

DRAFT CHECKLIST ENVIRONMENTAL ASSESSMENT

COMPANY NAME: Golden Rule Placer Mining, Inc., P.O. Box 20878, Billings, MT 59104

PROJECT: Pioneer Gulch Placer Mining Project

PERMIT OR LICENSE: Application for an Operating Permit

LOCATION: About five miles south of Gold Creek, MT, (T9N, R11W, Sections 22, 27 and 34)

COUNTY: Powell

PROPERTY OWNERSHIP: Federal State Private

The following information is from the Golden Rule application for an operating permit:

TYPE AND PURPOSE OF ACTION:

Golden Rule Placer Mining, Inc., (Golden Rule) is applying for an operating permit to disturb what is currently allowed under the Small Miner Exclusion Statement (SMES). Golden Rule proposes to establish two separate areas (see Figure 1, Location Map and Figure 10, Current Ore Processing Area and South Pit Mining Area). The first site would have an area of about 43 acres encompassing the South Pit Mining Area, and the second site would have an area of about 47 acres encompassing the ore-processing area. The access road between the South Pit and the ore-processing area has an area of about one-half acre. An estimated total of about 48 acres would be disturbed during the first five years of mine operations, although concurrent reclamation within the South Pit Mining Area would result in no more than eight acres of non-reclaimed disturbance at any given time.

Golden Rule would excavate placer gravels from an expanded South Pit mining operation and proposes to reprocess historic placer spoils located at the current ore-processing area. This site was originally an area of late 1800s placer operations, where disturbed alluvial valley fill materials and stacked dredge tailing piles were mined adjacent to the historic town site of Pioneer. Expected mine life in the South Pit and reprocessing area is expected to be a minimum of five years. Golden Rule currently conducts operations under a SMES.

The existing open-cut South Pit is located on the east side of the Pioneer Gulch valley, some 100 feet in elevation above the nearby creek. The mining methods used are similar to conventional gravel mining operations and include excavation, loading, and hauling of gravel to the ore-processing area. In some localized areas, where the gold-bearing gravels are particularly well-indurated, drilling and blasting of the gravel is conducted by a contract drilling and blasting company. Explosives are not stored on site. The mining sequence is initiated by clearing and grubbing, followed by salvaging and stockpiling of top- and sub-soil from areas that will be disturbed by mining or support facility construction. Mining expands from small pits to expose the bottom of the gold-bearing gravels and then extends laterally in a series of mined benches to mine out the deposit.

Mining operations are currently conducted by three or four equipment operators working one ten-hour shift per day. This work schedule is expected to increase to three eight-hour shifts per day in future production scenarios. Equipment used for the Golden Rule placer mining operation consists of a tracked-excavator which is typically used to excavate and move the ore. Ore is either loaded directly on to haul trucks (two-40 ton, and one-25 ton trucks) or stockpiled to be re-handled using a loader to place ore onto the trucks for hauling to the ore-processing area. After processing the ore, barren gravel is back-hauled to the pit for reclamation backfilling purposes. A 1,000 gallon water truck with a spray bar is used for dust control on haul and access roads. Auxiliary equipment used in the mining operation includes a road patrol (grader), service and blasting support trucks, and blast hole drilling equipment. Snow removal along haul and access roads is conducted seasonally as needed using existing mine equipment.

The ore-processing circuit used by Golden Rule consists of a large trommel-based wash plant and sluice box from which relatively coarse gold is recovered. The wash plant is nominally rated for 150 cubic yards per hour production rate, but typically operates at about 100 cubic yards per hour. Gold-bearing gravels stockpiled near the wash plant for processing are loaded into the trommel hopper through a screen deck designed to remove boulder and cobble-sized material.

Exploration, mining, and ore-processing activities currently operate ten hours per day, five days per week, and 12 months per year (weather permitting). The current operation employs one (1) project manager/supervisor and six (6) hourly equipment operators. This work schedule is expected to increase to three eight-hour shifts per day in future production scenarios with a total of 22 employees.

Roads used to access the exploration/mining and ore-processing areas consist of a mixture of privately owned ranch roads and county roads. Roads used for current mining operations are maintained by Golden Rule who provide grading, erosion control, drainage control (culverts, grading and silt fencing), and snow plowing as needed. These activities would continue and be expanded to new exploration areas. No new access roads are required in support of existing or expanded mining operations. However, minor temporary roads may be required in the perimeter areas of the south pit operations during expansion of mining into these areas.

Water used for ore-processing is supplied by two ponds at the southeast end of the ore-processing facility. The ponds are fed by Pioneer Gulch and Squaw Gulch Creeks. There is no contiguous surface water flow between the ore-processing facility and the nearest downstream water right due to historic dredge operations. In this area water moves through the disturbed alluvial valley fill material, spoils, and dredge ponds as groundwater.

