

## SECTION 5

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### 5.10 HAZARDS AND HAZARDOUS MATERIALS

#### 5.10.1 AFFECTED ENVIRONMENT

The Cadiz Project area is located in a remote, uninhabited part of the Cadiz and Fenner valleys. Several unimproved roads and branches of the BNSF and the ARZC traverse the Cadiz Project area. There are no residences, industrial facilities or gasoline service stations within the Cadiz Project area. Facilities at the Iron Mountain Pumping Plant include a forebay, pipelines and water conveyance facilities, a rail spur, 230kV switch rack facilities, transformers, pump facilities and a bunk house.

Historic military use of this area has resulted in the widespread distribution of artifacts including unexploded ordnance. Agricultural uses in the project vicinity include above-ground fuel storage tanks and pesticide storage areas.

#### **Agricultural Uses**

Agricultural uses occupy approximately 1,600 acres in and adjacent to the northern part of the Cadiz Project area. As previously discussed in Section 5.1 (Agriculture), Cadiz Inc. agricultural operations are located within Sections 21, 27 and 33 of Township 5 North, Range 14 East of the San Bernardino Baseline and Meridian as shown earlier on Figures 5.1-1 and 5.1-2. Above-ground petroleum storage tanks and pesticide storage facilities in these areas support Cadiz Inc. agricultural operations.

The presence of fuel and pesticide storage facilities at or near the Cadiz Project area increases the risk of human exposure to potentially hazardous substances. Above-ground fuel storage tanks may leak petroleum products into the soil, where they could potentially migrate to water supplies. Pesticides may accumulate in the soil and, over time, also contaminate surface and groundwater supplies. However, a number of factors influence the potential hazards associated with these facilities. Soil conditions, depth to groundwater, irrigation practices, pest management practices, amount of storage capacity, relative proximity of hazards and protective containment measures all can reduce the potential for adverse effects associated with these existing uses.

#### **Former Military Use**

The Cadiz Project area is located within an area formerly used for military training. The Department of Defense (DoD) officially began using the area in during the 1940s with the acquisition of various tracts of land totaling of tens of thousands of acres. Collectively, these areas were known as the Desert Training Center (DTC) and, later, the California-Arizona Maneuver Area (CAMA). However, the area currently has no military identification. The former CAMA consisted of the Cadiz Lake Air to Ground Gunnery Range and Sonic Bombing Targets 1 through 10. Of these ten bombing targets, those nearest to, or within, the Cadiz Project area are the Gunnery Range and Sonic Bombing Targets 3 and 4, shown in Figure 5.10-1. Parts of the Cadiz Valley area were used by the Fourth Air Force stationed at March Field. The area was also used during World War II by General Patton's Armored Divisions for training in desert warfare, which involved the use of live ordnance.

No known improvements to the area were made by the DoD. The lands within the CAMA were declared surplus in 1948 and a majority of the acreage was conveyed to the Department of Interior (DOI) in 1949.

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### Gunnery Range and Sonic Bombing Targets 3 and 4

The former Cadiz Lake Gunnery Range and Sonic Bombing Targets 3 and 4 were located within the boundaries of the DTC and CAMA. The Gunnery Range, consisting of approximately 29,440 acres; and Targets 3 and 4, each consisting of approximately 2,560 acres (four 640-acre sections), were officially acquired by the DoD in 1946 but may have been used as early as 1942. An ordnance sweep of these and other CAMA sites was conducted between 1948 and 1949 during which bursters, anti-tank fuses and mines, 100-pound bombs and metal scraps were recovered.

Surveys of these areas mainly consisted of visual assessments of the area to recover ordnance and explosive wastes from surficial soils. Therefore, ordnance and explosive wastes which may have penetrated more deeply into the ground would not have been recovered.

In 1992, the Department of the Army, through the ACOE, investigated all the Cadiz Lake bombing target sites, including the Gunnery Range and Targets 3 and 4, under the Defense Environmental Restoration Program (DERP), Formerly Used Defense Sites (FUDS) (10 USC 2701 et seq.). The ACOE Mandatory Center of Expertise (MCX) for Ordnance and Explosive Wastes made a determination that an ordnance debris removal project was required for these sites.

