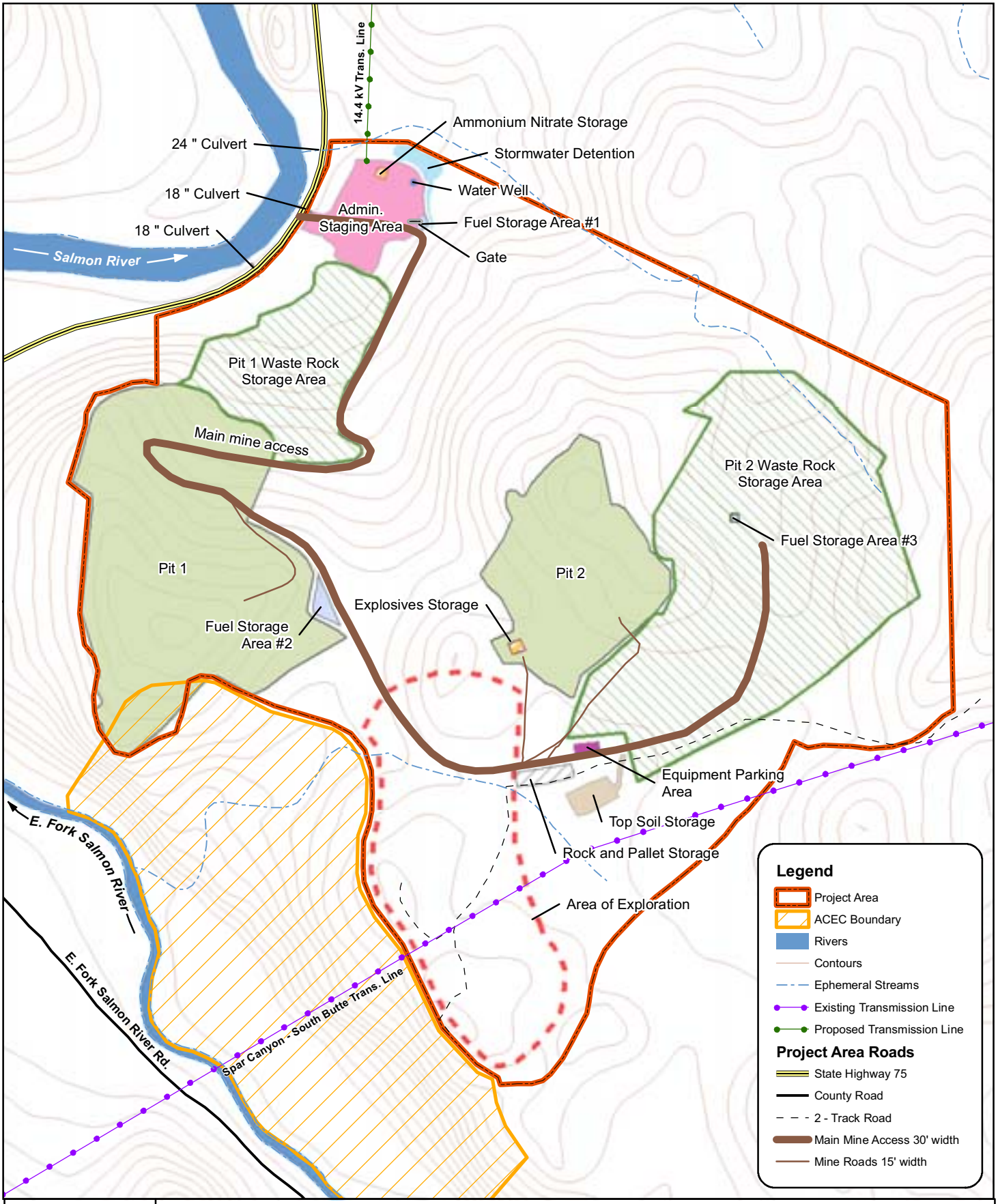

Figure 2.6-1. Alternative C

0 250 500 1,000 1,500 2,000 Feet

1:8,200

Three Rivers Stone Quarry
L & W Stone

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 5,900 feet amsl. The walls of Pit 2 would have an overall slope of approximately 45 degrees. Portions of the highwall, approximately 100 feet high at its highest point, would remain to the north and northeast as a visual barrier. The southwest side would be open, coinciding with the present ground elevation.

