

ENVIRONMENTAL ASSESSMENT

Ash Grove Cement Company

Durkee Clay Pit Expansion

DOI-BLM-OR-V050-2009-039-EA

U.S. Department of the Interior
Bureau of Land Management
Baker Resource Area
Vale District Office
P.O. Box 947
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LIST OF ACRONYMS AND ABBREVIATIONS

AMSL	Above Mean Sea Level
Ash Grove	Ash Grove Cement Company
AUM	Animal Unit Month
BLM	Bureau of Land Management
CESA	Cumulative Effects Study Area
CFR	Code of Federal Regulations
CTUIR	Confederated Tribes of the Umatilla Indian Reservation
EA	Environmental Assessment
EPM	Environmental Protection Measure
ESA	Endangered Species Act of 1973
FLPMA	Federal Land Policy and Management Act
FONSI	Finding of No Significant Impact
NEPA	National Environmental Policy Act of 1969
ODFW	Oregon Department of Fish and Wildlife
ONHP	Oregon Natural Heritage Program
OSHPR	Oregon State Historic Preservation Office
POO	Plan of Operation
RMP	Resource Management Plan
TES	Threatened, Endangered, and Special Status
USFWS	United States Fish and Wildlife Service

**ENVIRONMENTAL ASSESSMENT
ASH GROVE CEMENT COMPANY
DURKEE CLAY PIT EXPANSION**

1.0 INTRODUCTION/PURPOSE AND NEED

This Environmental Assessment (EA) has been prepared to disclose and analyze the environmental consequences of the Durkee Quarry Nelson #3 expansion as proposed by the Ash Grove Cement Company (Ash Grove). The EA is a site-specific analysis of potential impacts that could result with implementation of the Proposed Action, as no feasible action alternatives have been identified. The EA assists the Bureau of Land Management (BLM) in project planning and ensuring compliance with the National Environmental Policy Act of 1969 (NEPA), and in making a determination as to whether any “significant” impacts could result from the proposed actions. “Significance” is defined by NEPA and is found in regulation 40 Code of Federal Regulations (CFR) 1508.27. An EA provides evidence for determining whether to prepare an Environmental Impact Statement or a statement of “Finding of No Significant Impact” (FONSI). If the decision maker determines that this project has “significant” impacts following the analysis in the EA, then an Environmental Impact Statement would be prepared for the project. If not, a Decision Record may be signed for the EA approving the selected alternative. A Decision Record, including a FONSI statement, documents the reasons why implementation of the selected alternative would not result in “significant” environmental impacts beyond those already addressed in the Baker Resource Management Plan (RMP) (BLM, 1989).

This EA was prepared in accordance with NEPA and in compliance with applicable regulations and laws passed subsequently, including the President's Council on Environmental Quality regulations (40 CFR parts 1500-1509), United States Department of Interior requirements, and guidelines listed in the BLM National Environmental Policy Handbook H-1790-1 (BLM, 2008).

1.1 BACKGROUND

Ash Grove proposes to expand the existing clay mining operation at the Durkee Quarry. The existing facilities at the Durkee Cement Plant are located on private land. The Proposed Action would expand the existing clay pit onto public lands and re-route portions of an existing road also on public land administered by the BLM Vale District Office, Baker Field Office. The project area is located approximately four miles south of Durkee, Baker County, Oregon in Sections 14 and 15, Township 12 South (T12S), Range 43 East (R43E), Willamette Meridian, as shown on Figure 1.

In March 2009, Ash Grove submitted the *Durkee Quarry Nelson #3 Plan of Operations* (POO) (Ash Grove, 2009) to permit 15.24 acres of disturbance (Figure 2). The Proposed Action would

include expansion of the existing clay pit onto public land managed by the BLM. The POO was deemed complete by the BLM in 2009.

1.2 PURPOSE AND NEED

Ash Grove Cement Company has submitted a POO to the BLM Baker Field Office for expansion of their existing clay pit on private land onto public land to maintain a 30-year supply of clay reserves from existing and active claims. The POO requests authorization to disturb approximately 15.24 acres of public land and re-route portions of an existing road in the process of mining and transporting clay reserves to meet needs for cement production, establishing a need.

The purpose of the proposed action is to respond to the POO application under 43 CFR § 3809.11, by accepting or requesting modification to the plan and authorizing the activity in such a manner so as to limit impacts to cultural and natural resources in compliance with applicable statutes and regulations, or denying authorization. Included in statutes and regulation for authorizing the application is a requirement that BLM prevent any undue or unnecessary degradation of the public land, as stated in the Federal Land Policy and Management Act (FLPMA) and the surface management regulations.

1.3 CONFORMANCE WITH BLM LAND USE PLAN

The Proposed Action is in conformance with the Baker RMP (BLM, 1989). Specifically on page 25 of the RMP Record of Decision, under the heading “Management Direction”: “Encourage and facilitate the development of public land mineral resources by private industry in a manner that satisfies national and local needs; and provides for economically and environmentally sound exploration, extraction, and reclamation practices”; and number 3: “Process permits, operating plans, leases, mineral patent applications, mineral exchanges, and other mineral use authorizations for public lands in a timely and efficient manner”.

1.4 PLANS, STATUTES, AND OTHER REGULATIONS

Pursuant to 43 CFR §3809.411, the environmental effects of a POO must be analyzed and disclosed to the public in compliance with NEPA. The analysis of the environmental effects of a Proposed Action and alternatives are described in a comprehensive analytical document, such as this EA. The EA would be used by the BLM to make an informed decision on the Proposed Action. FLPMA and the related BLM surface management regulations (43 CFR §3809) require that all mineral exploration or mining operations on BLM-administered public land be conducted in a manner that prevents undue or unnecessary degradation of the public lands. This is achieved through the application of substantive environmental standards from federal and state laws and regulations, and incorporation of appropriate mitigation measures to mitigate the environmental effects of an action.

Concurrent reclamation requirements are discussed in 43 CFR 3809.420 (b)(3) stating that “at the earliest feasible time, the operator shall reclaim the area disturbed, except to the extent necessary to preserve evidence of mineralization, by taking reasonable measure to prevent or

control on-site and off-site damage of the Federal lands.” Ash Grove will conduct concurrent reclamation when possible. Existing disturbance would not be reclaimed at this time as it is necessary to continue mining into the areas described in the Proposed Action.

The use of public land for mineral resources was authorized by the 1872 mining law. The mining law states that “all valuable mineral deposits in lands belonging to the United States, both surveyed and unsurveyed, are hereby declared to be free and open to exploration and purchase...” Ash Grove would like to use public resources for clay because it is an expansion of an existing clay pit, therefore creating minimal disturbance.

Ash Grove is required to submit a bond that would cover the cost to reclaim the disturbance associated with the Proposed Action through 43 CFR § 3809.500 through § 3809.599 and Instruction Memorandum No. OR-2009-032. The bonding calculations are standardized in order for the BLM to ensure that the bond is sufficient to reclaim the disturbance associated with the Proposed Action. Guidelines for creating cost estimates are found in Section 3 of the *Oregon/Washington Bureau of Land Management Policy for 43 CFP 3809 Notice- and Plan-Level Operations, 43 CFR 3715 Use and Occupancy, and Reclamation Cost Estimates*. Additional details on the bond associated with the Proposed Action can be found in the *Durkee Quarry Nelson #3 Plan of Operations* submitted by Ash Grove (Ash Grove, 2009). The bond would not be released to Ash Grove until the BLM has determined that the reclamation is successful.

1.5 IDENTIFICATION OF ISSUES

A scoping letter was sent to citizens or citizens’ groups that had commented on previous projects within the region covered by the Baker Field Office. The letter requested that comments be made within 45 days of receipt of the letter. No comments were received.

Internal scoping among BLM Resource Specialists identified the following list of potential issues, and also removed some resources from further consideration that are not carried forward throughout this document as described in Chapter 3:

- Livestock and Range Management
- Water Resources
- Fish and Wildlife Resources
- Vegetation Resources

2.0 PROPOSED ACTION AND ALTERNATIVES

This chapter describes the Proposed Action and the No Action Alternative. No other alternatives were considered for this project.

2.1 PROPOSED ACTION

Ash Grove submitted a POO to the BLM for expanding an open pit clay source used in the manufacturing of cement. The existing clay pit is located on private land and Ash Grove is proposing to expand this pit onto public land managed by the BLM Baker Field Office. Ash Grove is also proposing to realign three portions of an existing road in the project area. The proposed expansion of the clay pit and realignment of portions of an existing road would occur on public land and would disturb approximately 15.24 acres. The project area is located in Sections 14 and 15, T12S, R43E, Willamette Meridian, Baker County, Oregon (Figure 1). The site is accessed from Durkee, Oregon south on Interstate 84 exiting at Cement Plant Road (exit 330) and continuing onto old Highway 30 south to the cement plant.

The Proposed Action consists of stockpiling topsoil, expanding the existing clay pit, and realigning an existing road in three locations (Figure 2) resulting in 15.24 acres of disturbance on public land. Material from the expansion of the clay pit would be used in processing at the adjacent Durkee Cement Plant. Proposed disturbances for the project area are provided in Table 1.

Table 1 Proposed Disturbance Acreage

Category	Proposed Disturbance		
	Public	Private	Total
Realignment of Portions of an Existing Road	2.24	0.0	2.24
Clay Pit and Growth Medium Stockpile	13.0	0.0	13.0
TOTAL	15.24	0.0	15.24

Source: Ash Grove, 2009

The Proposed Action would extend the life of the existing clay pit by 30 years of active mining, two years of reclamation, and five years of monitoring. The project area would be mined as a source of clay for its aluminum content in the Durkee Cement Plant operations. The Proposed Action would not increase the amount of throughput to the mill on a daily basis, but rather would extend the life of the cement facility and quarry by continuing to mine existing deposits in the area.

Prior to mining the clay in the project area, available growth medium would be stockpiled within the disturbance footprint associated with the clay pit. The growth medium would be seeded with

an approved seed mix in order to reduce erosion and the establishment of invasive non-native species.

The area is typically mined in the drier months of the year. The clay is pushed to load out areas with bulldozers, and then loaded into trucks with a front end loader and hauled to stockpiles to be blended into the cement manufacturing process. Rocks from the excavation area are dozed into piles, from which they are loaded into mine haul trucks and hauled to stockpiles near the quarry crusher area. The rocks are crushed to six-inch minus material and fed by belt conveyors to storage silos at the cement plant. Current equipment used includes a CAT 992G wheel loader, CAT 777D 100 ton haul trucks, CAT D11 dozer, Komatsu D475 dozer, a water truck, and a grader.

The clay pit would be excavated in approximately 20-foot lifts. The final slopes of the pit would be graded to a 3H:1V (Horizontal:Vertical) or less slope as the pit is developed to facilitate final reclamation. Figure 2 shows the approximate size and location of the clay pit and growth medium stockpile, and realignment routes of the existing road.

The materials within the clay pit are characterized as colluviums made up of clay mixed with clasts of limestone, greenstone, and shale. The clay resource in the project area has been sampled by exploration drilling and surface samples. Block models developed from data and mining in adjacent areas indicate a sufficient quantity and quality of clay to suit the cement plant needs. Sampling data and experience from mining in the area do not indicate the presence of any acid forming, toxic, or deleterious materials. As the mining continues in this area, the quality of the clay resource would be monitored and geochemical sampling completed to test the quality of clay needed for cement manufacturing, as well as, to recognize and mitigate any unforeseen environmental concerns.

Access roads would be maintained for the life of the quarry. Ash Grove proposes to realign three sections of an existing road, which would improve access in the project area. No buildings or other structures are planned as part of the Proposed Action. Runoff from the disturbance area would be mostly contained within the pit bottom. The majority of runoff would be allowed to evaporate or infiltrate into the ground. Any additional runoff would be controlled to prevent erosion and minimize the sediment load.

The schedule of mining operations for the project indicates there are sufficient clay resources to meet the cement plant's clay needs for approximately 30 years.

2.1.1 Environmental Protection Measures

Environmental Protection Measures (EPMs) would reduce the impacts of the Proposed Action on the human and natural environment. The following EPMs would be implemented as part of the Proposed Action to reduce or eliminate impacts to the identified resources.

Air Quality

The following measures would be implemented by Ash Grove to protect air quality:

- All applicable state and federal air quality standards would be met through the use of the best available technology to control emissions;
- Application of water on roads and pads when necessary to suppress dust;
- Prudent speed limits would be observed on unpaved roads throughout the project area in order to reduce fugitive dust emissions; and
- Access roads, project area roads, and other traffic areas would be maintained on a regular basis to minimize fugitive dust and provide for safe travel conditions.