Since 1949, the ACOE, the Marine Corps at Twentynine Palms and the San Bernardino and Riverside County Sheriff's Departments have been called on to dispose of residuals from desert areas in eastern San Bernardino and Riverside Counties.

### **Other Hazardous Waste Issues**

#### Ward Valley Low Level Radioactive Waste Disposal Facility

In 1991, the BLM and DOI prepared an EIS considering the environmental effects of transferring 1,000 acres of federally-owned land at Ward Valley to the State of California for siting a proposed Low Level Radioactive Waste (LLRW) disposal facility. The wastes would have come from nuclear power plants, laboratories and hospitals. The Ward Valley site is located approximately 40 miles north northeast of Cadiz Dry Lake and was chosen in part for its remote location and geologic stability.

Under consideration for more than a decade, the Ward Valley LLRW facility has been the subject of numerous and conflicting scientific studies and political debates. Studies subsequent to the release of the original EIS revealed that radioactive materials may be more mobile in the porous soils at the site than previously believed. The migration of radioactive materials through underground fissures to the Colorado River was considered by many experts to be unlikely, but not impossible. Another threat perceived by project opponents was migration of water-borne radionuclides from the facility's unlined trenches into the potable groundwater located several hundred feet below the project area. Information gathered from another similar facility in Beatty, Nevada indicated that radioactive tritium wastes there were not adequately contained.

In response to growing concerns over the safety of the site, the DOI requested additional testing and resisted transferring the site to the State for development. The State of California and the Ward Valley project proponent, U.S. Ecology, subsequently filed suit against the DOI in an effort to force conveyance of the land to the State.

In April 1999, the United States District Court ruled that the DOI was not required to transfer the land to the State. The ruling supported an earlier federal court ruling that blocked transfer of the land until the federal government determined the impact of facility on the desert tortoise, a federal endangered species. In June 1999, the Governor of California announced that the State would not appeal the Court's decision and other options for the disposal for radioactive waste would be explored.

#### 5.10.2 CEQA THRESHOLDS OF SIGNIFICANCE

For purposes of CEQA, a project will normally have a significant adverse impact related to hazards and hazardous materials if it results in:

- A risk of accidental explosion or release of hazardous substances including, but not limited to, oil, pesticides, chemicals or radiation.
- A significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials.
- A significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- A safety hazard for people residing or working within the vicinity of a private airstrip.
- The inability to implement or physically interfere with the adoption of an emergency response plan or emergency evacuation plan.
- Exposure of people or structures to a significant risk of loss, injury or death involving wildland fires.
- A significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions associates with facility operations and/or maintenance.

For a further discussion of CEQA thresholds of significance, see Section 5.20.

#### 5.10.3 METHODOLOGY

Information concerning potential hazards in or near the Cadiz Project area was compiled from existing documentation. No specific field surveys for potential hazards were conducted. However, field teams investigating other parameters did report finding military artifacts. Sources of information included interviews with BLM personnel and field subconsultants, newspaper articles, Cadiz Inc. and internet information posted by the BLM, ACOE, DoD and others.

#### 5.10.4 IMPACTS

##### **Eastern, Western, Combination and Eastern/Canal Alternatives**

##### Construction Activities

Regardless of the selected alignment, construction of the Cadiz Project will require that equipment fuel, lubricants and other potentially hazardous materials be transported to and stored in the Cadiz Project area. It is anticipated that one or more temporary, above-ground fuel storage tanks will be used throughout the Cadiz Project construction to service construction equipment. Because of the remote project location, servicing and emergency repair of construction equipment may occur in the Cadiz Project area. Equipment servicing and repair could result in the generation of oily and hazardous wastes such as spent solvents, residual fuels, used oils and

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filters. These activities will be conducted consistent with existing hazardous waste and pollution regulations. Therefore, the potential impacts related to uncontrolled releases of hazardous substances into the environment will be below a level of significance.

There are no sensitive land uses within a one-quarter mile radius of the Cadiz Project area. Therefore, no adverse impacts on schools, daycare centers or centers for care of the elderly are anticipated. However, spills and leaks from fuel storage facilities, fueling activities and other hazardous waste streams could result in adverse impacts to construction workers and the environment.