2.6.2 Mining Sequence

For the purpose of analysis it is assumed that mining operation would occur concurrently in both Pit 1 and Pit 2. In an effort to allow the efficient and safe layback of the Pit 1 highwall, blasting and removal of waste rock in this area would be concentrated during the winter months (January through February) when seasonal employees are not present. At the time that either Pit 1 or Pit 2 is completed (all flagstone mined out), all waste rock from the remaining pit would be used to backfill the finished pit.

2.6.3 Work Schedule, Personnel and Mine Production

The mining activities could occur 24 hours per day, 7 days per week, and 12 months per year. However, production would vary with market demand, mine logistics, and weather conditions. The Applicant estimates sufficient mineral resources exist to support a mine life of up to 30 years.

Approximately 100 employees would be required at the peak of mine production. Approximately 61 year-round employees would be needed including truck drivers, heavy equipment operators, explosive technicians, vehicle maintenance technicians, general maintenance staff, and rock splitters and handlers. Up to 39 seasonal workers would be needed on a daily basis. These workers would consist primarily of rock splitters who typically would work from April through December of each year.

2.6.4 Traffic

Workers travel to the Three Rivers Stone Quarry site in personal vehicles. Many workers would carpool to the site. The majority of workers, approximately 50 personal vehicles per day, would travel from Challis and back each day along SH-75 to the quarry (at carpool rate of two individuals per vehicle).

Under Alternative C, approximately 1,200 to 1,500 commercial truck trips per year would be required to transport flagstone from the quarry to wholesale and retail markets throughout the western United States. The routes from the quarry and the proportion of trucks using each route would be the same as under Alternative B (Figure 2.5-2), but the truck volume would be greater. Approximately 150 to 190 trucks per year would travel south on SH-75 passing

through the towns of Stanley and Ketchum, and approximately 1,050 to 1,300 trucks per year would travel north on SH-75 to the town of Challis and then travel south on US-93 to the town of Arco. From Arco, approximately 300 to 375 trucks would travel east on US-20 to Idaho Falls and another 750 to 940 trucks would travel southwest on US-20/26/93.

2.6.5 Exploration Activity

Exploration for additional flagstone deposits would occur under Alternative C within an area of approximately 31 acres (Figure 2.6-1), 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. Exploration could occur throughout the entire 31-acre exploration area. Prior to additional exploration disturbance, L&W Stone would reclaim exploration disturbance sufficient to maintain the 15-acre maximum area disturbed. Reclamation 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, as described in Section 2.3.1. No exploration activity would occur within 50 feet of the boundary of 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 seasonal restriction imposed on blasting in the Preferred Alternative from the 2004 EA would no longer be required, since the restriction was based on the location of a peregrine falcon nest that not longer exists.

2.6.6 Water Consumption

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 rate of 211 gallons per minute and a maximum volume of 340 acre-feet per year. A licensed water well driller would drill the well, which would be located on the northeast side of the administrative area (Figure 2.6-1).

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 C, a maximum of 87,000 gallons of water from the well would be used daily for dust suppression. The majority of use would occur during the frost-free and dry months, when dust becomes a problem. Nearly all of the water would be used for dust suppression on mine roads and areas with surface disturbance, and some would be used for drilling water. Additional water would be available for reclamation activities including compaction and irrigation of planted areas. Irrigation pipe,

hoses and sprinklers would be used to water planted areas. Total water use would not exceed the annual 340 acre-feet per year water right.

2.6.7 Sediment and Erosion Control and Stormwater Management

Under Alternative C the western portion of the administration area would be built up using waste rock and screened material from the quarry. Then the entire administration area would be regraded to slope to the east and northeast and then regraveled. The existing stormwater detention trench along the northeastern edge of the administration area 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 (Figure 2.6-1). Note that the modification to the existing stormwater detention trench and construction of the new detention pond was not part of the Preferred Alternative in the 2004 EA. However, they were determined necessary for the proposed operations since the current stormwater system is not functioning properly. These detention basins would be monitored to ensure that they function properly over the life of the project. State of Idaho Mining BMPs would also be applied in an effort to minimize potential sediment delivery to the East Fork and Salmon rivers, as under Alternative B (Appendix B).

