

## CHECKLIST ENVIRONMENTAL ASSESSMENT

COMPANY NAME: RC Resources, Inc. PROJECT: Rock Creek Evaluation Adit  
PERMIT OR LICENSE: Exploration License #00663  
LOCATION: Township 26 North, Range 32 West, Sections 3, 10, 15, 22, 27, 28, 29 and Township 27 North, Range 36 West, Sections 33 and 34  
COUNTY: Sanders  
PROPERTY OWNERSHIP:  Federal  State  Private

**PURPOSE AND NEED OF ACTION:** ASARCO proposed an evaluation adit for the Rock Creek orebody in the Cabinet Mountains in July 1992 (ASARCO Inc. 1992). The Montana Department of State Lands (DSL) and Kootenai National Forest (KNF) reviewed the plan and ASARCO made revisions in October 1992 and February 1993 in response to agency review and comments on the Plan. The Evaluation Adit Plan was analyzed in an Environmental Impact Statement (EIS) by DSL's successor, the Department of Environmental Quality (DEQ and USFS 2001a). The Evaluation Adit Plan was approved as part of Alternative V in the Record of Decision (ROD) (DEQ and USFS 2001b). The Forest Service subsequently re-issued their ROD in 2003 (USDA 2003).

Since 2001, the approved Evaluation Adit Plan has been modified by ASARCO's successor, RC Resources, Inc. (RCR) to address final design changes, provide an alternate water disposal method, lessen environmental impacts, and to satisfy stipulations in the ROD (RC Resources 2007, revised 2008 on DEQ website at <http://deq.mt.gov/ea/hardrock.asp>). This environmental assessment (EA) is tiered to the 2001 EIS (DEQ and USFS 2001a) and evaluates impacts of the modifications to the approved Evaluation Adit Plan. This EA is also available on the DEQ website at <http://deq.mt.gov/ea/hardorck.asp>.

**SUMMARY OF PROPOSED ACTION:** Access to the evaluation adit would be by the existing Rock Creek Road (USFS Rd# 150) and Chicago Peak Road (USFS Rd# 2741) (Figure 1, Proposed Evaluation Adit Location). The location of the adit, support facilities, and access road are shown at larger scale on Exhibit 1. About 2.5 miles of the FDR No. 150 road would be upgraded to improve utility and reduce sediment yield. Modifications would include widening of several corners, upgrading water bars to meet USFS standards, installation of new culverts to meet USFS standards, and resurfacing to provide a smoother road bed and decrease sediment production. Best management practices (BMPs) would be used to control sediment from borrow areas used for road construction materials.

Estimated disturbance for the evaluation adit project would be 10.59 acres at the adit site (including new access roads and a septic system), 5.08 acres of disturbance associated with road improvements (including 1.74 acres for borrow areas), 1.0 acre at a new proposed ground water disposal site, and 3.13 acres at the support facilities area for a total of about 19.8 acres. The 2001 ROD approved disturbance of 14.68 acres for the Evaluation Adit Project. The modifications addressed in this EA result in the disturbance of 5.12 additional acres. Alternative V approved in the 2001 ROD had an approved permit boundary of 1,560 acres.

The Final Environmental Impact Statement (FEIS) for the Rock Creek Project (DEQ and USFS, 2001a) and the Records of Decision outlined a number of monitoring and mitigation measures that are required for implementation of the evaluation adit phase of the Rock Creek Project (DEQ and USFS 2001b; USDA 2003). Appendix A provides a cross reference indicating where stipulations in the ROD are addressed in this revised plan.

Reclamation Plan: Post operational land use would be primarily wildlife habitat. If after consideration of the information collected during the evaluation adit project it is decided not to proceed with the mine, the ore stockpile would be backfilled into the adit; facilities not needed at the adit site would be removed; the top of the portal patio would be backsloped at two percent; the patio and fill slope would mostly be resoiled and revegetated; edges of the fill slope face would be graded to blend with surrounding topography; and the channel along the east end of the portal patio would be maintained to connect natural drainage areas above and below the portal patio. Disturbances other than the portal patio (support facilities area, diversion ditches, fuel storage area, etc.) would be graded to blend with adjacent undisturbed topography.