### Former Military Uses

Potential hazards to human health are associated with the presence of ordnance and explosive waste within the Cadiz Project area. The presence of ordnance and explosive wastes would pose the greatest risk during construction of the Cadiz Project when earth moving activities are likely to result in disturbance. Explosive materials may become more unstable over time, increasing the possibility of harm from residual wastes. It is not possible to quantify the risk associated with ordnance and explosive wastes in the Cadiz Project area as the exact locations and nature of these wastes are not known. However, based on previous military uses and records indicating the discovery of ordnance and explosive wastes in the Cadiz Project area, it is possible that some ordnance and explosive wastes may be encountered during construction.

The presence of former ranges and bombing targets suggests that a greater concentration of ordnance and explosive wastes may exist at these locations but does not preclude the possibility that ordnance and explosive wastes may exist outside these areas. Therefore, construction of the water conveyance facilities, power distribution facilities, project wellfield and project spreading basins may result in significant adverse ordnance and explosive wastes hazards.

### **Other Hazards**

#### Ward Valley Low Level Radioactive Waste Facility

In April 1999, the United States District Court ruled that the DOI was not required to transfer the land to the State for this planned facility. The ruling supported an earlier federal court ruling that blocked the transfer of the land until the federal government determined the impact of facility on the desert tortoise. Subsequent to the ruling on the transfer of the land, the DOI called for the State of California and all other interested parties to explore alternatives to the proposed Ward Valley land transfer. In June 1999, the Governor of California announced that the State would not appeal the Court's decision and other options for the disposal for radioactive waste would be explored. At this time, it does not appear to be likely that the facility will be constructed at the Ward Valley location.

In addition, the Ward Valley groundwater basin is geologically separate from the Cadiz Valley. If the Ward Valley LLRW were constructed at the proposed location, the possibility of groundwater contamination in the Cadiz Valley would have been extremely remote. Therefore, the potential impacts associated with radioactive waste disposal in the Ward Valley affecting groundwater storage at the Cadiz Project area would be below a level of significance.

### Pipeline Failure

The Cadiz Project facilities will not traverse any known earthquake fault. However, disruption of the water conveyance facilities is a remote possibility in the event of a catastrophic earthquake along the San Andreas fault or any other fault reach. In the unlikely event of conveyance facilities failure, for example rupture of an underground pipeline, temporary flooding in areas not specifically designed to convey large amounts of flowing water could incur extensive damage. Should this occur, the water between the failure point and the shut-off points (either the Iron Mountain Pumping Plant, the Cadiz Pumping Plant, the Intermediate Pumping Plants or the project spreading basins) would continue to flow into the affected areas until that segment of the pipeline is sufficiently drained. Because of the remote location of the Cadiz Project, the potential for significant damage to private property is low. Depending on the location and severity of a failure of the water conveyance facilities, utility lines in the Cadiz Project vicinity could be adversely affected for an undetermined amount of time. These impacts will be reduced to below a level of significance with implementation of mitigation measures.

### Aviation/Fire/Emergency Response

The Cadiz Project area is not located in the immediate vicinity or flight path of a major airport. Private airstrips are located at Amboy, at the Cadiz Inc. agricultural operations and at the Iron Mountain Pumping Plant. The Cadiz Project area is sparsely vegetated, making the likelihood of wildland fires very low. Emergency responses to remote parts of eastern San Bernardino County typically involve helicopter transport, which would not be hindered by Cadiz Project construction or operation. Therefore, potential impacts related to airport uses, wildland fires and emergency response and evacuation plans will be below a level of significance.

### Iron Mountain Pumping Plant Facilities

The existing facilities at the Iron Mountain Pumping Plant do not use substantial quantities of hazardous materials nor do they generate substantial quantities of hazardous wastes. In addition, the Cadiz Project facilities at the Iron Mountain Pumping Plant would not facilitate water contamination or increase the risks associated with hazardous materials use at the Iron Mountain Pumping Plant. Existing transformers at the Iron Mountain Pumping Plant do not use polychlorinated biphenyl (PCB) -containing cooling oils nor will these transformers be disrupted during project implementation. A new transformer would be added at the Iron Mountain Pumping Plant to accommodate the Cadiz Project. However, this new transformer would also use non-PCB-containing cooling oils. No new sources of hazardous wastes would be added to the Iron Mountain Pumping Plant as part of the Cadiz Project. Therefore, potential impacts related to new facilities at the Iron Mountain Pumping Plant would be below a level of significance.