Water that is not captured in the recycling process (about 400 gpm) is discharged from the trommel area into a rock lined ditch which leads to an infiltration pond. Discharge water is of good quality with elevated levels of iron, manganese, and total dissolved solids based on sampling of residual water from the infiltration pond. This is likely due to entrainment of suspended sediment in the ore-processing effluent which subsequently settles out of solution in the infiltration pond over time.

Diesel fuel is stored in the ore-processing area in two above-ground tanks. The primary storage uses an 8,000 gallon tank. There is a 2,000 gallon reserve tank that is used to store fuels in excess of 8,000 gallons when fuel is delivered to the site. A 500 gallon gasoline tank is also located in the same area. Fuel is delivered to the site by a licensed carrier on an as-needed basis. The current level of activity requires one delivery per month; future activity levels may require two to three deliveries per month.

Refueling of mobile equipment staged in the ore-processing and wash plant area, including exploration and haul trucks, takes place at the fuel storage site. Remote mobile excavating and loading equipment at the mining sites are refueled from a 120 gallon diesel storage tank mounted on a mechanical/lubricant service truck. All refueling equipment and storage tanks have automatic shut-off valves and flexible steel delivery hoses.

A combined Storm Water Pollution Prevention Plan (SWPPP) and Spill Prevention Containment and Clean-Up (SPCC) plan addresses the potential for accidental spills of fuel or other hazardous materials such as hydraulic fluid, grease, or coolant.

A 230 kW Caterpillar generator currently supplies electrical power at the ore-processing site. Electrical power from this generator is principally used for powering pumps. Another 100 kW Godwin generator is available for use as a backup, but is not stored on-site. Electrical service to the Gold Room ore-processing building is currently provided by a separate 10 kW Honda generator. This generator will also provide power for the proposed shop building.

All solid waste is disposed of in accordance with rules and regulations of the Solid Waste Management Bureau, Montana Department of Environmental Quality. Steel and other metal wastes are typically removed for recycling. Used oil is removed from the site by the owners of a mechanic shop in Deer Lodge where it is used in an oil burning heater. Inert wastes (such as wood, steel, and concrete) may occasionally be buried at the site in mined-out areas during backfilling operations. All other wastes will be trucked to an approved county landfill, or a recycler. Hazardous wastes will be transported off-site by a licensed hazardous waste transport company and would not be disposed of at the site. All refuse will be properly disposed. Bear-proof containers will be installed at support facilities to hold garbage and other potential attractants. Garbage containers will be emptied weekly or more often if monitoring shows they are becoming attractive to bears.

Fire protection will be typical of a construction project, primarily relying on fire extinguishers. Fire extinguishers are located throughout the ore-processing/support and wash plant area as well as at active mining areas, where they are mounted on posts in obvious locations. Fire extinguishers are carried in all trucks and mounted on all mobile equipment. In addition, Golden Rule has a 1,000 gallon water truck with mounted pumps and a spray bar. Golden Rule will require employees, contractors, and subcontractors to comply with all applicable Federal and State fire laws and regulations and shall take all reasonable measures to prevent and suppress fires within the area of operations.

Sediment would be prevented from moving into area streams by maintaining BMPs consisting of berms and/or silt fences along the perimeter of the water supply pond and also along the South Pit access road. A check dam located across the south pit access would direct sediment into an infiltration basin located at the intersection of this road with the Pioneer Gulch road on the opposite side of the road from Pioneer Gulch Creek.

Sediment is also generated during ore-processing and is controlled by discharging process water into a Rock lined ditch, and from there into an infiltration pond at the northern end of the Processing Area. Because both of these infiltration basins are located within the proposed permit boundaries, and because Pioneer Gulch Creek terminates at the water supply pond, no surface water streams leave the permit boundary and therefore there is no potential for sediment to migrate outside of the permit boundary.

A water truck with a spray bar is used for dust control along haul roads and in mining and ore-processing areas. It is anticipated that an air quality permit will not be required for this project. However, detailed information for the two generators and a list of equipment and specifications for all other emissions sources is being compiled for submittal to DEQ's Air Quality Bureau for review and final determination of potential permitting needs.

Soils that will be disturbed by exploration and mining activities would first be assessed to determine the depth and volume of salvageable topsoil and subsoil. Once the suitable depths are determined, topsoil and subsoil would be stripped from all areas to be disturbed (i.e., mining areas, roads, and soil stockpile locations). Salvaged topsoil and subsoil would be stockpiled separately and will be seeded with an approved seed mix to prevent weed invasion and erosion.

Weeds would continue to be controlled in accordance with the Powell County Vegetation Management Plan. This includes using appropriate chemical treatments to prevent the establishment and spread of weeds along mine access roads, areas disturbed for exploration, mining, and processing activities, and soil stockpiles.

Weed control is currently implemented two times yearly (spring and fall) employing two chemical treatment techniques: aerial spray broadcast application and mechanical foliar application. Mine personnel employ mechanical backpack supported sprayers to apply a broadleaf herbicide chemical through a spot spray technique. Mine personnel currently spray along all project constructed roads and in project related disturbance and reclamation areas.