2.6.8 Reclamation

Reclamation would be similar for Alternative C as described for Alternative A, with two differences. Once mining operations are completed (or upon expiration of the 30-year project period), the water well in the administrative area 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.

2.7 ALTERNATIVE D (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 (Figure 2.7-1). Surface geologic reconnaissance was completed at the Proposed Project Area over several years and indicates that mineable flagstone deposits may exist in the proposed Pit 2-E and Pit 3 areas.

In both Pit 2-E and Pit 3, the flagstone is oriented similar to Pit 1, with the flagstone dipping steeply to the east and generally striking north-south. There is some deviation in strike and dip in flagstone orientation between the two areas. The pit boundaries developed for the new pits were based on Pit 1 design criteria using the outcrop measurements for Pit 2-E and Pit 3.

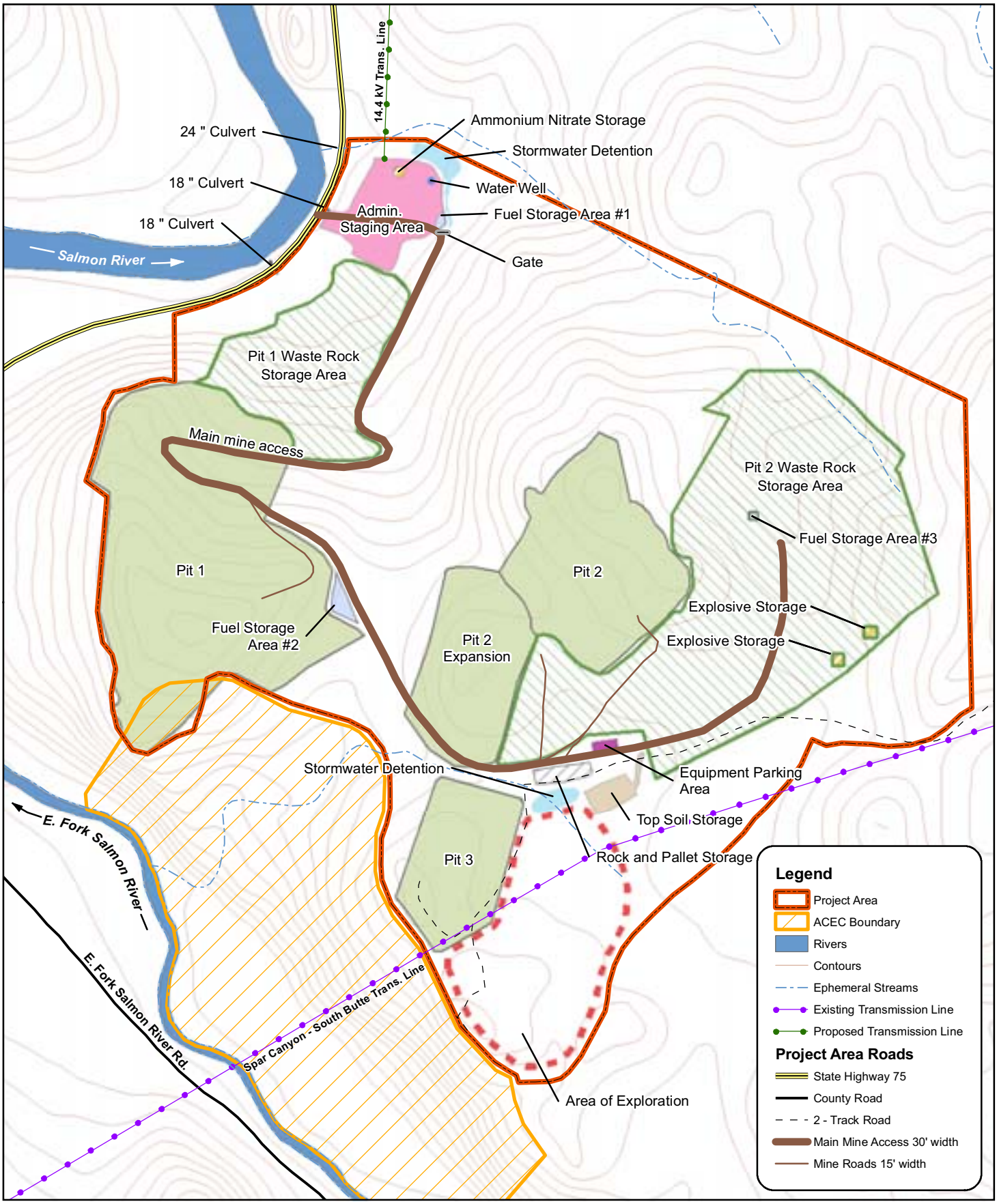

Figure 2.7-1. Alternative D

0 250 500 1,000 1,500 2,000 Feet

1:8,200

Three Rivers Stone Quarry
L & W Stone

No exploration drilling or trenching has occurred on these sites to fully delineate the potential size of the resource in each area. All decisions were based on outcrop exposures or lack of visual evidence for flagstone continuity across the area. Proposed operational features of the quarry under Alternative D are summarized in Table 2.7-1 and described in the following sections.

Table 2.7-1. Alternative D Operational Features.

Period of Operation	40 years
Work Force	Year round employees 66 Seasonal employees 46
Acres of surface disturbance	
Existing	92
Proposed New	73
Exploration	18
Total	183
Material removed per year (waste rock and flagstone)	300,000 tons
Number of blasts per month	Overburden 20 Flagstone 12
Truck loads of flagstone leaving the quarry per year	1,500 to 2,000 trucks
Water source	On site well
Water use	95,000 gallons, maximum daily use

2.7.1 Pits

Four pits are proposed to be mined for flagstone under Alternative D (Figure 2.7-1). Pit 1 and Pit 2 would be expanded to the same final configuration proposed for Alternative C. The following configuration of Pit 2-E and Pit 3 would be determined following exploration and preliminary mining of these areas for flagstone.

Pit 2-Expansion (Pit 2-E)

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 (Figure 2.7-1). 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 approximately 5,760 feet amsl. Figure 2.7-2 shows a generalized cross section.

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.

