



# United States Department of the Interior

BUREAU OF LAND MANAGEMENT  
Mount Lewis Field Office  
50 Bastian Road  
Battle Mountain, Nevada 89820  
<http://www.blm.gov/nv/st/en.html>



In Reply Refer to:  
2800 (LLNVB01000)  
NVN-88150

**MAY 18 2010**

Dear Interested Public:

The Bureau of Land Management (BLM) Mount Lewis Field Office (MLFO) is seeking public input on an Environmental Assessment (EA) for the proposed Battle Mountain Water Transmission Project. The EA analyzes the impacts from construction of a 6 mile long buried water line and associated water storage tanks, wells, power line and service road. Of the entire project, only 1.5 miles will cross public land in two locations requiring a Right-of-Way from the BLM which would be authorized under the authority of the Federal Land Policy and Management Act of 1976, as amended. The remainder of the project will be located on private land.

Pursuant to the National Environmental Policy Act (NEPA) and Council on Environmental Quality regulations for implementing NEPA, the EA identifies, describes and evaluates resource protection measures that would mitigate the possible impacts of project construction and operation.

The EA will be available for a 30-day public comment period and written comments on this EA will be accepted at the above address until 4:30 p.m., June 18, 2010. The EA can be viewed on the BLM Battle Mountain District website at:

[http://www.blm.gov/nv/st/en/fo/battle\\_mountain\\_field/blm\\_information/national\\_environmental.html](http://www.blm.gov/nv/st/en/fo/battle_mountain_field/blm_information/national_environmental.html)

If you have any questions or to obtain a hard copy of this document, please contact Chuck Lane, Project Lead, or Angelica Rose, Planning and Environmental Coordinator, at the above address or at (775) 635-4000.

Sincerely,

Douglas W. Furtado  
Field Manager  
Mount Lewis Field Office

**U.S. Department of the Interior  
Bureau of Land Management**

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**Environmental Assessment DOI-BLM-NV-B010-2010-0048-EA  
May 2010**

**Lander County  
Battle Mountain Water and Sewer  
Right-of-Way Authorization  
Battle Mountain Phase II Water Improvement Project  
ENVIRONMENTAL ASSESSMENT**

U.S. Department of the Interior  
Bureau of Land Management  
Battle Mountain District Office  
Mount Lewis Field Office  
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**TABLE OF CONTENTS**

	<i>Page</i>
<b>1.0 INTRODUCTION</b> .....	1
1.1 INTRODUCTION .....	1
1.2 AGENCY PURPOSE AND NEED FOR THE PROPOSED ACTION .....	1
1.2.1 U.S. Army Corps of Engineers .....	2
1.3 RELATIONSHIP TO PLANNING AND CONFORMANCE WITH PLANS .....	2
1.4 SCOPING .....	3
<b>2.0 PROPOSED ACTION AND ALTERNATIVES</b> .....	4
2.1 PROPOSED ACTION .....	4
2.1.1 Construction Details.....	4
2.1.2 Construction Schedule .....	8
2.1.3 ROW Configuration.....	8
2.1.4 Operation and Maintenance .....	8
2.2 ENVIRONMENTAL PROTECTION MEASURES .....	9
2.3 PROJECT MONITORING.....	10
2.4 PERMITS AND APPROVALS .....	10
2.5 ALTERNATIVES TO THE PROPOSED ACTION .....	11
2.5.1 No Action Alternative.....	11
2.5.2 Alternatives Not Considered Further .....	12
<b>3.0 AFFECTED ENVIRONMENT</b> .....	13
3.1 GENERAL SETTING.....	13
3.2 RESOURCES/CONCERNS CONSIDERED FOR ANALYSIS.....	13
3.2.1 Land Use .....	16
3.2.2 Visual Resources and Esthetics .....	16
3.2.3 Recreation .....	17
3.2.4 Environmental Justice and Socioeconomics.....	17
3.2.5 Native American Religious Concerns.....	19
3.2.6 Cultural Resources .....	19
3.2.7 Soils.....	19
3.2.8 Wastes, Hazardous and Solid.....	22
3.2.9 Vegetation.....	22
3.2.10 Noxious Weeds/Invasive Non-Native Species .....	22
3.2.11 Grazing Management.....	23
3.2.12 Water Quality (Surface/Ground).....	24
3.2.13 Floodplains.....	25
3.2.14 Wetland/Riparian Zones .....	25
3.2.15 Wildlife and Fisheries .....	25
3.2.16 Special Status Species.....	26
3.2.17 Migratory Birds.....	28

4.0	ENVIRONMENTAL CONSEQUENCES .....	29
4.1	PROPOSED ACTION .....	29
4.1.1	Land Use .....	29
4.1.2	Visual Resources and Esthetics .....	30
4.1.3	Recreation .....	30
4.1.4	Environmental Justice and Socioeconomics .....	30
4.1.5	Native American Religious Concerns.....	31
4.1.6	Cultural Resources .....	31
4.1.7	Soils.....	31
4.1.8	Wastes, Hazardous and Solid.....	32
4.1.9	Vegetation .....	32
4.1.10	Noxious Weeds/Invasive Non-Native Species .....	33
4.1.11	Grazing Management.....	34
4.1.12	Water Quality (Surface/Ground).....	34
4.1.13	Floodplains.....	35
4.1.14	Wetlands/Riparian Zones.....	35
4.1.15	Wildlife and Fisheries.....	35
4.1.16	Special Status Species.....	36
4.1.17	Migratory Birds.....	37
4.2	MITIGATION MEASURES .....	37
4.3	ALTERNATIVES TO THE PROPOSED ACTION .....	38
4.4	CUMULATIVE IMPACTS .....	39
4.5	RESIDUAL IMPACTS .....	41
4.6	COMPLIANCE WITH FEDERAL LAWS AND REGULATIONS .....	41
4.7	PUBLIC REVIEW AND COMMENT .....	41
<b>5.0</b>	<b>TRIBES, INDIVIDUALS, ORGANIZATIONS, OR AGENCIES CONSULTED...</b>	<b>45</b>
5.1	CONSULTATION .....	45
<b>6.0</b>	<b>LIST OF PREPARERS.....</b>	<b>46</b>
6.1	LIST OF PREPARERS.....	46
<b>7.0</b>	<b>REFERENCES.....</b>	<b>47</b>
7.1	REFERENCES .....	47

## LIST OF TABLES

Table 1-1	ROW Configuration on BLM-Administered Public Land.....	2
Table 3-1	Supplemental Authority Elements Considered for Analysis .....	14
Table 3-2	Other Resources/Concerns Considered for Analysis .....	15
Table 3-3	Social and Economic Indicators.....	18
Table 3-4	Livestock Grazing Allotments .....	23
Table 3-5	Groundwater Arsenic Content – Existing Battle Mountain Municipal Wells .....	24
Table 4-1	Potential Vegetation Impacts .....	33

## LIST OF FIGURES

Figure 1	General Location
Figure 2	Proposed Water Supply System
Figure 2a	Proposed Well Site Detail
Figure 2b	Proposed Tank Site Detail
Figure 2c	Requested BLM ROW Authorization
Figure 3	Land Administration/Ownership Map
Figure 4	Soils Map
Figure 5	Noxious Weeds Map
Figure 6	Grazing Allotment Map
Figure 7	Hydrographic Areas and Floodplain Map
Figure 8	Cumulative Effects Study Area

## APPENDICES

Appendix A	NDEP Arsenic Extension Letter
Appendix B	ROW Application
Appendix C	Preliminary Site Plan – Tank Site
Appendix D	Newmont Well Historic Water Quality Data
Appendix E	Agency Correspondence
Appendix F	Exploratory Well Water Quality Analysis
Appendix G	SHPO Correspondence

## LIST OF ACRONYMS

<b>amsl</b>	above mean sea level
<b>ARPA</b>	Archaeological Resources Protection Act
<b>AWWA</b>	American Water Works Association
<b>AUM</b>	Animal Unit Month
<b>bgs</b>	below ground surface
<b>BLM</b>	Bureau of Land Management
<b>BMP</b>	Best Management Practices
<b>CESA</b>	Cumulative Effects Study Area
<b>CEQ</b>	Council on Environmental Quality
<b>CFR</b>	Code of Federal Regulations
<b>DIP</b>	Ductile iron pipe
<b>EPA</b>	Environmental Protection Agency
<b>EA</b>	Environmental Assessment
<b>EIS</b>	Environmental Impact Statement
<b>FEMA</b>	Federal Emergency Management Agency
<b>FIRM</b>	Flood Insurance Rate Map
<b>FLPMA</b>	Federal Land Policy and Management Act
<b>FONSI</b>	Finding of No Significant Impact
<b>HDPE</b>	High Density Polyethylene
<b>JBR</b>	JBR Environmental Consultants, Inc.
<b>KEC</b>	Kautz Environmental Consultants, Inc.
<b>LF</b>	linear feet
<b>MLFO</b>	Mount Lewis Field Office
<b>NAGPRA</b>	Native American Graves Protection and Repatriation Act
<b>NDEP</b>	Nevada Division of Environmental Protection
<b>NDOT</b>	Nevada Department of Transportation
<b>NDOW</b>	Nevada Department of Wildlife
<b>NDPES</b>	National Pollutant Discharge Elimination System
<b>NDWR</b>	Nevada Division of Water Resources
<b>NEPA</b>	National Environmental Policy Act
<b>NNHP</b>	Nevada Natural Heritage Program
<b>NRCS</b>	Natural Resources Conservation Service
<b>NRHP</b>	National Register of Historic Places
<b>NRS</b>	Nevada Revised Statutes
<b>NSEC</b>	Nevada State Environmental Commission
<b>ppb</b>	parts per billion
<b>PVC</b>	Polyvinyl chloride
<b>RMP</b>	Resource Management Plan
<b>ROW</b>	Right-of-Way
<b>SCS</b>	Soil Conservation Service
<b>SHPO</b>	State Historic Preservation Office
<b>USACE</b>	U.S. Army Corps of Engineers
<b>USFWS</b>	U.S. Fish and Wildlife Service
<b>VRM</b>	Visual Resource Management

# CHAPTER 1 INTRODUCTION

## 1.1 INTRODUCTION

As set forth by the Environmental Protection Agency (EPA) in the Safe Drinking Water Act Amendments, the revised federal standard for arsenic in drinking water must be less than or equal to 10 parts per billion (ppb). The municipal water supply in the town of Battle Mountain (Battle Mountain) currently exceeds that standard. State and federal law requires all water systems to come into compliance with the 10 ppb standard. The Lander County Public Works Department (Lander County) has obtained an exemption extension to allow additional time to provide Battle Mountain with municipal water compliant to the revised arsenic standard. The Nevada State Environmental Commission (NSEC) has mandated that the Battle Mountain water system be compliant by January 23, 2011 (Appendix A). Lander County has submitted a request to the Bureau of Land Management (BLM), Mount Lewis Field Office (MLFO) requesting a Right-of-Way (ROW) authorization to construct, operate, and maintain portions of a water supply system on public lands administered by the BLM. Lander County has also signed an agreement with the U.S. Army Corps of Engineers (USACE) regarding possible reimbursement for the design and construction costs for part of the water supply system.

## 1.2 AGENCY PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the Proposed Action is to grant Lander County the ability to provide Battle Mountain with an adequate supply of municipal water that is compliant with federal and state drinking water standards through a system that is cost effective to operate and maintain. The existing municipal water supply in Battle Mountain contains levels of arsenic that are above 10 ppb, the revised arsenic standard for drinking water set forth in 2001 by the EPA.

A need for the Proposed Action is to respond to a Standard Form 229 application submitted to the BLM, MLFO by Lander County on January 18, 2010 (Appendix B). The application requested that ROW authorization NVN-088150 be granted to permit the construction, operation, and maintenance of portions of a proposed water supply system on public lands administered by the BLM. Specifically, Lander County requested that 8,890 linear feet (LF) of 60-foot-wide ROW be permitted on BLM-administered public land. The proposed water supply system would extend south from Battle Mountain to just south of the Reese River (Figure 1). The project would occur on both private land and land administered by the BLM. Table 1-1 summarizes the location and length of the proposed ROW authorization on BLM-administered public land.

The BLM must assure that authorization of the Proposed Action avoids undue or unnecessary degradation of public land and has prepared this Environmental Assessment (EA) as part of the decision process in consideration of the requested ROW grant. Through this decision process,

BLM would meet obligations under the National Environmental Protection Act (NEPA), the Federal Land Policy and Management Act (FLPMA) of 1976, and other Public Land Acts. Based on this environmental documentation, the BLM will determine whether a Finding of No Significant Impacts (FONSI) can be signed or whether an Environmental Impact Statement (EIS) must be prepared for the project.

**Table 1-1 ROW Configuration on BLM-Administered Public Land**

<b>Township, Range, Section (Mount Diablo Meridian)</b>	<b>Length of Proposed ROW (Feet)</b>
Township 31 North, Range 44 East, Section 1	5,939
Township 32 North, Range 44 East, Section 36	2,951
<b>Total:</b>	<b>8,890</b>

**1.2.1 U.S. Army Corps of Engineers**

The USACE is authorized to participate with local public agencies in water-related infrastructure projects in Idaho, Montana, rural Nevada, New Mexico, rural Utah, and Wyoming pursuant to Section 595 of the Water Resources Development Act of 1999 (Public Law 106-53), as amended. Specific to the proposed project, the BLM is the Federal lead agency, and the USACE is a participating federal agency. Under the agreement between the USACE and Lander County, Lander County is considered as the local sponsor for the project.

The BLM will complete the required environmental documentation for the project and a decision will be made regarding whether or not to grant a ROW authorization to the County. Based on this environmental documentation, the USACE will also determine whether the project qualifies for a FONSI or whether an EIS must be prepared for the USACE project. Once this FONSI or Record of Decision is signed, the local sponsor is eligible to receive reimbursement by the USACE for a portion of the costs to design and construct one water storage tank and the access road on the new water storage tank site.

**1.3 RELATIONSHIP TO PLANNING AND CONFORMANCE WITH PLANS**

The public lands administered by the BLM in the project vicinity are managed in accordance with the Shoshone-Eureka Resource Management Plan (RMP) and Record of Decision for the Shoshone-Eureka Resource Area, (BLM 1984; 1986). The RMP is in compliance with the FLPMA of 1976, as amended. Although the Proposed Action is not specifically addressed in the RMP, it is consistent with the Management Actions and Objectives, as stated on pages 15 through 31 of the RMP Record of Decision.

The project requiring the proposed ROW grant (Proposed Action) does not conflict with any known state or local planning and zoning ordinances or codes. Section 202(c)(9) of FLPMA governs BLM planning and requires that BLM land use plans be consistent with state and local land use plans. It is therefore assumed that the Proposed Action conforms to all local land use plans in Battle Mountain and Lander County.

## **1.4 SCOPING**

The project was internally scoped by the BLM Interdisciplinary Team from January 2010 to February 2010. The BLM Interdisciplinary Team identified the supplemental authority elements and other resources to be addressed in this document as outlined in Section 3.3.

## **CHAPTER 2 PROPOSED ACTION AND ALTERNATIVES**

### **2.1 PROPOSED ACTION**

The Proposed Action is to grant authorization of requested ROW NVN-088150 in order to permit Lander County to provide Battle Mountain with municipal water that is compliant with all federal and state drinking water standards. Lander County proposes to construct, operate, and maintain a water supply system that includes construction of a new well site, two new water storage tank sites, new underground water pipeline, a gravel access road, and an overhead three-phase power line. The proposed project area is located between Battle Mountain and an existing overhead power line south of the Reese River and Battle Mountain (Figure 1). The project would largely be located on private land or land owned by Lander County; however, approximately 8,890 linear feet of underground water pipeline would cross public land administered by the BLM. Portions of the pipeline located on BLM-administered public land would be contained within a 60-foot-wide ROW. A gravel access road would be constructed within the ROW for operation and maintenance of the proposed water supply system. A detailed description of the proposed water supply system and ROW is provided later in this section.

Implementation of the Proposed Action would meet the purpose of the project: to provide adequate volumes of municipal water that is compliant to all federal and state drinking water standards. The proposed system would be cost effective and efficient to construct, operate, and maintain. Construction of the proposed water supply system would provide water from a new source location, within an entirely different hydrographic groundwater basin from the existing source, and reduce arsenic content to 10 ppb or less. Further, construction of the system would ensure that adequate volumes of water are stored and thus available for the maximum one-day water demand of Battle Mountain. Many of the systematic problems of low water pressure associated with the existing water supply system could be alleviated through implementation of the Proposed Action. The proposed system would be constructed of new, modern components that are less likely to fail from age, and much of the system would be located below ground surface, where damage to system components is less likely.

#### **2.1.1 Construction Details**

The proposed water supply system would include construction of a new well site, two new water storage tanks, underground water pipeline, a three-phase overhead power line, and a gravel access road (Figure 2). All new disturbance on BLM-administered public land would be associated with the construction of segments of buried water pipeline and a gravel access road. These disturbances would be contained within the ROW, as described in Section 2.1.3. Temporarily disturbed areas would be reclaimed to their pre-construction contours, scarified, and seeded with a weed-free, erosion control seed mix approved by the BLM (see Section 4.1.10 for seed mix). Disturbance resulting from construction of the new storage tanks and associated access road would be within the project footprint at the new tank site. The proposed tank site access road would connect the tanks to the proposed gravel access road overlying the buried pipeline.

During construction, new disturbance would be kept to a minimum while maintaining efficient and safe construction. Lander County and/or its contractors would implement Best Management Practices (BMPs) at all times during construction. BMPs are defined by the Nevada Division of Environmental Protection (NDEP) in the State of Nevada Non-Designated Area Water Quality Management Plan, Handbook of Best Management Practices (1994). Because construction on public land would be limited to the requested 60 foot wide ROW, a maximum of 12.2 acres of public land administered by the BLM could potentially be disturbed by the Proposed Action. Approximately 54.8 acres of private land could potentially be disturbed by construction if an equally wide construction corridor is maintained on private land. This includes impacts to the entire 1.5 acre tank site and 10 acre well site. Most disturbances on public and private land would be temporary for the duration of construction and establishment of reclamation efforts. Approximately 9.5 acres of the potential 12.2 acres of impacts to public land would be temporary. Approximately 41.7 acres of the potential 54.8 acres of impacts to private land would be temporary.

#### Groundwater Wells

The proposed water supply system includes two new wells within a 10-acre well site area in section 12, Township 31 North, Range 44 East. The wells were previously drilled as part of Lander County's exploration for groundwater compliant with drinking water standards. All drilling related impacts were restricted to the 10-acre well site. Access to well site was from an unimproved road originating on the east side of State Route 305 that provides access to the existing Newmont Well (Figure 2A). Each well was drilled by a Nevada licensed driller, to a depth of approximately 1,025 feet below ground surface (bgs). The depth to groundwater in the area is approximately 30 to 50 feet bgs. Wells were fitted with casings, developed with pumps, and packed with gravel until commencement of construction under the Proposed Action. The two wells would operate concurrently to supply water.

#### Storage Tanks

To increase the storage capacity of Battle Mountain's municipal water supply system, the proposed project would include constructing two new water storage tanks in section 36 of Township 32 North, Range 44 East, approximately 2,000 feet south of the Battle Mountain hillside "BM" monogram (Figure 2B). The proposed tank site is approximately 1.5 acres in size and would be accessible from the proposed gravel access road, which would intersect the existing Battle Mountain Landfill access road. The proposed tank site is located on land owned by Lander County.

The new tanks would be approximately 35 feet high and approximately 75 feet in diameter, and spaced approximately 95 feet apart from center of tank to center of tank. Each tank would have a storage capacity of approximately 1 million gallons. The design would be a typical American Water Works Association (AWWA) D100 ground-supported, welded steel structure with a flat bottom and vertical side walls, 3-foot radial knuckle atop walls, and a slightly v-shaped roof. The radial knuckle provides for curved transition between the vertical walls and nearly

horizontal roof; thereby eliminating any sort of corner or edge where the walls and roof meet. A perimeter v-ditch would be installed along the base of cut slopes to divert surface flows away from tanks; the grading design would slope the site away from the tanks. The tank site would include rip-rap at drainage swale tank overflow discharge points for erosion control. Rip-rap would be a layer of large uncoursed stones, broken rock, or precast blocks placed in random fashion in order to prevent erosion. Construction activities would include: (1) clearing and grading the new tank site and drainage swale; (2) placing the gravel foundation and 1-foot-high concrete well ring wall for each tank; (3) installing the new tanks and associated piping and valving; (4) finish grading to smooth cut and fill slopes and establish drainage flow grades; (5) placing rip-rap for the overflow area and drainage swale; and (6) installing security fencing around the perimeter of the 1.5-acre tank site. Any excess soil material suitable for reuse would be used onsite while unsuitable soil or other debris would be removed and disposed of offsite at a permitted landfill facility. All disturbance associated with construction of the tanks would be within the 1.5-acre tank site, including any temporary staging of equipment and materials. A detailed site plan for the tank site is provided in Appendix C.

### Water Pipeline

The proposed water supply system would require the installation of approximately 31,909 LF of pipeline. Approximately 8,890 LF of the total 31,909 LF would be installed on BLM-administered public land. Lander County would utilize 12-inch and 16-inch diameter pipe. The 16-inch diameter pipe would be installed north of the storage tank site to allow increased flows capable of meeting Battle Mountain water demands, particularly during a fire event. Polyvinyl chloride (PVC) pipe, high density polyethylene (HDPE) pipe, or ductile iron pipe (DIP) may be used for the pipeline.

Installation of the underground water pipeline would consist of first excavating a trench to a depth of at least 4.5 feet bgs or 4.9 feet bgs, depending on the diameter of the pipe. The trench would typically be between 3 feet and 4 feet wide; however, site conditions may require the width of the trench to extend to a maximum of 9 feet wide (3 feet wide at the base of the trench). The water pipeline would be placed in the trench at a minimum depth of 36 inches bgs, measured from the portion of pipe closest to ground surface. The pipe would rest on at least 6 inches of bedding material and be surrounded by at least 12 inches of bedding material on both sides. At least 12 inches of bedding material would be placed on top of the pipe, and the trench would be backfilled, thereby providing a minimum of 3 feet of cover. The compaction density of the bedding and backfill material would meet requirements of Nevada Standard Details for Public Works Construction and Lander County standards.

Construction of the proposed water pipeline on BLM-administered public land could potentially impact the entire width of the 60-foot ROW. However, disturbance is most likely in areas immediately adjacent to trenches; disturbance is not expected to affect the entire 60-foot width of the ROW. More detail about the proposed ROW is provided in Section 2.1.3. Portions of water pipeline not occurring on BLM-administered public land would be located on private land, land owned by Lander County, or land within an existing Nevada Department of Transportation

(NDOT) ROW. Construction disturbance associated with installation of these portions of the pipeline would also be restricted to a 60-foot width. Because of the project area's proximity to Battle Mountain, construction of the water pipeline would not require additional disturbance for equipment staging/fueling areas. The disturbed ground surface associated with construction of the pipeline would be reclaimed to preconstruction contours, scarified, and seeded for erosion and weed control.

#### Gravel Access Road

A 16-foot-wide gravel access road with 4 feet of shoulder space would be constructed between the water storage tank site and the well site. The road would be constructed atop the buried water pipeline, with the road centerline generally corresponding to the pipeline. The entire width of the road would be located within the requested ROW. Construction of the road would occur following backfill of the water pipeline trench and would not result in disturbance beyond that created during construction of the pipeline. Approximately 10,576 linear feet of road would be constructed, approximately 5,939 feet of which would be located on public land administered by the BLM (Figure 2C).

#### Overhead Three-Phase Power Line

The two well sites would require electric pumps. In order to provide electrical power at the well site, a new overhead three-phase power line would be constructed. The power line would stem from an existing three-phase power line in section 19 of Township 31 North, Range 45 East, and end at the proposed well site (Figure 2). NV Energy owns the existing power line and would construct the proposed power line and provide electrical service to the well site. The transmission lines would be designed, constructed, tested, operated, and maintained by NV Energy in accordance with state and federal regulations, including the NSEC. NV Energy would equip the well site with an electrical meter that continuously records electrical use by the system. The proposed power line would be approximately 8,402 feet long and is not expected to require a substation.

The proposed power line would utilize wooden single-pole structures with crossarm wire supports, similar to those used for the existing three-phase line from which the proposed power line would originate. The proposed power line structures and power lines would generally be approximately 45 feet tall, but could extend upwards to 65 feet, depending on obstructions, terrain, and span distance between any two pole structures. Span distance between poles would average between 300 and 350 feet. The power line would be constructed with at least 5 feet of space between each phase wire, in accordance with raptor-safe design criteria in the Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 (Avian Power Line Action Committee 2006). A temporary 60-foot-wide construction corridor would be necessary during construction. The proposed power line would be located entirely on private land, and no portion would intersect public lands.

All man-made construction debris would be removed and disposed of as appropriate within permitted landfill sites. Construction and reclamation practices would be guided by the State of

Nevada Best Management Practices Handbook (NDEP 1994) and the Nevada Guidelines for Reclamation (Nevada State Clearinghouse 1998). All temporary access roads, staging areas, wire sites, or other areas of disturbance created during construction of the power line would be reclaimed following construction by re-contouring and seeding. The proposed power line would cross over the Reese River; however, power line pole structures would be placed outside of the river and overhead power lines would span the river.

### **2.1.2 Construction Schedule**

The NSEC has mandated that the Battle Mountain municipal water supply comply with federal arsenic standards of 10 ppb by January 23, 2011. As such, construction would begin immediately following authorization of the Proposed Action, the completion of all USACE environmental requirements, and after obtaining all other necessary federal, state, and local permits. It is likely that construction would begin with the storage tank site, followed by development of the well site. Construction of the underground water pipeline and overhead power line would occur concurrently. Construction of individual components of the water system would commence after all necessary permits and easements are obtained for that particular component. Construction would be completed within six months of authorization of the Proposed Action and completion of all USACE environmental requirements. Construction would occur Monday through Friday, from sunrise to sunset. No construction would occur between sunset and sunrise, or at any time on Saturdays or Sundays.

### **2.1.3 ROW Configuration**

Approximately 12.2 acres of BLM-administered public land would be contained within the requested 8,890 LF of 60-foot-wide ROW. The 8,890 LF of requested ROW is located in section 1, Township 31 North, Range 44 East, and in section 36, Township 32 North, Range 44 East (Figure 2C). The ROW would contain a segment of the water pipeline and gravel access road. During construction, all impacts on BLM-administered public land would be contained within the ROW, and therefore not exceed 12.2 acres.

Portions of the water pipeline occurring on private land and within an existing NDOT ROW would be enclosed within ROWs and easements as necessary. Approximately 23,019 LF of pipeline would be located on private land and land within an existing NDOT ROW. Lander County would obtain the appropriate ROWs, easements, and authorizations as necessary for construction in these areas. The proposed overhead power line would be contained within a ROW owned and operated by NV Energy. The power line and associated ROW would occur only on private land.

### **2.1.4 Operation and Maintenance**

Lander County would operate and maintain the project in order to provide municipal water for Battle Mountain. Lander County would routinely monitor the operation and functionality of the system as preventive maintenance and to identify components in need of repair. Regular monitoring, inspection, and repairs would ensure the integrity of the system. The overhead power line would be owned, operated, and maintained by NV Energy.

## 2.2 ENVIRONMENTAL PROTECTION MEASURES

The following Environmental Protection Measures are incorporated into the Proposed Action in order to avoid and/or mitigate potential adverse effects.

1. All surface-disturbing activities would be limited to the requested ROW, proposed well site, and proposed tank site. Disturbed areas that would not be utilized for operation or maintenance of the system would be reclaimed to their pre-construction contours and seeded with an erosion control seed mix. See Section 4.1.10 for seed mix.
2. Lander County and/or its contractors would implement BMPs at all times during construction. BMPs are defined by NDEP in the State of Nevada Non-Designated Area Water Quality Management Plan, Handbook of Best Management Practices (1994).
3. Though the possibility of disturbing Native American gravesites is extremely low, should a Native American gravesite be found, Lander County would follow procedures in compliance with the Native American Graves Protection and Repatriation Act (NAGPRA). Section (3)(d)(1). NAGPRA states that the discovering individual must notify the land manager in writing of such a discovery. If the discovery occurs in connection with an authorized use, the activity, which caused the discovery, is to cease and the materials are to be protected until the land manager can respond to the situation.
4. If any surface and/or subsurface cultural properties, items, or artifacts (e.g., stone tools, projectile points, etc.) are encountered, Lander County shall notify the BLM immediately (and USACE if located on the tank site). Personnel/employees involved in planning, construction, and maintenance are not to collect any previously identified or unidentified artifacts or cultural items encountered. Archaeological sites scheduled for avoidance, but in close proximity to the project area, must also be avoided. BLM Cultural Resource specialists accompanied by any designated tribal observer/monitor may periodically visit the project site(s) to ensure avoidance of identified cultural resources sites. Cultural resources are protected under the Archaeological Resources Protection Act (16 U.S.C. 470ii) and the FLPMA (43 U.S.C. 1701).

The Archaeological Resources Protection Act (ARPA) codified at 43 CFR 7, as well as the NAGPRA codified at 43 CFR 10, both provide protection for historic properties, cultural resources, and Native American funerary items and/or physical remains located on federal land. In addition, ARPA provides for the assessment of criminal and/or civil penalties for damaging cultural resources. Any unplanned discovery of cultural resources, human remains, items of cultural patrimony, sacred objects, or funerary items, requires that all activity in the vicinity of the find ceases, and notification be made to Doug Furtado, Field Manager, Mt. Lewis Field Office, 50 Bastian Way, Battle Mountain, NV, 89820 (775 – 635 – 4000), by telephone, with written confirmation to follow, immediately upon such discovery. The location of the find should not be publically disclosed and any human remains must be secured and preserved in place until a Notice to Proceed is issued by the authorized officer.

5. Lander County and/or its contractors would minimize the potential for the establishment of noxious weeds and spread of invasive species. The proposed well site, tank site, and ROW areas disturbed during construction would be reseeded with a BLM-approved erosion control seed mix. Construction equipment would be washed prior to entering portions of the project area occurring on public land administered by the BLM. Only certified weed-free hay would be used if hay bales are used for erosion control.
6. Lander County and/or its contractors shall implement precautionary measures in order to prevent wildfires during construction of the Proposed Action. Adequate firefighting equipment shall be kept onsite at all locations where construction is occurring. Firefighting equipment shall include shovels, pulaski axes, fire extinguishers, water supplies, or similar pieces of equipment. When welding is required during construction, the welding shall be conducted in an area free from or mostly free from vegetation. Construction personnel, in addition to the welder operator, shall be assigned to monitor the welding area for fires. A shovel and water supply shall be kept near the welder to immediately extinguish any fires that may result from welding sparks. All vehicles associated with the Proposed Action shall receive frequent catalytic converter inspections and shall be cleared of all brush and grass debris. All vehicles shall be equipped with fire extinguishers. Lander County and/or its contractors shall report all wildfires to the BLM Central Nevada Interagency Dispatch Center immediately. In the event that the Proposed Action generates a fire, Lander County could be liable for suppression costs.

### **2.3 PROJECT MONITORING**

A BLM-qualified cultural resource monitor is required to monitor activities in some portions of the project area. The monitor will ensure that eligible cultural resources will not be affected by proposed project activities. If previously unknown cultural resources are discovered, then all activity in the vicinity of the find shall stop, and the site shall be protected. The location of the find shall not be publically disclosed, and project activities in the vicinity of the discovery shall cease until a Notice to Proceed is issued by the authorized officer. Doug Furtado, Field Manager, Mount Lewis Field Office, shall be immediately notified by phone (775-635-4000) with written confirmation to follow. No other or additional project monitoring is proposed.

### **2.4 PERMITS AND APPROVALS**

Lander County and/or its contractors are responsible for obtaining valid permits and approvals from all relevant federal, state and local agencies to construct the proposed project. Lander County would need to shift the point of diversion for their existing groundwater rights to the proposed well site through the Nevada Division of Water Resources (NDWR). This project would disturb more than 1 acre, and therefore, Lander County would need to apply for a

Stormwater Permit for construction sites from NDEP, Bureau of Water Pollution Control. Prior to construction a notice of intent and filing fee would be submitted, and a Storm Water Pollution Prevention Plan would be prepared. Because the project would disturb more than 5 acres, Lander County would obtain a Surface Area Disturbance permit from NDEP Bureau of Air Pollution Control. Portions of the Proposed Action that intersect or coincide with the existing ROW for State Route 305 would not commence until Lander County obtains an encroachment permit from NDOT. Additionally, Lander County would obtain the necessary ROW authorization and approval from private landowners prior to commencement of construction on private land.

## **2.5 ALTERNATIVES TO THE PROPOSED ACTION**

The NEPA directs the BLM and other federal agencies to “study, develop, and describe appropriate alternatives to recommended courses of action in any proposal that involves unresolved conflicts concerning alternative uses of available resources” (42 U.S.C. 4332). Alternatives to the proposal should meet the purpose and need of the Proposed Action. Alternatives should be practical or feasible from a technical and economic standpoint, and reasonably accomplished. Additionally, the No Action Alternative is required to be considered by NEPA and the Council of Environmental Quality (CEQ) implementing regulations under Title 40 of the Code of Federal Regulations (CFR), parts 1500 through 1508 (40 CFR 1500-1508). The No Action Alternative is discussed in Section 2.5.1.