Cultural resources were surveyed in areas likely to be within the area of influence of proposed mining operations and exploration areas. Cultural resources are outside of the area where expansion of mining activities is proposed and would not be disturbed.

The proposed mine expansion would result in a staffing increase. Approximately 22 employees would be employed. There would be three 8-hour shifts per day. Assuming each employee traveled to the mine in their own vehicle, an additional 15 vehicles per day would travel to and from the site using the county road which connects the ore-processing area to Interstate 90 near Gold Creek. Golden Rule would continue to maintain private roads used for mining operations. These roads would remain accessible to the landowner.

Mining in Pioneer Gulch currently produces noise associated with excavation/hauling of ore, ore-processing equipment, and power generation. Noise levels have not been measured, however the considerable distance between the mine and the nearest neighbor, located about 1.5 miles north of the ore-processing area, appear adequate to mitigate impacts.

N = Not present or No Impact would occur.

Y = Impacts may occur (explain under Potential Impacts).

N/A = Not Applicable

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RESOURCE	[Y/N] POTENTIAL IMPACT AND MITIGATION MEASURES
<p>1. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE: Are soils present which are fragile, erosive, susceptible to compaction, or unstable? Are there unusual or unstable geologic features? Are there special reclamation considerations?</p>	<p>[Y] Golden Rule currently mines in Pioneer Gulch located in the Pioneer mining district on bench-lands between the northern terminus of the Flint Creek Range and the Deer Lodge Valley under a SMES. The Flint Creek Range consists of Mesozoic sedimentary rocks intruded by Tertiary granite, and a zone of metamorphic rocks that are marginal to the granite. Lode gold deposits in these mountains were exposed by three successive periods of glacial erosion referred to as the early, intermediate, and late periods. The source of the gold veins apparently contained less gold at depth and as a result the greatest amount of gold was eroded during the earliest period of glacial activity while lesser amounts became entrained in the glacial materials transported during the intermediate and late glacial erosional periods.</p> <p>The bench-lands originally consisted of an erosional shelf extending from the mountains toward the interior of the Deer Lodge Valley underlain by Cretaceous sedimentary rock, Tertiary volcanic rock, and lens-shaped “lake beds” comprised of mixed volcanic ash and clay alternating with marl, sand, and gravel. This shelf was capped by Quaternary glacial and fluvial gravels as alluvial fan deposits. During the Tertiary or early Quaternary interglacial periods streams eroded the bench-lands. The erosional features were subsequently filled with gold-bearing glacial outwash material and then reworked by stream flow which concentrated the gold into the fluvial channel deposits. Subsequent erosion scoured out portions of the fluvial channels and left the gold-bearing gravels as erosional terraces</p>

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lateral to the channels. Two later periods of glaciation (i.e. intermediate and late drifts) deposited lesser amounts of gold along with glacial sediments above the relic gold-bearing terraces. Streams cut deeper channels through the bench-lands during the post-Pleistocene epoch to form the current active stream channels and adjacent terraces that are the focus of recent historic gold mining activities.

Golden Rule mines gold and silver from the sands and gravels of these erosional, remnant valley fill and terrace deposits which are located about 100 feet above the present day water level in Pioneer Gulch.

Gold in Pioneer Gulch is primarily associated with gravels and sands deposited during the early glacial period of the Pleistocene epoch. Repeated cycles of glaciation followed by stream erosion have resulted in a series of gravel layers of variable thickness resting on Tertiary "lake beds." The best gold grades occur in the lower, well-indurated, iron-oxide stained and cemented gravels deposited during the earliest of three major glacial events. This zone was intersected at a depth of about 30 feet during historic mining of the 1916 Pit located on the west side of Pioneer Gulch, approximately 2,100 feet to the southwest of the South Pit Mining Area. A layer of rust stained intermediate glacial outwash also contains lesser amounts of gold and was intercepted at a depth of about 20 to 30 feet at the 1916 pit.

Elsewhere along the middle, east, and west forks of Pioneer Gulch, gold deposits were mined from gravels concentrated from the intermediate glacial drift. In these areas the gold-bearing gravels were concentrated within the interstitial spaces of large boulders within the stream channel.

Squaw Gulch contains a large deposit of typically gold-rich early glacial drift that was deposited along with other materials during landslides from the slopes to the north, although commercial grade material was not found during prospecting in the early 1930s.

The NRCS completed a soil survey in the immediate vicinity of the project area. Soils in and around the area consist of gravelly loams with six principal soil map units occurring within areas where current or proposed mining operations would occur. These map units include 41C, 41D, 95E, 99E, 103, and 199E. With the exception of map unit 103 (mine waste dumps) these soils and the other soil types surrounding the project area were rated by the NRCS as having a high potential for restoration following disturbance, although map units 95E, 99E, and 199E are moderately susceptible to water erosion where they occur on steep slopes. No disturbances other than

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existing roads are anticipated on soil map unit 95E.

