

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
Joohee 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) <input checked="" type="checkbox"/> containment of mine waste <input checked="" type="checkbox"/> Access controls <input checked="" type="checkbox"/> Institutional controls Groundwater pump and treatment Surface water collection and treatment <input checked="" type="checkbox"/> Other: Surface water diversion channels and sediment trapping dams, paved access roads, revegetation pilot project, dismantling mill building, implementation of O&M program.										
Attachments: <input checked="" type="checkbox"/> Inspection team roster attached <input checked="" type="checkbox"/> 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. <input checked="" type="checkbox"/> 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 <table border="0" style="width: 100%;"> <tr> <td><input checked="" type="checkbox"/> O&M manual</td> <td>Readily available</td> <td><input checked="" type="checkbox"/> Up to date</td> </tr> <tr> <td><input checked="" type="checkbox"/> As-built drawings</td> <td>Readily available</td> <td><input checked="" type="checkbox"/> Up to date</td> </tr> <tr> <td><input checked="" type="checkbox"/> Maintenance logs</td> <td>Readily available</td> <td><input checked="" type="checkbox"/> Up to date</td> </tr> </table> 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.		<input checked="" type="checkbox"/> O&M manual	Readily available	<input checked="" type="checkbox"/> Up to date	<input checked="" type="checkbox"/> As-built drawings	Readily available	<input checked="" type="checkbox"/> Up to date	<input checked="" type="checkbox"/> Maintenance logs	Readily available	<input checked="" type="checkbox"/> Up to date
<input checked="" type="checkbox"/> O&M manual	Readily available	<input checked="" type="checkbox"/> Up to date								
<input checked="" type="checkbox"/> As-built drawings	Readily available	<input checked="" type="checkbox"/> Up to date								
<input checked="" type="checkbox"/> Maintenance logs	Readily available	<input checked="" type="checkbox"/> Up to date								

2.	Site-Specific Health and Safety Plan Contingency plan/emergency response plan Remarks: Health and Safety Plans were not available for review during the site inspection.	Readily available Readily available	Up to date Up to date	
3.	O&M and OSHA Training Records Remarks: OSHA training records were not available for review during the site inspection.	Readily available	Up to date	N/A
4.	Permits and Service Agreements Air discharge permit Effluent discharge Waste disposal, POTW Other permits _____ Remarks:	Readily available Readily available Readily available Readily available	Up to date Up to date Up to date Up to date	<input checked="" type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A
5.	Gas Generation Records Remarks:	Readily available	Up to date	<input checked="" type="checkbox"/> N/A
6.	Settlement Monument Records Remarks:	Readily available	Up to date	<input checked="" type="checkbox"/> N/A
7.	Groundwater Monitoring Records Remarks:	Readily available	Up to date	<input checked="" type="checkbox"/> N/A
8.	Leachate Extraction Records Remarks:	Readily available	Up to date	<input checked="" type="checkbox"/> N/A
9.	Discharge Compliance Records Air Water (effluent) Remarks:	Readily available Readily available	Up to date Up to date	<input checked="" type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A
10.	Daily Access/Security Logs Remarks: Access logs were not available for review during the site inspection.	Readily available	Up to date	
IV. O&M COSTS				
1.	O&M Organization State in-house: N/A PRP in-house: Atlas Mine Site Committee Other: Bureau of Land Management		Contractor for State: N/A Contractor for PRP: CDM	
2.	O&M Cost Records Readily available Original O&M cost estimate: Annual costs - \$19,000_		Up to date	
		Date	Date	Total cost
	From _____	2001	To _____	2006
		Date	Date	Total cost
				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 <input checked="" type="checkbox"/> Applicable	
A. Fencing	
1.	<input checked="" type="checkbox"/> Fencing Location shown on site map <input checked="" type="checkbox"/> 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.	<input checked="" type="checkbox"/> 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 <input checked="" type="checkbox"/> N/A Site conditions imply ICs not being fully enforced Yes No <input checked="" type="checkbox"/> 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 <input checked="" type="checkbox"/> 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 <input checked="" type="checkbox"/> No vandalism evident Remarks: No indications of trespassing or vandalism were observed during the site inspection.
2.	Land use changes onsite <input checked="" type="checkbox"/> N/A Remarks:
3.	Land use changes offsite <input checked="" type="checkbox"/> N/A Remarks:
VI. GENERAL SITE CONDITIONS	
A. Roads <input checked="" type="checkbox"/> Applicable	
1.	Roads <input checked="" type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> 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 <input checked="" type="checkbox"/> Applicable	

