



EXECUTIVE SUMMARY

**EXECUTIVE SUMMARY
OF THE DRAFT
ENVIRONMENTAL IMPACT STATEMENT FOR THE
PROPOSED THREE RIVERS STONE QUARRY EXPANSION
PROJECT
CUSTER COUNTY, IDAHO**

This Executive Summary is intended to be a synopsis of the *Three Rivers Stone Quarry Expansion Project Draft Environmental Impact Statement* for the reader. The detailed analysis of the Proposed Action, alternatives to the Proposed Action, and the disclosure of impacts are displayed in detail in the Draft Environmental Impact Statement (DEIS), available both on CD and in hard copy formats. The DEIS is also available on the internet at www.blm.gov/id/st/en/fo/challis/nepa/Three_Rivers.html.

INTRODUCTION

In 2002, L&W Stone (the Applicant) submitted an Amended Plan of Operations to the Bureau of Land Management (BLM), Challis Field Office, Challis, Idaho to continue quarrying flagstone (Three Rivers Stone) at the Three Rivers Stone Quarry, located about 5 miles east of the town of Clayton in Custer County, Idaho. In 2004, an Environmental Assessment (EA) was completed that evaluated the Amended Plan of Operations and alternatives. The BLM signed a FONSI and Decision Record in July 2004 that authorized implementation of Alternative 2, as described in the 2004 EA, contingent upon submittal of a revised Plan of Operations and an acceptable bond for full reclamation of the operations. In 2005, as a result of a lawsuit that was filed objecting to the authorization, the BLM was ordered by U.S. District Court Judge Lynn Winmill to prepare an EIS for the Amended Plan of Operations.

On October 21, 2005, the BLM published a *Notice of Intent to prepare an EIS* and initiated the public scoping process in the Federal Register. This triggered an initial public scoping period that ran for 45 days and concluded on December 5, 2005. The process for analyzing the proposal and alternatives began with the publication of the Notice of Intent and was consistent with the requirements of the National Environmental Policy Act, 1969 (NEPA).

SCOPING

Significant Issues Identified through Scoping and Used to Develop Alternatives

Public, government-to-government, and interagency scoping for issues was accomplished early in the analysis process through public meetings, scoping documents, and internal BLM interdisciplinary discussions and continues today. Issues that emerged during the scoping process were also considered in formulating the alternatives. The issues considered to be significant and addressed in detail include:

- Protecting the East Fork Salmon River Bench Area of Critical Environmental Concern/Research Natural Area (ACEC/RNA)
- Maintaining the values of the Salmon River and East Fork Salmon River
- Improving the socioeconomic of the Challis area
- Protecting visual resources
- Protecting fish and wildlife, including threatened and endangered species
- Protecting water quality
- Minimizing noise impacts to residents and wildlife from use of explosives
- Reducing and mitigating dust generated from mining activities
- Clarifying the purpose and need for the Proposed Project
- Maintaining and protecting Tribal treaty rights and interests

Other Issues and Concerns Addressed:

- Wild horse protection
- Access to the quarry site
- Cultural and historic resource protection
- Range resource protection
- Geology and soils
- Spread and establishment of weeds and invasive species
- Recreation opportunity changes
- Hazardous materials
- Conformance with the existing Resource Management Plan
- Vegetation disturbance and restoration

Issues Deemed Outside the Scope of the Environmental Impact Statement (EIS):

- Quarrying at alternate sites or for alternative sources of flagstone

LEAD, COOPERATING AND PARTICIPATING AGENCIES

The **BLM** is the Federal agency responsible for the preparation of the Draft and Final EIS and the associated analysis. The responsible official will be David Rosenkrance, Challis Field Office Manager.

Cooperating agencies are Federal agencies that have jurisdiction by law (40 CFR 1501.6) and may or will make a decision relative to the Three Rivers Stone Quarry Expansion Project (Proposed Project) based on the analysis disclosed in this EIS. Cooperating agencies may also have special expertise or have information that will assist in development of the analysis. In this analysis, the cooperating agencies include the **U.S. Fish and Wildlife Service (USFWS)** and the **National Marine Fisheries Service (NMFS)**.

The **Idaho Department of Fish and Game** (IDFG) is a participating agency and is providing input relevant to fish and wildlife and fish and wildlife habitat.

GOVERNMENT-TO-GOVERNMENT CONSULTATION

The United States has a unique legal relationship with Indian tribal governments as set forth in the Constitution of the United States, treaties, statutes, Executive Orders, and court decisions. The Federal Government has enacted numerous statutes and promulgated numerous regulations that establish and define a trust relationship with Indian Tribes. As a land and resource manager, the BLM has a trust responsibility to honor treaty rights and make land management decisions and take actions that do not harm or abrogate treaty rights. The BLM must do this while still meeting its regulatory and management responsibilities to all of the nation's people.

In this analysis, the BLM has formally initiated consultation with the sovereign nation of the Shoshone-Bannock Tribes. This consultation has been initiated with this Tribal Government in the manner as requested by them and is ongoing throughout the analysis.

THE APPLICANT

L&W Stone Corporation is a privately owned stone retailer with corporate offices in Orland, California. L&W Stone produces natural stone products and services retailers in the landscaping, nursery, and building supply markets. L&W Stone operates several other quarries in the United States that produce building stone. L&W Stone is proposing to expand the Three Rivers Stone quarry in Custer County, Idaho. The Proposed Project would be located entirely on public land administered by the BLM within the BLM Challis Field Office administrative boundary.

PURPOSE OF AND NEED FOR PROPOSED ACTION

The purpose of the Proposed Action is to expand the Three Rivers Stone Quarry under the authority of BLM Title 43 Code of Federal Regulations (CFR) Subpart 3809. L&W Stone has proposed to expand the Three Rivers Stone quarry in order to increase mine production and to begin exploration to determine if additional marketable flagstone exists on their mining claims.

The need for the Proposed Action is to provide L&W Stone the opportunity to mine sufficient flagstone to meet the market demand, which has increased substantially since 2000, and is expected to continue to increase. Even though L&W Stone's quarry production has increased over the years, it has been unable to keep up with the demand for its flagstone products. The Amended Plan of Operations that was submitted to the BLM in 2002 was based on actual and projected demand for this stone by the building industry, and consumption of this stone has increased since this date.

According to the U.S. Geological Survey, the demand for stone products is predicted to increase well into the future. This prediction is based on the fact that stone continues to be a construction material of choice because of the long lasting and low maintenance aspects of natural stone products along with the variety of stone products that are available to meet a wide range of needs. The increased use of stone products is the result of a number of factors including improvements in technology and finishes and that quarrying methods have resulted in stone becoming a cost-effective material when compared to other construction materials.

CONFORMANCE WITH EXISTING RESOURCE MANAGEMENT PLAN

The Challis Resource Management Plan (RMP) was approved by the Record of Decision (ROD) dated July 1999. The RMP acknowledges that the development of minerals is a valid use of the public lands – Minerals Section – Goal 3: “Maintain the availability of public lands for locatable mineral exploration and development. Minimize adverse effects of locatable mineral development activity on other resources” (USDI-BLM 1999, p. 44). The RMP also states that, “Wild and Scenic River (WSR) segments which are found suitable or have a suitability finding deferred until a later coordinated suitability study will be open to mineral development, if consistent with the maintenance of WSR values and management of mineral development in riparian areas” (USDI-BLM 1999, p. 41). The Proposed Action and alternatives to the Proposed Action would conform to the Challis RMP to meet land management objectives.

DECISIONS TO BE MADE

Bureau of Land Management (Lead Agency)

Upon evaluating the 2002 Amended Plan of Operations through this EIS, the BLM must:

- approve the Amended Plan as submitted;
- approve the Amended Plan subject to changes or conditions necessary to meet the performance standards of 43 CFR 3809.420 and to prevent unnecessary and undue degradation; or
- withhold approval of the Amended Plan because the proposed operations cannot be modified to prevent unnecessary or undue degradation of public lands (43 CFR 3809.411).

The decision regarding the approval of the Amended Plan of Operations will be outlined in a Record of Decision, based on the outcome of the Final EIS.