The existing Battle Mountain municipal water supply is provided by three groundwater wells, a booster pumping facility, two water storage tanks, and approximately 24 miles of water and distribution piping. The existing system has consistently met the State of Nevada drinking water standards but does not meet the revised federal standard for arsenic (10 ppb). The NSEC has mandated that the Battle Mountain municipal water supply comply with federal drinking water standards by January 23, 2011. To become compliant with the arsenic standard, the existing municipal water supply must be treated to remove arsenic or a new municipal supply must be developed that is free of arsenic levels above 10 ppb (Proposed Action). Viable alternatives for treatment of the existing municipal water supply include construction of a centralized arsenic treatment facility or construction of a treatment system at each of Battle Mountain’s existing three wells. These alternatives are discussed in detail in Section 2.5.2; however, neither of these alternatives would be cost effective or efficient to construct, operate, or maintain. Because these alternatives fail to meet the project objectives, they are not considered further in the EA.

### **2.5.1 No Action Alternative**

Under the No Action Alternative, the BLM would not authorize the requested ROW and the proposed water supply system would not be constructed. In addition, the USACE would not reimburse Lander County for a portion of the costs to design and construct one of the two new water storage tanks. However, the Battle Mountain municipal water supply would still be required to achieve compliance with the federal and state arsenic standard. The nearest known

source of groundwater compliant with the standard is believed to be in the Lower Reese River Valley Hydrographic Area, south of Battle Mountain and south of public land administered by the BLM. Consequently, construction of a system capable of delivering compliant water to Battle Mountain is not possible without authorization to construct a water pipeline across public land managed by the BLM. The No Action Alternative would not permit authorization or USACE reimbursement, and Battle Mountain's municipal water supply would remain noncompliant with the federal and state arsenic standard.

## **2.5.2 Alternatives Not Considered Further**

### ***Construct a Centralized Arsenic Treatment Facility***

This alternative considers the construction of a central water treatment facility located at the Well #6 site, the primary supply well for Battle Mountain's municipal water system. Wells #3 and #4, which currently pump directly into the water distribution grid, would be piped to Well #6 and the treatment facility for arsenic removal prior to distribution. An operator interface controller would be required to control flow into the treatment facility based on demand and source of well supply.

The arsenic treatment facility would be comprised of a treatment building with three filters, piping, chemical feed and storage equipment, backwash water holding tank, telemetry and controls, and a back-up power generator. The building would include a separate chemical storage room, bathroom, laboratory, and an office/control room. The approximate size of the treatment building would be 2,400 square feet. The filtration equipment and appurtenant systems would be sized to accommodate the maximum day water demand, which would require Well #6 to be re-equipped with a new pump to match the maximum day flow rate. Treated water would be delivered to the on-site, existing 2-million-gallon ground level tank and then pumped into the distribution system from the on-site booster pump station, which would be upgraded to provide adequate emergency fire flow. Site improvements would include grading, drainage, access, parking and site piping modifications and connections to the existing distribution system. This alternative is not cost effective or efficient to construct, operate, or maintain and therefore fails to meet project objectives. This alternative is not considered further in the EA.

### ***Install Arsenic Treatment Facilities at Each Town Well***

The alternative considers installing an individual water treatment facility at each of Battle Mountain's three existing well sites to remove arsenic. Each treatment facility would be comprised of a treatment building with two to four filters, piping, chemical feed and storage equipment, backwash water holding tank, telemetry and controls, and a back-up power generator. The filtration equipment and appurtenant systems would be sized to accommodate the existing well flow rate. Each well pump would be required to be upgraded to provide additional pumping to overcome pressure losses through the filtration process or a post filtration pumping system could be installed. Site improvements would be anticipated at each site including grading, drainage, access, parking, site piping modifications, and connections to the existing distribution system. This alternative would not be cost effective or efficient to construct, operate, or maintain and therefore fails to meet project objectives. This alternative is not considered further in the EA.

## CHAPTER 3 AFFECTED ENVIRONMENT

### 3.1 GENERAL SETTING

The general setting for the Proposed Action project area, originating just south of the Reese River and terminating in Battle Mountain, is rural to rural/suburban, characterized by flat to gently rolling topography. The vegetation in these areas is predominantly desert shrubs, and common species include black greasewood (*Sarcobatus vermiculatus*), shadscale (*Atriplex confertifolia*), and rubber rabbitbrush (*Ericameria nauseosa* spp. *consimilis*), with infrequent and isolated stands of big sagebrush (*Artemisia tridentata*). The highest portion of the project is at the proposed tank site at approximately 4,700 feet above mean sea level (amsl). This is approximately 190 feet higher than the lowest portion of the project area at approximately 4,510 feet amsl, located at the project terminus in Battle Mountain. According to the *Soil Survey of Lander County, Nevada, North Part, (Volume 1)* (SCS 1992), the climate in the vicinity of the project area is generally described as having temperatures ranging from hot during summer to cold during winter. The average daily maximum temperature during summer is 86 degrees Fahrenheit, and the average daily minimum temperature is 19 degrees Fahrenheit. Precipitation is generally light at lower elevations, with an average of 7 inches per year at Battle Mountain. Precipitation at higher elevations can be much greater due to snowfall. The prevailing wind is from the west and averages approximately 9 miles per hour.

The area surrounding the project is sparsely populated with most of the population living in Battle Mountain. The economy of the area is dominated by mining and ranching. Battle Mountain is the only town in the general vicinity of the project area. The next closest town is Winnemucca, located about 53 miles west. Surrounding the commercial core of Battle Mountain are primarily residential land uses with other mixed uses interspersed.

Major features near the project area include Battle Mountain, Interstate 80, State Route 305, and the Reese River. The Battle Mountain Landfill access road maintained by Lander County is also a key feature in the project area. The access road is a paved surface road generally following the bottom of the mountainside displaying the Battle Mountain “BM” monogram.

### 3.2 RESOURCES/CONCERNS CONSIDERED FOR ANALYSIS

To comply with the NEPA, BLM and other federal agencies are required to address specific elements of the environment that are subject to requirements specified in statute or regulation or by executive order (BLM 2008). The following table outlines the elements that must be addressed in all environmental analyses, as well as other resources deemed appropriate for evaluation. Table 3-1 also denotes if the Proposed Action or No Action Alternative affects those elements. Supplemental Authority elements determined to be Not Present or Present/Not Affected need not be carried forward for analysis or discussed further in the document. Supplemental Authority elements determined to be Present/May Be Affected must be carried forward for analysis in the document.

**Table 3-1 Supplemental Authority Elements Considered for Analysis**

Supplemental Authority Element	Not Present*	Present/Not Affected*	Present/May Be Affected**	Rationale
Air Quality		✓		The proposed project is not within an area of non-attainment or areas where total suspended particulates or other criteria pollutants exceed Nevada air quality standards. There would be temporary increased particulate matter during construction; however, Nevada air quality standards would not be exceeded. Because the project would disturb more than 5 acres, Lander County would obtain a required Surface Area Disturbance permit from NDEP Bureau of Air Pollution Control.
Area of Critical Environmental Concern (ACEC)	✓			Resource is not present.
Cultural Resources			✓	See Section 3.2.6.
Environmental Justice and Socioeconomics			✓	See Section 3.2.4.
Farm Lands (Prime or Unique)	✓			Resource is not present.
Fish Habitat***	✓			Resource is not present.
Noxious Weeds/Invasive Non-Native Species			✓	See Section 3.3.10.
Native American Religious Concerns			✓	Section 3.2.5.
Floodplains			✓	See Section 3.3.13.
Wetlands/Riparian Zones			✓	See Section 3.3.14.
Threatened, Endangered Species	✓			Resource is not present.
Migratory Birds			✓	See Section 3.2.17.
Wastes, Hazardous and Solid			✓	See Section 3.3.8.
Water Quality (Surface/Ground)			✓	See Section 3.3.12.
Wild & Scenic Rivers	✓			Resource is not present.
Wilderness	✓			Resource is not present.
Forests and Rangelands (Healthy Forests Restoration Act only)	✓			Resource is not present.

\*A Supplemental Authority element determined to be Not Present or Present/Not Affected need not be carried forward or discussed further in the document.

\*\*A Supplemental Authority element determined to be Present/May Be Affected **must** be carried forward in the document.

\*\*\*This fish habitat is related to specific Congressional acts protecting marine and commercial fish habitat. It does not apply to common aquatic habitats and fisheries.

Other resources of the human environment that have been considered for the EA are listed in Table 3-2. Elements that may be affected are further described in the EA. The rationale for each element that would not be affected by the Proposed Action and alternative is listed in the table.

**Table 3-2 Other Resources/Concerns Considered for Analysis**

Other Resources	Not Present *	Present/ Not Affected*	Present/May Be Affected**	Rationale
Grazing Management			✓	See Section 3.2.11.
Land Use			✓	See Section 3.2.1.
Minerals	✓			Resource is not present.
Paleontological Resources	✓			Resource is not present.
Recreation			✓	See Section 3.2.3.
Special Status Species			✓	See Section 3.2.16.
Soils			✓	See Section 3.2.7.
Vegetation			✓	See Section 3.2.9.
Visual Resources and Esthetics			✓	See Section 3.2.2.
Wild Horses and Burros	✓			There are no wild horses, wild burros, or Herd Management Areas for either animal within the project area. Resource is not present.
Wildlife and Fisheries			✓	See Section 3.3.15.

\*Resources or uses determined to be Not Present or Present/Not Affected need not be carried forward or discussed further in the document.

\*\*Resources or uses determined to be Present/May Be Affected **must** be carried forward in the document.

As noted in the tables above, the following resources will not be brought forward for further analysis in this EA because they are not present within the project area or are not affected by the Proposed Action: Air Quality, Areas of Critical Environmental Concern, Farm Lands (Prime or Unique), Fish Habitat, Threatened and Endangered Species, Wild and Scenic Rivers, Wilderness, Forest and Rangelands (Healthy Forests Restoration Act only), Minerals, Paleontological Resources, and Wild Horses and Burros.

The following resources have been determined to be present and potentially affected by the Proposed Action: Cultural Resources, Environmental Justice and Socioeconomics, Noxious Weeds/Invasive, Non-Native Species, Native American Religious Concerns, Floodplains, Wetlands/Riparian Zones, Migratory Birds, Wastes, Hazardous and Solid, Water Quality (Surface/Ground), Grazing Management, Land Use, Recreation, Special Status Species, Soils, Vegetation, Visual Resources and Esthetics, and Wildlife and Fisheries.

The following sections describe the affected environment for each resource that is present in project area and potentially affected by the Proposed Action. This information was derived from data gathered during a field investigation and from interviews and correspondence with the BLM and other federal, state, and local agency resource personnel.

### **3.2.1 Land Use**

The project area is located within the BLM's Battle Mountain District, MLFO jurisdictional range. BLM-administered public lands occurring within the project area are managed in accordance with the RMP and the Record of Decision for the Battle Mountain District for multiple uses such as range, watersheds, mineral extraction, recreation, and wildlife habitat. Ownership of the land crossed by the Proposed Action includes public land administered by the BLM, county-owned land, and private land. Approximately 8,890 LF of buried water pipeline would traverse public land administered by the BLM (Figure 3). The proposed water tank site is on land owned by Lander County.

General land uses in the vicinity of the project area include livestock grazing, dispersed recreation, mining, utility corridor, wildlife habitat, and open space. The northern extent of the proposed underground water pipeline is located in residentially developed areas of southern Battle Mountain. Administrative uses on land containing the project area include ROWs for existing State Route 305 (authorization NVN-0000754) and the access road for the Battle Mountain Landfill (authorization NVN-050715).

### **3.2.2 Visual Resources and Esthetics**

The BLM initiated the Visual Resource Management (VRM) process to manage the quality of landscapes on public land and to evaluate the potential impacts to visual resources resulting from development and land utilization activities. VRM class designations are determined by assessing the scenic value of the landscape, viewer sensitivity to the scenery, and the distance between the viewer and the subject landscape. These management classes identify various permissible levels of landscape alteration while protecting the overall visual quality of the region. They are divided into four levels (Classes I, II, III, and IV). Class I is the most restrictive and Class IV is the least restrictive (BLM 1986). VRM objectives corresponding to the various management classes provide standards for analyzing and evaluating projects. Projects are evaluated using a Contrast Rating System described in Bureau Manual Section 8431. The Contrast Rating System provides a systematic way to evaluate a proposed project to determine if it meets VRM objectives as established by the BLM.

The project area is located within the boundaries of the RMP of the BLM Battle Mountain District office. At present, the RMP has not provided a VRM classification for the project area (BLM 1984); however, the area is managed as VRM Class IV. The Class IV objective provides for (1) management activities that require major modifications to the existing character of the landscape and may dominate the view of the casual observer or attract attention and (2) a level of change that can be high. Every attempt should be made to minimize impacts of activities by carefully locating activities and repeating the basic elements found in the natural features (form, line, color, and texture) of the landscape.

In general, the esthetics of the area surrounding the project area can be described as an altered landscape typical of central Nevada. The landscape consists of large, open spaces with a backdrop of tall mountains in the distant horizon. Predominant vegetation in this area consists of scattered low shrubs with areas of exposed soil and rock. Dominant natural features in both the fore- and middle-ground of the project area consist of low rolling hills. However, the natural landscape has been altered by manmade structures and construction, largely associated with the town of Battle Mountain. Battle Mountain, the Battle Mountain hillside “BM” monogram, the Battle Mountain Landfill and access road, State Route 305, existing overhead power lines, existing wells, and past mining disturbances are all visible within or from the project area and contribute to the landscape. These manmade structures generally intersect flat, open spaces of scattered low shrubs with areas of exposed soil and rock. The proposed tank site would be located on the south aspect of a low rolling hill of exposed rock.

### **3.2.3 Recreation**

Recreational use of the project area is likely limited due to the general lack of established facilities, lack of unique natural features, and fragmented land ownership. There is a remote control airplane flying field located on BLM-administered public land in section 36, Township 32 North, Range 44 East. The flying field provides parking and sheltered cover for participants of the hobby, as well as a flat, unvegetated area where participants can conduct remote-controlled maneuvers.

Other recreational use probably occurs within the project area incidental to hunting or off-trail hiking on public land administered by the BLM. Within the vicinity of the project area there are no designated public recreation trails, campgrounds, or parks. The Lander County Gun Club firing and shooting range is located approximately 1,500 feet north of the proposed tank site. The Mountain View Golf Course is located approximately 800 feet east of the proposed water pipeline in section 25 of Township 32 North, Range 44 East.

### **3.2.4 Environmental Justice and Socioeconomics**

Lander County is a predominantly rural county in north-central Nevada encompassing approximately 5,621 square miles of land. The county has been dependent on the mining industry since it was first founded in late 1862. This trend continues to present day, as the mining industry employs the majority of Lander County residents. In addition to mining, agriculture is an important part of the county’s socioeconomics and includes cattle and sheep ranching and hay farming. Aside from mining and ranching, much of Lander County socioeconomics are influenced by the federal government, as more than 85 percent of the county is managed by federal agencies. Battle Mountain, an unincorporated town, is the County seat for local government. In addition to mining and ranching, travel and tourism contribute to the town’s social and economic status.

The population of Lander County was 5,086 in 2008 (U.S. Census Bureau 2009b). The population of Battle Mountain was 2,871 in 2000 (U.S. Census Bureau 2000), representing more than 50 percent of the total population of Lander County but less than 1 percent of the state's total population. The population of Lander County and Battle Mountain is predominantly white, and contains a significantly lower percentage of population identifying with minority groups than the United States as a whole. Hispanics or Latinos are the largest minority group in Lander County and Battle Mountain, at approximately 19 and 23.6 percent of the population, respectively. Native Americans represent 5.6 percent of the population in Lander County, and 2.5 percent in Battle Mountain. Black persons and Asians are the smallest minority groups, representing less than 1 percent of Lander County or Battle Mountain's population. Table 3-3 provides a summary of U.S. Census data regarding race and ethnicity. According to EPA and CEQ definitions, no minority community exists with the project area (EPA 1998; CEQ 1997).

The percent of the population below the poverty level in Lander County in 2007 was 10.5 percent (U.S. Census Bureau 2009) and 11.8 percent in Battle Mountain during 2000 (U.S. Census Bureau 2000). The poverty rate for both locations is lower than the national average of 13.0 percent, as shown in Table 3-3. The U.S. Census Bureau defines a poverty area as a census tract or other area where at least 20 percent of residents are below the poverty level (U.S. Census Bureau 2009a). Census data indicate there are no poverty areas in Battle Mountain or Lander County, which includes the entire project area.

**Table 3-3 Social and Economic Indicators**

<b>Indicators</b>	<b>Battle Mountain<sup>1</sup></b>	<b>Lander County</b>	<b>State of Nevada</b>	<b>United States</b>
Population (2008)	2,871	5,086	2,600,167	304,059,724
Private non-farm employment (2007)	928	1,699	1,195,806	120,604,265
Ethnicity (2008) <sup>2</sup>				
White	81.3%	91.7%	80.9%	65.6%
Black	0.1%	0.5%	8.1%	12.8%
American Indian/Alaska Native	2.5%	5.6%	1.5%	1.0%
Asian	0.5%	0.4%	6.2%	4.5%
Hispanic/Latino	23.6%	19.0%	25.7%	15.4%
Households (2000)	1,053	2,093	751,165	105,480,101
Housing units (2008)	1,455	2,744	1,127,061	129,065,264
Median household income (2007)	\$42,981	\$61,466	\$54,996	\$50,740
Persons below poverty level (2007)	11.8%	10.5%	10.6%	13.0%

<sup>1</sup> All data specific to Battle Mountain are provided by census data from 2000, provided by U.S. Census Bureau, Demographic Profile Data for Battle Mountain CDP, Nevada (U.S. Census Bureau 2000). All other data provided by U.S. Census Bureau, State and County Quick Facts (U.S. Census Bureau 2009b).

<sup>2</sup> Persons of Hispanic/Latino ethnicity may identify themselves as more than one race; therefore ethnicity percentage sums may total more than 100 percent.

### 3.2.5 Native American Religious Concerns

The BLM has provided multiple maps with attached written descriptions of the proposed project to the Battle Mountain Band of the Te-Moak Tribe of Western Shoshone. BLM has invited the Band to consult, attend field visits, and seeks their assistance in the identification of any potential issues/concerns, traditional/cultural properties, or participation opportunities during consideration of the requested ROW authorization. Band leadership has responded with no specific issues/concerns identified. BLM has committed to avoidance of known eligible cultural resource sites and will immediately contact the Band if any Native American human remains are discovered as a result of this action.

### 3.2.6 Cultural Resources

A Class III inventory of the entire project corridor and the well and water tank sites was conducted by Kautz Environmental Consultants, Inc., of Reno, Nevada (KEC), in January and February of 2010. The inventory resulted in the identification and recordation of twelve archaeological sites, including several historic road and utility line segments, a portion of the Nevada Central Railroad grade, historic refuse scatters, and several short-term prehistoric occupations. Of these twelve archaeological sites, three are recommended eligible for listing on the National Register of Historic Places (NRHP) (KEC 2010).

### 3.2.7 Soils

Soils occurring within the project area were mapped by the Soil Conservation Service (SCS) and are described in the *Soil Survey of Lander County, Nevada, North Part* (SCS 1992). The SCS became the Natural Resources Conservation Service (NRCS) after publication of the Soil Survey. The project would be constructed in 19 soil map units (Figure 4). These units are:

- Argenta very fine sandy loam, Map Unit 150;
- Batan fine sandy loam, Map Unit 160;
- Batan silt loam, Map Unit 161;
- Blacka-Broyles very fine sandy loams, saline, 2 to 4 percent slopes, Map Unit 213;
- Broyles very fine sandy loam, 2 to 4 percent slopes, Map Unit 231;
- Broyles very fine sandy loam, moderately saline, 0 to 2 percent slopes, Map Unit 233;
- Bubus very fine sandy loam, Map Unit 240;
- Bubus very fine sandy loam; gravelly substratum, Map Unit 242;
- Bubus-Playas complex, Map Unit 243;
- Creemon silt loam, 0 to 2 percent slopes, Map Unit 290;
- Raglan silt loam, gravelly substratum, Map Unit 800;
- Rosney loam, cemented substratum, Map Unit 891;
- Reese silt loam, Map Unit 830;
- Sonoma silty clay loam, strongly saline, occasionally flooded, Map Unit 995;
- Wendane silt loam, frequently flooded, Map Unit 1140;
- Wendane-Batan-Broyles association, Map Unit 1144;
- Whirlo-Oxcovel association, Map Unit 1168;
- Dumps and pits, mine, Map Unit 1600; and,
- Old Camp-Rock outcrop-Colbar association, steep, Map Unit 2802.

### *Argenta Series*

The Argenta series consists of very deep, somewhat poorly drained soils that formed in loamy alluvium derived from mixed rock sources high in content of pyroclastic materials. Argenta soils are on alluvial flats and remnant flood-plains. Slopes are 0 to 4 percent. Mean annual precipitation is about 7 inches, and mean annual temperature is about 48 degrees Fahrenheit.

### *Batan Series*

The Batan series consists of very deep, moderately well-drained soils that formed in silty alluvium derived from mixed rock sediments of mostly volcanic origin that are high in content of loess and pyroclastic materials. Batan soils are on stream terraces, flood plains, and alluvial flat remnants. Slopes are 0 to 2 percent. Mean annual precipitation is about 7 inches, and mean annual temperature is about 49 degrees Fahrenheit.

### *Blacka Series*

The Blacka series consists of moderately deep, well-drained soils that formed in loess over alluvium derived from mixed rock sources. Blacka soils are on fan piedmont remnants. Slopes are 0 to 8 percent. Mean annual precipitation is about 7 inches, and mean annual temperature is about 49 degrees Fahrenheit.

### *Broyles Series*

The Broyles series consists of very deep, well-drained soils that formed in a thin loess mantle over mixed loamy alluvium. Broyles soils are on fan skirts, inset fan remnants, and fan aprons. Slopes are 0 to 8 percent. Mean annual precipitation is about 7 inches, and mean annual temperature is about 48 degrees Fahrenheit.

### *Bubus Series*

The Bubus series consists of very deep, well-drained soils that formed in alluvium derived from mixed rock sources of mostly volcanic origin that are high in content of pyroclastic materials. Bubus soils are on alluvial flat remnants and lake plain terraces. Slopes are 0 to 4 percent. Mean annual precipitation is about 7 inches, and mean annual temperature is about 49 degrees Fahrenheit.

### *Colbar Series*

The Colbar series consists of moderately deep, well-drained soils that formed in residuum and colluviums derived from rhyolitic and andesitic rocks. Colbar soils are on foothills. Slopes are 8 to 50 percent. Mean annual precipitation is about 9 inches, and mean annual temperature is about 48 degrees Fahrenheit.

### *Creemon Series*

The Creemon series consists of very deep, well-drained soils that formed mainly in silty alluvium of mixed rock sources and in some volcanic ash and loess. Creemon soils are on fan skirts, inset fans, lagoons, and fan aprons. Slopes are 0 to 8 percent. Mean annual precipitation is about 7 inches, and mean annual temperature is about 49 degrees Fahrenheit.

### *Old Camp Series*

The Old Camp series consists of shallow, well-drained soils that formed in some volcanic ash but mainly in residuum and colluviums weathered from tuffs, basalt, rhyolite, and andesite. Old Camp soils are on hills and mountains. Slopes are 4 to 75 percent. Mean annual precipitation is about 10 inches, and mean annual temperature is about 47 degrees Fahrenheit.

### *Raglan Series*

The Raglan series consists of very deep, well-drained soils that formed in some loess and volcanic ash but mainly in loamy, mixed alluvium and lacustrine materials derived from mixed rock sources. Raglan soils are on fan skirts. Slopes are 0 to 2 percent. Mean annual precipitation is about 7 inches, and mean annual temperature is about 48 degrees Fahrenheit.

### *Reese Series*

The Reese series consists of very deep, poorly drained soils that formed in loamy alluvium derived from mixed rock sediments that are of mostly volcanic origin and contain high amounts of pyroclastic materials. Reese soils are on alluvial flats and flood plains. Slopes are 0 to 2 percent. Mean annual precipitation is about 7 inches, and mean annual temperature is about 49 degrees Fahrenheit.

### *Rosney Series*

The Rosney series consists of very deep, well-drained soils that formed in loess capped silty alluvium of lacustrine materials derived from some volcanic ash but mainly of mixed rock. Rosney soils are on alluvial flat remnants and fan skirts. Slopes are 0 to 2 percent. Mean annual precipitation is about 7 inches. Mean annual temperature is about 49 degrees Fahrenheit.

### *Sonoma Series*

The Sonoma series consists of very deep, poorly drained soils that formed in silty alluvium of some volcanic ash but mainly of mixed rocks. In some areas stream channel entrenchment has altered drainage. Sonoma soils are on flood-plains and basin floor remnants. Slopes are 0 to 2 percent. Mean annual precipitation is about 7 inches, and mean annual temperature is about 50 degrees Fahrenheit.

### *Wendane Series*

The Wendane series consists of very deep, somewhat poorly drained soils that formed in silty alluvium derived from volcanic rocks, tuff, loess, and volcanic ash. Wendane soils are on alluvial flats. Slopes are 0 to 2 percent. Mean annual precipitation is about 7 inches, and mean annual temperature is about 48 degrees Fahrenheit.

### *Whirlo Series*

The Whirlo series consists of very deep, well-drained soils that formed mainly in mixed alluvium and in some loess. Whirlo soils are on inset fans, fan aprons, and fan skirts. Slopes are 0 to 15 percent. Mean annual precipitation is about 7 inches, and mean annual temperature is about 48 degrees Fahrenheit.

### 3.2.8 Wastes, Hazardous and Solid

No obvious indications of hazardous waste or contamination within the project area were identified as a result of informal observations during a baseline study by JBR Environmental Consultants, Inc. (JBR) in January 2010.

The proposed tank site is located approximately 500 feet east of the Battle Mountain Landfill. Because of its proximity to the landfill, a Phase 1 Environmental Site Assessment (per the American Society of Testing and Material Standards) was completed to determine the possible presence of hazardous and solid waste at the tank site. During the field survey, no signs of obvious onsite concerns (soil staining, drums, waste piles, or odors) were observed. Federal and state hazardous waste databases were searched to check for the presence of registered waste associated with this property. No records were found to indicate that the tank site was associated with hazardous waste concerns. A Phase 1 Environmental Site Assessment was not conducted for any portion of the project area outside of the proposed tank site.

### 3.2.9 Vegetation

Commonly occurring vegetation throughout the project area includes black greasewood (*Sarcobatus vermiculatus*) and shadscale (*Atriplex confertifolia*), with stands of big sagebrush (*Artemisia tridentata*) occurring sporadically throughout. Within portions of the project surrounding the proposed well site, black greasewood occurs more frequently than other species. Southern portions of the proposed power line alignment contain these species in addition to rubber rabbitbrush (*Ericameria nauseosa* spp. *consimilis*), Basin wildrye (*Leymus* [formerly *Elymus*] *cinereus*) and horsebrush (*Tetradymia*). Big sagebrush occurs more frequently on portions of the project area between the proposed tank site and State Route 305 than elsewhere in the project area. However, the project area adjacent to State Route 305 is dominated by black greasewood. The vegetation in the project area north of State Route 305 is dominated by black greasewood, shadscale, and rubber rabbitbrush, except for the northern-most extent, which is dominated by halogeton (*Halogeton glomeratus*) and five-horn smoother weed (*Bassia hysopifolia*). Open stands of halogeton also dominate the tank site and areas immediately adjacent to the tank site. Cheat-grass (*Bromus tectorum*) occurs throughout the project area, though generally in low density. Species diversity is considered low throughout the project area.

### 3.2.10 Noxious Weeds/Invasive Non-Native Species

Within Nevada, noxious weeds are defined in the Nevada Revised Statutes (NRS) 555.005 as “any species of plant which is, or is likely to be, detrimental or destructive and difficult to control or eradicate.” The Nevada Department of Agriculture’s Noxious Weed Website ([http://agri.state.nv.us/PLANT\\_NoXWeeds\\_index.htm](http://agri.state.nv.us/PLANT_NoXWeeds_index.htm)) provides a list of all weeds currently listed as noxious for the state of Nevada.

A noxious weed inventory was conducted during a site visit in January 2010 by JBR. The inventory was conducted over the entire project area and included areas that would be contained within the temporary construction ROW. One state of Nevada noxious weed, tamarisk (*Tamarix* spp), was found in the project area. Two individual tamarisk plants were observed adjacent to

the Reese River, within the proposed alignment for the overhead power line (Figure 5). Tamarisk is a Category C weed in Nevada. Category C weeds are defined in NRS 555.010 as weeds that are currently established and generally widespread in many counties of the state; abatement is at the discretion of the state quarantine officer.

Halogeton and cheatgrass (*Bromus tectorum*), both invasive, non-native species, were found throughout the project area, though population density was generally low. Areas of denser halogeton occur near and south of the proposed water tank site.

### 3.2.11 Grazing Management

The primary laws that govern grazing on public land are the Taylor Grazing Act of 1934, the FLPMA, and the Public Rangelands Improvement Act of 1978. The Taylor Grazing Act directs that occupation and use of the range be regulated to preserve the land and its resources from destruction or unnecessary injury and to provide for the orderly use, improvement, and development of the range. FLPMA provides authority and direction for managing federal lands on the basis of multiple use and sustained yield, and it mandates land use planning principles and procedures for federal lands. The Public Rangelands Improvement Act established national policy to improve the condition of public rangelands in order to maximize productivity for all rangeland values to the greatest extent feasible.

Open water and wetlands are often favored by livestock, particularly during summer months. Favorable conditions in the project area are limited because of the lack of open water, with the exception of the Reese River in the southern portion of the project area.

The BLM manages rangelands on public lands under 43 CFR Part 4100 and BLM Handbooks 4100 to 4180. Under this management, a rancher may obtain a grazing permit for an allotment of public land on which a specified number of livestock may graze. An allotment is an area of land designated and managed for livestock grazing. The number of permitted livestock on a particular allotment on public land is determined by how many animal unit months (AUMs) that land will support. An AUM is the quantity of forage required for one mature cow and her calf (or the equivalent in sheep or horses) for one month.

The project area is located within portions of two grazing allotments: Argenta Allotment and Copper Canyon Allotment. Portions of the project area south of State Route 305 are located within the Argenta Allotment, and portions north of State Route 305 are in the Copper Creek Allotment (Figure 6). Livestock permitted to utilize both allotments include cattle and sheep. Horses are permitted to utilize the Argenta Allotment only. Table 3-4 summarizes the details of these two allotments.

**Table 3-4 Livestock Grazing Allotments**

Allotment	Public Acres	Permitted Livestock	Active AUMs <sup>1</sup>	Permitted AUMs <sup>2</sup>	Season(s) of Use
Argenta	144,974	Cattle, sheep, and horses	17,144	17,248	Throughout year
Copper Canyon	60,948	Cattle and sheep	5,023	5,358	Throughout year

<sup>1</sup> Includes AUMs on public land only.

<sup>2</sup> Includes permitted AUMs on public land only, including suspended AUMs.

### 3.2.12 Water Quality (Surface/Ground)

#### Surface Water

The only natural source of surface water in the project area is the Reese River, a tributary to the Humboldt River. The river is formed in the southern section of the Toiyabe Range in Nye County, Nevada, but quickly flows north into Lander County. The river eventually contributes its flow to the Humboldt River just north of Battle Mountain. However, flow fluctuates in the Reese River, and the river is especially susceptible to low flows during summer months. Within the project area, the Reese River exists as a series of braided channels and drains. The Reese River is not designated as a federal wild and scenic river.

The Reese River begins its flow as a well-oxygenated mountain stream with cooler waters capable of supporting coldwater fish species, such as brook trout and rainbow trout. However, as the river drops in elevation and reaches flatter portions of Lander County, the water temperature rises and water clarity decreases. The river becomes unable to support fish many miles upstream of the project area.

#### Groundwater

The project area is located within the Clovers Area and Lower Reese River Valley Hydrographic Areas within the Humboldt River Hydrographic Basin (Figure 7). The existing municipal water supply in Battle Mountain consists of groundwater withdrawn from three wells located in Clovers Area Hydrographic Area. Between 2006 and 2008, the arsenic content of the water ranged from 13 to 31 ppb (Shaw 2009), as shown in Table 3-5. The proposed underground water pipeline between the proposed water storage tank site and Battle Mountain would be located in the Clovers Area Hydrographic Area; no municipal water would originate from within this hydrographic area under the Proposed Action.

**Table 3-5 Groundwater Arsenic Content – Existing Battle Mountain Municipal Wells**

Year	Well #3 (ppb)	Well #4 (ppb)	Well #6 (ppb)
2006	16	31	19
2007	22	19	19
2008	16	13	18

SOURCE: (Shaw 2009)

The proposed water system would withdraw groundwater from the two wells that were recently constructed at the well site. The well site and the proposed tank site, are located in the Lower Reese River Valley Hydrographic Area. The existing Newmont Well, owned by the Newmont Mining Corporation, is located approximately 1,500 feet west of the proposed well site and is also in the Lower Reese River Valley Hydrographic Area. Although the well is no longer used for mining, it is equipped to provide water for open range livestock. Newmont Mining Corporation hydrologists have provided water quality data for this well indicating that the well has met primary and secondary drinking water standards and has reliably produced water for many years (Appendix D).