The soil survey did not describe map unit 103 but it consists of historic placer deposits (spoils) composed of gravels, cobbles, and boulders with little to no soil cover. The other soils in the area generally consist of gravelly to very gravelly loams to clay loams to a depth of about 10 to 15 inches. Below this depth the soils increase in both gravel and clay content. In areas the upper two inches of the soil horizon consists of slightly decomposed plant material.

Soil salvage activities were not conducted prior to the summer of 2012. As a result, an unknown volume of soil was buried beneath waste rock during backfill operations at the South Pit. This was remedied in the summer of 2012 and approximately 1,000 cubic yards of soil are currently stockpiled at the pit. In order to provide an adequate thickness of growth media to reclaim the current disturbance, Golden Rule has segregated and stockpiled fine waste rock sands during ore processing activities. This material supports vegetation in areas where it was used to reclaim exploration disturbances, and along the margins of the ore processing area. A fine waste stockpile of approximately 9,400 cubic yards is currently available for reclamation. This volume of combined soil and fines should be adequate to reclaim the current pit disturbance with an approximate 1.2-foot thickness of growth media.

Beginning in early summer of 2012 salvageable soil was stripped from areas to be disturbed and stockpiled for use during reclamation activities. This practice would continue under the proposed expansion.

All available topsoil/subsoil or growth medium would be removed prior to commencing excavation activities. It is expected that soil thickness will vary considerably throughout the proposed disturbance area. Soil would be stripped in two lifts and stockpiled in separate piles (topsoil and subsoil) based on visual observation of the interface between dark colored organic-rich topsoil and lighter colored subsoil. The salvage depth of subsoil would be determined similarly based on the visible interface of the weathered soil with the non-weathered alluvial gravels below. Based on soil survey data it is expected that the upper 10 to 15 inches of the soil profile would be salvaged as topsoil. Subsoil would be salvaged to a depth of approximately 32 inches in areas where soil mapping units 41C and 41D are present and to a depth of approximately 20 inches in other areas. Below these depths soils are not suitable for reclamation due to extremely high gravel and/or clay content.

These anticipated stripping depths would result in a total of approximately 32,000 additional cubic yards of topsoil and 51,000

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additional cubic yards of subsoil salvaged and stockpiled during mining of the South Pit, depending in the ultimate configuration of the excavation over the next five years. A minor additional volume of soil would also be salvaged and stockpiled prior to exploration/road disturbance as needed.

Salvaged soil material will be stockpiled adjacent to the exploration and mining areas from which it is stripped and near the area where it would ultimately be replaced during reclamation. The stockpiles would be revegetated using an approved seed mixture to reduce erosion, soil loss from wind, and weed invasion. Seeding would occur as soon as possible after stockpiling to minimize the potential for noxious weed invasion.

Large volumes of soil stockpiled for a prolonged period of time (i.e., for reclamation of mining areas) would be stabilized to minimize erosion and loss of soil. The stockpile surface would be loosened if necessary to provide a proper seedbed. Broadcast seeding would be conducted during the first appropriate season following stockpiling. Fertilizer and mulch would be applied to the piles as necessary to optimize revegetation efforts.

Prior to soil redistribution, compacted areas such as the ore-processing area, access roads, and backfilled areas that have been subjected to equipment use would be ripped to relieve compaction. This would also eliminate potential slippage along layered contacts and promote a hospitable root development zone. Soil materials would be applied in lifts as thick as possible and ripped after placement to decrease compaction. All soil salvaged from an exploration or mining area would be used to reclaim that same area unless additional soil is available and needed to successfully reclaim other areas. Where salvage soil is limited; fine waste rock, which has been successfully used on site as a suitable growth medium, would be employed. It is anticipated that a minimum thickness of 6 inches of subsoil, and 10 inches of topsoil, would be placed during reclamation of disturbed areas.

2. WATER QUALITY, QUANTITY AND DISTRIBUTION: Are important surface or groundwater resources present? Is there potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality?

[N] The project area is located between Pioneer Gulch and Squaw Gulch which are tributary streams to Gold Creek. Gold Creek flows north out of the Flint Creek Range and joins the Clark Fork River near the town of Gold Creek. Average annual flow rates of about 30 cubic feet per second (cfs) were reported for the USGS gauging station operated on Gold Creek, at the town of Gold Creek, in 1965 and 1966.

Much of the mine site, particularly in the vicinity of the ore-processing area was disturbed during placer operations in the 1800s. During this period alluvial valley fill materials were mined by

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dredging near the historic town site of Pioneer, with stacked dredge tailings piles placed along the creeks. Previous drainage patterns had been sufficiently disturbed by mining that surface water was, and presently occurs, only in several widely-spaced, discontinuous freshwater dredge ponds down the historic channel of Pioneer Gulch below the ore-processing area. In the ore-processing area, and for more than one mile downstream, there is no flowing channelized surface water, but instead water moves through the disturbed alluvial valley fill material, mine spoils and dredge ponds as groundwater.