Cultural Resources

The following cultural resource protection measures would be implemented by Ash Grove:

- Any cultural and/or paleontological resource (historic or prehistoric site or object, or fossil) discovered by Ash Grove, or any persons working on his behalf on public or Federal land shall be immediately reported to the authorized officer. Ash Grove shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. Ash Grove will be responsible for the cost of evaluation and mitigation, and any decision as to proper avoidance, protection or mitigation measures will be made by the authorized officer after consulting with Ash Grove and others (including affected tribes) under Section 106 of the National Historic Preservation Act.
- Pursuant to 43 CFR 10.4(g), Ash Grove of this authorization must immediately notify the authorized officer, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), Ash Grove must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer. The BLM Authorized Officer will determine avoidance, protection or mitigation measures in consultation with Ash Grove, Oregon State Historic Preservation Office (OSHPO), and affected Tribes. Costs associated with the discovery, evaluation, protection or mitigation of the discovery shall be the responsibility of Ash Grove.
- Ash Grove shall notify the Authorized Officer at least **90** days prior to any non-emergency activities that would cause surface disturbance in the project area. The Authorized Officer

will determine if a cultural resource inventory, treatment or mitigation is required for the activity. Ash Grove will be responsible for the cost of inventory, avoidance, treatment or mitigation; including any maintenance-caused damage. The Authorized Officer will determine avoidance, treatment and mitigation measures that are necessary after consulting with Ash Grove and others (including affected tribes) and under Section 106 of the National Historic Preservation Act.

Wildlife

Ash Grove would implement the following measures to minimize potential impacts to wildlife in the project area:

- Trash and other waste products would be properly managed and Ash Grove would control garbage that could attract wildlife. All trash would be removed from the sites and disposed of at an authorized landfill;
- Speed limits would be posted, and if necessary, speeds would be reduced, especially when wildlife is active near access and service roads;
- Employees and contractors are strictly prohibited from carrying firearms on the job site to discourage illegal hunting and harassment of wildlife; and
- Reclamation of the disturbed areas, as described in Section 2.1.2, would be completed in order to return these areas to a productive wildlife habitat.

Invasive Non-Native Species

To minimize the introduction and establishment of noxious weeds, and invasive non-native species in the disturbed areas, the following measures would be incorporated into the Proposed Action:

- Ash Grove would use an all-states-certified noxious weed-free seed mix during revegetation of disturbed areas;
- Ash Grove would complete concurrent reclamation when feasible in order to minimize disturbed areas where weed species could establish;
- Ash Grove would revegetate growth medium and overburden stockpiles with an all-states-certified weed-free seed mix as soon as possible following stockpile completion;
- Vehicle traffic would be restricted to defined roads or overland travel routes to reduce potential mechanical transport of noxious weed seeds; and
- When working in areas of established noxious weed populations, equipment would be washed prior to leaving the site.

Water Resources

EPMs that would be implemented for the protection of groundwater and surface water resources are as follows:

- Constructed road segments would be designed to minimize the cumulative volume-distance quantity of displaced water and sediment;
- Road location would conform to topography and minimize disruption of natural drainage patterns;
- Road design would consider operational requirements, season of use, and management activities on surrounding terrain;
- Drainage features would be applicable to site conditions and minimize water concentrations and their effects on areas adjacent to the road segment;
- Routine road maintenance would ensure drainage features remain functional;
- Landings would be the minimum size commensurate with safety and equipment requirements. Landing locations would be located outside 100-foot buffer areas around streams and springs and would utilize previously disturbed areas where practicable;
- Access across ephemeral, intermittent, perennial streams would be avoided wherever possible. Twenty-four inch diameter culverts would be used if it is necessary to cross any stream;
- Avoidance of ground disturbing activities when soils become saturated to a depth of three inches;
- Disturbed areas should be contoured to blend with the natural topography. Blending is defined as reducing form, line, and color contrast associated with the surface disturbance; and
- Appropriate Best Management Practices, such as certified weed-free silt fences and/or straw bales (BLM IM OR-2011-019), would be used in areas requiring sediment control.

Public Safety, Fire Protection, and Sanitation

EPMs that would be implemented for sanitation, fire protection, and public safety are as follows:

- Ash Grove would comply with Mine Safety and Health Administration regulations;
- Public access to the pit area would be limited;
- Portable sanitary facilities, serviced by a local contractor, would be located on-site for use by personnel during explorations activities; and

- Noise suppression devices would be used on all compressors, and spark arresters would be used on all equipment that has the potential to emit sparks.

2.1.2 Reclamation

Reclamation of the disturbed areas associated with the Proposed Action would be completed to meet the post-mine land uses for the area. Concurrent reclamation would be used to the extent possible during operations.

Reclamation of the project area would include regrading the disturbed areas to blend with the surrounding topography to the extent possible. The final pit would be sloped to a 3H:1V or less as the bench levels are removed. Growth medium salvaged prior to disturbance would be spread over the slopes and reseeded to stabilize the slopes as soon as possible. Regraded areas would be seeded using a BLM-approved seed mix. Once mining is completed and all reclamation work is done, the area would be monitored and maintained for three or more years to ensure the final reclamation meets the post-mine land use needs. The full reclamation and monitoring plan is available in the Durkee Quarry Nelson #3 Plan of Operations (Ash Grove, 2009).

The existing disturbance adjacent to the Proposed Action would be continued to be used under the Proposed Action for continued mining and access to the additional resource described in the Proposed Action. Therefore, concurrent reclamation of the existing disturbance would not take place at this time.

2.2 NO ACTION ALTERNATIVE

Under the No Action Alternative, the proponent would not be allowed to proceed with the Proposed Action and no expansion of the existing clay pit onto public land would occur. After its existing clay source is exhausted, the company may be able to develop a new clay pit on private land at another location. This would likely require longer haul distances to the cement plant and require disturbance of an area that is currently undisturbed.

2.3 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER ANALYSIS

No other alternatives were considered for this proposal.

3.0 AFFECTED ENVIRONMENT

This chapter presents the existing environment of the project area as identified during the initial scoping by the BLM Interdisciplinary Team. This chapter provides the baseline for comparison of impacts/consequences described in Chapter 4.

The project area is approximately four miles south of Durkee, west of Interstate 84 in eastern Oregon. The elevation in the project area ranges from 2,600 feet above mean sea level (AMSL) to 3,200 feet AMSL. Average annual precipitation at Durkee was 10.51 inches between 1948 and 1976 (WRCC, 2010). Its ecoregion is identified as the Blue Mountains (ORBIC, 2010).

To comply with NEPA, the BLM is required to address specific elements of the environment that are subject to requirements specified in statute or regulations or by executive order (BLM, 1988 and 2008). Table 2 identifies the resources that must be addressed in all environmental analyses, as well as other resources deemed appropriate for evaluation by the BLM, and denotes if the Proposed Action or alternatives affects those elements. If a resource is considered not present or present/not affected, this document does not analyze the resource any further. If a resource is considered present/may be affected it is analyzed further in the following sections.

Table 2 Resource and Element of the Human Environment

Other Resources	Not Present	Present/Not Affected	Present/May be Affected	Rationale
Air Quality			X	
Areas of Critical Environmental Concern	X			None within the project area.
Cultural & Paleontological Resources	X			Survey completed June 23, 2010 found “no evidence of archaeological or historical resources”. It was determined that no archeological testing was warranted for this project.
Environmental Justice	X			No minority populations (BLM, 2009).
Farmlands (Prime or Unique)	X			None within the project area.
Floodplains	X			None present in the project area.
Fire Management		X		Fires have occurred in the area and the risk for fire is present.
Geology & Minerals			X	
Land Use Authorization	X			
Livestock & Range Management			X	
Migratory Birds		X		
Invasive Non-native Species			X	
Recreation		X		A very limited amount of recreation occurs in the surrounding area, but

Other Resources	Not Present	Present/Not Affected	Present/May be Affected	Rationale
				would not be affected by the Proposed Action.
Socio-Economics			X	
Soils			X	
Native American Religious Concerns	X			
Threatened, Endangered, and Special Status (TES) Species			X	
Vegetation			X	
Visual Resources		X		Located among similar existing facilities. No violation of existing VRM designations will occur as a result of the Proposed Action.
Wastes (Hazardous/Solid)	X			
Water Resources			X	
Wetlands/Riparian Zones	X			None within the project area.
Wild & Scenic Rivers	X			None within the project area.
Wild Horses & Burros	X			No herd management area within the project area.
Wilderness Study Areas	X			No Wilderness/Wilderness Study Areas or Lands with Wilderness Character occur within the project area.
Fish and Wildlife			X	
Indian Trust Resources			X	

Based on the results of public and internal BLM scoping, as identified in Table 2, the following resources have been brought forward for analysis as elements of the human environment that might potentially be affected by the Proposed Action:

- Air Quality
- Geology and Minerals
- Livestock and Range Management
- Invasive Non-Native Species
- Socioeconomics
- Soils
- Vegetation (including TES species)
- Water Resources
- Fish and Wildlife (including TES species)
- Indian Trust Resources

3.1 AIR QUALITY

The project area has a Class II air quality classification under the Clean Air Act. No communities in the Baker Field Office, which includes the Ash Grove facility, are in non-attainment for air quality. The greatest potential threat to air quality in the Baker resource management area has been smoke from wildfires and prescribed burns (BLM, 2009).

3.2 GEOLOGY AND MINERALS

The surface geology in the project area is predominantly alluvial deposits, which have eroded from the hills to the west. The hills to the west are comprised of the Burnt River Schist, which is a metamorphic rock having well developed banding of fine to coarse crystals. There is also a small outcropping of the Columbia River Basalt Group to the south of the project area. The Burnt River Schist is between 323 and 206 million years old, while the Columbia River Basalt is between 17 and 15 million years old. The alluvial deposits have formed over the last 1.8 million years. An unnamed fault of unknown age strikes northwest to southeast along the range front through the project area (State of Oregon, 2010).

The clay resource in the Durkee Quarry Nelson #3 claim area has been sampled by exploration drilling and surface samples. Block models developed from sample data and current mining adjacent the claim area indicate the material within the clay pit area is characterized as colluvium made up of a clay mixed with clasts of limestone, greenstone and shale. Block models also indicate a sufficient quantity and quality of clay within the claim area to suit the cement plant needs (Ash Grove, 2009). The clay is used as a source of aluminum for the manufacture of cement.

3.3 LIVESTOCK AND RANGE MANAGEMENT

The project area is within the Shirrtail Creek Allotment (#1031), which is within the Pedro Mountain Geographic Unit (BLM, 1989). The allotment is described in the 2006 Evaluation of Shirrtail Creek Allotment (#1031) Relative to Rangeland Health Standards as:

“It is an allotment consisting of one pasture of 808 acres public land plus 889 acres private land, 755 acres of which are owned by Ash Grove Cement and grazing rights leased to the cattle grazing permittees. The active allowable use under the ten-year permit is 152 AUMs on public land to be used in spring or fall. There is an additional 44 AUMs of exchange-of-use authorized on private land (including Ash Grove Cement land) owned or used by the permittees” (BLM, 2006).

Standards for upland watershed function, riparian/wetland watershed function, and water quality were met and current management was found to be in conformance with livestock grazing

management guidelines. The standard for ecological processes was not met, but it was determined that livestock were not a significant factor in the failure, which was primarily due to the high percentage of invasive plant species (including juniper). The standard for native, threatened and endangered, and locally important species was not met, but again current livestock use was not considered a factor (BLM, 2006).

One of the recommendations in the report was as follows: “The amount of exchange-of-use allowed for Ash Grove Cement Company lands used for grazing should be reviewed and strictly limited. Due to ongoing mining activity, there is no longer as much grazing land usable and available to livestock” (BLM, 2006).

3.4 INVASIVE NON-NATIVE SPECIES

Noxious weeds within Oregon are defined as any plant “that is injurious to public health, agriculture, recreation, wildlife, or any public or private property” (ODA, 2009). Invasive non-native plant species are defined as alien species whose introduction is likely to cause economic or environmental harm or harm to human health. Invasive species often displace native species and become dominant, in turn affecting native flora, wildlife, watersheds, fire regimes, and recreation.

State-listed noxious weed species hoary cress or whitetop (*Lepidium draba*) and medusahead rye (*Taeniatherum caput-medusae*) were observed in the project area adjacent to existing roads and mine disturbance. Thistle rosettes were observed scattered throughout the project area but were unidentifiable at the time of the survey. The invasive non-native species cheatgrass (*Bromus tectorum*) and bulbous bluegrass (*Poa bulbosa*) were common throughout the project area (JBR, 2010). The BLM 2006 Evaluation of Shiertail Allotment estimated that “invasive plant species were at the point where they were over 2% of the plant community” (BLM, 2006).

3.5 SOCIOECONOMICS

The estimated population for Baker County for 2009 was 16,082, down 3.9 percent from the 2000 census, when the population was 16,741. For comparison, the state of Oregon population was estimated at 3,825,657 in 2009, which was up 11.8 percent from the 2000 census (U.S. Census Bureau, 2010). Persons per square mile in 2000 equaled 5.5 in Baker County and 35.6 for the state. This demonstrates the rural nature of Baker County (U.S. Census Bureau, 2010). Median household income in 2008 was \$37,282 in Baker County and \$50,165 for the state (U.S. Census Bureau, 2010).

In 2000, there were 6,717 people employed in Baker County out of a total work force of 7,324 over the age of 16; the unemployment rate was 8.3 percent. Table 3 shows Baker County employment by industry for year 2000.