A. Surface of mine waste			
1.	Settlement (Low spots)	Location shown on site map	Settlement not evident <input checked="" type="checkbox"/> N/A
	Areal extent _____ Depth		
	Remarks:		
2.	Cracks	Location shown on site map	Cracking not evident <input checked="" type="checkbox"/> N/A
	Remarks:		
3.	<input checked="" type="checkbox"/> 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 <input checked="" type="checkbox"/> 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.)		<input checked="" type="checkbox"/> N/A
	Remarks:		
7.	Bulges	Location shown on site map	Bulges not evident <input checked="" type="checkbox"/> N/A
	Remarks:		
8.	Wet Area/Water Damage		Wet areas/water damage not evident <input checked="" type="checkbox"/> 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	<input checked="" type="checkbox"/> Slides <input checked="" type="checkbox"/> 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		<input checked="" type="checkbox"/> 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 Remarks:	Location shown on site map	N/A or okay
C. Letdown Channels <input checked="" type="checkbox"/> 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 Areal extent _____ Depth _____ Remarks:	Location shown on site map	<input checked="" type="checkbox"/> No evidence of settlement
2.	Material Degradation Material type _____ Areal extent _____ Remarks:	Location shown on site map	<input checked="" type="checkbox"/> No evidence of degradation
3.	Erosion Areal extent _____ Depth _____ Remarks:	Location shown on site map	<input checked="" type="checkbox"/> No evidence of erosion
4.	Undercutting Areal extent _____ Depth _____ Remarks: The undercutting at the end of Channel A was repaired in 2005.	Location shown on site map	<input checked="" type="checkbox"/> No evidence of undercutting
5.	Obstruction Location shown on site map Size _____ Remarks:	Type _____ Areal extent _____	<input checked="" type="checkbox"/> No obstruction
6.	Excessive Vegetative Growth <input checked="" type="checkbox"/> No evidence of excessive growth Vegetation in channels does not obstruct flow Location shown on site map Remarks:	Type _____ Areal extent _____	
D. Cover Penetrations Applicable <input checked="" type="checkbox"/> N/A			
1.	Gas Vents Properly secured/located Evidence of leakage at penetration Remarks:	Active Functioning	Passive Routinely sampled Good condition
2.	Gas Monitoring Probes Properly secured/located Evidence of leakage at penetration Remarks:	Functioning	Routinely sampled Good condition
3.	Monitoring Wells (within surface area of landfill) Properly secured/located Evidence of leakage at penetration Remarks:	Functioning	Routinely sampled Good condition

4.	Leachate Extraction Wells Properly secured/located Functioning Evidence of leakage at penetration Needs O&M Remarks:	Routinely sampled	Good condition N/A
5.	Settlement Monuments Located Remarks:	Routinely surveyed	N/A
E. Gas Collection and Treatment		Applicable	<input checked="" type="checkbox"/> N/A
1.	Gas Treatment Facilities Flaring Thermal destruction Good condition Needs O&M Remarks:	Collection for reuse	
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	<input checked="" type="checkbox"/> N/A
1.	Outlet Pipes Inspected Remarks:	Functioning	N/A
2.	Outlet Rock Inspected Remarks:	Functioning	N/A
G. Detention/Sedimentation Ponds		<input checked="" type="checkbox"/> 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 <input checked="" type="checkbox"/> Functioning Remarks: Decanters functioning as designed.		N/A
4.	Dam <input checked="" type="checkbox"/> Functioning Remarks:		N/A
H. Retaining Walls		Applicable	<input checked="" type="checkbox"/> N/A
1.	Deformations Location shown on site map Horizontal displacement _____ Rotational displacement _____ Remarks:	Deformation not evident Vertical displacement	

