

August 24, 2012

**To:** Bureau of Reclamation, U.S. Department of Interior  
**From:** ERO Resources Corporation  
**Re:** Arkansas Valley Conduit Hazardous Materials Assessment

## **Introduction**

This hazardous materials memorandum for the proposed Arkansas Valley Conduit (AVC) Project provides an assessment of the potential for proposed project facilities to be adversely affected by soil and/or ground water contamination from known hazardous material sites on or adjacent to project facilities. The assessment consisted of a review of reasonably ascertainable records maintained by the United States Environmental Protection Agency (EPA), the Colorado Department of Public Health and Environment (CDPHE), and the Colorado Department of Labor and Employment's Division of Oil and Public Safety (CDLE/OPS). Potentially radioactive material from the treatment of water from ground water wells is addressed in the water quality section of the Environmental Impact Statement (EIS).

## **Study Area**

Proposed project facilities that would result in ground disturbance are located in Pueblo, Crowley, Otero, Bent, Kiowa, and Prowers counties, Colorado. The study area encompasses areas potentially affected by project activities for water treatment plants, pump stations, and water conveyance pipelines. For the purposes of this report, the study area consists of a ½-mile buffer around all of the proposed facilities. The alternatives analyzed are consistent with alternative descriptions described in Chapter 2 of the Draft EIS.

## **Analysis Methods**

Existing information on known sites with soil and/or ground water contamination was collected from publicly available records maintained by the EPA, CDPHE, and CDLE/OPS. Due to the size of the study area and the numerous sites regulated by these agencies, the hazardous materials assessment focused only on sites within ½ mile of project facilities with potential to affect project facilities. The types of sites evaluated were:

- National Priority List (NPL) sites (USEPA 2012a);
- Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) sites (USEPA 2012b);
- Resource Conservation and Recovery Act (RCRA) Corrective Action (CORRACT) sites (USEPA 2012c);
- Open Colorado Voluntary Cleanup List (VCUP) sites (CDPHE 2012a);
- Landfills and solid waste disposal sites (CDPHE 2012b); and

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- Open leaking underground storage tank (LUST) sites (CDLE/OPS 2012).

Sites that are listed in regulatory agency databases but are not known to have soil and/or ground water contamination were not considered for this assessment, including the following:

- RCRA hazardous waste generator sites;
- RCRA hazardous waste treatment, storage, or disposal sites;
- Registered underground storage tank sites; and
- No Further Remedial Action Planned (NFRAP) sites.

Sites within the study area that have documented releases but have been remediated and received a “no further action” or “closure” status by the regulating agency were not considered for this assessment. These include closed LUST sites and “No Action Determination” VCUP sites. The records reviewed are discussed in the following *Results of Records Review* section.

The significance criteria used to describe the intensity of anticipated effects from hazardous materials in the project area are described in Table 1.

**Table 1 – Hazardous Materials Effect and Intensity Description**

Impact Intensity	Intensity Description
Negligible	The impact from the presence of hazardous materials is slight. Sites within the project area are not regulated, are closed, or are not known to have soil and/or ground water contamination.
Minor	The impact from the presence of hazardous materials would be attributed to a state-regulated site that has been closed in place. Mitigation measures, such as removal of the contamination, would be simple and effective.
Moderate	The impact of hazardous materials would be attributed to a state-regulated, open site or inactive landfill within the project area. Mitigation measures, such as realignment around the site, would probably be necessary to offset adverse effects and would likely be successful.
Major	The impact of hazardous materials would be attributed to a federally regulated, contaminated site or active landfill within the project area. Mitigation measures to offset adverse effects would be necessary, extensive, and may not be successful.

## Results of Records Review

### National Priorities List

The NPL consists of properties with the highest priority for cleanup pursuant to the EPA’s Hazard Ranking System. According to the list, no NPL sites are within ½ mile of the study area (USEPA 2012a).

## Comprehensive Environmental Response, Compensation and Liability Information System

The CERCLIS includes sites investigated for potential hazardous substance contamination and for inclusion on the NPL. According to the list, no CERCLIS sites are within ½ mile of the study area (USEPA 2012b).

### CORRACT List

CORRACT sites have had hazardous waste violations and have undergone corrective action or cleanup under RCRA. According to the EPA, one CORRACT site is within ½ mile of the proposed project facilities (USEPA 2012c; CDPHE 2012a) (Table 2).

**Table 2 – CORRACT Sites within ½ Mile of Project Facilities**

Site Name and Address	Alternative(s) Affected	Distance and Direction	Topographic Location
Tuboscope, Inc. Site C 28900 Highway 96 East Pueblo, CO 81006	4 and 5	0.1 mile S	Downgradient

The Tuboscope, Inc. Site C is 0.1 mile south of the JUP North (Alternative 4) and Pueblo Dam North (Alternative 5) pipeline alignments. The corrective action was implemented in 1995 and the EPA has determined that human exposures and migration to ground water are under control (USEPA 2012c). This site is downgradient of the alignment and is unlikely to have adversely affected soil and/or ground water at the proposed project facilities. In addition, the facility is no longer in operation.