### **3.2.13 Floodplains**

Flooding hazards are characterized by the Federal Emergency Management Agency (FEMA) and portrayed on Flood Insurance Rate Maps (FIRMs). The relevant FIRMs by panel number for the proposed alignment are listed below:

Lander County, Nevada (Unincorporated Areas) FIRM Panels:

320013-0140-E (as revised July 15, 1988)

320013-0230-D (as revised July 15, 1988)

The great majority of the proposed alignment is within area mapped as Zone X, which is outside of the 500-year floodplain and 100-year floodplain. Approximately 1,400 feet of the southern most portion of the proposed power line alignment is located within area mapped as Zone A, which designates areas inundated by the 100-year flood event (Figure 7). This floodplain area is associated with the Reese River. The proposed well site, tank site, and underground water pipeline are not located within a floodplain, nor is any portion of the project area coinciding with BLM-administered public land.

### **3.2.14 Wetland/Riparian Zones**

JBR performed a preliminary wetland delineation in January 2010 to determine the extent of potentially jurisdictional waters of the U.S. that would be subject to regulation under Section 404 of the Clean Water Act. The Reese River is located in the southern extent of the project area containing the proposed overhead three-phase power line and qualifies as waters of the U.S. Within the project area, the river channel averages approximately 10 feet in width and 1 foot in depth. A flow rate of less than 1 cubic foot per second was observed by JBR during the January 2010 delineation. This portion of the project area is located on private land.

In addition to the Reese River, the U.S. Geological Survey topographic maps for the project area include three channels. These channels are mapped as terminating before reaching the Reese River, and thus lacking a connection to the river. Each channel was visited during the JBR preliminary delineation in January 2010 and investigated for applicability of regulation as waters of the U.S. Channels did not exhibit evidence of an ordinary high water mark or incision from erosion caused by flow of water. Accordingly, JBR determined that these channels do not qualify as waters of the U.S.

Riparian vegetation does not occur within the project area, including adjacent to or near the Reese River.

### **3.2.15 Wildlife and Fisheries**

The habitat in the project area is variable, considering the linear extent of the proposed water pipeline and proximity to Battle Mountain. Generally, habitat intersected by the proposed project south of State Route 305 consists largely of xeric shrub-scrub land, dominated by black greasewood and shadscale. Within this portion of the project area, particularly between the proposed tank site and State Route 305, big sagebrush occurs in isolated stands. Big sagebrush

also occurs in isolated stands near the proposed well site, though less frequently. The habitat is fragmented by roads, fences, and urban development associated with Battle Mountain. This is particularly evident in portions of the project area north of the proposed tank site. North of State Route 305, the project area consists largely of urbanized areas within Battle Mountain, and habitat is less available. The limited habitat that is available consists primarily of roadside patches of black greasewood, shadscale, and halogeton.

According to available Nevada Department of Wildlife (NDOW) GIS data, the entire project area is identified as suitable year long habitat for pronghorn antelope (*Antilocapra americana*). These same data indicate that the area is not utilized by mule deer (*Odocoileus hemionus*) or bighorn sheep (*Ovis canadensis*). Greater sage-grouse (*Centrocercus urophasianus*) are often associated with northern and central Nevada sagebrush habitats. According to NDOW GIS data, sage-grouse are not indicated to occur on land crossed by the proposed project.

On January 15 and January 16, 2010, JBR surveyed the project area for wildlife species, including special status species. During the January 2010 visit, a JBR biologist identified little wildlife as occurring within the project area. Several common ravens (*Corvus corax*) were observed, as was a single horned lark (*Eremophila alpestris*), and both species are considered migratory birds. Several black-tailed jackrabbits (*Lepus californicus*) were flushed during the field survey, and coyotes (*Canis latrans*) were heard from the southern section of the project area. Rodent burrows and canid digging were common, particularly on areas of mounded or dissected soil. Though not observed during the January 2010 field survey, habitat for Hungarian partridge (*Perdix perdix*) and California quail (*Callipepla californica*) exist within the project area. These species require access to water and would likely occur within areas closer to the Reese River or Battle Mountain, where water is more readily available. Reptiles in the project area likely include the sagebrush lizard (*Sceloporus graciosus*) and Great Basin gopher snake (*Pituophis catenifer deserticola*).

No special status wildlife species were observed during the January 2010 field survey. Special status wildlife species are discussed further in Section 3.2.16. Migratory birds are discussed further in Section 3.2.17.

### **3.2.16 Special Status Species**

Special Status Species include species listed or proposed for listing under the Endangered Species Act as threatened or endangered, candidate species, and species included on the BLM's sensitive species list for Nevada. Candidate species are those species or subspecies (i.e., taxa) that may warrant listing as threatened or endangered; there is sufficient information on biological vulnerability and threat(s) to support a rule to list them as threatened or endangered, but the issuance of a proposed rule to list is precluded by higher listing priorities. Proposed species are taxa for which a proposal to list the species as threatened or endangered is in the Federal Register.

According to a letter from the U.S. Fish and Wildlife Service (USFWS) dated February 10, 2010, Federally listed, proposed, or candidate plant or animal species are not known to occur in the project area (Appendix E). However, the Nevada Natural Heritage Program (NNHP) and the USFWS have indicated that habitat for BLM sensitive species may be present within the project area.

The BLM Nevada State Office identifies sensitive species that occur or have the potential to occur throughout Nevada. The BLM Manual 6840.06.2 states that species designated as Bureau sensitive must be native species found on BLM-administered lands for which the BLM has the capability to significantly affect the conservation status of the species through management, and either:

1. There is information that a species has recently undergone, is undergoing, or is predicted to undergo a downward trend such that the viability of the species or a distinct population segment of the species is at risk across all or a significant portion of the species range; or
2. The species depends on ecological refugia or specialized or unique habitats on BLM-administered lands, and there is evidence that such areas are threatened with alteration such that the continued viability of the species in that area would be at risk (6840.2A).

The BLM affords these species the same level of protection as federal candidate species. The BLM's policy for sensitive species is to avoid authorizing actions that would contribute to listing a species as threatened or endangered.

The NNHP has indicated that habitat for winged milkvetch (*Astragalus pterocarpus*) plant species may occur within 1 mile of the project area. Winged milkvetch is ranked S3 by NNHP, meaning the plant is vulnerable to decline because it is rare and local throughout its range, or has a very restricted range. Winged milkvetch is dependent on wetland margin areas and occurs on light-colored, alkaline, and often seasonally moist sandy silt or clay soils of saltgrass meadows, shrubby bottomlands, and low knolls. Because the plant is dependent on wetland margins, it is not likely to occur within the project area.

The NNHP has indicated that habitat for Nevada viceroy (*Limenitis archippus lahontani*), an invertebrate butterfly species, may occur within the project area or immediately adjacent to the project area. Viceroy caterpillars feed on trees in the willow family (*Salicaceae*), including willows (*Salix*) and poplars and cottonwoods (*Populus*). The caterpillars sequester the salicylic acid in their bodies, which make them bitter and less appealing to predators. Trees in the willow family do not exist within the project area, and the Nevada viceroy is not likely to occur.

The NNHP and USFWS have indicated that habitat for the pygmy rabbit (*Brachylagus idahoensis*) may be available within the project area. The USFWS has indicated that the project area may contain habitat for sage grouse (*Centrocercus urophasianus*) as well. Both of these species are dependent on sagebrush habitat. Sagebrush habitat in the project area is limited to occasional stands of isolated big sagebrush. During the JBR wildlife survey in January 2010, all sagebrush habitat within the project area was surveyed for pygmy rabbits and evidence of pygmy

rabbits (burrows, tracks, and small pellets). While burrows were common, no small pellets were observed by JBR. Based on the limited amount of sagebrush habitat present in the project area and the lack of small pellets, tracks, or observations, it is very unlikely that pygmy rabbits occur in the project area. The general lack of sagebrush also makes it very unlikely that sage grouse occur within the project area.

During the January 2010 survey, JBR also examined the project area for burrowing owls (*Athene cunicularia*), a migratory bird and a designated BLM sensitive species. Burrowing owls generally inhabit open areas with low vegetation. These owls utilize underground burrows for nesting and shelter. Nesting areas characteristically include an elevated perch site or sites, such as fence posts or mounds of earth. The burrowing owl is migratory in the Great Basin, though an occasional individual may overwinter (Ryser 1985). The height and density of shrub cover in the project area suggest that suitable burrowing owl habitat is not readily available. Open stands of halogeton near and south of the proposed water tank, and some dissected areas do represent potential burrowing owl habitat.

The project area represents suitable habitat for the golden eagle (*Aquila chrysaetos*), prairie falcon (*Falco mexicanus*), and loggerhead shrike (*Lanius ludovicianus*). These three bird species are designated BLM sensitive species. All three prefer open grasslands, prairies, and shrub-steppe cover for foraging. Nesting habitat for the golden eagle and prairie falcon, which is typically cliffs, rock outcrops, and tall trees, is not provided within the project area. Loggerhead shrike prefer shrubs, such as sagebrush, for nesting. Although limited, nesting habitat for the loggerhead shrike may be present in the northern region of the project area, which is located on private land.

### **3.2.17 Migratory Birds**

Migratory birds include those species of birds that may breed in the project area but would migrate south, out of the area, prior to the onset of winter. Migratory bird species are protected under the Migratory Bird Treaty Act of 1918. This act prohibits killing or taking migratory bird species without a permit. Protection under the act extends to nesting birds and their eggs.

Avian species composition and density in the project area varies with season and habitat type. Avian species diversity is highest during the spring and summer months, when migrant species are present in the area. Species diversity decreases markedly during the fall and winter season, when many nesting species move south, out of the project area.

On January 15 and January 16, 2010, JBR surveyed the project area for wildlife species, including special status species. The only migratory bird species observed during this survey were the horned lark and the common raven. However, because the survey occurred after the onset of winter, it is possible that other migratory birds were not observed due to seasonal migration. Migratory species that were not observed during the January 2010 survey, but that would be expected to occur in the project area during the spring and summer, include house finches (*Carpodacus mexicanus*), Brewers and sage sparrows (*Spizella breweri* and *Amphispiza belli*, respectively), and common poorwills (*Phalaenoptilus nuttallii*).

## **CHAPTER 4 ENVIRONMENTAL CONSEQUENCES**

This chapter identifies and describes the environmental consequences that would result from implementation of the Proposed Action and alternatives to the Proposed Action, as well as cumulative impacts.

### **4.1 PROPOSED ACTION**

The following sections describe the environmental consequences which would result from authorization of the proposed ROW and water supply system. Review of the environmental consequences identifies both direct and indirect, temporary and permanent impacts resulting from the proposed project. Impacts to resources resulting from surface disturbance were analyzed under the assumption that the entire 60-foot-wide ROW would be impacted during construction, which would represent the maximum allowable extent of surface disturbance. This also assumes that Lander County would impact a 60-foot-wide corridor during construction on private land within the project area. Actual disturbance would likely be less, as most disturbance in the proposed construction ROW would abut water pipeline trenches and power line pole structures.

The existing conditions for each resource below can be found in Chapter 3.

#### **4.1.1 Land Use**

The proposed project would include approximately 31,909 linear feet of water pipeline, 8,890 feet of which would traverse public lands administered by the BLM. Portions of the pipeline occurring on public land would be contained within a 60-foot-wide ROW. The segment of pipeline between the storage tank and Battle Mountain would intersect State Route 305, approximately 400 feet south of the intersection of State Route 305 and 20th Street in Battle Mountain. During prior road improvement projects, State Route 305 was fitted with a below-surface casing to allow passage of utility lines under the road surface. The proposed water pipeline would utilize the existing casing for passage under State Route 305 and not require disturbance to the road surface. Any portion of the project coinciding with existing NDOT ROW would not occur until an encroachment permit is granted by NDOT.

Implementation of the Proposed Action would not restrict, prohibit, or alter existing ROW authorizations or land uses within the project area. The BLM would notify all existing and pending ROW grantees of the Proposed Action prior to implementation or otherwise. Lander County would obtain all the necessary ROWs and approvals from private landowners prior to construction. In addition, the land sale between the County and Nevada Land and Resource Company would be completed for the well site.

#### **4.1.2 Visual Resources and Esthetics**

Visual impacts resulting from implementation of the Proposed Action would be anticipated to be minimal, and are in conformance with the objectives of BLM VRM Class IV. The existing landscape contains overhead power lines, State Route 305, the landfill and landfill access road, unpaved roads, the existing Newmont well, and numerous livestock fences. The proposed project would contribute similar elements to the landscape that would result in unnoticeable to minimal changes in the visual appearance. Permanent elements of the visual landscape contributed by the Proposed Action would include two storage tanks, two wells, a gravel access road, and approximately 8,402 linear feet of overhead three-phase power line. Because roads, wells, and overhead power lines exist in the current landscape, the Proposed Action would only result in minimal impacts. Additionally, these components of the proposed water supply system would be visible from portions of State Route 305 south of the landfill access road.

Temporary short-term impacts would be visible from State Route 305 and southern Battle Mountain during construction. These impacts on esthetics include removal of vegetation cover during construction, soil stockpiles, and the presence of construction equipment. However, construction-related disturbance would be reclaimed and reseeded, and these impacts would contribute only short-term, minimal impacts to visual resources and esthetics.

#### **4.1.3 Recreation**

Recreational use of the project area is likely minimal based on the fragmentation of public land, lack of established facilities, and lack of natural features that would tend to attract substantial numbers of recreationists. Approximately 12.2 acres of BLM-administered public land would be contained within the 60-foot wide ROW. This area would be unavailable to recreationists during construction. In addition, the 1.5-acre tank site would be fenced and thus remain unavailable to recreationists once construction is completed. However, substantial areas of public land providing similar conditions are readily available in areas surrounding the proposed water supply system.

The Lander County remote control airplane flying field and the Lander County Gun Club firing and shooting range would experience temporary closure during construction of the proposed buried water pipeline. The closures would be short-term, estimated to last no longer than 20 days. However, should the portions of the water supply system near either of these facilities need repair requiring excavation, it is anticipated that temporary closure of up to 20 days at these facilities would be necessary. Repairs requiring excavation are not anticipated, although it is possible that such repair may be necessary under rare circumstances.

#### **4.1.4 Environmental Justice and Socioeconomics**

There are no minority communities or poverty areas within the project area. The municipal water supply would service the community as a collective whole, without regard to recipient's race, religion, economic worth, or other social and demographic status. Therefore the Proposed Action is not expected to impact environmental justice.

Direct impacts to socioeconomics are not expected as a result of the Proposed Action. The Proposed Action is not expected to directly generate a substantial amount of employment opportunities. The minimal employment opportunities that would be generated would largely be temporary, terminating upon completion of the construction efforts. The Proposed Action is unlikely to increase population in the area or generate demand for housing and community services. However, the proposed water supply system would be capable of meeting some portion of future demand, and could allow for future growth of Battle Mountain. While the Proposed Action would not directly result in the growth of Battle Mountain, it would prevent limitations on growth associated with water availability.

#### **4.1.5 Native American Religious Concerns**

Although specific issues/concerns or traditional/cultural properties were not identified by the Battle Mountain Band, participation opportunities continue to be available. If previously unknown traditional/cultural properties are encountered, Lander County would be required to implement the measures described in Section 2.2 ENVIRONMENTAL PROTECTION MEASURES and Section 4.2 MITIGATION MEASURES.

#### **4.1.6 Cultural Resources**

The construction, operation, and maintenance of the proposed project would not impact any known historic site or property. However, the potential exists for buried archaeological components, without a surface manifestation and previously unidentified, to be present in sediments along portions of the project area. An archaeological monitor would be present during initial ground-disturbing activities in this portion of the project area in order to ensure possible impacts to potential cultural resources are avoided. The assigned monitor would be a qualified archaeologist who meets Nevada BLM standards. Should a previously undiscovered cultural resource be discovered during construction of the proposed project, Lander County would halt activity near the site and immediately notify the BLM (and USACE if located on the tank site). Construction would not resume until the BLM provides notification to proceed. Because the proposed project would not impact known historic sites, and because Lander County would implement the measures described above to protect the site, impacts to cultural resources are not anticipated.

#### **4.1.7 Soils**

Assuming the entire width of the 60-foot ROW across BLM-administered public land and construction corridor on private land is disturbed; approximately 67.02 acres of soil substrate would be impacted. Only 12.24 acres of this impact would occur on public land administered by the BLM, and only 2.73 would be permanent impacts. Permanent impacts would result from the construction of the gravel access road. Temporary impacts of 9.5 acres would be short-term for the duration of construction and establishment of reclamation seeding. The other 54.8 acres of soil impacts would occur on private land or land within existing NDOT ROW. Permanent impacts to soils, in portions of the project area not located on BLM-administered land, would be for construction of the gravel access road, power line pole structures, tank site, and the well site. Permanent impacts in these areas would total approximately 13.1 acres. Impacts to soils would be minimized through use of BMPs during construction to control erosion and siltation.

Temporary impacts, on both private and public land, would be short-term. Following construction, disturbed areas would be reclaimed to approximate pre-construction contours. The reclaimed areas would be planted with a seed mix as described in Section 4.1.10. Because impacts to soils would largely be short-term and temporary, and because disturbed areas would be reclaimed and seeded, impacts to soils are anticipated to be minimal.

#### **4.1.8 Wastes, Hazardous and Solid**

Construction of the project would comply with regulatory requirements in conjunction with all necessary permits to avoid any adverse effects. Further, all project-related waste would be disposed of properly. All equipment and machinery would be maintained free of oil or other fluid leaks. An emergency spill kit would be kept on site during construction, and construction personnel would be trained in its use. The project area is not known to contain any hazardous waste sites (JBR 2010), and the Proposed Action would not create any hazardous waste sites. Impacts to hazardous and solid wastes are not anticipated under the Proposed Action.

#### **4.1.9 Vegetation**

Construction of the proposed project would result in the removal of approximately 63.6 acres of vegetation cover, assuming the entire 60-foot width of the ROW and construction corridor is disturbed. Approximately 11.6 acres of the removed vegetation would be located on public lands administered by the BLM. Of the 11.6 acres, approximately 2.6 acres of vegetation would be permanently removed due to construction of the gravel access road. The remaining disturbance would be temporary, short-term impacts that would be reclaimed and seeded following construction. All other areas of vegetation removal associated with construction would occur on private land, land owned by Lander County, or land within an existing NDOT ROW. These impacts total approximately 52.0 acres, and approximately 12.4 acres are anticipated to be permanent, including 1.5 acres at the new tank site. Should the proposed project require future maintenance or repair, approximately 9 acres of vegetation on BLM-administered public land could be removed. Any disturbance or impact to vegetation during repair would be short-term for the duration of repair construction and establishment of reclamation vegetation.

Permanent loss of vegetation cover totals approximately 15 acres and does not represent a substantial loss of vegetation type or cover on land within or around the project area. Actual short-term disturbance to vegetation would likely be less than described above, as disturbances are not likely to span the entire 60-foot-wide ROW or construction width. Most disturbances would be anticipated to be concentrated in areas immediately adjacent to the proposed water pipeline alignment or power line pole structures. Impacts to vegetation would be minimal considering the short-term nature of most disturbance, low species diversity of the existing vegetation cover, and abundance of similar vegetation surrounding the project area. Table 4-1 summarizes the vegetation impacts associated with implementation of the Proposed Action.

**Table 4-1 Potential Vegetation Impacts**

<b>Land Status of Project Area</b>	<b>Short-term Impacts (Ac.)*</b>	<b>Permanent Impacts (Ac.)</b>	<b>Total Impacts (Ac.)*</b>
BLM-administered public land	9.0	2.6	11.6
Private, Lander County-owned, NDOT ROW	39.6	12.4	52.0
<b>Total</b>	<b>48.6</b>	<b>15.0</b>	<b>63.6</b>

\*Area of impact determined with the assumption that the entire 60 foot wide ROW or construction width would be disturbed. Actual disturbance would likely be less, but would not exceed area provided in this table.

**4.1.10 Noxious Weeds/Invasive Non-Native Species**

The Proposed Action would result in disturbance on approximately 67 acres, assuming the entire 60-foot-wide ROW or construction width is impacted. Approximately 12.2 acres of this disturbance would occur on public lands administered by the BLM. The proposed surface disturbance would increase the risk of colonization by noxious and invasive weeds. Parts of the ROW are especially prone to colonization by weeds because they are located adjacent to heavily used roads, including State Route 305. Weed seeds may be more frequently transported along these heavily used roads. Species such as spotted knapweed (*Centaurea stoebe* [formerly *C. maculosa*]) and hoary cress (*Cardaria draba*) readily invade disturbed soils and could become established in the project area.

Lander County would minimize the potential for the establishment of noxious weeds and spread of invasive species by steam cleaning or power washing equipment prior to use in the project area and by reclaiming disturbed areas. ROW areas disturbed during construction would be seeded with an erosion control mix. Only certified weed-free hay would be used if hay bales are used for erosion control. The proposed seed mix and application rates in pounds per acre of pure live seed are as follows:

<u>Species</u>	<u>Rate pounds per acre</u>
Squirreltail	3.0
Great Basin wildrye	5.0
Indian ricegrass	5.0
Blue bunch wheatgrass	5.0
Palmer penstemon	2.0

To further reduce the potential for distribution or establishment of noxious weeds and invasive, non-native species, Lander County would implement mitigation measures requiring application of non-leaching herbicide at the well site and tank site, as described in Section 4.2. Lander County’s proposed construction practices, combined with mitigation, would prevent the Proposed Action from contributing to the spread or establishment of noxious weeds and invasive, non-native species.

#### **4.1.11 Grazing Management**

The proposed project would result in temporary, short-term impacts and minimal permanent impacts to grazing. During construction, as many as 11.6 acres (1.4 AUMs) of potential forage would be removed in portions of the project area coinciding with public land administered by the BLM. However, only 2.6 (0.31 AUMs) acres of potential forage impacts on BLM-administered public land would be permanently impacted; the remaining 9.0 acres represent temporary, short-term impacts lasting for the duration of construction and establishment of vegetation following reclamation. Temporarily disturbed areas would be scarified and seeded with a weed-free seed mix approved by the BLM (see Section 4.1.10 for seed mix). Approximately 52.0 acres of potential forage impacts would occur on portions of the project area that do not coincide with BLM-administered public land. Approximately 39.6 acres of this impact represent short-term impacts lasting for the duration of construction and establishment of vegetation following reclamation seeding. The remaining 12.4 acres represent permanent reductions in available forage. Permanent impacts are associated with construction of the gravel access road, tank site, well site, and overhead power line pole structures.

Should future maintenance and repair of the system be required, approximately 9 acres (1.1 AUMs) of forage on BLM-administered public land would be impacted. These impacts would be short-term for the duration of repair and establishment of vegetation following reclamation.

Permanent impacts to grazing are negligible, representing a loss of approximately 15 acres, approximately 2.6 acres (0.31 AUMs) of which are on BLM-administered public land. All other disturbance to forage would be temporary and short-term, and therefore impacts to grazing are expected to be minimal and short-term.

#### **4.1.12 Water Quality (Surface/Ground)**

The Proposed Action would permit Lander County to construct, operate, and maintain portions of a proposed water supply system that would withdraw groundwater from the Lower Reese River Valley Hydrographic Area for municipal use in Battle Mountain. Water quality analysis data indicate that groundwater from within the Lower Reese River Valley Hydrographic Area is compliant with all state and federal standards, including arsenic standards. Lander County conducted an exploratory well drilling program to test groundwater quality before selecting the final well site. Three test holes were drilled to a depth of approximately 800 feet bgs. Test hole #3 was drilled approximately 3,800 feet north of the proposed well site. Analysis of groundwater from the test hole indicate that arsenic content is generally less than 3 ppb and never more than 4 ppb. Test hole #1, approximately 10,200 feet north of the proposed well site, is also located within the Lower Reese River Valley Hydrographic Area. During October 2008, an analysis of groundwater from this test hole revealed arsenic content of less than 5 ppb (Appendix F).

Hydrogeologists from the Newmont Mining Corporation participated in the exploratory well drilling program by offering data and expert consultation. Data from the Newmont Mining Corporation indicate that arsenic content at the Newmont well, located approximately 1,500 feet west of the well site, was 2 ppb in 2001 (Appendix D). Additionally, the Newmont Mining Corporation

hydrogeologists stated that the Proposed Action would not significantly alter the water table or available groundwater. It is anticipated that the Proposed Action would have no effect on groundwater quality.

The only surface water present in the project area is the Reese River. The river channel would be crossed by the proposed overhead three-phase power line; however, the river would not be impacted by the proposed project. The power line pole structures would be constructed outside of the river channel, and the overhead power line would span aerially between the poles, across the width of the river. No construction or structures would occur in the Reese River, and Lander County would utilize BMPs during construction to prevent sedimentation of surface waters. Therefore impacts to surface water quality are not expected.

#### **4.1.13 Floodplains**

Approximately 1,400 linear feet of the proposed overhead three-phase power line would intersect the 100-year floodplain associated with the Reese River (Figure 7). However, only power line pole structures would be located on the ground within the floodplain. It is not anticipated that the pole structures would impact the floodplain or that any flood event would impact the pole structures. The Proposed Action would not have any foreseen affecting impact to floodplains.

#### **4.1.14 Wetlands/Riparian Zones**

The proposed project includes an overhead three-phase power line that would cross the Reese River, a waters of the U.S. The power line pole structures would be constructed outside of the river channel, and the overhead power line would span aerially between pole structures, across the width of the river. No construction or structures would occur in the Reese River, and therefore impacts to the river are not expected. The project area does not have any wetlands, riparian zones, or other waters of the U.S. that would be impacted by the proposed project.

#### **4.1.15 Wildlife and Fisheries**

No wildlife individuals or groups of individuals would be expected to be injured or killed as a result of implementation of the Proposed Action. Construction would progress in a general linear path along the water pipeline and overhead power line alignments. If wildlife were to occur in the alignment, it is expected that they would vacate the area prior to construction machinery reaching their location. The proposed power transmission lines may increase the potential of electrical shock for birds, especially for larger raptor species. Larger species have wider wing-spans that may contact two wires, a wire and pole structure, or other electrical ground. However, the power line would be constructed in accordance with the raptor-safe design criteria recommended by the Avian Power Line Action Committee (2006), thereby greatly reducing the threat of electrical shock. Beneficially, the proposed power pole structures may provide additional perching areas for raptors. This would be beneficial for raptors, but could result in increased predator attacks on smaller mammals and reptiles. However, the proposed power line pole structures would extend just over a mile from existing pole structures; thus most small mammals and reptiles in the proposed alignment are currently at risk of overhead raptor attack. Additionally, very little wildlife was observed in this area during the January 2010 wildlife survey by JBR.

Impacts to wildlife habitat are anticipated to be minimal and generally short-term. Most species would likely be located close to the Reese River where a water source is regularly available. It is anticipated that the Reese River would not be affected by the proposed project. Assuming the entire 60-foot-wide ROW or construction width is disturbed, approximately 63.6 acres of wildlife habitat in the project area would be impacted. Approximately 48.6 acres of this impact represent short-term impacts for the duration of construction and establishment of vegetation following reclamation. The remaining 15 acres of wildlife habitat impacts represent permanent disturbance associated with construction of the gravel access road, tank site and tank site fencing, well site, and overhead power line pole structures. Permanent impacts to habitat areas of this size do not represent a substantial loss of habitat when considering the abundance of similar habitat surrounding the project area. Approximately 9.0 acres of the temporary disturbance and 2.6 acres of the permanent disturbance would be located on BLM-administered public land.

Impacts to wildlife individuals or groups of individuals would not be anticipated. Impacts to wildlife habitat would be largely short-term and temporary, and the minimal permanent impacts represent a negligible area. Therefore impacts to wildlife would be minimal to non-existent. There are no fisheries in the project area and therefore no impacts to fisheries.

#### **4.1.16 Special Status Species**

The NNHP and USFWS have indicated that sagebrush habitat suitable for pygmy rabbit and sage grouse may be available within the project area. Though sagebrush does exist within the project area, it is not prevalent and is limited to occasional isolated stands of big sagebrush. Isolated populations are most common in the section of project area between the proposed water storage tank site and State Route 305. However, infrequent, small isolated stands occur elsewhere in the project area, including the northern half of the proposed well site. The wildlife survey by JBR in January 2010 did not identify any indication that either species occurs within the project area, including areas of sagebrush habitat. Based on the lack of suitable habitat and lack of evidence supporting presence of the species during the January 2010 wildlife survey, impacts to these species are not expected. Additionally, impacts to isolated stands of big sagebrush would be largely short-term for the duration of construction and establishment of reclamation vegetation.

The proposed project could impact burrowing owl habitat during construction. However, very little habitat was observed within the project area, and construction impacts would be temporary. Additionally, implementation of mitigation measures requiring a migratory bird nesting survey as described in Section 4.2 would prevent impacts to this BLM sensitive species and migratory bird.

Suitable foraging habitat for the golden eagle, prairie falcon, and loggerhead shrike would be impacted by the proposed project. Approximately 12.2 acres of BLM-administered public land would be impacted, all of which represent potential foraging habitat. However, 9 acres of this impacted habitat would be restored following construction and establishment of reclamation seeding. Approximately 52 acres of foraging habitat would be temporarily impacted on private land within the project area. Permanent impacts to nesting habitat on private land would be approximately 12.4

acres. Nesting habitat for the golden eagle and prairie falcon do not exist within, or adjacent to the project area. Nesting habitat for the loggerhead shrike is generally absent from the project area, but may be present in isolated locations in the northern area of the project area, which is located on private land. However, this habitat is less than ideal given its proximity to human disturbance, and proximity to better habitat nearby. Additionally, impacts in the northern extent of the project area would be temporary for the duration of construction and establishment of reclamation seeding.

Suitable habitat for the special status plant species, winged milkvetch, is not present in the project area. It is therefore anticipated that the species would not be impacted by the Proposed Action. The special status invertebrate species, Nevada viceroy, is not likely to occur in the project area due to the absence of trees belonging to the willow family and would not be impacted by the Proposed Action.

#### **4.1.17 Migratory Birds**

Implementation of the Proposed Action would result in impacts to migratory bird nesting habitat. Approximately 63.6 acres of potential migratory bird nesting habitat would be impacted, assuming the entire 60-foot-wide ROW or construction width is disturbed. Approximately 48.6 acres of this disturbance would be short-term for the duration of construction and establishment of vegetation after reclamation and seeding. Approximately 15 acres of nesting habitat would be permanently disturbed or displaced by construction of the gravel access road, tank site, well site, and power line pole structures. Approximately 9 acres of the temporary, short-term disturbance and 2.6 acres of the permanent disturbance would occur on BLM-administered public land. Should future repair or maintenance of the water supply system be necessary, approximately 9 acres of migratory bird nesting habitat on BLM-administered public land would be impacted. Impacts would be short-term for the duration of repair construction and establishment of vegetation following reclamation.

While implementation of the Proposed Action would temporarily and permanently disturb migratory bird nesting habitat, impacts to migratory nesting birds, including burrowing owls would be avoided through implementation of mitigation measures requiring a migratory bird nesting survey, as described in Section 4.2. Most disturbances to nesting habitat would be short-term, and permanently impacted nesting habitat represents an insignificant area considering the abundance of similar habitat surrounding the project area. Therefore the Proposed Action, when implemented in conjunction with mitigation measures, would result in minimal impacts to nesting habitat and no impacts to migratory birds or migratory bird nests.

## **4.2 MITIGATION MEASURES**

Based on the EA analysis, a BLM-qualified cultural resource monitor shall monitor activities in some portions of the project area. The monitor will ensure that eligible cultural resources will not be affected by proposed project activities. The following mitigation measures would be implemented in conjunction with the Proposed Action. The measures are designed to avoid or reduce the impacts associated with the Proposed Action.

1. The inadvertent discovery of previously unidentified Native American gravesites would require Lander County to implement procedures in compliance with NAGPRA, section (3)(d)(1). NAGPRA states that the discovering individual must notify the land manager in writing of such a discovery. If the discovery occurs in connection with an authorized use, the activity which caused the discovery is to cease and the materials are to be protected until the land manager can respond to the situation. Also, during project implementation, if any surface and/or subsurface cultural properties, items, or artifacts (e.g., stone tools, projectile points, etc.) are encountered, Lander County would not collect items and the BLM (and USACE if located on the tank site) would be contacted immediately. If the discovery relates to Native American heritage or history, the Battle Mountain Band Chairman would be notified as well. Cultural and archaeological resources are protected under the Archaeological Resources Protection Act (16 U.S.C 470ii) and the FLPMA (43 U.S.C. 1701).

The ARPA codified at 43 CFR 7, as well as the NAGPRA codified at 43 CFR 10, both provide protection for historic properties, cultural resources, and Native American funerary items and/or physical remains located on federal land. In addition, ARPA provides for the assessment of criminal and/or civil penalties for damaging cultural resources. Any unplanned discovery of cultural resources, human remains, items of cultural patrimony, sacred objects, or funerary items, requires that all activity in the vicinity of the find ceases, and notification be made to Doug Furtado, Field Manager, Mt. Lewis Field Office, 50 Bastian Way, Battle Mountain, NV, 89820 (775 – 635 – 4000), by telephone, with written confirmation to follow, immediately upon such discovery. The location of the find should not be publically disclosed and any human remains must be secured and preserved in place until a Notice to Proceed is issued by the authorized officer.