Table 3 Year 2000 Employment by Industry – Baker County, Oregon

Industry	Number	Percent
Agriculture, forestry, fishing and hunting, and mining	965	14.4
Construction	478	7.1
Manufacturing	635	9.5
Wholesale trade	112	1.7
Retail trade	731	10.9
Transportation and warehousing, and utilities	434	6.5
Information	103	1.5
Finance, insurance, real estate, and rental and leasing	365	5.4
Professional, scientific, management, administrative, and waste management services	258	3.8
Educational, health and social services	1,083	16.1
Arts, entertainment, recreation, accommodation and food services	651	9.7
Other services (except public administration)	474	7.1
Public administration	428	6.4
Total	6,717	100

Source: U.S. Census Bureau, 2000

3.6 SOILS

The Proposed Action would occur in three soil map units including the Ruckles-Ruclick complex, 2 to 12 percent slopes, Ruckles-Ruclick complex, 12-35 percent slopes, and the Roostercomb-Longbranch complex, 35 to 50 percent slopes. The Natural Resources Conservation Service describes the parent material as colluvium derived from basalt with loess and volcanic ash in the surface layer (NRCS, 2010). In the two Ruckles-Ruclick map units, approximately 50 percent of the unit is Ruckles and similar soils, and 35 percent is Ruclick and similar soils. These mapping units are not prime farmland, have slight to moderate water erodibility, and the seasonal high water tables are greater than 60 inches (NRCS, 2010). In the Roostercomb-Longbranch complex, approximately 50 percent of the unit is Roostercomb and similar soils, and 40 percent of the unit is Longbranch and similar soils. Due to slow permeability below 12-30 inches in depth, this map unit has a high water erosion hazard. Table 4 provides representative soil profiles for these soils.

Table 4 Soil Profiles

Horizon	Depth (inches)	Texture	Permeability	pH
Ruckles				
H1	0-5	very stony clay loam	moderately slow	6.6-7.8
H2	5-16	very stony clay	slow	6.6-7.8
H3	16-20	unweathered bedrock	-	
Ruclick				
H1	0-2	very cobbly silt loam	moderate	6.6-7.3

Horizon	Depth (inches)	Texture	Permeability	pH
H2	2-12	very cobbly silty clay loam	moderately slow	6.6-7.8
H3	12-34	extremely cobbly clay	slow	6.6-8.4
H4	34-38	unweathered bedrock	-	
Roostercomb				
H1	0-12	Extremely gravelly clay loam	Moderate	6.6-7.3
H2	12-25	Extremely gravelly clay	Slow	6.6-7.8
H3	25-36	Extremely cobbly clay	Slow	6.6-7.8
Longbranch				
H1	0-22	silt loam	Moderate	6.6-7.3
H2	22-30	gravelly clay loam	Slow	6.6-7.3
H3	30-45	Very gravelly clay	Slow	6.6-7.8
H4	45-52	Extremely cobbly clay loam	Slow	7.4-8.4

Source: NRCS, 2010

3.7 VEGETATION

Surveys were conducted on June 7 and 8, 2010, by a Vale District-approved biologist for the Ash Grove project. The survey was completed entirely on foot to determine the existing vegetation community, plant species present, and TES species habitat in the project area. Additional details regarding the survey can be found in the survey report located in Appendix A.

3.7.1 General Vegetation

Project area vegetation is described as big sagebrush ash beds. The surrounding area is described as agricultural cropland and pastureland (Kagan and Calcco, 1992). The June 2010 field survey described the area as located on an east to northeast aspect south of an existing clay pit and consisting of a juniper sagebrush steppe community type dominated by an annual, invasive understory (Appendix A).

Shrubs observed in the project area included big sagebrush (*Artemisia tridentata*), rubber rabbitbrush (*Ericameria nauseosus*), and green rabbitbrush (*Ericameria viscidiflorus*). Grasses include bottlebrush squirreltail (*Elymus elymoides*), crested wheatgrass (*Agropyron spicatum*), Idaho fescue (*Festuca idahoensis*), smooth brome (*Bromus inermis*), cheatgrass, bulbous bluegrass, and medusahead rye. Forbs included yarrow (*Achillea millefolium*), hawksbeard (*Crepis acuminata*), lupine (*Lupinus* sp.), curlycup gumweed (*Grindelia squarrosa*), clasping pepperweed (*Lepidium perfoliatum*), salsify (*Tragopogon dubius*), tumble mustard (*Sisymbrium altissimum*), longleaf phlox (*Phlox longifolia*), whitetop, yellow sweetclover (*Melilotus officinalis*), stork's bill (*Erodium cicutarium*), sunflower (*Helianthus annuus*), fiddleneck (*Amsinckia* sp.), clover (*Trifolium* sp.), thistle (*Cirsium* sp.), and Hood's phlox (*Phlox hoodii*). A complete list of species observed during surveys is included in Appendix B.

3.7.2 Threatened, Endangered, and Special Status Species

The BLM Vale District Office, the Oregon Natural Heritage Program (ONHP), and the United States Fish and Wildlife Service (USFWS) were consulted to identify any TES species that may occur in the project area or had previously been identified in the area (USFWS, 2010; ORBIC, 2010). Databases maintained by ONHP were queried to determine any known occurrences of TES plant species within the general vicinity of the project area. TES plant species identified by the BLM with potential to occur in the project area included Howell's spectacular (*Thelypodium howellii* ssp. *spectabilis*), Snake River goldenweed (*Pyrocoma radiata*), and Cronquist's stickseed (*Hackelia cronquistii*).

A literature review for information pertaining to each TES species identified by the BLM was completed. Habitat requirements for the species including elevation ranges, slope positions, soil types, and precipitation zones were identified. The phenology of TES plant species was reviewed to ensure the survey would be conducted at the appropriate time of year to allow positive species identification in the field. Due to the small size of the proposed disturbance, field surveys were conducted using ten-meter transects covering the project area.

Howell's Spectacular

Howell's spectacular is a USFWS threatened species, a BLM special status species, and an Oregon endangered species. It occurs in moist, alkaline valley bottoms, dominated by basin wildrye, alkali grasses, and black greasewood. Known locations are in alluvial outwash areas, near streams or rivers, with seasonal moisture. No Howell's spectacular was observed in the project area. The project area is located on a hillside and there was no surface water present in the project area.

Cronquist's Stickseed

Cronquist's stickseed is a USFWS species of concern, a BLM special status species, and an Oregon threatened species. It is found on sandy sagebrush slopes between 2,060 and 2,460 feet AMSL. Although potential habitat for this species was identified, this species was not observed in the project area.

Snake River Goldenweed

Snake River goldenweed is a USWFS species of concern, a BLM special status species, and an Oregon endangered species. It is generally found on steep, rocky hillsides containing loamy soils and is often associated with big sagebrush, bluebunch wheatgrass, arrowleaf balsamroot, and Idaho fescue. Potential habitat was found in the project area, however, no Snake River goldenweed was observed in the project area.

Potential habitat for Cronquist's stickseed was identified in the project area, but no individuals were observed. Habitat for the other species was not present in the project area. The biological survey report is provided in Appendix A.

3.8 WATER RESOURCES

Cottonwood Gulch, an intermittent spring-fed drainage, runs through the project area near the location of the western-most road realignment. Cottonwood Gulch goes subsurface at a depression located to the east of the project area, resurfaces east of Shirrtail Road, and flows into the Burnt River upstream of Shirrtail Creek. Hill slopes downhill from the expanded clay pit contribute water and sediment to Cottonwood Gulch and Shirrtail Creek.

Burnt River is listed as water quality limited for resident trout spawning due to low dissolved oxygen levels between January 1 and May 15, water contact recreation due to elevated *E. coli* levels, and Redband trout (*Oncorhynchus mykiss gairdneri*) for elevated water temperature year round (ODEQ, 2006a and 2006b). Cottonwood Gulch and Shirrtail Creek upstream of their confluences with the Burnt River were rated as functional during 2006 Proper Functional Condition surveys.

3.9 FISH AND WILDLIFE

Surveys were conducted on June 7 and 8, 2010, by a Vale District-approved biologist for the Ash Grove project. The survey was completed entirely on foot to determine the existing wildlife habitat, wildlife species present, and TES species habitat in the project area. Additional details regarding the survey can be found in the survey report located in Appendix A. Burnt River and Shirrtail Creek support resident Redband trout. Cottonwood Gulch is listed as Absence Not Verified for fish presence by Oregon Department of Fish and Wildlife (ODFW). This survey does not indicate absence of fish in the area. ODFW requires in-depth surveys using standardized protocols to verify absence of fish.

3.9.1 General Wildlife

Terrestrial wildlife species observed during the survey include mule deer (*Odocoileus hemionus*), northern harrier (*Circus cyaneus*), chukar (*Alectoris chukar*), mourning dove (*Zenaida macroura*), black-billed magpie (*Pica pica*), western meadowlark (*Sturnella neglecta*), horned lark (*Eremophila alpestris*), lark sparrow (*Chondestes grammacus*), and cliff swallow (*Petrochelidon pyrrhonota*) (JBR, 2010). There are likely a variety of small mammals and other bird species that are present either year-round or during specific seasons. No aquatic or fish species or habitat for aquatic or fish species was observed within the project area during the survey. A complete list of species observed during surveys is included in Appendix B.

3.9.2 Threatened, Endangered, and Special Status Species

According to the records search and field observations, no established federal or state listed species currently occur within the project area. The Ash Grove project area consists of a juniper sagebrush steppe community/habitat type dominated by an annual, invasive understory.

The project area provides habitat for terrestrial wildlife species designated as special status species. The special status wildlife species or species of local importance identified by the BLM with potential to occur in the project area includes: gray wolf (*Canis lupus*), greater sage-grouse (*Centrocercus urophasianus*), Columbia spotted frog (*Rana luteiventris*), western burrowing owl (*Athene cunicularia hypugaea*), several bat species including the Townsend's western big-eared bat (*Corynorhinus townsendii townsendii*), spotted bat (*Euderma maculatum*), silver-haired bat (*Lasiorycteris noctivagans*), small-footed myotis (*Myotis ciliolabrum*), long-eared myotis (*Myotis evotis*), fringed myotis (*Myotis thysanodes*), long-legged myotis (*Myotis volans*), Yuma myotis (*Myotis yumanensis*), western burrowing owl (*Athene cunicularia hypugaea*), and Ferruginous hawk (*Buteo regalis*).

Gray Wolf

The gray wolf is an Oregon BLM sensitive species that currently ranges in the west from Montana, Idaho, and into Wyoming. Historically, the gray wolf occupied much of the contiguous United States. Wolf packs live within territories that range in size from 50 square miles to more than 1,000 square miles, depending on the available prey and seasonal prey movements. Wolves travel over large areas to hunt, as far as 30 miles in a day. Before wolves were protected by the ESA, only a few hundred remained in extreme northeastern Minnesota and Isle Royale in Michigan. Reintroduction efforts in central Idaho during the 1990s have been successful, as their population numbers and ranges continue to grow (USFWS, 2011). This area is not by any rendezvous or denning sites for wolves, nor will this project change prey distribution or habitat use; therefore, there is no effect on gray wolves and no consultation is needed with USFWS.

Greater Sage-Grouse

The greater sage-grouse was petitioned for listing as threatened or endangered under the ESA around one year prior to January 12, 2005. On January 12, 2005, the USFWS announced a finding in the Federal Register indicating, "...listing is not warranted." The greater sage-grouse has been petitioned again for listing as threatened or endangered with a finding as of March 2010, 50 CFR Part 17 announcing the Proposed Rules in the Federal Register for the notice of 12-month findings for petitions to list the greater sage-grouse as a threatened or endangered species (USFWS, 2010). The greater sage-grouse is currently a USFWS candidate and state sensitive species.

Greater sage-grouse occur in sagebrush habitats in the Great Basin and in similar habitats in the western United States. During the winter season, the birds subsist almost entirely on sagebrush. During the spring season, males gather to display or “strut” on communal strutting grounds, or leks. Most sage-grouse leks are situated on level ground or on gently-sloping hillsides. Most are located in open areas away from trees and other potential raptor perches. Females come onto strutting grounds to mate then subsequently nest, usually within two miles of the lek. Wet meadow and riparian areas are utilized as brood-rearing habitats. These mesic areas, including seep and spring sites, provide a crucial source of insects and succulent forage for young birds. Together, the strutting grounds and nesting and brood-rearing areas form a sage-grouse habitat complex that may encompass areas from valley floors or benches up into the mountains, to include mountain meadow habitats (UNCE, 2001 and 2001a). The project area is not suitable for greater sage-grouse nesting and wintering habitat is available in the project area.

Columbia Spotted Frog

The Columbia spotted frog is a candidate species for listing under the ESA. Its habitat includes permanent lakes, ponds, slow-moving streams, and marshes located near forested areas, grasslands, and sagebrush steppe communities. Columbia spotted frogs prefer thick algae and abundant aquatic vegetation for cover (BCMWLA, 2010). Potential habitat for the Columbia spotted frog does not occur in the project area, but may be present in areas along the Burnt River.

Small-Footed Myotis

The small-footed myotis is a USFWS species of concern and an Oregon sensitive species. Small-footed myotis often roost in caves, abandoned mine workings, or in rock fissures on cliff faces (WBWG, 2005). Cliff/talus is present near the project area including, but not limited to, mountainous areas along the Burnt River. Suitable roosting habitat near foraging habitat occurs on upland and riparian areas surrounding the project area.