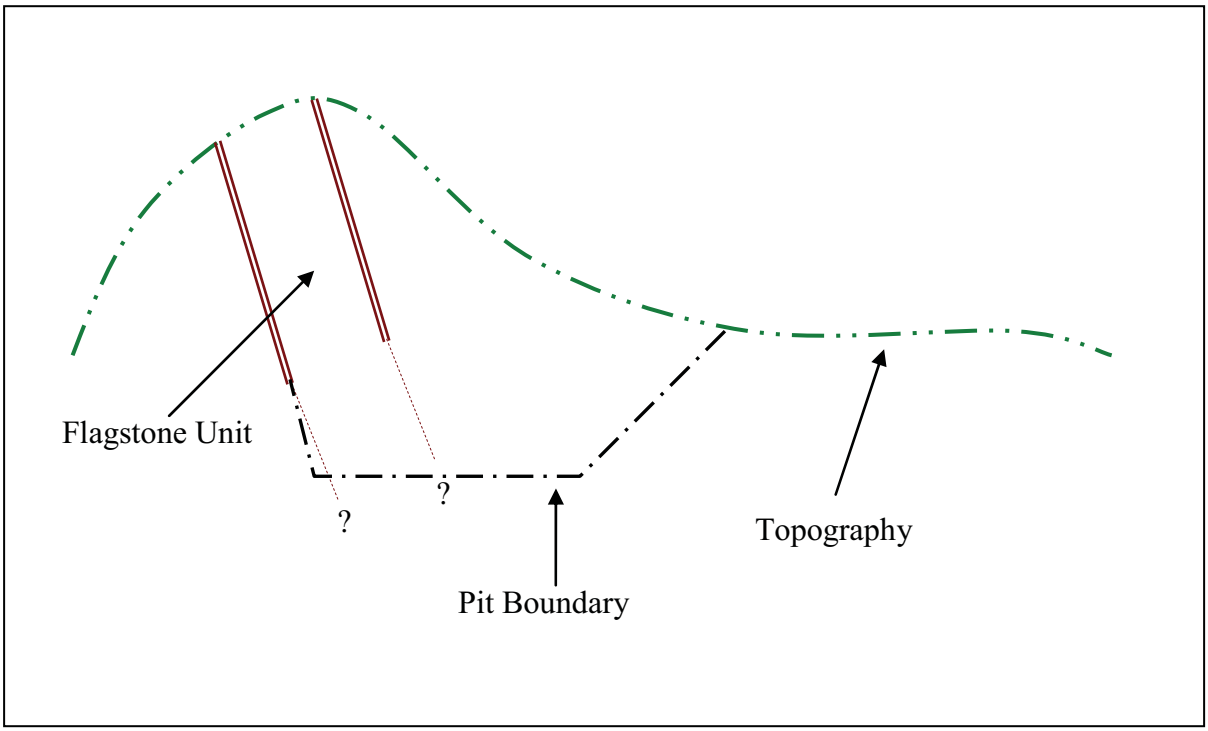

Figure 2.7-2. Pit 2 – Expansion Cross Section Looking North.

Pit 3

The proposed Pit 3 would be located on a rounded knob south of the proposed Pit 2-E area (Figure 2.7-1). 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.

In Pit 3, the flagstone extends to the cliffs that are the boundary of the ACEC/RNA area. As with Pit 1, the Applicant proposes to leave a buffer zone of approximately 50 feet between the pit and the cliffs above the East Fork Salmon River to mitigate visual issues from that view shed and to prevent rockfall into the ACEC/RNA.

It is expected the pit would be approximately 40 feet deep with a total highwall height of 100 feet, and the elevation of the pit floor would be approximately 5,760 feet amsl. Figure 2.7-3 shows a generalized cross section. 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.

