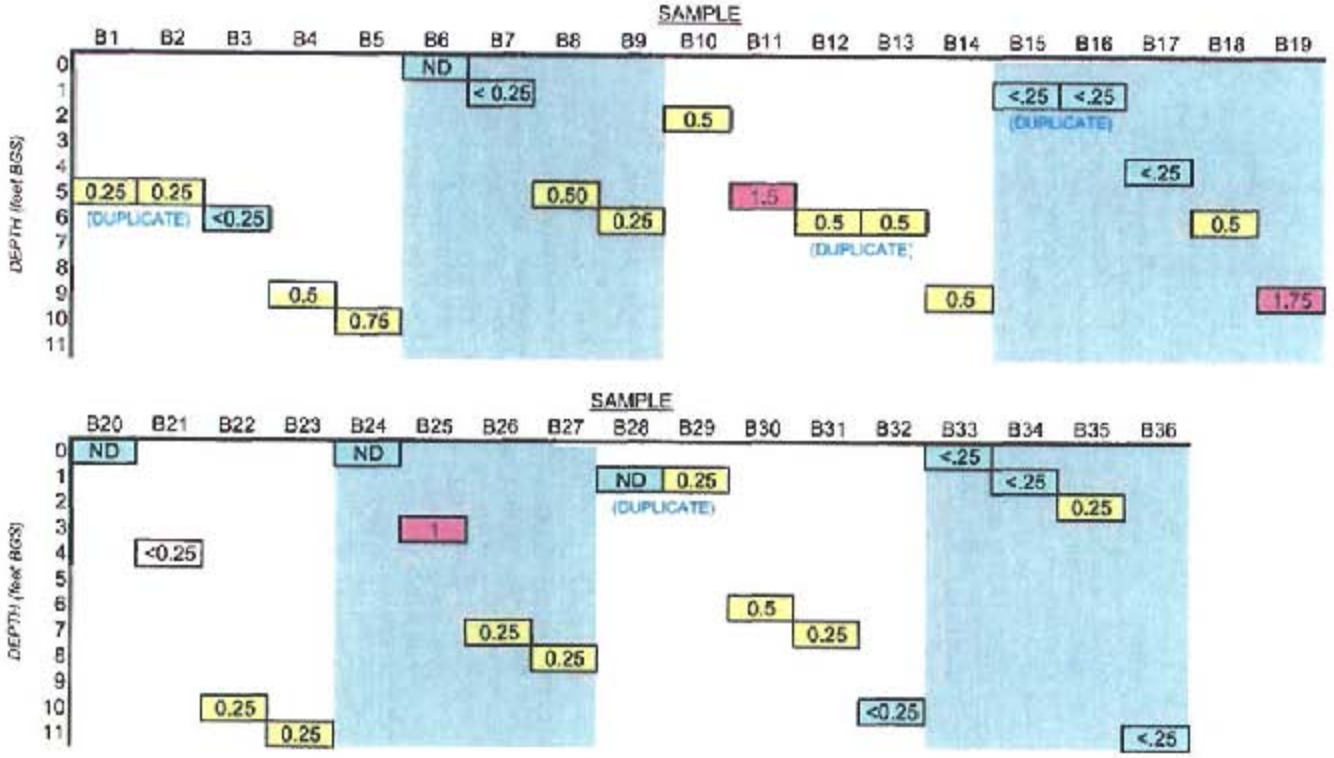
ARROYO PASAJERO / WEST SIDE DETENTION BASIN

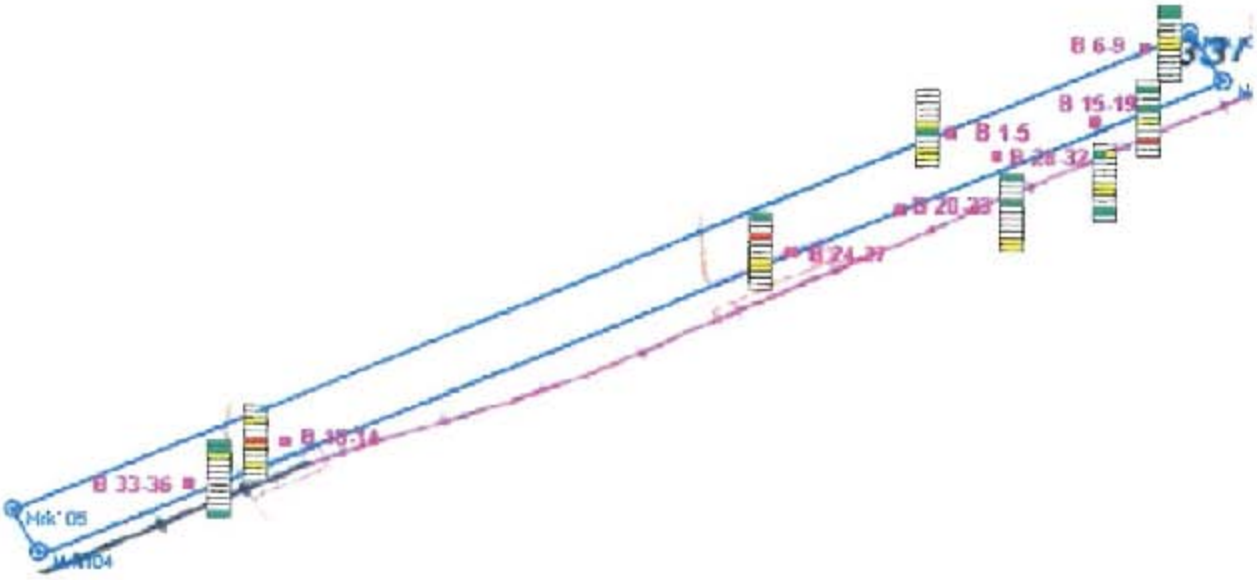
NATURALLY OCCURRING ASBESTOS STUDY

NOA Sampling and Characterization, February 9-11, 2004

SAMPLE RESULTS

HURON WASTE WATER TREATMENT PLANT BORROW SITE





= Sample results less than 0.25%

= Sample results between 0.25% and 1.0%

= Sample results greater than, or equal to, 1.0%

= Approximate borrow site boundary

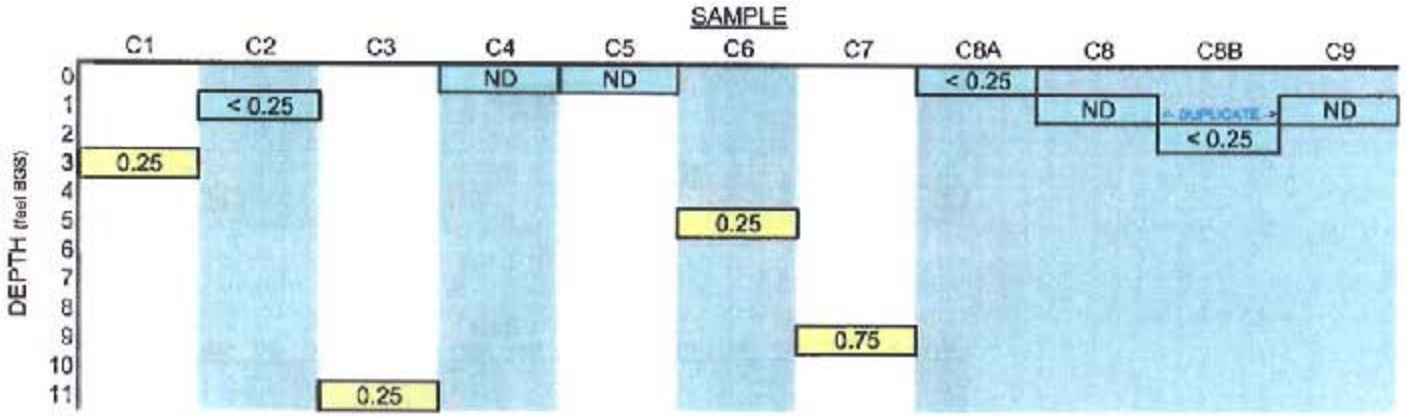
ARROYO PASAJERO / WEST SIDE DETENTION BASIN

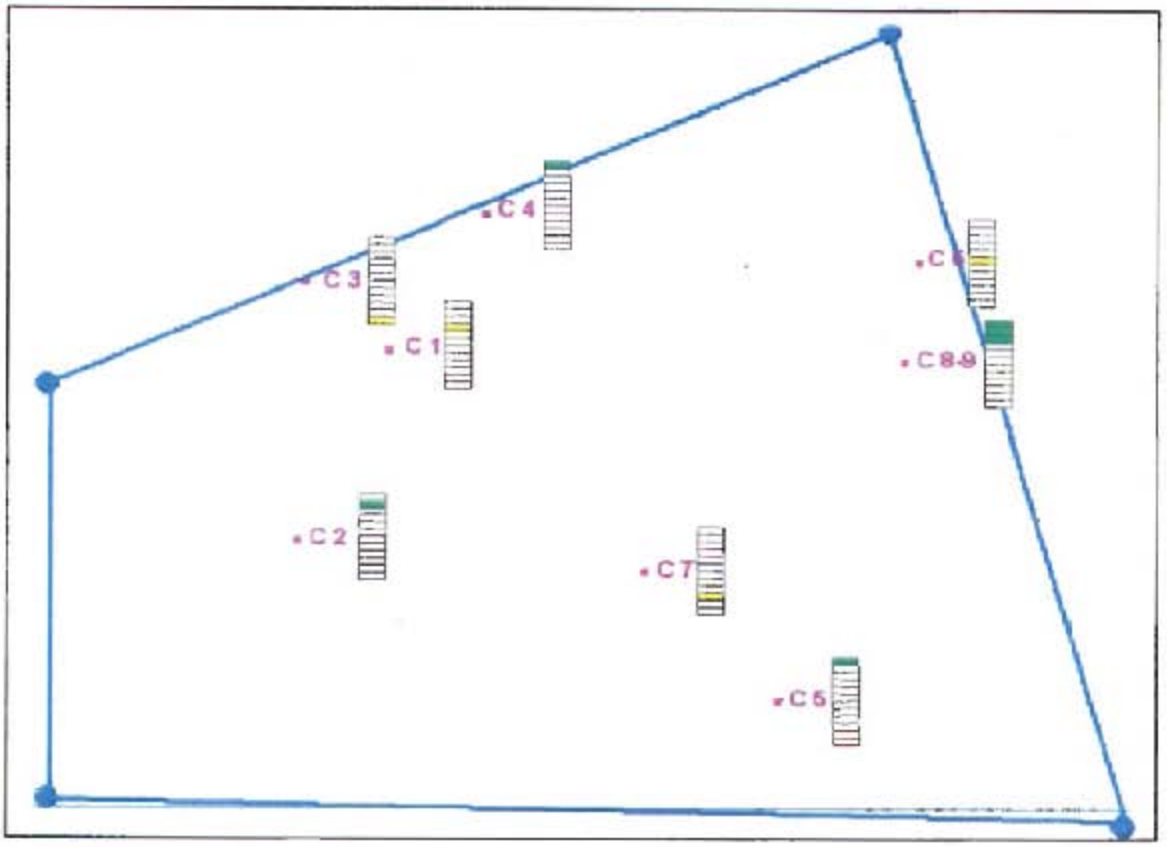
NATURALLY OCCURRING ASBESTOS STUDY

NOA Sampling and Characterization, February 9-11, 2004

SAMPLE RESULTS

RAILROAD BORROW SITE





= Sample results less than 0.25%

= Sample results between 0.25% and 1.0%

= Sample results greater than, or equal to, 1.0%

= Approximate borrow site boundary

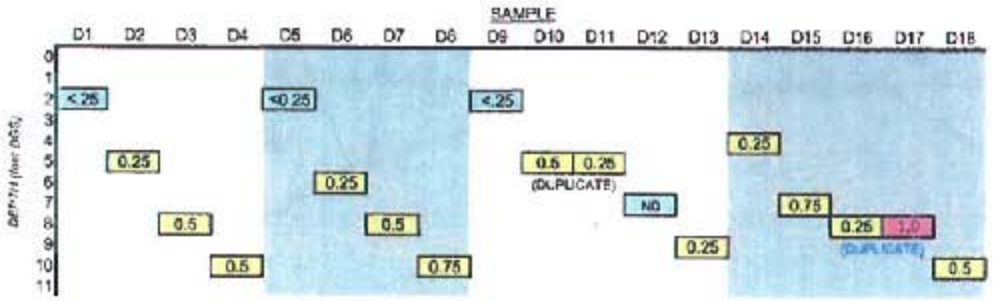
ARROYO PASAJERO / WEST SIDE DETENTION BASIN

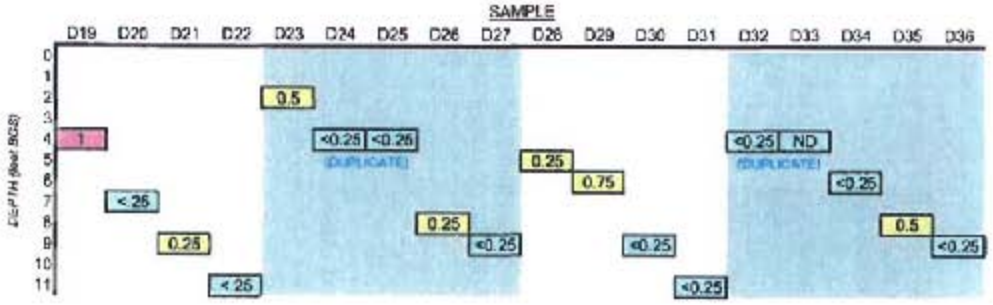
NATURALLY OCCURRING ASBESTOS STUDY

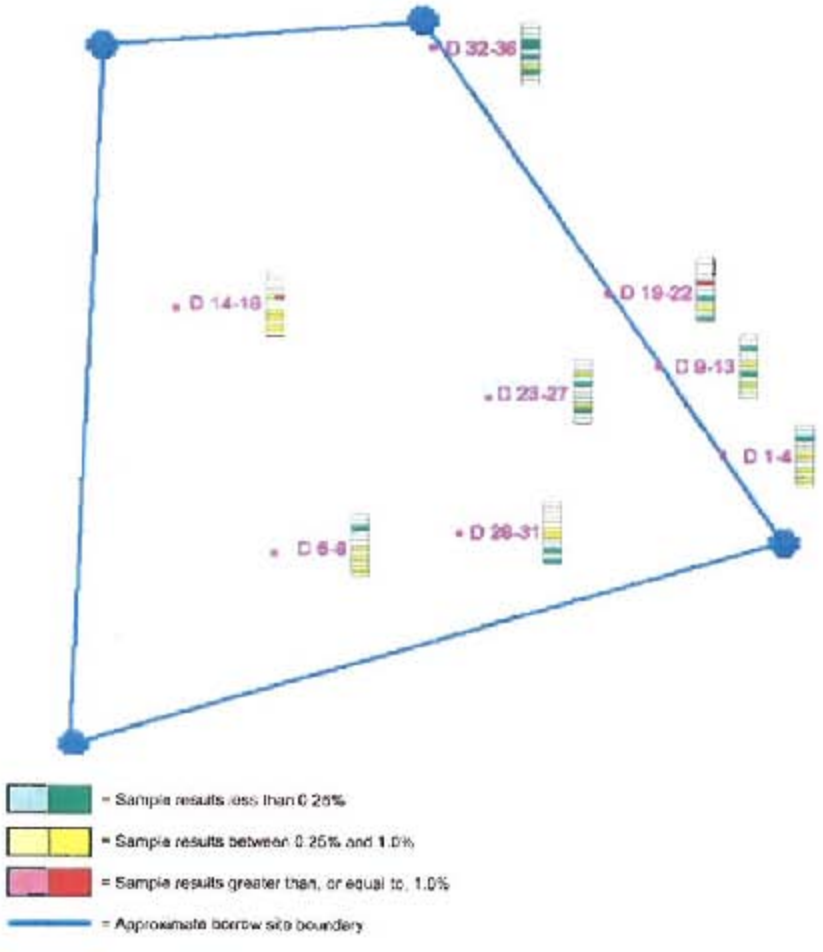
NOA Sampling and Characterization, February 9-11, 2004

SAMPLE RESULTS

GALE AVENUE BORROW SITE







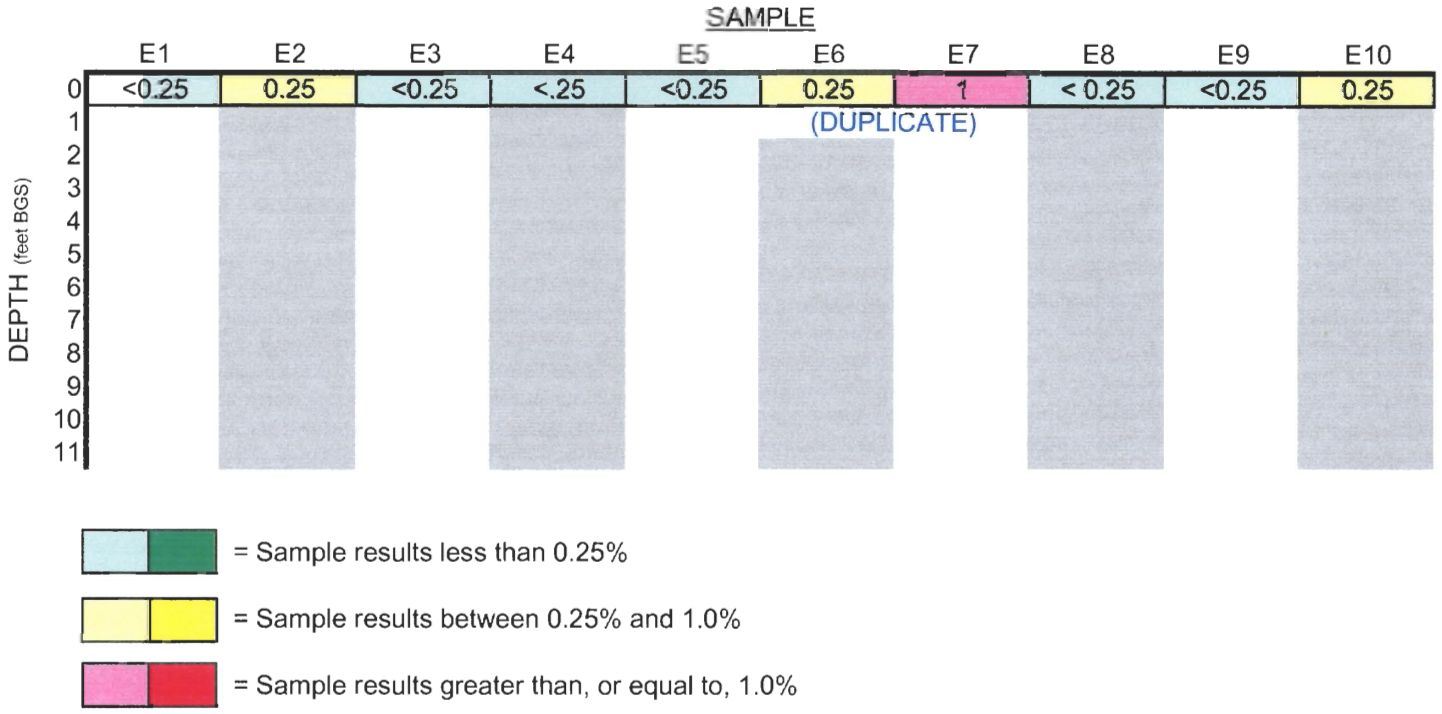
ARROYO PASAJERO / WEST SIDE DETENTION BASIN

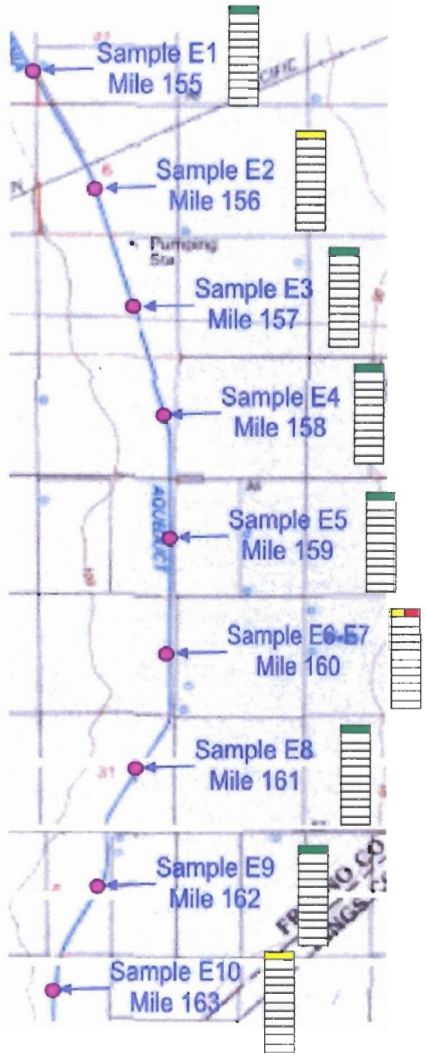
NATURALLY OCCURRING ASBESTOS STUDY

NOA Sampling and Characterization, February 9-11, 2004

SAMPLE RESULTS

PROPOSED CONSTRUCTION SITE





Appendix C2
Clear Creek Management Area

APPENDIX C2

Clear Creek Management Area

The purpose of this appendix is to provide the status and updated technical information on the Clear Creek Management Area (CCMA), which was identified as a geographic area of concern within the Atlas Asbestos Mine Superfund Site. The Atlas Mine Area Operable Unit (OU) is located within the CCMA.

Background

The CCMA includes approximately 75,000 acres of public land. The portion of the CCMA located within the New Idria Formation is designated as a Hazardous Asbestos Area and is managed by the Bureau of Land Management (BLM) through the January 2006 CCMA Resource Management Plan Amendment and Route Designation Record of Decision (BLM 2006a). The designated Hazardous Asbestos Area in the CCMA has been mined for mercury, chromite, asbestos, and other minerals since the mid-1800s, and contains numerous mines and exploration cuts, as well as hundreds of roads and trails. It is also a popular recreation area used by off-highway vehicle enthusiasts, hikers, campers, hunters, and rock-collectors. The San Benito Mountain Research Natural Area, which is approximately 4,082 acres in size, is also located within the Hazardous Asbestos Area. This area was designated because of the unique vegetative communities associated with the serpentine soils. Its primary purpose is to provide research and educational opportunities while protecting this unique assemblage of vegetation.

The United States Environmental Protection Agency (USEPA) stated in the Record of Decision (ROD) for the Atlas Mine Area OU that it is not taking any action in the CCMA because the BLM will revise its land-use plan to minimize airborne asbestos emissions and the threat to public health in this area. The ROD further provided that USEPA will evaluate whether the BLM's plan protects human health and the environment, and will publish a public notice of its determination.

In 1992, USEPA published a public notice regarding the status of the CCMA (Appendix B). USEPA provided in the 1992 public notice that BLM had not issued a plan to address airborne asbestos emissions in the CCMA; therefore, USEPA would remain involved in BLM's planning and analysis process in order to help ensure protection of public health and the environment from the asbestos in the area. USEPA continues to work with BLM to determine how its Resource Management Plan should be altered to address asbestos risks in the CCMA. The following section summarizes the recent activities that have occurred at the CCMA.

Status of Recent Activities at the Clear Creek Management Area

Risk Analysis of Asbestos Exposures at the CCMA

USEPA is currently conducting a study on asbestos exposures experienced by CCMA users during typical recreational activities. The goals of this study are to provide BLM with

information to manage and minimize human health risks at the CCMA, and to update a similar study conducted by the BLM in 1992. In September 2004, the USEPA conducted the first of four sampling events in the CCMA. Crews of federal contractors and the U.S. Coast Guard's Pacific Strike Team wore protective gear and personal air monitors to sample air in their breathing zones, while riding dirt bikes and all-terrain vehicles, driving sport utility vehicles (SUV), hiking, and pitching tents. Similar "activity-based" sampling events were conducted in November 2004, February 2005, and September 2005. The USEPA's study updates the 1992 BLM risk assessment in two important ways:

- Health risks to children are evaluated by placing monitors at the height of the average child's mouth.
- Transmission Electron Microscopy is used to analyze air samples. This technology has a much better resolution than Phase Contrast Microscopy (PCM), which was used in the 1992 assessment.

Risks due to asbestos exposure were evaluated using USEPA's Superfund risk assessment guidance and cancer risk chart. This evaluation is based on measurements of Phase Contrast Microscope Equivalent (PCME) fiber concentrations in field samples. PCME fibers are equivalent in dimension to fibers that can be detected under low magnification with PCM. The cancer risk studies, upon which health standards are based, used PCM and are, therefore, based on asbestos fibers with specific dimensions (greater than 5 microns).

Results of the September 2004 sampling event show that the concentrations of PCME fibers to which CCMA recreational users are exposed are very high compared with health standards. The trailing motorcyclist was exposed to nearly 1.0 PCME fiber/cubic centimeter (total fibers = 27 fibers/cubic centimeter), which poses an unacceptable cancer risk, based on the USEPA's Superfund risk assessment guidance and cancer risk chart. In addition, the asbestos exposure levels experienced by the trailing motorcyclist and SUV driver exceeded the permissible exposure level (0.1 PCME fiber/cubic centimeter) for workers in an occupational environment, as set by the Occupational Health & Safety Administration (OSHA). The trailing motorcyclist's exposure was ten times the permissible exposure level and equivalent to the OSHA 30-minute "not to exceed" value.

The results of the sampling events are summarized in technical memoranda posted at http://www.epa.gov/region09/toxic/noa/clearcreek/index.html. A final summary report will summarize the data for all sampling events, and be provided to the BLM and the public when the evaluation is complete.