During the Evaluation Adit Project, concurrent or interim revegetation of temporary roads, soil stockpiles, and surface water control structures would occur as soon as practical following disturbance. After completion of the Evaluation Adit, permanent revegetation would be conducted on portions of the waste dump slope containing sufficient fines to support vegetation. Road cut and fill slopes would be seeded as an interim measure as soon as practical.

Once the Evaluation Adit Project is completed and a decision on full scale mining is made, the reclamation of the evaluation adit site would be determined. If mine development is planned, reclamation of the patio surface would need to wait until the ore can be removed and run through the mill. Permanent revegetation would be conducted on portions of the waste dump slope containing sufficient fines to support vegetation.

If mining is not pursued, the ore removed during the exploration phase would be backfilled in the adit, the portal opening backfilled, and the portal patio surface reclaimed. Regrading, soil placement, and revegetation would be completed during the first construction season after a decision against mining is made or following final mine closure.

If mine development does proceed, then the evaluation adit operations and reclamation would be integrated into the overall mine plan.

The modifications to the Evaluation Adit Plan consist of the changes listed below:

EVALUATION ADIT COMPARISON TABLE.

| <u>Evaluation Adit Facility</u>    | <u>Plan Approved in 2001 ROD</u>  | <u>Updated 2008 Plan</u>   | <u>Issue Disposition</u>  |
|------------------------------------|---|--|---|
| Evaluation Adit Length & Grade     | Portal near end of FDR No. 2741/2741J; 6,592 feet long at a minus 10 percent grade. Adit would be 18 feet by 18 feet. | Portal near end of FDR No. 2741/2741J; 6,700 feet long at a minus 10 percent grade. Adit would be 16-18 feet high by 20 feet wide. | Agencies concur that the proposed changes are due to final design changes to address stipulations 26 and 64a. (See list of stipulations in Appendix A). No further analysis needed. |
| Evaluation Adit Waste Rock and Ore | 178,000 tons placed downhill of adit entrance in portal patio (59,000 tons waste rock; 119,000 tons ore).             | Same as 2001 Plan (90,000 tons waste rock and 88,000 tons ore).  | Agencies concur that the proposed changes are due to final design changes to address stipulations 26 and 64a  |

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|   |   |   | and change in ore grade over time. The 31,000 additional tons of waste rock would result in a small increase in the waste rock dump disturbance area. No further analysis needed.  |
| Access Road FDR No. 150 and FDR No.2741; Improvements including borrow sources. | Gravel and improve 2.8 miles of FDR No. 150 above confluence mill site. Upgrade FDR No. 2741 for 4.6 mile (mi.) and reconstruct 0.18 mi. spur (2741J) to 14 feet wide to adit site. | Essentially the same as 2001 Plan with additional details. A total of 5.08 acres would be disturbed including 3.34 acres of road improvements and 1.74 acres for borrow areas to improve roads. About 2.5 miles of the FDR No. 150 would be upgraded to improve trafficability and reduce sediment yield. | Agencies concur that the proposed changes are due to final design changes to address stipulations 42a and 43. No further analysis needed.  |
| Ground water disposal area  | Adit water would be disposed as surface water discharge in Clark Fork River.  | Adit water would be disposed as ground water on 1.0 acre in three infiltration ponds in tailings impoundment disturbance footprint or as surface water discharge in Clark Fork River.   | Impacts of proposed discharge to ground water disposal area were not analyzed in 2001 EIS. The impacts of this proposed change will be addressed in this EA. See EA Section 2. WATER QUALITY, QUANTITY AND DISTRIBUTION. |
| Evaluation Adit Soil Storage  | 1.2 acre stockpile containing 8,757 cubic yards (cy) of soil.   | 0.96 acre in 1 stockpile with two cells; 3,248 cy in lift one stockpile cell and 14,285 cy in lift two stockpile cell giving a total of 17,533 cy (Figure 6).   | Agencies concur that the proposed changes are due to final design changes to address stipulation 25b. No further analysis needed.  |
| Support Facilities Soil Storage   | 1.3 acres of soil would be salvaged producing a volume of 4,193 cy. Soil is stored in one stockpile on the 1.3 acre site.   | 2.3 acres of soil would be salvaged producing a volume of 5,863 cy. Soil stored in two stockpiles on 0.5 acre; 2,165 cy in lift one stockpile and 3,711 cy in lift two stockpile (Figures 7 and 12).  | Agencies concur that the proposed changes are due to final design changes to address stipulations 25b. No further analysis needed.   |