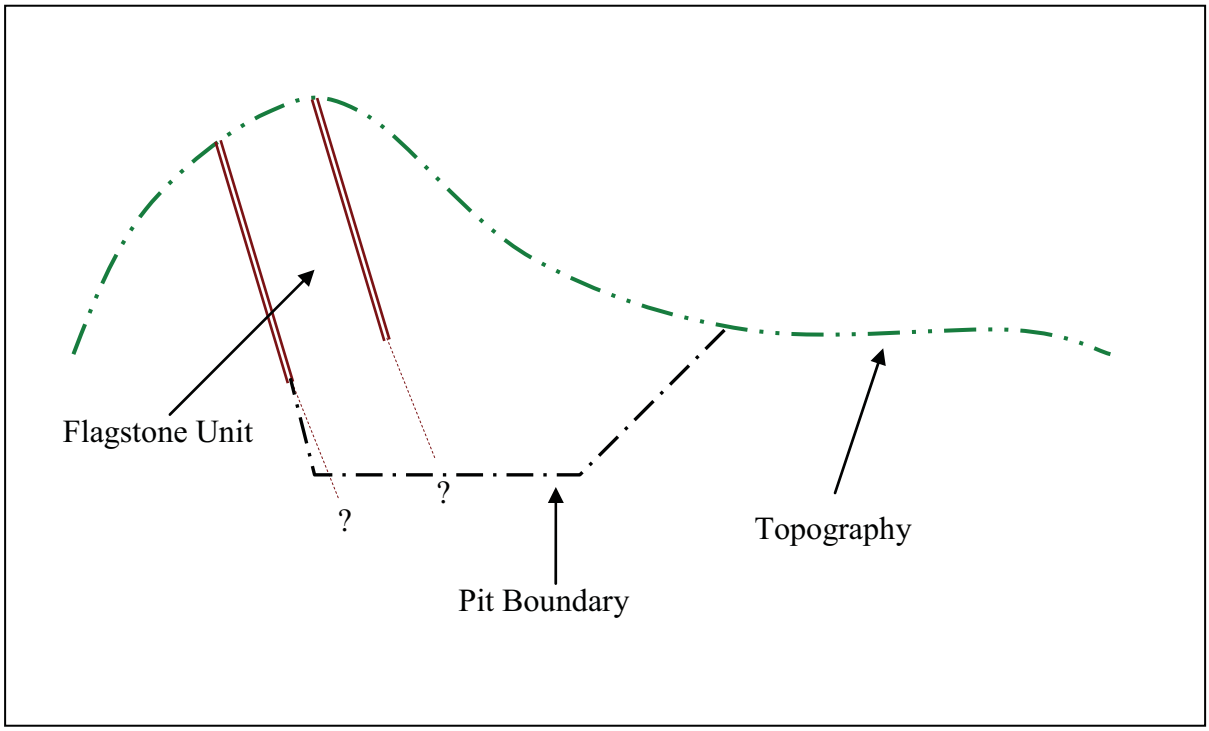

Figure 2.7-3. Pit 3 – Cross Section Looking North.

Both pits require approximately 100 feet of working room between the flagstone zone and the pit highwall (eastern side), which is the criterion that would determine how far the eastern pit boundary extends.

2.7.2 Mining Sequence

For the purpose of analysis 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.

The mining sequence could be modified and Pit 2-E and Pit 3 mined in a different order, earlier than planned, or concurrently with Pit 1 and 2, depending on product demand, flagstone quality, flagstone availability, and other economic or technical issues. However, the BLM would require that L&W Stone maximize the backfilling of Pit 1 under any mining sequence approved.

All mining methods would be similar to that currently employed in Pit 1 and Pit 2. Modification of techniques may be necessary to meet site specific requirements. If needed, displaced areas (topsoil storage areas, explosive storage areas) would be relocated to existing disturbed areas and would not require additional disturbance acreage.

2.7.3 Work Schedule, Personnel and Mine Production

As stated under Alternative C, mining activities could occur 24 hours per day, 7 days per week, and 12 months per year, but production would vary with market demand, mine logistics, and weather conditions. The Applicant estimates sufficient mineral resources exist to support a mine life of up to 40 years.

Approximately 112 employees would be required at the peak of mine production. Approximately 66 year-round employees would be needed including truck drivers, heavy equipment operators, explosive technicians, vehicle maintenance technicians, general maintenance staff, and rock splitters and handlers. Up to 46 seasonal workers would be needed on a daily basis. These workers would consist primarily of rock splitters who typically would work from April through December of each year.

2.7.4 Traffic

Workers would travel to the Three Rivers Stone Quarry site in personal vehicles. Many workers would carpool to the site. The majority of workers, approximately 56 personal vehicles per day, would travel from Challis and back each day along SH-75 to the quarry (at a carpool rate of two individuals per vehicle).