U.S. Fish & Wildlife Service (Cooperating Agency)

The USFWS will issue a concurrence letter based on consultation with the BLM on an amended Biological Assessment (BA) of impacts of the Proposed Project to threatened and endangered aquatic species. The assessment will amend the BA for aquatic species that was prepared for the 2004 Three Rivers Stone Quarry Expansion EA and will address potential impacts of the Proposed Project on Snake River sockeye salmon, Snake River spring and summer Chinook salmon, Snake River Basin steelhead, and Columbia River Basin bull trout. Since no impacts to Federally listed terrestrial species would result from implementation of the proposed alternatives, a BA for terrestrial species will not be submitted to the USFWS. The concurrence letter will address only the aquatic species under the authority of the USFWS (the Columbia River Basin bull trout). The results of consultation with the USFWS will be included in the BLM ROD for the Final EIS.

National Marine Fisheries Service (Cooperating Agency)

The NMFS will issue a concurrence letter based on consultation with the BLM on an amended BA of impacts of the Proposed Project to threatened and endangered aquatic species. The assessment will amend the BA for aquatic species that was prepared for the 2004 Three Rivers Stone Quarry Expansion EA and will address potential impacts of the Proposed Project on Snake River sockeye salmon, Snake River spring and summer Chinook salmon, Snake River Basin steelhead, and Columbia River Basin bull trout. The concurrence letter will address only the species under the authority of the NMFS (the Snake River sockeye salmon, Snake River spring and summer Chinook salmon, and Snake River Basin

steelhead). The results of consultation with the NMFS will be included in the BLM ROD for the Final EIS.

PROPOSED ACTION AND ALTERNATIVES

This section identifies and describes the Proposed Action, the No Action Alternative, and the action alternatives associated with the Proposed Project. The EIS analyzed four alternatives in detail:

- Alternative A: The No Action Alternative
- Alternative B: Continuation of the Interim Mining Plan
- Alternative C: Preferred Alternative from the 2004 EA
- Alternative D: Proposed Action (BLM Preferred Alternative)

A brief description of these alternatives and project features common to all action alternatives is provided below.

Alternative A (No Action)

Alternative A, the No Action Alternative, serves as a baseline against which the action alternatives can be compared. This baseline also allows for the disclosure of the effects of not authorizing expansion of and continuation of mining at the quarry. Under Alternative A, current mining at the Three Rivers Stone Quarry would cease and the quarry site would be reclaimed. All reclamation activities would be completed by L&W Stone within 2 years of cessation of mining operations. Following completion of reclamation activities, waste rock would be allowed to be removed from a portion of the Pit 1 waste rock storage area that would be designated as a community pit. This rock would be used as rip rap and other construction materials.

The main objectives of reclamation would be the following:

- Stabilize and protect surficial soils (minimize wind and water erosion);
- Protect public health by eliminating hazards (remove chemicals, petroleum products, and explosives);
- Protect surface and ground water resources (implement erosion control measures);
- Meet post-mining land uses;
- Minimize view-shed issues (visual impacts);

- Remove operational structures and equipment, regrade, add stockpiled topsoil, and reseed waste rock piles (Pit 1 waste rock storage area would be regraded to match contours of adjacent talus slopes and Pit 2 waste rock storage area would be contoured, covered with topsoil, and planted);
- Reclaim and revegetate operational roads and other disturbed areas (mining roads would be ripped, recountoured, and revegetated, the power-line access road would be reduced to a single-lane road, gates would be removed, and the administrative area would be reseeded; pits would be left in their final mining configurations and pit floors would be sloped and berms would be removed to allow drainage; BLM-approved seeds or container-grown species would be used for revegetation);
- Establish a weed management program; and
- Color the Pit 1 footwall, highwall, and waste rock storage area to meet BLM Visual Resource Management (VRM) Class II Objectives.

Alternative B (Continuation of the Interim Mining Plan)

Alternative B would be a continuation of the Interim Mining Plan that was developed by L&W Stone and approved by District Judge Winmill to enable mining activities at the Three Rivers Stone Quarry during the preparation of this EIS. Under Alternative B, mining activities would continue for 3 to 5 years. Approximately 8 acres of new surface disturbance would result, thus the overall footprint of new mining activities at the quarry would be minor. No exploration activity would be allowed.

The proposed operations would consist of an administrative area on the valley floor and two open-pit (surface) mines (Pit 1 and Pit 2) on the adjacent ridge. In addition, development would include a waste rock storage area, haul roads, interceptor trenches, sediment traps, roll berms, roll ditches, explosives magazines, portable trailers, storage tanks, and a variety of transport vehicles and heavy equipment that would be used for mining activities.

Under Alternative B, a maximum of 100,000 tons of waste rock and flagstone would be removed. Mining would continue in Pit 1 and the highwall would be laid back at a maximum rate of 30 feet per year to expose additional flagstone deposits. Mining activities in Pit 2 would be limited to mining 15 feet in depth and expanding the pit 15 feet to the southwest each year. Blasting, up to 16 times per month, would be used to expose the flagstone in the pits. Mining would continue concurrently in Pit 1 and Pit 2 and waste rock from both pits would be deposited at the Pit 2 waste rock storage area. It is anticipated that Pit 1 would be mined out before Pit 2, therefore, once mining activities at Pit 1 have been completed, waste

rock from Pit 2 would be diverted to Pit 1 and used as backfill. Following the completion of mining in Pit 2, all remaining reclamation activities would be completed, as described under Alternative A.

Mining activities would likely occur for 10 to 12 hours per day, 5 days per week. Approximately 75 employees (39 year-round and 36 seasonal) would be required at the peak of mine production. Seasonal workers would typically work from April through December of each year.

The delivery of the quarried flagstone from the quarry to wholesale and retail markets throughout the western United States would occur by commercial trucks hauling on county, state, and Federal roads and highways. Under Alternative B, approximately 800 to 1,200 truck trips per year would be required to transport the flagstone to market.

Water for mining operations, primarily dust suppression, would be obtained from the existing screened diversion on the Salmon River located approximately 1 mile north of the administrative area under a permanent water use permit from the IDWR associated with property owned by L&W Stone. One 3,500 gallon water truck would be used for dust suppression activities. It is estimated that approximately 10 acre-feet per year of water would be needed each year of operation, with maximum daily use estimated at 55,000 gallons.

Runoff from the project site flows either to an ephemeral drainage of the East Fork Salmon River or passes under SH-75 to the Salmon River through three corrugated metal pipe culverts. Straw bales would continue to be placed upgradient of the culverts to trap sediment. The existing stormwater detention trench would border the northeast perimeter of the administrative area and end in a sediment trap located just north of the administrative area. State of Idaho Mining Best Management Practices (BMPs) would be used in an effort to minimize potential sediment delivery to the East Fork and Salmon rivers.

Alternative C (Preferred Alternative from the 2004 EA)

Alternative C is the BLM Preferred Alternative from the 2004 EA. This alternative is similar to Alternative B in that mining would continue in Pit 1 and Pit 2. However, the area mined would be expanded, exploration for additional flagstone deposits would occur, and operations would take place for up to 30 years. Up to 49 acres of new surface disturbance would occur from mining operations and up to 31 acres could be disturbed from exploration activities.

Under Alternative C, mine production would increase through the expansion of Pit 1 and Pit 2, with up to 240,000 tons of waste rock and flagstone removed per year. The east highwall

of Pit 1 would be laid back up to 90 feet per year and the portion of the existing Pit 1 waste rock storage area that covers mineable flagstone (up to 6 million tons) would be moved to the Pit 2 waste rock storage area to allow the flagstone to be mined. The proposed final configuration of Pit 1 would be approximately 2,000 feet long, 900 feet wide (at the widest point), and 500 feet deep (measured from the highest point) with a pit floor elevation of 5,425 feet above mean sea level (amsl). The proposed final configuration of Pit 2 would be approximately 1,000 feet long, 900 feet wide, and 100 feet deep with a pit floor elevation of approximately 5,900 feet amsl. Blasting, up to 16 times per month, would be used to expose the flagstone in the pits. Mining operation would occur concurrently in both Pit 1 and Pit 2. At the time that the flagstone is mined out of either Pit 1 or Pit 2, all waste rock from the remaining pit would be used to backfill the finished pit.

Reclamation would occur concurrently with mining operations and at the expiration of the 30-year project period. Reclamation objectives and associated activities would be similar to Alternative A, but with two differences. Upon completion of mining operations, the proposed well would be sealed. Also, if the BLM demonstrates that coloring the backwall is not meeting the VRM objectives, then an alternative proposal to coloration that would meet the VRM objectives would be considered.