2. Lander County or its contractors would apply non-leaching herbicide at the proposed well site and storage tank site to prevent the establishment of noxious weeds and invasive, non-native species.
3. Disturbance to nesting migratory birds would be avoided by conducting land-clearing activities outside the migratory bird nesting season (approximately March 1 to July 31). If land-clearing activities must be constructed during the migratory bird nesting season, a preconstruction survey for nesting migratory birds would be performed by a qualified wildlife biologist. If active nests are found, nests would be avoided until the nesting attempt has been completed.

### **4.3 ALTERNATIVES TO THE PROPOSED ACTION**

Under the No Action Alternative, the BLM would not authorize the requested ROW and the proposed water supply system would not be constructed. In addition, the USACE would not reimburse Lander County for a portion of the costs to design and construct the new water storage

tank. However, the Battle Mountain municipal water supply would still be required to achieve compliance with the federal and state arsenic standard. The nearest known source of groundwater compliant with the standard is believed to be in the Lower Reese River Valley Hydrographic Area, south of Battle Mountain and south of public land administered by the BLM. Consequently, construction of a system capable of delivering compliant water to Battle Mountain is not possible without authorization to construct a water pipeline across BLM-administered public lands. The No Action Alternative would not permit authorization, and Battle Mountain's municipal water supply would remain noncompliant with the federal and state arsenic standard. Therefore the No Action Alternative fails to meet the purpose of the project.

Impacts to visual resources and esthetics, recreation, soils, vegetation, grazing management, and wildlife associated with the implementation of the Proposed Action would not occur under the No Action Alternative. Additionally, this alternative would not result in alteration of existing conditions for land use, environmental justice, Native American religious concerns, cultural resources, hazardous and solid waste, noxious weeds and invasive, non-native species, water quality, floodplains, wetlands and riparian zones, special status species, and migratory birds.

Because this alternative does not satisfy the project purpose and would not result in supplying Battle Mountain with an adequate volume of municipal water compliant with arsenic standards, socioeconomic conditions could be negatively impacted. Lander County would remain non-compliant with federal and state standards, and development of Battle Mountain would be limited by water availability.

#### **4.4 CUMULATIVE IMPACTS**

Cumulative impacts due to the Proposed Action were analyzed in conjunction with the past, present, and reasonably foreseeable activities in the cumulative effects study area (CESA). Cumulative impacts have been defined as "The impact which results from the incremental impact of the action, decision, or project when added to the other past, present, and reasonably foreseeable further actions, regardless of what agency (Federal or non-Federal) or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR 1508.7).

The CESA is located entirely within Lander County, Nevada, within the Reese River Valley generally south to southwest of Battle Mountain (Figure 8). The eastern and western limits of the CESA are defined by the western foot of the Shoshone Range and the centerline of State Route 305, respectively. The northern limits of the CESA extend from the centerline of Interstate 80 and just south of central Battle Mountain, and the southern limits are approximately 24 miles south of Battle Mountain. This area was identified as the CESA for analysis because the Proposed Action is unlikely to have measurable effects outside this area.

### Past and Present Activities

Past and present activities within the CESA consist of administrative land uses including the construction and operation of roadways, existing overhead power lines, a fiber optic line, and other utility rights-of-ways; mining-related activity; urban development; recreation; wildlife habitat; and livestock grazing. Specific projects include the growth and development of Battle Mountain, the Battle Mountain landfill and landfill access road, construction of Interstate 80 and State Route 305, the Newmont well, existing overhead power line corridors, construction of numerous unpaved roads in the area, construction of Mountain View Golf Course, and construction of the Lander County remote control airplane flying field and Lander County Gun Club shooting range. Aerial photographs were used to approximate the acreage of disturbance associated with each of these projects:

- Town of Battle Mountain – approximately 575 acres
- Battle Mountain landfill and access road – approximately 140 acres
- Lander County Airport – approximately 1,500 acres
- Interstate 80 – approximately 230 acres
- State Route 305 – approximately 270 acres
- Newmont well – minimal disturbance
- Overhead power lines – approximately 60 acres
- Numerous unpaved roads – approximately 310 acres
- Mountain View Golf Course – 110 acres
- Lander County remote control airplane flying field – approximately 5 acres

### Reasonably Foreseeable Activities

Reasonably foreseeable future activities in the CESA include the continued growth and development of Battle Mountain, continued operation of the Battle Mountain landfill, continued operation of the Lander County Airport, construction and maintenance of roads and utilities, and the Proposed Action. Portions of the CESA are presently allotted for livestock grazing, and this use is likely to extend into the reasonably foreseeable future, as is wildlife habitat. Dispersed recreational use within the CESA is likely to continue into the reasonably foreseeable future, including use of the Mountain View Golf Course and the remote control airplane flying field. Likewise, reasonably foreseeable activities include uses that are approved in the RMP and Record of Decision for the Battle Mountain District.

### Impacts

Past activities within the CESA have resulted in approximately 3,200 acres of disturbance at the landscape level. The development of Battle Mountain and construction of numerous dirt roads, and to a lesser extent, the construction of Interstate 80, were primary contributors of past disturbance. Some disturbance is expected from continued growth and expansion of Battle Mountain, which may include new structures, collector streets, and utility construction. The expansion of Battle Mountain would disturb an unquantifiable area, but disturbances would

likely impact the outer limits of the existing Battle Mountain, as new construction and development tends to radiate outward from the existing development. Aside from the growth of Battle Mountain and the Proposed Action, no other known projects are reasonably foreseeable and a continued downward trend of resource loss is not expected.

Implementation of the Proposed Action would result in approximately 48.6 acres of temporary ground disturbance associated with construction of the proposed water supply system, Approximately 9.0 acres of which would be on BLM-administered public land. Approximately 15 acres of permanent loss to vegetation and habitat would occur on portions of the project area coinciding with the tank site, wells, power line pole structures, and gravel access road. Approximately 2.6 acres of this permanent disturbance would be located on public land administered by the BLM. Resource effects of the Proposed Action are minimal and include effects to visual resources, recreation, soils, vegetation, noxious weeds and invasive non-native species, grazing, wildlife, and migratory birds. The relative effects of the Proposed Action are small and incremental compared with disturbance and habitat loss from past and present actions.

Cumulative effects would be reduced with the implementation of BMPs and revegetation of areas disturbed by the project. The contribution of the Proposed Action to cumulative losses of these resources would be extremely small when compared with the effects of past, present, and reasonably foreseeable actions in the CESA. For projects requiring BLM approval including the Proposed Action, the BLM would require the project applicant to avoid and/or mitigate potential adverse effects, thus minimizing cumulative losses.

#### **4.5 RESIDUAL IMPACTS**

With the successful implementation of the environmental protection measures and BMPs incorporated into the Proposed Action, the project would result in only minimal residual impacts. The construction of the gravel access road, tank and well sites, and power line pole structures represent a permanent loss of approximately 15 acres (2.6 acres on BLM-administered public land) of natural habitat and grazing area.

#### **4.6 COMPLIANCE WITH FEDERAL LAWS AND REGULATIONS**

##### **Archaeological Resources Protection Act (43 CFR 7) and the Native American Graves Protection and Repatriation Act of 1990 (43 CFR 10). *Compliance.***

These acts both provide protection for historic properties, cultural resource, and Native American funerary items and/or physical remains located on federal land. In addition, ARPA provides for the assessment of criminal and/or civil penalties for damaging cultural resources. Should any unplanned discovery of cultural resources, human remains, items of cultural patrimony, sacred objects, or funerary items occur, all activity in the vicinity of the find shall cease. Immediately upon such discovery, Mr. Doug Furtado, Field Manager, Mt. Lewis Field Office, 50 Bastian Way, Battle

Mountain, NV, 89820 (775-635-4000), should be notified by telephone, and provided with written confirmation immediately thereafter. The location of the find should not be publically disclosed and any human remains must be secured and preserved in place until a Notice to Proceed is issued by the authorized officer.

**Clean Air Act, as amended and recodified (42 U.S.C. 7401 et seq.).** *Compliance.*

The project is not expected to violate any federal or state air quality standards, or hinder the attainment of air quality objectives in the local air basin. Lander County or its contractors would obtain a required Surface Area Disturbance permit from NDEP Bureau of Air Pollution Control. It is anticipated that the proposed project would have no significant effect on the future air quality of the area.

Section 176(c) of this act requires that federal agencies ensure that their activities are in conformance with federally approved State Implementation Plans for areas designated as "non-attainment" and "maintenance." This project would not be located in either type of designated area and therefore is not subject to this provision of the act.

**Clean Water Act (33 U.S.C. 1251 et seq.).** *Compliance.*

The proposed project would not include fill or alteration of waters of the U.S., and there are no wetlands in the project area. Therefore, the project is not subject to the provisions of Section 404 of the Clean Water Act. Lander County or its contractors would obtain a National Pollutant Discharge Elimination System (NDPES) permit from the State of Nevada since surface disturbance would exceed 1 acre of land and involve possible stormwater discharges to surface waters.

**Endangered Species Act (16 U.S.C. 1531 et seq.).** *Compliance.*

In letters dated June 11, 2009, and February 8, 2010, the USFWS indicated that to their knowledge, no listed, proposed, or candidate species occur in the project area (Appendix E).

**Executive Order 11988, Floodplain Management.** *Compliance.*

This order directs all federal agencies to avoid to the extent possible the adverse effects associated with the modification of floodplains and to avoid support of floodplain development wherever there is a practicable alternative. The Reese River 100-year floodplain is not anticipated to be adversely affected by the Proposed Action as only power line poles would be located in the floodplain. The poles would not hinder flood flows or intensify flood strength. All disturbed areas, including those in the floodplain, would be restored to pre-construction conditions (including elevation) once construction is completed. The proposed project does not include development of buildings, roads, or other structures that could introduce risks to human safety in the event of a flood. Further, the proposed project would not encourage future development of the floodplain nor would it alter the Reese River.

**Executive Order 11990, Wetlands. *Compliance.***

This order directs all federal agencies to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands. Because wetlands are absent in the project area, the project would have no effects on wetlands.

**Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. *Compliance.***

The order directs all federal agencies to identify any disproportionate human health or environmental effects of their programs, policies, and activities on minority and low-income populations. The project would have no such effects on any minority or low-income populations.

**Farmland Protection Policy Act (7 U.S.C. 4201). *Compliance.***

The project would have no effect on prime farmland or farmland of statewide importance because there is no such farmland in the project area.

**Federal Aviation Act of 1958, as amended (49 U.S.C. 1471 et seq.) *Compliance.***

The project would have no significant effect on the physical facilities, operation, or air safety issues related to the Lander County Airport. The proposed project does not include any structures that extend higher than existing structures and terrain.

**Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.) *Compliance.***

The proposed project would include the construction of a new water supply system that would provide Battle Mountain with municipal water compliant with all state and federal standards for drinking water. The municipal water supply would originate from groundwater and be stored in two storage tanks south of Battle Mountain. Construction, operation, and maintenance of the system would not divert, modify, impound, or otherwise control the Reese River or another waterway; this act does not apply to this project.

**Migratory Bird Treaty Act (15 U.S.C. 701-18h). *Compliance.***

This act requires that the project avoid destruction of active bird nests or newly birthed young of migratory birds that breed in the area from March to July. Prior to commencement of construction activities, a qualified biologist would be required to survey the proposed areas of disturbance to ensure that there are no active nests or newly birthed young of migratory birds. If active nests or young are located, construction in those areas would not be initiated until the young birds have fledged.

**National Environmental Policy Act (42 U.S.C. 4321 et seq.) *Compliance.***

Comments received during the public review period(s) would be carefully considered and incorporated into the final EA, as appropriate. The final EA, FONSI, if appropriate, and the Decision Record will be in full compliance with this act and complete the BLM's NEPA process. However, if there are significant impacts found during the EA process then an EIS would need to be prepared. Based on this environmental documentation, the USACE would also determine whether the project qualifies for a FONSI or whether as EIS must be prepared for the project.

**National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 et seq.). *Compliance.***

In a letter dated May 28, 2009, the Nevada State Historic Preservation Office (SHPO) recommended an archeological inventory of the entire project area (Appendix G). KEC performed the inventory in January and February 2010 and determined that the Proposed Action would not result in impacts to any known historic site. The BLM will submit a letter to the Nevada State Historic Preservation Officer (SHPO), requesting concurrence with the determination of no effect on historic properties. The response from the Nevada SHPO will be included in Appendix G of the final EA prior to completion of the NEPA process by the USACE.

In February and March 2010, the BLM provided maps, details pertaining to the proposed project, and site visit/meeting invitations to the administration offices of the local recognized tribal entity, Battle Mountain Band of the Te-Moak Tribe of Western Shoshone. The BLM requested information in regard to any traditional/cultural sites and activities, issues or concerns, or participation opportunities with the proposed plan boundary. The Battle Mountain Band did not identify any concerns or issues associated with the Proposed Action. Band leadership has responded with no specific issues/concerns identified.

**Wild and Scenic Rivers Act (16 U.S.C. 1271 et seq.). *Compliance.***

The only river in or near the project area is the Reese River. This river is not designated as a federal wild and scenic river under this act.

#### **4.7 PUBLIC REVIEW AND COMMENT**

The public has an important role in the NEPA process, particularly in commenting on a Federal agency's NEPA documents. As such, the draft EA will be circulated for a 30-day review period to agencies, organizations, and individuals known to have an interest in the project. The draft document will also be made available for review on the BLM's website. All comments received will be considered thoroughly and incorporated into the final EA, as appropriate.

**CHAPTER 5**  
**TRIBES, INDIVIDUALS, ORGANIZATIONS, OR AGENCIES CONSULTED**

**5.1 CONSULTATION**

The following tribes, individuals, organizations, or agencies were consulted during preparation of this EA:

Steve Brigman, P.E.	Shaw Engineering
Deborah Teske	Lander County
Jacob Edgar	Lander County
Ryan Cook, P.L.S.	Summit Engineering Corporation
Barbara Malinky, M.A.	Kautz Environmental Consultants, Inc.
Eric Miskow	Nevada Natural Heritage Program
Robert Williams	U.S. Fish and Wildlife Service
Steve Foree	Nevada Department of Wildlife
Rebecca Lynn Palmer	State Historic Preservation Office
Lynne Stevenson	U.S. Army Corps of Engineers, Sacramento District
Battle Mountain Band Council	Te-Moak Tribe of Western Shoshone Indians

## CHAPTER 6 LIST OF PREPARERS

### 6.1 LIST OF PREPARERS

#### Bureau of Land Management

Chuck Lane	Project Lead, Realty Specialist
Angelica Rose	Planning and Environmental Coordinator
Nancy Lockridge	Land Law Examiner
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Gerald Dixon	Native American Coordinator
Janice George	Archeologist
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Catherine Clark	Project Manager
David Worley	Senior Biologist
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## **CHAPTER 7 REFERENCES**

### **7.1 REFERENCES**

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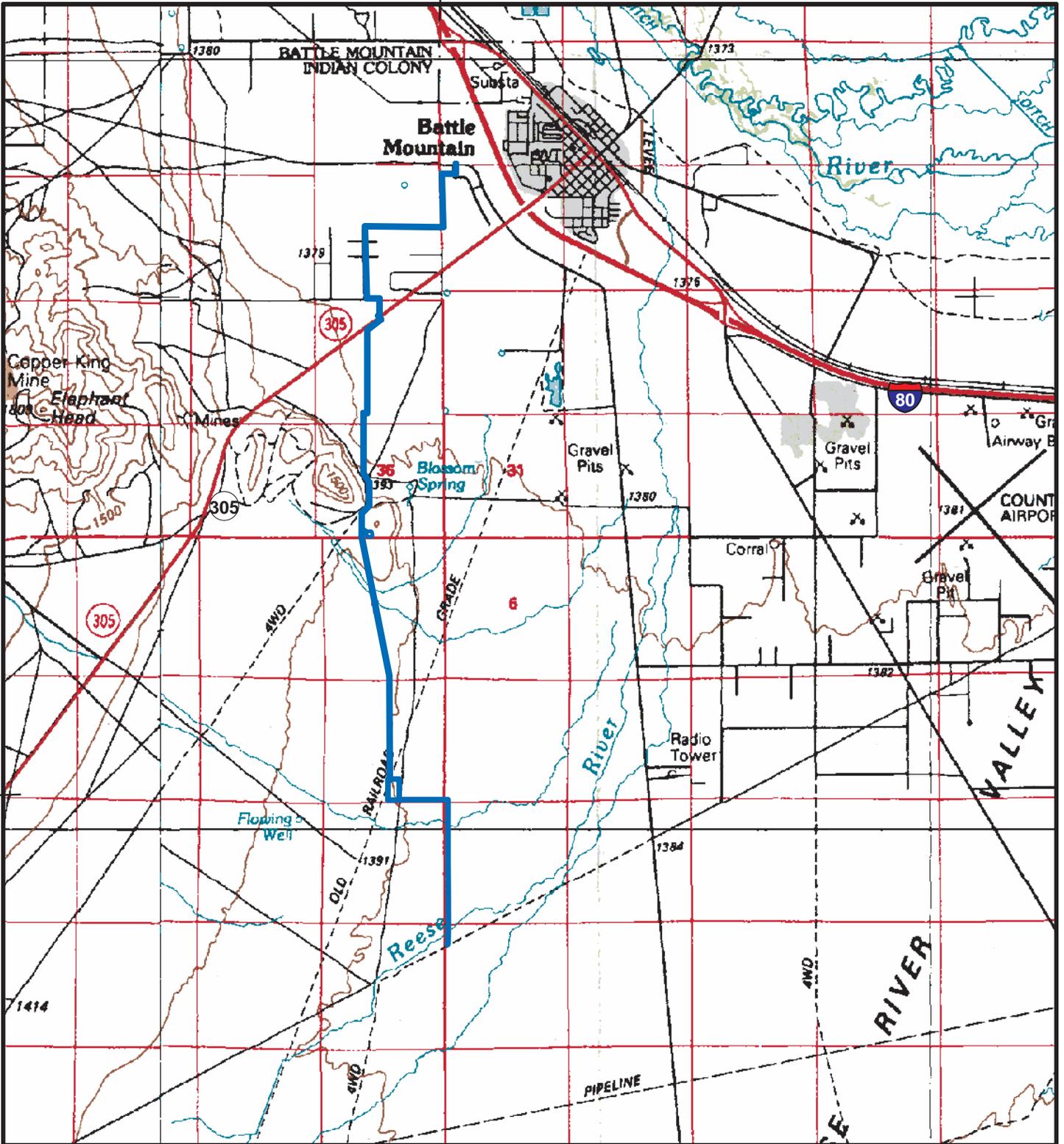
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## **FIGURES**

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R44E, R45E

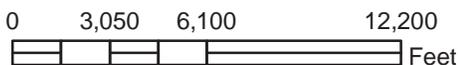


T31N T32N

BASE IMAGE: USGS DRG 1:100,000

MAP DATE: April 19, 2010

PROJECT AREA



IF THE ABOVE BAR DOES NOT SCALE 1 INCH, THE DRAWING SCALE IS ALTERED

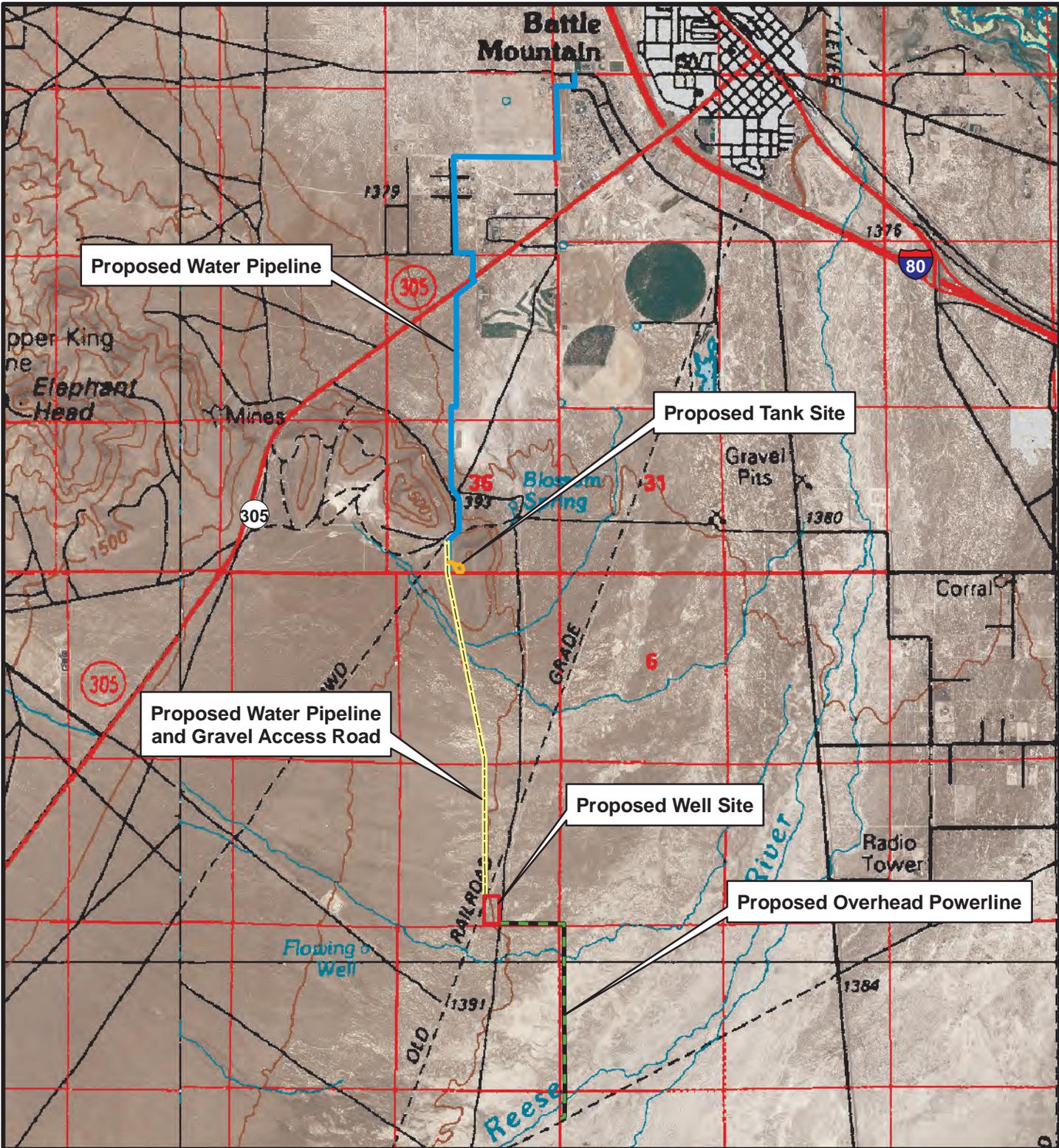
**LANDER COUNTY PUBLIC WORKS DEPARTMENT  
BATTLE MOUNTAIN  
WATER IMPROVEMENT PROJECT**

**FIGURE 1  
GENERAL LOCATION**



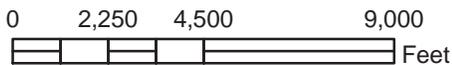
BLM Battle Mountain District Office  
Mount Lewis Field Office  
50 Bastian Road  
Battle Mountain, NV 89820

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data.



BASE IMAGE: 2006 NAIP IMAGRY; USGS DRG 1:24,000 MAP DATE: April 19, 2010

- PROPOSED WELL SITE
- PROPOSED TANK SITE
- PROPOSED OVERHEAD POWER LINE
- PROPOSED WATER PIPELINE/GRAVEL ACCESS ROAD
- PROPOSED WATER PIPELINE



IF THE ABOVE BAR DOES NOT SCALE 1 INCH, THE DRAWING SCALE IS ALTERED

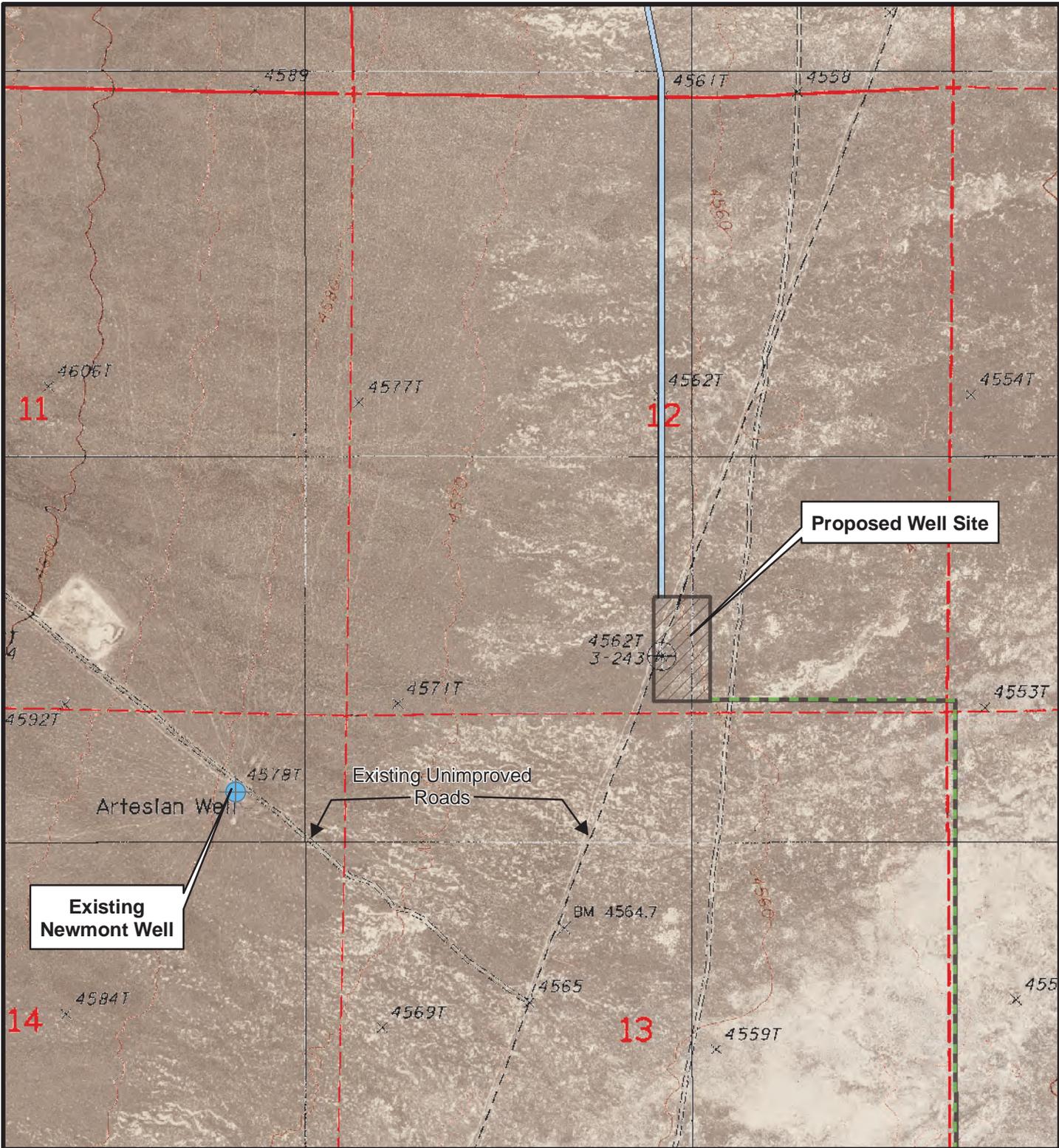
**LANDER COUNTY PUBLIC WORKS DEPARTMENT  
BATTLE MOUNTAIN  
WATER IMPROVEMENT PROJECT**

**FIGURE 2  
PROPOSED WATER SUPPLY SYSTEM**



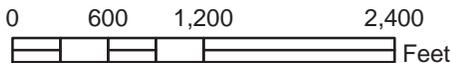
BLM Battle Mountain District Office  
Mount Lewis Field Office  
50 Bastian Road  
Battle Mountain, NV 89820

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BASE IMAGE: 2006 NAIP IMAGRY; USGS DRG 1:24,000 MAP DATE: April 19, 2010

-  EXISTING NEWMONT WELL
-  PROPOSED WELL SITE
-  PROPOSED WATER PIPELINE/GRAVEL ACCESS ROAD
-  PROPOSED OVERHEAD POWER LINE



IF THE ABOVE BAR DOES NOT SCALE 1 INCH, THE DRAWING SCALE IS ALTERED

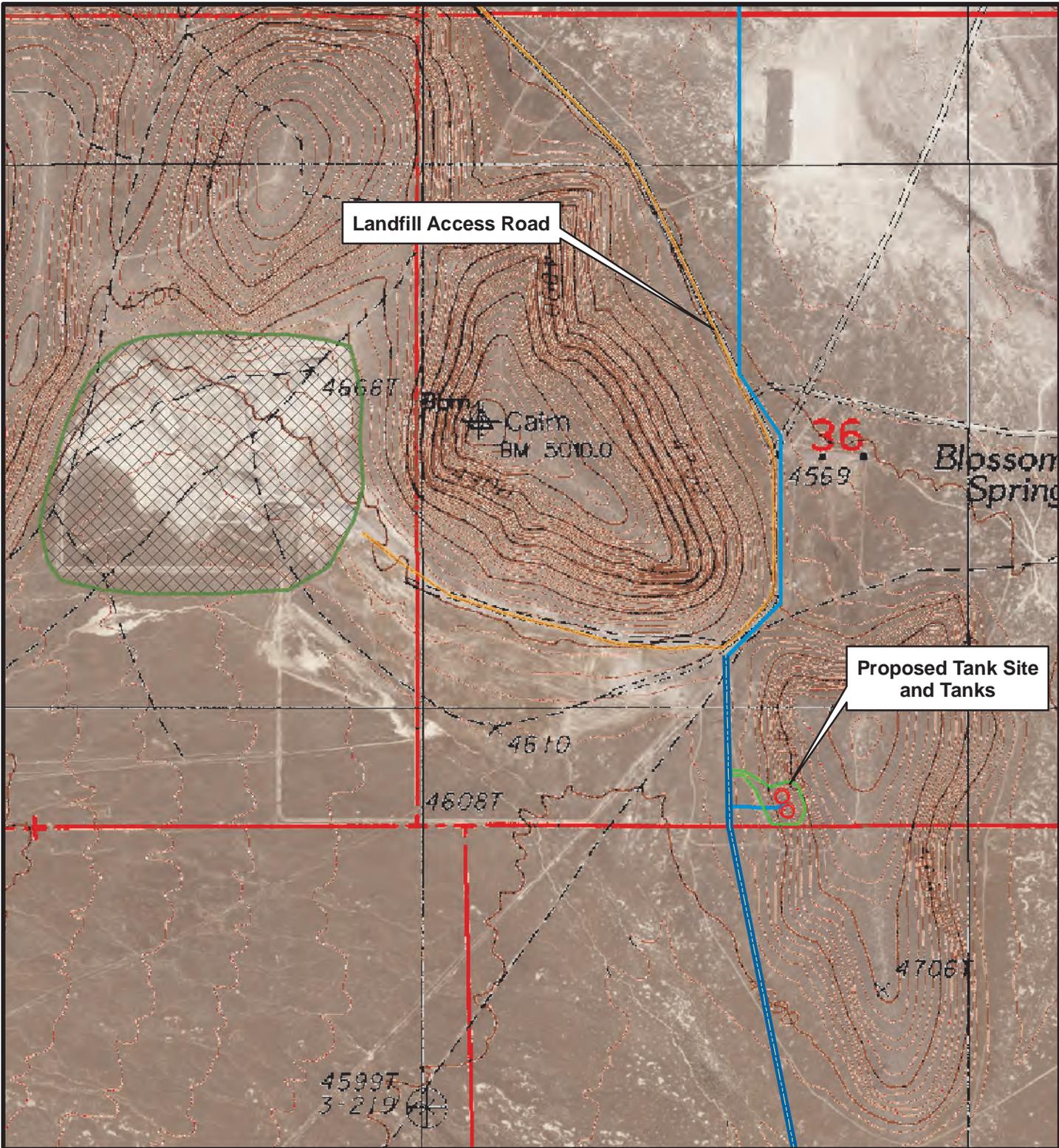
**LANDER COUNTY PUBLIC WORKS DEPARTMENT  
BATTLE MOUNTAIN  
WATER IMPROVEMENT PROJECT**

**FIGURE 2A  
PROPOSED WELL SITE DETAIL**



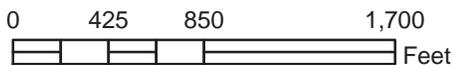
BLM Battle Mountain District Office  
Mount Lewis Field Office  
50 Bastian Road  
Battle Mountain, NV 89820

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BASE IMAGE: 2006 NAIP IMAGRY; USGS DRG 1:24,000 MAP DATE: April 19, 2010

- TANKS
- PROPOSED TANK SITE
- PROPOSED WATER PIPELINE
- PROPOSED WATER PIPELINE/GRAVEL ACCESS ROAD
- BATTLE MOUNTAIN LANDFILL (APPROXIMATE)