2.	Degradation Remarks:	Location shown on site map	Degradation not evident
I. Ditches/Off-Site Discharge		<input checked="" type="checkbox"/> Applicable	N/A
1.	Siltation Remarks:	Location shown on site map	<input checked="" type="checkbox"/> Siltation not evident
Vegetative Growth Remarks: Very little vegetation growth is occurring in surface water drainage channels.		Location shown on site map	N/A <input checked="" type="checkbox"/> Vegetation does not impede flow
2.	Erosion Areal extent _____ Depth Remarks: Riprap prevents significant erosion from occurring.	Location shown on site map	<input checked="" type="checkbox"/> Erosion not evident
3.	Discharge Structure Remarks: Culvert at the end of the drainage channel along the road to Pond A is approximately 50 percent blocked by sediment and vegetation.	<input checked="" type="checkbox"/> Functioning	N/A
VIII. VERTICAL BARRIER WALLS		Not Applicable	
1.	Settlement Areal extent _____ Depth Remarks:	Location shown on site map	Settlement not evident
2.	Performance Monitoring Performance not monitored Frequency _____ Head differential Remarks:	Type of monitoring Evidence of breaching	
IX. GROUNDWATER/SURFACE WATER REMEDIES		<input checked="" type="checkbox"/> Not Applicable	
A. Groundwater Extraction Wells, Pumps, and Pipelines			
1.	Pumps, Wellhead Plumbing, and Electrical Good condition Remarks:	All required wells located	Needs O&M N/A
2.	Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances Good condition Remarks:	Needs O&M	
3.	Spare Parts and Equipment Readily available Remarks:	Good condition	Requires upgrade Needs to be provided
B. Surface Water Collection Structures, Pumps, and Pipelines			
1.	Collection Structures, Pumps, and Electrical Good condition Remarks:	Needs O&M	

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 <input checked="" type="checkbox"/> Access controls <input checked="" type="checkbox"/> Institutional controls <input checked="" type="checkbox"/> Surface water diversion Groundwater pump and treatment Surface water collection and treatment <input checked="" type="checkbox"/> Other: erosion control, revegetation, sediment trapping dam, dismantling mill building, road paving.				
Attachments: <input checked="" type="checkbox"/> Inspection team roster attached <input checked="" type="checkbox"/> 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. <input checked="" type="checkbox"/> 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 <table style="width: 100%; border: none;"> <tr> <td style="width: 33%; text-align: center;">Name</td> <td style="width: 33%; text-align: center;">Title</td> <td style="width: 33%; text-align: center;">Phone No.</td> </tr> </table>		Name	Title	Phone No.
Name	Title	Phone No.		