Yuma Myotis

The Yuma myotis is a USFWS species of concern and an Oregon sensitive species. The Yuma myotis is often associated with water, including small ponds, lakes, and streams. Yuma myotis potentially roost in buildings, caves, trees, and under bridges (WBWG, 2005). Roosting and foraging habitat is present in areas surrounding the project area.

Long-Eared Myotis

The long-eared myotis is a USFWS species of concern and state sensitive. The long-eared myotis utilizes a variety of roost locations including buildings, tree cavities, or under tree bark (WBWG, 2005). These roost sites are limited near the project area. Primary foraging habitat occurs on riparian areas of the Burnt River located northeast of the project area.

Long-Legged Myotis

The long-legged myotis is a USFWS species of concern and state sensitive. The long-legged myotis uses a variety of sites for roosting, including rock crevices and trees (WBWG, 2005). Rock crevices are present near the project area, including mountainous areas along the Burnt River. Suitable roosting and foraging habitat occurs on upland and riparian areas.

Fringed Myotis

The fringed myotis is a USFWS species of concern and state sensitive. The fringed myotis ranges through much of western North America. Roosting habitat includes buildings, abandoned mines, rocks, cliff faces, and bridges. Habitat includes desert scrub, mesic coniferous forest, grassland, and sagebrush steppe communities (WBWG, 2005). Suitable habitat for the fringed myotis is found in the project area.

Townsend's Western Big-Eared Bat

The Townsend's western big-eared bat is a USFWS species of concern and state sensitive. Townsend's western big-eared bat is a permanent resident in North America. Roost sites and maternity and hibernation colonies generally occur in caves and abandoned mine workings. Habitats in the vicinity of roost sites include pine woodlands and cottonwood bottomland (Montana, 2009). Roosting habitat for this species is not present in the project area.

Spotted Bat

The spotted bat is a USFWS species of concern and state sensitive. Roosting sites include rock crevices on steep cliff faces, which are available near the project area (WBWG, 2005). Primary foraging habitat occurs on riparian areas of the Burnt River located northeast of the project area.

Silver-Haired Bat

The silver-haired bat is a USFWS species of concern and state sensitive. The silver-haired bat is known to roost primarily in large trees and also abandoned mine openings and caves. Foraging habitat is present in open canopy over meadows and riparian areas (WBWG, 2005). Foraging habitat for the silver-haired bat is present near the project area along the Burnt River.

In June 2010, a biological survey of the project area was completed. A copy of this report is included in Appendix A.

A myotis bat species (*Myotis* sp.) call was recorded flying over the project area on the evening of June 7, 2010. Since no roosting or prime foraging habitat is available in the project area, the recorded bat species was likely passing through. No other TES wildlife species or potential habitat for TES wildlife species were observed during the survey. The survey report in

Appendix A provides further details of the survey, and a list of species observed during surveys is included in Appendix B.

Western Burrowing Owl

The western burrowing owl is a USFWS species of concern. This species potentially occurs within suitable habitat in the project area. Abandoned mammal burrows, such as those created by badgers, help to provide nesting habitat. This species tends to use disturbed or open sites with minimal vegetation for nesting and loafing, such as recent burned areas or areas near troughs, corrals, or livestock mineral licks where open terrain exists. This may be due to the lack of vegetation at these sites that allows increased visibility from the burrow entrance. Fence posts, such as those along the right-of-way fence, provide areas for perching (Montana, 2010).

Ferruginous Hawk

The ferruginous hawk is a state sensitive species. The ferruginous hawk prefers to nest in scattered juniper woodlands that are found on the edge of salt desert shrub or sagebrush vegetation types overlooking broad valleys. They could also nest on the top of “tall” sagebrush/other shrubs, rocky outcrops, manmade structures or on deciduous trees such as quaking aspen or cottonwoods. Tall sagebrush/other shrubs could be defined as shrubs existing at about six feet in height or higher out of the reach of potential ground-dwelling predators such as coyotes. The area provides foraging habitat for ferruginous hawks associated with potential nest sites, and during migration or seasonal movement events. Black-tailed jackrabbits and ground squirrels provide a primary forage base (USFS, 2010). The project area provides limited habitat in which ferruginous hawks may utilize.

3.10 INDIAN TRUST RESOURCES

Seven federally recognized Native American Tribes have indicated interest in the public lands managed in this area. The Confederated Tribes of the Umatilla Indian Reservation (CTUIR) have expressed specific concerns on how ground disturbing projects may affect tribal treaty rights (reserved rights under the Treaty of 1855) and their ability to access, graze livestock and harvest treaty resources within the project area. These resources include specific plants, fish and wildlife important for maintaining traditional life ways.

Traditional Plants

A Geographic Information System predictive model for traditional plants suggests that the 15-acre project area has the appropriate ecological conditions to support bitter root (*Lewisia rediviva*). Bitter root was not located during the June 2010 biological plant field survey for this project area. BLM is unaware of any additional traditional plants of concern located within the project area.

Fish and Wildlife Habitat

Wildlife habitat within the project area consists of a juniper sagebrush steppe community type dominated by an annual, invasive understory. The project area is also surrounded by previous disturbance associated with the existing pit, existing roads, and the existing cement plant operation. Additional information regarding the vegetation in the project area is provided in Section 3.7.1. This community type provides habitat for mule deer, and nesting for migratory birds, foraging for bat species, small mammals, and game birds.

No aquatic or fish species or habitat for aquatic or fish species was observed within the project area during the survey. A description of terrestrial wildlife species identified during field survey is described in Section 3.9.

Livestock Grazing

Currently, this allotment is grazed by permittees who (to BLM's knowledge) are not part of a local or regional, federally recognized tribe. If the current permittees ever choose to relinquish their livestock grazing permit, local tribes with treaty rights, that include grazing provisions, may choose to obtain the grazing permits.

Treaty rights for grazing this allotment would apply to 808 acres of public lands. The active allowable use under the ten-year permit is 152 animal unit months (AUMs) on public land with a season of use in the spring or fall.

Access

Access to the project area is via a county road and is open to tribal members (and public) except during active mining operations that occur during the drier months of the year (approximately June through September). During this timeframe access may be limited for safety reasons.

Viewshed Impacts

Viewshed impacts from Interstate 84 and from the Oregon Trail were determined a concern during scoping. The existing viewshed surrounding the Proposed Action that is visible from Interstate 84 and the Oregon Trail consists of previously disturbed ground related to the existing clay pit, roads, and other activities on private land associated with the Ash Grove Cement Plant.

The Viewshed tool within ESRI's ArcMap 10 software was used to show the portions of the landscape that is visible from the Oregon Trail and from Interstate 84. Visible areas along each route from Oxman to Lime, Oregon are shown on Figures 3 and 4.

4.0 ENVIRONMENTAL CONSEQUENCES

This section analyzes the potential and likely impacts of the Proposed Action and the No Action Alternative. Potential impacts are described in terms of duration (short-term or long-term) and intensity. Short-term impacts generally last between one and five years. Mining related resources typically resume their pre-mining conditions during this timeframe. Long-term impacts last beyond the mining period (i.e. 5 to 20 years). Mining related resources may not resume their pre-mining conditions during this timeframe. The thresholds of change for the intensity of a potential impact are negligible, minor, moderate, and major as described below.

Negligible impacts are defined as impacts on resources that would be at or below the level of detection, and the changes would be so slight that they would not be of any measurable or perceptible consequence.

Minor impacts are defined as the impacts on resources that would be detectable but localized, small, and of little consequence. Mitigating measures, if needed to offset adverse effects, would be simple and successful.

Moderate impacts are defined as the impacts on resources that would be readily detectable and localized. Mitigating measures, if needed to offset adverse effects, would be extensive and would probably be successful.

Major impacts are defined as impacts on resources that would be obvious and would result in substantial consequences. Extensive mitigating measures would be needed to offset adverse effects, and their success would not be guaranteed. Actions that would likely result in affects to resources of this severity would not be authorized or undertaken.

4.1 PROPOSED ACTION

4.1.1 Air Quality

Particularly under dry conditions, the mining process would generate dust. The only receptors in the project area would be the cement plant and traffic on Interstate 84. Impacts to air quality would be small given the small area being mined, the extended period over which mining would occur and the use of water to reduce fugitive dust emissions. Fugitive dust emissions and direct impacts to air quality are expected to be minor, long-term, and adverse.

4.1.2 Geology and Minerals

The clay being mined from the pit is locatable due to the unique aluminum content for which it is mined as an additive in the manufacturing of cement. No other mineral deposits would be affected. The impacts to minerals and geology are expected to be minor, long-term, and adverse.

4.1.3 Livestock and Range Management

The 15.24 acres that would be disturbed under the Proposed Action are part of the Shirttail Creek Allotment, which consists of 808 acres of public land with an allowable 152 AUMs, and 889 acres of private land with an allowable 44 AUMs. The Proposed Action represents a 1.8 percent reduction in the size of the land available for grazing on the public land portion of the allotment. Assuming the grazable acreage in the public land portion of the allotment is uniformly distributed, the Proposed Action would represent a reduction of 2.7 AUMs. The direct impacts to livestock and range management are expected to be negligible, long-term, and adverse.

4.1.4 Invasive Non-Native Species

Disturbance associated with the Proposed Action has the potential to create conditions favorable for invasive non-native and noxious species. Proposed disturbance would directly impact approximately 15.24 acres of juniper sagebrush steppe community, thus leaving these areas susceptible to invasive non-native and noxious species. A significant amount of the Proposed Action area has invasive species already established. Potential transport of weed seeds to other areas on- and off-site could occur. With the implementation of the EPMs discussed in Section 2.1.1 and successful reclamation, impacts from invasive non-native and noxious species is expected to be minor, long-term, and adverse.

4.1.5 Socioeconomics

Ash Grove currently employs approximately 115 people when it is operating at normal capacity. This represents approximately 1.7 percent of the total employed work force of Baker County in the year 2000 based on the data presented in Table 3. Most of these jobs are in the mining and manufacturing sectors, which typically pay higher than average wages. In addition, indirect and induced employment generated by Ash Grove could increase this impact by as much as double.

The Proposed Action would not add any new jobs to the economy of Baker County, but it would allow existing jobs to continue for approximately 30 years. Impacts to socioeconomics are expected to be moderate, long-term, and beneficial.

4.1.6 Soils

The top soil layer with low clay content would be salvaged and stockpiled for later use in reclaiming the site. The productivity of the growth medium would be decreased due to compaction, and mixing of horizons during salvaging and stockpiling. The stockpiled growth medium would be seeded with appropriate seed mix to minimize erosion and weed establishment. Approximately 15.24 acres of soil would be disturbed with the implementation of the Proposed Action. The erosion potential of ground disturbing activities associated with rerouting portions of the road and expansion of the clay pit is high on the Roostercomb-Longbranch soil map unit, due to the small size of these areas and the EPMs associated with

roads and ground disturbing activities, erosion would be minimized. With the planned reclamation activities and the size of the disturbance, impacts to soils are expected to be minor, long-term, and adverse.

4.1.7 Vegetation

Threatened, Endangered, and Special Status Species

Potential habitat for Cronquist's stickseed was identified in the project area; however, this species was not located during surveys conducted in June 2010. Potential habitat present in the project area is dominated by invasive annual species as is characteristic in previously-disturbed areas. The Proposed Action would remove 15.24 acres of potential habitat for Cronquist's stickseed. Impacts to TES vegetation species would be negligible since no species were identified during the survey. Potential habitat for species is present within the project area, but the condition of the habitat available in the project area is poor. Impacts to TES species are expected to be minor, long-term, and adverse.

General Vegetation

There would be a direct loss of 15.24 acres of vegetation removed with implementation of the Proposed Action. The 15.24 acres of disturbance to vegetation represents a very small percentage of the habitat type locally or regionally available, and the site would be reclaimed with native vegetation upon project completion. There is also the potential for invasive non-native species to become further established in the disturbed areas. With implementation of the EPMs, the impacts to vegetation are expected to be minor, long-term, and adverse.

4.1.8 Water Resources

Cottonwood Gulch is located near the eastern-most proposed road realignment. Cottonwood Gulch, Shirttail Creek, and Burnt River are in the drainage area of the project. Potential impacts to this drainage would be sedimentation from the road and the pit. This impact would most likely occur during early spring run-off and during storm events when soils are saturated, water is present in draws, stream flows are high, and sedimentation occurs. The project design minimizes the impacts to water resources by operating during the dry season, designing the road construction to disperse water and sediment, and preventing water and sediment from exiting the clay pit across the surface. Further, the frequency of spring flows and high run-off events is low. Lastly, by operating in the dry season, the Proposed Action minimizes sedimentation into Cottonwood Gulch, Shirttail Creek, and Burnt River during Redband trout spawning periods (January 1 to May 15). Impacts to water resources from the implementation of the Proposed Action are expected to be negligible, long-term, and adverse. Impacts from the Proposed Action to this drainage would be minimized through the implementation of the EMPs discussed in Chapter 2.

4.1.9 Fish and Wildlife

Special Status Species and Species

Potential habitat that would be suitable for special status wildlife species is limited and would not significantly contribute to life history needs. Therefore, long-term adverse impacts from this project to special status wildlife species are negligible.