2006 Summer Use Restrictions

In 2006, BLM updated their *Clear Creek Management Area Resource Management Plan Amendment and Route Designation Record of Decision* (BLM 2006a) due to the potential for increased exposure to asbestos. BLM has also imposed summer-use restrictions for the CCMA that will be in effect from June 1 to October 16, 2006. The limited off-highway vehicle use areas and routes are updated in maps and marking posts in the CCMA. Unmarked routes and areas will remain closed to motorized use until signed as open (BLM 2006b).

References

Bureau of Land Management (BLM). 2006a. *2006 Clear Creek Management Area Resource Management Plan Amendment and Route Designation Record of Decision*. January.

_____. 2006b. Clear Creek Bulletin. May.

United States Environmental Protection Agency (USEPA). 1991. *EPA Superfund Record of Decision – Atlas Asbestos Mine OU #01*. February.

_____. "Cancer Risk Chart – Excess Lifetime Cancer Risk versus Motorcycle Rider Position and Exposure Scenario (September data)." http://www.epa.gov/region09/toxic/noa/clearcreek/images/cancer-risk-chart-lg.jpg

Appendix D
Institutional Control Technical Memoranda

Appendix D1
Johns-Manville Mill OU

Institutional Controls at the Coalinga Asbestos Mine (Johns-Manville Mill) Site

PREPARED FOR: United States Environmental Protection Agency (USEPA), Region 9

PREPARED BY: CH2M HILL

DATE: August 30, 2006

Institutional controls are non-engineering methods by which access to contaminated environmental media is restricted. This technical memorandum summarizes the results of an evaluation of institutional controls for the Coalinga Asbestos Mine (Johns-Manville Mill or JMM) site.

A Record of Decision (ROD) was issued for the JMM on September 21, 1990. A component of the remedy selected in the ROD included filing a deed restriction to restrict future land uses and to prevent disturbance of the contaminated material remaining at the site. Two five-year reviews have been performed since the ROD was issued in 1990. The first 5-year review, completed in December 1997, did not identify any deficiencies in implementation of the remedy selected in the ROD. The second 5-year review, completed in September 2001, noted that the deed restriction specified in the ROD was in place and that no activities were observed that would have violated the effectiveness of the institutional controls.

Further research was conducted as part of this third 5-year review to confirm that the deed restriction for the JMM was properly recorded. A review of site documents obtained from the Superfund Records Center and conversations with the Department of Toxic Substances Control's (DTSC's) public relations officer confirmed that the JMM comprises one parcel identified as Fresno County Assessor Parcel Number 063-030-03S. A preliminary title report for Parcel Number 063-030-03S does not reveal any recorded environmental restrictions on the subject property. The preliminary title report for this parcel is provided in Attachment 1.

The *Revised Operations and Maintenance Plan Johns-Manville Mill Operable Unit* (LFR 2002) and DTSC's online Superfund research tool, Envirostor, include a deed restriction associated with the JMM. A copy of the deed restriction for the JMM is presented in Attachment 2. The deed restriction references property that is subject of Consent Decree Case No. P-92-5374, which is the 1992 Consent Decree entered into between the United States Environmental Protection Agency (USEPA) and the Pine Canyon Land Company, Santa Fe Pacific Corporation, and Catellus Development Corporation for the JMM. The deed restriction has a County Recorder office stamp and appears to have been officially recorded on July 2, 1993. However, as stated above, this deed restriction is not identified in the preliminary title report for the parcel on which the JMM is located.

Deficiencies and Recommendations

USEPA's Office of Regional Counsel, upon close scrutiny of the deed restriction, has concluded that this deed restriction is not a legally enforceable instrument. The owner unilaterally recorded this instrument without conveying any property interest to a grantee and did not otherwise record it consistent with California's statutory and regulatory authority to impose land use restrictions to protect human health or safety or the environment as the result of the presence of hazardous materials on the land. Accordingly, the deed restriction is legally deficient and does not run with the land (i.e., would not legally bind future owners of the property to these restrictions).

Accordingly, it is recommended that the current owner of the JMM property, SFP Railway Company, should record a new land use covenant, consistent with Title 22 of the California Code of Regulations (CCR) Section 67391.1 that runs with the land.

References

Levine Fricke Rincon (LFR). 2002. *Revised Operations and Maintenance Plan, Johns-Manville Coalinga Mill Area Operable Unit*. May 2.

Attachment 1
Preliminary Title Report

First American

May 22, 2006

To: MELISSA
Attn: TITLE REPORT
Fax No.: 1(510)622-9057

From: Jeremiah Aguilera

File No.: 0625-2389527
Property: Vacant land, Fresno, CA

Subject: HERE YOU GO!

Thank you for contacting First American Title. We truly appreciate your business, and if we can be of further service, please do not hesitate to contact us. Thanks again for using First American Title.

First American Title

3625 Fourteenth Street
Riverside, CA 92501

Melissa
CH2MHill
155 Grand Avenue
Oakland, CA 94612-3758
Phone:
Fax:

Customer Reference:

Order Number: 0625-2389527 (04)

Title Officer:	Joshua Guzman
Phone:	(951)787-1700
Fax No.:	(866)292-6890
E-Mail:	jrguzman@firstam.com
Buyer:	SFP Railroad Co.
Borrower:	SFP Railroad Co.
Property:	No Situs Address Fresno, CA

PRELIMINARY REPORT

In response to the above referenced application for a policy of title insurance, this company hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a Policy or Policies of Title Insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an Exception below or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations of said Policy forms.

The printed Exceptions and Exclusions from the coverage of said Policy or Policies are set forth in Exhibit A attached. Copies of the Policy forms should be read. They are available from the office which issued the report.

Please read the exceptions shown or referred to below and the exceptions and exclusions set forth in Exhibit A of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects, and encumbrances affecting title to the land.

This report (and any supplements or amendments hereto) is issued solely for the purposes of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a Binder or Commitment should be requested.

Dated as of May 12, 2006 at 7:30 A.M.

The form of Policy of title insurance contemplated by the report is:

1992 ALTA Loan Policy (10-17-92)

A specific request should be made if another form or additional coverage is desired.

Title to said estate or interest at the date hereof is vested in:

SFP RAILROAD COMPANY, A DELAWARE CORPORATION

The estate or interest in the land hereinafter described or referred to covered by this Report is:

A fee.

The Land referred to herein is described as follows:

(See attached Legal Description)

At the date hereof exceptions to coverage in addition to the printed Exceptions and Exclusions is said policy form would be as follows:

1. General and special taxes and assessments for the fiscal year 2006-2007, a lien not yet due or payable.

2. The lien of supplemental taxes, if any, assessed pursuant to Chapter 3.5 commencing with Section 75 of the California Revenue and Taxation code.

3. Rights, rights of way, reservations and exceptions in the patent recorded February 14, 1895 in Book P of Patents, Page 279.

4. Terms, provisions, covenants, restrictions and conditions contained in a document executed pursuant to the California land Conservation Act of 1965 (Williamson Act) and recorded February 26, 1970 as Instrument No. 14130 in Book 5765, Page 548 of Official Records.

5. Water rights, claims or title to water, whether or not shown by the public records.

6. The lack of access to and from the land.

   Notice: Paragraph 4 of the insuring provisions on the face page of the policy will be deleted from the policy to be issued.

7. Prior to the issuance of any policy of title insurance, the Company will require that:

With respect to SFP Railroad Company, a Delaware corporation:
a. A certificate of good standing of recent date issued by the Secretary of State of the corporation's state of domicile.
b. A certified copy of a resolution of the Board of Directors authorizing the contemplated transaction and designating which corporate officers shall have the power to execute on behalf of the corporation.
c. Other requirements which the Company may impose following its review of the material required herein and other information which the company may require.

INFORMATIONAL NOTES

1. Basic rate applies.

2. This report was preparatory to the issuance of an ALTA Loan Policy. We have no knowledge of any fact which would preclude the issuance of the policy with CLTA endorsement forms 100 and 116 and if applicable, 115 and 116.2 attached.

   When issued, the CLTA endorsement form 116 or 116.2, if applicable will reference a(n) Agricultural Land know as No Situs Address, Fresno, California.

3. According to the public records, there has been no conveyance of the land within a period of twenty-four months prior to the date of this report, except as follows:

   None

4. The preliminary report/commitment was prepared based on an application for a policy of title insurance that identified land by street address or assessor's parcel number only. It is the responsibility of the applicant to determine whether the land referred to herein is in fact the land that is to be described in the policy or policies to be issued.

5. We find no open deeds of trust. Escrow please confirm before closing.

6. Taxes for proration purposes only for the fiscal year 2005-2005.

First installment:	$87.90, PAID
Second Installment:	$87.90, PAID
Tax Rate Area:	077-001
APN:	063-030-03S

The map attached, if any, may or may not be a survey of the land depicted herein. First American expressly disclaims and liability for loss or damage which may result from reliance on this map except to the extent coverage for such loss or damage is expressly provided by the terms and provisions of the title insurance policy, if any, to which this map is attached.

LEGAL DESCRIPTION

Real property is the unincorporated area of the County of Fresno, State of California, described as follows:

ALL OF FRACTIONAL SECTION 1, TOWNSHIP 19 SOUTH, RANGE 13 EAST, MOUNT DIABLO BASE AND MERIDIAN ACCORDING TO THE UNITED STATES GOVERNMENT TOWNSHIP PLAT APPROVED BY THE SURVEYOR GENERAL ON NOVEMBER 19, 1881;

EXCEPT THEREFROM THE TITLE AND EXCLUSIVE RIGHT TO ALL THE MINERALS AND MINERAL ORES.

APN: 063-030-03S

NOTICE

Section 12413.1 of the California Insurance code, effective January 1, 1990, requires that any title insurance company, underwritten title company, or controlled escrow company handling funds in an escrow or sub-escrow capacity, wait a specified number of days after depositing funds, before recording any documents in connection with the transaction or disbursing funds. This statute allows for fund deposited by wire transfer to be disbursed the same day as deposit. In the case of cashier's checks or certified checks, funds may be disbursed the next day after deposit. In order to avoid unnecessary delays of three to seven days, or more, please use wire transfer, cashier's checks, or certified checks whenever possible.

If you have any questions about the effects of this new law, please contact your local First American Office for more details.

EXHIBIT A
LIST OF PRINTED EXCEPTIONS AND EXCLUSIONS (BY POLICY TYPE)

1. CALIFORNIA LAND TITLE ASSOCIATION STANDARD COVERAGE POLICY - 1990
SCHEDULE B

EXCEPTION FROM COVERAGE

This policy does not insure against loss or damage (and the company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records. Proceedings by a public agency which may result in taxes or assessments or notice of such proceedings, whether or not shown by the records of such agency or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions to patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the public records.

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building and zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating to (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part, or; (iv) environmental protection, or the effects of any violations of these laws, ordinances or governmental regulations, except to the extent that a notice of enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Right of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluded from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of the purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims, or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not know to the company, not recorded in the public record at the Date of Policy, but know to the insured claimant and not disclosed in writing to the company by the insured claimant prior to the date the insured claimant became insured under this policy;
   (c) resulting in no loss or damages to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid values for the insured mortgage of for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with applicable "doing business" laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.

6. Any claim, which arises out of the transaction vesting in the insured the estate or interest insured by their policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights law.

2. AMERICAN LAND TITLE ASSOCIATION OWNER'S POLICY FORM B - 1970 SCHEDULE OF EXCLUSIONS FROM COVERAGE

1. Any law, ordinance or governmental regulation (including, but not limited to building and zoning ordinances) restricting or regulation or prohibiting the occupancy, use or enjoyment of the land, or regulating the character, dimensions or location of any improvement now or hereafter erected on the land, or prohibiting a separation in ownership or a reduction in the dimensions of area of the land, or the effect of any violation of any such law, ordinance or governmental regulation.
2. Right of eminent domain or governmental rights of police power unless notice of the exercise of such rights appears in the public records at Date of Policy**.**
3. Defects, liens, encumbrances, adverse claims, or other matters (a) created, suffered, assumed or agreed to by the insured claimant; (b) not known to the company and not shown by the public records but known to the insured claimant either at Date of Policy or at the date such claimant acquired an estate or interest insured by this policy and not disclosed in writing by the insured claimant to the company prior to the date such insured claimant became an insured hereunder; (c) resulting in no loss or damage to the insured claimant; (d) attaching or created subsequent to Date of Policy; or (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the estate or interest insured by this policy.

3. AMERICAN LAND TITLE ASSOCIATION OWNER'S POLICY FORM B - 1970 WITH REGIONAL EXCEPTIONS

When the American land Title Association policy is used as a Standard Coverage Policy and not as an Extended Coverage Policy the exclusions set forth in paragraph 2 above are used and the following exceptions to coverage appear in the policy.

SCHEDULE B

The policy does not insure against loss or damage by reason of the matters shown in parts one and two following:
Part One

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of said land or by making inquiry of persons in possession thereof.
3. Easements, claims of easement ro encumbrances which are not shown by the public records.
4.. Unpatented mining claims; reservations or exceptions in patents or in Acts authorizing the issuance thereof, water rights, claims or title to water.
5. Any lien, or right to a lien, for services. Labor or material heretofore or hereafter furnished, imposed by law and not shown bu the public records.

4. AMERICAN LAND TITLE ASSOCIATION - 1970 WITH A.L.T.A. ENDORSEMENT FORM 1 COVERAGE SCHEDULE OF EXCLUSIONS FROM COVERAGE

1. Any law, ordinance or governmental regulation (including but not limited to building and zoning ordinances) restricting or regulating or prohibiting the occupancy, use or enjoyment of the land, or regulating the character, dimensions or location of any improvement now or hereafter erected on the land, or prohibiting a separation in ownership or a reduction in the dimensions or area of the land, or the effect of any violation of any such law ordinance or governmental regulation.
2. Rights of eminent domain or governmental rights of police power unless notice of the exercise of such rights appears in the public records at Date of Policy.
3. Defects, liens, encumbrances, adverse claims, or other matters (a) created, suffered, assumed, or agreed to by the insured claimant; (b) not know to the company and not shown by the public records but known to the insured claimant either at Date of Policy or at the date such claimant acquired an estate or interest insured

by this policy or acquired the inured mortgage and not disclosed in writing by the insured claimant to the Company prior to the date such insured claimant became an insured hereunder; (c) resulting in no loss or damage to the insured claimant; (d) attaching or creating subsequent to Date of Policy (except to the extent insurance is afforded herein as to any statutory lien for labor or material or to the extent insurance is afforded herein as to assessments for street improvements under construction or completed by Date of Policy.

4. Unenforceability of the lien of the insured mortgage because of the failure of the insured at Date of Policy or of any subsequent owner of the indebtedness to comply with applicable "doing business" laws of the state in which the land is situated.

5. AMERICAN LAND TITLE ASSOCIATION LOAN POLICY - 1970 WITH REGIONAL EXCEPTIONS

When the American Land Title Association Lenders Policy is used as a Standard Coverage Policy and not as an Extended Coverage Policy, the exclusions set forth in paragraph 4 above are used and the following exceptions to coverage appear in the policy.

SCHEDULE B

This policy does not insure against loss or damage by reason of the matters shown in parts one and two following:
Part One

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by and inspection of said land or by making inquiry of persons in possession thereof.
3. Easements, claims of easement or encumbrances which are not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. Unpatented mining claims; reservations or exceptions in patents or in Acts authorizing the issuance thereof; water rights, claims or title to water,
6. Any lien, or right to a lien, for services, labor or materials theretofore or hereafter furnished, imposed by law and not shown by the public records.

6. AMERICAN LAND TITLE ASSOCIATION LOAN POLICY - 1992 WITH A.L.T.A. ENDORSEMENT FORM 1 COVERAGE SCHEDULE OF EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building and zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating to (i) the occupancy, use or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of the violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at the Date of Policy; (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at the Date of Policy.
2. Right of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims, or other matters:
   (a) whether or not recorded in the public records at date of Policy, but created, suffered, assumed or agreed to by the insured claimant;

(b) not know to the company, not recorded in the public records at the Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior tot he date the insured claimant became an insured under this policy;
(c) resulting in no loss or damage to the insured claimant;
(d) attaching or creating subsequent to Date of Policy (except to the extend that this policy insures the priority of the lien of the insured mortgage over any statutory lien for services, labor or material or to the extent insurance is afforded herein as to assessments for street improvements under construction or competed at date of policy); or
(e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage.

4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable "doing business" laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any statutory lien for services, labor or materials (or the claim of priority of any statutory lien for services, labor or materials over the lien of the insured mortgage) arising from an improvement or work related to the land which is contracted for and commenced subsequent to Date of Policy and is not financed in whole or in part by proceeds of the indebtedness secured by the insured mortgage which at date of Policy in insured has advanced or is obligated to advance.
7. Any claim, which arises out of the transaction creating the interest of the mortgage insured by this policy, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights law, that is based on:
(i) the transaction creating the interest of the insured mortgagee being deemed a fraudulent transfer; or
(ii) the subordination of the interest of the insured mortgagee as a result of the application of the doctrine of equitable subordination; or
(iii) the transaction creating the interest of the insured mortgagee being deemed a preferential transfer except where the preferential transfer may result in the failure;
(a) to timely record the instrument of transfer; or
(b) of such recordation to impart notice to a purchaser for value or a judgement or lien creditor.

7. AMERICAN LAND TITLE ASSOCIATION LOAN POLICY - 1992 WITH REGIONAL EXCEPTIONS

When the American Land Title Association Lenders Policy is used as a Standard Coverage Policy and not as an Extended Coverage Policy, the exclusions set forth in paragraph 5 above are used and the following exceptions to coverage appear in the policy.

SCHEDULE B

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by and inspection of said land or by making inquiry of persons in possession thereof.
3. Easements, claims of easement or encumbrances which are not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. Unpatented mining claims; reservations or exceptions in patents or in Acts authorizing the issuance thereof; water rights, claims or title to water,
6. Any lien, or right to a lien, for services, labor or materials theretofore or hereafter furnished, imposed by law and not shown by the public records.

8. AMERICAN LAND TITLE ASSOCIATION LOAN POLICY - 1992
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building and zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating to (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part, or; (iv) environmental protection, or the effects of any violations of these laws, ordinances or governmental regulations, except to the extent that a notice of enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Right of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluded from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of the purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims, or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not know to the company, not recorded in the public record at the Date of Policy, but know to the insured claimant and not disclosed in writing to the company by the insured claimant prior to the date the insured claimant became insured under this policy;
   (c) resulting in no loss or damages to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid values for the insured mortgage of for the estate or interest insured by this policy.
4. Any claim, which arises out of the transaction vesting in the issuance of estate or interest insured by this policy, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws that is based on:
   (i) the transaction creating the estate or interest insured by this policy being deemed a fraudulent transfer; or
   (ii) the transaction creating the estate or interest insured by this policy being deemed a preferential transfer except where the preferential transfer results from the failure;
   (a) to timely record the instrument of transfer; or
   (b) of such recordation to impart notice to a purchaser for value or a judgement or lien creditor.

9. AMERICAN LAND TITLE ASSOCIATION OWNER'S POLICY - 1992
WITH REGIONAL EXCEPTIONS

When the American Land Title Association Lenders Policy is used as a Standard Coverage Policy and not as an Extended Coverage Policy, the exclusions set forth in paragraph 5 above are used and the following exceptions to coverage appear in the policy.

SCHEDULE B

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

Part One:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by and inspection of said land or by making inquiry of persons in possession thereof.
3. Easements, claims of easement or encumbrances which are not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.

5. Unpatented mining claims; reservations or exceptions in patents or in Acts authorizing the issuance thereof; water rights, claims or title to water,
6. Any lien, or right to a lien, for services, labor or materials theretofore or hereafter furnished, imposed by law and not shown by the public records.

10. AMERICAN LAND TITLE ASSOCIATION RESIDENTIAL TITLE INSURANCE POLICY - 1987 EXCLUSIONS

In addition to the Exceptions in Schedule 3, you are not insured against loss, costs, attorney's fees and expenses resulting from:

1. Governmental police power, and the existence or violation of any law or government regulation. This includes building and zoning ordinances and also laws and regulations concerning:
   *land use *land division
   *improvements on the land *environmental protection
   This exclusion does not apply to violations or the enforcement of these matters which appear in the public records at Policy Date. This exclusion doe not limit the zoning coverage described in items 12 and 13 of covered Title Risks.
2. The right to take the land by condemning it, unless
   * a notice of exercising the right appears in the public records on the Policy date
   * the taking happens prior to the Policy Date and in binding on you if you bought the land without knowing of the taking
3. Title Risks:
   * that are created, allowed, or agreed to by you
   * that are known to you, but not to us, on the Policy Date - unless they appear in the public records
   * that result in no loss to you
   * that first affect your title after Policy Date - this does not limit the labor and material lien coverage in item 8 of Covered Title Risks
4. Failure to pay value for your title.
5. Lack of a right:
   * to any land outside the area specifically described and referred to in Item 3 of Schedule A, or
   * in streets, alleys, or waterways that touch your land.
   This exclusion does not limit the access coverage in Item 5 of Covered Title Risks.

11. EAGLE PROTECTION OWNER'S POLICY

CLTA HOMEOWNERS POLICY OF TITLE INSURANCE - 1998 ALTA HOMEOWNERS POLICY OF TITLE INSURANCE - 1998

Covered Risks 14 (subdivision Law Violation), 15 (Building Permit), 16 (Zoning) and 18 (Encroachment of boundary walls or fences) are subject to Deductible amounts and maximum Dollar Limits of Liability

EXCLUSIONS

In addition to the Exception in Schedule 5, you are not insured against loss, costs, attorneys' fees and expenses resulting from:

1. Governmental police power, and the existence or violation of any law or governmental regulation. This includes ordinances, laws and regulations concerning:
   a. building b. zoning
   c. land use d. improvements on the land
   e. land division f. environmental protection

   This exclusion does not apply to violations or the enforcement of these matters if notice of the violation or enforcement appears in the Public Records at the Policy Date.
2. The failure of your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not apply to violations of building codes if notice of the violation appears in the Public Records at Policy Date.

3. The right to take the land by condemning it, unless:
   a. a notice of exercising the right appears in the Public Records at the Policy Date.
4. Risks:
   a. that are created, allowed, or agreed to by You, whether or not they appear in the Public Records;
   b. that are Known to You at the Policy Date, but not to Us, unless they appear in the Public Records at the Policy Date.
   c. that result in no harm to You; or
   d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risks 7, 8.d, 22, 23, 24 or 25.
5. Failure to pay for Your title.
6. Lack of a right:
   a. to any land outside the area specifically described and referred to in Item 3 of Schedule A, or
   b. in streets, alleys, or waterways that touch your land.
   This exclusion does not limit the coverage described in Covered Risk 11 of 18.

12. SECOND GENERATION EAGLE LOAN POLICY AMERICAN LAND TITLE ASSOCIATION EXPANDED COVERAGE RESIDENTIAL LOAN POLICY (10/31/01)

EXCLUSION FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building and zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating to (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part, or; (iv) environmental protection, or the effects of any violations of these laws, ordinances or governmental regulations, except to the extent that a notice of enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy. This exclusion does not limit the coverage provided under Covered Risks 12, 13, 14 and 16 of this policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy. This exclusion does not limit the coverage provided under Covered Risks 12, 13, 14 and 16 of this policy.
2. Right of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluded from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of the purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims, or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not know to the company, not recorded in the public record at the Date of Policy, but know to the insured claimant and not disclosed in writing to the company by the insured claimant prior to the date the insured claimant became insured under this policy;
   (c) resulting in no loss or damages to the insured claimant;
   (d) attaching or created subsequent to Date of Policy (this paragraph does not limit the coverage provided under covered Risks 8, 16, 18, 19, 20, 21, 22, 23, 24, 25 and 26); or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid values for the insured mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of the Insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with applicable doing business laws of the state in which the Land is situated.
5. Invalidity or unenforceability of the lien of the Insured Mortgage, or claim thereof, which arises out of the transaction evidenced by the Insured Mortgage and is based upon usury, except as provided in Covered Risk 27, or any consumer credit protection or truth in lending law.
6. Real property taxes or assessments of any governmental authority which becomes a lien on the Land subsequent to Date of Policy. This exclusion does not limit the coverage provided under Covered Risk 7, 8(e) and 26.

7. Any claim of invalidity, unenforceability or lack of priority of the lien of the Insured Mortgage as to advances or modifications made after the Insured has Knowledge that the vestee shown in Schedule A is no longer the owner of the estate or interest covered by this policy. This exclusion does not limit the coverage provided in Covered Risk 8.
8. Lack of priority of the lien of the Insured Mortgage as to each and every advance made after Date of Policy, and all interest charged thereon, over liens, encumbrances and other matters affecting title, the existence of which are Known to the Insured at:
   (a) The time of the advance; or
   (b) The time a modification is made to the terms of the insured Mortgage which changes the rate of interest charged, if the rate of interest is greater as a result of the modification than it would have been before the modifications.
9. The failure of the residential structure, or any portion thereof to have been constructed before, on or after the Date of Policy in accordance with applicable building codes. This exclusion does not apply to violations of building codes if notice of the violation appears in the Public records at Date of Policy.

SCHEDULE B

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. The following existing statutes, reference to which are made part of the ALTA 9.1 Environmental Protection Lien Endorsement incorporated into this Policy following item 28 of Covered Risks: NONE.

13. SECOND GENERATION EAGLE LOAN POLICY AMERICAN LAND TITLE ASSOCIATION EXPANDED COVERAGE RESIDENTIAL LOAN POLICY (10/31/01)

WITH REGIONAL EXCEPTIONS

When the American Land Title Association loan policy with EAGLE Protection Added is used as a Standard Coverage Policy and not as an Extended Coverage Policy the exclusions set forth in paragraph 12 above are used and the following exceptions to coverage appear in the policy.