III. ONSITE DOCUMENTS AND RECORDS VERIFIED (Check all that apply)				
1.	O&M Documents O&M manual As-built drawings Maintenance logs 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.	Readily available Readily available Readily available	Up to date Up to date Up to date	
2.	Site-Specific Health and Safety Plan Contingency plan/emergency response plan Remarks: Not available during the site inspection.	Readily available Readily available	Up to date Up to date	
3.	<input checked="" type="checkbox"/> O&M and OSHA Training Records 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.	Readily available	<input checked="" type="checkbox"/> Up to date	
4.	Permits and Service Agreements Air discharge permit Effluent discharge Waste disposal, POTW Other permits _____ Remarks: The remedy at the site is not subject to any discharge or waste disposal permits.	Readily available Readily available Readily available Readily available	Up to date Up to date Up to date Up to date	<input checked="" type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A
5.	Gas Generation Records Remarks:	Readily available	Up to date	<input checked="" type="checkbox"/> N/A
6.	Settlement Monument Records Remarks:	Readily available	Up to date	<input checked="" type="checkbox"/> N/A
7.	Groundwater Monitoring Records Remarks:	Readily available	Up to date	<input checked="" type="checkbox"/> N/A
8.	Leachate Extraction Records Remarks:	Readily available	Up to date	<input checked="" type="checkbox"/> N/A
9.	Discharge Compliance Records Air Water (effluent) Remarks:	Readily available Readily available	Up to date Up to date	<input checked="" type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A
10.	Daily Access/Security Logs Remarks:	Readily available	Up to date	<input checked="" type="checkbox"/> N/A
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 <input checked="" type="checkbox"/> 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.	<input checked="" type="checkbox"/> 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.	<input checked="" type="checkbox"/> 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 <input checked="" type="checkbox"/> No N/A Site conditions imply ICs not being fully enforced Yes <input checked="" type="checkbox"/> 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 <input checked="" type="checkbox"/> Yes No N/A Reports are verified by the lead agency <input checked="" type="checkbox"/> Yes No N/A Specific requirements in deed or decision documents have been met <input checked="" type="checkbox"/> Yes No N/A Violations have been reported Yes No <input checked="" type="checkbox"/> N/A Remarks: Title commitment provided as appendix to the five-year review report.
2.	Adequacy <input checked="" type="checkbox"/> 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		<input checked="" type="checkbox"/> Applicable	
1.	Roads	<input checked="" type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> 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 <input checked="" type="checkbox"/> Applicable			
A. Surface			
1.	Settlement (Low spots)	Location shown on site map	<input checked="" type="checkbox"/> Settlement not evident
Remarks:			
2.	Cracks	Location shown on site map	<input checked="" type="checkbox"/> Cracking not evident
Remarks:			
3.	Erosion	Location shown on site map	<input checked="" type="checkbox"/> Erosion not evident
Remarks:			
4.	Holes	Location shown on site map	<input checked="" type="checkbox"/> Holes not evident
Remarks:			
5.	Vegetative Cover	Grass Cover properly established	No signs of stress
<input checked="" type="checkbox"/> 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.)	<input checked="" type="checkbox"/> N/A	
Remarks:			
7.	Bulges	Location shown on site map	<input checked="" type="checkbox"/> Bulges not evident
Remarks:			
8.	Wet Area/Water Damage	<input checked="" type="checkbox"/> 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	<input checked="" type="checkbox"/> No evidence of slope instability
Remarks:			

B. Benches <input checked="" type="checkbox"/> 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 Remarks:	Location shown on site map	N/A or okay
2.	Bench Breached Remarks:	Location shown on site map	N/A or okay
3.	Bench Overtopped Remarks:	Location shown on site map	N/A or okay
C. Letdown Channels <input checked="" type="checkbox"/> 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 Areal extent _____ Remarks:	Location shown on site map Depth	No evidence of settlement
2.	Material Degradation Material type _____ Remarks:	Location shown on site map Areal extent	No evidence of degradation
3.	Erosion Areal extent _____ Remarks:	Location shown on site map Depth	No evidence of erosion
4.	Undercutting Areal extent _____ Remarks:	Location shown on site map Depth	No evidence of undercutting
5.	Obstruction Location shown on site map Remarks:	Type _____ Areal extent	No obstruction
6.	Excessive Vegetative Growth No evidence of excessive growth Vegetation in channels does not obstruct flow Location shown on site map Remarks:	Type _____ Areal extent	
D. Cover Penetrations <input checked="" type="checkbox"/> N/A			
1.	Gas Vents Properly secured/located Evidence of leakage at penetration Remarks:	Active Functioning	Passive Routinely sampled Good condition