## **Impacts Common to All Alternatives**

### Agricultural Uses

The petroleum storage tank nearest to the Cadiz Project area is a diesel fuel tank located at Well 22, approximately 2.5 miles southwest of the project spreading basins. The tank is protected with a lined basin that provides secondary containment in the event of a leak or spill and prevents diesel fuel from entering the soil. New well pumps proposed as part of the Cadiz Project will be electrically powered and will not require fuel storage facilities. Because the existing fuel storage facilities are not in close proximity to the project spreading basins and water conveyance

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facilities, and there are no new fuel storage facilities proposed, potential impacts related to groundwater contamination from fuel storage tanks will be below a level of significance.

There are no hazardous materials storage areas in the immediate vicinity of the project spreading basins. Hazardous materials and pesticides are seldom used in connection with the Cadiz Inc. agricultural operations. Pesticide handling and application is performed by trained and certified employees of Cadiz Inc., and is conducted in accordance with Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and Occupational Safety and Health Administration (OSHA) regulations. Because of their limited and restricted use and location, potential impacts associated with the use of pesticides at the Cadiz Inc. agricultural operations southwest of the project spreading basins will be below a level of significance.

### **No Project Alternative**

Under the No Project Alternative, no excavation would be conducted in the Cadiz Dry Lake and no potential impacts related to ordnance and explosive wastes, hazardous materials storage or pipeline failure would occur. No mitigation requiring site investigation for ordnance and explosive wastes would be required. However, the threat posed by ordnance and explosive wastes would remain for any future projects in the area.

#### 5.10.5 MITIGATION MEASURES

The following mitigation measures are intended to reduce impacts associated with military ordnance, hazardous wastes and conveyance facilities failure:

- HM-1 Prior to any earth moving activities, surveys shall be conducted for the purposes of locating potentially hazardous military ordnance within the Cadiz Project construction area. These surveys shall use methodologies capable of locating objects that may have been buried or penetrated the ground surface at depths to which excavation is proposed, with an appropriate margin of safety.
- HM-2 No person other than a qualified explosive waste disposal technician shall handle suspected ordnance and explosive wastes during project construction or operation.
- HM-3 Should any ordnance and explosive wastes be discovered during construction or operation of the Cadiz Project, the person discovering the waste shall, without disturbing the suspect object, clearly mark the location and immediately notify the appropriate personnel. Work shall be diverted around the flagged area until the proper authorities have removed or otherwise eliminated the hazard.
- HM-4 Metropolitan shall ensure that all temporary storage areas for motor vehicle fuels used for project construction have an impermeable secondary containment system with a capacity of at least 100 percent of the total volume of the storage containers.
- HM-5 Accumulated water within secondary containment areas exhibiting an oily sheen shall not be discharged directly into the environment. Oily residues shall be separated from the water prior to discharging or the water shall be collected in watertight containers and shipped off area for disposal as oily waste.
- HM-6 Any hazardous wastes excavated during construction of the Cadiz Project will be disposed of in accordance with local regulations.

HM-7 The design of the water conveyance facilities pipeline shall include a leak detection system to alert the Iron Mountain Pumping Plant in the event of pipeline failure. The Cadiz Project shall be designed to allow the flow of water to be stopped from either end of the pipeline. Metropolitan shall establish emergency procedures to implement in the event of pipeline failure that minimize impacts to surrounding utilities and the environment.

#### 5.10.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of mitigation measures HM-1 through HM-7 will substantially reduce potential impacts related to the possible presence of hazardous substances in the Cadiz Project area. However, methodologies used to detect ordnance and explosive wastes may not be 100 percent accurate. Therefore, some ordnance and explosive wastes may remain on the site following prescreening. Thus, the potential for hazards related to ordnance and explosive waste remains a significant adverse impact after mitigation.