SCHEDULE B

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

Part One:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property of by the public records.
2. Any facts, right, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of said land or by making inquiry of persons in possession thereof.
3. Easements, claims of easement or encumbrances which are not shown by the public record.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown in the public records.
5. Unpatented mining claims; reservations or exceptions in patents or in acts authorizing the issuance thereof; water rights, claims or title to water.
6. Any lien, or right to a lien, for services, labor or material theretofore or hereafter furnished, imposed by law and not shown by the public records.

Part Two:

1. The following existing statutes, reference to which are made part of the ALTA B.1 Environmental Protection Lien Endorsement incorporated into this Policy following item 28 of Covered Risks: NONE.

PRIVACY POLICY

We Are Committed to Safeguarding Customer Information

In order to better serve you needs now and in the future, we may ask you to provide us with certain information. We understand that you may be concerned about what we will do with such information - particularly any personal information. We agree that you have a right to know how we will utilize the personal information you provide to us. Therefore, together with our parent company, The First American Corporation, we have adopted this Privacy Policy to govern the use and handling of your personal information.

Applicability

The Privacy Policy governs our use of the information which you provide to us. It does not govern the manner in which we may use the information we have obtained from any other source, such as information obtained from a public record or from another person or entity. First American has also adopted broader guidelines that govern our use of personal information regardless of its source. First American calls these guidelines its *Fair Information Values*, a copy of which can be found on our website at www.firstam.com.

Types of Information

Depending on which of our services you are utilizing, the types of nonpublic personal information that we may collect include:

- Information we receive from you on applications, forms and in other communications to us, whether in writing, in person, by telephone or any other means;
- Information about your transactions with us, our affiliated companies, or others; and
- Information we receive from a consumer reporting company.

Use of Information

We request information from you for our own legitimate business purposes and not for the benefit of any nonaffliliated party. Therefore, we will not release your information to nonaffiliated parties except: (1) as necessary for us to provide the product or service you have requested of us; or (2) as permitted by law. We may, however, store such information indefinitely, including the period after which any customer relationship has ceased. Such information may be used for any internal purpose, such as quality control efforts or customer analysis. We may also provide all types of nonpublic personal information listed above to one or more of our affiliated companies. Such affiliated companies include financial service providers, such as title insurers, property and casualty insurers, and trust and investment advisory companies. Furthermore, we may also provide all the information we collect, as described above, to companies that perform marketing services on our behalf, on behalf of our affiliated companies, or to other financial institutions with whom we or our affiliated companies have joint marketing agreements.

Former Customers

Even if you are no longer our customer, our Privacy Policy will continue to apply to you.

Confidentiality and Security

We will use our best efforts to ensure that no unauthorized parties have access to any of your information. We restrict access to nonpublic personal information about you to those individuals and entities who need to know that information to provide products or services to you. We will use our best efforts to train and oversee our employees and agents to ensure that your information will be handled responsibly and in accordance with this Privacy Policy and First American's *Fair Information Values*. We currently maintain physical, electronic, and procedural safeguards that comply with federal regulations to guard your nonpublic personal information.

--- NOTE ---

This map is for Assessment purposes only. It is not to be construed as portraying legal ownership or divisions of land for purposes of zoning or subdivision law.

SEC'S. 1, 2, 3, 10, 11, & 12, T. 19S., R. 13E. M.D.B. & M.

Tax Rate Area
12-601

63-03

Bk. 45

Bk. 58

02

06

(1)T 548.58Ac. U.S.A.

(2)T 132.00Ac. U.S.A.

(2)S 416.40Ac.

AP-2118
(3)S 556.80Ac.

(4)T 640.00Ac. U.S.A.

(5)T 640.00Ac. U.S.A.

(6)T 640.00Ac. U.S.A.

Agricultural Preserve

NOTE - Assessor's Block Numbers Shown in Ellipses.
Assessor's Parcel Numbers Shown in Circles.

Assessor's Map Bk. 63 Pg. 03
County of Fresno, Calif.

JAN 1 8 2002

Yr = 1979

Attachment 2
Deed Restriction

93100411

161

RECORDED IN OFFICIAL RECORDS OF FRESNO COUNTY, CALIFORNIA
AT 30 MINUTES PAST 11 A M
JUL 2 1993
WILLIAM C. GREENWOOD
County Recorder
FEE $ 48.00

FRESNO COUNTY RECORDERS OFFICE

JUL 02 1993

Return to:

Jerome F. Donohoe, Esq.
Counsel
Pine Canyon Land Co.
c/o Mayer, Brown & Platt
190 South LaSalle Street, Suite 3900
Chicago, Illinois 60603

DEED RESTRICTION AND NOTICE OF OBLIGATION

This Deed Restriction and Notice of Obligation ("Deed Restriction") is made as of the 28th day of June, 1993, by the Pine Canyon Land Company ("Owner"), which is the owner of record of certain real property, as more fully described in Exhibit A hereto, situated in the County of Fresno, State of California, incorporated herein by this reference (the "Property"), with reference to the following facts:

A. The Property is the subject of a Consent Decree entered into by and between Owner and other defendants and the United States of America on behalf of the United States Environmental Protection Agency ("EPA") in Case No. F-92-5374 (OWW) in the United States District Court for the Eastern District of California ("Consent Decree").

B. A certified copy of the Consent Decree is attached to be recorded as part of the Deed Restriction.

C. Owner is obligated, pursuant to Paragraph II.F of Appendix B to the Consent Decree, to file with the County Recorder's Office in Fresno, California, a deed restriction prohibiting anyone in possession of the Property from taking any actions that would interfere with the implementation of the remedy constructed pursuant to the Consent Decree.

D. Owner is obligated, pursuant to Paragraph VI.B of the Consent Decree, to record a notice of obligation to provide access to the United States, EPA, the State, and their representatives.

5254r

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NOW, THEREFORE, in accordance with the terms of the Consent Decree, Owner records this Deed Restriction and Notice of Obligation. Anyone in possession of the Property shall be prohibited by the Consent Decree or otherwise under law from taking any actions that would interfere with the implementation of the remedy constructed pursuant to this Consent Decree. The Owner shall, during the effective period of the Consent Decree, provide access to the Site to the United States, EPA, the State, and their representatives.

IN WITNESS WHEREOF, the undersigned executes this Deed Restriction on behalf of Owner as of the date first set forth above.

PINE CANYON LAND COMPANY

Jerome F. Donohoe

By: Jerome F. Donohoe

Title: Counsel, Pine Canyon Land Co.

Date: June 28, 1993

STATE OF ILLINOIS)
)
COUNTY OF COOK)

On June 25, 1993, before me, the undersigned, a Notary Public in and for said State of Illinois, personally appeared Jerome F. Donohoe, personally known to me or proved to me on the basis of satisfactory evidence to be the person who executed the within instrument as Counsel of Pine Canyon Land Company, the corporation that executed the within instrument, and acknowledged to me that such corporation executed the same pursuant to authority contained in its bylaws or a resolution of its board of directors.

WITNESS my hand and official seal.

LaVerne Belligio

My commission expires December 24, 1994

"OFFICIAL SEAL"
LaVERNE BELLIGIO
Notary Public, State of Illinois
COOK COUNTY, ILLINOIS
My Commission Expires Dec. 24, 1994

8254r

2

FRESNO COUNTY RECORDERS OFFICE

JUL 02 1993

120 Acre tract

Appendix D2
City OU

Institutional Controls at the City of Coalinga Operable Unit (Atlas Asbestos Mine and Coalinga Asbestos Mine Superfund Sites)

PREPARED FOR: United States Environmental Protection Agency (USEPA), Region 9

PREPARED BY: CH2M HILL

DATE: May 25, 2006

Institutional controls are non-engineering methods by which access to contaminated environmental media is restricted. This technical memorandum summarizes the results of an evaluation of institutional controls for the City of Coalinga Operable Unit (City OU) at the Atlas Asbestos Mine and Coalinga Asbestos Mine Superfund Sites.

A Record of Decision (ROD) for the City OU was signed on July 19, 1989. One component of the remedy selected in the ROD included placement of a deed restriction at the location of the waste management unit (WMU). The deed restriction was intended to prevent the disturbance of the cap and possible release of asbestos fibers and nickel contaminants from the site. Two 5-year reviews have been performed since the ROD was issued in 1989. The first 5-year review, completed in April 1996, reported that the institutional controls were adequate (E&E 1996). The second 5-year review, completed in September 2001, noted that the deed restriction specified in the ROD was in place and that no activities were observed that would have violated the effectiveness of the institutional control (USEPA 2001).

The restricted portion of the City OU comprises one parcel, Fresno County Assessor Parcel Number 083-020-59. The preliminary title report for this parcel includes a deed restriction recorded June 22, 1990, which was applicable to the WMU that was to be constructed as part of the remedy. On September 24, 1992 an amended deed restriction was recorded and provided a legal description of the area restricted under the June 22, 1990 deed restriction. The preliminary title report also identifies this deed restriction amendment. The preliminary title report for Parcel Number 083-020-59 and the September 24, 1992 deed restriction amendment are provided in Attachments 1 and 2, respectively.

During a recent review of the amended deed restriction, an error in the legal description of the WMU was noted. Kennedy/Jenks Consultants, on behalf of Union Pacific Railroad, consequently initiated a new survey of the WMU in February 2006 to correctly identify the boundaries of the site. The revised legal description should be included in future land-use restrictions for the site. The results of the February 2006 survey are included in Attachment 3.

Deficiencies and Recommendations

The United States Environmental Protection Agency's (USEPA) Office of Regional Counsel, upon close scrutiny of the deed restriction and amended deed restriction, has concluded

that neither is a legally enforceable instrument. The owner of the property unilaterally recorded these instruments without conveying a property interest to a grantee, and did not otherwise record it consistent with California's statutory and regulatory authority to impose land use restrictions to protect human health or safety or the environment as the result of the presence of hazardous materials on the land. Accordingly, the deed restrictions are legally deficient and do not run with the land (i.e., would not legally bind future owners of the property to these restrictions).

Additionally, although this information was not reported in the recent title search conducted for Parcel Number 083-020-59, the land that contains the City OU WMU is currently owned by the City of Coalinga pursuant to a "Stipulated Judgment Quieting Title, APN: 900-700-12 (formerly APN 083-020-59SU)", issued by the United States District Court for the Eastern District of California on October 21, 2005 (Case: 1:05-CV-00210-OWW-SMS). A copy of this judgment is provided in Attachment 4. Accordingly, the City of Coalinga, as the new title owner, should be required to record a land use covenant, consistent with Title 22 California Code of Regulations (CCR) Section 67391.1, for the WMU, as recently surveyed in February 2006, so that such land use restriction runs with the land.

References

Ecology and Environment (E &E). 1996. *City of Coalinga Operable Unit Five-Year Review.* March 29, 1996.

United States Environmental Protection Agency (USEPA) 2001. *Coalinga Asbestos Mine Superfund Site Second Five-Year Review*. September 27, 2001.

Attachment 1
Preliminary Title Report

First American Title
3625 Fourteenth Street
Riverside, CA 92501

Melissa
CH2MHill
155 Grand Avenue
Oakland, CA 94612-3758
Phone:
Fax:

Customer Reference:

Order Number:	0625-2389522 (04)
Title Officer:	Joshua Guzman
Phone:	(951)787-1700
Fax No.:	(866)292-6890
E-Mail:	jrguzman@firstam.com
Owner:	Southern Pacific Trans Company.
Property:	No Situs Address Fresno, CA

PRELIMINARY REPORT

In response to the above referenced application for a policy of title insurance, this company hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a Policy or Policies of Title Insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an Exception below or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations of said Policy forms.

The printed Exceptions and Exclusions from the coverage of said Policy or Policies are set forth in Exhibit A attached. Copies of the Policy forms should be read. They are available from the office which issued the report.

Please read the exceptions shown or referred to below and the exceptions and exclusions set forth in Exhibit A of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects, and encumbrances affecting title to the land.

This report (and any supplements or amendments hereto) is issued solely for the purposes of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a Binder or Commitment should be requested.

Dated as of May 19, 2006 at 7:30 A.M.

The form of Policy of title insurance contemplated by the report is:

1992 ALTA Loan Policy (10-17-92)

A specific request should be made if another form or additional coverage is desired.

Title to said estate or interest at the date hereof is vested in:

UNION PACIFIC RAILROAD COMPANY, A DELAWARE CORPORATION, FORMERLY KNOWN AS SOUTHERN PACIFIC TRANSPORTATION COMPANY

The estate or interest in the land hereinafter described or referred to covered by this Report is:

A fee.

The Land referred to herein is described as follows:

(See attached Legal Description)

At the date hereof exceptions to coverage in addition to the printed Exceptions and Exclusions is said policy form would be as follows:

1. General and special taxes and assessments for the fiscal year 2006-2007, a lien not yet due or payable.

2. The lien of supplemental taxes, if any, assessed pursuant to Chapter 3.5 commencing with Section 75 of the California Revenue and Taxation code.

3. Taxes and assessments. If any, of the Pleasant Valley Water District.

4. An unrecorded lease dated February 4, 1954, executed by Southern pacific Railroad Company, a California corporation, and Southern pacific Company, a Delaware corporation as lessor and Standard Oil company of California, a Delaware corporation as lessee, as disclosed by a Short Form Oil and Gas lease recorded September 2, 1954 in Book 3488, Page 253 of Official Records.

   Defects, liens, encumbrances or other matters affecting the leasehold estate, whether or not shown by the public records.

   Document(s) declaring modifications thereof recorded April 27, 1982 in Book 7898, Page 313 of Official Records.

5. The effect of a map purporting to show the land and other property, filed September 29, 1975 in Book 27, Page 55 of Record of Surveys.

6. A P.G. & E. power link right of way as disclosed on the map of Tract No. 2750, according to the map thereof recorded in Book 30, pages 55 and 56 of Plats, Fresno County Records.

7. The fact that the land lies within the boundaries of the Coalinga Redevelopment Project Area, as disclosed by various documents of record.

8. Rights of the public in and to that portion of the land lying within Pacific Street.

9. The effects of a map purporting to show the land and other property, filed April 14, 1989 in Book 35, Pages 85 and 86 of Record of Surveys.

10. A Consent Decree as disclosed by a recorded notice.

Plaintiff:	United States of America
Defendant:	Southern Pacific Transportation Company
County:	Fresno
Court:	United States District Court Eastern District of California
Case No.:	CIV. S89-1081-EJG/JFK
Nature of Action:	The United States, on behalf of the Administrator of the EPA, has filed a complaint in this matter pursuant to the Comprehensive Environmental Response, Compensation, Liability Act, 42 U.S.C. Sections 9601 et. seq., as amended by the Superfund Amendments and Reauthorization Act of 1986, PUB. L. No. 99-499, 100 Stat. 1613 (1986), ("Cercla"), seeking to compel the defendant to perform remedial actions and to reimburse the United States for response costs that have been and will be incurred by the United States in response to releases or threatened releases of hazardous Substances at the City of Coalinga operable unit site ("City of Coalinga Site" or "Site"), located at Coalinga, California.
Recorded:	June 21, 1990, as Document No. 90072305, Official Records

Reference is made to said document for full particulars.

First Amended Consent Decree recorded July 27, 1990, as Document No. 90087770, Official Records.

Reference is made to document for full particulars.

Deed Restriction recorded June 22, 1990, as Document No. 90072506, Official Records.

Reference is made to document for full particulars.

Amended Deed Restriction recorded September 24, 1992, as Document No. 92146026, Official Records.

Reference is made to document for full particulars.

11. The effect of a map purporting to show the land and other property, Filed may 1, 1991 in Book 37, Page 47 of Record of Surveys.

12. The effect of an unrecorded easement for joint road use and incidental purposes, as disclosed by an Assignment of Easements and Rights-of-Ways, Jacalitos Field recorded October 23, 1996 as Instrument No. 96142607 of Official Records.

The location of the easement cannot be determined from the record information.

13. Notice of pendancy of action recorded December 15, 2004 as Instrument No. 2004-0280188 of Official Records.

Court:	Superior Court of the State of California County of Fresno
Case No.:	04CE CG 03544
Plaintiff:	City of Coalinga
Defendant:	Union Pacific Railroad company, a Delaware Corporation, formerly known as Southern pacific Transportation company et al
Purpose:	Quiet title

14. Any failure to comply with the requirement of approval, consent, exemption or other action by or notice to or filing with the Surface Transportation Board of the U.S. Department of Transportation, or any public utility commission or other similar regulatory authority, relating to the abandonment, cessation of rail operations, or other disposition of that portion of the land lying within the railroad right of way.

15. Prior to the issuance of any policy of title insurance, the Company will require:

With respect to Union pacific Railroad company, a corporation:
a. A certificate of good standing of recent date issued by the Secretary of State of the corporation's state of domicile.
b. A certified copy of a resolution of the Board of Directors authorizing the contemplated transaction and designating which corporate officers shall have the power to execute on behalf of the corporation.
c. Other requirements which the company may impose following its review of the material required herein and other information which the company may require.

INFORMATIONAL NOTES

1. Basic rate applies.

2. This report was preparatory to the issuance of an ALTA Loan Policy. We have no knowledge of any fact which would preclude the issuance of the policy with CLTA endorsement forms 100 and 116 and if applicable, 115 and 116.2 attached.

   When issued, the CLTA endorsement form 116 or 116.2, if applicable will reference a(n) Agricultural Land know as No Situs Address, Fresno, California.

3. According to the public records, there has been no conveyance of the land within a period of twenty-four months prior to the date of this report, except as follows:

   None

4. The preliminary report/commitment was prepared based on an application for a policy of title insurance that identified land by street address or assessor's parcel number only. It is the responsibility of the applicant to determine whether the land referred to herein is in fact the land that is to be described in the policy or policies to be issued.

5. We find no open deeds of trust. Escrow please confirm before closing.

6. General and special taxes and assessments for the fiscal year 2005-2006 are exempt.

The map attached, if any, may or may not be a survey of the land depicted herein. First American expressly disclaims and liability for loss or damage which may result from reliance on this map except to the extent coverage for such loss or damage is expressly provided by the terms and provisions of the title insurance policy, if any, to which this map is attached.

LEGAL DESCRIPTION

Real property is the City of Coalinga, County of Fresno, State of California, described as follows:

ALL THAT PORTION OF THAT STRIP OF LAND AS ABANDONED BY SOUTHERN PACIFIC RAILROAD COMPANY PER ACT OF CONGRESS ON NOVEMBER 6, 1986, PUBLIC LAW 99-614 LYING IN THE SOUTHEAST QUARTER OF SECTION 5, TOWNSHIP 21 SOUTH, RANGE 15 EAST, MOUNT DIABLO BASE AND MERIDIAN IN THE CITY OF COALINGA, COUNTRY OF FRESNO, STATE OF CALIFORNIA, AND LYING 100.00 FEET EQUALLY ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTER LINE:

COMMENCING AT THE INTERSECTION OF THE SOUTHEASTERLY RIGHT-OF-WAY OF ELM AVENUE AND THE CENTER LINE OF PACIFIC STREET AS SHOWN ON PARCEL MAP NO. 032, RECORDED IN BOOK 51 OF PARCEL MAPS AT PAGES 87 AND 88, FRESNO COUNTY RECORDS; THENCE SOUTH 52° 20' 14" EAST ALONG SAID CENTER LINE OF PACIFIC STREET A DISTANCE OF 549.33 FEET TO THE POINT OF INTERSECTION WITH THE CENTER LINE OF SAID ABANDONED STRIP OF LAND; THENCE SOUTH 37° 38' 43" WEST ALONG SAID CENTER LINE A DISTANCE OF 610.00 FEET TO THE “TRUE POINT OF BEGINNING’ OF THE CENTER LINE TO BE DESCRIBED; THENCE SOUTH 37° 38' 43" WEST ALONG SAID CENTER LINE A DISTANCE OF 1059.16 FEET TO POINT B AS SHOWN ON MAP RECORDED IN BOOK 27 OF RECORD OF SURVEYS AT PAGE 55, FRESNO COUNTY RECORDS AND THE TERMINUS OF THE CENTER LINE HEREIN DESCRIBED.

THE SIDE LINES OF SAID 200.00 FOOT STRIP OF LAND TO BE LENGTHENED OR SHORTENED TO TERMINATE, ON THE NORTH, IN A LINE PROJECTED NORTHWESTERLY AND SOUTHEASTERLY AT 90° TO SAID HEREIN ABOVE DESCRIBED CENTER LINE AT SAID “TRUE POINT OF BEGINNING” AND ON SOUTH BY THE SOUTHEASTERLY PROLONGATION OF THE SOUTHEASTERLY LINE OF PARCEL 3 OF PARCEL MAP 006 FILED IN BOOK 29 OF PARCEL MAPS AT PAGES 19 AND 20, FRESNO COUNTY RECORDS.

ALSO EXCEPTING THEREFROM ALL OIL, GAS AND OTHER MINERALS, WITH THE RIGHT TO PROSPECT FOR, MINE, AND REMOVE SAME AS RESERVED BY THE UNITED STATES OF AMERICA PURSUANT TO ACT OF CONGRESS APPROVED MARCH 8, 1992 (43 U.S. 912) IN THAT CERTAIN ACT ENTITLED “AN ACT TO CONFIRM A CONVEYANCE OF CERTAIN REAL PROPERTY BY THE SOUTHERN PACIFIC TRANSPORTATION COMPANY TO ERNEST PRITCHETT AND HIS WIFE, DIANA PRITCHETT, AND FOR OTHER PURPOSES”, APPROVED NOVEMBER 6, 1986 (PUBLIC LAW 99-614).

APN: 083-020-59
FNA: 083-0320-59SU

NOTICE

Section 12413.1 of the California Insurance code, effective January 1, 1990, requires that any title insurance company, underwritten title company, or controlled escrow company handling funds in an escrow or sub-escrow capacity, wait a specified number of days after depositing funds, before recording any documents in connection with the transaction or disbursing funds. This statute allows for fund deposited by wire transfer to be disbursed the same day as deposit. In the case of cashier's checks or certified checks, funds may be disbursed the next day after deposit. In order to avoid unnecessary delays of three to seven days, or more, please use wire transfer, cashier's checks, or certified checks whenever possible.

If you have any questions about the effects of this new law, please contact your local First American Office for more details.

EXHIBIT A
LIST OF PRINTED EXCEPTIONS AND EXCLUSIONS (BY POLICY TYPE)

1. CALIFORNIA LAND TITLE ASSOCIATION STANDARD COVERAGE POLICY - 1990
SCHEDULE B

EXCEPTION FROM COVERAGE

This policy does not insure against loss or damage (and the company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records. Proceedings by a public agency which may result in taxes or assessments or notice of such proceedings, whether or not shown by the records of such agency or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions to patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the public records.

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building and zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating to (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part, or; (iv) environmental protection, or the effects of any violations of these laws, ordinances or governmental regulations, except to the extent that a notice of enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Right of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluded from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of the purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims, or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not know to the company, not recorded in the public record at the Date of Policy, but know to the insured claimant and not disclosed in writing to the company by the insured claimant prior to the date the insured claimant became insured under this policy;
   (c) resulting in no loss or damages to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid values for the insured mortgage of for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with applicable "doing business" laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.

6. Any claim, which arises out of the transaction vesting in the insured the estate or interest insured by their policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights law.

2. AMERICAN LAND TITLE ASSOCIATION OWNER'S POLICY FORM B - 1970 SCHEDULE OF EXCLUSIONS FROM COVERAGE

1. Any law, ordinance or governmental regulation (including, but not limited to building and zoning ordinances) restricting or regulation or prohibiting the occupancy, use or enjoyment of the land, or regulating the character, dimensions or location of any improvement now or hereafter erected on the land, or prohibiting a separation in ownership or a reduction in the dimensions of area of the land, or the effect of any violation of any such law, ordinance or governmental regulation.
2. Right of eminent domain or governmental rights of police power unless notice of the exercise of such rights appears in the public records at Date of Policy**.**
3. Defects, liens, encumbrances, adverse claims, or other matters (a) created, suffered, assumed or agreed to by the insured claimant; (b) not known to the company and not shown by the public records but known to the insured claimant either at Date of Policy or at the date such claimant acquired an estate or interest insured by this policy and not disclosed in writing by the insured claimant to the company prior to the date such insured claimant became an insured hereunder; (c) resulting in no loss or damage to the insured claimant; (d) attaching or created subsequent to Date of Policy; or (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the estate or interest insured by this policy.

3. AMERICAN LAND TITLE ASSOCIATION OWNER'S POLICY FORM B - 1970 WITH REGIONAL EXCEPTIONS

When the American land Title Association policy is used as a Standard Coverage Policy and not as an Extended Coverage Policy the exclusions set forth in paragraph 2 above are used and the following exceptions to coverage appear in the policy.

SCHEDULE B

The policy does not insure against loss or damage by reason of the matters shown in parts one and two following:
Part One

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of said land or by making inquiry of persons in possession thereof.
3. Easements, claims of easement ro encumbrances which are not shown by the public records.
4.. Unpatented mining claims; reservations or exceptions in patents or in Acts authorizing the issuance thereof, water rights, claims or title to water.
5. Any lien, or right to a lien, for services. Labor or material heretofore or hereafter furnished, imposed by law and not shown bu the public records.