Under Alternative D, approximately 1,500 to 2,000 truck trips per year would be required to transport the flagstone from the quarry to wholesale and retail markets. The routes from the quarry and the proportion of trucks using each route would be the same as under Alternative B (Figure 2.5-2), but the truck volume would be greater. Approximately 190 to 250 trucks per year would travel south on SH-75, passing through the towns of Stanley and Ketchum,

and approximately 1,300 to 1,750 trucks per year would travel north on SH-75 to the town of Challis and then travel south on US-93 to the town of Arco. From Arco approximately 375 to 500 trucks would travel east on US-20 to Idaho Falls and another 940 to 1,250 trucks would travel southwest on US-20/26/93.

2.7.5 Exploration Activity

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 (Figure 2.7-1). No exploration activity would occur within 50 feet of the boundary of the ACEC/RNA.

2.7.6 Water Consumption

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 (Figure 2.7-1). 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. The majority of use would occur during the frost-free and dry months, when dust becomes a problem. Nearly all of the water would be used for dust suppression on mine roads, pits and other areas of surface disturbance, and some would be used for drilling water. Some additional water would be used for reclamation activities including compaction and irrigation of planted areas. Total water use would not exceed the annual 340 acre-feet per year water right.

2.7.7 Sediment and Erosion Control and Stormwater Management

Under Alternative D, in addition to the regrading of the administration area, modification to the existing stormwater detention trench and construction of a new stormwater detention pond as described under Alternative C, an additional stormwater detention pond would be constructed between Pit 2-E and Pit 3 (Figure 2.7-1). Pit 2-E and Pit 3 would be graded in such a way 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 ACEC/RNA. These stormwater detention basins would be monitored to ensure that they function properly over the life of the project. State of Idaho Mining BMPs would also be applied in an effort to minimize potential sediment delivery to the East Fork and Salmon rivers, as under Alternative B (Appendix B).