The headwaters of Pioneer Gulch and Squaw Gulch Creeks are respectively located to the south and east of the ore-processing area. They converge immediately south (up-gradient) of the processing area and flow into the mine supply water ponds constructed by previous operators at the site. Water is pumped from these ponds during trommel operations. Most of this water is captured and recycled back to the water supply ponds and some of it is discharged to an infiltration pond located at the northern end of the processing area. During operations, water discharged to these ponds rapidly infiltrates into the historic placer spoils.

The nearest down-gradient surface water consists of a series of isolated and scattered freshwater dredge ponds and irrigation ditches located about 1.3 miles to the north of the infiltration pond and processing area. During high flow, water moves through a series of shallow braided channels and sheet flows across an agricultural field south of the town of Gold Creek and Old Stage Road. During low flow, water is confined to irrigation ditches and is sometimes completely consumed by agricultural use before converging with Gold Creek.

Stream flow and surface water quality data are available for Squaw Gulch Creek, the mine infiltration pond, and Pioneer Gulch Creek, including two locations in or near the agricultural field down-gradient of the project area. This data were collected in June (high flow) and September (low flow) 2011, and again in May (high flow) and July (moderate flow) of 2012 as part of Golden Rule's baseline water quality monitoring program. It should be noted that mine processing operations were typically not being conducted when samples were collected from the infiltration pond, but operations were active during the July 2012 monitoring event. Samples collected from the infiltration pond when processing operations were not active consisted of residual water contained in the pond, or nearby on the process area pad below the processing equipment.

All samples collected in 2011 and 2012 were of good quality with pH values ranging from 7.05 to 8.87, and with most constituents present at concentrations below MDEQ required reporting levels.

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The only constituents that exceeded applicable surface water standards in samples collected from the creeks were iron and manganese during some monitoring events at stations SG-1 and SG-2. Iron and manganese concentrations were also elevated relative to DEQ-7 standards in samples collected from the infiltration pond during three monitoring events. This was especially evident during the July 2012 monitoring event when water discharge from the ore processing circuit was occurring. Despite a total recoverable iron concentration of 39.4 mg/l, the concentration of dissolved iron was below detection (<0.05 mg/l) indicating that increased constituent concentrations are due to transport of suspended sediment which is filtered from the water during percolation into the infiltration pond.

Constituent concentrations were consistently well below applicable standards and total dissolved solids concentrations were near or below the reporting limit at the next downstream station during all monitoring events.

While it does not exceed applicable standards, mercury was detected in the upper reach of Pioneer Gulch creek monitored at PG-1 and PG-2 (see Figure 5, Surface Water Monitoring Locations). Mercury concentrations at these locations ranged from below detection (<0.005 ug/l) to 0.018 ug/l. The human health standard for mercury is 0.05 ug/l. Mercury has not been detected downstream at SG-2 (immediately above the ore processing area) or at PG-3B (downstream of the ore processing area) although two samples from the SP-3 infiltration pond have contained detectable mercury concentrations (0.007 ug/l and 0.022 ug/l).

Low levels of nitrogen were detected above the mine in Pioneer Gulch Creek and at the spring which is the source of Squaw Gulch Creek. Nitrogen is attributed to frequent cattle visitation at these locations as evidenced by their presence during some monitoring events and obvious hoof prints in the riparian areas. Nitrogen was also detected immediately above the water supply ponds at SG-2, but not below the South Pit mining area PG-2. Golden Rule has discontinued the use of explosives during mining at the South Pit and therefore nitrogen concentrations are expected to remain within the range of concentrations currently measured unless a change in cattle use and/or management is implemented in the area.

There are 35 groundwater wells listed by the Montana Bureau of Mines and Geology's Groundwater Information Center in sections adjacent to the mine. Most of these wells (31) are clustered to the northwest of Pioneer Gulch in sections 15, 16, 21, and 28, and are separated from the mining, ore-processing, and anticipated exploration areas by low ridges that act as surface water, and likely groundwater, divides. These wells are primarily for domestic water