IF THE ABOVE BAR DOES NOT SCALE 1 INCH, THE DRAWING SCALE IS ALTERED

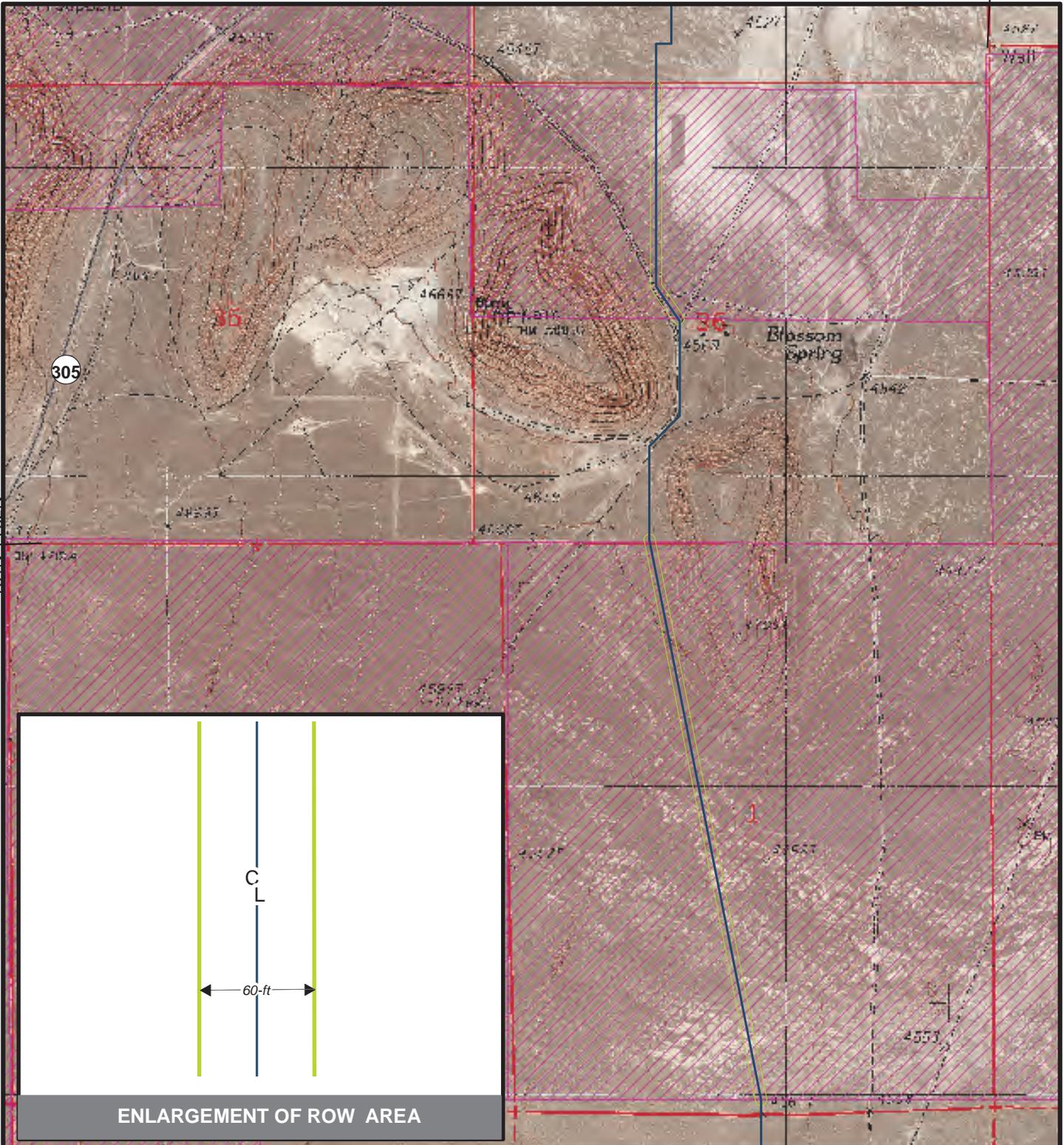
**LANDER COUNTY PUBLIC WORKS DEPARTMENT  
BATTLE MOUNTAIN  
WATER IMPROVEMENT PROJECT**

**FIGURE 2B  
PROPOSED TANK SITE DETAIL**



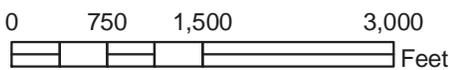
BLM Battle Mountain District Office  
Mount Lewis Field Office  
50 Bastian Road  
Battle Mountain, NV 89820

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BASE IMAGE: 2006 NAIP IMAGRY; USGS DRG 1:24,000 MAP DATE: April 19, 2010

-  PROPOSED WATER PIPELINE/ROW CENTERLINE
-  PERMANENT 60-FOOT WIDE ROW
-  PUBLIC LAND ADMINISTERED BY BLM



IF THE ABOVE BAR DOES NOT SCALE 1 INCH, THE DRAWING SCALE IS ALTERED

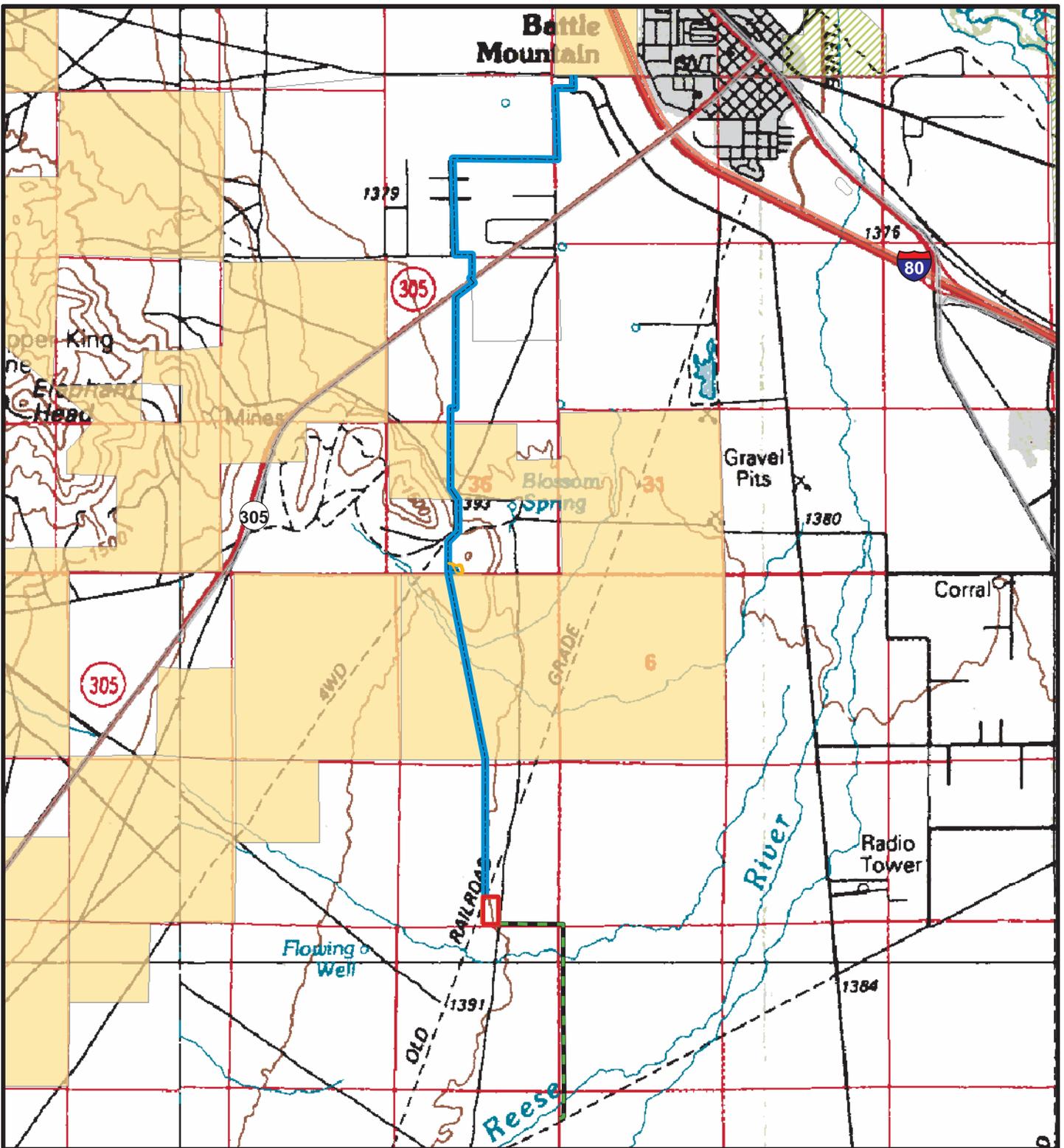
**LANDER COUNTY PUBLIC WORKS DEPARTMENT  
BATTLE MOUNTAIN  
WATER IMPROVEMENT PROJECT**

**FIGURE 2C  
REQUESTED BLM ROW AUTHORIZATION**



BLM Battle Mountain District Office  
Mount Lewis Field Office  
50 Bastian Road  
Battle Mountain, NV 89820

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BASE IMAGE: USGS DRG, 1:100,000

MAP DATE: April 19, 2010

- BLM
- PRIVATE
- BUREAU OF RECLAMATION
- PROPOSED OVERHEAD POWER LINE
- PROPOSED TANK SITE
- PROPOSED WELL SITE
- PROPOSED WATER PIPELINE



0 2,250 4,500 9,000  
 Feet

IF THE ABOVE BAR DOES NOT SCALE 1 INCH, THE DRAWING SCALE IS ALTERED

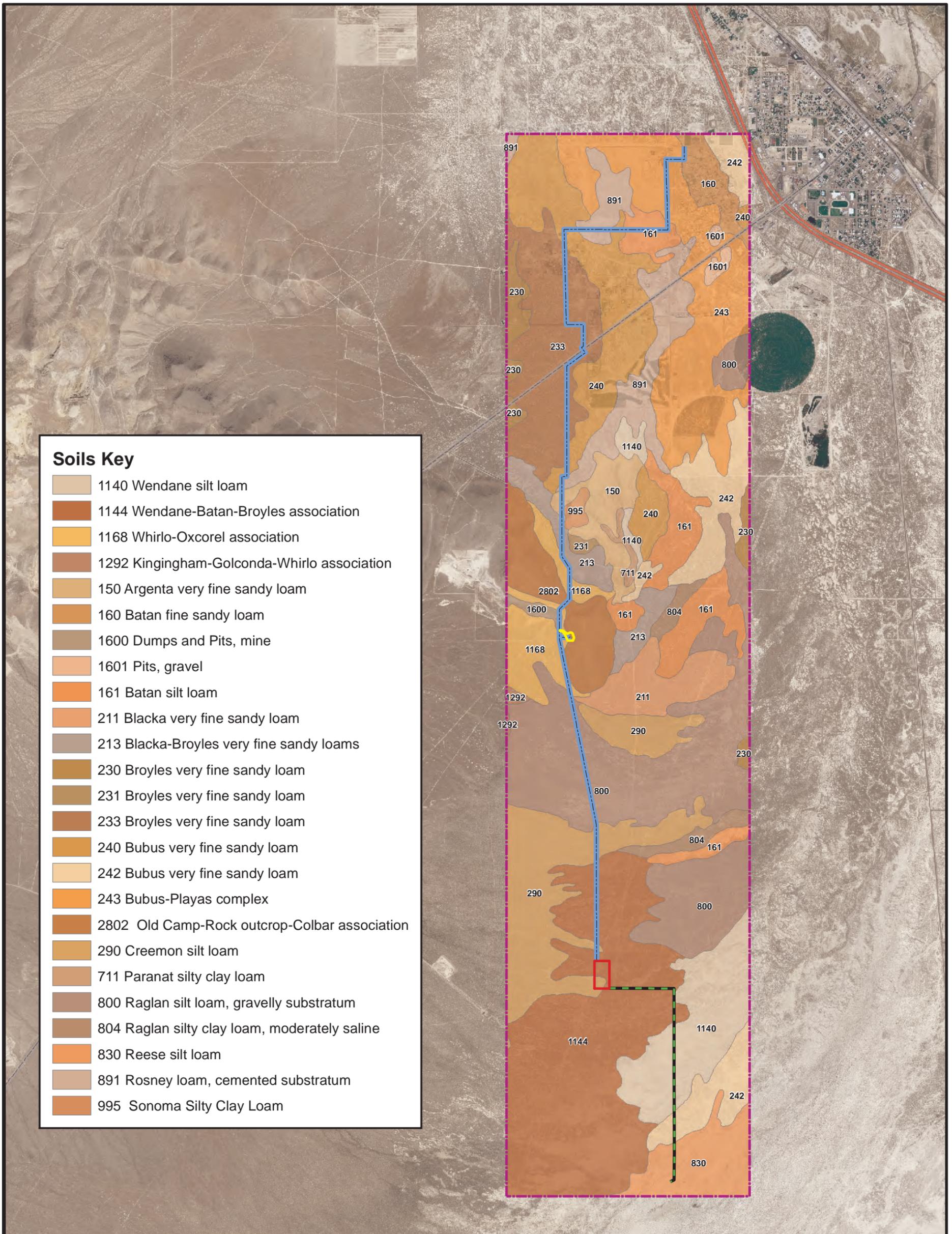
**LANDER COUNTY PUBLIC WORKS DEPARTMENT  
 BATTLE MOUNTAIN  
 WATER IMPROVEMENT PROJECT**

**FIGURE 3  
 LAND ADMINISTRATION/OWNERSHIP MAP**



BLM Battle Mountain District Office  
 Mount Lewis Field Office  
 50 Bastian Road  
 Battle Mountain, NV 89820

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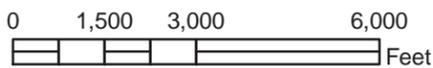
**Soils Key**

- 1140 Wendane silt loam
- 1144 Wendane-Batan-Broyles association
- 1168 Whirlo-Oxcorel association
- 1292 Kingingham-Golconda-Whirlo association
- 150 Argenta very fine sandy loam
- 160 Batan fine sandy loam
- 1600 Dumps and Pits, mine
- 1601 Pits, gravel
- 161 Batan silt loam
- 211 Blacka very fine sandy loam
- 213 Blacka-Broyles very fine sandy loams
- 230 Broyles very fine sandy loam
- 231 Broyles very fine sandy loam
- 233 Broyles very fine sandy loam
- 240 Bubus very fine sandy loam
- 242 Bubus very fine sandy loam
- 243 Bubus-Playas complex
- 2802 Old Camp-Rock outcrop-Colbar association
- 290 Creemon silt loam
- 711 Paranat silty clay loam
- 800 Raglan silt loam, gravelly substratum
- 804 Raglan silty clay loam, moderately saline
- 830 Reese silt loam
- 891 Rosney loam, cemented substratum
- 995 Sonoma Silty Clay Loam

BASE MAP: 2006 NAIP IMAGRY

MAP DATE: April 19, 2010

- LIMITS OF SOIL ANALYSIS
- PROPOSED TANK SITE
- PROPOSED WELL SITE
- PROPOSED POWER LINE
- PROPOSED WATER PIPELINE



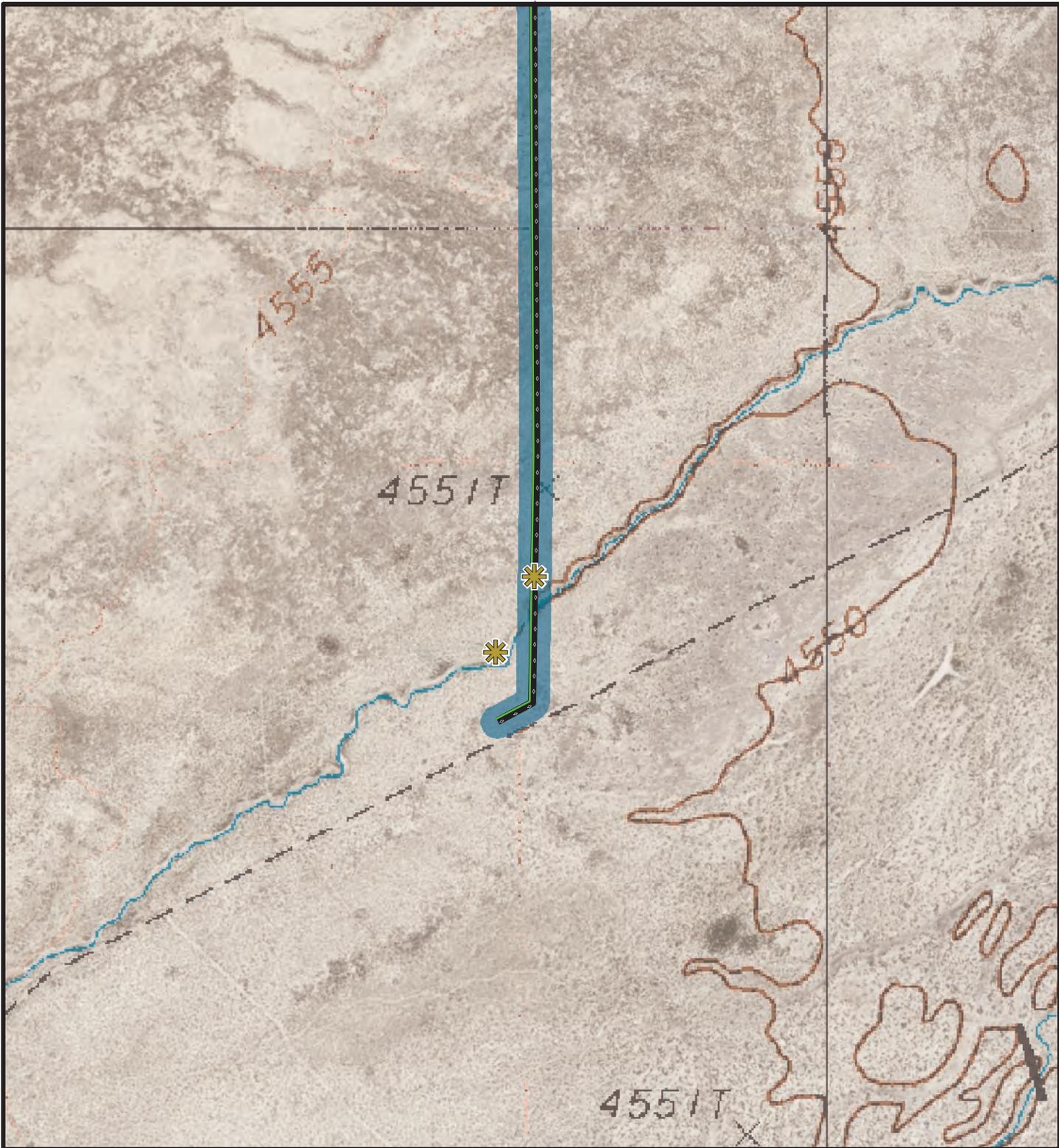
IF THE ABOVE BAR DOES NOT SCALE 1 INCH, THE DRAWING SCALE IS ALTERED

**LANDER COUNTY PUBLIC WORKS DEPARTMENT  
BATTLE MOUNTAIN  
WATER IMPROVEMENT PROJECT**

**FIGURE 4  
SOILS MAP**



BLM Battle Mountain District Office  
Mount Lewis Field Office  
50 Bastian Road  
Battle Mountain, NV 89820



BASE IMAGE: 2006 NAIP IMAGRY; USGS DRG, 1:24,000 MAP DATE: April 19, 2010



NOXIOUS WEED OCCURRENCE



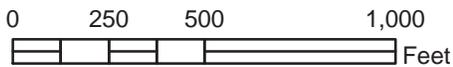
PROPOSED OVERHEAD POWER LINE



60-FOOT CONSTRUCTION WIDTH



IF THE ABOVE BAR DOES NOT SCALE 1 INCH, THE DRAWING SCALE IS ALTERED



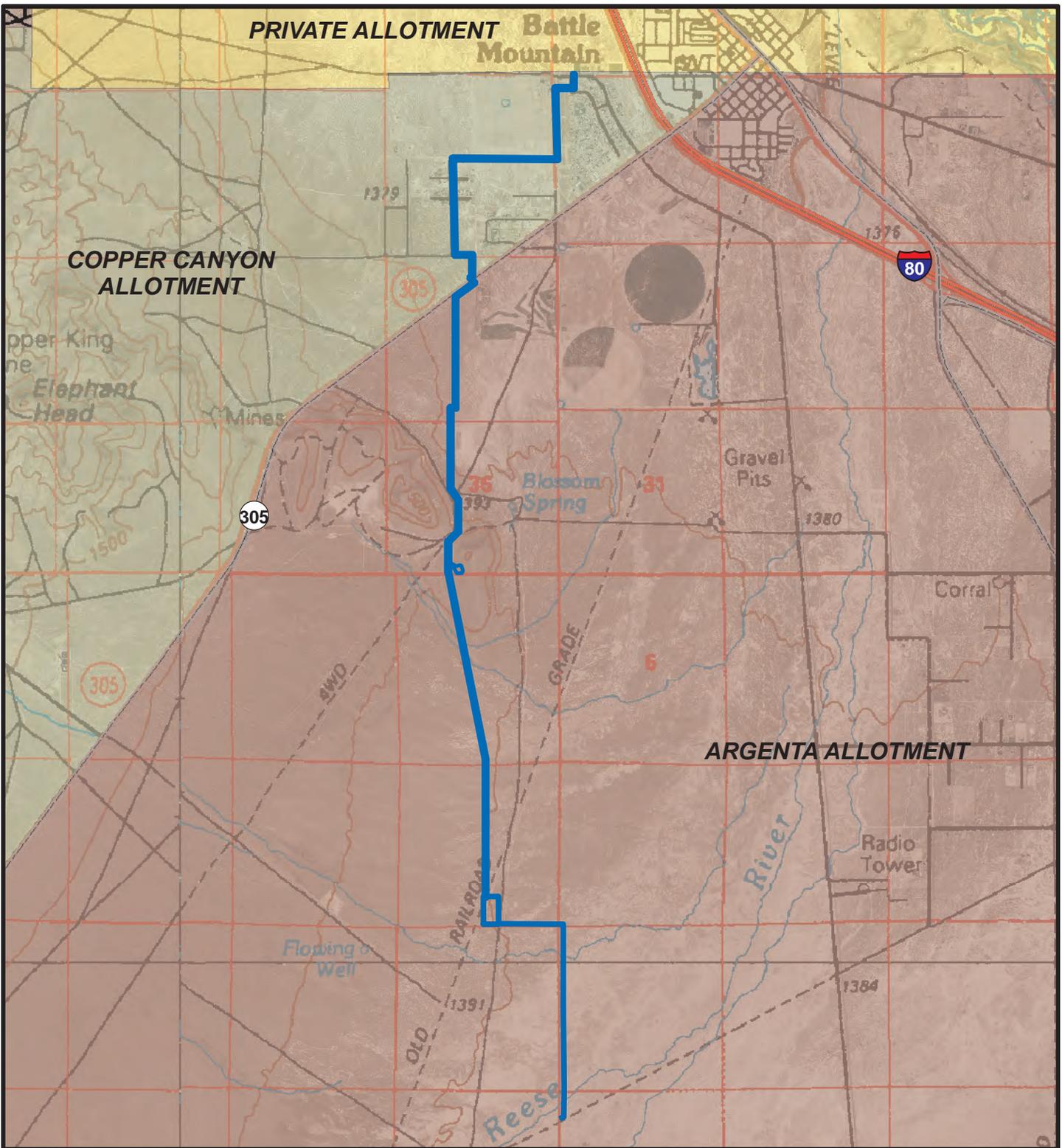
**LANDER COUNTY PUBLIC WORKS DEPARTMENT  
BATTLE MOUNTAIN  
WATER IMPROVEMENT PROJECT**

**FIGURE 5  
NOXIOUS WEEDS MAP**



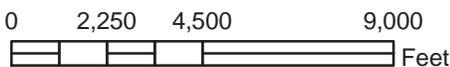
BLM Battle Mountain District Office  
Mount Lewis Field Office  
50 Bastian Road  
Battle Mountain, NV 89820

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BASE IMAGE: 2006 NAIP IMAGRY; USGS DRG 1:24,000 MAP DATE: April 19, 2010

- PROJECT AREA
- GRAZING ALLOTMENT**
- ARGENTA
- COPPER CANYON
- PRIVATE



IF THE ABOVE BAR DOES NOT SCALE 1 INCH, THE DRAWING SCALE IS ALTERED

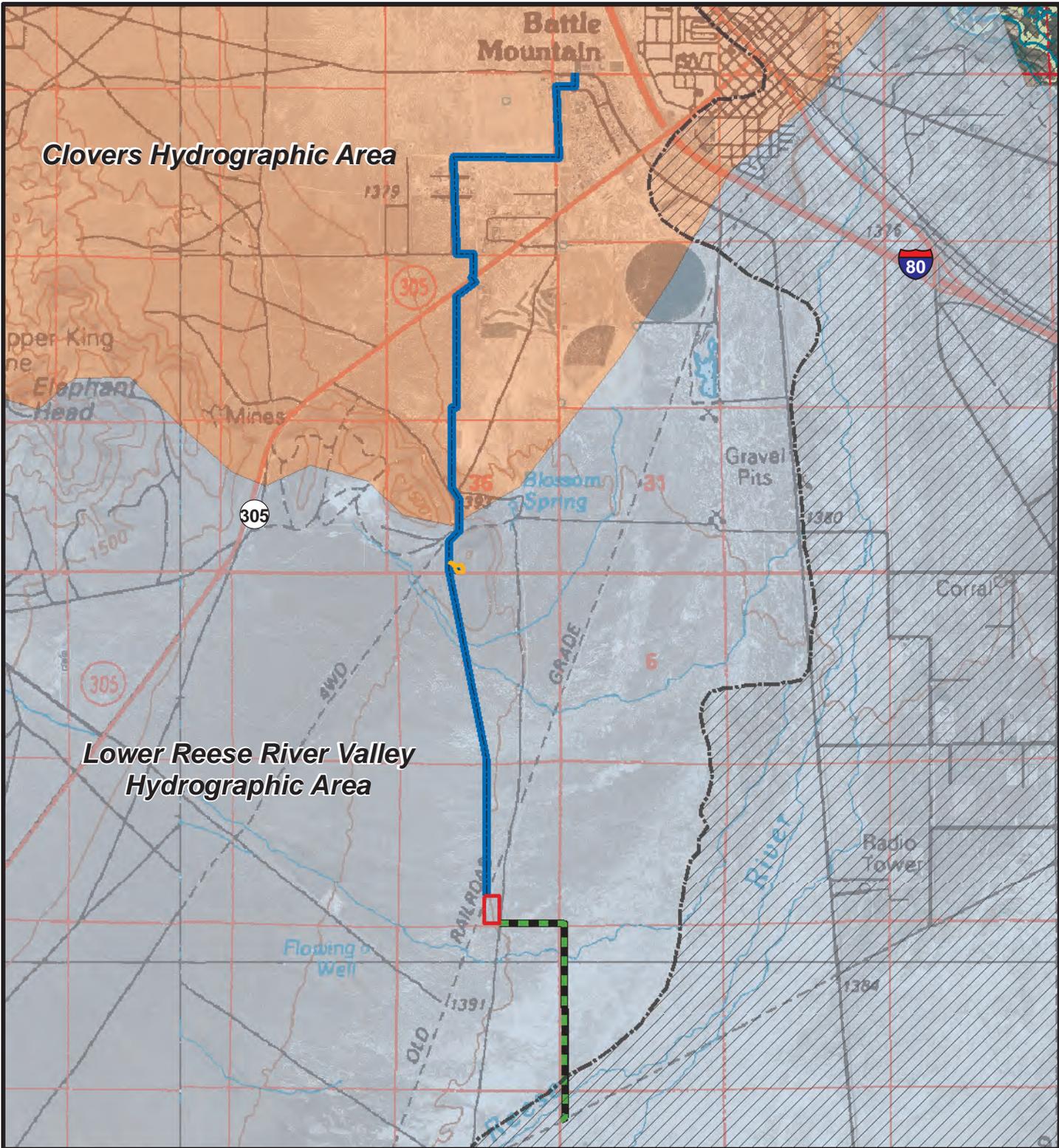
**LANDER COUNTY PUBLIC WORKS DEPARTMENT  
BATTLE MOUNTAIN  
WATER IMPROVEMENT PROJECT**

**FIGURE 6  
GRAZING ALLOTMENT MAP**



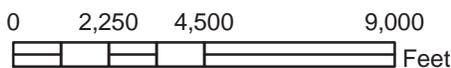
BLM Battle Mountain District Office  
Mount Lewis Field Office  
50 Bastian Road  
Battle Mountain, NV 89820

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BASE IMAGE: 2006 NAIP IMAGRY; USGS DRG 1:24,000 MAP DATE: April 19, 2010

- CLOVERS HYDROGRAPHIC AREA
- LOWER REESE RIVER VALLEY HYDROGRAPHIC AREA
- 100-YEAR FLOOD PLAIN
- PROPOSED OVERHEAD POWER LINE
- PROPOSED WATER PIPELINE
- PROPOSED WELL SITE
- PROPOSED TANK SITE



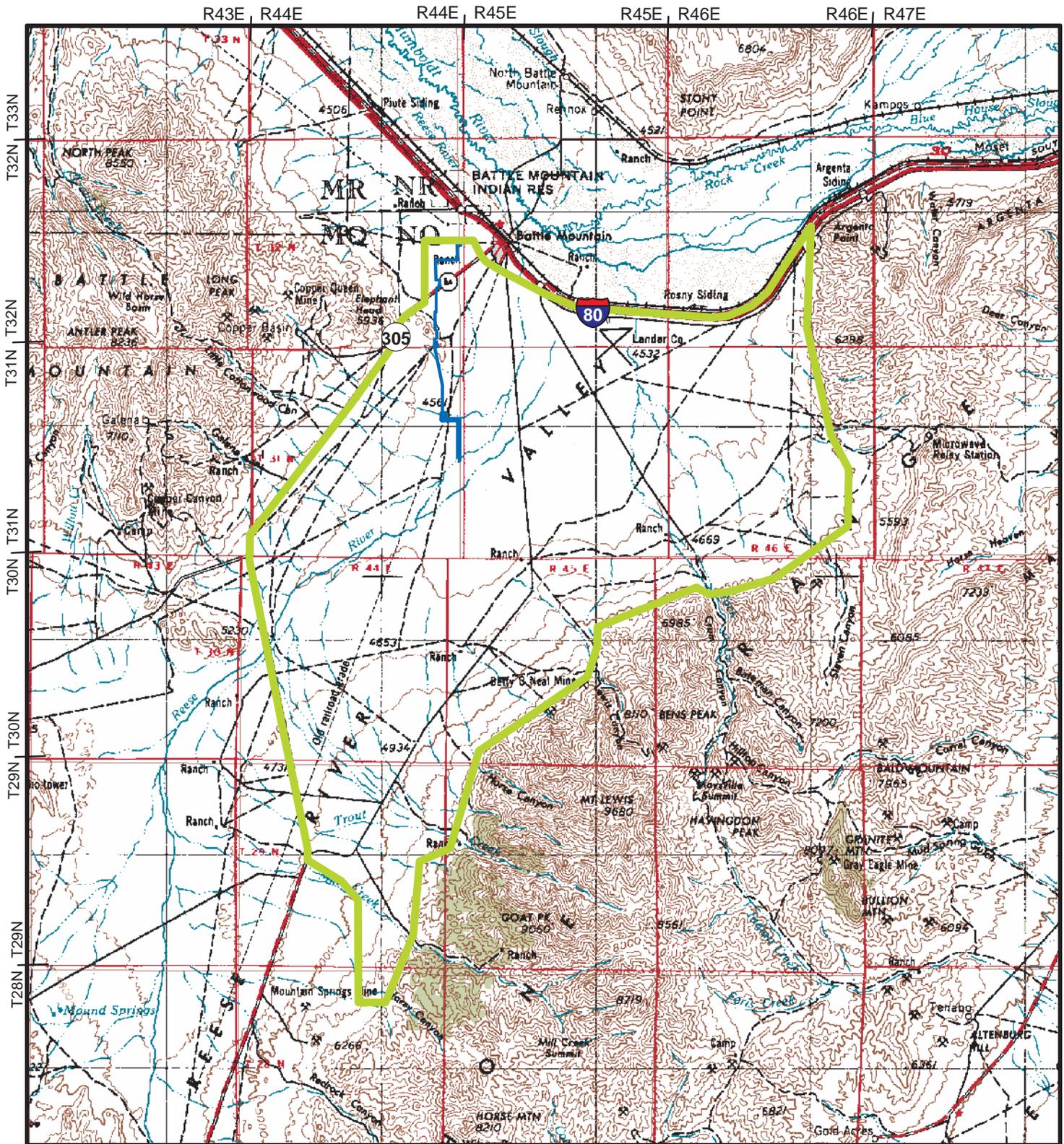
**LANDER COUNTY PUBLIC WORKS DEPARTMENT  
BATTLE MOUNTAIN  
WATER IMPROVEMENT PROJECT**

**FIGURE 7  
HYDROGRAPHIC AREAS AND  
FLOODPLAIN MAP**



BLM Battle Mountain District Office  
Mount Lewis Field Office  
50 Bastian Road  
Battle Mountain, NV 89820

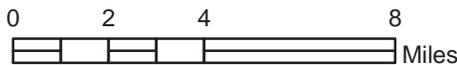
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data.