Mining activities could occur 24 hours per day, 7 days per week, and 12 months per year. Approximately 100 employees (61 year-round and 39 seasonal) would be required at the peak of mine production. Seasonal workers would typically work from April through December of each year.

The delivery of the quarried flagstone from the quarry to wholesale and retail markets would occur by commercial trucks hauling on county, state, and Federal roads and highways.

Under Alternative C, approximately 1,200 to 1,500 commercial truck trips per year would be required to transport the flagstone to market.

Exploration for additional flagstone deposits would occur under Alternative C within an area of approximately 31 acres, with a maximum of 15 acres unreclaimed at any one time. Exploration could include construction of roads, drill pads/drill holes, trenches, test pits, and local surface stripping. Reclamation of exploration disturbance would include plugging exploration drill holes and returning disturbed areas to their approximate original surface contour with the original surface composition, i.e., rock or soil and vegetation. Where the original surface composition is vegetation, seeds or container-grown plant species would be planted. No exploration activity would occur within 50 feet of the boundary of East Fork Salmon River ACEC/RNA. If exploration identifies additional reserves outside the perimeter

of Pit 1 or Pit 2, the Plan of Operations under this alternative would need to be amended and additional documentation and analysis under NEPA could be necessary.

The expansion of mining activities under Alternative C would require an increase in the amount of water needed for dust control and irrigation of reclaimed areas. The IDWR has approved L&W Stone's application for a water right for a proposed well. The water right would be for a maximum volume of 340 acre-feet per year. The well would be located on the northeast side of the administrative area. It is estimated that under Alternative C, a maximum of 87,000 gallons of water from the well would be used daily for dust suppression. Two 8,000 gallon water trucks would be used for dust suppression activities.

Under Alternative C, improvements would be made to the existing stormwater management system. The western portion of the administration area would be built up using waste rock and screened material from the quarry. The entire administration area would then be regraded to slope to the east and northeast and regraveled. The existing stormwater detention trench along the northeastern edge of the administration area, which is not functioning properly, would be modified to capture surface runoff. The trench would be lined with either concrete or rock to prevent erosion. The captured water would be delivered through the trench to a new stormwater detention pond that would be located north of the administration area.

Alternative D (Proposed Action and BLM Preferred Alternative)

Alternative D is similar to Alternative C, in that mining would continue in Pits 1 and 2, but it also would include the exploration and future expansion of mining activities into two new prospects that contain unproven reserves of flagstone. These areas are identified as Pit 2-Expansion (Pit 2-E) and Pit 3. Past surface geologic reconnaissance in the Proposed Project Area indicates that mineable flagstone deposits may exist in the proposed Pit 2-E and Pit 3 areas. Mining operations would take place for up to 40 years under this alternative. Up to 73 acres of new surface disturbance would occur from mining operations and up to 18 acres could be disturbed from exploration activities. **ALTERNATIVE D IS THE BLM'S PREFERRED ALTERNATIVE.**

Under Alternative D, mine production would increase through the expansion of Pit 1 and Pit 2, as under Alternative C, and through the exploration and mining of Pit 2-E and Pit 3, with up to 300,000 tons of waste rock and flagstone removed per year. Blasting, up to 32 times per month, would be used to expose the flagstone in the pits.

Topographically, Pit 2-E is located on a knob with the flagstone outcrop located on the upper western flank of the ridge extending to the top of the ridge. Mining of Pit 2-E would start at the top of the knob and would work easterly following the dip of the flagstone. An actual pit

would not be formed until the knob was removed; however a pit highwall would be present. It is expected that the pit would be approximately 40 to 60 feet deep on the east side dependent on the orientation of the flagstone at depth. The highwall on the west side of the pit would be approximately 120 feet high and the elevation of the pit floor would be 5,760 feet amsl. Pit 2-E is anticipated to contain approximately 230,000 cubic yards of flagstone with approximately 50 percent recovery. The pit would generate approximately 1,000,000 cubic yards of waste rock.

The proposed Pit 3 would be located on a rounded knob south of the proposed Pit 2-E area. Pit 3 sits lower topographically than the existing Pit 2 or the proposed Pit 2-E site. The flagstone outcrop is located on the upper western flank of the Pit 3 area. The mining of Pit 3 would start at the top of the knob and work easterly following the dip of the flagstone. It is expected the pit would be approximately 40 feet deep with a total highwall height of approximately 100 feet, and the elevation of the pit floor would be 5,760 feet amsl. Pit 3 is anticipated to contain approximately 72,000 cubic yards of flagstone with another 300,000 cubic yards of waste rock. A 50 percent recovery of the flagstone is anticipated for this pit.

Under Alternative D, it is assumed that mining in Pit 2-E would commence as mining in Pit 2 nears completion. In this event, waste rock generated from Pit 2-E would be placed into Pit 1 or Pit 2. Mining in Pit 3 would commence following completion of quarrying in Pit 2-E and would permit sequential backfilling of either Pit 1, Pit 2, or Pit 2-E with waste rock from Pit 3. In the event mining would begin in Pit 2-E or Pit 3 prior to Pit 1 or Pit 2 completion, waste rock would be hauled to the Pit 2 waste rock storage area. The Pit 2 waste rock storage area would have sufficient capacity to hold all the waste generated in all four pits concurrently.

Under Alternative D, reclamation would occur concurrently and at the end of the 40-year operation period as described for Alternative C.

Mining activities could occur 24 hours per day, 7 days per week, and 12 months per year. Approximately 112 employees (66 year-round and 46 seasonal) would be required at the peak of mine production. Seasonal workers would typically work from April through December of each year.

The delivery of the quarried flagstone from the quarry to wholesale and retail markets would occur by commercial trucks hauling on county, state, and Federal roads and highways. Under Alternative D, approximately 1,500 to 2,000 commercial truck trips per year would be required to transport the flagstone to market.

Exploration activity, as described for Alternative C, would occur in an approximately 18-acre area on both sides of, but primarily south of, the Spar Canyon South Butte transmission line.

A maximum of 15 acres in the exploration area would be unreclaimed at any one time. No exploration activity would occur within 50 feet of the boundary of the East Fork Salmon River ACEC/RNA.

As under Alternative C, a well would be drilled under the IDWR-approved water right application to provide a water source for dust control and irrigation. Two 8,000 gallon water trucks fitted with front and rear spray booms would be used for dust suppression activities. It is estimated that under Alternative D, a maximum of 95,000 gallons of water would be used daily for dust suppression. Total water use would not exceed the annual 340 acre-feet per year water right.

Under Alternative D, in addition to the improvements to the existing stormwater management system described for Alternative C, an additional stormwater detention pond would be constructed between Pit 2-E and Pit 3. Pit 2-E and Pit 3 would be graded to allow water to be captured in lined ditches and delivered to the stormwater detention pond. Additional drainage ditches would be constructed to capture surface runoff from the main mine access road in the vicinity of Pit 2-E and Pit 3 and deliver runoff to the stormwater detention pond. The stormwater detention pond would be large enough to capture all surface water runoff from Pit 2-E, Pit 3, and the main mine access road, and would prevent mine generated runoff from flowing into the East Fork Salmon River ACEC/RNA. These stormwater detention basins would be monitored to ensure that they function properly over the life of the project.

Project Features Common to All Action Alternatives

Major components of the Proposed Action and common to the other action alternatives identified include:

- An administration and staging area for mining operations, consisting of an office trailer, general supplies storage, and a staging area for crated flagstone stored prior to shipping.
- A transmission line would be constructed into the administrative area to provide power to the office trailer.
- Fuels and lubricants used for mining equipment would be stored at three separate locations at the quarry site and would comply with applicable Federal regulations.