General Wildlife

Approximately 15.24 acres of habitat would be removed with implementation of the Proposed Action. This would result in the loss of this habitat during the life of mining. In addition, there would likely be direct loss of individual small mammals during the initial clearing of the area. Other animals present would disperse to adjacent areas, where competition for resources may increase. The loss of wildlife habitat would occur for the duration of the Proposed Action. Impacts to fish and wildlife are expected to be minor, long-term, and adverse.

4.1.10 Indian Trust Resources

Traditional Plants

Since no bitter root or other traditional plants of documented concern were observed in the project area during surveys, the removal of 15.24 acres of native vegetation under the Proposed Action would have negligible impacts to traditional plants.

Fish and Wildlife Habitat

The Proposed Action would remove approximately 15.24 acres of a juniper sagebrush step community within the project area. This area is surrounded by previous disturbance; therefore, the habitat has been broken up by the existing disturbance. This area would be revegetated once mining has been completed to return the disturbance to productive wildlife habitat. The wildlife species that may currently use this area would be displaced during mining, but would return once mining has finished and reclamation has been completed. This displacement would be minor in comparison to the available adjacent habitat. Impacts to special status species from the Proposed Action would be negligible.

Livestock Grazing

Since the permits in the project area are not currently held by individuals affiliated with local, region, or federally recognized tribes, impacts to livestock grazing under Indian Trust Resources are not expected.

Impacts to future grazing resources is provided under the General Vegetation Section (4.1.7)

Access

Access on the existing county road may be limited intermittently during active mining operations for safety. Months when access on the county road may be limited are typically June through September. Access would only be limited during active mining and not during the entire mining season, intermittent limited access would impact approximately 0.000035 percent of the available 425,425 acres of treaty land, and there are other roads that may be used to access the area; therefore, the direct impacts to access to Indian Trust Resources are expected to be negligible, intermittent, short-term, and adverse.

Viewshed Impacts

The existing viewshed from Interstate 84 and the Oregon Trail have already been impacted by disturbance associated with previous activities in the project area. Only a small area of the proposed pit would be visible from Interstate 84 (Figure 3) and the Oregon Trail (Figure 4) and is consistent with the existing viewshed of previous disturbance in the area. Therefore, impacts to the viewshed under Indian Trust Resources are not expected to be noticeable and impacts are expected to be negligible, short-term, and adverse.

4.2 ALTERNATIVES

4.2.1 No Action Alternative

If the Proposed Action is not approved, Ash Grove would exhaust the clay supply from the existing pit and would have to find another clay source. The consequences of the No Action Alternative being selected would include no disturbance to the 15.24 acres identified in the Proposed Action.

Air Quality

Under the No Action Alternative, additional mining disturbance would not be created and fugitive dust emissions would remain the same as for the current mining operation until mine closure and reclamation. Impacts to air quality from this alternative are expected to be negligible, long-term, and adverse.

Geology and Minerals

Under the No Action Alternative, the clay resource would continue to be extracted from the existing pit, but the proposed 15.24-acre expansion to the pit would not occur. Impacts to geology and minerals from this alternative are expected to be minor, long-term, and adverse.

Livestock and Range Management

Under the No Action Alternative, no additional land would be disturbed adjacent to existing disturbance and there would be no additional loss or reduction of AUMs. Additional impacts to livestock and range management from this alternative are not expected.

Invasive Non-Native Species

Under the No Action Alternative, no additional land would be disturbed adjacent to existing disturbance. Invasive non-native species present in the area still have the potential to spread into the existing disturbance. Impacts to invasive non-native species from this alternative are expected to be negligible, long-term, and adverse.

Socioeconomics

Under the No Action Alternative, the clay resource would continue to be extracted from the existing pit, but the proposed 15.24-acre expansion to the pit would not occur. Mining of this material would only take place until the material in the existing pit has been exhausted. Existing jobs that depend on this material would be terminated following the extraction of the remaining material from the existing pit. Impacts to socioeconomics from this alternative are expected to be moderate, long-term, and adverse.

Soils

Under the No Action Alternative, the clay resource would continue to be extracted from the existing pit, but the proposed 15.24-acre expansion to the pit would not occur. No additional soils in the area would be disturbed, but topsoil would also not be stockpiled for use during reclamation of the existing disturbance. Impacts to soils from this alternative are expected to be minor, long-term, and adverse.

Vegetation

Under the No Action Alternative, the clay resource would continue to be extracted from the existing pit, but the proposed 15.24-acre expansion to the pit would not occur. Impacts to vegetation from this alternative are not expected beyond potential impacts discussed under invasive non-native species discussion above.

Special Status Species (Plants, Wildlife, and Fish)

Under the No Action Alternative, the clay resource would continue to be extracted from the existing pit, but the proposed 15.24-acre expansion to the pit would not occur. Impacts to special status species from this alternative would be negligible.

Water Resources

Under the No Action Alternative, the clay resource would continue to be extracted from the existing pit, but the proposed 15.24-acre expansion to the pit would not occur. Existing potential impacts to water resources would continue; therefore, impacts to water resources from this alternative are expected to be negligible, long-term, and adverse.

Fish and Wildlife

Under the No Action Alternative, the clay resource would continue to be extracted from the existing pit, but the proposed 15.24-acre expansion to the pit would not occur. Impacts to fish and wildlife from this alternative are expected to be negligible to minor, long-term, and adverse.

Indian Trust Resources

Under the No Action Alternative, the clay resource would continue to be extracted from the existing pit, but the proposed 15.24-acre expansion to the pit would not occur. Impacts to Indian Trust Resources from this alternative would not be realized as the existing pit is located on private land.

4.3 CUMULATIVE IMPACTS

“Cumulative impacts” are those impacts resulting from the incremental impact of an action when added to other past, present, or reasonably foreseeable actions regardless of what agency or person undertakes such other actions. The cumulative impacts analysis looks at past, present, and reasonably foreseeable future activities within a defined cumulative effects study area (CESA) and a defined timeframe.

If impacts to a resource from the Proposed Action were determined to be negligible, analysis of that resource was not included in the cumulative impacts. Resources included in the cumulative impacts section include:

- Invasive non-native species;
- Socioeconomics;
- Soils;
- Vegetation (including special species);
- Wildlife (including special species); and
- Indian Trust Resources – Wildlife.

The CESA for invasive non-native species, soils, vegetation, and wildlife is shown on Figure 5. This CESA includes the watersheds associated with the Proposed Action and was selected as the CESA because impacts to the resources such as invasive non-native species, soils, vegetation, and wildlife within the watershed often will impact these resources within other portions of the watershed as well. The CESA for socioeconomic impacts is Baker County. This CESA was selected because the majority of the work force for the Proposed Action comes from within Baker County, Oregon. The timeframe for analysis of the cumulative effects is 30 years, the expected timeframe of the Proposed Action.

The following sections have analyzed cumulative impacts for resources where potential impacts from the implementation of the Proposed Action were determined in Section 4.1.

4.3.1 Invasive Non-Native Species

Past and Present Actions

Past and present actions within the CESA that may impact invasive non-native species are previous and current mining activity, industrial activity from the existing Ash Grove cement plant, livestock grazing, dirt and gravel roads, telephone lines, gas lines, transmission lines, and Interstate 84.

Reasonably Foreseeable Future Actions

Reasonably foreseeable future actions within the CESA would include revision of the BLM Baker RMP that could impact the management of the area within the CESA, therefore, impacting the invasive non-native species within the CESA. Potential wind energy projects, continued use of the existing dirt and gravel road system, right-of-way grants, continued livestock grazing, potential wildland fires, and continued operation of the Ash Grove cement plant are also reasonably foreseeable future actions within the CESA.

Overall Cumulative Impact

Impacts from these actions to invasive non-native species would include the potential to spread existing and introduce new invasive non-native species. This could take place through the transportation of these species by vehicles along existing roadways within the CESA, and through livestock grazing. Mitigation associated with proposed and existing operation within the CESA such as concurrent reclamation of features such as transmission line disturbance, growth medium stockpiles, and other mining disturbance would reduce impact from past, present, and reasonably foreseeable future actions. The minimal impacts from the implementation of the Proposed Action, as determined in Section 4.1, along with the past, present, and reasonably foreseeable future actions described above within the CESA would not have a significant impact to invasive non-native species.

4.3.2 Socioeconomics

Past and Present Actions

Past and present actions within the CESA include agriculture activities, mining, construction, manufacturing, and retail sales. These activities are described further for Baker County in Section 4.1.

Reasonably Foreseeable Future Actions

Reasonably foreseeable future actions within the CESA include the continued operation of the Ash Grove cement plant, continued mining, continued agriculture, continued and new

construction projects, renewable energy development, continued manufacturing, and continued retail activities.

Overall Cumulative Impact

The positive impacts from the implementation of the Proposed Action, as determined in Section 4.1 along with the past, present, and reasonably foreseeable future actions within the CESA would have a positive impact on socioeconomics from the continued operation of an existing facility.

4.3.3 Soils

Past and Present Actions

Past and present actions that have impacted soils within the CESA include existing mining operations, existing industrial operation of the Ash Grove cement plant, pipelines, Interstate 84, existing dirt and gravel roads, existing transmission lines, and livestock grazing.

Reasonably Foreseeable Future Actions

Reasonably foreseeable future actions within the CESA that may impact soils include continued operation of the Ash Grove cement plant, continued mining, renewable energy development, new right-of-way grants, continued use of existing dirt and gravel roads, livestock grazing and potential wildland fires.

Overall Cumulative Impact

Impacts from past, present, and reasonably foreseeable future actions to soils would include compaction from equipment and traffic on existing roads, mixing and relocation of soils from mining and transmission line installation, and increased erosion potential on existing roads.

The minimal impacts from the implementation of the Proposed Action, as determined in Section 4.1, along with the past, present, and reasonably foreseeable future actions in the CESA would have negligible impact to soils.

4.3.4 Special Status and General Plant Species

Past and Present Actions

Past and present actions that have impacted vegetation within the CESA include existing mining operations, existing industrial operation of the Ash Grove cement plant, pipelines, Interstate 84, existing dirt and gravel roads, existing transmission lines, wildland fire, and livestock grazing.

Reasonably Foreseeable Future Actions

Reasonably foreseeable future actions within the CESA that may impact vegetation include continued operation of the Ash Grove cement plant, continued mining, renewable energy

development, new right-of-way grants, continued use of existing dirt and gravel roads, livestock grazing and potential wildland fires.

Overall Cumulative Impact

Impacts from these actions to vegetation would include the removal of native vegetation. Activities such as roads represent a long-term removal of vegetation, while activities such as mining and transmission lines represent a temporary removal of vegetation until reclamation has been completed. Impacts from livestock grazing may include the introduction or spread of invasive non-native species. The 2006 Evaluation of Shirttail Creek Allotment (#1031) Relative to Rangeland Health Standards (BLM, 2006) found that “the ecological status of the plant community is improving” in the grazing allotment.

Adverse impacts from the implementation of the Proposed Action, as determined in Section 4.1, along with the past, present, and reasonably foreseeable future actions in the CESA would be long-term, adverse, and negligible to minor in magnitude for plant species including special status species.

4.3.5 Special Status and General Fish and Wildlife Species/Indian Trust Resources

Wildlife Species

Past and Present Actions

Past and present actions that have impacted fish and wildlife within the CESA include existing mining operations, existing industrial operation of the Ash Grove cement plant, pipelines, Interstate 84, existing dirt and gravel roads, existing transmission lines, wildland fire, and livestock grazing.

Reasonably Foreseeable Future Actions

Reasonably foreseeable future actions within the CESA that may impact fish and wildlife include continued operation of the Ash Grove cement plant, continued mining, renewable energy development, new ROW grants, continued use of existing dirt and gravel roads, livestock grazing and potential wildland fires.

Overall Cumulative Impact

Impacts from these actions would be the loss and fragmentation of habitat from ground disturbance. Interstate 84 and other roads impact wildlife through the risk of collision. Fish and wildlife habitat within the CESA is not unique and is readily available in the surrounding area.

Adverse impacts from the implementation of the Proposed Action, as determined in Section 4.1, along with the past, present, and reasonably foreseeable future actions in the CESA would be

long-term, adverse, and negligible to minor in magnitude for fish and wildlife species including special status species or habitat for those species.

5.0 CONSULTATION AND COORDINATION

5.1 INTRODUCTION

This EA was prepared by JBR Environmental Consultants, Inc. under the technical direction of the BLM Baker Field Office in Baker City, Oregon. Assistance was provided by BLM resource specialists (meetings and subsequent conversations); consultation with other local, state, and federal agency resource personnel; review of company and agency files; field reconnaissance; and review of supporting documentation.

5.2 LIST OF PREPARERS

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5.3 PERSONS, GROUPS, OR AGENCIES CONSULTED

The following persons, groups, and agencies were contacted during the preparation of this document.

Tribal Consultation

Project scoping letters and the cultural survey report were sent to OSHPO and local and regional federally recognized tribes on January 26, 2011. OSHPO sent a letter of no effect concurrence on February 07, 2011. CTUIR expressed concern in a letter dated March 09, 2011. BLM and CTUIR met in Mission, Oregon to discuss tribal concerns on the Ash Grove project, April 11, 2011. Tribal concerns are addressed in Sections 3.10 and 4.10.