### Voluntary Cleanup Sites

VCUP sites are facilities with known soil and/or ground water contamination whose owners have submitted a Voluntary Cleanup Plan for approval by the CDPHE under the Colorado Voluntary Cleanup and Redevelopment Act. No open VCUP sites are within ½ mile of the proposed project facilities (CDPHE 2012b).

### Solid Waste Disposal Sites

Solid waste disposal sites (SWDS) are facilities that have received permits from the CDPHE to dispose of regulated nonhazardous waste, and may be currently in use or closed. The CDPHE lists one active permitted landfill and two inactive or closed SWDS within ½ mile of a project facility (CDPHE 2012c) (Table 3).

**Table 3 – Solid Waste Disposal Sites within ½ Mile of Project Facilities**

Site Name and Address	Alternative(s) Affected	Distance and Direction	Topographic Location
Eads Landfill County Road 40, 3 miles south of Eads Kiowa County	All	Adjacent E	Crossgradient
Boone SWDS N. Gerard Ave. & Hoover St. Pueblo County	4 and 5	0.25 mile N	Upgradient
Sugar City SWDS Highway 96 East & Lane 21 Crowley County	All	0.25 mile N	Upgradient

The Eads Landfill is adjacent to the east of the pipeline alignment for all of the alternatives. The landfill is currently operating and is open four days a week to Kiowa County residents. According to CDPHE files, ground water is 40 feet below ground surface and there have never been detections of contaminants in ground water in the facility's monitoring well network (Altus 2010).

The Boone SWDS is north and upgradient of the pipeline alignments for Alternatives 4 and 5. Based on a review of aerial photography at the location indicated by CDPHE records, the landfill does not appear to be in operation and it is unclear if any solid waste remains at the disposal site's location.

The Sugar City SWDS is north and upgradient of the pipeline alignments for all of the alternatives. Based on a review of aerial photography at the location indicated by CDPHE records, the landfill does not appear to be in operation and it is unclear if any solid waste remains at the disposal site's location.

### Leaking Underground Storage Tank Sites

LUST sites are facilities, usually service stations, with aboveground or underground storage tank leaks of petroleum products that have been reported to CDLE/OPS. CDLE/OPS lists no open LUST sites at any proposed project facility; however, 15 open LUST sites are within ½ mile of proposed project facilities (CDLE/OPS 2012) (Table 4). Of these 15 sites, 5 are upgradient of proposed alignments and, therefore, have the potential to have adversely affected the soil and/or ground water at these proposed alignments. In particular, construction of the proposed water treatment facilities for JUP North (Alternative 4) may encounter soil and/or ground water contamination associated with the Whitlock Water Treatment Plant.

**Table 4 – Open LUST Sites within ½ Mile of Project Facilities**

Site Name and Address	Alternative(s) Affected	Distance and Direction	Topographic Location
Whitlock Water Treatment Plant 1920 W. 11th St. Pueblo	4 and 5	Adjacent S and W	Upgradient/ Downgradient
7-Eleven #17127 905 W. Northern Ave. Pueblo	3	0.1 mile S	Upgradient
7-Eleven #23811 327 W. 8th St. Pueblo	4 and 5	0.36 mile S	Downgradient
15th Street Amoco 1437 Court St. Pueblo	4 and 5	0.05 mile N	Upgradient
Loaf 'n Jug #78 2120 Oakshire Lane Pueblo	4 and 5	0.3 mile N	Upgradient
Acorn Food Store/Gasrite #340 108 Baxter Rd. Pueblo	4 and 5	0.1 mile S	Downgradient
Loaf 'n Jug #74 31918 Hwy. 96 East Pueblo	4 and 5	0.07 mile S	Downgradient

Site Name and Address	Alternative(s) Affected	Distance and Direction	Topographic Location
Loaf 'n Jug #1 E. 2nd Ave. & Cranston Ave. Fowler	All	0.35 mile SE	Crossgradient
Farmers Coop 312 E. 1st St. Manzanola	All	0.12 mile S and 0.2 mile E	Upgradient/ Crossgradient
JR's Country Store #2 304 E. 1st Ave. Ordway	All	0.2 mile S	Downgradient
Wallace Oil Co. 100 Railroad Ave. Swink	2, 3, 4, and 5	Adjacent N	Downgradient
City of La Junta 600 W. 5th St. La Junta	All	Adjacent N	Downgradient
Conoco 406 W. 1st St. La Junta	All	0.35 mile N	Downgradient
Bender Oil Co. 103 Raton Ave. La Junta	All	0.35 mile N	Downgradient
Gasamat #226 1101 E. 3rd Ave. La Junta	All	0.1 mile E	Crossgradient

### Oil and Gas Wells and Facilities

Portions of the study area are located in areas with proven oil and gas reserves, particularly in Bent, Prowers, and Kiowa counties. Numerous oil and natural gas wells have been identified within ¼ mile of proposed corridors (Colorado Oil and Gas Conservation Commission (COGCC) 2012). There is a potential for these wells or infrastructure associated with these wells (e.g., waste pits, pipelines, tank batteries, or separators) to be encountered during proposed construction activities.