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| Evaluation Adit and Support Facilities Total Disturbance Area | Disturbance at the Adit would be 8.3 acres and 1.3 acres at the Support Facilities site. Total disturbance did not include acreage for road improvements or cross-country adit water discharge pipeline disturbance.   | Disturbance at the Adit would be 10.59 acres including the new access road and septic system and 3.13 acres at the Support Facilities site. Total disturbance includes 5.08 acres for road improvements and borrow areas and 1.0 acre for the ground water disposal area (Table 7). | Agencies concur that the increased disturbance area changes are due to final design modifications to address stipulations 25b, 26, 42a, 43, and 64a and includes disturbance for road improvements and adit water discharge pipeline in existing disturbed road system. The additional disturbance area is within the scope of the 2001 EIS analysis. No further analysis needed. |
| Evaluation Adit Disturbance Area                              | The disturbance at the Adit is 8.3 acres.  | The disturbance at the adit would be 10.59 acres including 10.04 acres at the adit site and 0.55 acres for a new access road and septic system.   | Agencies concur that the proposed changes are due to final design changes to address stipulations 26 and 64a. No further analysis needed.   |
| Support Facilities Disturbance Area                           | The disturbance at the site was 1.3 acres for a garage and warehouse on a concrete slab, office, change house/mine dry, fuel storage area, gravel parking lot, one soil stockpile, water treatment plant, and locally supplied power.                                    | Disturbance at the site would be 4.13 acres for a the same list of facilities plus two water storage ponds, a decant tank, a septic tank drainfield, two soil stockpiles, and a 1.0 acre ground water disposal area (Table 7).  | Agencies concur that the proposed changes are due to final design changes to address stipulations 26 and 64a. Disturbance totals are within the scope of the 2001 analysis. The impacts from ground water disposal will be addressed in Section 2 of the EA. No further analysis needed.  |
| Evaluation Adit Soil Salvage Depth                            | 4.3 acres of disturbance would be salvageable in two lifts. Lift one soil depth would be up to 6 inches on 2 acres and up to 5 inches on 2.3 acres producing a volume of 3,150 cy. . Lift two soil depth would be 24 inches on 2.0 acres producing a volume of 6,450 cy. | 4.15 acres would be salvaged in two lifts where possible. Lift one soil depth would be 5 to 6 inches on the 4.15 acres producing a volume of 3,317 cy. Lift two soil depth would be 30 inches on 3.85 acres producing a volume of 15,545 cy.  | Agencies concur that the proposed changes are due to final design changes to address stipulation 25b. More soil would be salvaged in the 2008 plan. No further analysis needed.   |
| Support Facilities  | In the 1.3 acre area   | In the 3.33 acre area   | Agencies concur that the  |