Ash Grove Cement Company

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Norma Job

Terry Kerby

Quarry Superintendent

Environmental Manager

Plant Manager

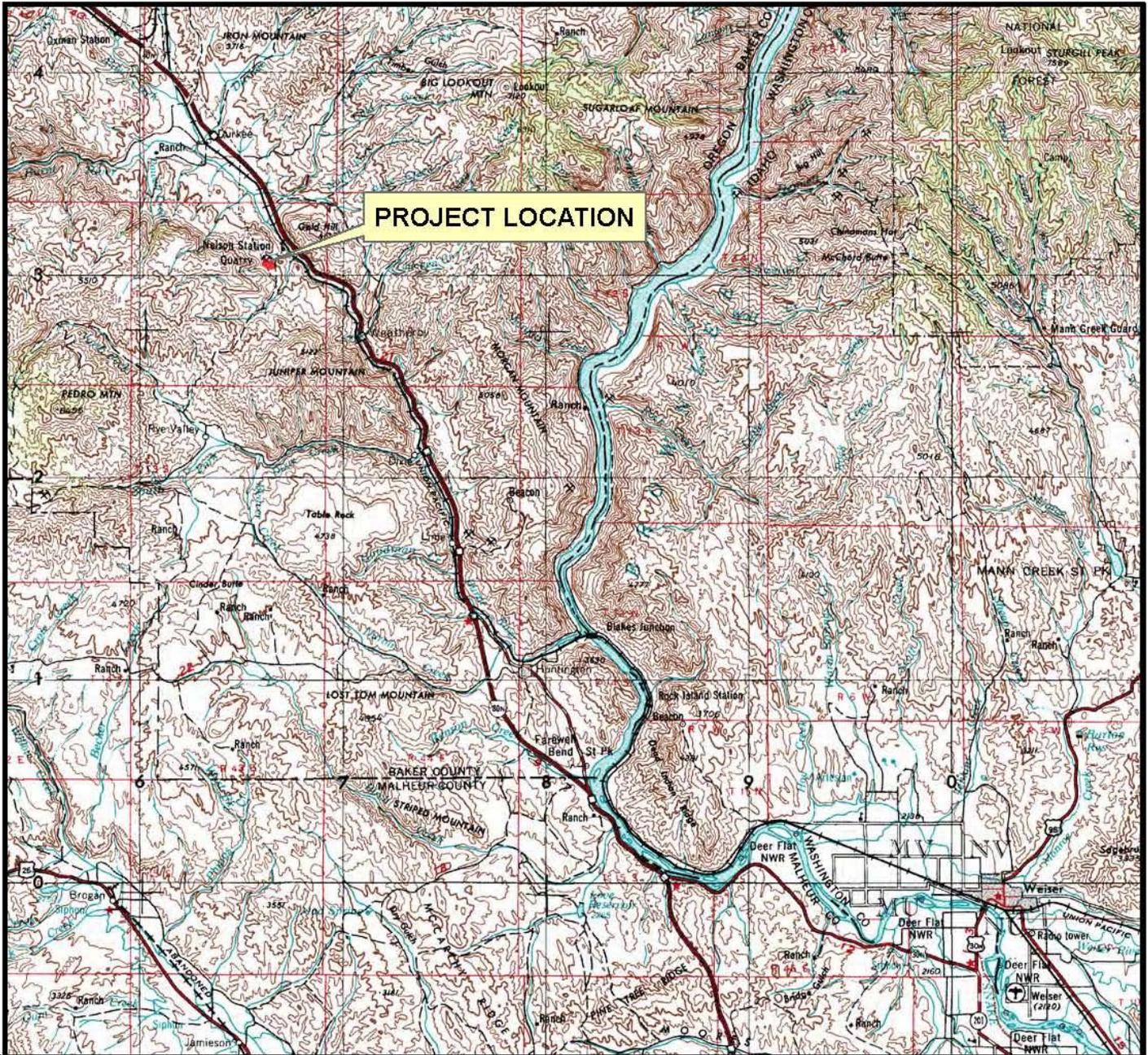
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FIGURES



drawings\Ash Grove Cement Company\Figure 1 Project Location Map.mxd



BASE MAP 1:250,000-SCALE BAKER, OREGON - IDAHO



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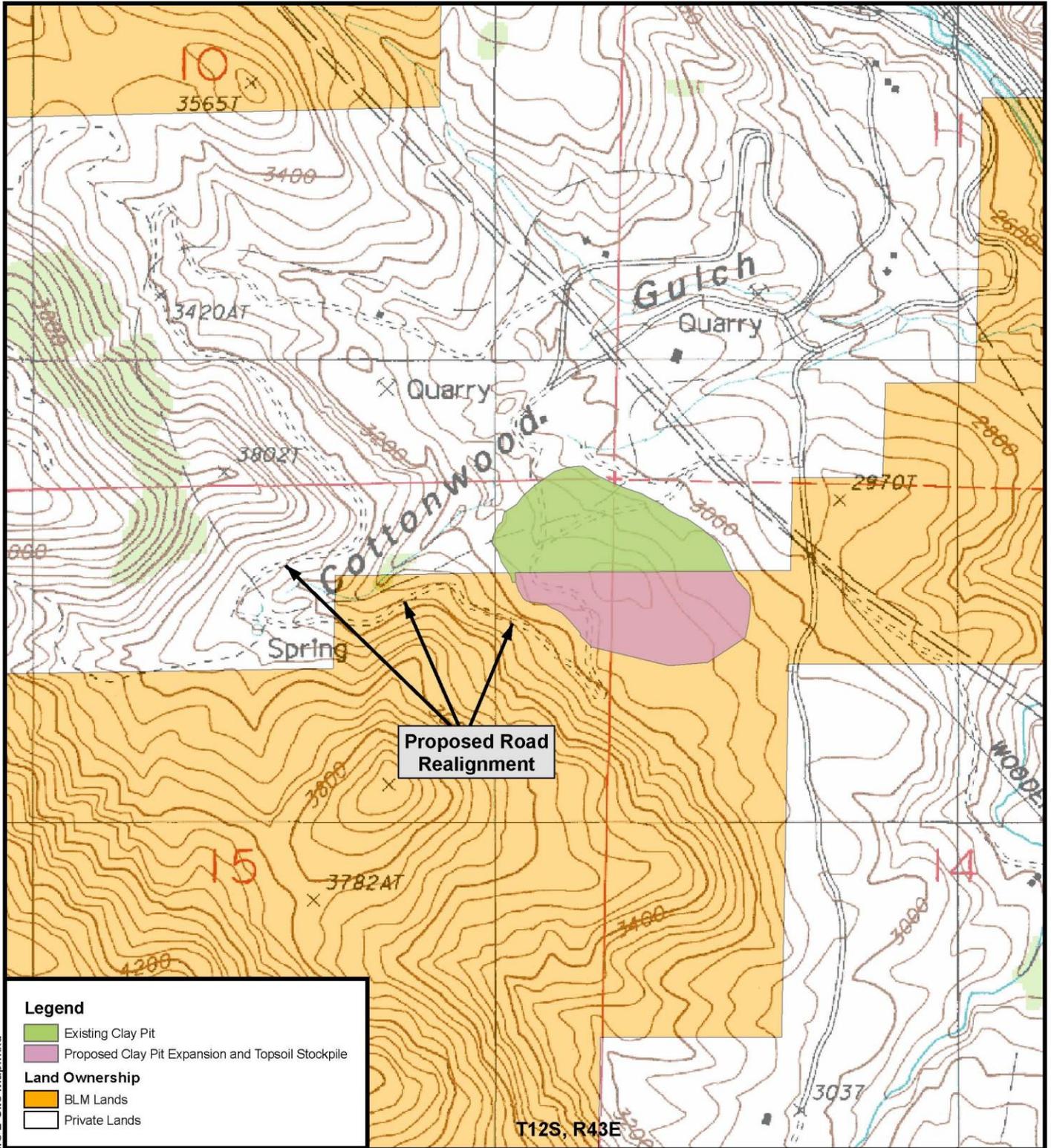


1 0 5 Miles

ASH GROVE CEMENT COMPANY DURKEE CLAY PIT EXPANSION

FIGURE 1
PROJECT LOCATION

DRAWN BY	CP	DATE DRAWN	02/23/2011
SCALE	1:300,000		



Legend

- Existing Clay Pit
 - Proposed Clay Pit Expansion and Topsoil Stockpile
- Land Ownership**
- BLM Lands
 - Private Lands

T12S, R43E

BASE MAP: USGS 7.5 MINUTE QUADRANGLE



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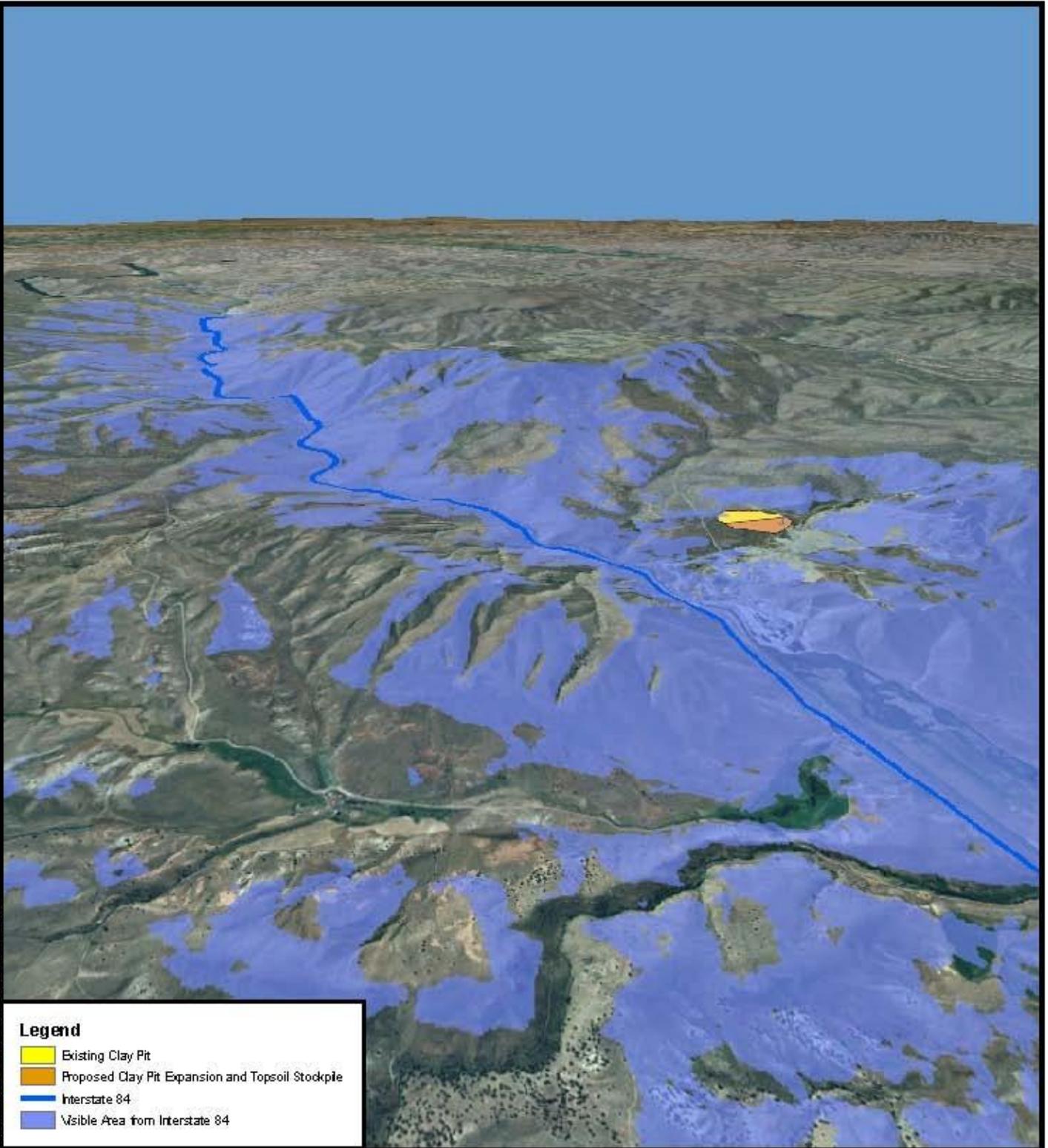


**ASH GROVE CEMENT COMPANY
DURKEE CLAY PIT EXPANSION**

**FIGURE 2
SITE MAP**

DRAWN BY	CP	DATE DRAWN	02/23/2011
SCALE	1:12,000		

drawings\Ash Grove Cement Company\Figure 3 Interstate 84 Viewshed 042711.mxd



Legend

- Existing Clay Pit
- Proposed Clay Pit Expansion and Topsoil Stockpile
- Interstate 84
- Visible Area from Interstate 84