4. AMERICAN LAND TITLE ASSOCIATION - 1970 WITH A.L.T.A. ENDORSEMENT FORM 1 COVERAGE SCHEDULE OF EXCLUSIONS FROM COVERAGE

1. Any law, ordinance or governmental regulation (including but not limited to building and zoning ordinances) restricting or regulating or prohibiting the occupancy, use or enjoyment of the land, or regulating the character, dimensions or location of any improvement now or hereafter erected on the land, or prohibiting a separation in ownership or a reduction in the dimensions or area of the land, or the effect of any violation of any such law ordinance or governmental regulation.
2. Rights of eminent domain or governmental rights of police power unless notice of the exercise of such rights appears in the public records at Date of Policy.
3. Defects, liens, encumbrances, adverse claims, or other matters (a) created, suffered, assumed, or agreed to by the insured claimant; (b) not know to the company and not shown by the public records but known to the insured claimant either at Date of Policy or at the date such claimant acquired an estate or interest insured

by this policy or acquired the inured mortgage and not disclosed in writing by the insured claimant to the Company prior to the date such insured claimant became an insured hereunder; (c) resulting in no loss or damage to the insured claimant; (d) attaching or creating subsequent to Date of Policy (except to the extent insurance is afforded herein as to any statutory lien for labor or material or to the extent insurance is afforded herein as to assessments for street improvements under construction or completed by Date of Policy.

4. Unenforceability of the lien of the insured mortgage because of the failure of the insured at Date of Policy or of any subsequent owner of the indebtedness to comply with applicable "doing business" laws of the state in which the land is situated.

5. AMERICAN LAND TITLE ASSOCIATION LOAN POLICY - 1970 WITH REGIONAL EXCEPTIONS

When the American Land Title Association Lenders Policy is used as a Standard Coverage Policy and not as an Extended Coverage Policy, the exclusions set forth in paragraph 4 above are used and the following exceptions to coverage appear in the policy.

SCHEDULE B

This policy does not insure against loss or damage by reason of the matters shown in parts one and two following:
Part One

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by and inspection of said land or by making inquiry of persons in possession thereof.
3. Easements, claims of easement or encumbrances which are not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. Unpatented mining claims; reservations or exceptions in patents or in Acts authorizing the issuance thereof; water rights, claims or title to water,
6. Any lien, or right to a lien, for services, labor or materials theretofore or hereafter furnished, imposed by law and not shown by the public records.

6. AMERICAN LAND TITLE ASSOCIATION LOAN POLICY - 1992 WITH A.L.T.A. ENDORSEMENT FORM 1 COVERAGE SCHEDULE OF EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building and zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating to (i) the occupancy, use or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of the violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at the Date of Policy; (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at the Date of Policy.
2. Right of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims, or other matters:
   (a) whether or not recorded in the public records at date of Policy, but created, suffered, assumed or agreed to by the insured claimant;

(b) not know to the company, not recorded in the public records at the Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior tot he date the insured claimant became an insured under this policy;
(c) resulting in no loss or damage to the insured claimant;
(d) attaching or creating subsequent to Date of Policy (except to the extend that this policy insures the priority of the lien of the insured mortgage over any statutory lien for services, labor or material or to the extent insurance is afforded herein as to assessments for street improvements under construction or competed at date of policy); or
(e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage.

4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable "doing business" laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any statutory lien for services, labor or materials (or the claim of priority of any statutory lien for services, labor or materials over the lien of the insured mortgage) arising from an improvement or work related to the land which is contracted for and commenced subsequent to Date of Policy and is not financed in whole or in part by proceeds of the indebtedness secured by the insured mortgage which at date of Policy in insured has advanced or is obligated to advance.
7. Any claim, which arises out of the transaction creating the interest of the mortgage insured by this policy, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights law, that is based on:
(i) the transaction creating the interest of the insured mortgagee being deemed a fraudulent transfer; or
(ii) the subordination of the interest of the insured mortgagee as a result of the application of the doctrine of equitable subordination; or
(iii) the transaction creating the interest of the insured mortgagee being deemed a preferential transfer except where the preferential transfer may result in the failure;
(a) to timely record the instrument of transfer; or
(b) of such recordation to impart notice to a purchaser for value or a judgement or lien creditor.

7. AMERICAN LAND TITLE ASSOCIATION LOAN POLICY - 1992 WITH REGIONAL EXCEPTIONS

When the American Land Title Association Lenders Policy is used as a Standard Coverage Policy and not as an Extended Coverage Policy, the exclusions set forth in paragraph 5 above are used and the following exceptions to coverage appear in the policy.

SCHEDULE B

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by and inspection of said land or by making inquiry of persons in possession thereof.
3. Easements, claims of easement or encumbrances which are not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. Unpatented mining claims; reservations or exceptions in patents or in Acts authorizing the issuance thereof; water rights, claims or title to water,
6. Any lien, or right to a lien, for services, labor or materials theretofore or hereafter furnished, imposed by law and not shown by the public records.

8. AMERICAN LAND TITLE ASSOCIATION LOAN POLICY - 1992
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building and zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating to (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part, or; (iv) environmental protection, or the effects of any violations of these laws, ordinances or governmental regulations, except to the extent that a notice of enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Right of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluded from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of the purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims, or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not know to the company, not recorded in the public record at the Date of Policy, but know to the insured claimant and not disclosed in writing to the company by the insured claimant prior to the date the insured claimant became insured under this policy;
   (c) resulting in no loss or damages to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid values for the insured mortgage of for the estate or interest insured by this policy.
4. Any claim, which arises out of the transaction vesting in the issuance of estate or interest insured by this policy, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws that is based on:
   (i) the transaction creating the estate or interest insured by this policy being deemed a fraudulent transfer; or
   (ii) the transaction creating the estate or interest insured by this policy being deemed a preferential transfer except where the preferential transfer results from the failure;
   (a) to timely record the instrument of transfer; or
   (b) of such recordation to impart notice to a purchaser for value or a judgement or lien creditor.

9. AMERICAN LAND TITLE ASSOCIATION OWNER'S POLICY - 1992
WITH REGIONAL EXCEPTIONS

When the American Land Title Association Lenders Policy is used as a Standard Coverage Policy and not as an Extended Coverage Policy, the exclusions set forth in paragraph 5 above are used and the following exceptions to coverage appear in the policy.

SCHEDULE B

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

Part One:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by and inspection of said land or by making inquiry of persons in possession thereof.
3. Easements, claims of easement or encumbrances which are not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.

5. Unpatented mining claims; reservations or exceptions in patents or in Acts authorizing the issuance thereof; water rights, claims or title to water,
6. Any lien, or right to a lien, for services, labor or materials theretofore or hereafter furnished, imposed by law and not shown by the public records.

10. AMERICAN LAND TITLE ASSOCIATION RESIDENTIAL TITLE INSURANCE POLICY - 1987 EXCLUSIONS

In addition to the Exceptions in Schedule 3, you are not insured against loss, costs, attorney's fees and expenses resulting from:

1. Governmental police power, and the existence or violation of any law or government regulation. This includes building and zoning ordinances and also laws and regulations concerning:
   *land use *land division
   *improvements on the land *environmental protection
   This exclusion does not apply to violations or the enforcement of these matters which appear in the public records at Policy Date. This exclusion doe not limit the zoning coverage described in items 12 and 13 of covered Title Risks.
2. The right to take the land by condemning it, unless
   * a notice of exercising the right appears in the public records on the Policy date
   * the taking happens prior to the Policy Date and in binding on you if you bought the land without knowing of the taking
3. Title Risks:
   * that are created, allowed, or agreed to by you
   * that are known to you, but not to us, on the Policy Date - unless they appear in the public records
   * that result in no loss to you
   * that first affect your title after Policy Date - this does not limit the labor and material lien coverage in item 8 of Covered Title Risks
4. Failure to pay value for your title.
5. Lack of a right:
   * to any land outside the area specifically described and referred to in Item 3 of Schedule A, or
   * in streets, alleys, or waterways that touch your land.
   This exclusion does not limit the access coverage in Item 5 of Covered Title Risks.

11. EAGLE PROTECTION OWNER'S POLICY

CLTA HOMEOWNERS POLICY OF TITLE INSURANCE - 1998 ALTA HOMEOWNERS POLICY OF TITLE INSURANCE - 1998

Covered Risks 14 (subdivision Law Violation), 15 (Building Permit), 16 (Zoning) and 18 (Encroachment of boundary walls or fences) are subject to Deductible amounts and maximum Dollar Limits of Liability

EXCLUSIONS

In addition to the Exception in Schedule 5, you are not insured against loss, costs, attorneys' fees and expenses resulting from:

1. Governmental police power, and the existence or violation of any law or governmental regulation. This includes ordinances, laws and regulations concerning:
   a. building b. zoning
   c. land use d. improvements on the land
   e. land division f. environmental protection

   This exclusion does not apply to violations or the enforcement of these matters if notice of the violation or enforcement appears in the Public Records at the Policy Date.
2. The failure of your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not apply to violations of building codes if notice of the violation appears in the Public Records at Policy Date.

3. The right to take the land by condemning it, unless:
   a. a notice of exercising the right appears in the Public Records at the Policy Date.
4. Risks:
   a. that are created, allowed, or agreed to by You, whether or not they appear in the Public Records;
   b. that are Known to You at the Policy Date, but not to Us, unless they appear in the Public Records at the Policy Date.
   c. that result in no harm to You; or
   d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risks 7, 8.d, 22, 23, 24 or 25.
5. Failure to pay for Your title.
6. Lack of a right:
   a. to any land outside the area specifically described and referred to in Item 3 of Schedule A, or
   b. in streets, alleys, or waterways that touch your land.
   This exclusion does not limit the coverage described in Covered Risk 11 of 18.

12. SECOND GENERATION EAGLE LOAN POLICY AMERICAN LAND TITLE ASSOCIATION EXPANDED COVERAGE RESIDENTIAL LOAN POLICY (10/31/01)

EXCLUSION FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building and zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating to (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part, or; (iv) environmental protection, or the effects of any violations of these laws, ordinances or governmental regulations, except to the extent that a notice of enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy. This exclusion does not limit the coverage provided under Covered Risks 12, 13, 14 and 16 of this policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy. This exclusion does not limit the coverage provided under Covered Risks 12, 13, 14 and 16 of this policy.
2. Right of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluded from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of the purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims, or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not know to the company, not recorded in the public record at the Date of Policy, but know to the insured claimant and not disclosed in writing to the company by the insured claimant prior to the date the insured claimant became insured under this policy;
   (c) resulting in no loss or damages to the insured claimant;
   (d) attaching or created subsequent to Date of Policy (this paragraph does not limit the coverage provided under covered Risks 8, 16, 18, 19, 20, 21, 22, 23, 24, 25 and 26); or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid values for the insured mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of the Insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with applicable doing business laws of the state in which the Land is situated.
5. Invalidity or unenforceability of the lien of the Insured Mortgage, or claim thereof, which arises out of the transaction evidenced by the Insured Mortgage and is based upon usury, except as provided in Covered Risk 27, or any consumer credit protection or truth in lending law.
6. Real property taxes or assessments of any governmental authority which becomes a lien on the Land subsequent to Date of Policy. This exclusion does not limit the coverage provided under Covered Risk 7, 8(e) and 26.

7. Any claim of invalidity, unenforceability or lack of priority of the lien of the Insured Mortgage as to advances or modifications made after the Insured has Knowledge that the vestee shown in Schedule A is no longer the owner of the estate or interest covered by this policy. This exclusion does not limit the coverage provided in Covered Risk 8.
8. Lack of priority of the lien of the Insured Mortgage as to each and every advance made after Date of Policy, and all interest charged thereon, over liens, encumbrances and other matters affecting title, the existence of which are Known to the Insured at:
   (a) The time of the advance; or
   (b) The time a modification is made to the terms of the insured Mortgage which changes the rate of interest charged, if the rate of interest is greater as a result of the modification than it would have been before the modifications.
9. The failure of the residential structure, or any portion thereof to have been constructed before, on or after the Date of Policy in accordance with applicable building codes. This exclusion does not apply to violations of building codes if notice of the violation appears in the Public records at Date of Policy.

SCHEDULE B

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. The following existing statutes, reference to which are made part of the ALTA 9.1 Environmental Protection Lien Endorsement incorporated into this Policy following item 28 of Covered Risks: NONE.

13. SECOND GENERATION EAGLE LOAN POLICY AMERICAN LAND TITLE ASSOCIATION EXPANDED COVERAGE RESIDENTIAL LOAN POLICY (10/31/01)

WITH REGIONAL EXCEPTIONS

When the American Land Title Association loan policy with EAGLE Protection Added is used as a Standard Coverage Policy and not as an Extended Coverage Policy the exclusions set forth in paragraph 12 above are used and the following exceptions to coverage appear in the policy.

SCHEDULE B

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

Part One:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property of by the public records.
2. Any facts, right, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of said land or by making inquiry of persons in possession thereof.
3. Easements, claims of easement or encumbrances which are not shown by the public record.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown in the public records.
5. Unpatented mining claims; reservations or exceptions in patents or in acts authorizing the issuance thereof; water rights, claims or title to water.
6. Any lien, or right to a lien, for services, labor or material theretofore or hereafter furnished, imposed by law and not shown by the public records.

Part Two:

1. The following existing statutes, reference to which are made part of the ALTA B.1 Environmental Protection Lien Endorsement incorporated into this Policy following item 28 of Covered Risks: NONE.

PRIVACY POLICY

We Are Committed to Safeguarding Customer Information

In order to better serve you needs now and in the future, we may ask you to provide us with certain information. We understand that you may be concerned about what we will do with such information - particularly any personal information. We agree that you have a right to know how we will utilize the personal information you provide to us. Therefore, together with our parent company, The First American Corporation, we have adopted this Privacy Policy to govern the use and handling of your personal information.

Applicability

The Privacy Policy governs our use of the information which you provide to us. It does not govern the manner in which we may use the information we have obtained from any other source, such as information obtained from a public record or from another person or entity. First American has also adopted broader guidelines that govern our use of personal information regardless of its source. First American calls these guidelines its *Fair Information Values*, a copy of which can be found on our website at www.firstam.com.

Types of Information

Depending on which of our services you are utilizing, the types of nonpublic personal information that we may collect include:

- Information we receive from you on applications, forms and in other communications to us, whether in writing, in person, by telephone or any other means;
- Information about your transactions with us, our affiliated companies, or others; and
- Information we receive from a consumer reporting company.

Use of Information

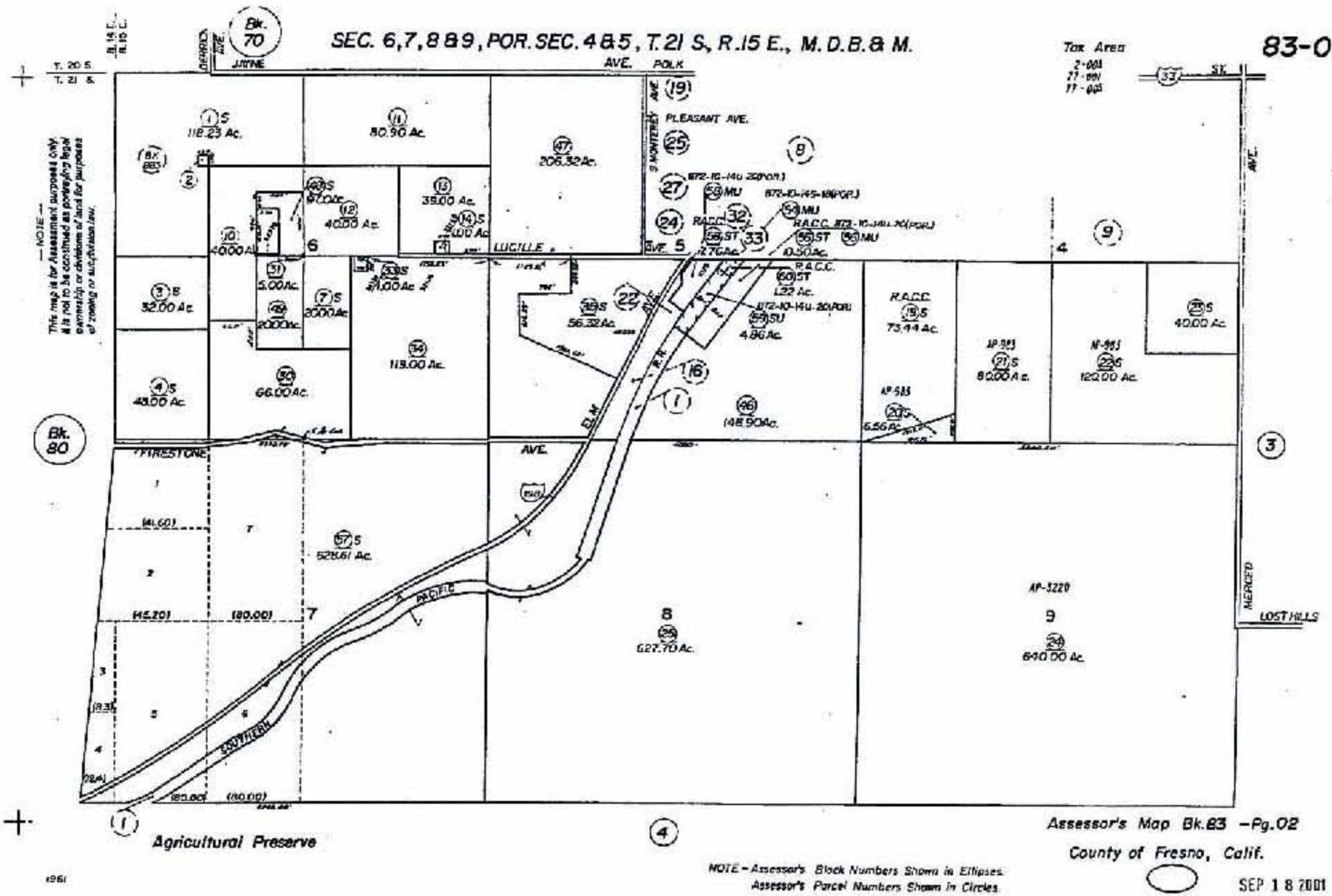
We request information from you for our own legitimate business purposes and not for the benefit of any nonaffliliated party. Therefore, we will not release your information to nonaffiliated parties except: (1) as necessary for us to provide the product or service you have requested of us; or (2) as permitted by law. We may, however, store such information indefinitely, including the period after which any customer relationship has ceased. Such information may be used for any internal purpose, such as quality control efforts or customer analysis. We may also provide all types of nonpublic personal information listed above to one or more of our affiliated companies. Such affiliated companies include financial service providers, such as title insurers, property and casualty insurers, and trust and investment advisory companies. Furthermore, we may also provide all the information we collect, as described above, to companies that perform marketing services on our behalf, on behalf of our affiliated companies, or to other financial institutions with whom we or our affiliated companies have joint marketing agreements.

Former Customers

Even if you are no longer our customer, our Privacy Policy will continue to apply to you.

Confidentiality and Security

We will use our best efforts to ensure that no unauthorized parties have access to any of your information. We restrict access to nonpublic personal information about you to those individuals and entities who need to know that information to provide products or services to you. We will use our best efforts to train and oversee our employees and agents to ensure that your information will be handled responsibly and in accordance with this Privacy Policy and First American's *Fair Information Values*. We currently maintain physical, electronic, and procedural safeguards that comply with federal regulations to guard your nonpublic personal information.



Attachment 2
September 24, 1992 Deed Restriction Amendment

5

Return to:

David W. Long, Esq.
General Attorney
Southern Pacific Transportation Company
One Market Plaza
8th Floor
San Francisco, CA 94105

RECORDED IN OFFICIAL RECORDS OF FRESNO COUNTY, CALIFORNIA
AT 03 MIN. PAST 10A M
SEP 24 1992
WILLIAM C. GREENWOOD
County Recorder
FEE
S 7 71

AMENDED DEED RESTRICTION

(WASTE MANAGEMENT UNIT CONSTRUCTED ON PROPERTY OF SOUTHERN PACIFIC TRANSPORTATION COMPANY IN THE SOUTHERLY END OF THE TOWN OF COALINGA ALONG STATE HIGHWAY 198 (Elm Street), COALINGA, FRESNO COUNTY, CALIFORNIA)

This Amended Deed Restriction ("Amended Deed Restriction") is made as of August 28 1992 by the Southern Pacific Transportation Company ("Owner") which is the owner of record of certain real property situated in the City of Coalinga, County of Fresno, State of California, illustrated on the drawing and description attached hereto marked Exhibit A and incorporated herein by this reference (the "Property"), with reference to the following facts:

A. The Property is the subject of a Consent Decree entered into by and between Owner and the United States of America on behalf of the United States Environmental Protection Agency in Case CIV # 89-1081-EFG/JFM in the United States District Court for the Eastern District of California ("Consent Decree").

B. A copy of the Consent Decree is recorded as document # 90072305.

C. Owner is obligated, pursuant to paragraph 2 of Appendix E to the Consent Decree, to file with the Recorder's Office in Fresno, California, a deed restriction prohibiting anyone in possession of the Property from taking any actions that would interfere with the maintenance or operation of the waste management unit constructed pursuant to the Consent Decree.

D. Paragraph 3 of Appendix E to the Consent Decree states that any deed, title or other instrument of conveyance regarding the Property shall contain a notice that the Property is subject to the Consent Decree, setting

forth the status of the case, the case number, and the Court having jurisdiction therein.

E. A deed restriction was recorded on June 22, 1990 concerning this matter. The June 22, 1990 recordation did not contain the actual boundaries of the waste management unit since it had not yet been constructed. It is the purpose of this filing to amend the June 22, 1990 recordation to specify the boundaries of the waste management unit to which the terms of the June 22, 1990 recordation apply.

NOW, THEREFORE, in accordance with the terms of the Consent Decree does Owner record this Amended Deed Restriction. Anyone in possession of the Property shall be prohibited by the Consent Decree or otherwise under law from taking any actions that would interfere with the maintenance or operation of the waste management unit constructed pursuant to the Consent Decree located near the southern end of the Town of Coalinga along the east side of Highway 198 (Elm Street) as documented in Attachment A.

IN WITNESS WHEREOF, the undersigned executes this Amended Deed Restriction on behalf of Owner as of the date first set forth above.

SOUTHERN PACIFIC TRANSPORTATION COMPANY

By: David W Long

Title: Asst. General ~~Attorney~~ Counsel

Date: September 21 1992

STATE OF CALIFORNIA)
)
COUNTY OF SAN FRANCISCO)

On SEPT 21, 1992, before me, the undersigned, a Notary Public in and for said state, personally appeared David W. Long, personally known to me or proved to me on the basis of satisfactory evidence to be the person who executed the within instrument as General Attorney of Southern Pacific Transportation Company, the corporation that executed the within instrument, and acknowledged to me that such corporation executed the same pursuant to authority contained in its bylaws or a resolution of its board of directors.

WITNESS my hand and official seal.

J. E. JURGENS
NOTARY PUBLIC-CALIFORNIA
Principal Place of Business in
CITY AND COUNTY OF
SAN FRANCISCO
My Commission Expires Jan. 15, 1994

EXHIBIT A

The boundary of the Waste Management Unit (WMU) is defined as described below and as depicted on the attached figure. An eight foot chain link fence follows this boundary line.

That parcel of land situated in Section 5, Township 21 South, Range 15 East Mount Diablo Meridian, in the City of Coalinga, County of Fresno, State of California, described as follows:

Beginning at a Point that bears North 37 degrees 38 minutes 43 seconds East, 122.95 feet from the northeasterly corner of Parcel 2, as shown on P. M. 006, recorded in Book 29 of Parcel Maps at pages 19 and 20 Fresno County records; said corner also being on the westerly Right-of-Way line of Southern Pacific Transportation Company as abandoned November 6, 1986, by Public Law 99-614;

Thence North 54 degrees 20 minutes 29 seconds West, leaving said Right-of-Way line, a distance 276.25 feet;

Thence North 37 degrees 06 minutes 18 seconds East a distance of 327.26 feet;

Thence South 51 degrees 38 minutes 34 seconds East a distance of 25.72 feet;

Thence South 37 degrees 37 minutes 15 seconds West a distance of 22.83 feet;

Thence South 51 degrees 40 minutes 43 seconds East a distance of 280.61 feet to the westerly line of said Right-of-Way;

Thence South 38 degrees 15 minutes 27 seconds West a distance of 290.39 feet;

Thence North 54 degrees 20 minutes 29 seconds West, a distance of 24.06 feet to the Point of Beginning.