2.	Gas Monitoring Probes Properly secured/located Evidence of leakage at penetration Remarks:	Functioning	Routinely sampled	Good condition
3.	Monitoring Wells (within surface area of landfill) Properly secured/located Evidence of leakage at penetration Remarks:	Functioning	Routinely sampled	Good condition
4.	Leachate Extraction Wells Properly secured/located Evidence of leakage at penetration Remarks:	Functioning	Routinely sampled Needs O&M	Good condition N/A
5.	Settlement Monuments Remarks:	Located	Routinely surveyed	N/A
E. Gas Collection and Treatment			<input checked="" type="checkbox"/> N/A	
1.	Gas Treatment Facilities Flaring Good condition Remarks:	Thermal destruction Needs O&M	Collection for reuse	
2.	Gas Collection Wells, Manifolds and Piping Good condition Remarks:	Needs O&M		
3.	Gas Treatment Facilities (e.g., gas monitoring of adjacent homes or buildings) Good condition Remarks:	Needs O&M	N/A	
F. Cover Drainage Layer			<input checked="" type="checkbox"/> Applicable	
1.	Outlet Pipes Inspected Remarks: Inspection of V-ditches on tailings pile, surface water inlets, and outlet pipes indicate very little erosion is occurring from the tailings pile.	<input checked="" type="checkbox"/> Functioning	N/A	
2.	Outlet Rock Inspected Remarks:	<input checked="" type="checkbox"/> Functioning	N/A	
G. Detention/Sedimentation Ponds			<input checked="" type="checkbox"/> Applicable	
1.	Siltation Areal extent _____ Depth _____ <input checked="" type="checkbox"/> 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.			N/A

2.	Erosion	Areal extent _____	Depth _____
	<input checked="" type="checkbox"/> Erosion not evident		
	Remarks:		
3.	<input checked="" type="checkbox"/> Outlet Works	<input checked="" type="checkbox"/> 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.	<input checked="" type="checkbox"/> Dam	<input checked="" type="checkbox"/> 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		<input checked="" type="checkbox"/> 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		<input checked="" type="checkbox"/> Applicable	
1.	Siltation	Location shown on site map _____	<input checked="" type="checkbox"/> Siltation not evident
	Areal extent _____	Depth _____	
	Remarks:		
2.	Vegetative Growth	Location shown on site map _____	<input checked="" type="checkbox"/> N/A
		Vegetation does not impede flow	
	Areal extent _____	Type _____	
	Remarks:		
3.	Erosion	Location shown on site map _____	<input checked="" type="checkbox"/> Erosion not evident
	Areal extent _____	Depth _____	
	Remarks:		
4.	Discharge Structure	<input checked="" type="checkbox"/> 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		<input checked="" type="checkbox"/> N/A	
1.	Settlement	Location shown on site map _____	Settlement not evident
	Areal extent _____	Depth _____	
	Remarks:		