BASE IMAGE: USGS DRG 1:250,000

MAP DATE: April 19, 2010

- CUMMULATIVE EFFECTS STUDY AREA
- PROJECT AREA



IF THE ABOVE BAR DOES NOT SCALE 1 INCH, THE DRAWING SCALE IS ALTERED

**LANDER COUNTY PUBLIC WORKS DEPARTMENT  
BATTLE MOUNTAIN  
WATER IMPROVEMENT PROJECT**

**FIGURE 8  
CUMMULATIVE EFFECTS STUDY AREA**



BLM Battle Mountain District Office  
Mount Lewis Field Office  
50 Bastian Road  
Battle Mountain, NV 89820

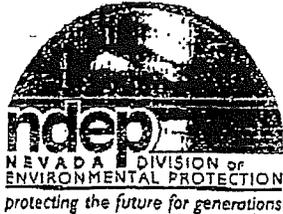
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data.

# **APPENDIX A**

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NDEP Arsenic Extension Letter

---



**STATE OF NEVADA**  
 Department of Conservation & Natural Resources  
 DIVISION OF ENVIRONMENTAL PROTECTION

Jim Gibbons, Governor  
 Allen Biaggi, Director  
 Leo M. Drozdoff, P.E., Administrator

October 10, 2008

**CERTIFIED MAIL**  
 7007 2560 0000 5998 1926  
 RETURN RECEIPT REQUESTED

Mr. ROGER SUTTON  
 PUBLIC WORKS DIRECTOR  
 550 W 2ND STREET  
 BATTLE MOUNTAIN, NV 89820

**RE: Arsenic Exemption EXTENSION for:  
 LA CO SEWER AND WATER DIST 1 BH, NV0000008**

Dear Mr. SUTTON;

Your Public Water System was granted an arsenic exemption on May 24th, 2007 by the Nevada State Environmental Commission. The exemption allowed public water systems additional time to become compliant with the new arsenic standard, which was lowered from 50 ppb to 10 ppb, effective on January 23, 2006. This exemption is set to expire on January 23, 2009.

When the exemption was granted, the public water system was given milestones to attain in the timeframe of the exemption, which are being tracked as practicable steps towards compliance. The arsenic rule allows for extensions to the exemption for those systems making progress towards compliance and that qualify due to their population and arsenic concentration. Systems under 3,300 in population and less than or equal to 30 ppb in arsenic concentration are eligible. Your systems' population is 3026 and the arsenic concentration is 24 ppb.

It has been determined by the Bureau of Safe Drinking Water (BSDW) that your public water system has made progress towards compliance with the new arsenic rule by completing some of these practicable steps outlined in the exemption, we are recommending your system for an extension of two years, until January 23, 2011 to become compliant with the rule. During this timeframe, the system will be expected to continue to make progress towards compliance by completing some or all of the practicable steps remaining in the milestones outlined in the exemption. Systems with concentrations greater than 25 ppb will not be eligible for more extensions and must achieve compliance by January 23, 2011.

The BSDW will be recommending your water system for an extension at a meeting of the State Environmental Commission (SEC), which will take place on November 12<sup>th</sup>, 2008, commencing at 9:30 AM at the Nevada Division of Wildlife's Conference Room A, 1100 Valley Road, Reno, Nevada. If the SEC accepts the BSDW's recommendations, a letter granting the extensions will be issued the week following the meeting, along with a new schedule of milestones covering the period of the extension. While your attendance at the meeting is not required, the SEC will make available time on the agenda for public comments. If you would like to know more about the SEC meeting, you can visit the website at SEC.NV.GOV. The PWS is required to post public notice of the SEC meeting and to provide proof that such notice was posted to the BSDW by October 22<sup>nd</sup>, 2008, in order to remain on the list of systems to be recommended.

A draft example of the extension agreement is attached containing the proposed stipulations that will be required for systems granted extensions.

Please do not hesitate to contact me at (775) 687-9525 or [bbellows@ndep.nv.gov](mailto:bbellows@ndep.nv.gov) should you have any questions or need technical assistance.

Bert Bellows, P.E.

Bureau of Safe Drinking Water

Cc: Jennifer Carr, P.E., C.E.M., Chief, Bureau of Safe Drinking Water  
 Jim Balderson, Engineering Supervisor, BSDW  
 Patty Lechler, Drinking Water Supervisor, BSDW  
 Judy Neubert, SDWIS Database Administrator, BSDW  
 John Walker, Executive Secretary, Nevada State Environmental Commission



901 S. Stewart Street, Suite 4001 • Carson City, Nevada 89701 • p: 775.687.4670 • f: 775.687.5856 • [www.ndep.nv.gov](http://www.ndep.nv.gov)

P:\BSDW\ARSENIC\EXTENSIONS\EXTENSIONS\_YES\_BOILERPLATE.doc

# **APPENDIX B**

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ROW Application

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**APPLICATION FOR TRANSPORTATION AND  
 UTILITY SYSTEMS AND FACILITIES  
 ON FEDERAL LANDS**

FORM APPROVED  
 OMB NO. 1004-0189  
 Expires: April 30, 2012

**FOR AGENCY USE ONLY**

**NOTE:** Before completing and filing the application, the applicant should completely review this package and schedule a preapplication meeting with representatives of the agency responsible for processing the application. Each agency may have specific and unique requirements to be met in preparing and processing the application. Many times, with the help of the agency representative, the application can be completed at the preapplication meeting.

Application Number

Date filed

1. Name and address of applicant (include zip code)

**Lander County  
 Board of County Commissioners  
 315 W. Humboldt Street  
 Winnemucca, NV 89820**

2. Name, title, and address of authorized agent if different from Item 1 (include zip code)

**Dora Wren, Planner/Project Administrator  
 Shaw Engineering  
 20 Vine Street  
 Reno, NV 89503**

3. TELEPHONE (area code)

Applicant

**775-635-2885**

Authorized Agent

**775-329-5559**

4. As applicant are you? (check one)

- a.  Individual
- b.  Corporation\*
- c.  Partnership/Association\*
- d.  State Government/State Agency
- e.  Local Government
- f.  Federal Agency

\*If checked, complete supplemental page

5. Specify what application is for: (check one)

- a.  New authorization
- b.  Renewing existing authorization No.
- c.  Amend existing authorization No.
- d.  Assign existing authorization No.
- e.  Existing use for which no authorization has been received\*
- f.  Other\*

\*If checked provide details under Item 7

6. If an individual, or partnership are you a citizen(s) of the United States?  Yes  No

7. **Project description (describe in detail):** (a) Type of system or facility, (e.g., canal, pipeline, road); (b) related structures and facilities; (c) physical specifications (length, width, grading, etc.); (d) term of years needed; (e) time of year of use or operation; (f) Volume or amount of product to be transported; (g) duration and timing of construction; and (h) temporary work areas needed for construction (Attach additional sheets, if additional space is needed.)

**See attached Project Description.**

8. Attach a map covering area and show location of project proposal

9. State or local government approval:  Attached  Applied for  Not required

10. Nonreturnable application fee.  Attached  Not required

11. Does project cross international boundary or affect international waterways?  Yes  No (If "yes," indicate on map)

12. Give statement of your technical and financial capability to construct, operate, maintain, and terminate system for which authorization is being requested.

**Lander County Battle Mountain Water and Sewer Department is technically and financially capable to construct, operate and maintain the facility for which a right-of-way is being requested.**

13a. Describe other reasonable alternative routes and modes considered.

**Other routes lie in similar and longer alignments; other routes are east and west of the selected route.**

b. Why were these alternatives not selected?

**Other routes would require more Federal Land and are more costly to construct.**

c. Give explanation as to why it is necessary to cross Federal Lands

**Well site is on private land; water storage tank site is on Lander County owned land; federal land lies between. Federal land also lies between tank site and town water distribution system.**

14. List authorizations and pending applications filed for similar projects which may provide information to the authorizing agency. (Specify number, date, code, or name)

**None local for Lander County that we are aware of.**

15. Provide statement of need for project, including the economic feasibility and items such as: (a) cost of proposal (construction, operation, and maintenance); (b) estimated cost of next best alternative; and (c) expected public benefits.

**The project is required to comply with EPA standards for clean drinking water to meet new standard for arsenic. Estimated project cost is \$8,000,000.**

16. Describe probable effects on the population in the area, including the social and economic aspects, and the rural lifestyles.

**Effects may occur to water rates to customers; but improved water quality is the benefit.**

17. Describe likely environmental effects that the proposed project will have on: (a) air quality; (b) visual impact; (c) surface and ground water quality and quantity; (d) the control or structural change on any stream or other body of water; (e) existing noise levels; and (f) the surface of the land, including vegetation, permafrost, soil, and soil stability.

**Short duration environmental effects from pipeline construction are expected; no long term environmental effects anticipated.**

18. Describe the probable effects that the proposed project will have on (a) populations of fish, plantlife, wildlife, and marine life, including threatened and endangered species; and (b) marine mammals, including hunting, capturing, collecting, or killing these animals.

**No long term effect anticipated; short term effects during construction will be limited and will not effect populations.**

19. State whether any hazardous material, as defined in this paragraph, will be used, produced, transported or stored on or within the right-of-way or any of the right-of-way facilities, or used in the construction, operation, maintenance or termination of the right-of-way or any of its facilities. "Hazardous material" means any substance, pollutant or contaminant that is listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. 9601 et seq., and its regulations. The definition of hazardous substances under CERCLA includes any "hazardous waste" as defined in the Resource Conservation and Recovery Act of 1976 (RCRA), as amended, 42 U.S.C. 9601 et seq., and its regulations. The term hazardous materials also includes any nuclear or byproduct material as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq. The term does not include petroleum, including crude oil or any fraction thereof that is not otherwise specifically listed or designated as a hazardous substance under CERCLA Section 101(14), 42 U.S.C. 9601(14), nor does the term include natural gas.

**None**

20. Name all the Department(s)/Agency(ies) where this application is being filed.

**Bureau of Land Management office in Battle Mountain, Nevada**

I HEREBY CERTIFY, That I am of legal age and authorized to do business in the State and that I have personally examined the information contained in the application and believe that the information submitted is correct to the best of my knowledge.

Signature of Applicant

Date

Title 18, U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

APPLICATION FOR TRANSPORTATION AND UTILITY SYSTEMS  
AND FACILITIES ON FEDERAL LANDS

GENERAL INFORMATION  
ALASKA NATIONAL INTEREST LANDS

This application will be used when applying for a right-of-way, permit, license, lease, or certificate for the use of Federal lands which lie within conservation system units and National Recreation or Conservation Areas as defined in the Alaska National Interest Lands Conservation Act. Conservation system units include the National Park System, National Wildlife Refuge System, National Wild and Scenic Rivers System, National Trails System, National Wilderness Preservation System, and National Forest Monuments.

Transportation and utility systems and facility uses for which the application may be used are:

1. Canals, ditches, flumes, laterals, pipes, pipelines, tunnels, and other systems for the transportation of water.
2. Pipelines and other systems for the transportation of liquids other than water, including oil, natural gas, synthetic liquid and gaseous fuels, and any refined product produced therefrom.
3. Pipelines, slurry and emulsion systems, and conveyor belts for transportation of solid materials.
4. Systems for the transmission and distribution of electric energy.
5. Systems for transmission or reception of radio, television, telephone, telegraph, and other electronic signals, and other means of communications.
6. Improved rights-of-way for snow machines, air cushion vehicles, and all-terrain vehicles.
7. Roads, highways, railroads, tunnels, tramways, airports, landing strips, docks, and other systems of general transportation.

This application must be filed simultaneously with each Federal department or agency requiring authorization to establish and operate your proposal.

In Alaska, the following agencies will help the applicant file an application and identify the other agencies the applicant should contact and possibly file with:

U.S. Department of Agriculture  
FOREST SERVICE (USFS)  
Alaska Regional Office (Region 10)  
Physical Address:  
Federal Office Building  
709 West 9th Street  
Juneau, Alaska 99801  
Mailing Address:  
P.O. Box 21628  
Juneau, Alaska 99802  
Telephone: 907-586-8806

U.S. Department of the Interior  
BUREAU OF INDIAN AFFAIRS (BIA)  
Alaska Regional Office (Juneau)  
Mailing/Physical Address:  
P.O. Box 25520  
709 West 9th Street  
Juneau, Alaska 99802  
Telephone: 800-645-8397

U.S. Department of the Interior  
BUREAU OF LAND MANAGEMENT (BLM)  
Alaska State Office  
Mailing/Physical Address:  
222 West 7th Avenue #13  
Anchorage, Alaska 99513  
Telephone: 907-271-5960

U.S. Department of the Interior  
NATIONAL PARK SERVICE (NPS)  
Alaska Regional Office (Anchorage)  
Mailing/Physical Address:  
240 West 5th Avenue, Room 114  
Anchorage, Alaska 99501  
Telephone: 907-644-3501

U.S. Department of the Interior  
FISH AND WILDLIFE SERVICE  
Alaska Regional Office (Region 7)  
Mailing/Physical Address:  
1011 East Tudor Road  
Anchorage, Alaska 99501  
Telephone: 907-271-5011

Note: Filings with any Department of the Interior agency may be filed with any office noted above or with the:

U.S. Department of the Interior  
OFFICE OF ENVIRONMENTAL POLICY AND COMPLIANCE  
Alaska Regional Office (Anchorage)  
Regional Environmental Officer  
1689 C Street, Room 119  
Anchorage, Alaska 99501  
Telephone: (907) 271-5011

U.S. Department of Transportation  
FEDERAL AVIATION ADMINISTRATION  
Alaska Regional Office (Anchorage)  
222 West 7th Avenue, #14  
Anchorage, Alaska 99513  
Telephone: 907-271-5269

NOTE - The Department of Transportation has established the above central filing point for agencies within that Department. Affected agencies are: Federal Aviation Administration (FAA), Coast Guard (USCG), Federal Highway Administration (FHWA), Federal Railroad Administration (FRA).

OTHER THAN ALASKA NATIONAL INTEREST LANDS

Use of this form is not limited to National Interest Conservation Lands of Alaska.

Individual departments/agencies may authorize the use of this form by applicants for transportation and utility systems and facilities on other Federal lands outside those areas described above.

For proposals located outside of Alaska, applications will be filed at the local agency office or at a location specified by the responsible Federal agency.

SPECIFIC INSTRUCTIONS

(Items not listed are self-explanatory )

- Item
- 7 Attach preliminary site and facility construction plans. The responsible agency will provide instructions whenever specific plans are required.
  - 8 Generally, the map must show the section(s), township(s), and ranges within which the project is to be located. Show the proposed location of the project on the map as accurately as possible. Some agencies require detailed survey maps. The responsible agency will provide additional instructions.
  - 9, 10, and 12 - The responsible agency will provide additional instructions.
  - 13 Providing information on alternate routes and modes in as much detail as possible, discussing why certain routes or modes were rejected and why it is necessary to cross Federal lands will assist the agency(ies) in processing your application and reaching a final decision. Include only reasonable alternate routes and modes as related to current technology and economics.
  - 14 The responsible agency will provide instructions.
  - 15 Generally, a simple statement of the purpose of the proposal will be sufficient. However, major proposals located in critical or sensitive areas may require a full analysis with additional specific information. The responsible agency will provide additional instructions.
  - 16 through 19 - Providing this information in as much detail as possible will assist the Federal agency(ies) in processing the application and reaching a decision. When completing these items, you should use a sound judgment in furnishing relevant information. For example, if the project is not near a stream or other body of water, do not address this subject. The responsible agency will provide additional instructions.  
Application must be signed by the applicant or applicant's authorized representative.

If additional space is needed to complete any item, please put the information on a separate sheet of paper and identify it as "Continuation of Item".

SUPPLEMENTAL

NOTE: The responsible agency(ies) will provide additional instructions	CHECK APPROPRIATE BLOCK	
I - PRIVATE CORPORATIONS	ATTACHED	FILED*
a. Articles of Incorporation	<input type="checkbox"/>	<input type="checkbox"/>
b. Corporation Bylaws	<input type="checkbox"/>	<input type="checkbox"/>
c. A certification from the State showing the corporation is in good standing and is entitled to operate within the State.	<input type="checkbox"/>	<input type="checkbox"/>
d. Copy of resolution authorizing filing	<input type="checkbox"/>	<input type="checkbox"/>
e. The name and address of each shareholder owning 3 percent or more of the shares, together with the number and percentage of any class of voting shares of the entity which such shareholder is authorized to vote and the name and address of each affiliate of the entity together with, in the case of an affiliate controlled by the entity, the number of shares and the percentage of any class of voting stock of that affiliate owned, directly or indirectly, by that entity, and in the case of an affiliate which controls that entity, the number of shares and the percentage of any class of voting stock of that entity owned, directly or indirectly, by the affiliate.	<input type="checkbox"/>	<input type="checkbox"/>
f. If application is for an oil or gas pipeline, describe any related right-of-way or temporary use permit applications, and identify previous applications	<input type="checkbox"/>	<input type="checkbox"/>
g. If application is for an oil and gas pipeline, identify all Federal lands by agency impacted by proposal.	<input type="checkbox"/>	<input type="checkbox"/>
II - PUBLIC CORPORATIONS		
a. Copy of law forming corporation	<input type="checkbox"/>	<input type="checkbox"/>
b. Proof of organization	<input type="checkbox"/>	<input type="checkbox"/>
c. Copy of Bylaws	<input type="checkbox"/>	<input type="checkbox"/>
d. Copy of resolution authorizing filing	<input type="checkbox"/>	<input type="checkbox"/>
e. If application is for an oil or gas pipeline, provide information required by Item "I-f" and "I-g" above.	<input type="checkbox"/>	<input type="checkbox"/>
III - PARTNERSHIP OR OTHER UNINCORPORATED ENTITY		
a. Articles of association, if any	<input type="checkbox"/>	<input type="checkbox"/>
b. If one partner is authorized to sign, resolution authorizing action is	<input type="checkbox"/>	<input type="checkbox"/>
c. Name and address of each participant, partner, association, or other	<input type="checkbox"/>	<input type="checkbox"/>
d. If application is for an oil or gas pipeline, provide information required by Item "I-f" and "I-g" above.	<input type="checkbox"/>	<input type="checkbox"/>

\* If the required information is already filed with the agency processing this application and is current, check block entitled "Filed." Provide the file identification information (e.g., number, date, code, name). If not on file or current, attach the requested information.

## NOTICES

NOTE: This applies to the Department of the Interior/Bureau of Land Management (BLM).

The Privacy Act of 1974 provides that you be furnished with the following information in connection with the information provided by this application for an authorization.

**AUTHORITY:** 16 U.S.C. 310 and 5 U.S.C. 301.

**PRINCIPAL PURPOSE:** The primary uses of the records are to facilitate the (1) processing of claims or applications; (2) recordation of adjudicative actions; and (3) indexing of documentation in case files supporting administrative actions.

**ROUTINE USES:** BLM and the Department of the Interior (DOI) may disclose your information on this form: (1) to appropriate Federal agencies when concurrence or supporting information is required prior to granting or acquiring a right or interest in lands or resources; (2) to members or the public who have a need for the information that is maintained by BLM for public record; (3) to the U.S. Department of Justice, court, or other adjudicative body when DOI determines the information is necessary and relevant to litigation; (4) to appropriate Federal, State, local, or foreign agencies responsible for investigating, prosecuting violation, enforcing, or implementing this statute, regulation, or order; and (5) to a congressional office when you request the assistance of the Member of Congress in writing.

**EFFECT OF NOT PROVIDING THE INFORMATION:** Disclosing this information is necessary to receive or maintain a benefit. Not disclosing it may result in rejecting the application.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The Federal agencies collect this information from applicants requesting right-of-way, permit, license, lease, or certifications for the use of Federal Lands.

Federal agencies use this information to evaluate your proposal.

No Federal agency may request or sponsor and you are not required to respond to a request for information which does not contain a currently valid OMB Control Number.

**BURDEN HOURS STATEMENT:** The public burden for this form is estimated at 25 hours per response including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to: U.S. Department of the Interior, Bureau of Land Management (1004-0189), Bureau Information Collection Clearance Officer (WO-630) 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

A reproducible copy of this form may be obtained from the Bureau of Land Management, Division of Lands, Realty and Cadastral Survey, 1620 L Street, N.W., Rm. 1000 LS, Washington, D.C. 20036.

# **APPENDIX C**

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Preliminary Site Plan – Tank Site

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## **APPENDIX D**

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### Newmont Well Historic Water Quality Data

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# WELL LOG AND REPORT TO THE STATE ENGINEER OF NEVADA

Log No. 8831  
 Rec. Jan. 31 1966  
 Well No. \_\_\_\_\_  
 Permit No. 22883

PLEASE COMPLETE THIS FORM IN ITS ENTIRETY

Do not fill in.

Owner Duval Corporation (WELL #2) Driller Western Well Drilling Co., Ltd.  
P. O. Box 47  
 Address Battle Mountain, Nevada Address San Jose, Calif. Lic. No. 84  
 Location of well: N/E 1/4 N/E 1/4 Sec. 14, T. 31 N/S, R. 44 E, in Lander County  
 Permit No. \_\_\_\_\_  
 Water will be used for industrial purposes Total depth of well 883 ft.  
 Size of drilled hole 28" Weight of casing per linear foot 44 lbs.  
 Thickness of casing 1/4" Temp. of water \_\_\_\_\_  
 Diameter and length of casing 16" x 883 ft.  
(Casing 12" in diameter and under give inside diameter; casing 12" in diameter give outside diameter.)  
 If flowing well give flow in c.f.s. or g.p.m. and pressure \_\_\_\_\_  
 If nonflowing well give depth of standing water from surface 109 ft.  
 If flowing well describe control works \_\_\_\_\_  
(Type and size of valve, etc.)  
 Date of commencement of well Sept. 18, 1965 Date of completion of well Oct. 20, 1965  
 Type of well rig Hydraulic Rotary

## LOG OF FORMATIONS

From feet	To feet	Thickness feet	Type of material
0	10	10	Sand
10	15	5	Yellow Sandy Clay (Hard)
15	20	5	Sand
20	27	7	Yellow Sandy Clay
27	133	106	Yellow Sandy Clay & Gravel
133	150	17	Yellow Sandy Clay (Hard)
150	165	15	Yellow Clay
165	172	7	Gravel
172	177	5	Red Clay & Gravel
177	194	17	Yellow Sandy Clay & Gravel
194	196	2	Gravel
196	218	22	Yellow Sandy Clay
218	245	27	Gravel (Tight)
245	260	15	Yellow Sandy Clay
260	287	27	Gravel (Clay Streaks)
287	309	22	Yellow Sandy Clay & Gravel
309	347	38	Yellow Sandy Clay
347	352	5	Gravel
352	409	57	Yellow Sandy Clay & Gravel
409	420	11	Gravel
420	482	62	Yellow Sandy Clay, some Gravel
482	507	25	Yellow Sandy Clay & Gravel
507	514	7	Yellow Sandy Clay
514	533	19	Yellow Sandy Clay & Gravel (Hard)
533	628	95	Yellow Sandy Clay & Gravel
628	640	12	Gravel, Hard with Free Streaks
640	650	10	Cemented Gravel

Water-bearing Formation, Casing Perforations, etc.

Chief aquifer (water-bearing formation)  
SEE UNDERLINED FORMATIONS  
 from \_\_\_\_\_ to \_\_\_\_\_ ft.

Other aquifers \_\_\_\_\_

First water at \_\_\_\_\_ feet.

Casing perforated  
 223 ft. 283 ft.  
 from 403 to 423 ft.  
 523 543  
 623 883  
 Size of perforations  
180" x 3"

(OVER)



SVL ANALYTICAL, INC.

One Government Gulch P.O. Box 929 Kellogg, Idaho 83837-0929 Phone: (208)784-1258 Fax: (208)783-0891

NDEP PROFILE I REPORT (0190)

NEWMONT PHOENIX	SVL JOB No.: 97089
BM-4 1/01	3/01/01 10:30
Sample Receipt: 3/06/01	SVL SAMPLE No.: 257062/067
	Matrix: WATERG

BM-4 1/01

Sampled: 3/01/01

PARAMETERS (TOT & DIS)		RESULTS (mg/L)	STANDARDS (mg/L)	IDL (mg/L)	ANALYSIS DATE
pH (units)	T	7.96	6.5 - 8.5	0.01	3/13/01
Total Dissolved Solids	T	362	500 - 1000	10.0	3/07/01
WAD Cyanide	T	<0.01	0.2	0.010	3/13/01
Alkalinity (Total)	T	159	-	1.0	3/13/01
(HCO3)	T	159	-	1.0	3/13/01
(CO3)	T	<1.0	-	1.0	3/13/01
Boron	D	0.19	-	0.040	3/13/01
Calcium	D	37.0	-	0.04	3/13/01
Magnesium	D	8.44	125 - 150	0.04	3/13/01
Potassium	D	2.9	-	1.00	3/13/01
Sodium	D	75.9	-	0.10	3/13/01
Aluminum	D	0.05	0.05 - 0.2	0.020	3/13/01
Antimony	D	<0.001	0.006	0.001	3/19/01
Beryllium	D	<0.002	0.004	0.002	3/13/01
Chloride	T	68.2	250 - 400	0.20	3/13/01
Fluoride	T	0.2	2 - 4	0.10	3/13/01
Nickel	D	<0.005	0.1	0.005	3/13/01
Nitrate as N	T	0.34	10	0.02	3/06/01
Nitrite as N	T	<0.02	1	0.02	3/06/01
NO2+NO3 as N	T	0.34	10	0.02	3/06/01
Sulfate	T	53.9	250	0.30	3/13/01
Arsenic	D	0.002	0.05	0.001	3/19/01
Barium	D	0.083	2.0	0.002	3/13/01
Cadmium	D	<0.002	0.005	0.002	3/13/01
Chromium	D	<0.006	0.1	0.006	3/13/01
Copper	D	<0.003	1.3	0.003	3/13/01
Iron	D	0.31	0.3 - 0.6	0.020	3/13/01
Lead	D	<0.001	0.015	0.001	3/19/01
Manganese	D	0.031	0.05 - 0.10	0.002	3/13/01
Mercury	D	<0.0002	0.002	0.0002	3/19/01
Selenium	D	0.002	0.05	0.001	3/20/01
Silver	D	<0.005	0.1	0.005	3/13/01
Thallium	D	<0.001	0.002	0.001	3/16/01
Zinc	D	<0.005	5.0	0.005	3/13/01
CATION SUM:		5.93meq/L	ANION SUM:	6.25meq/L	C/A BALANCE: -2.63%

Certificate: NV CERTIFICATE NO. ID-19-2000-10

Reviewed By: Bleha Johnson

Date 3/21/01

# **APPENDIX E**

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Agency Correspondence

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COPY



## United States Department of the Interior



### FISH AND WILDLIFE SERVICE

Nevada Fish and Wildlife Office

1340 Financial Blvd., Suite 234

Reno, Nevada 89502

Ph: (775) 861-6300 ~ Fax: (775) 861-6301

February 8, 2010

File No. 2010-SL-0136

Mr. David Worley  
JBR Environmental Consultants, Inc.  
595 Double Eagle Court, Suite 2000  
Reno, Nevada 89521

Dear Mr. Worley:

Subject: Species List Request for Lander County Water Line Project, Lander County,  
Nevada

This responds to your letter received on January 19, 2010, requesting a species list for the Lander County Water Line Project in Lander County, Nevada. To the best of our knowledge, no listed, proposed, or candidate species occur in the subject project area. This response fulfills the requirements of the Fish and Wildlife Service (Service) to provide a list of species pursuant to section 7(c) of the Endangered Species Act of 1973 (Act), as amended, for projects that are authorized, funded, or carried out by a Federal agency.

The Nevada Fish and Wildlife Office no longer provides species of concern lists. Most of these species for which we have concern are also on the sensitive species list for Nevada maintained by the State of Nevada's Natural Heritage Program (Heritage). Instead of maintaining our own list, we are adopting Heritage's sensitive species list and partnering with them to provide distribution data and information on the conservation needs for sensitive species to agencies or project proponents. The mission of Heritage is to continually evaluate the conservation priorities of native plants, animals, and their habitats, particularly those most vulnerable to extinction or in serious decline. Consideration of these sensitive species and exploring management alternatives early in the planning process can provide long-term conservation benefits and avoid future conflicts.

TAKE PRIDE  
IN AMERICA 

For a list of sensitive species by county, visit Heritage's website at [www.heritage.nv.gov](http://www.heritage.nv.gov). For a specific list of sensitive species that may occur in the project area, you can obtain a data request form from the website or by contacting Heritage at 901 South Stewart Street, Suite 5002, Carson City, Nevada 89701-5245, (775) 684-2900. Please indicate on the form that your request is being obtained as part of your coordination with the Service under the Act. During your project analysis, if you obtain new information or data for any Nevada sensitive species, we request that you provide the information to Heritage at the above address. Furthermore, certain species of fish and wildlife are classified as protected by the State of Nevada (see <http://www.leg.state.nv.us/NAC/NAC-503.html>). Before a person can hunt, take, or possess any parts of wildlife species classified as protected, they must first obtain the appropriate license, permit, or written authorization from the Nevada Department of Wildlife (visit <http://www.ndow.org> or call 775-777-2300).

We are concerned that the project may impact the sage grouse (*Centrocercus urophasianus*). On February 26, 2008, the Service published in the Federal Register an initiation of a status review for the species as threatened or endangered under the Act. The Western States Sage and Columbian Sharp-tailed Grouse Technical Committee, under direction of the Western Association of Fish and Wildlife Agencies, has developed and published guidelines to manage and protect sage grouse and their habitats in the Wildlife Society Bulletin (Connelly *et al.* 2000). We ask that you consider incorporating these guidelines (available at <http://www.ndow.org/wild/conservation/sg/resources/guidelines.pdf>) into the proposed project. On a more local level, the Sage Grouse Conservation Plan for Nevada and Portions of Eastern California was completed in June 2004. The Plan is available online at: <http://www.ndow.org/wild/conservation/sg/plan/SGPlan063004.pdf>. We encourage you to adopt all appropriate management guidance from this Plan as you implement your proposed action.

We note that the pygmy rabbit (*Brachylagus idahoensis*) may occur within the planning area and could be affected by it. On January 8, 2008, the Service published a substantial 90-day finding on a petition to list the pygmy rabbit as threatened or endangered under the Act, thus initiating a status review of the species. Draft survey guidelines have been developed for this species and are available upon request from the Nevada Fish and Wildlife Office. We encourage you to survey the proposed project area for pygmy rabbits prior to any ground disturbing activities and to consider the needs of this species as you complete project planning and implementation.

Because wetlands, springs, or streams may occur in the vicinity of the project area, we ask that you be aware of potential impacts project activities may have on these habitats. Discharge of fill material into wetlands or waters of the United States is regulated by the U.S. Army Corps of Engineers (COE) pursuant to section 404 of the Clean Water Act of 1972, as amended. We recommend you contact the COE's Regulatory Section, 300 Booth Street, Room 2103, Reno, Nevada 89509, (775) 784-5304, regarding the possible need for a permit.

Based on the Service's conservation responsibilities and management authority for migratory birds under the Migratory Bird Treaty Act of 1918 (MBTA), as amended (16 U.S.C. 703 *et seq.*), we are concerned about potential impacts the proposed project may have on migratory birds in the area. Given these concerns, we recommend that any land clearing or other surface disturbance associated with proposed actions within the project area be timed to avoid potential destruction of bird nests or young, or birds that breed in the area. Such destruction may be in

Mr. David Worley

File No. 2010-SL-0136

violation of the MBTA. Under the MBTA, nests with eggs or young of migratory birds may not be harmed, nor may migratory birds be killed. Therefore, we recommend land clearing be conducted outside the avian breeding season. If this is not feasible, we recommend a qualified biologist survey the area prior to land clearing. If nests are located, or if other evidence of nesting (*i.e.*, mated pairs, territorial defense, carrying nesting material, transporting food) is observed, a protective buffer (the size depending on the habitat requirements of the species) should be delineated and the entire area avoided to prevent destruction or disturbance to nests until they are no longer active.

Please reference File No. 2010-SL-0136 in future correspondence concerning this species list. If you have any questions regarding this correspondence or require additional information, please contact me or James Harter at (775) 861-6300.

Sincerely,



 Robert D. Williams  
State Supervisor



# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

Nevada Fish and Wildlife Office

1340 Financial Blvd., Suite 234

Reno, Nevada 89502

Ph: (775) 861-6300 ~ Fax: (775) 861-6301

June 11, 2009

File No. 2009-SI-0371

Ms. Cheryl Couch  
U.S. Department of Agriculture  
Rural Development  
1390 South Curry Street  
Carson City, Nevada 89703

Dear Ms. Couch:

Subject: Species List Request for Battle Mountain Arsenic Mitigation – Water System Improvements Project, Lander County, Nevada

This responds to your letter received on June 8, 2009, requesting a species list for the Battle Mountain Arsenic Mitigation – Water System Improvements Project in Lander County, Nevada. To the best of our knowledge, no listed, proposed, or candidate species occur in the subject project area. This response fulfills the requirements of the Fish and Wildlife Service (Service) to provide a list of species pursuant to section 7(c) of the Endangered Species Act of 1973 (Act), as amended, for projects that are authorized, funded, or carried out by a Federal agency.

The Nevada Fish and Wildlife Office no longer provides species of concern lists. Most of these species for which we have concern are also on the sensitive species list for Nevada maintained by the State of Nevada's Natural Heritage Program (Heritage). Instead of maintaining our own list, we are adopting Heritage's sensitive species list and partnering with them to provide distribution data and information on the conservation needs for sensitive species to agencies or project proponents. The mission of Heritage is to continually evaluate the conservation priorities of native plants, animals, and their habitats, particularly those most vulnerable to extinction or in serious decline. Consideration of these sensitive species and exploring management alternatives early in the planning process can provide long-term conservation benefits and avoid future conflicts.