2.7.8 Reclamation

Reclamation would be the same for Alternative D as described for Alternative C.

2.8 COMPARISON OF ALTERNATIVES

Table 2.8-1 provides a comparison of the alternatives by Proposed Project features. Table 2.8-2 provides a summary of potential resource impacts for Alternative A, Alternative B, Alternative C, and Alternative D. The reader should note that the numbers provided in Table 2.8-1 and Table 2.8-2 are approximate values and should be used for analysis purposes only.

Table 2.8-1. 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		

Table 2.8-2. Summary Comparison of Resource Impacts for All Alternatives.

Resource	Alternatives			
	A	B	C	D
PHYSICAL				
Air Quality	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. 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.	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 dust in the air. Site reclamation would reduce long-term fugitive dust.	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.	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. Application of water during mining operations and reclamation would reduce fugitive dust. Reclamation of disturbed areas would reduce amount of fugitive dust over the long-term.
Geology and Minerals (leaseable, locatable, saleable)	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.	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.	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.	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.

Table 2.8-2. Summary Comparison of Resource Impacts for All Alternatives.

Resource	Alternatives			
	A	B	C	D
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 Alternative B. 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 greater than under alternatives B and C. BMPs 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 2.8-2. Summary Comparison of Resource Impacts for All Alternatives.

Resource	Alternatives			
	A	B	C	D
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 from reclamation activities in the vicinity of raptor perch and nest sites would not exceed the 65 dBA hourly Leq threshold.	Noise would be generated by mining operations and reclamation activities at sound levels acceptable for residential land use. 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.	Noise levels from mining operations at the closest residence to the quarry would exceed the 55 dBA sound level threshold recommended by the EPA for determining acceptable sound levels for residential land use. 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 2.8-2. 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 2.8-2. Summary Comparison of Resource Impacts for All Alternatives.

Resource	Alternatives			
	A	B	C	D
Fish and Wildlife	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. Potential impacts to fish habitat from mining operations would be eliminated following completion of successful reclamation.	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. Impacts to habitat quality for game- and non-game fish species could result from the potential delivery of sediment and chemicals and petroleum products to the East Fork Salmon and Salmon rivers.	Types of potential impacts to wildlife would 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, passenger vehicle and truck traffic. Potential impacts to fish 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. BMPs would reduce this risk.	Types of potential impacts to wildlife would the same as Alternatives B and C 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. Potential impacts to fish 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 a two new detention basins, along with implementation of a Chemical Spill Prevention, Control, and Countermeasures Plan. BMPs would reduce this risk.

Table 2.8-2. Summary Comparison of Resource Impacts for All Alternatives.

Resource	Alternatives			
	A	B	C	D
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. 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.	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 Alternative B, 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. 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.	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 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 2.8-2. 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 2.8-2. Summary Comparison of Resource Impacts for All Alternatives.

Resource	Alternatives			
	A	B	C	D
Visual Resources	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. 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.	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. 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.	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 weak 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. 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.	There would be strong visual contrasts apparent from KOP 6 and KOP 2 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. 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.

Table 2.8-2. 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 and 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 2.8-2. Summary Comparison of Resource Impacts for All Alternatives.

Resource	Alternatives			
	A	B	C	D
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.	Same as Alternative C, but areas where restrictions would apply could be different. Objectives of the SRMA would still be met; however, the scenic values would be reduced over Alternative B and C because of the increase in visual impacts and 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.	Reduction in available cattle forage in the Split Hoof Allotment by less than 5 AUMs. Otherwise, same as under Alternative B.

Table 2.8-2. Summary Comparison of Resource Impacts for All Alternatives.

Resource	Alternatives			
	A	B	C	D
Special Designations (Wild and Scenic Rivers, ACEC/RNA)	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. 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.	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. 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.	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. 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.	No degradation of the outstandingly remarkable values of the Salmon and East Fork Salmon rivers, as under Alternative C. 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.

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