2.	Performance Monitoring Performance not monitored Frequency _____ Head differential Remarks:	Type of monitoring Evidence of breaching
IX. GROUNDWATER/SURFACE WATER REMEDIES <input checked="" type="checkbox"/> N/A		
A. Groundwater Extraction Wells, Pumps, and Pipelines <input checked="" type="checkbox"/> N/A		
1.	Pumps, Wellhead Plumbing, and Electrical Good condition All required wells located Remarks:	Needs O&M N/A
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 <input checked="" type="checkbox"/> 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 <input checked="" type="checkbox"/> N/A			
1.	Treatment Train (Check components that apply) Metals removal Air stripping Filters Additive (e.g., chelation agent, flocculent) Good condition 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:	Oil/water separation Carbon adsorbers Needs O&M	Bioremediation
2.	Electrical Enclosures and Panels (properly rated and functional) N/A Remarks:	Good condition	Needs O&M
3.	Tanks, Vaults, Storage Vessels N/A Remarks:		
4.	Discharge Structure and Appurtenances Good condition Remarks:		Needs O&M
5.	Treatment Building(s) – support building N/A Chemicals and equipment properly stored Remarks:	Good condition (especially roof and doorways)	Needs repair
6.	Monitoring Wells (pump and treatment remedy) Properly secured/locked All required wells located Remarks:	Functioning Needs O&M	Routinely sampled Good condition N/A
D. Monitored Natural Attenuation <input checked="" type="checkbox"/> N/A			
1.	Monitoring Wells (natural attenuation remedy) Properly secured/locked All required wells located Remarks:	Functioning Needs O&M	Routinely sampled Good condition
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) <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Landfill cover/containment <input checked="" type="checkbox"/> Access controls <input checked="" type="checkbox"/> Institutional controls Groundwater pump and treatment Surface water collection and treatment Other: 	
Attachments: <input checked="" type="checkbox"/> Inspection team roster attached <input checked="" type="checkbox"/> 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. <input checked="" type="checkbox"/> 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 As-built drawings Maintenance logs 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.	Readily available Readily available Readily available	Up to date Up to date Up to date	
2.	Site-Specific Health and Safety Plan Contingency plan/emergency response plan Remarks: Not available for review during the site inspection.	Readily available Readily available	Up to date Up to date	
3.	<input checked="" type="checkbox"/> O&M and OSHA Training Records 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.	Readily available	<input checked="" type="checkbox"/> Up to date	
4.	Permits and Service Agreements Air discharge permit Effluent discharge Waste disposal, POTW Other permits _____ Remarks: The remedy at the site is not subject to any discharge or waste disposal permits.	Readily available Readily available Readily available Readily available	Up to date Up to date Up to date Up to date	<input checked="" type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A
5.	Gas Generation Records Remarks:	Readily available	Up to date	<input checked="" type="checkbox"/> N/A
6.	Settlement Monument Records Remarks:	Readily available	Up to date	<input checked="" type="checkbox"/> N/A
7.	Groundwater Monitoring Records Remarks: Moisture has not been detected in the neutron probe access tubes located on the cap at the WMU.	Readily available	Up to date	<input checked="" type="checkbox"/> N/A
8.	Leachate Extraction Records Remarks:	Readily available	Up to date	<input checked="" type="checkbox"/> N/A
9.	Discharge Compliance Records Air Water (effluent) Remarks:	Readily available Readily available	Up to date Up to date	<input checked="" type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A
10.	Daily Access/Security Logs Remarks: The WMU is entirely fenced and is locked. Only the PRP Contractor and subcontractors have keys to the lock.	Readily available	Up to date	<input checked="" type="checkbox"/> N/A
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 <input type="checkbox"/> 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.	<input checked="" type="checkbox"/> 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.	<input checked="" type="checkbox"/> 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 <input checked="" type="checkbox"/> No N/A Site conditions imply ICs not being fully enforced Yes <input checked="" type="checkbox"/> 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 <input checked="" type="checkbox"/> Yes No N/A Reports are verified by the lead agency <input checked="" type="checkbox"/> Yes No N/A Specific requirements in deed or decision documents have been met <input checked="" type="checkbox"/> Yes No N/A Violations have been reported Yes No <input checked="" type="checkbox"/> 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	<input checked="" type="checkbox"/> 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	<input checked="" type="checkbox"/> N/A			
1.	Roads	Location shown on site map	Roads adequate	<input checked="" type="checkbox"/> N/A
Remarks:				
VII. LANDFILL COVERS <input checked="" type="checkbox"/> Applicable				
A. Surface				
1.	Settlement (Low spots)	Location shown on site map	<input checked="" type="checkbox"/> Settlement not evident	
Remarks:				
2.	Cracks	Location shown on site map	<input checked="" type="checkbox"/> Cracking not evident	