- A storage silo for ammonium nitrate and two explosive magazines for storing explosives would be located at the quarry and in compliance with Mine Safety and Health Administration (MSHA) regulations.
- Rock in the quarry pits would be loosened by drilling and blasting. Blasting would be used to loosen flagstone and waste rock. Blasting would occur approximately 4 times per week or could include several days of blasting followed by several days with no blasting. Blasting would comply with all MSHA and Bureau of Alcohol, Tobacco, Firearms, and Explosives regulations.
- Waste rock would be removed after blasting by loaders and haul trucks, exposing the flagstone. The flagstone then would be removed from the ground by hand or with the assistance of a hydraulic excavator. Some flagstone would be further split by hand, and all flagstone would be placed by hand on pallets. The pallets would be loaded onto flatbed trucks and transported from the splitting areas to the administrative area.
- No additional waste rock material would be deposited into the Pit 1 waste rock storage area. A portion of the Pit 1 waste rock would be made available as a mineral material by sale or free-use permits in the form of a community pit.
- The Pit 2 waste rock storage area would continue to accept waste rock material from Pit 1 and Pit 2. Topsoil would be stripped from the waste rock storage area and stockpiled nearby for use in reclamation. Reclamation at the Pit 2 waste rock storage area would continue to occur concurrently with mining activities at the quarry.
- Topsoil would be salvaged for reclamation and stored at the quarry. The topsoil stockpile would be graded and seeded to minimize erosion and soil loss by wind and water if not used within 6 weeks for reclamation. The proposed topsoil storage site would be approximately 0.9 acres in size and would be large enough to hold all stockpiled topsoil removed during mining operations.
- The existing main mining roads that access Pit 1 and Pit 2 would continue to be used. The main access roads would generally be 30 feet in width. Secondary quarry roads would be constructed as needed and would generally be 15 feet in width.
- Equipment used at the project site would be typical of surface mining operations and would include drill rigs, hydraulic excavators, front-end loaders, 30-ton and

40-ton haul trucks, dump trucks, water trucks, flat-bed trucks, bulldozers, service trucks, a grader, fork lifts, light trucks, and personnel transport vehicles. Each piece of equipment would be fitted with its required safety devices, and all equipment would be operated in compliance with all MSHA regulations concerning equipment operator safety and the safety of other workers.

- Heavy equipment and more mobile mine equipment would be properly maintained at all times to minimize leaks of motor oils, hydraulic fluids, and fuels. The maintenance of equipment that is authorized for highway travel would be performed off-site at an appropriate facility. Equipment that is not highway-authorized would be serviced on the project site.
- Gates are installed along the only public access route through the Proposed Project area due to liability and safety concerns. The general public would not be allowed access to the quarry without first coordinating with personnel, and then, access would be restricted and allowed only if accompanied by a quarry employee. Signs with a contact name and phone numbers for the Applicant and the BLM would be posted on all gates.
- Waste rock would be allowed to be removed from a designated area of the Pit 1 waste rock storage area in the form of a community pit. During the ongoing operation of the quarry, due to public safety considerations, only government entities or their representatives would be allowed access to the waste rock material. Following completion of quarry activities and during implementation of reclamation, a plan would be developed that would allow continued access to the waste rock by government entities and additionally allow access by the general public for obtaining rip rap and other construction material. The amount of waste rock that would be removed as a mineral material from the Pit 1 waste rock storage area is estimated to be as much as 20,000 cubic yards per year.
- Sanitation facilities at the quarry site would consist of portable toilets for all personnel. The toilets would be distributed at the project site according to location of work being performed.
- Mining operations and reclamation would be implemented in accordance with State of Idaho Best Management Practices for Mining to minimize potential environmental and public safety impacts. These include, but are not limited to dust abatement, erosion control, revegetation, hazardous materials, and noxious weed management.

- A Chemical Spill Prevention, Control, and Countermeasures Plan is currently in place at the quarry and would continue to be implemented.

Table ES-1 below provides a comparison of the action alternatives by Proposed Project features. The reader should note that the numbers provided in the table are approximate values and should be used for analysis purposes only.

Table ES-1. Comparison of Project Features of the Action Alternatives.

Project Features	Alt. B	Alt. C	Alt. D
Period of Operation (Years)	3-5	30	40
Total Work Force (yr-round/seasonal)	75 (39/36)	100 (61/39)	112 (66/46)
Acres of surface disturbance			
Existing	92	92	92
Proposed New	8	49	73
Exploration	None	31	18
Total	100	172	183
Pit Expansion			
Pit 1	30 feet per year	90 feet per year	90 feet per year
Pit 2	15 feet per year	15 feet per year	Expanded (Pit 2-E)
Pit 3	NA	NA	Excavated
Material removed per year (In tons; waste rock and flagstone)	100,000	240,000	300,000
Number of blasts per month	16	16	32
Truck loads of flagstone leaving the quarry per year	800-1,200	1,200-1,500	1,500-2,000
Water source	Off-site surface water	On-site well	On-site well
Water use (maximum daily use, gallons)	~55,000	~87,000	~95,000
Pits	2	2	3
Reclamation	Same for all alternatives		

ALTERNATIVES CONSIDERED AND ELIMINATED FROM DETAILED STUDY

This section identifies and discusses the four alternatives that were considered but were not carried forward in the analysis.

Applicant's 1992 Plan of Operations

A November 1992 Plan of Operations, which proposed a maximum of 16.3 acres of surface disturbance for the quarry was analyzed (EA #ID-040-3-4) and approved by the Challis Field Office on December 8, 1992. The 1992 Plan of Operations included an administration area and three separate quarries. By August 2002 the operations had increased well beyond the approved 16.3 acres to over 50 acres in size. Implementation of the 1992 Plan of Operations is no longer feasible because the 16.3 acres proposed in the 1992 plan has been enveloped by the expanded operations. For this reason, this alternative is not carried forward or analyzed in detail in this EIS.

Applicant's Proposed Action from 2004 EA

This alternative was developed by The Applicant as the Proposed Action in 2002 for analysis in the EA that was completed in 2004 (USDI-BLM 2004). This alternative was not selected as the Preferred Alternative in the 2004 EA because it did not include standard BMPs and mitigating measures. For these reasons, this alternative is not carried forward or analyzed in detail in this EIS.

Complete Backfill of Pit 1

BLM's 43 CFR 3809 Regulations do not require that pits or quarries be backfilled as part of the Plan of Operations approval. The Regulations do require that reclamation be completed so as to prevent unnecessary or undue degradation of the public lands.

An analysis conducted by the BLM in 2005 indicated that it would cost over \$6 million to move the waste rock that existed at that time from the Pit 1 waste rock storage area back into Pit 1. For these reasons, the total Pit 1 backfill alternative is not carried forward or analyzed in detail in this EIS.

Mining Deeper in Pit 1

A 40-foot thick flagstone unit exists beneath the flagstone unit that is currently being mined in Pit 1. It is possible that this unit could become economic to mine sometime in the future. However, mining the underlying unit would require extending Pit 1 further south into the East Fork Salmon River Bench ACEC/RNA as well as to the north to the edge of SH-75. The footwall of Pit 1 would also be lowered substantially, making more of the operation visible from SH-75. The floor of Pit 1 would also be much closer to the surface water elevation of the East Fork Salmon and Salmon rivers. Because of the potential impacts associated with this alternative, the alternative is not carried forward or analyzed in detail in this EIS.

AFFECTED ENVIRONMENT/EXISTING CONDITION

The purpose of this section is to describe the existing environment/existing condition of the Three Rivers Stone Quarry including conditions that could be affected by the alternatives described above.

The Three Rivers Stone Quarry is one of the largest single flagstone quarries in the United States with products sold in 33 cities. The quarry consists of the following: two mining pits (Pit 1 and Pit 2), two waste rock storage areas, an administration staging area, an equipment parking area, three fuel and lubricant storage areas, two explosive storage areas, a top soil storage area, and a rock and pallet storage site. A main mine road, and a few side roads, provide access to the quarry site. Currently, the quarry has approximately 92 acres of surface disturbance (primarily the administrative area, Pit 1, Pit 2, waste rock storage areas and access roads). This area of disturbance represents the cumulative result of mining at the site over the last 30 years by L&W Stone and previous operators.

The administration staging area serves as the general administrative area for the mining operation and consists of an office trailer, a storage trailer for general supplies, a staging area for crated flagstone, a truck loading area, and an employee parking area. In addition, the staging area has two used oil storage tanks and one diesel fuel tank. An approximately 0.2-acre stormwater detention basin is located on the northeast side of the staging area.

Pit 1 is approximately 20 acres in size and is where the majority of historic and current mining activity and production occurs. At present, the pit is approximately 2,000 feet long, 700 feet wide (at its widest point), and 115 feet deep. The pit is a slot cut with highwalls on both the east and west sides, a developing highwall on the south end, and no highwall (is open) at the north end. At present, Pit 2 is approximately 16.8 acres in size and is 1,000 feet long by 400 feet wide. Pit 2 contains mineable flagstone at the surface and therefore does not have an associated highwall.