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	<p>supplies, although one well is not used, and three are used to provide stock water. Depth to groundwater ranges from 3 feet to 210 feet below ground surface (bgs) and averages 60 feet bgs. The nearest of these wells to the project area is located about 0.75 miles to the northwest of the ore-processing area and is completed in cobbles and clay at a total depth of 389 feet bgs.</p> <p>An additional four groundwater wells are located further to the north and east of the ore-processing and mining areas. These wells are more likely within the down-gradient groundwater flow path from the mine but are a considerable distance (2.5 miles) away. These domestic wells are shallower (total depths of 40 to 128 feet bgs) than those located west of the mine due to their location closer to the valley bottom. Depth to groundwater ranges from 21 to 95 feet bgs and averages 46 feet bgs.</p> <p>Water quality data are available for two wells; GWIC ID# 5513 located west of the mine in Section 21, and GWIC ID# 59354 located about 1.5 miles due north of well 5513. No data are available for wells to the northeast of the mine. Well #5513 was sampled in November, 1985 while well #59354 was sampled in November, 2001. Water sampled from well #5513, located in the foothills of the Flint Creek range was of good quality, met drinking water standards for all measured constituents, and had a low sulfate concentration (17.8 mg/L). Water sampled from well #59354 met drinking water standards for all measured constituents except for sulfate and radon. This well had a total dissolved solids concentration of 1,399 mg/L.</p>
<p>3. AIR QUALITY: Will pollutants or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?</p>	<p>[Y] The project area lies within Airshed 5 of the Montana/Idaho Airshed Group's Airshed Management System and is considered to be in attainment of Federal air quality standards by DEQ. The nearest areas of non-attainment for PM10 levels are Butte located about 50 miles to the southeast and Missoula located 50 miles northwest. East Helena is also an area of non-attainment for lead and sulfur dioxide and is located about 60 miles east of the project area.</p> <p>The nearest Class 1 airsheds are located about 60 miles to the west in the Selway-Bitterroot Wilderness west of Victor and Darby, and also about 40 miles south in the Anaconda Pintler Wilderness Area.</p> <p>No air quality monitoring stations are located in the vicinity of Pioneer Gulch. The nearest upwind monitoring stations are located in the Bitterroot Valley near Hamilton and Missoula while the nearest downwind stations are located in Butte.</p> <p>A water truck with a spray bar is used for dust control along haul roads and in mining and ore-processing areas. It is anticipated that an air quality permit will not be required for this project. However,</p>

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	<p>detailed information for the two generators and a list of equipment and specifications for all other emission sources is being compiled for submittal to DEQ's Air Quality Bureau for review and final determination of potential permitting needs.</p>
<p>4. VEGETATION COVER, QUANTITY AND QUALITY: Will vegetative communities be significantly impacted? Are any rare plants or cover types present?</p>	<p>[Y] Plant communities in the proposed permit area are primarily composed of xeric-mesic conifer dominated forests and woodlands (Montana Natural Heritage Program, 2011). This habitat includes stands of Douglas fir, lodgepole pine, and subalpine spruce. Small portions of montane grasslands and deciduous shrublands are interspersed throughout the site. Rough fescue, snowberry, and bluebunch wheatgrass are also present (NRCS, 2011).</p> <p>A botanist/wetland specialist conducted a wetland and vegetation resource survey on September 23, 2011. Areas visited included the Squaw Gulch and 1916 Pit exploration areas, the South Pit mining area, historic dredge location, and the ore-processing area. In addition to the plant species described above understory juniper fireweed, raspberry, strawberry, gooseberry, and kalmia were identified.</p> <p>NRCS soil data for the area do not indicate the presence of hydric soils. The description of gravelly well-to-excessively drained soils covering the majority of the permit area suggests that soils at the site would not support wetland vegetation or biota except in riparian areas and/or in low lying areas along the foot of active or abandoned terraces. This conclusion was confirmed during a preliminary wetland resource survey conducted on September 23, 2011. Because of the timing of the visit it was not possible to conduct formal wetland delineations. However, areas supporting wetland vegetation were identified within the project area. These areas included grounds adjacent to the water supply ponds, the infiltration pond, the historic dredge, and adjacent to the roadway leading north from the process area.</p> <p>It is not clear whether the potential wetlands identified during the preliminary wetland survey are jurisdictional wetlands subject to permitting under Section 404 of the Clean Water Act. There is no surface water connection between these locations and the nearest downstream expression of channelized flow of surface water (Gold Creek), the nearest navigable water of the U.S. (Clark Fork River).</p> <p>The Army Corps of Engineers (Corps) was consulted regarding mine operations involving the water supply pond. This pond was constructed prior to Golden Rule's operation using an end-of-stream dam. The Corps found that no permits are required by Golden Rule to continue to use the pond as a source of water as long as no modifications to the dam or pond banks are conducted. Furthermore,</p>

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Golden Rule has no plans that would directly or indirectly impact wetlands as no dewatering or dredge and fill activities would be conducted and all mining activity would occur away from streams in areas that do not support wetlands.

Golden Rule previously applied to the Powell County Conservation District for a 310-Permit (application # DLV-12-12) to enlarge the existing water supply impoundment by relocating the impoundment dam approximately 100 feet to the north. Although Golden Rule no longer plans to modify the pond, the Conservation District granted the 310-permit on the grounds that Pioneer Gulch does not support a fishery and that all surface water infiltrated into the ground in the vicinity of the no longer proposed relocated dam. A Montana Fish, Wildlife, and Parks representative was present during the Conservation District's inspection for the 310-permit application, and concurred with the Conservation District's conclusion with respect to granting of the 310-permit for modification of the facility.

Plant Species of Concern (SOC) are not known to be present within the proposed permit area and no SOCs have been identified in Township 9 North, Range 11 West of Powell County (Montana Natural Heritage Program). Plant SOCs were not identified during the vegetation resource survey and it was determined that there is little to no potential for their presence based on the amount of historic disturbance in the area.