Source: ARC GIS Online Imagery



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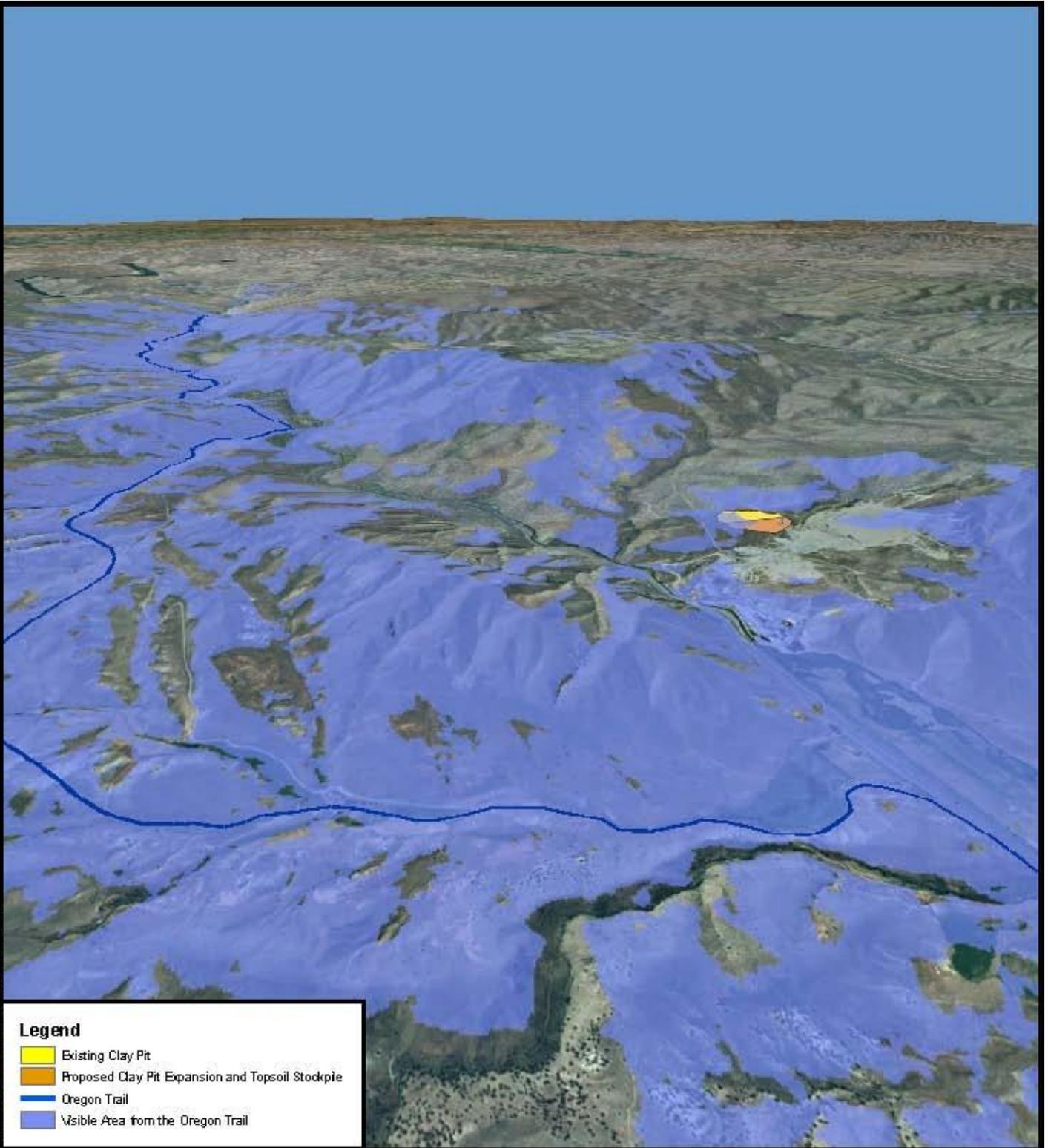


**ASH GROVE CEMENT COMPANY
DURKEE CLAY PIT EXPANSION**

**FIGURE 3
INTERSTATE 84 VIEWSHED**

DRAWN BY:	CP	DATE DRAWN:	04/27/2011
	SCALE:		No Scale

drawings\Ash Grove Cement Company\Figure 4 Oregon Trail Views\shed 042711.mxd



Legend

- Existing Clay Pit
- Proposed Clay Pit Expansion and Topsoil Stockpile
- Oregon Trail
- Visible Area from the Oregon Trail

Source: ARC GIS Online Imagery



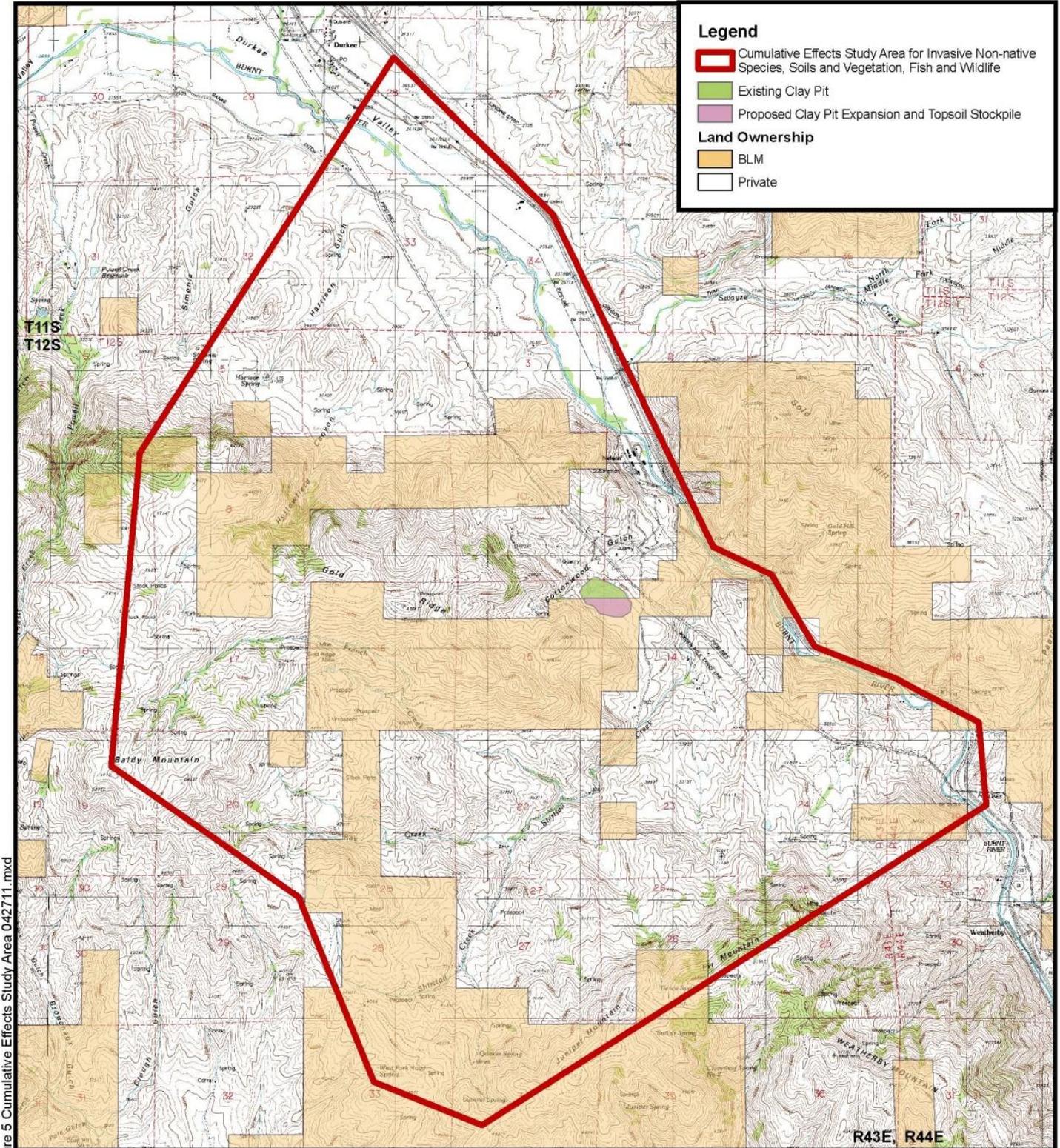
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**ASH GROVE CEMENT COMPANY
DURKEE CLAY PIT EXPANSION**

**FIGURE 4
OREGON TRAIL VIEWSHED**

DRAWN BY:	CP	DATE DRAWN:	04/27/2011
	SCALE: No Scale		

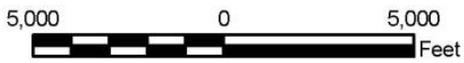


drawings\Ash Grove Cement Company\Figure 5 Cumulative Effects Study Area 042711.mxd

BASE MAP: USGS 7.5 MINUTE QUADRANGLE



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ASH GROVE CEMENT COMPANY DURKEE CLAY PIT EXPANSION

FIGURE 5 CUMULATIVE EFFECTS STUDY AREA

DRAWN BY	CP	DATE DRAWN	04/27/2011
SCALE	1:60,000		

APPENDIX A

Biological Survey Report

**BIOLOGICAL SURVEY REPORT
DURKEE CLAY PIT EXPANSION
ASH GROVE CEMENT COMPANY
BAKER COUNTY, OREGON**

Prepared for:

**Bureau of Land Management
Vale District Office**
P.O. Box 700
Vale, Oregon 97918

Prepared by:

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JBR Project Number B.A10305.00
JBR Report Number 951 Final

July 14, 2010

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LIST OF ACRONYMS & ABBREVIATIONS

Ash Grove	Ash Grove Cement Company
BLM	Bureau of Land Management
JBR	JBR Environmental Consultants, Inc.
ONHP	Oregon Natural Heritage Program
TES	Threatened, Endangered, and Sensitive

**BIOLOGICAL SURVEY REPORT
DURKEE CLAY PIT EXPANSION
ASH GROVE CEMENT COMPANY
BAKER COUNTY, OREGON**

1.0 INTRODUCTION

Ash Grove Cement Company (Ash Grove) is proposing to expand an existing clay pit at its Durkee Cement Plant facility located four miles south of Durkee, Oregon (Figure 1). Ash Grove retained JBR Environmental Consultants, Inc. (JBR) to conduct biological surveys of the proposed disturbance area. The project is located on public land managed by the Bureau of Land Management (BLM), Vale District office.

The proposed expansion area (survey area) encompasses approximately 13 acres in Baker County, Oregon (Figure 2) including portions of Sections 14 and 15, Township 12 South, Range 43 East. Access to the survey area from Baker City, Oregon is south on Interstate 84 to the Plano exit and continuing to old Highway 30 south to the cement plant.

Threatened, endangered, and sensitive (TES) species and noxious, invasive, and non-native species surveys were conducted in early June 2010. Field surveys were conducted at optimum times for habitat and species identification. Vegetation in the survey area consists of juniper sagebrush steppe and areas previously disturbed by mining activities.

2.0 METHODOLOGY

2.1 TES SPECIES SURVEY

The BLM Vale District Office and the Oregon Natural Heritage Program (ONHP) were consulted to identify any TES species that may occur in the survey area or had previously been identified in the area. Databases maintained by the ONHP were queried to determine any known occurrences of TES plant species within the general vicinity of the survey area.

A literature review for information pertaining to each TES species of interest identified by the BLM was completed. Habitat requirements for the species including elevation ranges, slope positions, soil types, and precipitation zones were identified. The phenology of TES plant species was reviewed to ensure the survey would be conducted at the appropriate time of year to allow positive species identification in the field.

The survey was conducted entirely on foot to determine the existing vegetation community, plant species present, and TES species habitat in the survey area. Due to the small size of the proposed disturbance, field surveys were conducted using ten-meter transects covering the entire survey area.

An AnaBat II Detector was used to record bat calls in the survey area to determine the presence or absence of bats in the survey area. Rocky outcrops and the Burnt River located outside the survey area provide potential roosting and foraging habitat for both resident and migrant bat species.

2.2 NOXIOUS, INVASIVE, AND NON-NATIVE SPECIES SURVEY

JBR surveyed for noxious, invasive, and non-native species during the TES species survey. Areas containing noxious, invasive, and non-native species as identified by the Oregon Department of Agriculture were noted.

3.0 RESULTS

The survey area is located on an east to northeast aspect south of an existing clay pit (Figure 2) and consists of a juniper sagebrush steppe community/habitat type dominated by an annual, invasive understory. No surface water or rocky outcrops or caves were observed in the survey area. Soils in the survey area consist of the Ruckles-Rucklick complex from hill slopes and colluvium derived from basalt with loess and volcanic ash in the surface layer (NRCS, 2009). Photographs of the survey area are provided in Appendix A.

Shrubs observed in the survey area include big sagebrush (*Artemisia tridentata*), rubber rabbitbrush (*Ericameria nauseosus*), and green rabbitbrush (*Ericameria viscidiflorus*). Grasses include bottlebrush squirreltail (*Elymus elymoides*), crested wheatgrass (*Agropyron spicatum*), Idaho fescue (*Festuca idahoensis*), smooth brome (*Bromus inermis*), cheatgrass (*Bromus tectorum*), bulbous bluegrass (*Poa bulbosa*), and medusahead rye (*Taeniatherum canput-medusae*). Forbs include yarrow (*Achillea millefolium*), hawkbeard (*Crepis acuminata*), lupine (*Lupinus* sp.), curlycup gumweed (*Grindelia squarrosa*), clasping pepperweed (*Lepidium perfoliatum*), salsify (*Tragopogon dubius*), tumble mustard (*Sisymbrium altissimum*), longleaf phlox (*Phlox longifolia*), whitetop (*Cardaria draba*), yellow sweetclover (*Melilotus officinalis*), stork's bill (*Erodium cicutarium*), sunflower (*Helianthus annuus*), fiddleneck (*Amsinckia* sp.), clover (*Trifolium* sp.), thistle (*Cirsium* sp.), and Hood's phlox (*Phlox hoodii*).