029-019

Attachment 3
February 2006 Survey Results

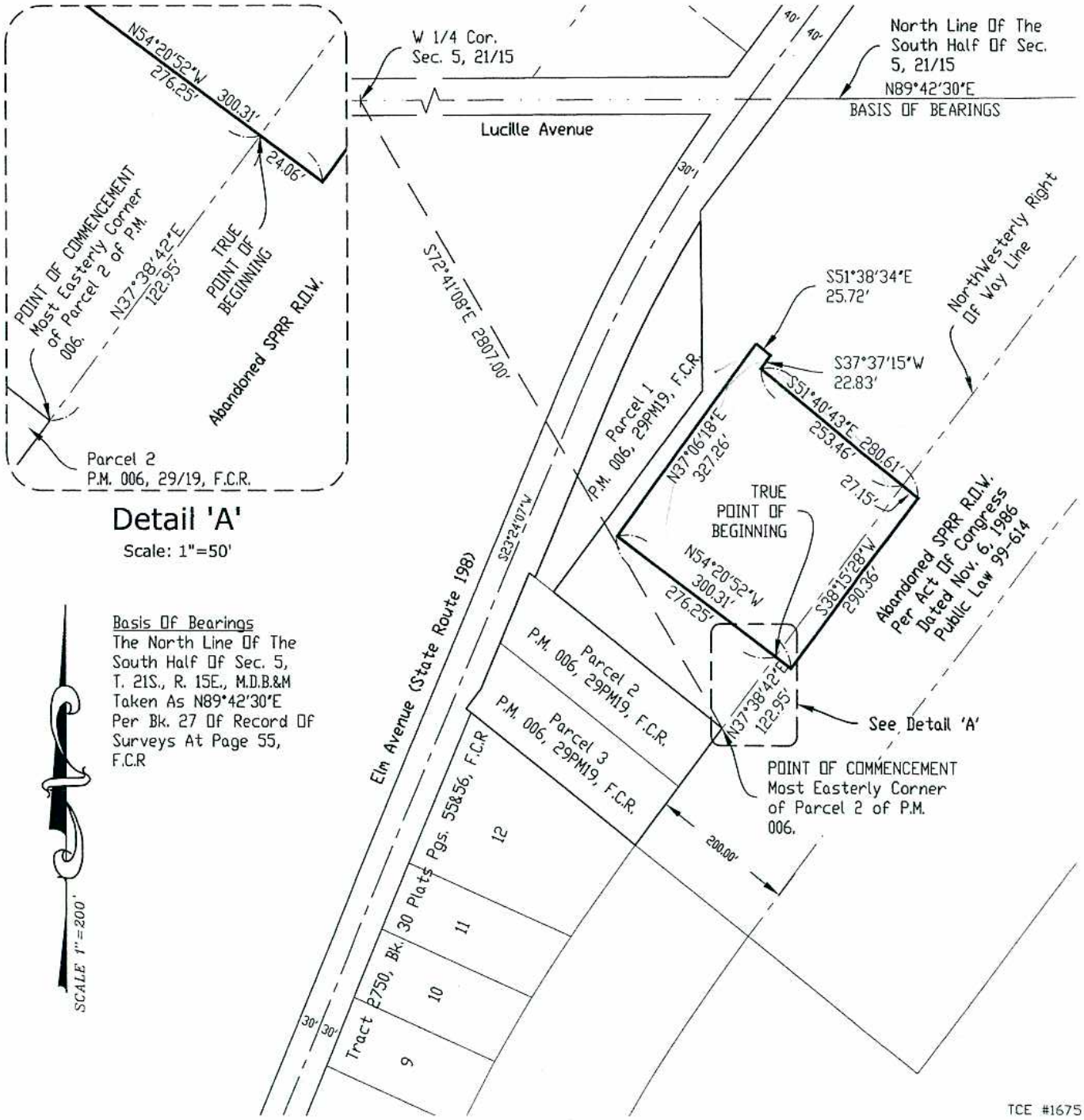
Exhibit 'B'

In the City of Coalinga, County of Fresno, State of California.
February 2006

Tri City Engineering
Engineers Surveyors

4630 W. Jennifer Ave. #101
Fresno, CA 93722-6415
PH: 559-447-9075
FAX 559-447-9074
www.TriCityEngineering.com

192 E. Elm Ave., #102
Coalinga, CA 93210
PH: 559-935-6051
FAX: 559-935-6051



Detail 'A'

Scale: 1"=50'

Basis Of Bearings
The North Line Of The South Half Of Sec. 5, T. 21S., R. 15E., M.D.B.&M Taken As N89°42'30"E Per Bk. 27 Of Record Of Surveys At Page 55, F.C.R

TCE #1675

EXHIBIT "A"
Legal Description

That certain parcel of land situated in the South Half of Section 5, Township 21 South, Range 15 East, Mount Diablo Base and Meridian, in the City of Coalinga, County of Fresno, State of California, the North line of said South Half of Section 5 being the Basis of Bearings for this description and taken as North 89°42'30" East per Book 27 of Record of Surveys at Page 55, Fresno County Records, being more particularly described as follows:

Commencing at the most easterly corner of Parcel 2 as shown on Parcel Map No. 006, recorded in Book 29 of Parcel Maps at Pages 19 and 20, Fresno County Records; said corner being on the westerly right-of-way line of the 200 foot wide railroad strip of Southern Pacific Transportation Company as abandoned on November 6, 1986, by Public Law 99-614; said corner also being South 72°41'08" East a distance of 2807.00 feet from the West Quarter Corner of said Section 5; thence North 37°38'42" East along the said westerly right-of-way line a distance of 122.95 feet to the TRUE POINT OF BEGINNING; thence the following courses;

1) thence North 54°20'52" West leaving said westerly right-of-way line a distance of 276.25 feet;

2) thence North 37°06'18" East a distance of 327.26 feet;

3) thence South 51°38'34" East a distance of 25.72 feet;

4) thence South 37°37'15" West a distance of 22.83 feet;

5) thence South 51°40'43" East a distance of 253.46 feet to the said westerly right-of-way line of Southern Pacific Transportation Company,

6) thence South 51°40'43" East leaving said westerly right-of-way line a distance of 27.15 feet;

7) thence South 38°15'28" West a distance of 290.36 feet;

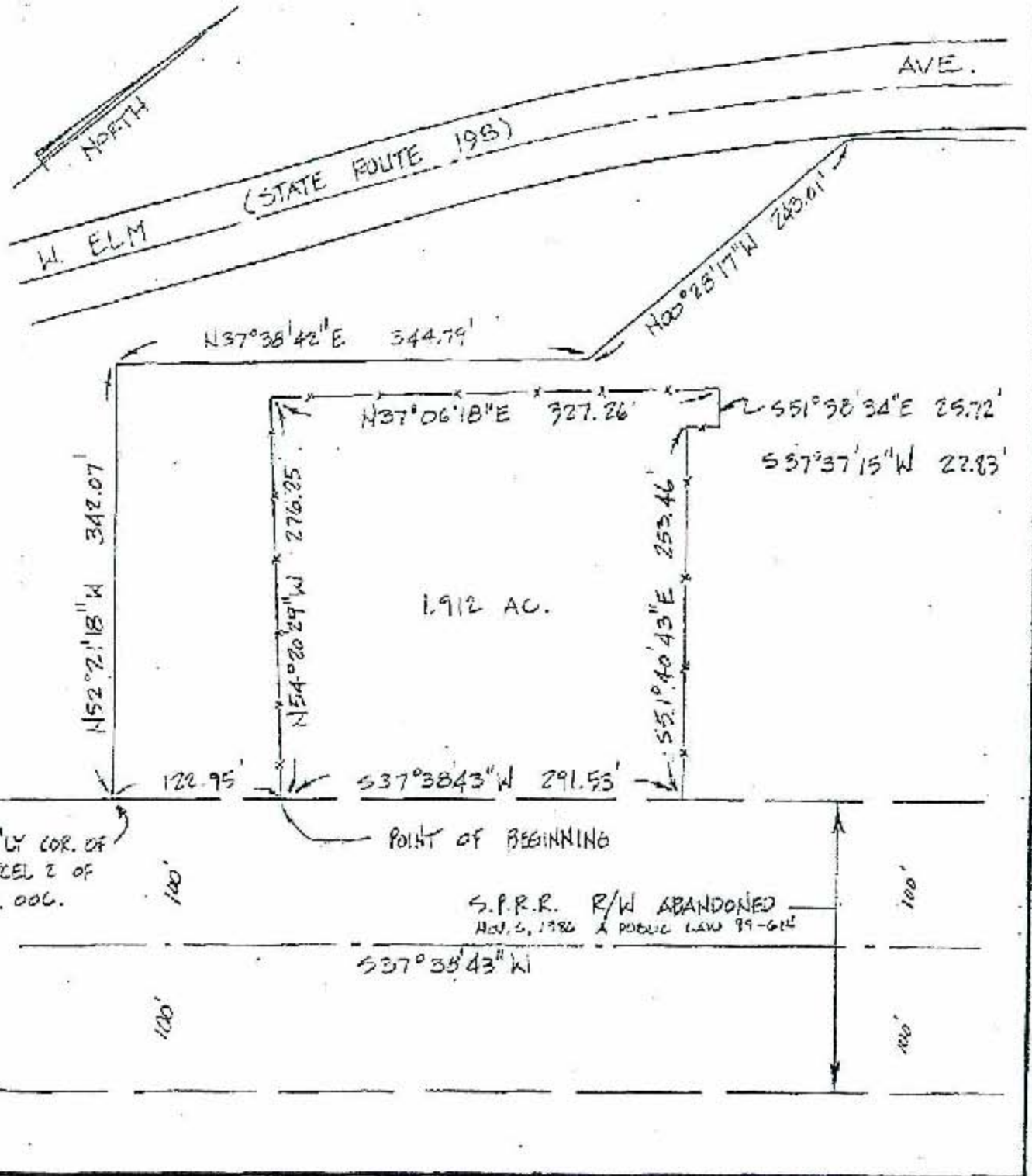
8) thence North 54°20'52" West a distance of 24.06 feet to the said westerly right-of-way line of Southern Pacific Transportation Company and TRUE POINT OF BEGINNING.

Said parcel contains 2.083 acres, more or less.

End description.

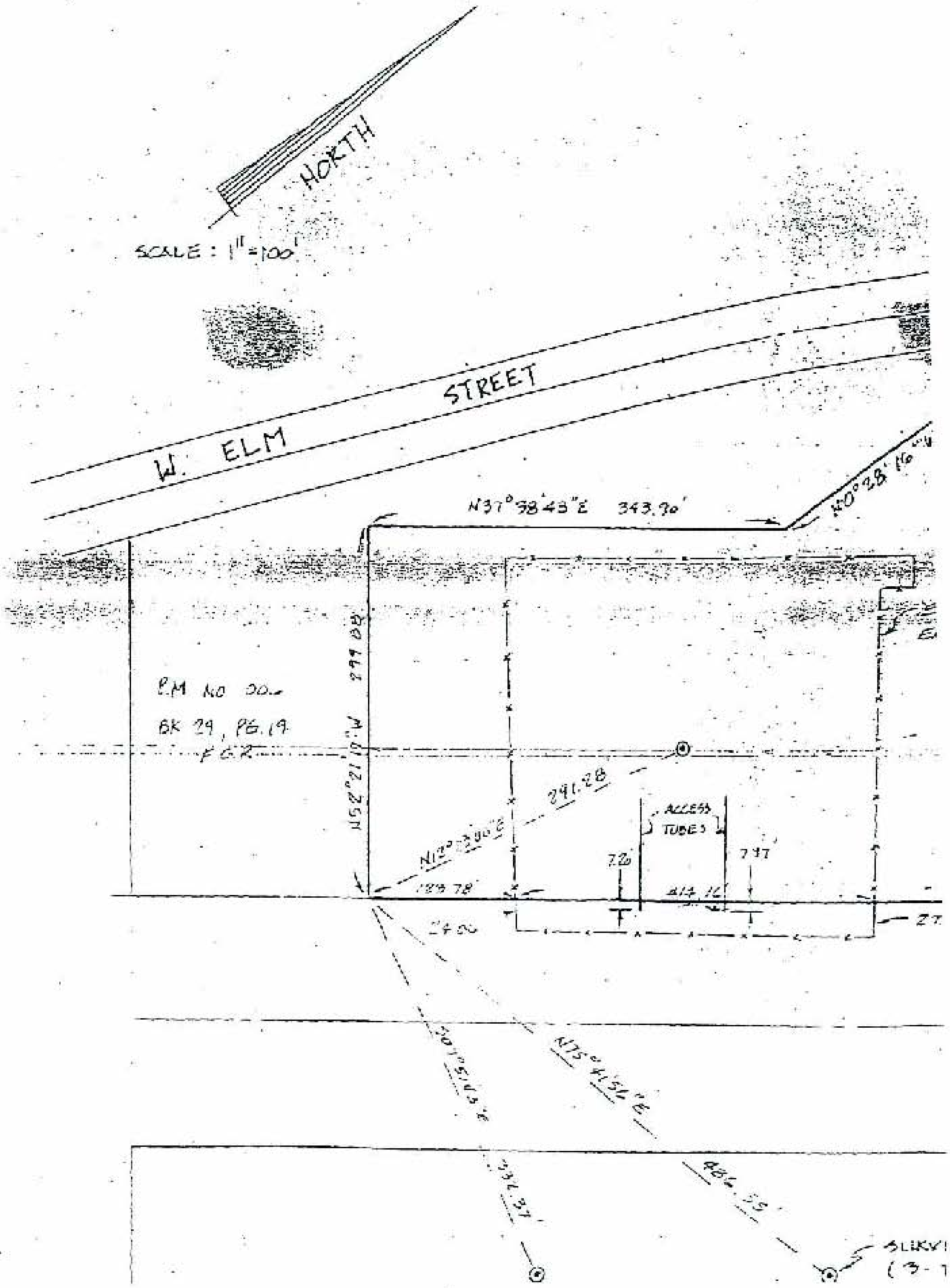
Prepared by: _____
Cris H. Robles, PLS 5503

Date: _____



	TRI-CITY ENGINEERING Civil Engineers Land Surveyors 390 COALINGA PLAZA COALINGA, CA 93210 (209) 935-6051	Date: 1-27-92 By: C. ROBLES Scale: 1" = 100' Rev. Dwg. No. 2 of 3
	SOUTHERN PACIFIC TRANSPORTATION COMPANY "COALINGA ASBESTOS BURIAL SITE"	

AIR/NING 40-105


NORTH
SCALE : 1" = 100'
W. ELM STREET
N37°38'43"E 343.90'
P.M. NO. 20
BK 29, PG. 19
F.C.R.
291.28
ACCESS TUBES
7.20
7.97
N12°38'06"E
183.78
414.16
24.00

Attachment 4
Stipulated Judgment Quieting Title

Bacigalupi, Neufeld & Rowley
Craig M. Mortensen (95683)
1111 E. Herndon Ave., Ste. 219
Fresno, California 93720
Tel 559.431.6850
Fax 559.431.4216

Attorneys for Plaintiff

UNITED STATES DISTRICT COURT FOR THE

EASTERN DISTRICT OF CALIFORNIA

* * * * * * * * *

City of Coalinga, Plaintiff, v. Union Pacific Railroad Company, a Delaware Corporation, formerly known as Southern Pacific Transportation Company; County of Fresno; Pleasant Valley Water District; Coalinga-Huron Recreation and Park District; State of California; Southern Pacific Railroad Company, a California Corporation; Southern Pacific Land Company, a Corporation; Southern Pacific Company, a Delaware Corporation; Standard Oil Company of California, a Delaware Corporation; Pacific Gas & Electric; Southern Pacific Transportation Company; the United States of America; All Persons Unknown, Claiming Any Legal or Equitable Right, Title, Estate, Lien, or Interest in the Property Described in the Complaint Adverse to Plaintiff's Title, or any Cloud on Plaintiff's Title Thereto; and DOES 1 through 100, inclusive, Defendants.	Case: 1:05-CV-00210-OWW-SMS **STIPULATED JUDGMENT QUIETING TITLE** **APN 900-700-12** **(formerly APN 083-020-59SU)**

The court having determined that all Defendants except Defendants Coalinga-Huron Recreation and Park District, Standard Oil Company of California, and County of Fresno have either disclaimed any interest in the subject real property, or have defaulted, and further having determined that the Defendants against whom the case is at issue and Plaintiff hereby stipulate to the entry of judgment as set forth herein, the court therefore enters judgement in favor of Plaintiff as follows:

IT IS ADJUDGED, ORDERED AND DECREED that:

1. As of October 1, 2005, Plaintiff City of Coalinga was the sole owner of the title in fee simple absolute to the real property which is the subject of this action, known as APN 900-700-12, formerly known as APN 083-020-59SU, which parcel of real property is more particularly described in Exhibit "A" attached hereto and incorporated herein as though fully set forth hereafter.

2. Plaintiff's title is subject to the following exceptions:

As to Defendant County of Fresno: Property taxes, including any personal property taxes and any assessments collected with taxes, for the fiscal year 2004-2005.

As to Defendant Coalinga-Huron Recreation and Park District: Any and all levied and unpaid assessments under the Coalinga-Huron Recreation and Park District Landscape & Lighting Maintenance District 1993-1A.

As to Defendant Standard Oil of California: Plaintiff has not made a claim for nor does Plaintiff claim any right, title or interest in the oil, gas and other minerals, including the right to mine and remove same from the subject property.

3. Defendants Union Pacific Railroad Company, a Delaware Corporation, formerly known as Southern Pacific Transportation Company; Pleasant Valley Water District; State of California; Southern Pacific Railroad Company, a California Corporation; Southern Pacific Land Company, a Corporation; Southern Pacific Company, a Delaware Corporation; Pacific Gas & Electric; Southern Pacific Transportation Company; the United States of America; and "All Persons Unknown, Claiming Any Legal or Equitable Right, Title, Estate, Lien, or Interest in the Property Described in the Complaint Adverse to Plaintiff's Title, or any Cloud on Plaintiff's Title Thereto", own no right, title, estate, interest, or lien, whatsoever in the subject property.

4. Plaintiff shall not recover its costs from Defendants.

(The remainder of this page, page 2, is intentionally left blank.)

Bacigalupi, Neufeld & Rowley
1111 E. Herndon Ave.
Suite 219
Fresno, CA 93720

IT IS SO STIPULATED.

October 17, 2005

Dennis A. Marshall, County Counsel

By /s/ Bruce B. Johnson
Bruce B. Johnson, Jr., Senior Deputy County Counsel, Attorneys for Defendant County of Fresno

October 4, 2005

Emerich & Fike

By /s/ David A. Fike
David A. Fike, Attorneys for Defendant Coalinga-Huron Recreation and Park District

October 17, 2005

/s/ Ralph E. Mayo
Ralph E. Mayo, Senior Counsel, ChevronTexaco, successor in interest to Defendant Standard Oil Company of California

October 19, 2005

Bacigalupi, Neufeld & Rowley

By /s/ Craig M. Mortensen
Craig M. Mortensen, Attorneys for Plaintiff

IT IS SO ORDERED.

October_20__, 2005

/s/ OLIVER W. WANGER
Oliver W. Wanger
United States District Judge

_____

Bacigalupi, Neufeld & Rowley
1111 E. Herndon Ave.
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Fresno, CA 93720

Appendix E
Status of Recommendations from Prior 5-year Reviews

Status of Recommendations from Prior 5-year Reviews for Atlas and Coalinga Asbestos Mine (Johns-Manville Mill) Superfund Sites

PREPARED FOR: United States Environmental Protection Agency

PREPARED BY: Daisy Digmanese/CH2M HILL
Alexa Stamets/CH2M HILL

DATE: May 19, 2006

The purpose of this technical memorandum is to summarize the status of recommendations from prior 5-year reviews for the Atlas and Coalinga Asbestos Mine Superfund Sites in Fresno County, California. The previous (first) 5-year review for the Atlas Asbestos Mine Site was completed in 2001. The results of that review are documented in the *Final First Five-Year Review Report for Atlas Asbestos Mine Site* (USEPA 2001a). The previous (second) 5-year review for the Coalinga Asbestos Mine Site was completed in 2001. The results of that review are documented in the *Final Second Five-Year Review Report for Coalinga Asbestos Mine Superfund Site, Coalinga* (USEPA 2001b).

Site Background

The Atlas Asbestos Mine Superfund Site consists of two operable units (OU) and two geographic areas. The Coalinga Asbestos Mine Superfund Sites consists of two OUs. The Atlas Asbestos Mine Superfund Site consists of the Atlas Mine Area OU (OU1), City of Coalinga OU (OU2), the Clear Creek Management Area (CCMA), and the Arroyo Pasajero Ponding Basin (Ponding Basin). The CCMA and Ponding Basin geographic areas were previously evaluated with the Atlas Asbestos Mine Superfund Site because of concerns that asbestos mining and milling waste from the Atlas Mine Area were being transported to these areas by water or wind. The Coalinga Asbestos Mine Site consists of the Johns-Manville Mill (JMM) OU (OU1) and the previously mentioned City OU (OU2), which is considered part of the Coalinga Asbestos Mine Site due to historic operations.

This memorandum is organized into the following sections: Atlas Mine Area OU, JMM OU, and the City OU. Recommendations made in the previous 5-year review report and a summary of the status of those recommendations for each OU will also be discussed.

Atlas Mine Area OU

Recommendations identified for the Atlas Mine in the *Final First Five-Year Review Report for Atlas Asbestos Mine Site* (USEPA 2001a) include:

1. Repair road or find another route to access Pond A area.
2. Perform a study to determine the best means of addressing eroding soil at the erosion prone area near the Regional Sediment Storage Area.

3. Perform more frequent maintenance of revegetation site.

4. Place deed restrictions on property and develop Access Control Agreement.

The first two recommendations were largely addressed during the construction maintenance activities performed in the spring of 2005. Among other maintenance activities, the road to Pond A and the gullies on the outboard slope of the tailings pile south of the Regional Sediment Storage Area were repaired during 2005.

Two portions of the road to Pond A were addressed. Adjacent to the Pond B highwall, the road was repaired and re-graded to change the super-elevation to slope toward the drainage ditch. The drainage ditch was regraded and lined with Reno mattresses for stabilization. In the second location, berms were established at the existing diversion channel between the Pond B highwall and Pond A to prevent runoff to the road. These repairs will prevent surface water from further eroding the access roadway towards Pond A area. An alternate route to access Pond A, the second component of Recommendation 1, has not been identified.

At the outboard slope of the tailings pile south of the Regional Sediment Storage Area, four gullies were repaired in the following ways:

- Buttresses were placed on top of each of the gullies with rip rap underlain by filter fabric.
- A subsurface drain was constructed beneath the flow lines of each gully so water can exit after the velocity has been reduced by the rip rap energy dissipaters.
- Berms at the top of the tailings pile slope were constructed to direct surface water in the vicinity of the gullies toward the gullies.

These repairs were designed to prevent further erosion from occurring in the existing gullies and reduce the potential for additional gullies from forming.

Since the last 5-year review, Recommendation 3, more frequent maintenance of revegetation, was not performed. However, in an April 2002 e-mail to an Atlas Representative (George Robinson, R2 Inc.), Shea Jones, the United States Environmental Protection Agency (USEPA) remedial project manager (RPM) decided that further re-vegetation efforts would not be required. This decision was based on a consideration of the very limited success of the $1.5 million revegetation pilot program. In June 2006, this decision was reaffirmed in a teleconference that included representatives of Northrop Grumman (Elizabeth Brown), Department of Toxics Substances Control (DTSC) (Steve Ross), Bureau of Land Management (Tim Moore), and USEPA (Lynn Suer, RPM). It was also decided that vegetation will continue to be monitored during inspections. If large disturbances to existing vegetation are observed (e.g, due to severe storms or earthquakes), re-vegetation efforts may be re-considered. Site inspections indicate that natural re-vegetation processes are occurring and these will likely provide a self-sustaining vegetative cover over the long term. The original re-vegetation effort was successful in that it provided the source material for these natural processes.

Recommendation 4 has not been implemented. DTSC has responsibility for this action, because the 1992 Consent Decree for the Atlas Mine Area OU does not require the settling

parties to record deed restrictions. DTSC is currently working with Northrop Grumman to develop the deed restriction for their privately owned property at the Atlas Mine Area.

Johns-Manville Mill OU

No recommendations or follow-up actions were specified for the JMM OU in the *Final Second Five-Year Review Report for Coalinga Asbestos Mine Superfund Site, Coalinga* (USEPA 2001b). No activities or changes in status have occurred at the site other than routine operation and maintenance activities.

City OU

Recommendations identified for the City OU in the *Final First Five-Year Review Report for Atlas Asbestos Mine Site* (USEPA 2001a) and the *Final Second Five-Year Review Report for Coalinga Asbestos Mine Superfund Site, Coalinga* (USEPA 2001b) include:

1. Repair animal burrows found at the Waste Management Unit (WMU) cap.
2. Repair damaged signs

Both recommendations were completed during regular operation and maintenance activities since the last 5-year review. In addition, in October 2005, fencing material with a smaller screen size was added to the lower 3 feet of the perimeter fence and extended approximately 3 feet below ground to prevent small animals from entering the site and burrowing into the cap of the WMU. Based on observations made during the most recent site inspection (2006), the additional fencing resulted in a decrease of the number of burrows found in the cap of the WMU.

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Appendix F
Documents Reviewed

APPENDIX F

Documents Reviewed

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Appendix G
Site Inspection Technical Memorandum, Checklists, and Photographs

Site Inspection Checklists for the 5-year Reviews of the Atlas Asbestos Mine and Coalinga Asbestos Mine Superfund Sites

PREPARED FOR: United States Environmental Protection Agency

PREPARED BY: Alexa Stamets/CH2M HILL

DATE: May 18, 2006

The site inspection checklist from the five-year review for the Atlas Asbestos Mine and Coalinga Mine Superfund Sites are presented in this technical memorandum. Three separate site inspections were performed at the Atlas Mine Site, the Johns-Manville Mill, and the Waste Management Unit in the City of Coalinga. Site inspections at these three sites were performed between April 13 and May 2, 2006. The individuals that were present for the site inspections performed at the Atlas Mine Site, the Johns-Manville Mill, and the Waste Management Unit are indicated in Tables 1, 2, and 3, respectively.