TAKE PRIDE  
IN AMERICA

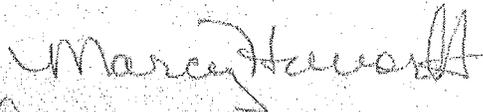
JUN 15 2 11 PM '09

Ms. Cheryl Couch

File No. 2009-SL-0371

Please reference File No. 2009-SL-0371 in future correspondence concerning this species list. If you have any questions regarding this correspondence or require additional information, please contact me or James Harter at (775) 861-6300.

Sincerely,



 Robert D. Williams  
State Supervisor

For a list of sensitive species by county, visit Heritage's website at [www.heritage.nv.gov](http://www.heritage.nv.gov). For a specific list of sensitive species that may occur in the project area, you can obtain a data request form from the website or by contacting Heritage at 901 South Stewart Street, Suite 5002, Carson City, Nevada 89701-5245, (775) 684-2900. Please indicate on the form that your request is being obtained as part of your coordination with the Service under the Act. During your project analysis, if you obtain new information or data for any Nevada sensitive species, we request that you provide the information to Heritage at the above address. Furthermore, certain species of fish and wildlife are classified as protected by the State of Nevada (see <http://www.leg.state.nv.us/NAC/NAC-503.html>). Before a person can hunt, take, or possess any parts of wildlife species classified as protected, they must first obtain the appropriate license, permit, or written authorization from the Nevada Department of Wildlife (visit <http://www.ndow.org> or call 775-777-2300).

We note that the pygmy rabbit (*Brachylagus idahoensis*) may occur within the planning area and could be affected by it. On January 8, 2008, the Service published a substantial 90-day finding on a petition to list the pygmy rabbit as threatened or endangered under the Act, thus initiating a status review of the species. Draft survey guidelines have been developed for this species and are available upon request from the Nevada Fish and Wildlife Office. We encourage you to survey the proposed project area for pygmy rabbits prior to any ground disturbing activities and to consider the needs of this species as you complete project planning and implementation.

Because wetlands, springs, or streams may occur in the vicinity of the project area, we ask that you be aware of potential impacts project activities may have on these habitats. Discharge of fill material into wetlands or waters of the United States is regulated by the U.S. Army Corps of Engineers (ACOE) pursuant to section 404 of the Clean Water Act of 1972, as amended. We recommend you contact the ACOE's Regulatory Section, 300 Booth Street, Room 2103, Reno, Nevada 89509, (775) 784-5304, regarding the possible need for a permit.

Based on the Service's conservation responsibilities and management authority for migratory birds under the Migratory Bird Treaty Act of 1918 (MBTA), as amended (16 U.S.C. 703 *et seq.*), we are concerned about potential impacts the proposed project may have on migratory birds in the area. Given these concerns, we recommend that any land clearing or other surface disturbance associated with proposed actions within the project area be timed to avoid potential destruction of bird nests or young, or birds that breed in the area. Such destruction may be in violation of the MBTA. Under the MBTA, nests with eggs or young of migratory birds may not be harmed, nor may migratory birds be killed. Therefore, we recommend land clearing be conducted outside the avian breeding season. If this is not feasible, we recommend a qualified biologist survey the area prior to land clearing. If nests are located, or if other evidence of nesting (*i.e.*, mated pairs, territorial defense, carrying nesting material, transporting food) is observed, a protective buffer (the size depending on the habitat requirements of the species) should be delineated and the entire area avoided to prevent destruction or disturbance to nests until they are no longer active.

# **APPENDIX F**

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## Exploratory Well Water Quality Analysis

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Water Quality Analysis Test Hole 1

### Test Hole 1 Water Analysis

		SAMPLE NO.	W8J0618-01	W8J0618-02	W8J0618-03	W8J0618-04	W8J0618-05	W8J0618-06	W8J0618-07	W8J0618-08
		STATION CODE	PCB49-215	PCB49-300	PCB49-415	PCB49-500	PCB49-615	PCB49-700	PCB49-800	PCB49-860
		DATE	10/17/2008	10/18/2008	10/18/2008	10/19/2008	10/19/2008	10/19/2008	10/19/2008	10/19/2008
		TIME	23:45	15:40	23:00	4:00	11:54	16:22	21:00	23:00
		LAB DATE	11/10/2008	11/10/2008	11/10/2008	11/10/2008	11/10/2008	11/10/2008	11/10/2008	11/10/2008
		SAMPLER	JF							
		CLASS	P	P	P	P	P	P	P	P
		COST	\$243.10	\$243.10	\$243.10	\$243.10	\$243.10	\$243.10	\$243.10	\$243.10
		LAB	SVL							
		JOB	W8J0618							
<b>TDS</b>	<b>Nevada</b>	TDS	390	410	390	380	390	390	380	420
<b>AL-D</b>	<b>MCL:</b>	AL-D	<0.080	0.103	<0.080	<0.080	<0.080	<0.080	<0.080	0.219
<b>CA-D</b>	1000*	CA-D	49.8	53.1	53	52.9	52.9	51.6	47.9	47.5
<b>MG-D</b>	.2*	MG-D	10.9	8.46	8.28	8.17	8.44	8.7	9.67	9.36
<b>K-D</b>	NS	K-D	4.1	4.07	3.68	3.76	4.09	4.76	7.32	6.73
<b>NA-D</b>	NS	NA-D	53.6	55.5	52.6	52.5	53.9	55.3	62.5	70.4
<b>NO2NO3</b>		NO2NO3	0.306	0.291	0.316	0.32	0.311	0.29	0.291	0.292
<b>SB-D</b>	0.006	SB-D	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300
<b>AS-D</b>	0.01	AS-D	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
<b>BA-D</b>	2	BA-D	0.0566	0.0417	0.0468	0.0493	0.0463	0.0478	0.0711	0.0678
<b>BE-D</b>	0.004	BE-D	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
<b>CD-D</b>	0.005	CD-D	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
<b>CR-D</b>	0.1	CR-D	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060
<b>CU-D</b>	1.0*	CU-D	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
<b>FE-D</b>	0.3*	FE-D	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	0.098
<b>PB-D</b>	0.015**	PB-D	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300
<b>MN-D</b>	.1*	MN-D	0.255	0.0761	0.0507	0.0692	0.0544	0.0716	0.067	0.103
<b>HG-D</b>	0.002	HG-D	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
<b>NI-D</b>	NS	NI-D	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
<b>SE-D</b>	0.05	SE-D	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300
<b>AG-D</b>	0.1*	AG-D	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
<b>TL-D</b>	0.002	TL-D	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
<b>ZN-D</b>	5*	ZN-D	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
<b>PH-L</b>	6.5 - 8.5*	PH-L	8.06	8.19	8.11	8.12	8.13	8.14	8.13	8.14
<b>B-D</b>	NS	B-D	0.127	0.134	0.128	0.127	0.124	0.132	0.173	0.189
<b>ALK-D</b>	NS	ALK-D	153	161	157	156	158	160	175	186
<b>CARB-D</b>		CARB-D	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
<b>HCO3-D</b>		HCO3-D	153	161	157	156	158	160	175	186
<b>CL-T</b>	400*	CL-D	46.9	45.6	45.3	45	46.2	46.6	45	45.9
<b>F-T</b>	4	F-D	0.26	0.169	0.204	0.235	0.174	0.184	0.224	0.247
<b>SO4-T</b>	250*	SO4-D	80	82.4	80.9	82.7	85.1	82.4	81	82.2

\* = Secondary standard

Water Quality Analysis Test Hole 2

Test Hole 2 Water Analysis

SAMPLE NO.	W8K0562-01	W8K0562-02	W8K0562-03	W8K0562-04	W8K0562-05	W8K0562-06
STATION CODE	PCB50-150	PCB50-250	PCB50-350	PCB50-450	PCB50-550	PCB50-650
DATE	11/22/2008	11/22/2008	11/22/2008	11/22/2008	11/23/2008	11/23/2008
TIME	17:30	19:30	21:20	22:50	12:30	16:10
LAB DATE	12/5/2008	12/5/2008	12/5/2008	12/5/2008	12/5/2008	12/5/2008
SAMPLER	JF	JF	JF	JF	JF	JF
CLASS	P	P	P	P	P	P
COST	\$364.65	\$364.65	\$364.65	\$364.65	\$364.65	\$364.65
LAB	SVL	SVL	SVL	SVL	SVL	SVL
JOB	W8K0562	W8K0562	W8K0562	W8K0562	W8K0562	W8K0562
TDS	350	350	340	320	250	310
AL-D	<0.080	<0.080	<0.080	0.138	<0.080	<0.080
CA-D	40.7	38.9	35.9	26.7	30.2	24.7
MG-D	9.16	5.73	3.24	2.47	4.94	3.46
K-D	4.71	4.18	4.76	4.91	6.55	5.89
NA-D	48.5	43	55.8	59.3	54	72.4
NO2NO3	0.252	0.322	0.284	0.297	0.347	0.346
SB-D	0.00308	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300
AS-D	<0.00500	<0.00500	0.00639	0.00513	<0.00500	<0.00500
BA-D	0.0148	0.0697	0.0617	0.0553	0.11	0.0496
BE-D	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
CD-D	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
CR-D	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060
CU-D	1.0*	<0.010	<0.010	<0.010	<0.010	<0.010
FE-D	0.3*	<0.060	<0.060	0.121	<0.060	<0.060
PB-D	0.015**	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300
MN-D	.1*	0.117	0.0229	0.0072	0.3	0.0789
HG-D	0.002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
NI-D	NS	<0.010	<0.010	<0.010	<0.010	<0.010
SE-D	0.05	<0.00300	0.00314	<0.00300	<0.00300	<0.00300
AG-D	0.1*	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
TL-D	0.002	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
ZN-D	5*	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
PH-L	6.5 - 8.5*	8.03	8	7.98	8.01	8
B-D	NS	0.176	0.129	0.109	0.118	0.18
ALK-D	NS	130	102	120	120	122
CARB-D		<1.0	<1.0	<1.0	<1.0	<1.0
HCO3-D		130	102	120	120	122
CL-T	400*	43	49.2	44.5	32.2	33.2
F-T	4	0.689	0.624	0.612	0.723	0.892
SO4-T	250*	58.6	56.3	50.1	45.8	46.6

\* = Secondary standard

	Nevada
	MCL
TDS	1000*
AL-D	.2*
CA-D	NS
MG-D	150*
K-D	NS
NA-D	NS
NO2NO3	
SB-D	0.006
AS-D	0.01
BA-D	2
BE-D	0.004
CD-D	0.005
CR-D	0.1
CU-D	1.0*
FE-D	0.3*
PB-D	0.015**
MN-D	.1*
HG-D	0.002
NI-D	NS
SE-D	0.05
AG-D	0.1*
TL-D	0.002
ZN-D	5*
PH-L	6.5 - 8.5*
B-D	NS
ALK-D	NS
CARB-D	
HCO3-D	
CL-T	400*
F-T	4
SO4-T	250*

Water Quality Analysis Test Hole 3



Newmont Phoenix  
PO Box 1657  
Battle Mountain, NV 89820

Work Order: W9C0540  
Reported: 16-Apr-09 13:58

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received
TH3-100	W9C0540-01	Ground Water	24-Mar-09 16:00	JF	27-Mar-2009
TH3-200	W9C0540-02	Ground Water	25-Mar-09 01:00	JF	27-Mar-2009
TH3-300	W9C0540-03	Ground Water	25-Mar-09 03:00	JF	27-Mar-2009
TH3-400	W9C0540-04	Ground Water	25-Mar-09 05:00	JF	27-Mar-2009
TH3-500	W9C0540-05	Ground Water	25-Mar-09 07:00	JF	27-Mar-2009
TH3-600	W9C0540-06	Ground Water	25-Mar-09 09:00	JF	27-Mar-2009
TH3-700	W9C0540-07	Ground Water	25-Mar-09 10:00	JF	27-Mar-2009
TH3-800	W9C0540-08	Ground Water	25-Mar-09 11:00	JF	27-Mar-2009

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested.  
Sample preparation is defined by the client as per their Data Quality Objectives.  
This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.  
The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.



Newmont Phoenix  
PO Box 1657  
Battle Mountain, NV 89820

Work Order: W9C0540  
Reported: 16-Apr-09 13:58

Client Sample ID: TH3-100

SVL Sample ID: W9C0540-01 (Ground Water)

Sample Report Page 1 of 1

Sampled: 24-Mar-09 16:00  
Received: 27-Mar-09  
Sampled By: JF

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
<b>Metals (Dissolved)</b>										
EPA 200.7	Aluminum	< 0.080	mg/L	0.080	0.014		W914007	AS	04/12/09 15:19	
EPA 200.7	Barium	0.0388	mg/L	0.0020	0.0005		W914007	AS	04/12/09 15:20	
EPA 200.7	Beryllium	< 0.00200	mg/L	0.00200	0.00036		W914007	AS	04/12/09 15:19	
EPA 200.7	Boron	0.165	mg/L	0.040	0.009		W914007	AS	04/12/09 15:19	
EPA 200.7	Cadmium	< 0.0020	mg/L	0.0020	0.0010		W914007	AS	04/12/09 15:20	
EPA 200.7	Calcium	39.9	mg/L	0.040	0.018		W914007	AS	04/12/09 15:19	
EPA 200.7	Chromium	< 0.0060	mg/L	0.0060	0.0010		W914007	AS	04/12/09 15:20	
EPA 200.7	Copper	< 0.010	mg/L	0.010	0.004		W914007	AS	04/12/09 15:20	
EPA 200.7	Iron	< 0.060	mg/L	0.060	0.020		W914007	AS	04/12/09 15:19	
EPA 200.7	Magnesium	14.3	mg/L	0.060	0.015		W914007	AS	04/12/09 15:19	
EPA 200.7	Manganese	0.100	mg/L	0.0040	0.0013		W914007	AS	04/12/09 15:19	
EPA 200.7	Nickel	< 0.010	mg/L	0.010	0.002		W914007	AS	04/12/09 15:20	
EPA 200.7	Potassium	4.01	mg/L	0.50	0.07		W914007	AS	04/12/09 15:19	
EPA 200.7	Silver	< 0.0050	mg/L	0.0050	0.0004		W914007	AS	04/12/09 15:20	
EPA 200.7	Sodium	36.6	mg/L	0.50	0.04		W914007	AS	04/12/09 15:19	
EPA 200.7	Zinc	< 0.0100	mg/L	0.0100	0.0019		W914007	AS	04/12/09 15:20	
EPA 200.8	Antimony	< 0.00300	mg/L	0.00300	0.000220		W913251	KWH	04/07/09 10:02	
EPA 200.8	Arsenic	< 0.00300	mg/L	0.00300	0.00050		W913251	KWH	04/07/09 10:02	
EPA 200.8	Lead	< 0.00300	mg/L	0.00300	0.000053		W913251	KWH	04/07/09 10:02	
EPA 200.8	Selenium	< 0.00300	mg/L	0.00300	0.00024		W913251	KWH	04/07/09 10:02	
EPA 200.8	Thallium	< 0.00100	mg/L	0.00100	0.000023		W913251	KWH	04/07/09 10:02	
EPA 245.1	Mercury	< 0.00020	mg/L	0.00020	0.00006		W914119	JAA	04/01/09 12:28	

**Dissolved Classical Chemistry Parameters**

EPA 353.2	Nitrate/Nitrite as N	0.0757	mg/L	0.0500	0.0016		W915040	DKG	04/08/09 13:24	
SM 2320B	Bicarbonate	162	mg/L	1.0	0.3		W914157	DKS	04/02/09 12:46	
SM 2320B	Carbonate	< 1.0	mg/L	1.0	0.3		W914157	DKS	04/02/09 12:46	
SM 2320B	Total Alkalinity	162	mg/L	1.0	0.3		W914157	DKS	04/02/09 12:46	
SM 2540C	Total Diss. Solids	273	mg/L	10	4		W914011	JMS	03/31/09 11:39	
SM 4500 H B	pH	8.08 @20.0°C	pH Units				W914157	DKS	04/02/09 12:46	

**Dissolved Anions by Ion Chromatography**

EPA 300.0	Chloride	30.5	mg/L	1.00	0.250	5	W915297	EML	04/12/09 19:54	D2
EPA 300.0	Fluoride	0.302	mg/L	0.100	0.023		W915297	EML	04/12/09 19:42	
EPA 300.0	Sulfate as SO4	38.5	mg/L	0.30	0.04		W915297	EML	04/12/09 19:42	

**Cation/Anion Balance and TDS Ratios**

Cation Sum: 4.87 meq/L    Anion Sum: 4.92 meq/L    C/A Balance: -0.56 %    Calculated TDS: 262    TDS/cTDS: 1.04

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern  
Laboratory Director



Newmont Phoenix  
PO Box 1657  
Battle Mountain, NV 89820

Work Order: W9C0540  
Reported: 16-Apr-09 13:58

Client Sample ID: TH3-200

SVL Sample ID: W9C0540-02 (Ground Water)

Sample Report Page 1 of 1

Sampled: 25-Mar-09 01:00  
Received: 27-Mar-09  
Sampled By: JF

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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**Metals (Dissolved)**

EPA 200.7	Aluminum	< 0.080	mg/L	0.080	0.014		W914007	AS	04/12/09 15:36	
EPA 200.7	Barium	0.0423	mg/L	0.0020	0.0005		W914007	AS	04/12/09 15:37	
EPA 200.7	Beryllium	< 0.00200	mg/L	0.00200	0.00036		W914007	AS	04/12/09 15:36	
EPA 200.7	Boron	0.109	mg/L	0.040	0.009		W914007	AS	04/12/09 15:36	
EPA 200.7	Cadmium	< 0.0020	mg/L	0.0020	0.0010		W914007	AS	04/12/09 15:37	
EPA 200.7	Calcium	60.5	mg/L	0.040	0.018		W914007	AS	04/12/09 15:36	
EPA 200.7	Chromium	< 0.0060	mg/L	0.0060	0.0010		W914007	AS	04/12/09 15:37	
EPA 200.7	Copper	< 0.010	mg/L	0.010	0.004		W914007	AS	04/12/09 15:37	
EPA 200.7	Iron	< 0.060	mg/L	0.060	0.020		W914007	AS	04/12/09 15:36	
EPA 200.7	Magnesium	14.9	mg/L	0.060	0.015		W914007	AS	04/12/09 15:36	
EPA 200.7	Manganese	0.0599	mg/L	0.0040	0.0013		W914007	AS	04/12/09 15:36	
EPA 200.7	Nickel	< 0.010	mg/L	0.010	0.002		W914007	AS	04/12/09 15:37	
EPA 200.7	Potassium	3.07	mg/L	0.50	0.07		W914007	AS	04/12/09 15:36	
EPA 200.7	Silver	< 0.0050	mg/L	0.0050	0.0004		W914007	AS	04/12/09 15:37	
EPA 200.7	Sodium	59.7	mg/L	0.50	0.04		W914007	AS	04/12/09 15:36	
EPA 200.7	Zinc	< 0.0100	mg/L	0.0100	0.0019		W914007	AS	04/12/09 15:37	
EPA 200.8	Antimony	< 0.00300	mg/L	0.00300	0.000220		W913251	KWH	04/07/09 10:03	
EPA 200.8	Arsenic	< 0.00300	mg/L	0.00300	0.00050		W913251	KWH	04/07/09 10:03	
EPA 200.8	Lead	< 0.00300	mg/L	0.00300	0.000053		W913251	KWH	04/07/09 10:03	
EPA 200.8	Selenium	0.00307	mg/L	0.00300	0.00024		W913251	KWH	04/07/09 10:03	
EPA 200.8	Thallium	< 0.00100	mg/L	0.00100	0.000023		W913251	KWH	04/07/09 10:03	
EPA 245.1	Mercury	< 0.00020	mg/L	0.00020	0.00006		W914119	JAA	04/01/09 12:31	

**Dissolved Classical Chemistry Parameters**

EPA 353.2	Nitrate/Nitrite as N	0.370	mg/L	0.0500	0.0016		W915040	DKG	04/08/09 13:25	
SM 2320B	Bicarbonate	169	mg/L	1.0	0.3		W914157	DKS	04/02/09 12:52	
SM 2320B	Carbonate	< 1.0	mg/L	1.0	0.3		W914157	DKS	04/02/09 12:52	
SM 2320B	Total Alkalinity	169	mg/L	1.0	0.3		W914157	DKS	04/02/09 12:52	
SM 2540C	Total Diss. Solids	435	mg/L	10	4		W914011	JMS	03/31/09 11:39	
SM 4500 H B	pH	8.05 @19.0°C	pH Units				W914157	DKS	04/02/09 12:52	

**Dissolved Anions by Ion Chromatography**

EPA 300.0	Chloride	32.7	mg/L	2.00	0.500	10	W915297	EML	04/12/09 20:16	D2
EPA 300.0	Fluoride	< 0.100	mg/L	0.100	0.023		W915297	EML	04/12/09 20:05	
EPA 300.0	Sulfate as SO4	50.5	mg/L	3.00	0.36	10	W915297	EML	04/12/09 20:16	D2

**Cation/Anion Balance and TDS Ratios**

Cation Sum: 6.93 meq/L    Anion Sum: 5.38 meq/L    C/A Balance: 12.56 %    Calculated TDS: 324    TDS/cTDS: 1.34

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern  
Laboratory Director



Newmont Phoenix  
PO Box 1657  
Battle Mountain, NV 89820

Work Order: W9C0540  
Reported: 16-Apr-09 13:58

Client Sample ID: TH3-300

SVL Sample ID: W9C0540-03 (Ground Water)

Sample Report Page 1 of 1

Sampled: 25-Mar-09 03:00  
Received: 27-Mar-09  
Sampled By: JF

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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**Metals (Dissolved)**

EPA 200.7	Aluminum	< 0.080	mg/L	0.080	0.014		W914007	AS	04/12/09 15:42	
EPA 200.7	Barium	0.0517	mg/L	0.0020	0.0005		W914007	AS	04/12/09 15:43	
EPA 200.7	Beryllium	< 0.00200	mg/L	0.00200	0.00036		W914007	AS	04/12/09 15:42	
EPA 200.7	Boron	0.118	mg/L	0.040	0.009		W914007	AS	04/12/09 15:42	
EPA 200.7	Cadmium	< 0.0020	mg/L	0.0020	0.0010		W914007	AS	04/12/09 15:43	
EPA 200.7	Calcium	59.4	mg/L	0.040	0.018		W914007	AS	04/12/09 15:41	
EPA 200.7	Chromium	< 0.0060	mg/L	0.0060	0.0010		W914007	AS	04/12/09 15:43	
EPA 200.7	Copper	< 0.010	mg/L	0.010	0.004		W914007	AS	04/12/09 15:43	
EPA 200.7	Iron	< 0.060	mg/L	0.060	0.020		W914007	AS	04/12/09 15:42	
EPA 200.7	Magnesium	14.9	mg/L	0.060	0.015		W914007	AS	04/12/09 15:42	
EPA 200.7	Manganese	0.0539	mg/L	0.0040	0.0013		W914007	AS	04/12/09 15:42	
EPA 200.7	Nickel	< 0.010	mg/L	0.010	0.002		W914007	AS	04/12/09 15:43	
EPA 200.7	Potassium	2.81	mg/L	0.50	0.07		W914007	AS	04/12/09 15:42	
EPA 200.7	Silver	< 0.0050	mg/L	0.0050	0.0004		W914007	AS	04/12/09 15:43	
EPA 200.7	Sodium	57.3	mg/L	0.50	0.04		W914007	AS	04/12/09 15:41	
EPA 200.7	Zinc	< 0.0100	mg/L	0.0100	0.0019		W914007	AS	04/12/09 15:43	
EPA 200.8	Antimony	< 0.00300	mg/L	0.00300	0.000220		W913251	KWH	04/07/09 10:05	
EPA 200.8	Arsenic	< 0.00300	mg/L	0.00300	0.00050		W913251	KWH	04/07/09 10:05	
EPA 200.8	Lead	< 0.00300	mg/L	0.00300	0.000053		W913251	KWH	04/07/09 10:05	
EPA 200.8	Selenium	< 0.00300	mg/L	0.00300	0.00024		W913251	KWH	04/07/09 10:05	
EPA 200.8	Thallium	< 0.00100	mg/L	0.00100	0.000023		W913251	KWH	04/07/09 10:05	
EPA 245.1	Mercury	< 0.00020	mg/L	0.00020	0.00006		W914119	JAA	04/01/09 12:33	

**Dissolved Classical Chemistry Parameters**

EPA 353.2	Nitrate/Nitrite as N	0.355	mg/L	0.0500	0.0016		W915040	DKG	04/08/09 13:31	
SM 2320B	Bicarbonate	168	mg/L	1.0	0.3		W914157	DKS	04/02/09 13:01	
SM 2320B	Carbonate	< 1.0	mg/L	1.0	0.3		W914157	DKS	04/02/09 13:01	
SM 2320B	Total Alkalinity	168	mg/L	1.0	0.3		W914157	DKS	04/02/09 13:01	
SM 2540C	Total Diss. Solids	415	mg/L	10	4		W914011	JMS	03/31/09 11:39	
SM 4500 H B	pH	8.06 @19.0°C	pH Units				W914157	DKS	04/02/09 13:01	

**Dissolved Anions by Ion Chromatography**

EPA 300.0	Chloride	63.6	mg/L	2.00	0.500	10	W915297	EML	04/13/09 15:04	D2
EPA 300.0	Fluoride	0.159	mg/L	0.100	0.023		W915297	EML	04/12/09 20:28	
EPA 300.0	Sulfate as SO4	75.0	mg/L	3.00	0.36	10	W915297	EML	04/12/09 21:02	D2

**Cation/Anion Balance and TDS Ratios**

Cation Sum: 6.76 meq/L    Anion Sum: 6.75 meq/L    C/A Balance: 0.08 %    Calculated TDS: 376    TDS/cTDS: 1.11

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern  
Laboratory Director



Newmont Phoenix  
PO Box 1657  
Battle Mountain, NV 89820

Work Order: **W9C0540**  
Reported: 16-Apr-09 13:58

Client Sample ID: **TH3-400**

SVL Sample ID: **W9C0540-04 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 25-Mar-09 05:00  
Received: 27-Mar-09  
Sampled By: JF

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
<b>Metals (Dissolved)</b>										
EPA 200.7	Aluminum	< 0.080	mg/L	0.080	0.014		W914007	AS	04/12/09 16:43	
EPA 200.7	Barium	0.0845	mg/L	0.0020	0.0005		W914007	AS	04/12/09 16:44	
EPA 200.7	Beryllium	< 0.00200	mg/L	0.00200	0.00036		W914007	AS	04/12/09 16:43	
EPA 200.7	Boron	0.146	mg/L	0.040	0.009		W914007	AS	04/12/09 16:43	
EPA 200.7	Cadmium	< 0.0020	mg/L	0.0020	0.0010		W914007	AS	04/12/09 16:44	
EPA 200.7	Calcium	49.1	mg/L	0.040	0.018		W914007	AS	04/12/09 16:42	
EPA 200.7	Chromium	< 0.0060	mg/L	0.0060	0.0010		W914007	AS	04/12/09 16:44	
EPA 200.7	Copper	< 0.010	mg/L	0.010	0.004		W914007	AS	04/12/09 16:44	
EPA 200.7	Iron	< 0.060	mg/L	0.060	0.020		W914007	AS	04/12/09 16:43	
EPA 200.7	Magnesium	9.36	mg/L	0.060	0.015		W914007	AS	04/12/09 16:42	
EPA 200.7	Manganese	0.0219	mg/L	0.0040	0.0013		W914007	AS	04/12/09 16:43	
EPA 200.7	Nickel	< 0.010	mg/L	0.010	0.002		W914007	AS	04/12/09 16:44	
EPA 200.7	Potassium	2.48	mg/L	0.50	0.07		W914007	AS	04/12/09 16:42	
EPA 200.7	Silver	< 0.0050	mg/L	0.0050	0.0004		W914007	AS	04/12/09 16:44	
EPA 200.7	Sodium	52.3	mg/L	0.50	0.04		W914007	AS	04/12/09 16:42	
EPA 200.7	Zinc	< 0.0100	mg/L	0.0100	0.0019		W914007	AS	04/12/09 16:44	
EPA 200.8	Antimony	< 0.00300	mg/L	0.00300	0.000220		W913251	KWH	04/07/09 10:06	
EPA 200.8	Arsenic	0.00347	mg/L	0.00300	0.00050		W913251	KWH	04/07/09 10:06	
EPA 200.8	Lead	< 0.00300	mg/L	0.00300	0.000053		W913251	KWH	04/07/09 10:06	
EPA 200.8	Selenium	0.00324	mg/L	0.00300	0.00024		W913251	KWH	04/07/09 10:06	
EPA 200.8	Thallium	< 0.00100	mg/L	0.00100	0.000023		W913251	KWH	04/07/09 10:06	
EPA 245.1	Mercury	< 0.00020	mg/L	0.00020	0.00006		W914119	JAA	04/01/09 12:35	

**Dissolved Classical Chemistry Parameters**

EPA 353.2	Nitrate/Nitrite as N	0.291	mg/L	0.0500	0.0016		W915040	DKG	04/08/09 13:32	
SM 2320B	Bicarbonate	150	mg/L	1.0	0.3		W914157	DKS	04/02/09 13:07	
SM 2320B	Carbonate	< 1.0	mg/L	1.0	0.3		W914157	DKS	04/02/09 13:07	
SM 2320B	Total Alkalinity	150	mg/L	1.0	0.3		W914157	DKS	04/02/09 13:07	
SM 2540C	Total Diss. Solids	333	mg/L	10	4		W914011	JMS	03/31/09 11:39	
SM 4500 H B	pH	8.14 @19.0°C	pH Units				W914157	DKS	04/02/09 13:07	

**Dissolved Anions by Ion Chromatography**

EPA 300.0	Chloride	48.0	mg/L	1.00	0.250	5	W915297	EML	04/13/09 15:15	D2
EPA 300.0	Fluoride	0.184	mg/L	0.100	0.023		W915297	EML	04/12/09 21:14	
EPA 300.0	Sulfate as SO4	51.8	mg/L	1.50	0.18	5	W915297	EML	04/12/09 21:25	D2

**Cation/Anion Balance and TDS Ratios**

Cation Sum: 5.56 meq/L    Anion Sum: 5.46 meq/L    C/A Balance: 0.91 %    Calculated TDS: 305    TDS/cTDS: 1.09

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern  
Laboratory Director



Newmont Phoenix  
PO Box 1657  
Battle Mountain, NV 89820

Work Order: W9C0540  
Reported: 16-Apr-09 13:58

Client Sample ID: TH3-500

SVL Sample ID: W9C0540-05 (Ground Water)

Sample Report Page 1 of 1

Sampled: 25-Mar-09 07:00  
Received: 27-Mar-09  
Sampled By: JF

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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**Metals (Dissolved)**

EPA 200.7	Aluminum	< 0.080	mg/L	0.080	0.014		W914007	AS	04/12/09 15:53	
EPA 200.7	Barium	0.0911	mg/L	0.0020	0.0005		W914007	AS	04/12/09 15:54	
EPA 200.7	Beryllium	< 0.00200	mg/L	0.00200	0.00036		W914007	AS	04/12/09 15:53	
EPA 200.7	Boron	0.142	mg/L	0.040	0.009		W914007	AS	04/12/09 15:53	
EPA 200.7	Cadmium	< 0.0020	mg/L	0.0020	0.0010		W914007	AS	04/12/09 15:55	
EPA 200.7	Calcium	45.5	mg/L	0.040	0.018		W914007	AS	04/12/09 15:53	
EPA 200.7	Chromium	< 0.0060	mg/L	0.0060	0.0010		W914007	AS	04/12/09 15:55	
EPA 200.7	Copper	< 0.010	mg/L	0.010	0.004		W914007	AS	04/12/09 15:54	
EPA 200.7	Iron	< 0.060	mg/L	0.060	0.020		W914007	AS	04/12/09 15:53	
EPA 200.7	Magnesium	6.59	mg/L	0.060	0.015		W914007	AS	04/12/09 15:53	
EPA 200.7	Manganese	0.0165	mg/L	0.0040	0.0013		W914007	AS	04/12/09 15:53	
EPA 200.7	Nickel	< 0.010	mg/L	0.010	0.002		W914007	AS	04/12/09 15:55	
EPA 200.7	Potassium	2.53	mg/L	0.50	0.07		W914007	AS	04/12/09 15:53	
EPA 200.7	Silver	< 0.0050	mg/L	0.0050	0.0004		W914007	AS	04/12/09 15:55	
EPA 200.7	Sodium	51.6	mg/L	0.50	0.04		W914007	AS	04/12/09 15:53	
EPA 200.7	Zinc	< 0.0100	mg/L	0.0100	0.0019		W914007	AS	04/12/09 15:55	
EPA 200.8	Antimony	< 0.00300	mg/L	0.00300	0.000220		W913251	KWH	04/07/09 10:08	
EPA 200.8	Arsenic	0.00414	mg/L	0.00300	0.00050		W913251	KWH	04/07/09 10:08	
EPA 200.8	Lead	< 0.00300	mg/L	0.00300	0.000053		W913251	KWH	04/07/09 10:08	
EPA 200.8	Selenium	0.00312	mg/L	0.00300	0.00024		W913251	KWH	04/07/09 10:08	
EPA 200.8	Thallium	< 0.00100	mg/L	0.00100	0.000023		W913251	KWH	04/07/09 10:08	
EPA 245.1	Mercury	< 0.00020	mg/L	0.00020	0.00006		W914119	JAA	04/01/09 12:37	