The airshed in the Proposed Project Area and vicinity is classified as an attainment area with respect to IDEQ and U.S. EPA air quality regulations. Air pollution in the vicinity of the quarry site is generally non-point and temporary, consisting of smoke (Particulate Matter (PM) 2.5) and dust (PM 10). Smoke is generated from forest or farmland fires during the spring and summer and from wood-burning stoves in the winter. Dust is generated from travel on dirt roads, and from wind on disturbed, non-vegetated surfaces.

The geology of the Three Rivers Stone Quarry generally consists of Ordovician sedimentary rocks, partly covered by Eocene Challis Volcanic rocks. In many places, these rocks are overlain by unlithified Quaternary alluvial deposits of various thickness. The rock excavated

at the quarry is referred to as flagstone, shale, argillite, and quartzite. The Three Rivers Flagstone is quarried from argillite layers and hand-split into individual slabs ranging in thickness from less than 1 inch to about 5 inches, and ranging in length-to-width from less than 1 foot by 1 foot to 5 feet by 8 feet. Geochemical analysis of the rock and soil in the Proposed Project Area demonstrated that the mining operations do not cause increased exposure to metals to humans or wildlife relative to the natural levels of metals in the environment.

The flagstone mined at the quarry is considered to be a locatable mineral by the BLM. All other rock at the quarry is considered to be saleable. The BLM determined that the argillite flagstone mined at the L&W quarry is an uncommon variety of building stone with a unique combination of physical properties and unusual intermixing of colors and surface textures. Therefore, the argillite is a rock deposit locatable under the General Mining Law of 1872.

The quarry area contains rock outcrops and bedrock-derived soils. The rock outcrops are classified as the Calcids-Rubble land-Rock outcrop complex. The soils at the quarry area may be erodible due to sparse vegetation, fine soil particle size (abundant silt and clay), and generally low soil moisture content.

No acutely hazardous waste or “listed wastes” as defined by the EPA are used or stored at the project site. Chemicals and petroleum products stored on site include antifreeze, brake fluid, radiator flushing fluids, hydraulic fluid, fuel de-icing additives, degreasing solvents, packaging material from explosives, ammonium nitrate, fuel oil, premixed ammonium nitrate fuel oil (ANFO), diesel fuel and fuel. Quantities stored on site are relatively small, with the exception of diesel fuel.

No perennial streams occur within the perimeter of the proposed operations, but the Proposed Project Area drains directly toward the mainstem Salmon River and East Fork Salmon River. There are two unnamed ephemeral streams at the quarry site, one along the northern side of the quarry near the administrative area and the other along the southern side of the quarry. These streams drain water from the site during high intensity precipitation events. Water quality has been an issue of concern in the Upper Salmon River Subbasin, and sediment has been observed entering these rivers from the Three Rivers Stone Quarry during a high rain event in 2006. However, the reaches of the Salmon River up and downstream of the Proposed Project Area fully support aquatic life beneficial uses and fisheries values.

Long-term sound level measurements were taken in November 2005 at the two closest residences to the quarry to quantify the existing noise environment near the quarry site. Activities at the Three Rivers Stone Quarry that were audible at these locations included noise from the diesel engines and back-up alarms on the heavy equipment, particularly when

the equipment was operating near the top of the pits. Other activities that were audible on occasion included the metal scraping of the loader bucket on the rocks, trucks entering/leaving the site, and “thumps” during blasting. Daytime noise sources during the measurement periods consisted of birds vocalizing, the East Fork Salmon and Salmon River, and some vehicular traffic on SH-75.

The vegetation type present in the Proposed Project Area and vicinity is sagebrush steppe. This vegetation type is characterized by sagebrush (*Artemisia tridentata*) and other low growing shrubs and short bunchgrasses and typically occurs in dry environments. Sagebrush shrub communities comprise about 57 percent of the Proposed Project Area and grasslands about 5 percent. The rest of the area is comprise of rock outcrops (7%), bare ground (1%), and disturbed areas (mined, primarily non-vegetated; 30% of the quarry site).

No Idaho BLM special status plant species have been observed on the Proposed Project Area during survey efforts. However, populations of special status plants occur near the quarry. Due to ongoing mining activity at the quarry and the increase in surface areas covered by waste rock, it is unlikely that any special status plant species have become established in the expansion area since the inventories were completed.

The Proposed Project Area is located within mule deer winter range, and mule deer have been observed in the area. Elk and antelope may pass through the area on occasion, but the Proposed Project Area does not contain any winter or summer range for these species.

The sagebrush habitat in the Proposed Project Area provides habitat for several species of non-game birds, including migratory birds. Brewer’s sparrows, golden eagle, prairie falcon, black-billed magpie, and western meadowlark likely use sagebrush-steppe habitats in the vicinity of the quarry.

The Proposed Project Area supports habitat for several species of wildlife. Chukar and Greater sage-grouse are upland game-bird species potentially present, and furbearers likely to occur in the vicinity of the quarry site include bobcats, red fox, coyote, mountain cottontail rabbits, and black-tailed jackrabbits. The Proposed Project Area also supports habitat for numerous species of small mammals, including nine bat species, and at least ten rodent species.

Several species of game and non-game fish are known to inhabit the Salmon River and East Fork Salmon River. Game fish present include, but are not limited to, bass, rainbow trout, mountain whitefish, sockeye salmon, Snake River spring/summer Chinook salmon, and Snake River Basin steelhead trout, resident Columbia River bull trout, and Westslope

Cutthroat trout. Non-game fish known to be present include Pacific lamprey, Northern pikeminnow, redside shiner, and several species of suckers, sculpin, and dace.

Several special status fish and wildlife species are also known to be present within the Proposed Project Area, or in the vicinity. Special status wildlife species include the bald eagle, gray wolf, greater sage-grouse, and peregrine falcon. Special status fish species include sockeye salmon, Snake River spring/summer Chinook salmon, and Snake River Basin steelhead trout, resident Columbia River Basin bull trout, and Westslope Cutthroat trout.

The Proposed Project Area is in the Challis Herd Management Area (HMA), which has an appropriate management level of 185 horses. The herd has varied from 185 to 253 horses between gathering events. The Three Rivers Stone Quarry receives very little use by wild horses and does not contain any areas identified as crucial habitat.

Two cultural resources were identified within the Proposed Project Area during past surveys of the quarry site for archaeological and historic resources. These sites are not eligible for the National Register and one of the sites has been mostly obliterated.

The Challis Field Office area, including the Proposed Project Area, is entirely comprised of lands (aboriginal, traditional, or unoccupied) on which the Shoshone-Bannock Tribes reserved the right to hunt, fish and gather natural resources in the Fort Bridger Treaty of 1868. Government-to-government consultation with the Shoshone-Bannock Tribes is ongoing regarding the amended plan of operations and proposed quarry expansion.

The population of Challis area (ZIP Code Area 83226) is small, with the majority of the residents living in a rural/unincorporated setting. The Challis area economy is based on a combination of mining, agriculture, tourism, government services, and land development, with mining making up almost half of the economic base. Employment in the Challis area is dominated by the service sector, followed by the mining industry. L&W Stone currently employs about 75 workers at the Three Rivers Stone Quarry, and wages paid by L&W Stone are among the highest of all employers in the Challis area and Custer County. Employment in the Challis area has increased in the last year due to expansion of the Thompson Creek Mine.

The Three Rivers Stone Quarry is visible from sections of the Salmon River and SH-75 (the Salmon River Scenic Byway Corridor). This area has been categorized as Visual Resource Management Class II, where the objectives are to retain the existing character of the landscape. Six key observation points were established for this analysis that provide a view of the Proposed Project Area from diverse locations. These KOPs were used to describe landscape appearance experienced by the public from various perspectives and were used to

conduct a visual resource inventory. Since 1992, when the quarry operations were last approved by the BLM, visual contrasts have been evident from these KOPs.

A main mine access road winds through the quarry site, providing access to Pit 1 and the waste rock quarry sites. A smaller road provides access to Pit 2. Public may access the quarry from SH-75 to the west, but access is restricted for safety. Salmon River Electric Cooperative, Inc. has access to the main mine road through a right-of-way agreement so they can access a section of electric transmission line that crosses the Proposed Project Area.

Major land uses in the vicinity of the Three Rivers Stone Quarry include mineral exploration and development, transmission line rights-of-way, State Highway rights-of-way, cattle grazing, recreation, and residential living. Both the surface and mineral estates of the Proposed Project Area are owned by the Federal government and administered by the BLM.