TABLE 1
Site Inspection Team Roster for the Atlas Mine Site, May 2, 2006
Five-Year Review Report, Atlas Asbestos Mine Superfund Site and Coalinga Asbestos Mine (Johns-Manville Mill) Superfund Site, Fresno County, California

Name	Title	Affiliation
Lynn Suer, Ph.D.	Remedial Project Manager	U.S. EPA
Alexa Stamets, P.E.	Project Manager	CH2M HILL (contractor to U.S. EPA)
Tim Moore		Bureau of Land Management
Elizabeth Brown	Senior Counsel	Northrop Grumman Corporation
Joohi Sood, P.E.	Project Manager	Northrop Grumman Corporation
Melinda McCoy. R.G.		CDM (contractor to Northrop Grumman Corporation)

TABLE 2
Site Inspection Team Roster for the Johns-Manville Mill, April 13, 2006
Five-Year Review Report, Atlas Asbestos Mine Superfund Site and Coalinga Asbestos Mine (Johns-Manville Mill) Superfund Site, Fresno County, California

Name	Title	Affiliation
Lynn Suer, Ph.D.	Remedial Project Manager	U.S. EPA
Alexa Stamets, P.E.	Project Manager	CH2M HILL (contractor to U.S. EPA)
Steven Ross, P.E.	Hazardous Substances Engineer	DTSC
David Clark		Burlington Northern & Santa Fe Railroad
David Parks, P.E.	Civil Engineer	LFR (contractor to Burlington Northern & Santa Fe Railroad)
Ken Birdwell		Adjacent property owner

TABLE 3
Site Inspection Team Roster for the City of Coalinga Waste Management Unit, April 14, 2006
Five-Year Review Report, Atlas Asbestos Mine Superfund Site and Coalinga Asbestos Mine (Johns-Manville Mill) Superfund Site, Fresno County, California

Name	Title	Affiliation
Alexa Stamets, P.E.	Project Manager	CH2M HILL (contractor to U.S. EPA)
Steven Ross, P.E.	Hazardous Substances Engineer	DTSC
Jim Curtis, P.E.	Project Manager	Kennedy/Jenks Consultants

Appendix G1
Atlas Mine Area OU

Five-Year Review Site Inspection Checklist
Atlas Mine Area, Atlas Mine Superfund Site

I. SITE INFORMATION	
Site name: Atlas Mine Area, Atlas Mine Superfund Site	**Date of inspection:** May 2, 2006
Location and Region: Coalinga, CA, Region IX	**EPA ID:** 0934, CAD980496863
Agency, office, or company leading the five-year review: EPA Region IX	**Weather/temperature:** Sunny, approximately 70 °F.

Remedy Includes: (Check all that apply)

- ☑ containment of mine waste
- ☑ Access controls
- ☑ Institutional controls
- Groundwater pump and treatment
- Surface water collection and treatment
- ☑ Other: Surface water diversion channels and sediment trapping dams, paved access roads, revegetation pilot project, dismantling mill building, implementation of O&M program.

Attachments: ☑ Inspection team roster attached ☑ Site map attached [in report]

II. INTERVIEWS (Check all that apply)

1. **O&M site manager** Tim Moore /Bureau of Land Management, Phone No: 831/630-5027

2. ☑ **Local regulatory authorities and responsible 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: California Environmental Protection Agency, Department of Toxic Substances Control

   Contact: Steven Ross, P.E., Hazardous Substances Engineer, 916/255-3694

III. ONSITE DOCUMENTS AND RECORDS VERIFIED (Check all that apply)

1. **O&M Documents**

☑ O&M manual	Readily available	☑ Up to date
☑ As-built drawings	Readily available	☑ Up to date
☑ Maintenance logs	Readily available	☑ Up to date

Remarks: The U.S. EPA has received relevant O&M documents for the site, including annual inspection reports and documentation of recent construction and maintenance activities.

2.	**Site-Specific Health and Safety Plan**	Readily available	Up to date	
	Contingency plan/emergency response plan	Readily available	Up to date	
	Remarks: Health and Safety Plans were not available for review during the site inspection.			
3.	**O&M and OSHA Training Records**	Readily available	Up to date	N/A
	Remarks: OSHA training records were not available for review during the site inspection.			
4.	**Permits and Service Agreements**			
	Air discharge permit	Readily available	Up to date	☑ N/A
	Effluent discharge	Readily available	Up to date	☑ N/A
	Waste disposal, POTW	Readily available	Up to date	☑ N/A
	Other permits _____	Readily available	Up to date	☑ N/A
	Remarks:			
5.	**Gas Generation Records**	Readily available	Up to date	☑ N/A
	Remarks:			
6.	**Settlement Monument Records**	Readily available	Up to date	☑ N/A
	Remarks:			
7.	**Groundwater Monitoring Records**	Readily available	Up to date	☑ N/A
	Remarks:			
8.	**Leachate Extraction Records**	Readily available	Up to date	☑ N/A
	Remarks:			
9.	**Discharge Compliance Records**			
	Air	Readily available	Up to date	☑ N/A
	Water (effluent)	Readily available	Up to date	☑ N/A
	Remarks:			
10.	**Daily Access/Security Logs**	Readily available	Up to date	
	Remarks: Access logs were not available for review during the site inspection.			

IV. O&M COSTS

1. **O&M Organization**
   State in-house: N/A — Contractor for State: N/A
   PRP in-house: Atlas Mine Site Committee — Contractor for PRP: CDM
   Other: Bureau of Land Management

2. **O&M Cost Records**
   Readily available — Up to date
   Original O&M cost estimate: Annual costs - $19,000

	Date	Date	Total cost
From	2001	To 2006	Approximately $400,000

Remarks: The BLM has indicated that their annual oversight and administrative costs are approximately $19,000. Additional costs of approximately $300,000 were made in 2005 for site repairs to address erosion concerns.

3. **Unanticipated or Unusually High O&M Costs During Review Period**
Describe costs and reasons: $300,000 for site repairs in 2005 to address erosion concerns.

V. ACCESS AND INSTITUTIONAL CONTROLS ☑ Applicable

A. Fencing

1. ☑ **Fencing** Location shown on site map ☑ Gates secured N/A
Remarks: Locked gates prevent access to the site, and are located across access roads to the site. Hack-saw marks have previously been observed on the northern access gate, suggesting that trespassers have attempted to enter the site. These hack-saw marks were not observed during the site inspection, and no indications of trespassing were observed during the site inspection. Much of the site is surrounded by fencing.

B. Other Access Restrictions

1. ☑ **Signs and other security measures** Location shown on site map N/A
Remarks: Signs on site fencing provide the following warning, "**ASBESTOS** - Cancer and Lung Disease Hazard, Authorized Personnel Only, Respirators and Protective Clothing Required in this Area."

C. Institutional Controls

1. **Implementation and enforcement**
Site conditions imply ICs not properly implemented Yes No ☑N/A
Site conditions imply ICs not being fully enforced Yes No ☑ N/A
Remarks: A deed restriction, a type of institutional control, was selected as a component of the remedy for the site but has not yet been recorded for the site. DTSC is currently working with Northrop Grumman Corporation to develop the deed restriction for their property.

2. **Adequacy** ICs are adequate ☑ ICs are inadequate N/A
Remarks: DTSC is awaiting survey and legal description from Northrop Grumman for developing a deed restriction to restrict future uses of the site.

D. General

1. **Vandalism/trespassing** Location shown on site map ☑ No vandalism evident
Remarks: No indications of trespassing or vandalism were observed during the site inspection.

2. **Land use changes onsite** ☑ N/A
Remarks:

3. **Land use changes offsite** ☑ N/A
Remarks:

VI. GENERAL SITE CONDITIONS

A. Roads ☑ Applicable

1. **Roads** ☑ Location shown on site map ☑ Roads adequate N/A
Remarks: The roads are paved in some areas of the site and are maintained. The roads appear to generally be in good condition. Some indications of erosion were observed on the southern side of the road to Pond A (unpaved) during the site inspection.

VII. WASTE CONTAINMENT ☑ Applicable

A. Surface of mine waste

1. **Settlement** (Low spots) Location shown on site map Settlement not evident ☑ N/A
   Areal extent_____ Depth
   Remarks:

2. **Cracks** Location shown on site map Cracking not evident ☑ N/A
   Remarks:

3. ☑ **Erosion** Location shown on site map Erosion not evident
   Remarks: Much of the erosion across the site has been mitigated by installation of drain rock, berms, subsurface piping for conveying surface water, surface water diversion structures, and vegetation. Erosion continues to occur on the roads to Pond A (at the highwall slope of Pond B) and Rover Pit/Channel A.

4. **Holes** Location shown on site map Holes not evident ☑ N/A
   Remarks:

5. **Vegetative Cover** Grass Cover properly established No signs of stress
   Remarks: Local plants were grown in nurseries, then planted in transects on tailings and asbestos-laden soils. Although many of the original plants did not survive, a significant number survived to reproduce so that plants are now growing in areas outside the boundaries of the original restoration project. It is expected that plants will continue to grow and disperse to new areas over the long-term. Although this natural process is slow, it is likely to result in sustainable, increasing vegetation cover over time.

6. **Alternative Cover** (armored rock, concrete, etc.) ☑ N/A
   Remarks:

7. **Bulges** Location shown on site map Bulges not evident ☑ N/A
   Remarks:

8. **Wet Area/Water Damage** Wet areas/water damage not evident ☑ N/A
   Wet areas Location shown on site map Areal extent
   Ponding Location shown on site map Areal extent
   Seeps Location shown on site map Areal extent
   Soft subgrade Location shown on site map Areal extent
   Remarks:

9. **Slope Instability** ☑ Slides ☑ Location shown on site map No evidence of slope instability
   Remarks: A landslide is occurring along the road to Rover Pit. This landslide will likely eventually prevent vehicular access to Channel A.

B. Benches Applicable ☑ N/A
(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.)

1. **Flows Bypass Bench** Location shown on site map N/A or okay
   Remarks:

2. **Bench Breached** Location shown on site map N/A or okay
   Remarks:

3. **Bench Overtopped** Location shown on site map N/A or okay
Remarks:

C. Letdown Channels ☑ Applicable N/A
(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.)

1. **Settlement** Location shown on site map ☑ No evidence of settlement
Areal extent_____ Depth
Remarks:

2. **Material Degradation** Location shown on site map ☑ No evidence of degradation
Material type_____ Areal extent
Remarks:

3. **Erosion** Location shown on site map ☑ No evidence of erosion
Areal extent_____ Depth
Remarks:

4. **Undercutting** Location shown on site map ☑ No evidence of undercutting
Areal extent_____ Depth
Remarks: The undercutting at the end of Channel A was repaired in 2005.

5. **Obstruction** Type_____ ☑ No obstruction
Location shown on site map Areal extent
Size
Remarks:

6. **Excessive Vegetative Growth** Type
☑ No evidence of excessive growth
Vegetation in channels does not obstruct flow
Location shown on site map Areal extent
Remarks:

D. Cover Penetrations Applicable ☑ N/A

1. **Gas Vents** Active Passive
Properly secured/located Functioning Routinely sampled Good condition
Evidence of leakage at penetration
Remarks:

2. **Gas Monitoring Probes**
Properly secured/located Functioning Routinely sampled Good condition
Evidence of leakage at penetration
Remarks:

3. **Monitoring Wells** (within surface area of landfill)
Properly secured/located Functioning Routinely sampled Good condition
Evidence of leakage at penetration
Remarks:

4. **Leachate Extraction Wells**
Properly secured/located Functioning Routinely sampled Good condition
Evidence of leakage at penetration Needs O&M N/A
Remarks:

5. **Settlement Monuments** Located Routinely surveyed N/A
Remarks:

E. Gas Collection and Treatment Applicable ☑ N/A

1. **Gas Treatment Facilities**
Flaring Thermal destruction Collection for reuse
Good condition Needs O&M
Remarks:

2. **Gas Collection Wells, Manifolds and Piping**
Good condition Needs O&M
Remarks:

3. **Gas Treatment Facilities** (e.g., gas monitoring of adjacent homes or buildings)
Good condition Needs O&M N/A
Remarks:

F. Cover Drainage Layer Applicable ☑ N/A

1. **Outlet Pipes Inspected** Functioning N/A
Remarks:

2. **Outlet Rock Inspected** Functioning N/A
Remarks:

G. Detention/Sedimentation Ponds ☑ Applicable N/A

1. **Siltation**
Remarks: Sediment has accumulated in Pond B due to erosion of the highwall slope north of the pond. However, the volume of sediment in the pond is uncertain because the sediment marker is submerged by water.

2. **Erosion**
Remarks: Some erosion is occurring at Pond B.

3. **Outlet Works** ☑ Functioning N/A
Remarks: Decanters functioning as designed.

4. **Dam** ☑ Functioning N/A
Remarks:

H. Retaining Walls Applicable ☑ N/A

1. **Deformations** Location shown on site map Deformation not evident
Horizontal displacement_____ Vertical displacement
Rotational displacement_____
Remarks:

2.	Degradation Location shown on site map Degradation not evident Remarks:
I. Ditches/Off-Site Discharge	☑ Applicable N/A
1.	**Siltation** Location shown on site map ☑ Siltation not evident Remarks:
	Vegetative Growth Location shown on site map N/A ☑ Vegetation does not impede flow Remarks: Very little vegetation growth is occurring in surface water drainage channels.
2.	**Erosion** Location shown on site map ☑ Erosion not evident Areal extent_____ Depth Remarks: Riprap prevents significant erosion from occurring.
3.	**Discharge Structure** ☑ Functioning N/A Remarks: Culvert at the end of the drainage channel along the road to Pond A is approximately 50 percent blocked by sediment and vegetation.
VIII. VERTICAL BARRIER WALLS	Not Applicable
1.	**Settlement** Location shown on site map Settlement not evident Areal extent_____ Depth Remarks:
2.	**Performance Monitoring** Type of monitoring Performance not monitored Frequency_____ Evidence of breaching Head differential Remarks:
IX. GROUNDWATER/SURFACE WATER REMEDIES	☑ Not Applicable
A. Groundwater Extraction Wells, Pumps, and Pipelines	
1.	**Pumps, Wellhead Plumbing, and Electrical** Good condition All required wells located Needs O&M N/A Remarks:
2.	**Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances** Good condition Needs O&M Remarks:
3.	**Spare Parts and Equipment** Readily available Good condition Requires upgrade Needs to be provided Remarks:
B. Surface Water Collection Structures, Pumps, and Pipelines	
1.	**Collection Structures, Pumps, and Electrical** Good condition Needs O&M Remarks:

2.	**Surface Water Collection System Pipelines, Valves, Valve Boxes, and Other Appurtenances** Good condition Needs O&M NA Remarks:
3.	**Spare Parts and Equipment** Readily available Good condition Requires upgrade Needs to be provided NA Remarks:
C. Treatment System	
1.	**Treatment Train** (Check components that apply) Metals removal Oil/water separation Bioremediation Air stripping Carbon adsorbers Filters Additive (e.g., chelation agent, flocculent) Good condition Needs O&M Sampling ports properly marked and functional Sampling/maintenance log displayed and up to date Equipment properly identified Quantity of groundwater treated annually Quantity of surface water treated annually Remarks:
2.	**Electrical Enclosures and Panels** (properly rated and functional) N/A Good condition Needs O&M Remarks:
3.	**Tanks, Vaults, Storage Vessels** N/A Remarks:
4.	**Discharge Structure and Appurtenances** Good condition Needs O&M Remarks:
5.	**Treatment Building(s) – support building** N/A Good condition (especially roof and doorways) Needs repair Chemicals and equipment properly stored Remarks:
6.	**Monitoring Wells (pump and treatment remedy)** Properly secured/locked Functioning Routinely sampled Good condition All required wells located Needs O&M N/A Remarks:
D. Monitored Natural Attenuation	
1.	**Monitoring Wells** (natural attenuation remedy) Properly secured/locked Functioning Routinely sampled Good condition All required wells located Needs O&M Remarks:
X. OTHER REMEDIES	

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.

XI. OVERALL OBSERVATIONS

A. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).

The purpose of the remedy is to prevent asbestos-containing material from leaving the site via air or surface water discharge. The remedy is functioning as designed. Asbestos-containing sediment collects in sedimentation ponds that have been constructed across the site, resulting in a decrease in asbestos concentrations in surface water downstream of the site. Where there is no sedimentation pond, such as in the Regional Sediment Storage Area, berms, drainage channels direct and diffuse surface water flow. Fencing and signage usually prevent access to the site, although occasional signs of trespassing have been observed. Paved roads are maintained to further mitigate the potential for generation of airborne asbestos. While deed restrictions, a component of the selected remedy, have not been recorded for the site, DTSC is currently working on developing deed restrictions to restrict future uses of the site.

B. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

Annual inspections are performed to identify any need for maintenance activities at the site. Many of the concerns regarding erosion have been mitigated as a result of repairs made in 2005. A revised O&M Plan currently under USEPA review has been developed to include O&M activities that will address the site improvements. The remedy is expected to be protective in the future if routine inspections continue, and maintenance activities are performed as necessary.

C. Early Indicators of Potential Remedy Failure

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future.

There are currently no indicators of potential remedy failure.

D. Opportunities for Optimization

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.

Alternative routes to Pond A and Rover Pit/Channel A should be identified in the event that erosion/sliding continue to occur along the existing roads to Pond A and Rover Pit/Channel A.

Access road from the south of the site, extending along Pond C.

Fencing outside Pond C. Sign reads “ASBESTOS - Cancer and Lung Disease Hazard, Authorized Personnel Only, Respirators and Protective Clothing Required in this Area.”

Pond C.

Culvert extending beneath the access road to Pond C. No significant sediment or vegetation was observed at the inlet to the culvert during the site inspection.

Gully on the southern face of the tailings pile, repaired during 2005 maintenance activities. Surface water is conveyed down the tailings pile through subsurface piping via the surface water catchment shown in the photograph. Drain rock and berms prevent erosion from occurring in this area.

Rills extend downstream from the outlet of the subsurface piping at the bottom of the tailings pile.

Drain rock installed during 2005 maintenance activities to prevent erosion from occurring on the southern face of the tailings pile.

Berm installed south of the Regional Sediment Storage Area to prevent erosion from occurring.

Gully on eastern slope of tailings pile (Channel B in the background).

Area of revegetation southeast of the Regional Sediment Storage Area.

Sediment trap area at the discharge outlet of Pond G, upstream of Channel B. No sediment buildup was observed in the outlet.

Start of Channel B as it extends from the sediment trap area.

Pond G. Surface water does not typically collect in this pond.

Pond E.

Erosion along southern side of road extending to Pond A.

Culvert at the end of the drainage channel along the road to Pond A. The culvert inlet is approximately 50% blocked by sediment and vegetation.

Pond B.

Sediment Storage Area at Pond B.

Berm installed along the access road to Pond A to prevent erosion on the highwall slope above Pond B.

Pond B.

Pond B. Volume of sediment within the pond is uncertain because sediment markers are submerged. Sediment was last removed from Pond B in 1998.

Diversion Channel on the road to Pond A to prevent erosion.

Channel A. No indications of significant erosion or sedimentation were observed.

Channel A terminus. Drain rock installed during 2005 maintenance activities.

Active landslide on the road to Rover Pit.

Appendix G2
Johns-Manville Mill OU

Five-Year Review Site Inspection Checklist
Johns-Manville Mill OU, Coalinga Mine Superfund Site

I. SITE INFORMATION	
Site name: Johns-Manville Mill OU Coalinga Mine Superfund Site	**Date of inspection:** April 13, 2006
Location and Region: Coalinga, CA, Region IX	**EPA ID:** 0935, CAD980817217
Agency, office, or company leading the five-year review: EPA Region IX	**Weather/temperature:** Sunny, approximately 70 °F.

Remedy Includes: (Check all that apply)

Landfill cover / containment
☑ Access controls
☑ Institutional controls
☑ Surface water diversion
Groundwater pump and treatment
Surface water collection and treatment
☑ Other: erosion control, revegetation, sediment trapping dam, dismantling mill building, road paving.

Attachments: ☑ Inspection team roster attached ☑ Site map attached [in report]

II. INTERVIEWS (Check all that apply)

1. **O&M site manager**

Name : David Parks, P.E. / LFR Title: Senior Associate Civil Phone: 714 / 444-0111

2. **O&M staff – N/A**

3. ☑ **Local regulatory authorities and responsible 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: Department of Toxic Substances Control

Contact: Steven Ross, P.E., Hazardous Substances Engineer, 916/255-3694
Name Title Phone No.

III. ONSITE DOCUMENTS AND RECORDS VERIFIED (Check all that apply)

1. **O&M Documents**

O&M manual	Readily available	Up to date
As-built drawings	Readily available	Up to date
Maintenance logs	Readily available	Up to date

Remarks: The site has required very little maintenance since the remedy was constructed in 1995. Annual inspections are performed by the PRP (BNSF) and the PRP Consultant (LFR) to verify that maintenance of the site and the remedy is not required. As-built drawings were not available on-site during the site inspection.

2. **Site-Specific Health and Safety Plan** Readily available Up to date
Contingency plan/emergency response plan Readily available Up to date
Remarks: Not available during the site inspection.

3. ☑ **O&M and OSHA Training Records** Readily available ☑ Up to date
Remarks: The results of annual inspections are documented in annual inspection reports. The last inspection report was issued by LFR on April 27, 2006. OSHA training records were not available on-site during the site inspection.

4. **Permits and Service Agreements**

Air discharge permit	Readily available	Up to date	☑ N/A
Effluent discharge	Readily available	Up to date	☑ N/A
Waste disposal, POTW	Readily available	Up to date	☑ N/A
Other permits _____	Readily available	Up to date	☑ N/A

Remarks: The remedy at the site is not subject to any discharge or waste disposal permits.

5. **Gas Generation Records** Readily available Up to date ☑ N/A
Remarks:

6. **Settlement Monument Records** Readily available Up to date ☑ N/A
Remarks:

7. **Groundwater Monitoring Records** Readily available Up to date ☑ N/A
Remarks:

8. **Leachate Extraction Records** Readily available Up to date ☑ N/A
Remarks:

9. **Discharge Compliance Records**

Air	Readily available	Up to date	☑ N/A
Water (effluent)	Readily available	Up to date	☑ N/A

Remarks:

10. **Daily Access/Security Logs** Readily available Up to date ☑ N/A
Remarks:

IV. O&M COSTS

1. **O&M Organization**
PRP in-house: David Parks/BNSF Contractor for PRP: David Clark/LFR

2. **O&M Cost Records**
Readily available Up to date
Funding mechanism/agreement in place ☑ Not available

3. **Unanticipated or Unusually High O&M Costs During Review Period**
Describe costs and reasons: N/A

V. ACCESS AND INSTITUTIONAL CONTROLS

A. Fencing

1. ☑ **Fencing**
Remarks: A barbed-wire fence surrounds the areas of the site that have restricted access (tailing piles, location of former milling facility). In addition, a cable fence lines the access road to prevent cars from entering the site. The cable fence prevents access to the maintenance roads that lead to the site.

B. Other Access Restrictions

1. ☑ **Signs and other security measures**
Remarks: Signs are posted with the following warning, "WARNING, Hazardous Substance Area, No entry permitted, Asbestos Present". A U.S.EPA phone number is provided to call for additional information. This number (800/231-3075) is a bilingual U.S. EPA Region 9 community involvement number for community questions regarding hazardous waste sites. This number remains active and is a valid number to call regarding questions on the site.

C. Institutional Controls

1. **Implementation and enforcement**

Site conditions imply ICs not properly implemented	Yes	☑ No	N/A
Site conditions imply ICs not being fully enforced	Yes	☑ No	N/A

Type of monitoring (e.g., self-reporting, drive by): Self-reporting.
Frequency: Annual inspections verify that uses of the site do not interfere with the remedy.
Responsible party/agency: LFR on behalf of the BNSF.

Reporting is up-to-date	☑ Yes	No	N/A
Reports are verified by the lead agency	☑ Yes	No	N/A
Specific requirements in deed or decision documents have been met	☑ Yes	No	N/A
Violations have been reported	Yes	No	☑ N/A

Remarks: Title commitment provided as appendix to the five-year review report.

2. **Adequacy** ☑ ICs are adequate ICs are inadequate N/A
Remarks:

D. General

1. **Vandalism/trespassing** Location shown on site map
Remarks: No indications of vandalism or trespassing were observed within the fenced, restricted portions of the site during the site inspection. In addition, Ken Birdwell, who owns property adjacent to the site and lives nearby, indicated that although he has observed some trespassing on the access road, he has not observed any unauthorized entry to restricted portions of the site.

2. **Land use changes onsite**

Remarks: No land use changes on-site.

3. **Land use changes offsite**
Remarks: No land use changes off-site.

VI. GENERAL SITE CONDITIONS

A. Roads ☑ Applicable

1. **Roads** ☑ Location shown on site map ☑ Roads adequate N/A
Remarks: Road conditions vary. The roads are paved in some areas, and not in others. Due to recent rains, the maintenance access roads, which are not paved, were very wet and muddy during the site inspection. The site inspection team had difficulty driving along portions of the maintenance access road.

VII. LANDFILL COVERS ☑ Applicable

A. Surface

1. **Settlement** (Low spots) Location shown on site map ☑ Settlement not evident
Remarks:

2. **Cracks** Location shown on site map ☑ Cracking not evident
Remarks:

3. **Erosion** Location shown on site map ☑ Erosion not evident
Remarks:

4. **Holes** Location shown on site map ☑ Holes not evident
Remarks:

5. **Vegetative Cover** Grass Cover properly established No signs of stress
☑ Trees/Shrubs: Pine trees sporadic across mine tailing pile, up to approximately 8 feet tall.
Remarks: Soil was placed over the former ponds during remedy implementation, which has resulted in an established vegetative cover in this area. The vegetative cover over the remaining portions of the tailings pile is improving with time (cover not established due to elevated asbestos concentrations in mine tailings). Plants and trees are sporadically growing across tailings pile.

6. **Alternative Cover** (armored rock, concrete, etc.) ☑ N/A
Remarks:

7. **Bulges** Location shown on site map ☑Bulges not evident
Remarks:

8. **Wet Area/Water Damage** ☑ Wet areas/water damage not evident
Wet areas Location shown on site map Areal extent
Ponding Location shown on site map Areal extent
Seeps Location shown on site map Areal extent
Soft subgrade Location shown on site map Areal extent
Remarks:

9. **Slope Instability** Slides Location shown on site map ☑ No evidence of slope instability
Remarks:

B. Benches ☑ N/A

(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.)