**Dissolved Classical Chemistry Parameters**

EPA 353.2	Nitrate/Nitrite as N	0.346	mg/L	0.0500	0.0016		W915040	DKG	04/08/09 13:33	
SM 2320B	Bicarbonate	138	mg/L	1.0	0.3		W914157	DKS	04/02/09 13:13	
SM 2320B	Carbonate	< 1.0	mg/L	1.0	0.3		W914157	DKS	04/02/09 13:13	
SM 2320B	Total Alkalinity	138	mg/L	1.0	0.3		W914157	DKS	04/02/09 13:13	
SM 2540C	Total Diss. Solids	316	mg/L	10	4		W914011	JMS	03/31/09 11:39	
SM 4500 H B	pH	8.14 @19.0°C	pH Units				W914157	DKS	04/02/09 13:13	

**Dissolved Anions by Ion Chromatography**

EPA 300.0	Chloride	42.7	mg/L	1.00	0.250	5	W915297	EML	04/13/09 16:11	D2
EPA 300.0	Fluoride	0.162	mg/L	0.100	0.023		W915297	EML	04/12/09 22:22	
EPA 300.0	Sulfate as SO4	49.2	mg/L	1.50	0.18	5	W915297	EML	04/12/09 22:34	D2

**Cation/Anion Balance and TDS Ratios**

Cation Sum: 5.13 meq/L    Anion Sum: 5.02 meq/L    C/A Balance: 1.02 %    Calculated TDS: 283    TDS/cTDS: 1.12

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern  
Laboratory Director



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0891

Newmont Phoenix  
PO Box 1657  
Battle Mountain, NV 89820

Work Order: W9C0540

Reported: 16-Apr-09 13:58

Client Sample ID: TH3-600

SVL Sample ID: W9C0540-06 (Ground Water)

Sample Report Page 1 of 1

Sampled: 25-Mar-09 09:00

Received: 27-Mar-09

Sampled By: JF

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
<b>Metals (Dissolved)</b>										
EPA 200.7	Aluminum	< 0.080	mg/L	0.080	0.014		W914007	AS	04/12/09 16:17	
EPA 200.7	Barium	0.0986	mg/L	0.0020	0.0005		W914007	AS	04/12/09 16:17	
EPA 200.7	Beryllium	< 0.00200	mg/L	0.00200	0.00036		W914007	AS	04/12/09 16:17	
EPA 200.7	Boron	0.146	mg/L	0.040	0.009		W914007	AS	04/12/09 16:17	
EPA 200.7	Cadmium	< 0.0020	mg/L	0.0020	0.0010		W914007	AS	04/12/09 16:18	
EPA 200.7	Calcium	46.8	mg/L	0.040	0.018		W914007	AS	04/12/09 16:16	
EPA 200.7	Chromium	< 0.0060	mg/L	0.0060	0.0010		W914007	AS	04/12/09 16:18	
EPA 200.7	Copper	< 0.010	mg/L	0.010	0.004		W914007	AS	04/12/09 16:17	
EPA 200.7	Iron	< 0.060	mg/L	0.060	0.020		W914007	AS	04/12/09 16:17	
EPA 200.7	Magnesium	6.74	mg/L	0.060	0.015		W914007	AS	04/12/09 16:16	
EPA 200.7	Manganese	0.0209	mg/L	0.0040	0.0013		W914007	AS	04/12/09 16:17	
EPA 200.7	Nickel	< 0.010	mg/L	0.010	0.002		W914007	AS	04/12/09 16:18	
EPA 200.7	Potassium	2.57	mg/L	0.50	0.07		W914007	AS	04/12/09 16:16	
EPA 200.7	Silver	< 0.0050	mg/L	0.0050	0.0004		W914007	AS	04/12/09 16:18	
EPA 200.7	Sodium	53.1	mg/L	0.50	0.04		W914007	AS	04/12/09 16:16	
EPA 200.7	Zinc	< 0.0100	mg/L	0.0100	0.0019		W914007	AS	04/12/09 16:18	
EPA 200.8	Antimony	< 0.00300	mg/L	0.00300	0.000220		W913251	KWH	04/07/09 10:12	
EPA 200.8	Arsenic	0.00324	mg/L	0.00300	0.00050		W913251	KWH	04/07/09 10:12	
EPA 200.8	Lead	< 0.00300	mg/L	0.00300	0.000053		W913251	KWH	04/07/09 10:12	
EPA 200.8	Selenium	< 0.00300	mg/L	0.00300	0.00024		W913251	KWH	04/07/09 10:12	
EPA 200.8	Thallium	< 0.00100	mg/L	0.00100	0.000023		W913251	KWH	04/07/09 10:12	
EPA 245.1	Mercury	< 0.00020	mg/L	0.00020	0.00006		W914119	JAA	04/01/09 12:39	

**Dissolved Classical Chemistry Parameters**

EPA 353.2	Nitrate/Nitrite as N	0.340	mg/L	0.0500	0.0016		W915040	DKG	04/08/09 13:34	
SM 2320B	Bicarbonate	141	mg/L	1.0	0.3		W914157	DKS	04/02/09 13:18	
SM 2320B	Carbonate	< 1.0	mg/L	1.0	0.3		W914157	DKS	04/02/09 13:18	
SM 2320B	Total Alkalinity	141	mg/L	1.0	0.3		W914157	DKS	04/02/09 13:18	
SM 2540C	Total Diss. Solids	321	mg/L	10	4		W914011	JMS	03/31/09 11:39	
SM 4500 H B	pH	8.10 @19.0°C	pH Units				W914157	DKS	04/02/09 13:18	

**Dissolved Anions by Ion Chromatography**

EPA 300.0	Chloride	43.5	mg/L	1.00	0.250	5	W915297	EML	04/13/09 16:22	D2
EPA 300.0	Fluoride	0.168	mg/L	0.100	0.023		W915297	EML	04/12/09 22:45	
EPA 300.0	Sulfate as SO4	50.2	mg/L	1.50	0.18	5	W915297	EML	04/12/09 23:19	D2

**Cation/Anion Balance and TDS Ratios**

Cation Sum: 5.27 meq/L Anion Sum: 5.13 meq/L C/A Balance: 1.39 % Calculated TDS: 289 TDS/cTDS: 1.11

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern  
Laboratory Director



Newmont Phoenix  
PO Box 1657  
Battle Mountain, NV 89820

Work Order: W9C0540  
Reported: 16-Apr-09 13:58

Client Sample ID: TH3-700  
SVL Sample ID: W9C0540-07 (Ground Water)

Sampled: 25-Mar-09 10:00  
Received: 27-Mar-09  
Sampled By: JF

Sample Report Page 1 of 1

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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**Metals (Dissolved)**

EPA 200.7	Aluminum	< 0.080	mg/L	0.080	0.014		W914007	AS	04/12/09 16:22	
EPA 200.7	Barium	0.0773	mg/L	0.0020	0.0005		W914007	AS	04/12/09 16:23	
EPA 200.7	Beryllium	< 0.00200	mg/L	0.00200	0.00036		W914007	AS	04/12/09 16:22	
EPA 200.7	Boron	0.160	mg/L	0.040	0.009		W914007	AS	04/12/09 16:22	
EPA 200.7	Cadmium	< 0.0020	mg/L	0.0020	0.0010		W914007	AS	04/12/09 16:23	
EPA 200.7	Calcium	49.0	mg/L	0.040	0.018		W914007	AS	04/12/09 16:22	
EPA 200.7	Chromium	< 0.0060	mg/L	0.0060	0.0010		W914007	AS	04/12/09 16:23	
EPA 200.7	Copper	< 0.010	mg/L	0.010	0.004		W914007	AS	04/12/09 16:23	
EPA 200.7	Iron	< 0.060	mg/L	0.060	0.020		W914007	AS	04/12/09 16:22	
EPA 200.7	Magnesium	7.62	mg/L	0.060	0.015		W914007	AS	04/12/09 16:22	
EPA 200.7	Manganese	0.0593	mg/L	0.0040	0.0013		W914007	AS	04/12/09 16:22	
EPA 200.7	Nickel	< 0.010	mg/L	0.010	0.002		W914007	AS	04/12/09 16:23	
EPA 200.7	Potassium	2.83	mg/L	0.50	0.07		W914007	AS	04/12/09 16:22	
EPA 200.7	Silver	< 0.0050	mg/L	0.0050	0.0004		W914007	AS	04/12/09 16:23	
EPA 200.7	Sodium	57.4	mg/L	0.50	0.04		W914007	AS	04/12/09 16:22	
EPA 200.7	Zinc	< 0.0100	mg/L	0.0100	0.0019		W914007	AS	04/12/09 16:23	
EPA 200.8	Antimony	< 0.00300	mg/L	0.00300	0.000220		W913251	KWH	04/07/09 10:14	
EPA 200.8	Arsenic	< 0.00300	mg/L	0.00300	0.00050		W913251	KWH	04/07/09 10:14	
EPA 200.8	Lead	< 0.00300	mg/L	0.00300	0.000053		W913251	KWH	04/07/09 10:14	
EPA 200.8	Selenium	< 0.00300	mg/L	0.00300	0.00024		W913251	KWH	04/07/09 10:14	
EPA 200.8	Thallium	< 0.00100	mg/L	0.00100	0.000023		W913251	KWH	04/07/09 10:14	
EPA 245.1	Mercury	< 0.00020	mg/L	0.00020	0.00006		W914119	JAA	04/01/09 12:41	

**Dissolved Classical Chemistry Parameters**

EPA 353.2	Nitrate/Nitrite as N	0.331	mg/L	0.0500	0.0016		W915040	DKG	04/08/09 13:35	
SM 2320B	Bicarbonate	149	mg/L	1.0	0.3		W914157	DKS	04/02/09 13:24	
SM 2320B	Carbonate	< 1.0	mg/L	1.0	0.3		W914157	DKS	04/02/09 13:24	
SM 2320B	Total Alkalinity	149	mg/L	1.0	0.3		W914157	DKS	04/02/09 13:24	
SM 2540C	Total Diss. Solids	341	mg/L	10	4		W914011	JMS	03/31/09 11:39	
SM 4500 H B	pH	8.12 @19.0°C	pH Units				W914157	DKS	04/02/09 13:24	

**Dissolved Anions by Ion Chromatography**

EPA 300.0	Chloride	48.8	mg/L	1.00	0.250	5	W915297	EML	04/13/09 16:33	D2
EPA 300.0	Fluoride	0.189	mg/L	0.100	0.023		W915297	EML	04/12/09 23:31	
EPA 300.0	Sulfate as SO4	52.8	mg/L	1.50	0.18	5	W915297	EML	04/12/09 23:42	D2

**Cation/Anion Balance and TDS Ratios**

Cation Sum: 5.65 meq/L    Anion Sum: 5.49 meq/L    C/A Balance: 1.41 %    Calculated TDS: 310    TDS/cTDS: 1.10

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern  
Laboratory Director



Newmont Phoenix  
PO Box 1657  
Battle Mountain, NV 89820

Work Order: W9C0540  
Reported: 16-Apr-09 13:58

Client Sample ID: TH3-800

Sampled: 25-Mar-09 11:00

SVL Sample ID: W9C0540-08 (Ground Water)

Sample Report Page 1 of 1

Received: 27-Mar-09

Sampled By: JF

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
<b>Metals (Dissolved)</b>										
EPA 200.7	Aluminum	0.593	mg/L	0.080	0.014		W914007	AS	04/12/09 16:28	
EPA 200.7	Barium	0.0690	mg/L	0.0020	0.0005		W914007	AS	04/12/09 16:29	
EPA 200.7	Beryllium	< 0.00200	mg/L	0.00200	0.00036		W914007	AS	04/12/09 16:28	
EPA 200.7	Boron	0.151	mg/L	0.040	0.009		W914007	AS	04/12/09 16:28	
EPA 200.7	Cadmium	< 0.0020	mg/L	0.0020	0.0010		W914007	AS	04/12/09 16:29	
EPA 200.7	Calcium	49.0	mg/L	0.040	0.018		W914007	AS	04/12/09 16:28	
EPA 200.7	Chromium	< 0.0060	mg/L	0.0060	0.0010		W914007	AS	04/12/09 16:29	
EPA 200.7	Copper	< 0.010	mg/L	0.010	0.004		W914007	AS	04/12/09 16:29	
EPA 200.7	Iron	0.371	mg/L	0.060	0.020		W914007	AS	04/12/09 16:28	
EPA 200.7	Magnesium	5.87	mg/L	0.060	0.015		W914007	AS	04/12/09 16:28	
EPA 200.7	Manganese	0.134	mg/L	0.0040	0.0013		W914007	AS	04/12/09 16:28	
EPA 200.7	Nickel	< 0.010	mg/L	0.010	0.002		W914007	AS	04/12/09 16:29	
EPA 200.7	Potassium	4.48	mg/L	0.50	0.07		W914007	AS	04/12/09 16:28	
EPA 200.7	Silver	< 0.0050	mg/L	0.0050	0.0004		W914007	AS	04/12/09 16:29	
EPA 200.7	Sodium	80.9	mg/L	0.50	0.04		W914007	AS	04/12/09 16:28	
EPA 200.7	Zinc	< 0.0100	mg/L	0.0100	0.0019		W914007	AS	04/12/09 16:29	
EPA 200.8	Antimony	< 0.00300	mg/L	0.00300	0.000220		W913251	KWH	04/07/09 10:15	
EPA 200.8	Arsenic	0.00336	mg/L	0.00300	0.00050		W913251	KWH	04/07/09 10:15	
EPA 200.8	Lead	< 0.00300	mg/L	0.00300	0.000053		W913251	KWH	04/07/09 10:15	
EPA 200.8	Selenium	0.00309	mg/L	0.00300	0.00024		W913251	KWH	04/07/09 10:15	
EPA 200.8	Thallium	< 0.00100	mg/L	0.00100	0.000023		W913251	KWH	04/07/09 10:15	
EPA 245.1	Mercury	< 0.00020	mg/L	0.00020	0.00006		W914119	JAA	04/01/09 12:48	

**Dissolved Classical Chemistry Parameters**

EPA 353.2	Nitrate/Nitrite as N	0.377	mg/L	0.0500	0.0016		W915040	DKG	04/08/09 13:36	
SM 2320B	Bicarbonate	165	mg/L	1.0	0.3		W914157	DKS	04/02/09 13:29	
SM 2320B	Carbonate	< 1.0	mg/L	1.0	0.3		W914157	DKS	04/02/09 13:29	
SM 2320B	Total Alkalinity	165	mg/L	1.0	0.3		W914157	DKS	04/02/09 13:29	
SM 2540C	Total Diss. Solids	923	mg/L	10	4		W914011	JMS	03/31/09 11:39	
SM 4500 H.B.	pH	8.00 @19.0°C	pH Units				W914157	DKS	04/02/09 13:29	

**Dissolved Anions by Ion Chromatography**

EPA 300.0	Chloride	54.8	mg/L	2.00	0.500	10	W915297	EML	04/13/09 16:45	D2
EPA 300.0	Fluoride	0.249	mg/L	0.100	0.023		W915297	EML	04/12/09 23:53	
EPA 300.0	Sulfate as SO4	62.4	mg/L	3.00	0.36	10	W915297	EML	04/13/09 00:05	D2

**Cation/Anion Balance and TDS Ratios**

Cation Sum: 6.65 meq/L Anion Sum: 6.19 meq/L C/A Balance: 3.60 % Calculated TDS: 358 TDS/eTDS: 2.58

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern  
Laboratory Director



Newmont Phoenix PO Box 1657 Battle Mountain, NV 89820	Work Order: W9C0540 Reported: 16-Apr-09 13:58
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**Quality Control - BLANK Data**

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
<b>Metals (Dissolved)</b>								
EPA 200.7	Aluminum	mg/L	<0.080	0.014	0.080	W914007	12-Apr-09	
EPA 200.7	Barium	mg/L	<0.0020	0.0005	0.0020	W914007	12-Apr-09	
EPA 200.7	Beryllium	mg/L	<0.00200	0.00036	0.00200	W914007	12-Apr-09	
EPA 200.7	Boron	mg/L	<0.040	0.009	0.040	W914007	12-Apr-09	
EPA 200.7	Cadmium	mg/L	<0.0020	0.0010	0.0020	W914007	12-Apr-09	
EPA 200.7	Calcium	mg/L	<0.040	0.018	0.040	W914007	12-Apr-09	
EPA 200.7	Chromium	mg/L	<0.0060	0.0010	0.0060	W914007	12-Apr-09	
EPA 200.7	Copper	mg/L	<0.010	0.004	0.010	W914007	12-Apr-09	
EPA 200.7	Iron	mg/L	<0.060	0.020	0.060	W914007	12-Apr-09	
EPA 200.7	Magnesium	mg/L	<0.060	0.015	0.060	W914007	12-Apr-09	
EPA 200.7	Manganese	mg/L	<0.0040	0.0013	0.0040	W914007	12-Apr-09	
EPA 200.7	Nickel	mg/L	<0.010	0.002	0.010	W914007	12-Apr-09	
EPA 200.7	Potassium	mg/L	<0.50	0.07	0.50	W914007	12-Apr-09	
EPA 200.7	Silver	mg/L	<0.0050	0.0004	0.0050	W914007	12-Apr-09	
EPA 200.7	Sodium	mg/L	<0.50	0.04	0.50	W914007	12-Apr-09	
EPA 200.7	Zinc	mg/L	<0.0100	0.0019	0.0100	W914007	12-Apr-09	
EPA 200.8	Antimony	mg/L	<0.00300	0.000220	0.00300	W913251	07-Apr-09	
EPA 200.8	Arsenic	mg/L	<0.00300	0.00050	0.00300	W913251	07-Apr-09	
EPA 200.8	Lead	mg/L	<0.00300	0.000053	0.00300	W913251	07-Apr-09	
EPA 200.8	Selenium	mg/L	<0.00300	0.00024	0.00300	W913251	07-Apr-09	
EPA 200.8	Thallium	mg/L	<0.00100	0.000023	0.00100	W913251	07-Apr-09	
EPA 245.1	Mercury	mg/L	<0.00020	0.00006	0.00020	W914119	01-Apr-09	
<b>Dissolved Classical Chemistry Parameters</b>								
EPA 353.2	Nitrate/Nitrite as N	mg/L	<0.0200	0.0016	0.0200	W915040	09-Apr-09	
<b>Dissolved Anions by Ion Chromatography</b>								
EPA 300.0	Fluoride	mg/L	<0.100	0.023	0.100	W915297	12-Apr-09	
EPA 300.0	Chloride	mg/L	<0.500	0.050	0.500	W915297	12-Apr-09	
EPA 300.0	Sulfate as SO4	mg/L	<0.50	0.04	0.50	W915297	12-Apr-09	

**Quality Control - LABORATORY CONTROL SAMPLE Data**

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
<b>Metals (Dissolved)</b>									
EPA 200.7	Aluminum	mg/L	0.982	1.00	98.2	85 - 115	W914007	12-Apr-09	
EPA 200.7	Barium	mg/L	1.01	1.00	101	85 - 115	W914007	12-Apr-09	
EPA 200.7	Beryllium	mg/L	0.978	1.00	97.8	85 - 115	W914007	12-Apr-09	
EPA 200.7	Boron	mg/L	0.987	1.00	98.7	85 - 115	W914007	12-Apr-09	
EPA 200.7	Cadmium	mg/L	1.03	1.00	103	85 - 115	W914007	12-Apr-09	
EPA 200.7	Calcium	mg/L	20.4	20.0	102	85 - 115	W914007	12-Apr-09	
EPA 200.7	Chromium	mg/L	1.01	1.00	101	85 - 115	W914007	12-Apr-09	
EPA 200.7	Copper	mg/L	0.984	1.00	98.4	85 - 115	W914007	12-Apr-09	
EPA 200.7	Iron	mg/L	9.63	10.0	96.3	85 - 115	W914007	12-Apr-09	
EPA 200.7	Magnesium	mg/L	19.3	20.0	96.6	85 - 115	W914007	12-Apr-09	
EPA 200.7	Manganese	mg/L	0.977	1.00	97.7	85 - 115	W914007	12-Apr-09	
EPA 200.7	Nickel	mg/L	0.958	1.00	95.8	85 - 115	W914007	12-Apr-09	
EPA 200.7	Potassium	mg/L	19.9	20.0	99.7	85 - 115	W914007	12-Apr-09	
EPA 200.7	Silver	mg/L	0.0525	0.0500	105	85 - 115	W914007	12-Apr-09	
EPA 200.7	Sodium	mg/L	18.7	19.0	98.6	85 - 115	W914007	12-Apr-09	
EPA 200.7	Zinc	mg/L	1.04	1.00	104	85 - 115	W914007	12-Apr-09	
EPA 200.8	Antimony	mg/L	0.0258	0.0250	103	85 - 115	W913251	07-Apr-09	
EPA 200.8	Arsenic	mg/L	0.0266	0.0250	106	85 - 115	W913251	07-Apr-09	



Newmont Phoenix PO Box 1657 Battle Mountain, NV 89820	Work Order: W9C0540 Reported: 16-Apr-09 13:58
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**Quality Control - LABORATORY CONTROL SAMPLE Data (Continued)**

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
<b>Metals (Dissolved) (Continued)</b>									
EPA 200.8	Lead	mg/L	0.0250	0.0250	99.9	85 - 115	W913251	07-Apr-09	
EPA 200.8	Selenium	mg/L	0.0266	0.0250	107	85 - 115	W913251	07-Apr-09	
EPA 200.8	Thallium	mg/L	0.0251	0.0250	100	85 - 115	W913251	07-Apr-09	
EPA 245.1	Mercury	mg/L	0.00558	0.00500	112	85 - 115	W914119	01-Apr-09	
<b>Dissolved Classical Chemistry Parameters</b>									
EPA 353.2	Nitrate/Nitrite as N	mg/L	1.94	2.00	97.1	90 - 110	W915040	08-Apr-09	
<b>Dissolved Anions by Ion Chromatography</b>									
EPA 300.0	Fluoride	mg/L	2.55	2.50	102	90 - 110	W915297	12-Apr-09	
EPA 300.0	Chloride	mg/L	5.32	5.00	106	90 - 110	W915297	12-Apr-09	
EPA 300.0	Sulfate as SO4	mg/L	10.3	10.0	103	90 - 110	W915297	12-Apr-09	

**Quality Control - DUPLICATE Data**

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
<b>Metals (Dissolved)</b>									
EPA 200.7	Aluminum	mg/L	<0.080	<0.080	UDL	20	W914007	12-Apr-09	
EPA 200.7	Barium	mg/L	0.0398	0.0388	2.6	20	W914007	12-Apr-09	
EPA 200.7	Beryllium	mg/L	<0.00200	<0.00200	UDL	20	W914007	12-Apr-09	
EPA 200.7	Boron	mg/L	0.170	0.165	3.0	20	W914007	12-Apr-09	
EPA 200.7	Cadmium	mg/L	<0.0020	<0.0020	UDL	20	W914007	12-Apr-09	
EPA 200.7	Calcium	mg/L	40.0	39.9	0.3	20	W914007	12-Apr-09	
EPA 200.7	Chromium	mg/L	<0.0060	<0.0060	UDL	20	W914007	12-Apr-09	
EPA 200.7	Copper	mg/L	<0.010	<0.010	UDL	20	W914007	12-Apr-09	
EPA 200.7	Iron	mg/L	<0.060	<0.060	UDL	20	W914007	12-Apr-09	
EPA 200.7	Magnesium	mg/L	14.2	14.3	0.3	20	W914007	12-Apr-09	
EPA 200.7	Manganese	mg/L	0.101	0.100	0.6	20	W914007	12-Apr-09	
EPA 200.7	Nickel	mg/L	<0.010	<0.010	UDL	20	W914007	12-Apr-09	
EPA 200.7	Potassium	mg/L	3.97	4.01	1.1	20	W914007	12-Apr-09	
EPA 200.7	Silver	mg/L	<0.0050	<0.0050	UDL	20	W914007	12-Apr-09	
EPA 200.7	Sodium	mg/L	36.2	36.6	0.9	20	W914007	12-Apr-09	
EPA 200.7	Zinc	mg/L	<0.0100	<0.0100	UDL	20	W914007	12-Apr-09	
EPA 200.8	Antimony	mg/L	<0.00300	<0.00300	UDL	20	W913251	07-Apr-09	
EPA 200.8	Arsenic	mg/L	0.137	0.138	0.9	20	W913251	07-Apr-09	
EPA 200.8	Lead	mg/L	<0.00300	<0.00300	UDL	20	W913251	07-Apr-09	
EPA 200.8	Selenium	mg/L	0.00364	0.00379	4.0	20	W913251	07-Apr-09	
EPA 200.8	Thallium	mg/L	<0.00100	<0.00100	UDL	20	W913251	07-Apr-09	
EPA 245.1	Mercury	mg/L	<0.00020	<0.00020	UDL	20	W914119	01-Apr-09	
<b>Dissolved Classical Chemistry Parameters</b>									
EPA 353.2	Nitrate/Nitrite as N	mg/L	0.539	0.540	0.3	20	W915040	08-Apr-09	
SM 2320B	Total Alkalinity	mg/L	163	162	0.5	20	W914157	02-Apr-09	
SM 2320B	Bicarbonate	mg/L	163	162	0.5	20	W914157	02-Apr-09	
SM 2320B	Carbonate	mg/L	<1.0	<1.0	UDL	20	W914157	02-Apr-09	
SM 2540C	Total Diss. Solids	mg/L	289	273	5.7	20	W914011	31-Mar-09	
SM 4500 H B	pH	pH Units	8.10	8.08	0.2	20	W914157	02-Apr-09	
<b>Dissolved Anions by Ion Chromatography</b>									
EPA 300.0	Fluoride	mg/L	0.184	0.184	0.0	20	W915297	12-Apr-09	
EPA 300.0	Chloride	mg/L	47.0	48.0	2.0	20	W915297	13-Apr-09	D2
EPA 300.0	Sulfate as SO4	mg/L	50.8	51.8	2.1	20	W915297	12-Apr-09	D2



Newmont Phoenix  
 PO Box 1657  
 Battle Mountain, NV 89820

Work Order: W9C0540  
 Reported: 16-Apr-09 13:58

**Quality Control - MATRIX SPIKE Data**

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
<b>Metals (Dissolved)</b>										
EPA 200.7	Aluminum	mg/L	0.826	<0.084	1.00	82.6	70 - 130	W914007	12-Apr-09	
EPA 200.7	Barium	mg/L	0.884	0.0388	1.00	84.6	70 - 130	W914007	12-Apr-09	
EPA 200.7	Beryllium	mg/L	0.812	<0.00210	1.00	81.2	70 - 130	W914007	12-Apr-09	
EPA 200.7	Boron	mg/L	0.989	0.165	1.00	82.4	70 - 130	W914007	12-Apr-09	
EPA 200.7	Cadmium	mg/L	0.864	<0.0021	1.00	86.4	70 - 130	W914007	12-Apr-09	
EPA 200.7	Calcium	mg/L	57.7	39.9	20.0	89.4	70 - 130	W914007	12-Apr-09	
EPA 200.7	Chromium	mg/L	0.847	<0.0063	1.00	84.7	70 - 130	W914007	12-Apr-09	
EPA 200.7	Copper	mg/L	0.846	<0.010	1.00	84.6	70 - 130	W914007	12-Apr-09	
EPA 200.7	Iron	mg/L	8.47	<0.063	10.0	84.7	70 - 130	W914007	12-Apr-09	
EPA 200.7	Magnesium	mg/L	31.3	14.3	20.0	84.9	70 - 130	W914007	12-Apr-09	
EPA 200.7	Manganese	mg/L	0.941	0.100	1.00	84.1	70 - 130	W914007	12-Apr-09	
EPA 200.7	Nickel	mg/L	0.834	<0.010	1.00	83.4	70 - 130	W914007	12-Apr-09	
EPA 200.7	Potassium	mg/L	21.5	4.01	20.0	87.5	70 - 130	W914007	12-Apr-09	
EPA 200.7	Silver	mg/L	0.0390	<0.0052	0.0500	78.1	70 - 130	W914007	12-Apr-09	
EPA 200.7	Sodium	mg/L	52.1	36.6	19.0	81.7	70 - 130	W914007	12-Apr-09	
EPA 200.7	Zinc	mg/L	0.864	<0.0105	1.00	86.4	70 - 130	W914007	12-Apr-09	
EPA 200.8	Antimony	mg/L	0.0309	<0.003000	0.0250	122	70 - 130	W913251	07-Apr-09	
EPA 200.8	Arsenic	mg/L	0.172	0.138	0.0250	R > 4S	70 - 130	W913251	07-Apr-09	M1
EPA 200.8	Lead	mg/L	0.0269	<0.003000	0.0250	108	70 - 130	W913251	07-Apr-09	
EPA 200.8	Selenium	mg/L	0.0382	0.00379	0.0250	138	70 - 130	W913251	07-Apr-09	M1
EPA 200.8	Thallium	mg/L	0.0270	<0.001000	0.0250	108	70 - 130	W913251	07-Apr-09	
EPA 245.1	Mercury	mg/L	0.00102	<0.00020	0.00100	102	70 - 130	W914119	01-Apr-09	
EPA 245.1	Mercury	mg/L	0.00097	<0.00020	0.00100	97.0	70 - 130	W914119	01-Apr-09	
<b>Dissolved Classical Chemistry Parameters</b>										
EPA 353.2	Nitrate/Nitrite as N	mg/L	1.58	0.540	1.00	104	90 - 110	W915040	08-Apr-09	
EPA 353.2	Nitrate/Nitrite as N	mg/L	1.38	0.370	1.00	101	90 - 110	W915040	08-Apr-09	
<b>Dissolved Anions by Ion Chromatography</b>										
EPA 300.0	Fluoride	mg/L	2.22	0.184	2.00	102	90 - 110	W915297	12-Apr-09	
EPA 300.0	Chloride	mg/L	59.7	48.0	15.0	78.2	90 - 110	W915297	13-Apr-09	D2,M2
EPA 300.0	Sulfate as SO4	mg/L	100	51.8	50.0	97.3	90 - 110	W915297	13-Apr-09	D2

**Quality Control - MATRIX SPIKE DUPLICATE Data**

Method	Analyte	Units	MSD Result	Spike Result	Spike Level	RPD	RPD Limit	Batch ID	Analyzed	Notes
<b>Dissolved Classical Chemistry Parameters</b>										
EPA 353.2	Nitrate/Nitrite as N	mg/L	1.59	1.58	1.00	0.8	200	W915040	08-Apr-09	



Newmont Phoenix  
PO Box 1657  
Battle Mountain, NV 89820

Work Order: W9C0540  
Reported: 16-Apr-09 13:58

### Notes and Definitions

- D2 Sample required dilution due to high concentration of target analyte.
- M1 Matrix spike recovery was high, but the LCS recovery was acceptable.
- M2 Matrix spike recovery was low, but the LCS recovery was acceptable.
- LCS Laboratory Control Sample (Blank Spike)
- RPD Relative Percent Difference
- UDL A result is less than the detection limit
- R > 4S % recovery not applicable, sample concentration more than four times greater than spike level
- <RL A result is less than the reporting limit
- MRL Method Reporting Limit
- MDL Method Detection Limit
- N/A Not Applicable

# **APPENDIX G**

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SHPO Correspondence

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JIM GIBBONS  
Governor

MICHAEL E. FISCHER  
Department Director

STATE OF NEVADA  
DEPARTMENT OF CULTURAL AFFAIRS

State Historic Preservation Office  
100 N. Stewart Street  
Carson City, Nevada 89701  
(775) 684-3448 • Fax (775) 684-3442  
www.nvshpo.org

RONALD M. JAMES  
State Historic Preservation Officer

May 28, 2009

Dora Wren  
Planning Technician  
Shaw Engineering  
400 14th Street  
PO Box 1218  
Lovelock NV 89419

RE: Battle Mountain Water and Sewer Phase 2 Water System Improvement  
Project and Arsenic Mitigation, Lander County.

Dear Ms. Wren:

The Nevada State Historic Preservation Office (SHPO) initiated its review of the subject undertaking. In order to determine the archaeological significance of the proposed project. According to these records only portions of the project area have been previously inventory for cultural resources. The SHPO recommends an archaeological inventory of the proposed project.

The SHPO notes that a portion of this project area is located on land managed by the Bureau of Land Management. The SHPO recommends that you consult with this agency concerning their requirements for the undertaking. Please remember that the portions not addressed by the Bureau of Land Management need to reviewed by this office for U.S. Army Corps of Engineers compliance with Section 106 of the National Historic Preservation Act of 1966, as amended.

If you have any questions concerning this correspondence, please contact me by phone at (775) 684-3443 or by e-mail at [Rebecca.Palmer@nevadaculture.org](mailto:Rebecca.Palmer@nevadaculture.org).

Sincerely,

Rebecca Lynn Palmer  
Review and Compliance Officer, Archaeologist