The project area lies within the Gold Creek Weed Management Area where Canada thistle and spotted knapweed are responsible for the majority of weed infested acreage. Weed species are present throughout the project area and its surroundings. These species include spotted knapweed, woolly mullein, black henbane, houndstongue, toadflax, and musk and Canada thistle.

Weeds would continue to be controlled in accordance with the Powell County Vegetation Management Plan. This includes using appropriate chemical treatments which meet the requirements of Montana and Federal laws to prevent the establishment and spread of weeds along mine access roads, areas disturbed for exploration, mining, processing activities, and soil stockpiles.

Weed control is currently implemented two times yearly (spring and fall) employing two chemical treatment techniques: aerial spray broadcast application and mechanical foliar application. Beck Gold Creek Ranch, LLC provides aerial broadcast application of herbicide over areas adjacent to the mine through the use of a helicopter. Mine personnel employ mechanical backpack supported sprayers to apply a broadleaf herbicide chemical through a spot spray technique. Mine personnel currently spray along all project constructed roads and in

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	project related disturbance and reclamation areas.
5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS: Is there substantial use of the area by important wildlife, birds or fish?	[Y] Baseline wildlife studies have not been conducted in the proposed permit area but it is expected that wildlife frequenting the area are similar to those in other areas of the region where mountain forests interface with valley meadows and pastureland. This would include large ungulates such as deer and elk, various avian species, rodents, aquatic/riparian species such as fish and amphibians, black bear, coyotes, mountain lions, and bobcats.
6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES: Are any federally listed threatened or endangered species or identified habitat present? Any wetlands? Species of special concern?	[Y] Wildlife Species of Concern (SOC) are not known to have been specifically surveyed or identified within the proposed area of influence but SOCs have been identified in Township 9 North, Range 11 West of Powell County (Montana Natural Heritage Program, 2011). The species of concern that may be found Sections 22, 27 and 34 are the fisher and wolverine. The habitat types frequented by these SOCs are extensive and consist of conifer forests, streams and riparian areas. In the case of far-ranging wildlife, it is likely that the project area comprises only a relatively small proportion of the total range used by wildlife during the year; however the area may be used more frequently as winter range (NRIS).
7. HISTORICAL AND ARCHAEOLOGICAL SITES: Are any historical, archaeological or paleontological resources present?	[Y] All areas potentially effected within the project area were intensively surveyed by pedestrian transect in October, 2011. Transect intervals were spaced at no more than 30 meters. All cultural properties were recorded on Montana Cultural Resources Information (CRIS) forms. No artifacts were collected in the field. The project area and cultural resources were photographed with a digital camera and their locations GPS surveyed. Cultural resources were surveyed in areas likely to be within the area of influence of proposed mining operations and exploration areas. One of the identified features, the historic dredge, is considered significant and was submitted to the National Historic Register. The dredge will be avoided during any proposed mine operations. Other cultural resources were identified but deemed insignificant. Cultural resources inventoried during previous surveys, including the ghost town of Pioneer, are outside of the area where expansion of mining activities is proposed and would not be disturbed.
8. AESTHETICS: Is the project on a prominent topographic feature? Will it be visible from populated or scenic areas? Will there be excessive noise or light?	[N] Mining in Pioneer Gulch would produce noise associated with excavation/hauling of ore, ore-processing equipment, and power generation. Noise levels have not been measured, however the considerable distance between the mine and the nearest neighbor (located about 1.5 miles north of the ore-processing area) appears adequate to mitigate any impacts related to noise. This is supported by the mine receiving no noise related complaints during previous

IMPACTS ON THE PHYSICAL ENVIRONMENT

	<p>mining activities under a SMES, including a period of 24-hour operation.</p> <p>The sites are not visible to the general public, being in a remote rural area and some distance from paved roads. After mining and reclamation are complete the visual appearance would be enhanced by improved grassland, which would improve usability for the land owner. A number of structures would remain for use by the landowner.</p> <p>The proposed site is not visible from any residence, and therefore lights should not be a concern.</p> <p>The surfaces would be regraded to approximate original contour and tied into adjacent undisturbed topography.</p>
<p>9. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY: Will the project use resources that are limited in the area?</p>	<p>[N] These projects would be isolated and require a minimum of energy resources.</p>
<p>10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES: Are there other activities nearby that will affect the project?</p>	<p>[N] Following the end of major mining activity in the area farming and ranching became the primary and basic industries. Post operation land use at the site will be primarily wildlife habitat or grazing.</p>