The Proposed Project Area is located within the Upper Salmon River Special Recreation Management Area which is managed by the Challis Field Office. Recreation activities on public lands in the vicinity of the quarry include floating, boating, fishing, hunting, camping, hiking, nature study, photography, picnicking, wildlife viewing, backpacking, rockhounding, mountain biking, cross country skiing, and off highway vehicle use. The most frequent of these uses are camping at the BLM East Fork Campground, wildlife viewing along East Fork road, and floating the Salmon River. The quarry site provides minimal recreation opportunities since public access to the site is limited by locked gates and topography (i.e. the cliffs to the south).

The Proposed Project Area is within the Split Hoof Allotment, which is permitted for grazing by cattle. The allotment provides a total of 187 Animal Unit Months. Grazing of cattle on the allotment is allowed from May 16 to June 15 each year. Currently, 183 cattle are allowed to graze during that period. However, no grazing has occurred in the allotment since 2000.

The Proposed Project Area is located near the confluence of the Salmon and East Fork Salmon rivers. These rivers were both found eligible for further study for possible inclusion in the National Wild and Scenic River System during the 1993 Wild and Scenic River studies. The tentative classification for the East Fork Salmon River is recreational, and the outstandingly remarkable values are scenic, recreational and fisheries. The tentative classification for the Salmon River is also recreational, and the outstandingly remarkable values are recreational, fisheries and geological.

The East Fork Salmon River Bench ACEC/RNA is located immediately south of the Proposed Project Area. The East Fork Salmon River Bench RNA designation was made to protect remnant vegetation associated with the bench in a relatively pristine condition. The

ACEC designation is based on the historic absence of livestock grazing in the area, which has resulted in a plant community in near reference conditions. Approximately 4 acres of Pit 1 extends into the ACEC/RNA as a result of past mining activities.

ENVIRONMENTAL CONSEQUENCES

The environmental consequences of the Proposed Action and alternatives to the Proposed Action are summarized and compared in Table ES-2 below. A complete description and disclosure of the impacts are found in Chapter 4, Environmental Consequences.

Table ES-2. Summary Comparison of Resource Impacts for All Alternatives.

Resource	Alternatives			
	A	B	C	D
PHYSICAL				
Air Quality	<p>Mining-related air pollution would be eliminated upon closure of the mine. Some dust and vehicle and equipment emissions would be generated during reclamation, although dust suppression techniques would reduce the levels of particulate matter in the air.</p> <p>After successful reclamation, the generation of coarse particulate matter and vehicle and equipment emissions from the quarry site would be similar to that generated prior to mining operations.</p>	<p>Emissions from heavy mine equipment, passenger vehicles, and trucks would be released at levels similar to current conditions, and dust would continue to be generated from blasting, excavation, and vehicle travel on unpaved roads for 3 to 5 years. Impacts to air quality would be temporary. Application of water during mining operations and reclamation would reduce fugitive dust. Reclamation of disturbed areas would reduce long-term fugitive dust.</p>	<p>Sources of air pollution would be similar to Alternative B but levels would be increased due to the proposed expansion (increased use of heavy machinery, travel by employees, transport of materials, acres of surface disturbance) and by new exploration activities, and would be generated over a 30-year time period. Application of water during mining operations and reclamation would reduce fugitive dust. Reclamation of disturbed areas would reduce wind-generated fugitive dust over the long-term.</p>	<p>Same as Alternative C but levels of air pollution would be increased due to the proposed increase in excavation and associated release of vehicle and equipment emissions and dust, and generated over a 40-year period. Exploration activities and associated pollution would be less than under Alternative C.</p> <p>Application of water during mining operations and reclamation would reduce fugitive dust. Reclamation of disturbed areas would reduce wind-generated fugitive dust over the long-term.</p>
Geology and Minerals (leaseable, locatable, saleable)	<p>Locatable and saleable minerals would no longer be mined and exploration for locatable minerals would not occur. Up to 20,000 cubic yards of waste rock per year would become available to the public in the form of a community pit.</p>	<p>About 100,000 tons of flagstone and waste rock would be removed annually from the quarry, for a maximum total of 500,000 tons. Up to 20,000 cubic yards of waste rock per year would become available to the public in the form of a community pit.</p>	<p>About 240,000 tons of flagstone and waste rock would be removed annually from the quarry, for a total of 9.6 million tons. Up to 20,000 cubic yards of waste rock per year would become available to the public in the form of a community pit.</p>	<p>About 300,000 tons of flagstone and waste rock would be removed annually from the quarry, for a total of 12 million tons. Up to 20,000 cubic yards of waste rock per year would become available to the public in the form of a community pit.</p>

Table ES-2. Summary Comparison of Resource Impacts for All Alternatives.

Resource	Alternatives			D
	A	B	C	
Soils	Surface disturbance would be limited to previously disturbed areas during reclamation. A minor amount of soil loss would occur. Once vegetation becomes successfully established in reclaimed areas, there would be a decrease in the amount of soil loss from disturbed areas over current conditions.	There would be 8 new acres of surface disturbance over current conditions. Soil loss could occur during salvage and replacement operations and from the topsoil stockpile due to wind and water erosion. Water erosion of soil could also occur in disturbed areas during heavy rains. Reduced biological activity and structure of soil could also result. BMPs would be applied to minimize soil loss.	There would be 49 acres of new surface disturbance and a potential increase in the amount of topsoil stockpiled. This would result in an increase in the potential for soil loss from the topsoil stockpile and from disturbed areas. Potential impacts to biological activity and structure of soil would be greater than under alternatives B and C. BMPs would be applied to minimize soil loss.	There would be 73 acres of new surface disturbance and a potential increase in the amount of topsoil stockpiled. This would result in the greatest potential for soil loss of all alternatives. Potential impacts to biological activity and structure of soil would be applied to minimize soil loss.
Hazardous Substances and Petroleum Products	During cleanup and reclamation, there would be the potential for chemicals and petroleum products stored on site to leak or spill during removal and transport from the quarry. The risk would be reduced by implementing the Chemical Spill Prevention, Control, and Countermeasures Plan. The risk would be eliminated upon completion of reclamation.	There would be the potential for leaks and spills of chemicals and petroleum products, including fuel, to occur during storage and transport of materials and maintenance and operation of vehicles and heavy equipment. There would also be the potential for leaks and spills during the storage, transport, and mixing of ammonium nitrate and fuel oil. The risk would be reduced by implementing the Chemical Spill Prevention, Control, and Countermeasures Plan.	The risk of leaks or spills of chemicals and petroleum products would be increased and would exist over a longer time period than under Alternative B. The risk would be reduced by implementing the Chemical Spill Prevention, Control, and Countermeasures Plan.	The risk of leaks or spills of chemicals and petroleum products would exist over the longest time period of all alternatives. The risk would be reduced by implementing the Chemical Spill Prevention, Control, and Countermeasures Plan.

Table ES-2. Summary Comparison of Resource Impacts for All Alternatives.

Resource	Alternatives			D
	A	B	C	
Water Quality	The potential for impacts to water quality would cease upon successful reclamation of the quarry. During reclamation, there would be short-term potential for fuel spills and erosion and potential subsequent fuel and sediment delivery to the Salmon and East Fork Salmon rivers. This risk would be reduced by implementing a Chemical Spill Prevention, Control, and Countermeasures Plan and BMPs.	There would be a minor increase over existing conditions for the potential risk for spills of fuel, petroleum products, and other chemicals, and erosion and the potential subsequent delivery of fuel and petroleum products and sediment to the Salmon and East Fork Salmon rivers. This risk would be reduced by implementing a Chemical Spill Prevention, Control, and Countermeasures Plan and BMPs.	The risk and the levels of fine sediment and fuel, petroleum products, and other chemicals potentially reaching the Salmon and East Fork Salmon rivers would be increased over Alternative B and would occur over a longer period of time. Improvements to the existing detention basin and addition of one new detention pond along with implementation of a Chemical Spill Prevention, Control, and Countermeasures Plan. BMPs would reduce this risk.	The risk and the levels of fine sediment and fuel, petroleum products, and other chemicals potentially reaching the Salmon and East Fork Salmon rivers would be the greatest of all alternatives and would occur over the longest period of time. However, improvements to the existing detention basin and construction of a two new detention basins, along with implementation of a Chemical Spill Prevention, Control, and Countermeasures Plan. BMPs would reduce this risk.
Noise	Noise would be generated by reclamation activities at sound levels acceptable for residential land use. Upon completion of reclamation, daytime noise impacts from the quarry would be insignificant.	Noise generated in the vicinity of raptor perch and nest sites from mining operations and reclamation activities would not exceed the 65 dBA hourly Leq threshold.	Noise levels from mining operations at the closest residence to the quarry would approach the 55 dBA sound level limit recommended by the EPA for determining acceptable sound levels for residential land use and could possibly be exceeded if additional blasting is used for exploration.	Noise generated in the vicinity of raptor perch and nest sites from mining and reclamation activities would not exceed the 65 dBA hourly Leq threshold.