### Best Management Practices

Best management practices would be used prior to construction to further evaluate the presence or potential for hazardous materials within construction zones and throughout the course of construction to minimize the risk for introduction of contaminants.

- Before construction, a more detailed hazardous materials assessment in conformance with the scope and limitations of American Society for Testing Materials (ASTM) 1527-05: "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" would be conducted to identify sites with soil and/or ground water contamination not documented in readily ascertainable agency files (ASTM 2005).
- Any known solid waste disposal areas identified in the construction sites would be avoided or removed and properly disposed at a permitted solid waste disposal facility.

- Identified evidence of hazardous materials, petroleum product spills, or other contamination would be avoided or excavated and properly disposed at a permitted waste disposal facility.
- A Hazardous Spill Plan or Spill Prevention, Control and Countermeasures Plan, whichever is appropriate, would be in place, stating what actions would be taken in the event of a spill, notification measures, and preventive measures to be implemented, such as the placement of refueling facilities, storage, and handling of hazardous materials.
- All equipment would be maintained in a clean and well-functioning operating condition to avoid or minimize contamination from automotive fluids. All equipment would be checked daily and any leaks would be immediately repaired upon discovery. Oil, hydraulic fluids, antifreeze, or other chemicals would not be drained to the ground.
- Equipment or vehicles would not be refueled within 100 feet of rivers, streams, or identified wetlands. If on-site fuel tanks are used, approved containment devices would be required.
- If soil and/or ground water contamination is encountered during construction, mitigation procedures would be implemented to minimize the risk to construction workers and to future operations.

## Conclusions and Recommendations

The records review identified the following sites within ½ mile of proposed project facilities: 1 RCRA CORRACT site; 15 LUST sites; and 3 SWDS. Based on expected ground water flow directions, five of the LUST sites are upgradient of proposed alignments and, therefore, have the potential to have adversely affected the soil and/or ground water at these alignments. Site-specific mitigation measures or actions would need to be developed during final design for any hazardous materials contamination located within anticipated areas of disturbance. The presence of hazardous materials contamination may affect construction techniques or require some modification in facility location.

After an alternative is selected in a Record of Decision and prior to construction of project facilities, a more detailed hazardous materials assessment would be conducted to identify sites with soil and/or ground water contamination that are not documented in readily ascertainable agency files, as described previously for best management practices.

This hazardous materials assessment was based on a review of reasonably ascertainable records to identify known sites containing hazardous substances or petroleum products and does not eliminate the uncertainty that other sites containing hazardous substances or petroleum products may be present within the AVC study area. Sites not listed in the reasonably ascertainable records maintained by the EPA, CDPHE, and CDLE/OPS are not addressed by this assessment. The term “reasonably ascertainable” is defined in the “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process” (ASTM 2005).

Because hazardous materials impacts are expected to be negligible and addressed with preconstruction surveys and construction best management practices, no further environmental consequences analyses were conducted as part of the AVC EIS.

## References

- Altus Inc. 2010. Ground Water Sampling Data Transmittal, Eads Landfill, 3 miles South of Eads, County Road 40, Eads, Colorado, Altus Project No. 4167. July 7.
- ASTM (American Society for Testing Materials). 2005. Annual Book of ASTM Standards. "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process." Philadelphia: ASTM E 1527-05.
- CDLE/OPS (Colorado Department of Labor and Employment Division of Oil and Public Safety). 2012. Review of COSTIS Database for LUST Sites. Available at: <http://costis.cdle.state.co.us/ois2000/home.asp>. Last accessed: August 1.
- CDPHE (Colorado Department of Public Health and the Environment). 2012a. Review of on-line databases for Voluntary Cleanup Sites. Available at: <http://www.cdphe.state.co.us/hm/vcraarc.pdf>. Last accessed: August 1.
- CDPHE (Colorado Department of Public Health and the Environment). 2012b. Review of on-line databases for Solid Waste Disposal Sites. Available at: <http://www.cdphe.state.co.us/hm/lflist.pdf>. Last accessed: January 21.
- Colorado Oil and Gas Conservation Commission (COGCC). 2012. Search of COGCC website for oil and gas wells and facilities, Denver, CO. Available at: <http://www.oil-gas.state.co.us/>. Last accessed: August 1.
- USEPA (United States Environmental Protection Agency). 2012a. Review of on-line databases for National Priority List Sites. Available at: <http://www.epa.gov/superfund/sites/query/queryhtm/nplfin.htm#Colorado>. Last accessed: August 1.
- USEPA (United States Environmental Protection Agency). 2012b. Review of on-line databases for CERCLIS Sites. Available at: [http://www.epa.gov/enviro/html/cerclis/cerclis\\_query.html](http://www.epa.gov/enviro/html/cerclis/cerclis_query.html). Last accessed: August 1.
- USEPA (United States Environmental Protection Agency). 2012c. Review of on-line databases for RCRA Corrective Action Sites. Available at: <http://www.epa.gov/echo/>. Last accessed: August 1.