1. **Flows Bypass Bench** Location shown on site map N/A or okay
   Remarks:

2. **Bench Breached** Location shown on site map N/A or okay
   Remarks:

3. **Bench Overtopped** Location shown on site map N/A or okay
   Remarks:

C. Letdown Channels ☑ N/A

(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.)

1. **Settlement** Location shown on site map No evidence of settlement
   Areal extent_____ Depth
   Remarks:

2. **Material Degradation** Location shown on site map No evidence of degradation
   Material type_____ Areal extent
   Remarks:

3. **Erosion** Location shown on site map No evidence of erosion
   Areal extent_____ Depth
   Remarks:

4. **Undercutting** Location shown on site map No evidence of undercutting
   Areal extent_____ Depth
   Remarks:

5. **Obstruction** Type_____ No obstruction
   Location shown on site map Areal extent
   Remarks:

6. **Excessive Vegetative Growth** Type
   No evidence of excessive growth
   Vegetation in channels does not obstruct flow
   Location shown on site map Areal extent
   Remarks:

D. Cover Penetrations ☑ N/A

1. **Gas Vents** Active Passive
   Properly secured/located Functioning Routinely sampled Good condition
   Evidence of leakage at penetration
   Remarks:

2.	**Gas Monitoring Probes** Properly secured/located Functioning Routinely sampled Good condition Evidence of leakage at penetration Remarks:
3.	**Monitoring Wells** (within surface area of landfill) Properly secured/located Functioning Routinely sampled Good condition Evidence of leakage at penetration Remarks:
4.	**Leachate Extraction Wells** Properly secured/located Functioning Routinely sampled Good condition Evidence of leakage at penetration Needs O&M N/A Remarks:
5.	**Settlement Monuments** Located Routinely surveyed N/A Remarks:
E. Gas Collection and Treatment	☑ N/A
1.	**Gas Treatment Facilities** Flaring Thermal destruction Collection for reuse Good condition Needs O&M Remarks:
2.	**Gas Collection Wells, Manifolds and Piping** Good condition Needs O&M Remarks:
3.	**Gas Treatment Facilities** (e.g., gas monitoring of adjacent homes or buildings) Good condition Needs O&M N/A Remarks:
F. Cover Drainage Layer	☑ Applicable
1.	**Outlet Pipes Inspected** ☑ Functioning N/A Remarks: Inspection of V-ditches on tailings pile, surface water inlets, and outlet pipes indicate very little erosion is occurring from the tailings pile.
2.	**Outlet Rock Inspected** ☑ Functioning N/A Remarks:
G. Detention/Sedimentation Ponds	☑ Applicable
1.	**Siltation** Areal extent_____ Depth_____ N/A ☑ Siltation not evident Remarks: No sediment build-up was observed in the energy dissipation pond. In addition, no water was observed in the pond. The PRP Contractor, David Parks/LFR, indicated that water is rarely observed in the pond. Only approximately one-foot of water was recorded in the pond following a 100-year rain in the 1990's.

2. **Erosion** Areal extent_____ Depth
☑ Erosion not evident
Remarks:

3. ☑ **Outlet Works** ☑ Functioning N/A
Remarks: Large rocks are used to dissipate energy at the outlet of the pond before water flows down the hill towards the sediment trapping dam. Although no water was observed in the pond during the site inspection, it appears that the rocks would be effective at reducing the flow rate of the surface water before it flows down the hill to prevent hillside erosion.

4. ☑ **Dam** ☑ Functioning N/A
Remarks: The sediment trapping dam is in good condition. There was no sediment build-up on the upstream side of the dam. The PRP Contractor indicated that they have not had to remove sediment from the dam since remedy implementation. No indications of animals burrowing into the dam were observed during the site inspection. To the best of the PRP Contractor's knowledge, surface water has been adequately contained by the dam since remedy implementation.

H. Retaining Walls ☑ N/A

1. **Deformations** Location shown on site map Deformation not evident
Horizontal displacement_____ Vertical displacement
Rotational displacement_____
Remarks:

2. Degradation Location shown on site map Degradation not evident
Remarks:

I. Perimeter Ditches/Off-Site Discharge ☑ Applicable

1. **Siltation** Location shown on site map ☑ Siltation not evident
Areal extent_____ Depth
Remarks:

2. **Vegetative Growth** Location shown on site map ☑ N/A
Vegetation does not impede flow
Areal extent_____ Type
Remarks:

3. **Erosion** Location shown on site map ☑ Erosion not evident
Areal extent_____ Depth
Remarks:

4. **Discharge Structure** ☑ Functioning N/A
Remarks: Surface water drains from the V-ditches across the tailings pile to surface water inlets, which extend to piping beneath the surface of the tailings pile. The inlet and outlet structures appear to be functioning.

VIII. VERTICAL BARRIER WALLS ☑ N/A

1. **Settlement** Location shown on site map Settlement not evident
Areal extent_____ Depth
Remarks:

2. **Performance Monitoring** Type of monitoring
Performance not monitored
Frequency_____ Evidence of breaching
Head differential
Remarks:

IX. GROUNDWATER/SURFACE WATER REMEDIES ☑ N/A

A. Groundwater Extraction Wells, Pumps, and Pipelines ☑ N/A

1. **Pumps, Wellhead Plumbing, and Electrical**
Good condition All required wells located Needs O&M N/A
Remarks:

2. **Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances**
Good condition Needs O&M
Remarks:

3. **Spare Parts and Equipment**
Readily available Good condition Requires upgrade Needs to be provided
Remarks:

B. Surface Water Collection Structures, Pumps, and Pipelines ☑ N/A

1. **Collection Structures, Pumps, and Electrical**
Good condition Needs O&M
Remarks:

2. **Surface Water Collection System Pipelines, Valves, Valve Boxes, and Other Appurtenances**
Good condition Needs O&M NA
Remarks:

3. **Spare Parts and Equipment**
Readily available Good condition Requires upgrade Needs to be provided NA
Remarks:

C. Treatment System ☑ N/A

1. **Treatment Train** (Check components that apply)
   Metals removal Oil/water separation Bioremediation
   Air stripping Carbon adsorbers
   Filters
   Additive (e.g., chelation agent, flocculent)
   Good condition Needs O&M
   Sampling ports properly marked and functional
   Sampling/maintenance log displayed and up to date
   Equipment properly identified
   Quantity of groundwater treated annually
   Quantity of surface water treated annually
   Remarks:

2. **Electrical Enclosures and Panels** (properly rated and functional)
   N/A Good condition Needs O&M
   Remarks:

3. **Tanks, Vaults, Storage Vessels**
   N/A
   Remarks:

4. **Discharge Structure and Appurtenances**
   Good condition Needs O&M
   Remarks:

5. **Treatment Building(s) – support building**
   N/A Good condition (especially roof and doorways) Needs repair
   Chemicals and equipment properly stored
   Remarks:

6. Monitoring Wells (pump and treatment remedy)
   Properly secured/locked Functioning Routinely sampled Good condition
   All required wells located Needs O&M N/A
   Remarks:

D. Monitored Natural Attenuation ☑ N/A

1. **Monitoring Wells** (natural attenuation remedy)
   Properly secured/locked Functioning Routinely sampled Good condition
   All required wells located Needs O&M
   Remarks:

X. OTHER REMEDIES

Surface Water Diversion

No indication of erosion was observed in the Cross-Canyon Stream Diversion or Diversion Spillway. The riprap integrity appeared to be in good condition. Some vegetation is growing in the diversion channel, but is not expected to impede surface water flow. Some sediment and soil has settled in one area of the diversion channel (most likely caused by tractors traveling across the diversion channel), which has resulted in the collection of surface water upstream of this obstruction. No surface water was observed downstream of this location. This obstruction is not expected to impede surface water flow under conditions of higher flow rates. During the last 100-year rainfall event, 1.5 feet of water was observed in the stream diversion channel.

XI. OVERALL OBSERVATIONS

A. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).

The purpose of the remedy at the Johns-Manville Mill OU was to divert surface water in the Pine Canyon Creek away from the tailings pile, minimize the release of asbestos to the creek, pave the road through the Mill Area to suppress dust, dismantle the mill building and dispose of the debris, and restrict access to the site. The remedy is effective at preventing exposure to elevated levels of asbestos and minimizing the release of asbestos to the creek. The remedy appears to be functioning as designed.

B. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

No issues were identified during the site inspection.

C. Early Indicators of Potential Remedy Failure

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of .unscheduled repairs, that suggest that the protectiveness of the remedy may be compromised in the future.

No issues were identified that suggest a potential remedy failure.

D. Opportunities for Optimization

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.

None identified.

Fencing along access road.

Warning sign posted on fencing across the site.

Outlet pipe at the sediment trapping dam.

The outlet pipe is free of debris and sediment.

Photo looking northwest (upstream) of sediment trapping dam.

Tailings pile drainage outlets at the Energy Dissipation Pond.

Photo looking northwest up the slope of the tailings pile. Vegetation continues to grow on top of the tailings pile.

Cross-Canyon Stream Diversion channel.

Bridge across the Cross-Canyon Stream Diversion channel.

Western side of the bridge that crosses the Cross-Canyon Stream Diversion channel.

Diversion Channel Spillway

Surface water near the bend in the Cross-Canyon Stream Diversion channel. Surface water has collected near this area of the channel due to minor erosion caused by tractor tires.

Vegetation at the location of the former ponds.

Start-up plant on tailings pile.

Tree on tailings pile.

V-ditches on tailings pile for collecting surface water fun-off. Runoff drains through subsurface piping to the Energy Dissipation Pond via drainage inlets.

Drainage inlet.

Tailings pile.

Tailings pile.

Appendix G3
City OU

Five-Year Review Site Inspection Checklist
Coalinga City OU, Coalinga Mine Superfund Site

I. SITE INFORMATION	
Site name: Coalinga City OU Coalinga Mine Superfund Site	**Date of inspection:** April 14, 2006
Location and Region: Coalinga, CA, Region IX	**EPA ID:** 0935, CAD980817217 0934, CAD980496863
Agency, office, or company leading the five-year review: EPA Region IX	**Weather/temperature:** Overcast, approximately 65 °F.

Remedy Includes: (Check all that apply)

- ☑ Landfill cover/containment
- ☑ Access controls
- ☑ Institutional controls
- Groundwater pump and treatment
- Surface water collection and treatment
- Other:

Attachments: ☑ Inspection team roster attached ☑ Site map attached [in report]

II. INTERVIEWS (Check all that apply)

1. **O&M site manager**

Name: Jim Curtis, P.E./Kennedy/Jenks Consultants Title: Project Manager
Phone No.: 916/858-2700

2. **O&M staff – N/A**

3. ☑ **Local regulatory authorities and responsible 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: Department of Toxic Substances Control

Contact: Steven Ross, P.E., Hazardous Substances Engineer, 916/255-3694
Name Title Phone No.

III. ONSITE DOCUMENTS AND RECORDS VERIFIED (Check all that apply)

1. **O&M Documents**

O&M manual	Readily available	Up to date
As-built drawings	Readily available	Up to date
Maintenance logs	Readily available	Up to date

Remarks: Annual inspections are performed by the PRP Contractor (Kennedy/Jenks Consultants) to identify needs for maintenance of the Waste Management Unit (WMU). Site inspections are also performed if a seismic event with a magnitude greater than 4.0 occurs within one mile of the site. As-built drawings of the WMU were not available during the site inspection.

2. **Site-Specific Health and Safety Plan** Readily available Up to date
Contingency plan/emergency response plan Readily available Up to date
Remarks: Not available for review during the site inspection.

3. ☑ **O&M and OSHA Training Records** Readily available ☑ Up to date
Remarks: The results of annual inspections are documented in annual inspection reports. The last inspection report was issued by Kennedy/Jenks Consultants on November 1, 2005. OSHA training records were not available on-site during the site inspection.

4. **Permits and Service Agreements**

Air discharge permit	Readily available	Up to date	☑ N/A
Effluent discharge	Readily available	Up to date	☑ N/A
Waste disposal, POTW	Readily available	Up to date	☑ N/A
Other permits _____	Readily available	Up to date	☑ N/A

Remarks: The remedy at the site is not subject to any discharge or waste disposal permits.

5. **Gas Generation Records** Readily available Up to date ☑ N/A
Remarks:

6. **Settlement Monument Records** Readily available Up to date ☑ N/A
Remarks:

7. **Groundwater Monitoring Records** Readily available Up to date ☑ N/A
Remarks: Moisture has not been detected in the neutron probe access tubes located on the cap at the WMU.

8. **Leachate Extraction Records** Readily available Up to date ☑ N/A
Remarks:

9. **Discharge Compliance Records**

Air	Readily available	Up to date	☑ N/A
Water (effluent)	Readily available	Up to date	☑ N/A

Remarks:

10. **Daily Access/Security Logs** Readily available Up to date ☑ N/A
Remarks: The WMU is entirely fenced and is locked. Only the PRP Contractor and subcontractors have keys to the lock.

IV. O&M COSTS

1. **O&M Organization**
PRP in-house: Jim Levy/Union Pacific Railroad
Contractor for PRP: Jim Curtis, P.E./ Kennedy/Jenks Consultants

2. **O&M Cost Records**
Readily available Up to date
Funding mechanism/agreement in place ☑ Not available

3. **Unanticipated or Unusually High O&M Costs During Review Period**
Describe costs and reasons: N/A

V. ACCESS AND INSTITUTIONAL CONTROLS

A. Fencing

1. ☑ **Fencing**
Remarks: A fence surrounds the WMU and prevents access to the site. Only the PRP contractor and subcontractors have keys to locks on the fence. Fencing material with a smaller screen size was added to the lower three feet of the perimeter fence, and extended approximately 3 feet below ground, to prevent small animals from entering the site and burrowing into the cap. This modification to the fence was made in October 2005.

B. Other Access Restrictions

1. ☑ **Signs and other security measures**
Remarks: Signs are posted on the fence surrounding the WMU with the following warning, "CAUTION! Hazardous Substance Area, Unauthorized Persons Keep Out, Department of Toxic Substances Control, 916-855-7700" (in English and Spanish). However, this phone number is no longer valid and the signs should be updated with a current phone number for DTSC.

C. Institutional Controls

1. **Implementation and enforcement**

Site conditions imply ICs not properly implemented	Yes	☑ No	N/A
Site conditions imply ICs not being fully enforced	Yes	☑ No	N/A

Type of monitoring (e.g., self-reporting, drive by): Self-reporting.
Frequency: Annual inspections verify that cap at the WMU is not being disturbed.
Responsible party/agency: Kennedy/Jenks Consultants on behalf of the Union Pacific Railroad

Reporting is up-to-date	☑ Yes	No	N/A
Reports are verified by the lead agency	☑ Yes	No	N/A
Specific requirements in deed or decision documents have been met	☑ Yes	No	N/A
Violations have been reported	Yes	No	☑ N/A

Remarks: The title commitment for this site is provided as an appendix to the five-year review report.

2.	**Adequacy** ICs are adequate ☑ ICs are inadequate N/A Remarks: The deed restriction and amended deed restriction are not legally enforceable documents and do not run with the land. In addition, the surveyed coordinates are incorrect and do not include the portion of the restricted area that is within the Southern Pacific Railroad Right-of-Way. The City of Coalinga should record a land use covenant for the WMU, as recently surveyed, so that the land use restriction runs with the land.
D. General	
1.	**Vandalism/trespassing** Location shown on site map Remarks: No indications of vandalism or trespassing were observed within the fenced, restricted portions of the site during the site inspection. The PRP Contractor has not previously observed any vandalism at the site.
2.	**Land use changes onsite** Remarks: No land use changes within the boundaries of the WMU.
3.	**Land use changes offsite** Remarks: The land north of the WMU has been developed into residential housing since the last five-year review report was issued.
VI. GENERAL SITE CONDITIONS	
A. Roads	☑ N/A
1.	**Roads** Location shown on site map Roads adequate ☑ N/A Remarks:
VII. LANDFILL COVERS	☑ Applicable
A. Surface	
1.	**Settlement** (Low spots) Location shown on site map ☑ Settlement not evident Remarks:
2.	**Cracks** Location shown on site map ☑ Cracking not evident Remarks:
3.	**Erosion** Location shown on site map ☑ Erosion not evident Remarks:
4.	**Holes** Location shown on site map Holes not evident Remarks: Holes from burrowing animals were identified around the perimeter/base of the cap. The holes are approximately 3- to 4-inches in diameter. According to the PRP Contractor and the DTSC representative, the number of holes caused by animal burrowing has decreased significantly since a fence with a smaller screen size was added to the base of the perimeter fence to prevent animals from entering the site.
5.	**Vegetative Cover** Grass ☑Cover properly established No signs of stress Trees/Shrubs: Remarks: A vegetative cover is established across the WMU, and consists of grasses, wild mustard, and thistle. Shrubs are removed from the site as necessary to prevent damage to the WMU. The grass surrounding the capped area (within the WMU) requires maintenance (mowing).

6. **Alternative Cover** (armored rock, concrete, etc.) ☑ N/A
Remarks:

7. **Bulges** Location shown on site map ☑Bulges not evident
Remarks:

8. **Wet Area/Water Damage** ☑ Wet areas/water damage not evident

Wet areas	Location shown on site map	Areal extent
Ponding	Location shown on site map	Areal extent
Seeps	Location shown on site map	Areal extent
Soft subgrade	Location shown on site map	Areal extent

Remarks:

9. **Slope Instability** Slides Location shown on site map ☑ No evidence of slope instability
Remarks:

B. Benches ☑ N/A
(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.)

1. **Flows Bypass Bench** Location shown on site map N/A
Remarks:

2. **Bench Breached** Location shown on site map N/A
Remarks:

3. **Bench Overtopped** Location shown on site map N/A
Remarks:

C. Letdown Channels ☑ N/A
(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.)

1. **Settlement** Location shown on site map No evidence of settlement
Areal extent_____ Depth
Remarks:

2. **Material Degradation** Location shown on site map No evidence of degradation
Material type_____ Areal extent
Remarks:

3. **Erosion** Location shown on site map No evidence of erosion
Areal extent_____ Depth
Remarks:

4. **Undercutting** Location shown on site map No evidence of undercutting
Areal extent_____ Depth
Remarks:

5.	**Obstruction** Type_____ No obstruction Location shown on site map Areal extent Size Remarks:
6.	**Excessive Vegetative Growth** Type No evidence of excessive growth Vegetation in channels does not obstruct flow Location shown on site map Areal extent Remarks:
D. Cover Penetrations	
1.	**Gas Vents** Active Passive ☑ N/A Properly secured/located Functioning Routinely sampled Good condition Evidence of leakage at penetration Remarks:
2.	**Gas Monitoring Probes** ☑ Properly secured/located Functioning Routinely sampled ☑ Good condition Evidence of leakage at penetration Remarks: The neutron probe access tubes were previously monitored to assess moisture content in soil vapor beneath the cap. This monitoring is no longer performed.
3.	**Monitoring Wells** (within surface area of landfill) ☑ N/A Properly secured/located Functioning Routinely sampled Good condition Evidence of leakage at penetration Remarks:
4.	**Leachate Extraction Wells** Properly secured/located Functioning Routinely sampled Good condition Evidence of leakage at penetration Needs O&M ☑ N/A Remarks:
5.	**Settlement Monuments** Located Routinely surveyed ☑ N/A Remarks:
E. Gas Collection and Treatment	☑ N/A
1.	**Gas Treatment Facilities** Flaring Thermal destruction Collection for reuse Good condition Needs O&M Remarks:
2.	**Gas Collection Wells, Manifolds and Piping** Good condition Needs O&M Remarks:
3.	**Gas Treatment Facilities** (e.g., gas monitoring of adjacent homes or buildings) Good condition Needs O&M N/A Remarks:

F. Cover Drainage Layer ☑ N/A

1. **Outlet Pipes Inspected** Functioning ☑ N/A
   Remarks:

2. **Outlet Rock Inspected** Functioning ☑ N/A
   Remarks:

G. Detention/Sedimentation Ponds ☑ N/A

1. **Siltation** ☑ N/A Siltation not evident
   Remarks:

2. **Erosion** ☑ N/A Erosion not evident
   Remarks:

3. **Outlet Works** Functioning ☑ N/A
   Remarks:

4. **Dam** Functioning ☑ N/A
   Remarks:

H. Retaining Walls ☑ N/A

1. **Deformations** Location shown on site map Deformation not evident
   Horizontal displacement_____ Vertical displacement
   Rotational displacement_____
   Remarks:

2. Degradation Location shown on site map Degradation not evident
   Remarks:

I. Perimeter Ditches/Off-Site Discharge ☑ N/A

1. **Siltation** Location shown on site map Siltation not evident ☑ N/A
   Areal extent_____ Depth
   Remarks:

2. **Vegetative Growth** Location shown on site map ☑ N/A
   Vegetation does not impede flow
   Areal extent_____ Type
   Remarks:

3. **Erosion** Location shown on site map ☑ Erosion not evident ☑ N/A
   Areal extent_____ Depth
   Remarks:

4. **Discharge Structure** Functioning ☑ N/A
   Remarks:

VIII. VERTICAL BARRIER WALLS ☑ N/A

1.	**Settlement** Location shown on site map Settlement not evident Areal extent_____ Depth Remarks:
2.	**Performance Monitoring** Type of monitoring Performance not monitored Frequency_____ Evidence of breaching Head differential Remarks:
	IX. GROUNDWATER/SURFACE WATER REMEDIES ☑ N/A
	A. Groundwater Extraction Wells, Pumps, and Pipelines ☑ N/A
1.	**Pumps, Wellhead Plumbing, and Electrical** Good condition All required wells located Needs O&M N/A Remarks:
2.	**Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances** Good condition Needs O&M Remarks:
3.	**Spare Parts and Equipment** Readily available Good condition Requires upgrade Needs to be provided Remarks:
	B. Surface Water Collection Structures, Pumps, and Pipelines ☑ N/A
1.	**Collection Structures, Pumps, and Electrical** Good condition Needs O&M Remarks:
2.	**Surface Water Collection System Pipelines, Valves, Valve Boxes, and Other Appurtenances** Good condition Needs O&M NA Remarks:
3.	**Spare Parts and Equipment** Readily available Good condition Requires upgrade Needs to be provided NA Remarks:

C. Treatment System ☑ N/A

1. **Treatment Train** (Check components that apply)
   Metals removal Oil/water separation Bioremediation
   Air stripping Carbon adsorbers
   Filters
   Additive (e.g., chelation agent, flocculent)
   Good condition Needs O&M
   Sampling ports properly marked and functional
   Sampling/maintenance log displayed and up to date
   Equipment properly identified
   Quantity of groundwater treated annually
   Quantity of surface water treated annually
   Remarks:

2. **Electrical Enclosures and Panels** (properly rated and functional)
   N/A Good condition Needs O&M
   Remarks:

3. **Tanks, Vaults, Storage Vessels**
   N/A
   Remarks:

4. **Discharge Structure and Appurtenances**
   Good condition Needs O&M
   Remarks:

5. **Treatment Building(s) – support building**
   N/A Good condition (especially roof and doorways) Needs repair
   Chemicals and equipment properly stored
   Remarks:

6. Monitoring Wells (pump and treatment remedy)
   Properly secured/locked Functioning Routinely sampled Good condition
   All required wells located Needs O&M N/A
   Remarks:

D. Monitored Natural Attenuation ☑ N/A

1. **Monitoring Wells** (natural attenuation remedy)
   Properly secured/locked Functioning Routinely sampled Good condition
   All required wells located Needs O&M
   Remarks:

X. OTHER REMEDIES

XI. OVERALL OBSERVATIONS

A. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).

The purpose of the remedy at the Coalinga City OU was to prevent exposure to asbestos-laden materials in Coalinga City that resulted from activities at the Atlas Mine OU and the Johns-Manville Mill OU. The remedy is effective at preventing exposure to elevated levels of asbestos. The remedy appears to be functioning as designed.

B. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

The deed restriction and amended deed restriction are not legally enforceable documents and do not run with the land. The City of Coalinga should record a land use covenant for the WMU, as recently surveyed, so that the land use restriction runs with the land.

C. Early Indicators of Potential Remedy Failure

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of .unscheduled repairs, that suggest that the protectiveness of the remedy may be compromised in the future.

No issues were identified that suggest a potential remedy failure.

D. Opportunities for Optimization

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.

The signs on the perimeter fence should be updated with a current phone number for DTSC.

Fencing surrounding the Waste Management Unit. Fence material with a smaller screen size was installed across the base of the fence to prevent burrowing animals from entering the site.

Warning sign posted on fence surrounding the site. The DTSC contact phone number presented on this sign is no longer valid.

Access to the Waste Management Unit is restricted by a locked gate.

Vegetative cover on the cap at the Waste Management Unit.

Vegetation surrounding cap.

Neutron probe access tube previously monitored to assess moisture content in soil vapor beneath the cap.

Hole in cap created by burrowing animals.

Hole in cap created by burrowing animals.

Residential community located north of the Waste Management Unit.

Residential community located north of the Waste Management Unit.

Appendix H
Five-year Review Interview Summary Form

Agency Interview for the 5-year Review of the Atlas Asbestos Mine and Coalinga Asbestos Mine Superfund Sites

PREPARED FOR: United States Environmental Protection Agency

PREPARED BY: Alexa Stamets / CH2M HILL

DATE: May 25, 2006

At the request of the United States Environmental Protection Agency, one interview was performed as part of the 5-year review of the Atlas Asbestos Mine and Coalinga Asbestos Mine Superfund Sites. Steven Ross, P.E., Hazardous Substance Engineer of the Department of Toxic Substances Control, Site Mitigation and Brownfields Reuse Program was interviewed on May 24, 2006. The interview record for this interview is attached.