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| Soil Salvage Depth                        | there is a maximum of 4,204 cy of soil to be salvaged. 24 inches of soil would be salvaged in two lifts. Maximum volume in first lift would be 2,100 cy and the maximum volume in second lift would be 2,100 cy.   | there is a maximum of 9,179 cy to be salvaged. A total of 3.1 acres would be disturbed. 24 inches of soil would be salvaged in two lifts (Figure 12). Maximum volume in first lift would be 3,672 cy and the maximum volume in second lift would be 5,507 cy. Only 2.3 acres of the 3.1 acres to be disturbed need to be salvaged producing a volume of 5,863 cy.  | proposed changes are due to final design changes to address stipulation 25b. More acres would be disturbed and more soil would be salvaged in the 2008 plan. The additional acreage on private land in the tailings impoundment area is within the scope of the 2001 EIS analysis. No further analysis needed. |
| Evaluation Adit Soil Replacement Depth    | Soil would be respread on 1.9 acres of the portal patio slope face area in one lift 13 inches deep. Soil would be respread on 5 acres of the adit, portal patio, and the adit facilities area in one lift 12 inches deep. 1.4 acres of the portal patio slope face would be left as talus. | Second lift soil would be respread on 2.4 acres of the portal patio slope face area 15 inches deep. Second lift soil would be respread on 4.9 acres of the flat portal patio area 15 inches deep. First lift soil would be respread on 4.9 acres of the flat portal patio area 5 inches deep for a total of 20 inches. 1.8 acres of portal patio slope face would be left as talus. The 0.96 acre soil stockpile site would not need replacement soil. | Agencies concur that the proposed changes are due to final design changes to address stipulations 26 and 64a. No further analysis needed.  |
| Support Facilities Soil Replacement Depth | 4,204 cy of soil would be respread 24 inches deep in two lifts on 1.3 acres of disturbance.  | 3,277 cy of soil would be respread 24 inches deep in two lifts on 1.0 acre of disturbance (Figure 12). 3,227 cy would be respread 24 inches deep in two lifts on the 1.0 acre ground water disposal area.  | The reclamation plan for the support facilities area has changed. RC Resources has proposed to leave the 1.0 acre buildings for post-mine land use on the private land. The soil replacement depth remains the same as the plan analyzed in the 2001 EIS. No further analysis needed.                          |
| Support Facilities Reclamation and        | 1.3 acres of disturbance would be  | 1.7 acres would be recontoured, soiled, and  | This proposed change in land use for these   |

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| Post-Mine Land Use              | recontoured, soiled, and revegetated for forest and wildlife habitat. All support facilities would be removed.   | revegetated for forest and wildlife habitat and 1.3 acres would be left unvegetated for post-mine industrial land use. All facilities except the water treatment facility, office, mine dry, and shop and parking lot would be left for post-mine industrial use.  | facilities is a reasonable request for private land next to FDR No. 150. No further analysis needed.   |
| Adit water discharge pipeline   | A 45,000 foot long 6 inch HDPE temporary pipeline disturbing 10.3 acres running from adit portal across country to FS 150 and then along road to water treatment plant.  | 66,500 foot long 6 inch HDPE temporary pipeline disturbing no new acres from adit portal along roads to FS 150 to water treatment plant. Pipeline would be buried in access roads and would cross Rock Creek in two locations. Pipeline would be jacked or drilled under streams at the crossings.   | The change in pipeline design and routing in the access road corridor would produce less environmental impacts than the plan analyzed in the 2001 EIS. The new plan would reduce impacts to Riparian Habitat Conservation Areas (RHCA's), less sediment, and less surface disturbance. No further analysis needed. |
| Evaluation Adit Water inflow    | Mine inflow without grouting 112 to 168 gpm.   | Mine inflow without grouting 112 to 168 gpm.   | No change in predicted inflow as analyzed in the 2001 EIS. No further analysis needed.   |
| Evaluation Adit Water Treatment | The water treatment system would include pressure filtration, an oil skimmer and reverse osmosis with a pilot anoxic biotreatment system. Treatment quality would meet MPDES permit limits before discharge to the Clark Fork River. | The water treatment system would include precipitation, clarification, and filtration for solids and metals; an ion exchange system; and a biological nitrification/de-nitrification system to remove inorganic nitrogen. Manganese exceedances would be resolved by additional treatment. Treatment quality would meet non-degradation requirements before discharge to ground water disposal area or MPDES permit limits | The changes in the water treatment plant are final design changes and no further analysis is needed.   |