Remarks:				
3.	Erosion	Location shown on site map	<input checked="" type="checkbox"/> 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	<input checked="" type="checkbox"/> 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.)	<input checked="" type="checkbox"/> N/A	
Remarks:			
7.	Bulges	Location shown on site map	<input checked="" type="checkbox"/> Bulges not evident
Remarks:			
8.	Wet Area/Water Damage	<input checked="" type="checkbox"/> 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	<input checked="" type="checkbox"/> No evidence of slope instability
Remarks:			
B. Benches		<input checked="" type="checkbox"/> 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		<input checked="" type="checkbox"/> 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 <input checked="" type="checkbox"/> N/A
	Properly secured/located	Functioning	Routinely sampled
	Evidence of leakage at penetration		Good condition
	Remarks:		
2.	Gas Monitoring Probes		
	<input checked="" type="checkbox"/> Properly secured/located	Functioning	Routinely sampled <input checked="" type="checkbox"/> 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)		
	<input checked="" type="checkbox"/> N/A Properly secured/located	Functioning	Routinely sampled
	Evidence of leakage at penetration		Good condition
	Remarks:		
4.	Leachate Extraction Wells		
	Properly secured/located	Functioning	Routinely sampled
	Evidence of leakage at penetration	Needs O&M	Good condition
	Remarks:		<input checked="" type="checkbox"/> N/A
5.	Settlement Monuments	Located	Routinely surveyed <input checked="" type="checkbox"/> N/A
	Remarks:		
E. Gas Collection and Treatment <input checked="" type="checkbox"/> 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		<input checked="" type="checkbox"/> N/A
1.	Outlet Pipes Inspected Remarks:	Functioning <input checked="" type="checkbox"/> N/A
2.	Outlet Rock Inspected Remarks:	Functioning <input checked="" type="checkbox"/> N/A
G. Detention/Sedimentation Ponds		<input checked="" type="checkbox"/> N/A
1.	Siltation <input checked="" type="checkbox"/> N/A Remarks:	Siltation not evident
2.	Erosion <input checked="" type="checkbox"/> N/A Remarks:	Erosion not evident
3.	Outlet Works Remarks:	Functioning <input checked="" type="checkbox"/> N/A
4.	Dam Remarks:	Functioning <input checked="" type="checkbox"/> N/A
H. Retaining Walls		<input checked="" type="checkbox"/> N/A
1.	Deformations Location shown on site map Horizontal displacement _____ Rotational displacement _____ Remarks:	Deformation not evident Vertical displacement
2.	Degradation Location shown on site map Remarks:	Degradation not evident
I. Perimeter Ditches/Off-Site Discharge		<input checked="" type="checkbox"/> N/A
1.	Siltation Location shown on site map Areal extent _____ Depth _____ Remarks:	Siltation not evident <input checked="" type="checkbox"/> N/A
2.	Vegetative Growth Location shown on site map Vegetation does not impede flow Areal extent _____ Type _____ Remarks:	<input checked="" type="checkbox"/> N/A
3.	Erosion Location shown on site map Areal extent _____ Depth _____ Remarks:	<input checked="" type="checkbox"/> Erosion not evident <input checked="" type="checkbox"/> N/A
4.	Discharge Structure Functioning Remarks:	<input checked="" type="checkbox"/> N/A
VIII. VERTICAL BARRIER WALLS		<input checked="" type="checkbox"/> 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 <input checked="" type="checkbox"/> N/A			
A. Groundwater Extraction Wells, Pumps, and Pipelines <input checked="" type="checkbox"/> 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 <input checked="" type="checkbox"/> 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 <input checked="" type="checkbox"/> N/A			
1.	Treatment Train (Check components that apply) Metals removal Air stripping Filters Additive (e.g., chelation agent, flocculent) Good condition 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:	Oil/water separation Carbon adsorbers Needs O&M	Bioremediation
2.	Electrical Enclosures and Panels (properly rated and functional) N/A Remarks:	Good condition	Needs O&M
3.	Tanks, Vaults, Storage Vessels N/A Remarks:		
4.	Discharge Structure and Appurtenances Good condition Remarks:		Needs O&M
5.	Treatment Building(s) – support building N/A Chemicals and equipment properly stored Remarks:	Good condition (especially roof and doorways)	Needs repair
6.	Monitoring Wells (pump and treatment remedy) Properly secured/locked All required wells located Remarks:	Functioning Needs O&M	Routinely sampled Good condition N/A
D. Monitored Natural Attenuation <input checked="" type="checkbox"/> N/A			
1.	Monitoring Wells (natural attenuation remedy) Properly secured/locked All required wells located Remarks:	Functioning Needs O&M	Routinely sampled Good condition
X. OTHER REMEDIES			

XI. OVERALL OBSERVATIONS	
A.	Implementation of the Remedy
	<p>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.).</p> <p>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.</p>
B.	Adequacy of O&M
	<p>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.</p> <p>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.</p>
C.	Early Indicators of Potential Remedy Failure
	<p>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.</p> <p>No issues were identified that suggest a potential remedy failure.</p>
D.	Opportunities for Optimization
	<p>Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.</p> <p>The signs on the perimeter fence should be updated with a current phone number for DTSC.</p>



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.