Five-Year Review Interview Record		**Interviewee:** Steven Ross, P.E./ Department of Toxic Substances Control (DTSC)		
Site Name		**EPA ID No.**	**Date of Interview**	**Interview Method via**
Atlas Asbestos Mine and Coalinga Asbestos Mine Superfund Sites		0934, CAD980496863 0935, CAD980817217	May 24, 2006	Phone ☒ Fax/email ☐ In person ☐
Interview Contacts	**Organization**	**Phone**	**Email**	**Address**
Lynn Suer	US EPA Region 9	(415)972-3148	Suer.Lynn@epa.gov	75 Hawthorne Street San Francisco, CA 94105
Alexa Stamets	CH2M HILL, as rep of EPA	(510) 587-7717	AStamets@ch2m.com	155 Grand Ave, Suite 1000 Oakland, CA 94612

Interview Questions

1. What is your relationship to the site? What is your overall impression of the work conducted at the site to date? (general sentiment)

Response: Mr. Ross is the DTSC project manager for both the Atlas Asbestos Mine and Coalinga Asbestos Mine Superfund Sites. He is responsible for oversight of operations and maintenance, implementation and enforcement of deed restrictions, and support on five-year reviews at the Johns-Manville Mine (JMM) (Coalinga OU1) and Coalinga City OU (OU2). He also provides oversight at the Atlas Mine, Arroyo Pasajero Ponding Basin, and Clear Creek Management Area (CCMA) (Atlas OU1) to assist in the determination of whether the Atlas Asbestos Mine Superfund Site is eligible for de-listing from the NPL. Mr. Ross is also working with the responsible parties at the Atlas Mine to develop a deed restriction for the privately owned portions of the site. He will oversee the long-term operations and maintenance associated with the pending deed restriction for the Atlas Mine.

Mr. Ross is happy with the recent repairs that have been made to mitigate erosion concerns at the Atlas Mine site, especially at the Regional Sediment Storage Area and along access roads. He feels further evaluation should be performed to determine whether the perimeter fence in the northern portion of the site should be repaired to prevent access to the site.

Mr. Ross feels the remedy is working well at the City OU and the JMM OU. He is working with the responsible party contractor to update the DTSC contact information on the signs surrounding the waste management unit at the City OU.

2. Do you feel well informed about the site's activities and progress?

Response: Yes.

3. Have there been routine communications or activities (site visits, inspections,

reporting activities, etc) conducted by your office regarding the site? If so please give purpose and results.

Response: Yes. The purpose of routine communications and inspections is to ensure that the remedies are functioning as intended, to ensure that the recorded deed restriction(s) are enforceable at Coalinga Asbestos Site and in progress at Atlas Mine, and determine if the Atlas Mine site is eligible for de-listing.

4. Is the remedy functioning as expected? How well is the remedy performing?

Response: Yes.

5. What does the monitoring data show? Are there any trends that show contaminant levels are decreasing? Have any new or emerging COCs been identified? If so, have they impacted the effectiveness of the remedy?

Response: Not Applicable.

6. Are you aware of any institutional controls, site access controls, new ordinances in place, changes in actual or projected land use, complaints being filed or unusual activities at the site? If so, please describe in detail.

Response: The deed restrictions for the Atlas Mine site are currently in development. DTSC has asked Northrop Grumman Corporation to arrange a survey coordinates of their property subject to restriction and obtain a written legal description so DTSC can prepare the deed restriction. The deed restriction for this property will restrict future uses of the property, will allow for DTSC access to the site, will identify parties responsible for O&M of the deed restriction, will be signed by DTSC and the property owner(s), and will be recorded with the county. The deed restriction will be enforced through annual inspections. With this restriction, DTSC will evaluate the option of recording Notices with the county regarding the asbestos on the two 5-acre parcels of tax default property.

While deed restrictions have been recorded for JMM and the City OU, the restrictions were recorded in 1990 and 1993 and are not consistent with DTSC's current regulations for land use covenants. The deed restrictions for both these sites should be updated to be consistent with current DTSC requirements for land use covenants. In addition, the 1992 deed restriction amendment for the City OU was never properly recorded with Fresno County. An O&M Agreement will be required at these sites to provide for the long-term monitoring and enforcement of the deed restrictions.

7. Would you say that O&M and/or sampling efforts have been optimized? Please describe how improved efficiency has or has not occurred.

Response: Yes. The O&M Plan for the Atlas Mine is currently being modified to provide for O&M of recent improvements made at the site. Mr. Ross has commented on a draft of this O&M Plan.

8. Are you aware of any ongoing community concerns regarding the site or its administration?

Response: There are community concerns in the CCMA. There are two competing community groups that have voiced concerns regarding the use of the CCMA: an off-road vehicle group that wants to expand the area over which off-roading is allowed in the CCMA, and a native-plant society that wants to limit or eliminate use of the CCMA by off-road vehicles.

9. Are you aware of any events, incidents, or activities that have occurred at the site, such as dumping, vandalism, trespassing, or emergency response from local authorities?

Response: Bike tracks have been observed around Pond A at the Atlas Mine, suggesting that trespassing has occurred on the property.

10. Do you have any comments, suggestions, or recommendations regarding the site?

Response: No.

Appendix I
ARAR Review Technical Memorandum

Atlas Asbestos Mine and Coalinga Asbestos Mine (Johns-Manville Mill) Superfund Sites, Applicable or Relevant and Appropriate Requirements Evaluation

PREPARED FOR: Alexa Stamets, CH2M HILL

PREPARED BY: Andrew Redmond, CH2M HILL

COPIES: Caroline Ziegler, CH2M HILL

DATE: May 17, 2006

This technical memorandum presents an evaluation of the applicable or relevant and appropriate requirements (ARAR) at the Atlas Asbestos Mine and Coalinga Asbestos Mine (Johns-Manville Mill or JMM) Superfund sites.

Purpose of ARARs Review

The purpose of this ARARs review is to determine whether laws, regulations, or guidance promulgated since approval of site decision documents alter the remedy's protectiveness of human health and the environment.

ARARs are established in the site decision documents or the Records of Decision (RODs). Changes to ARARs, where necessary, can be memorialized in ROD Amendments, Explanation of Significant Differences, or other formal memorandum, depending on the significance of the change as it impacts the selected remedy.

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) at 40 C.F.R. § 300.430(f)(1)(B)(1), provides that ARARs essentially freeze at the time the ROD is issued unless United States Environmental Protection Agency (USEPA) determines that the new requirements are ARARs and necessary to ensure that the remedy is protective of human health and the environment.

ARARs Background

Section 121(d) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) requires that remedial actions implemented at CERCLA sites are carried out in compliance with any federal or more stringent state environmental standards, requirements, criteria, or limitations that are determined to be ARARs.

CERCLA response actions are exempted by law from the requirement to obtain federal, state, or local permits related to any activities conducted completely onsite. However, this does not remove the requirement to meet the substantive provisions of permitting regulations that are ARARs.

Applicable

Applicable requirements are cleanup standards, criteria, or limitations promulgated under federal or state law that specifically address the situation at a CERCLA site. A requirement is applicable if the jurisdictional prerequisites of the environmental standard show a direct correspondence when objectively compared with the conditions at the site.

Relevant and Appropriate

If a requirement is not legally applicable, the requirement is evaluated to determine whether it is relevant and appropriate. Relevant and appropriate requirements are those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under federal or state law that, while not applicable, address problems or situations sufficiently similar to the circumstances of the proposed response action and are well suited to the conditions of the site. The criteria for determining relevance and appropriateness are listed in 40 CFR 300.400(g)(2).

To be Considered (TBC)

TBC criteria are requirements that may not meet the definition of an ARAR, but still may be useful in determining whether to take action at a site or to what degree action is necessary. TBC criteria, as defined in 40 CFR 300.400(g) (3), are non-promulgated advisories or guidance issued by federal or state government that are not legally binding but may provide useful information or recommended procedures for remedial action. In some cases, the TBCs selected in the ROD become the required level of cleanup, while all selected TBCs are intended to ensure the protection of human health and the environment for that site.

Pursuant to USEPA guidance, ARARs generally are classified into three categories: chemical-specific, location-specific, and action-specific requirements. These categories of ARARs are identified below.

- **Action-specific ARARs** are requirements that apply to specific actions that may be associated with site remediation. Action-specific ARARs often define acceptable handling, treatment, and disposal procedures for hazardous substances. These requirements are triggered by the particular remedial activities that are selected to accomplish a remedy. Examples of action-specific ARARs include requirements applicable to landfill closure, wastewater discharge, hazardous waste disposal, and emissions of air pollutants.

- **Chemical-specific ARARs** include those laws and regulations that regulate the release to the environment of materials possessing certain chemical or physical characteristics or containing specified chemical compounds. These requirements generally set health- or risk-based concentration limits or discharge limits for specific hazardous substances.

- **Location-specific ARARs** are those requirements that relate to the geographical or physical location of the site, rather than the nature of the contaminants or the proposed site remedial actions. These requirements may limit the placement of remedial action, and may impose additional constraints on the cleanup action. For example, location-specific ARARs may refer to activities in the vicinity of wetlands, floodplains, endangered species habitat, and areas of historical or cultural significance.

Site Background

The Atlas and Coalinga Asbestos Mine Sites are located approximately 17 miles northwest of Coalinga, Fresno County, California. The Atlas Asbestos Mine Site is an approximately 140-acre abandoned asbestos mine located within a larger region of naturally-occurring asbestos minerals. The Atlas Asbestos Mine Site includes two operable units (OU) (Atlas Mine Area OU [OU1] and the City of Coalinga OU [City OU2]) and two geographic areas (the Clear Creek Management Area [CCMA] and the Arroyo Pasajero Ponding Basin). The City OU2 is approximately 107 acres, located between 4th Street and the intersection of Lucille Avenue and Highway 198 in Coalinga. The Atlas Asbestos Mine Site is a CERCLA Superfund Site and was placed on the National Priority List (NPL) in 1984. Because the RODs only selected remedies for the Atlas Mine Area OU and City OU2, the ARARs review is limited to these OUs and does not address the two geographic areas of the Atlas Asbestos Mine Site.

The Coalinga Asbestos Mine Site consists of the JMM OU (OU1) and the City OU2. The facilities were active in the milling, manufacture, storage and/or transportation of asbestos materials from the 1950s until 1980. The JMM OU is an approximately 120-acre abandoned asbestos mine, also located within the larger region of naturally-occurring asbestos minerals and within the CCMA. The Coalinga Asbestos Mine Site was placed on the NPL in 1984 and de-listed in 1998.

The remedial objective for both sites is to control the release of asbestos fibers to minimize direct or indirect exposure of humans and the environment. Asbestos is classified as a known human carcinogen by state, federal, and international agencies. Asbestos was identified as a toxic air contaminant in 1986 by the California Air Resources Board.

Atlas Mine and Coalinga Mine Sites ARARs Review

The following documents were consulted in completing this ARARs review:

- Coalinga Asbestos Mine OU2 (City OU2) ROD, 1989
- Atlas Asbestos Mine OU2 (City OU2) ROD, 1989
- Coalinga Asbestos Mine OU1 (JMM OU1) ROD, 1990
- Atlas Asbestos Mine OU1 ROD, 1991
- Five-year Review for City OU2, April 1996
- Five-year Review for Atlas Asbestos Mine Superfund Site, September 2001
- Five-year Review for Coalinga Asbestos Mine Superfund Site, September 2001

The contaminants of concern include asbestos, heavy metals (including nickel), mining waste, and particulate matter less than 10 microns in diameter (PM_{10}). The following remedies were selected for each OU:

- **Atlas Mine Area OU1 –** The 1991 ROD specified the following remedial actions: revegetating to deter erosion, constructing surface impoundments and drainage channels to capture and divert eroded tailings, constructing fencing to restrict access, paving roads through the main area to prevent dust generation, demolishing the mill building, disposing debris, implementing of an operation and maintenance plan, and recording deed restrictions on privately held land. Approximately 2.3 million cubic

meters of asbestos ore and asbestos tailings remain at the site. An inspection and maintenance program is ongoing.

- **JMM OU1 –** The 1990 ROD specified the following remedial actions: constructing fencing to prevent access, demolishing the mill buildings, diverting the stream to channel water away from the tailing pile, constructing a sediment retention dam, revegetating to deter erosion, developing an operation and maintenance plan, and recording a deed restriction. An estimated 450,000 cubic yards of ore and tailings remain at the site.
- **City OU2 (OU2 for Atlas and Coalinga Asbestos Mine Sites) –** The 1989 RODs for the City OU2 required contaminated soils, equipment, and other wastes to be removed and buried in the onsite waste management unit (WMU). The RODs specified the following remedial actions: removing and consolidating the asbestos- and nickel-contaminated soils at this site, removing and consolidating contaminated waste materials and equipment, decontaminating buildings to less than or equal to 1 area-percent, constructing an WMU to permanently bury the consolidated contaminated substances, performing groundwater monitoring and continuous monitoring of soil moisture content using neutron probes, and filing a deed restriction on the property where the WMU and soil cover exist to prevent the disturbance of the cap and prevent possible release of asbestos fibers or nickel contaminants.

ARARs Review Tables

The following three tables list the ARARs established in the above-referenced decision documents, summarize the requirement for each ARAR, cite the regulatory basis for each ARAR, state the evaluated status of each ARAR, and comment on regulatory changes for each ARAR where applicable.

Table 1 contains action–specific ARARs, Table 2 contains chemical–specific ARARs, and Table 3 contains location-specific ARARs. The tables provide the applicable OU, citations, requirements, decision document that established the ARAR and whether any updates have occurred for the ARARs since the previous 5-year review. Current versions of the CCR and the CFR were consulted (via the internet or in hardcopy) to review pertinent updates of laws, regulations, or guidance.

TABLE 1
Action-specific ARARs

Action	OU	Requirement	Citation / Year	Origin	ARARs Determination	Comments
Construction	City OU2, Atlas OU1, JMM OU1	Permissible exposure limit of 0.2 asbestos fibers per cubic centimeter (f/cc) of air for occupationally-exposed workers and an action level of 0.1 f/cc as 8-hour time-weighted average.	OSHA, 51 FR 22612 (1986)	City OU2 ROD 1989 JMM OU1 ROD 1990 Atlas OU1 ROD 1991	Applicable	Worker exposure limit
Construction	Atlas OU1, JMM OU1	All mining units shall be protected from flooding as shown on Table 1.2 in Citation.	CCR, Title 23, Chapter 3, Subchapter 15, Article 7, Section 2572(b)	JMM OU1 ROD 1990 Atlas OU1 ROD 1991	Applicable	No substantive changes. Recodified as CCR, Title 27, Div. 2, Chapter 7, Subchapter 1, Article 1, Section 22490(b).
Construction	Atlas OU1, JMM OU1	Diversion and drainage shall be designed and constructed to accommodate anticipated volume of precipitation and peak flow from surface runoff from 25-year, 24-hour storm.	CCR, Title 23, Chapter 3, Subchapter 15, Article 7, Section 2572(h)(1)(A)	JMM OU1 ROD 1990 Atlas OU1 ROD 1991	Applicable	No substantive changes. Recodified as CCR, Title 27, Div. 2, Chapter 7, Subchapter 1, Article 1, Section 22490(h)(1)(A).
Construction	Atlas OU1, JMM OU1	Dischargers shall comply with precipitation and drainage control requirements in Section 20365(d) and (e).	CCR, Title 23, Chapter 3, Subchapter 15, Article 7, Section 2572(h)(3)	JMM OU1 ROD 1990 Atlas OU1 ROD 1991	Applicable	No substantive changes. Recodified as CCR, Title 27, Div. 2, Chapter 7, Subchapter 1, Article 1, Section 22490(h)(3).
Construction	Atlas OU1, JMM OU1	Collection and holding facilities associated with precipitation and drainage control systems shall be emptied immediately following each storm or otherwise managed to maintain the design capacity.	CCR, Title 23, Chapter 3, Subchapter 15, Article 7, Section 2546(d)	JMM OU1 ROD 1990 Atlas OU1 ROD 1991	Applicable	No substantive changes. Recodified as CCR, Title 27, Div. 2, Chapter 3, Subchapter2, Article 4, Section 20365(d).
Construction	Atlas OU1, JMM OU1	Surface and subsurface drainage from outside waste management unit shall be diverted from unit.	CCR, Title 23, Chapter 3, Subchapter 15, Article 7, Section 2546(e)	JMM OU1 ROD 1990 Atlas OU1 ROD 1991	Applicable	No substantive changes. Recodified as CCR, Title 27, Div. 2, Chapter 3, Subchapter 2, Article 4, Section 20365(e).

Notes:

FR = Federal Register.

OSHA = Occupational Safety and Health Act.

TABLE 2
Chemical-specific ARARs

Contaminant / OU	Media	Requirement	Citation / Year	Origin	ARARs Determination	Comments
Asbestos City OU2	Bulk materials (e.g., soil, rock)	Use of polarized light microscopy measurement technique for asbestos.	TSCA, AHERA, 52 CFR 41846; 1987	City OU2 ROD 1989	Applicable	Asbestos detection technique.
Asbestos Atlas OU1, JMM OU1, and City OU2	Air	Air cleaning–requires use of air cleaning devices for asbestos control to meet certain requirements.	CAA, Asbestos NESHAP, 40 CFR 61.152: 1984 (amended 1986 and 1990)	City OU2 ROD 1989 JMM OU1 ROD 1990 Atlas OU1 ROD 1991	Applicable	Implementation of remedy.
Asbestos Atlas OU1, JMM OU1, and City OU2	Air	Reporting–requires asbestos waste producers subject to 40 CFR 61.149, 61.150, 61.151, and 61.154 to report certain information to USEPA.	CAA, Asbestos NESHAP, 40 CFR 61.153: 1984 (amended 1990 and 1991)	City OU2 ROD 1989 JMM OU1 ROD 1990 Atlas OU1 ROD 1991	Applicable	Completion of remedy.
Asbestos Atlas OU1, JMM OU1, and City OU2	Air	Cross reference to other asbestos regulations.	CAA, Asbestos NESHAP, 40 CFR 61.156: 1990 (amended 1995)	City OU2 ROD 1989 JMM OU1 ROD 1990 Atlas OU1 ROD 1991	Applicable	Implementation of remedy.
Heavy Metals (including Nickel) Atlas OU1, JMM OU1, and City OU2	Mining Waste	Classifies nickel-bearing waste as Class B mining waste. Class B mining waste must be disposed of in a capped landfill.	CCR, Title 23, Chapter 3, Subchapter 15, Article 7, Section 2571(b)(2)	City OU2 ROD 1989	Applicable	No substantive changes. Recodified as CCR, Title 27, Div. 2, Chapter 7, Subchapter 1, Article 1, Section 22480(b)(2).
Heavy Metals (including Nickel) Atlas OU1, JMM OU1, and City OU2	Mining Waste	Allows the California Regional Water Quality Control Board (Water Board) to exempt mining waste piles from liner and leachate collection and removal requirements if it is demonstrated that leachate will not form in or escape from unit.	CCR, Title 23, Chapter 3, Subchapter 15, Article 7, Section 2570(b)	City OU2 ROD 1989 (location-specific ARARs)	Applicable	No substantive changes. Recodified as CCR, Title 27, Div. 2, Chapter 7, Subchapter 1, Article 1, Section 22470(b).
Heavy Metals (including Nickel) Atlas OU1, JMM OU1, and City OU2	Waste	Allows the Water Board to exempt Group B mining waste unit from certain provisions of Article 7 if comprehensive hydrogeologic investigation demonstrates that (1) there are only very minor amounts of groundwater underlying the area, (2) the discharge is in compliance with the applicable water quality control plan, and (3) either natural conditions or containment structures will prevent lateral hydraulic interconnection with groundwater and there is no detectable vertical hydraulic	CCR, Title 23, Chapter 3, Subchapter 15, Article 7, Section 2570(c)	City OU2 ROD 1989 (location-specific ARARs, reviewed in the Atlas 2001 5-year review and Coalinga 2001 5-year review as chemical-specific ARAR)	Applicable	No substantive changes. Recodified as CCR, Title 27, Div. 2, Chapter 7, Subchapter 1, Article 1, Section 22470(c)

TABLE 2
Chemical-specific ARARs

Contaminant / OU	Media	Requirement	Citation / Year	Origin	ARARs Determination	Comments
		interconnection.				
PM_{10} Atlas OU1, JMM OU1	Air	Fresno County APCD adopted PM_{10} standard: ambient air shall not exceed 30 micrograms per cubic meter (annual average) or 50 micrograms per cubic meter (24-hour period)	California H&S Code, Div. 26, Section 39000 et seq, and CCR, Title 17, Part 3, Chapter 1, Subchapter 15, Article 2	JMM OU1 ROD 1990 Atlas OU1 ROD 1991	Applicable	PM_{10} is a criteria pollutant. Fresno County APCD was incorporated in the San Joaquin Valley APCD
Asbestos Atlas OU1, JMM OU1, and City OU2	Air	Requires road construction and maintenance to be conducted in compliance with CARB ATCM Section 93105(d).	H&S Code Section 39666(d); CARB ATCM for construction and surfacing applications (i.e., roads)	Not established in any ROD	Applicable	CARB issued the asbestos ATCM for construction, grading, quarrying, and surface mining operations July 29, 2002. It requires each APCD to implement and enforce this regulation.

Notes:

AHERA = Asbestos Hazard Emergency Response Act.

APCD = Air Pollution Control District.

ATCM = Airborne Toxic Control Measure.

CAA = Federal Clean Air Act.

CARB = California Air Resources Board.

H&S Code = California Health and Safety Code.

NESHAP = National Emissions Standard for Hazardous Air Pollutants.

PM_{10} = Particulate Matter less than 10 microns in diameter.

TSCA = Toxic Substances Control Act.

TABLE 3
Location-specific ARARs

Location	OU	Requirement	Citation / Year	Origin	ARARs Determination	Comments
Area that contains Endangered species	Atlas OU1, JMM OU1, and City OU2	Activities carried out by federal agencies should not jeopardize continued existence of endangered species identified at site or cause adverse modifications of critical habitat.	Endangered Species Act of 1973, 16 USC 1536 (a)(4)	City OU2 ROD 1989 JMM OU1 ROD 1990 Atlas OU1 ROD 1991	Applicable	Endangered species in the area include the kit fox and the blunt-nosed leopard lizard.
Area that contains endangered species	Atlas OU1, JMM OU1, and City OU2	Established guidelines for minimizing habitat loss.	USFWS Mitigation Policy – 46 FR 7644-7663, January 1981	City OU2 ROD 1989 JMM OU1 ROD 1990 Atlas OU1 ROD 1991	Applicable	Endangered species in the area include the kit fox and the blunt-nosed leopard lizard.
Areas that impact waters of the United States	Atlas OU1 and JMM OU1	Regulates discharge of dredged or fill material into navigable waters.	FWPCA, Section 404(b)(1), 33 USC 1344(b)	JMM OU1 ROD 1990 Atlas OU1 ROD 1991	Applicable	If no practicable alternative to impacting waters of the U.S. exists, then any unavoidable, adverse impact must be mitigated.
Property that contains hazardous waste	Atlas OU1 and JMM OU1	Regulates placement of deed restrictions on property so that site cannot be used for purpose other than industrial or manufacturing.	H&S Code, Div. 20, Chapter 6.5, Section 25232(a)(1) and (2); and CCR, Title 22, Div. 4, Chapter 30, Section 66001	JMM OU1 ROD 1990 Atlas OU1 ROD 1991	Applicable	Substantive restrictions are an ARAR; however, the procedural requirements related to notice, hearing, and mechanisms for implementing deed restrictions do not fall within an ARAR based on CERCLA Section 121, 42 USC 9621.
Property that contains hazardous waste	Atlas OU1, JMM OU1, and City OU2	Requires all land use covenants to be signed by the DTSC and the landowner and be recorded in the county where the land is located.	Title 22, CCR, Chapter 39, Section 67391.1(a), (b), (d), (g), (i)	This is a new regulation	Relevant and appropriate	New regulation effective April 19, 2003.

Notes:

DTSC = Department of Toxic Substances Control.

FR = Federal Register.

FWPCA = Federal Water Pollution Control Act.

H&S Code = California Health and Safety Code.

USC = United States Code.

USFWS = United States Fish and Wildlife Service.

Summary

The Atlas Asbestos Mine and Coalinga Asbestos Mine sites' ARARs (as established in the RODs and reviewed in previous 5-year reviews) were evaluated and detailed in Tables 1 through 3. The basis for ARARs is the laws and regulations applicable to the sites' locations, remedy actions, and contaminants of concern. The contaminants of concern include asbestos, heavy metals including nickel, mining waste, and PM_{10}.

There were no changes to existing action-specific ARARs for the Atlas Asbestos Mine OU1, the JMM OU1, or the City OU2. However, the following changes to chemical- and location-specific ARAR were identified through this evaluation.

Changes to Chemical-specific ARARs

The California Air Resources Board (CARB) issued the Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations on July 29, 2002. It requires each Air Pollution Control District to implement and enforce this regulation. Road construction and maintenance activities are to be conducted in compliance with CARB ATCM, Section 93105(d) pursuant to the California Health and Safety Code, Section 39666(d) and CARB ATCM for construction and surfacing applications (i.e., roads). This regulation was not established in any of the decision documents; however, it is applicable as a chemical-specific ARAR for Atlas Mine Area OU1, JMM OU1, and the City OU2.

Changes to Location-specific ARARs

The following is recommended as a relevant and appropriate location-specific ARAR based on a land-use covenant regulation issued by the Department of Toxic Substance Control (DTSC), effective April 19, 2003. This regulation is relevant and appropriate for Atlas OU1, JMM OU1, and the City OU2. Title 22, CCR, Chapter 39, Section 67391.1(a), (b), (d), (g), & (i) requires all land-use covenants to be signed by DTSC and the landowner and to be recorded in the county where the land is located.