Table ES-2. Summary Comparison of Resource Impacts for All Alternatives.

Resource	Alternatives			
	A	B	C	D
BIOLOGICAL				
Vegetation	Reclamation would increase the number of vegetated acres within the Proposed Project Area, but vegetation composition of the reclaimed acres could differ from pre-mining conditions. A weed management plan would be implemented under all alternatives to control weeds.	Approximately 2 acres of shrublands would be disturbed over a period of 3 to 5 years. Surface disturbance would create potential habitat for invasive species.	Approximately 32 acres of shrublands, 3 acres of grassland, and 2 acres of rock outcrop (with associated vegetation) would be disturbed over a period of 30 years. There would be a greater likelihood for establishment and spread of invasive plants than for Alternative B.	Approximately 51 acres of shrublands, 3 acres of grassland, and 5 acres of rock outcrop would be disturbed over a period of 40 years. The likelihood of establishment and spread of invasive plants would be greatest under this alternative.
Special Status Plants	No impacts to special status plants.	No special status plant species are known to occur at the quarry. Up to 4 acres of potentially suitable habitat for special status plant species would be disturbed.	Up to 68 acres of potentially suitable habitat for special status plant species would be disturbed (37 from mining and 31 from exploration).	Up to 77 acres of potentially suitable habitat for special status plant species would be disturbed (59 from mining and 18 from exploration).

Table ES-2. Summary Comparison of Resource Impacts for All Alternatives.

Resource	Alternatives			
	A	B	C	D
Fish and Wildlife	<p>Potential impacts to wildlife from noise, visual disturbance, and human/wildlife encounters from mining operations would cease upon closure of the mine, once reclamation activities are completed. Reseeding would improve vegetative cover and associated habitat and food sources for wildlife at the quarry site.</p> <p>Potential impacts to fish habitat from mining operations would be eliminated following completion of successful reclamation.</p>	<p>Removal of vegetation would potentially impact habitat for big game, upland bird, furbearer, non-game bird, and small mammal species. Mining activities would create a potential visual disturbance to wildlife and could increase the chance of human/wildlife encounters. Noise from blasting and heavy equipment use could impact noise-sensitive wildlife species and could lead to displacement. Fragmentation of habitat could lead to displacement from or avoidance of the Proposed Project Area. Disturbance from mining during severe winters could lead to reduced reproduction or increased winter mortality of mule deer.</p>	<p>Types of potential impacts to wildlife would be the same as Alternative B, but the potential for occurrence and level of severity would be greater due to the increased surface disturbance, number of employees, heavy equipment use, blasting, and passenger vehicle and truck traffic.</p>	<p>Types of potential impacts to wildlife would be similar to Alternatives B and C, but risk of impact would be greater. Improvements to the existing detention basin and addition of one new detention pond along with implementation of a Chemical Spill Prevention, Control, and Countermeasures Plan. BMPs would reduce this risk.</p>

Table ES-2. Summary Comparison of Resource Impacts for All Alternatives.

Resource	Alternatives			D
	A	B	C	
Special Status Fish and Wildlife	Potential impacts of noise, visual disturbance, and human/wildlife encounters from mining operations would cease upon closure of the mine, once reclamation activities are completed. Reseeding would improve vegetative cover and associated forage and browse for wolf prey species and habitat for sage-grouse at the quarry site. Potential impacts to aquatic biota, special status fish, and fisheries habitat from mining operations would be eliminated following completion of reclamation.	Potential disruption of bald eagle foraging and perching behavior during the winter. Potential increase in prey availability to wolves from potential displacement of mule deer. Minor reduction in and fragmentation of potential habitat for sage-grouse. Potential disruption of peregrine falcon foraging activities during the breeding season. Canada lynx and pygmy rabbits would not be impacted.	Types of potential impact to the behavior or habitat of the bald eagle, gray wolf, sage-grouse, and peregrine falcon would be the same as under Alternatives B and C, but the potential for occurrence and level of severity would be greater due to the increased amount of surface disturbance, number of employees, heavy equipment use, and passenger vehicle and truck traffic.	Types of potential impact to the behavior and habitat of the bald eagle, gray wolf, sage-grouse, and peregrine falcon would be the same as under Alternatives B and C, but the potential for occurrence and level of severity would be greater due to the increased amount of surface disturbance, number of employees, heavy equipment use, blasting, and passenger vehicle and truck traffic.
	Potential impacts to aquatic biota, special status fish, and fisheries habitat could result from the potential delivery of sediment and chemicals and petroleum products to the East Fork Salmon and Salmon rivers. Implementation of a Chemical Spill Prevention, Control, and Countermeasures Plan and BMPs would reduce this risk.	Potential impacts to aquatic biota, special status fish, and fisheries habitat would be similar to Alternative B, but risk of impact would be greater. Improvements to the existing detention basin and addition of one new detention pond along with implementation of a Chemical Spill Prevention, Control, and Countermeasures Plan and BMPs would reduce this risk.	Potential impacts to aquatic biota, special status fish, and fisheries habitat would be similar to Alternatives B and C, but risk of impact would be greater. Improvements to the existing detention basin and construction of two new detention basins, along with implementation of a Chemical Spill Prevention, Control, and Countermeasures Plan and BMPs would reduce this risk.	Potential impacts to aquatic biota, special status fish, and fisheries habitat would be similar to Alternatives B and C, but risk of impact would be greater. Improvements to the existing detention basin and construction of two new detention basins, along with implementation of a Chemical Spill Prevention, Control, and Countermeasures Plan and BMPs would reduce this risk.
Wild Horses and Burros	Upon successful reclamation, there would be the potential for increased use of the project site by wild horses in the Challis HMA. There are no burros in the Challis HMA.	Use of the mine by wild horses would be expected to continue at its current low level. Mining activities should not impact retention of the management level in the HMA.	Use of the mine by wild horses during the period of operation could potentially decline over current conditions. Activities should not impact retention of the management level in the HMA.	Same as Alternative C.

Table ES-2. Summary Comparison of Resource Impacts for All Alternatives.

Resource	Alternatives			
	A	B	C	D
OTHER RESOURCES				
Cultural Resources	Cultural resources eligible for the National Register would not be affected.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.
Tribal Rights and Interests	There would be no negative impacts to Tribal rights and interests.	Access limitations in the active quarry area could impact tribal treaty rights. The BLM would work with the Shoshone-Bannock Tribal members regarding access needs so that treaty rights are honored.	Same as Alternative B.	Same as Alternative B.
Social and Economic Conditions	Loss of 75 jobs and a 100% decrease in earnings and industrial output associated directly with the mine. A 12% reduction of total employment in the Challis area and about a \$5.4 million loss in annual income. Potential population reduction of up to 307 people over the long-term, depending on the employment base in the area.	The mine would continue to employ approximately 75 workers for up to 5 years. Social and economic conditions would stay the same as current conditions. After 5 years, the impacts to the number of jobs and the changes to the population and economy of the Challis area would be similar to Alternative A.	Gain of 25 jobs relative to existing conditions and a 32% and 33% increase in earnings and industrial output associated directly with the mine, respectively. A 3% increase in total employment in the Challis area and about a \$1.5 million annual increase in new income. Population in the area could increase by about 87 people.	Gain of 37 jobs relative to existing conditions and a 48% and 50% increase in earnings and industrial output associated directly with the mine, respectively. A 6% increase in total employment in the Challis area and about a \$2.7 million annual increase in new income. Population in the area could increase by about 145 people.

Table ES-2. Summary Comparison of Resource Impacts for All Alternatives.