Wildlife species observed during the survey include mule deer (*Odocoileus hemionus*), Northern harrier (*Circus cyaneus*), chukar (*Alectoris chukar*), mourning dove (*Zenaida macroura*), black-billed magpie (*Pica pica*), western meadowlark (*Sturnella neglecta*), horned lark (*Eremophila alpestris*), lark sparrow (*Chondestes grammacus*), and cliff swallow (*Petrochelidon pyrrhonota*).

3.1 TES SPECIES

TES plant species identified by the BLM with potential to occur in the survey area included Howell's spectacular (*Thelypodium howellii* ssp. *spectabilis*), Snake River goldenweed (*Pyrocoma radiata*), and Cronquist's stickseed (*Hackelia cronquistii*). Potential habitat for Cronquist's stickweed was identified in the survey area, but no individuals were observed. Habitat for the other species identified was not present in the survey area.

TES wildlife species identified by the BLM with potential to occur in the survey area included the redband trout (*Oncorhynchus* sp.), Columbia spotted frog (*Rana luteiventris*), various bat species, gray wolf (*Canis lupus*), California bighorn (*Ovis canadensis*), and western burrowing owl (*Athene cunicularia hypugaea*).

A myotis bat species (*Myotis* sp.) call was recorded flying over the survey area on the evening of June 7, 2010. No other TES wildlife species or potential habitat for wildlife species were observed or during the survey.

3.2 NOXIOUS, INVASIVE, AND NON-NATIVE SPECIES

Noxious weeds within Oregon are defined as any plant "that is injurious to public health, agriculture, recreation, wildlife, or any public or private property" (ODA, 2009). Invasive, non-native plant species are defined as alien species whose introduction is likely to cause economic or environmental harm or harm to human health. Invasive species often displace native species and become dominant, in turn affecting native flora, wildlife, watersheds, fire regimes, and recreation.

State-listed noxious weed species hoary cress (*Cardaria draba*) and medusahead rye (*Taeniatherum caput-medusae*) were observed in the survey area adjacent to existing roads and mine disturbance. Thistle rosettes were observed scattered throughout the survey area but were unidentifiable at the time of the survey. The invasive, non-native species cheatgrass and bulbous bluegrass were common throughout the survey area.

4.0 CONCLUSIONS/DISCUSSION

4.1 TES SPECIES

The area was surveyed for BLM-identified TES species on June 7 and 8, 2010. The survey area consisted of a juniper sagebrush steppe community. The understory vegetation lacked diversity and was dominated by annual invasive species such as cheatgrass and bulbous bluegrass. Although potential habitat for Cronquist's stickweed was identified in the survey area, no individuals were observed. Habitat for the other TES vegetation species identified by the BLM was not present in the survey area. TES species will not likely be affected by the proposed project due to lack of habitat and existing vegetation community conditions within the survey area.

TES wildlife species observed and recorded in the survey area include one species of bat. Bat roosting habitat is not present in the survey area but exists in rock outcrops and riverine habitat located to the east of the survey area. No surface water features are present in the survey area.

Since no roosting or prime foraging habitat is available in the project area, the recorded bat species was likely passing through. Therefore with the lack of habitat for the TES wildlife species identified by the BLM in the survey area, no impacts to TES wildlife species are expected from the proposed project.

4.2 NOXIOUS, INVASIVE, AND NON-NATIVE SPECIES

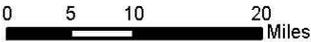
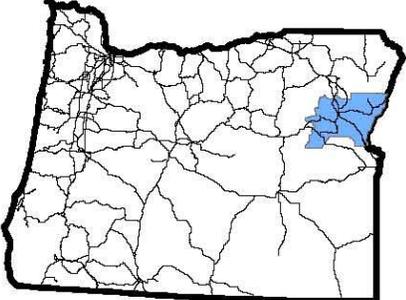
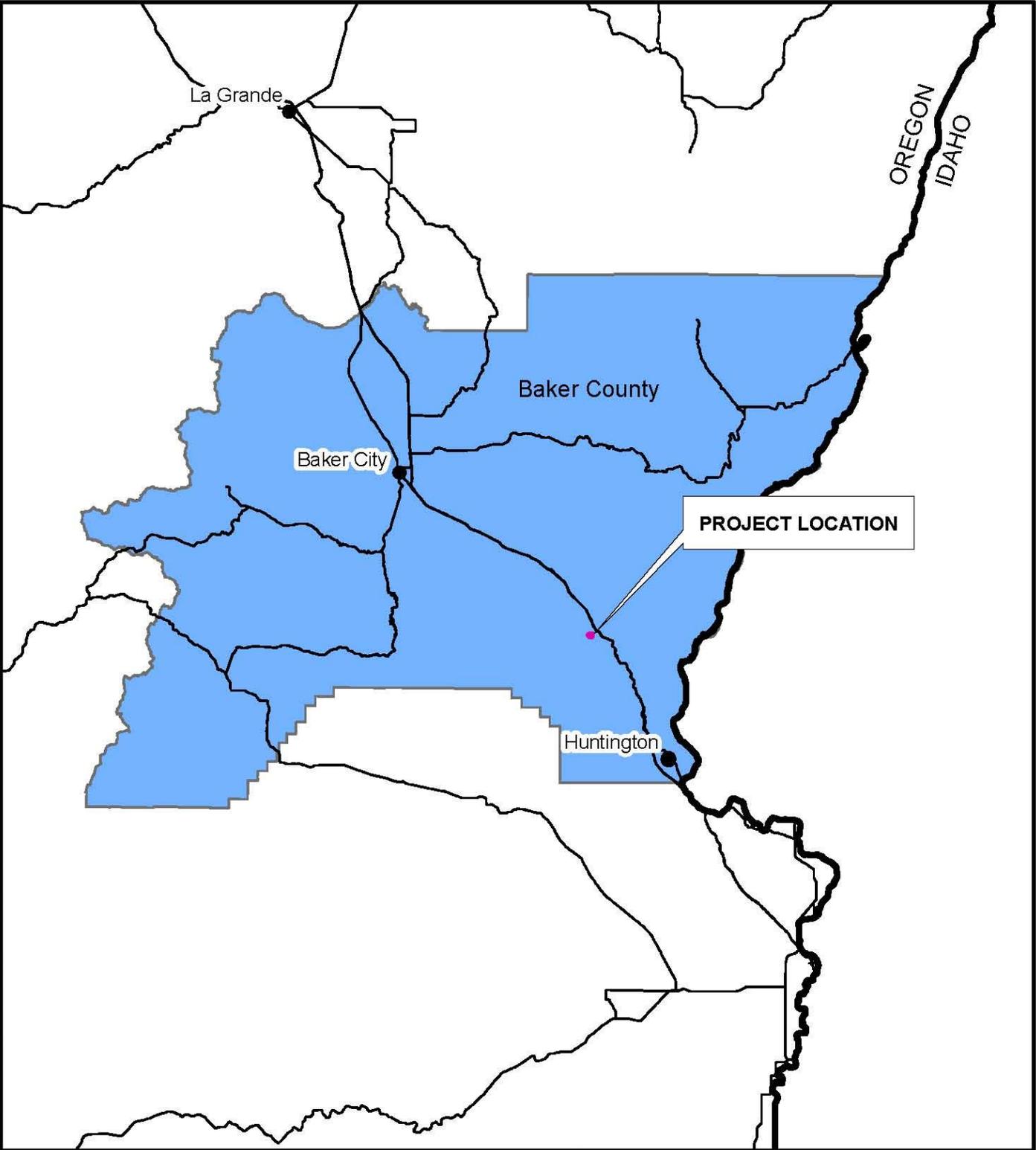
Past and present disturbance in the survey area have likely led to noxious, invasive, and non-native species establishment. Invasive and non-native species dominate the understory of the vegetation community within the survey area.

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FIGURES

File Path: G:\GIS\Project_Files\AshGroveB_A09192_00\QuarryMXDs\TES_Figure_1_KO_20100708.mxd



ASH GROVE CEMENT COMPANY
DURKEE CLAY PIT EXPANSION

FIGURE 1
GENERAL LOCATION



DESIGN BY KM	DRAWN BY JCV	SCALE AS SHOWN
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DATE DRAWN 04/22/2010
DATE REVISED 07/13/2010

APPENDIX A

Survey Area Photographs



Survey area facing east – June 7, 2010



Survey area facing west – June 7, 2010

APPENDIX B

Species Lists

WILDLIFE SPECIES OBSERVED OR RECORDED IN SURVEY AREA	
Species	Habitat, Comments
MAMMALS	
Myotis (<i>Myotis sp.</i>)	Recorded flying over the project area.
Mule Deer (<i>Odocoileus hemionus</i>)	Single doe observed west of the project area in big sagebrush.
BIRDS	
Northern harrier (<i>Circus cyaneus</i>)	Observed flying over the project area.
Black-billed magpie (<i>Pica pica</i>)	Throughout area; mainly juniper habitat.
Mourning dove (<i>Zenaida macroura</i>)	Throughout area; mainly big sagebrush habitat.
Chukar (<i>Alectoris chukar</i>)	Throughout area; mainly in lower swales.
Western meadowlark (<i>Sturnella neglecta</i>)	Throughout area; mainly big sagebrush habitat.
Horned lark (<i>Eremophila alpestris</i>)	Throughout area, mainly roadside sagebrush.
Lark sparrow (<i>Chondestes grammacus</i>)	Sagebrush habitat in project area.
Cliff swallow (<i>Petrochelidon pyrrhonota</i>)	Observed flying around juniper in project area.

VEGETATION SPECIES LIST

Scientific Name	Common Name	Life Form	A/P	Origin	Juniper Sagebrush Steppe	Previously Disturbed Areas/Roadsides
<i>Achillea millefolium</i>	common yarrow	Forb	P	Native	X	
<i>Agoseris</i> ssp.	agoseris	Forb	P	Native	X	
<i>Agropyron cristatum</i>	crested wheatgrass	Graminoid	P	Intro	X	X
<i>Amsinckia</i> sp.	fiddleneck	Forb	A	Unknown	X	X
<i>Astragalus purshii</i>	woollypod milkvetch	Forb	P	Native	X	
<i>Artemisia tridentata</i> v. <i>tridentata</i>	big sagebrush	Shrub	P	Native	X	X
<i>Bromus inermis</i>	smooth brome	Graminoid	P	Native/Intro	X	
<i>Bromus tectorum</i>	cheatgrass	Graminoid	A	Non-native	X	X
<i>Cardaria draba</i>	whiteweed	Forb	P	Non-native		X
<i>Cirsium</i> sp.	thistle	Forb	A	Unknown		X
<i>Crepis acuminata</i>	tapertip hawksbeard	Forb	P	Native	X	
<i>Elymus elymoides</i>	bottlebrush squirreltail	Graminoid	P	Native	X	
<i>Ericameria nauseosa</i>	rubber rabbitbrush	Shrub	P	Native	X	X
<i>Ericameria vicidiflorus</i>	green rabbitbrush	Shrub	P	Native	X	X
<i>Erigeron</i> sp.	fleabane	Forb	P	None	X	
<i>Erigeron aphanactis</i>	rayless shaggy fleabane	Forb	P	Native	X	
<i>Erodium cicutarium</i>	filaree	Forb	A	Non-native	X	X
<i>Festuca idahoensis</i>	Idaho fescue	Graminoid	P	Native	X	
<i>Festuca idahoensis</i>	curlycup gumweed	Forb	A	Native		X
<i>Helianthus annuus</i>	common sunflower	Forb	A	Native		X
<i>Juniperus occidentalis</i>	western juniper	Tree	P	Native	X	
<i>Lepidium perfoliatum</i>	clasping pepperweed	Forb	A	Non-native		X
<i>Lomatium</i> ssp.	desertparsley	Forb	P	Native	X	
<i>Lotus</i> sp.	deervetch	Forb	P	Native	X	
<i>Lupinus</i> ssp.	lupine	Forb	P	Native	X	
<i>Melilotus officinalis</i>	yellow sweetclover	Forb	P	Intro	X	X
<i>Phlox hoodii</i>	spiny phlox	Forb	P	Native	X	
<i>Phlox longifolia</i>	longleaf phlox	Forb	P	Native	X	
<i>Poa bulbosa</i>	bulbous bluegrass	Graminoid	P	Non-native		X
<i>Pseudoroegneria spicata</i>	bluebunch wheatgrass	Graminoid	P	Native	X	
<i>Sisymbrium altissimum</i>	tall tumblemustard	Forb	A	Non-native	X	X
<i>Taeniatherum caput-medusae</i>	medusahead rye	Graminoid	A	Unknown		X
<i>Tragopogon dubius</i>	yellow salsify	Forb	A	Non-native	X	
<i>Trifolium</i> ssp.	clover	Forb	P	Unknown	X	X

X = Present, Life Form

F = Forb

G = Graminoid

S = Shrub

T = Tree