IMPACTS ON THE HUMAN POPULATION

<p>11. HUMAN HEALTH AND SAFETY: Will this project add to health and safety risks in the area?</p>	<p>[N] The project would not add to health and safety risks in the area. The project would use existing roads. No additional impacts from what currently exist are expected with approval of this operating permit. The Mine Health and Safety Administration would regulate mine safety during operations.</p>
<p>12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION: Will the project add to or alter these activities?</p>	<p>[N] Exploration, mining, and ore-processing activities currently operate ten hours per day, five days per week, and 12 months per year (weather permitting). Under this scenario, the current operation employs one project manager/supervisor and six hourly equipment operators. This work schedule is expected to increase to three eight-hour shifts per day in future production scenarios.</p> <p>Once the ore mining and processing operations are functioning effectively enough to warrant the expansion of its work force, Golden Rule anticipates expanding its operations to three eight-hour shifts per day, seven days per week and 12 months per year (weather permitting). This expansion would require a total of 22 employees,</p>

IMPACTS ON THE HUMAN POPULATION	
	one Project Manager, and a shift supervisor and six hourly equipment operators per shift. Golden Rule envisions that this expansion of its work force might take place as early as the third quarter of 2012.
13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT: Will the project create, move or eliminate jobs? If so, estimated number.	[Y] An additional work force of about fifteen people will be required with approval of the Golden Rule operating permit.
14. LOCAL AND STATE TAX BASE AND TAX REVENUES: Will the project create or eliminate tax revenue?	[Y] This project would create tax revenue.
15. DEMAND FOR GOVERNMENT SERVICES: Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc.) be needed?	[N] There is no anticipated need for increased government services that would result from this project.
16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS: Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?	[N] There are no known environmental plans that would impact, or be impacted, by the proposed mining project.
17. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES: Are wilderness or recreational areas nearby or accessed through this tract? Is there recreational potential within the tract?	[N] There is no wilderness or major recreational areas nearby, or to be accessed through private land. Public recreational opportunities within the proposed permit area and immediately adjacent areas are very limited, as these lands are privately owned.
18. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING: Will the project add to the population and require additional housing?	[N] The project employment is relatively small and most employees are expected to be recruited from the local area. It is anticipated that most employees would reside within a short commuting distance.
19. SOCIAL STRUCTURES AND MORES: Is some disruption of native or traditional lifestyles or communities possible?	[N] The work force is expected to be local, or drawn from neighboring counties. Royalty payments would help offset some of the financial impacts resulting from regional drought.
20. CULTURAL UNIQUENESS AND DIVERSITY: Will the action	[N] Approval of the operating permit is not expected to cause impacts to cultural uniqueness and diversity.

IMPACTS ON THE HUMAN POPULATION	
cause a shift in some unique quality of the area?	
21. PRIVATE PROPERTY IMPACTS: Are we regulating the use of private property under a regulatory statute adopted pursuant to the police power of the state? (Property management, grants of financial assistance, and the exercise of the power of eminent domain are not within this category.) If not, no further analysis is required.	[Y] The Proposed Action would not restrict private property use.
22. PRIVATE PROPERTY IMPACTS: Does the proposed regulatory action restrict the use of the regulated person's private property? If not, no further analysis is required.	[N] The proposed regulatory action does not restrict the use of the regulated person's private property.
23. PRIVATE PROPERTY IMPACTS: Does the agency have legal discretion to impose or not impose the proposed restriction or discretion as to how the restriction will be imposed? If not, no further analysis is required. If so, the agency must determine if there are alternatives that would reduce, minimize or eliminate the restriction on the use of private property, and analyze such alternatives.	[N/A] The agency has legal discretion to impose or not impose a proposed restriction or discretion as to how the restriction will be imposed. No restrictions are proposed. No further analysis is required. No modifications to the Proposed Action have been identified. The agency has determined that there are no alternatives needed that would reduce, minimize, or eliminate the restriction on the use of private property.
24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:	None.

25. Alternatives Considered:

No Action: Deny the request for an operating permit. No issues were identified which would require denying the permit application.

Approval: Approve the operating permit as proposed.

Approval with Modification: No unresolved issues were identified which would require modification of the proposal.

26. Public Involvement: A legal notice was published on September 18, 2012, and subsequent dates, and a

press release issued notifying the public of the proposed operation. No comments were received. Another legal notice and press release will be issued when this Draft CEA is released.

- 27. Other Governmental Agencies with Jurisdiction: None
- 28. Magnitude and Significance of Potential Impacts: There would be no significant impacts associated with this proposal. As noted, there would be impacts to soils, geologic resources, native plant communities, and wildlife, and from an increase in noxious weeds in the area.
- 29. Cumulative Impacts: There are several SMES sites in the area. The closest one is about one mile northeast of the Golden Rule project.
- 30. Recommendation for Further Environmental Analysis:
 EIS More Detailed EA No Further Analysis
- 31. EA Checklist Prepared By: Herb Rolfes, Operating Permit Section Supervisor.
- 32. EA Reviewed By: Patrick Plantenberg, Reclamation Specialist and Warren McCullough, EMB Bureau Chief

Signature

Date

Warren D. McCullough, Chief, Environmental Management Bureau, DEQ

File: pending Golden Rule.00183
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