Resource	Alternatives			
	A	B	C	D
Visual Resources	<p>Long-term visual contrasts would move from strong to moderate at KOP 6, from weak to none at KOP 3, and from moderate to weak at KOP 1 and KOP 2. Reclamation would diminish visual contrasts at the site and it could begin to resemble the surrounding landscape after approximately 5 years.</p> <p>VRM Class II objectives would be met over the short-term when viewed from KOP 1, KOP 3, KOP 4, and KOP 5 but would not be met when viewed from KOP 2 and KOP 6. Upon completion of reclamation, VRM Class II objectives would be met from all KOPs.</p>	<p>There would be strong visual contrasts apparent from KOP 6, weak contrasts visible from KOP 3, and moderate contrasts from KOP 1 and KOP 2 until reclamation was complete. Reclamation would diminish some visual contrast. Long-term visual contrasts would be the same as Alternative A. Naturalness would return to the site after approximately 10 years.</p> <p>VRM Class II objectives would be met over the short-term when viewed from KOP 1, KOP 3, KOP 4, and KOP 5 but would not be met when viewed from KOP 2 and KOP 6. Upon completion of reclamation, VRM Class II objectives would be met from all KOPs.</p>	<p>There would be strong visual contrasts apparent from KOP 6 and moderate contrasts from KOP 1 and KOP 2 until reclamation was complete. There would be a long-term increase in landscape form contrast at KOP 4. After reclamation, contrasts could move from strong to moderate at KOP 6, and from moderate to weak at KOP 1 and KOP 2. Reclamation at the site would be concurrent with operations and would diminish contrasts once completed. Naturalness would return to the site after approximately 35 years.</p>	<p>There would be strong visual contrasts apparent from KOP 6 and moderate contrasts from KOP 1 until reclamation was complete. There would be a long-term weak increase in landscape form contrast at KOP 4. After reclamation, contrasts could move from moderate to weak at KOP 1, and from strong to moderate at KOP 6 and KOP 2. Reclamation at the site would be concurrent with operations and would diminish contrasts once completed. Naturalness would return to the site after approximately 45 years.</p> <p>VRM Class II objectives would be met over the short-term when viewed from KOP 1, KOP 3, KOP 4, and KOP 5 but would not be met when viewed from KOP 2 and KOP 6. Upon completion of reclamation, VRM Class II objectives would be met from all KOPs.</p>

Table ES-2. Summary Comparison of Resource Impacts for All Alternatives.

Resource	Alternatives			
	A	B	C	D
Transportation, Access, and Public Safety	Daily traffic on SH-75 would be reduced by about 7%. Gates would be removed from mine access roads, allowing public access.	Daily traffic on SH-75 associated with the quarry would continue at the current rate. Access roads would continue to be used and constructed, as needed, to facilitate mining. Access to the quarry would continue to be restricted for public safety purposes.	Daily vehicle use associated with the quarry would increase traffic volume on SH-75 by about 3% over Alternative B. Access roads would continue to be used and constructed, as needed, to facilitate mining, including construction of a new road to access Pit 3. Additional small, two-track roads would be constructed to facilitate exploration activities. Impacts to public access and safety would be the same as Alternative B.	Daily vehicle use associated with the quarry would increase traffic volume on SH-75 by about 5% over Alternative B. Access roads would continue to be used and constructed, as needed, to facilitate mining, including construction of a new road to access Pit 3. Additional small, two-track roads would be constructed to facilitate exploration activities, but less than under Alternative C. Impacts to public access and safety would be the same as Alternative B.
Lands Uses and Private Property	Mining operations would cease. All other existing land uses (cattle grazing and right-of-way (ROW) agreements) would continue. Recreation would no longer be restricted in the quarry site by locked gates and mining operations.	All existing land uses would continue. A ROW application for the proposed 14.4 kV transmission line would be submitted by L&W Stone to the BLM. Access to the quarry would continue to be restricted for public safety purposes by locked gates and land would not be available for other uses or other ROW applications.	Same as Alternative B, but additional areas, specifically those proposed for exploration, would have access restricted for public safety purposes.	Same as Alternative B, but additional areas, specifically Pit 2-E and Pit 3 and the area proposed for exploration, would have access restricted for public safety purposes.

Table ES-2. Summary Comparison of Resource Impacts for All Alternatives.

Resource	Alternatives		
	A	B	C
Recreation	Recreational use of the quarry site would likely increase upon removal of access gates and upon completion of reclamation. Recreational values of the Upper Salmon River Special Recreation Management Area (SRMA) would increase.	Recreational use of the Proposed Project Area would continue to be restricted in operating areas and access to the mine would continue to be closed to the public for up to 5 years. Minor impacts to the scenic values of the SRMA would result, but the objectives of the SRMA would still be met. Potential impacts to the SRMA from quarry operations would occur in an area consisting of less than 1% of the entire SRMA.	Increased restrictions of the Proposed Project Area to recreational use over Alternative B due to quarry expansion and exploration. If mining operations were to occur at night, the lights could potentially alter the ambient evening light level at the East Fork Campground and be visible to travelers on SH-75. Objectives of the SRMA would still be met; however, the scenic values would be reduced to some degree over Alternative B because of the longer duration of the proposed operations.
Livestock Grazing	Potential increase of 4 to 5 animal unit months (AUMs) after successful reclamation of the quarry.	Reduction in available cattle forage in the Split Hoof Allotment by less than 1 AUM. The Split Hoof Allotment would likely continue to be ungrazed.	Reduction in available cattle forage in the Split Hoof Allotment by less than 3 AUMs. Otherwise, same as under Alternative B.

Table ES-2. Summary Comparison of Resource Impacts for All Alternatives.

Resource	Alternatives			D
	A	B	C	
Special Designations (Wild and Scenic Rivers, ACEC/RNA)	<p>The outstandingly remarkable values of the Salmon River (recreational, fisheries, and geologic) and East Fork Salmon River (scenic, recreational, and fisheries) would be maintained. Following reclamation activities the Proposed Project Area would appear less altered and would mostly blend in with the surrounding landscape. The free-flowing characteristics of the rivers would not be affected.</p> <p>The portion of Pit 1 that overlaps the East Fork Salmon River Bench ACEC/RNA would not be reclaimed. An appropriate buffer would be maintained during reclamation activities to prevent any rockfall into, or disturbance of, the ACEC/RNA.</p>	<p>Short-term impacts to fisheries habitat in the Salmon and East Fork Salmon rivers and alterations in geology in the vicinity of the Salmon River due to the removal of flagstone. However, no degradation of the outstandingly remarkable values of these rivers would result. Following reclamation activities, the quarry would appear less altered and would mostly blend in with the surrounding landscape, reducing the potential for any impacts to the geologic quality of the Salmon River. The free-flowing characteristics of the Salmon and East Fork Salmon rivers would not be affected.</p>	<p>No degradation of the outstandingly remarkable values of the Salmon and East Fork Salmon rivers, as under Alternative B. Impacts to geology would be realized through expanded mining under Alternative C to a greater degree than under Alternative B but would not result in degradation of the overall geology along the Salmon River.</p>	<p>Potential impacts to the ACEC/RNA would be the same as under Alternative C, except that Pit 3 would be excavated adjacent to a portion of the ACEC/RNA, increasing the potential risk of weeds spreading and rocks rolling into the ACEC/RNA. A 50-foot buffer zone would also be maintained between Pit 3 and the cliffs to protect the plant communities in the ACEC/RNA from potential rockfall.</p>
			<p>Pit 1 would continue to be located in the ACEC/RNA as under Alternative B. Pit 1 would be expanded, but not into the ACEC/RNA. A 50-foot buffer zone would be maintained between the proposed exploration area and the cliffs to minimize potential rockfall into the ACEC/RNA. Otherwise, same as under Alternative B.</p>	<p>The southern end of Pit 1 would continue to be located in, but would not be expanded further into, the ACEC/RNA. Measures would be in place to prevent and contain potential fuel spills. A weed management plan would be implemented to monitor and control the potential spread and establishment of invasive weeds from the quarry site to the ACEC/RNA. Reclamation impacts would be the same as under Alternative A.</p>

CUMULATIVE IMPACTS

The CEQ regulations for implementing the NEPA require assessment of cumulative effects in the decision-making process for Federal projects. Cumulative effects are defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions” (40 CFR 1508.7). Cumulative effects are considered for each resource and disclosed in detail in the EIS.

Cumulative effects in this analysis were determined by combining the effects of each alternative with past, present, and reasonably foreseeable future actions. Therefore, it was necessary to identify other past, ongoing, or reasonably foreseeable future actions in this area and in the surrounding landscape. All resource impacts would be added to these actions to portray the cumulative picture or incremental contribution this Proposed Project would have on the environment. Potential cumulative impacts are discussed in detail in Section 4.8 of this Draft EIS.