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|  |  | before discharge to the Clark Fork River.   |  |
| Evaluation Adit Water Treatment Facility Reclamation | The temporary water treatment facility would be removed and the area revegetated as part of the Support Facilities area reclamation.   | Same as analyzed in the EIS.  | No further analysis needed.  |
| Evaluation Adit Power Supply                         | Two propane fired generators 545 kw and 735 kw would be located on the portal patio.   | One 300 kw diesel-powered back-up generator would be located at the portal patio. Main power supply would be buried in the same trench as the adit water discharge pipeline.  | This change in plan for power supply would reduce environmental impacts to air quality and noise compared to the plan approved in the 2001 EIS. No further analysis needed.  |
| Evaluation Adit Reclamation                          | The flat portal patio and angle of repose portal patio face would be recontoured to pre-existing contours. Adit area reclamation would begin as soon as possible after exploration is completed.     | The flat portal patio would be backsloped at a 2 percent angle and the portal patio face would be left at angle of repose (Figure 10). If mining is not approved, the ore would be backfilled into the evaluation adit and the portal would be backfilled with waste rock. Reclamation would begin in the first construction season after decision against future mining is made. If mining would continue, then the reclamation schedule would be integrated into the overall mine plan. | The portal patio cannot be recontoured to pre-existing contours as analyzed in the 2001 EIS, due to the swell factor resulting from rock being blasted. The 1992 and 1993 deficiency letters on the proposed plan used language similar to the current plan. The language says the portal patio would be backsloped and the dump slope will act as an extension of the existing scree slope. The current plan is reasonable for the rock fill slope. No further analysis needed. |
| Adit Water Supply Pond                               | Water would be hauled to the site from a make-up water well at the confluence of Rock Creek and the Clark Fork River. A lined pond with the capacity of 30,000 gallons would be constructed near the | Initially, water would be hauled to the site from a make-up water well at the support facility site. A public water supply well would potentially be constructed east of the portal to provide water for operations. An 80'   | The larger pond size is not proposed because of an increase in adit water discharge. The larger pond size and public water supply well in the final design would limit potential impacts from traffic and dust due to  |

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|  | Evaluation Adit portal to collect site run-off and store hauled water. | x130' lined pond with the capacity of 600,000 gallons would be constructed near the Evaluation Adit portal to collect site run-off, store hauled water and contain surge capacity for adit water. | hauling water on the access roads and prevent overtopping of the pond into the ephemeral drainage below the adit site. This would limit impacts to less than those analyzed in the 2001 EIS. No further analysis needed. |
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## RC RESOURCES COMPLIANCE WITH STIPULATIONS

The 2001 EIS ROD included many stipulations that RC Resources had to address in order to proceed with construction of the Evaluation Adit Plan (Appendix A). Agencies have reviewed the Revised Application for Exploration License (RC Resources, Inc. 2008) and RC Resources Rock Creek Project - 2003 Record of Decision to ensure the company addressed compliance with the stipulations (Appendix A). In Appendix A the agencies have summarized how RC Resources has complied with the stipulations in their revised plan.

N = Not present or No Impact would occur over the impacts analyzed in the 2001 EIS.

Y = Impacts may occur (explain under Potential Impacts) over those analyzed in the 2001 EIS.

| IMPACTS ON THE PHYSICAL ENVIRONMENT   |  |
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| RESOURCE  | [Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES  |
| 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?             | [N] The proposed changes to the plan, including the groundwater discharge would not affect stability in the water discharge area. The water would be percolated into the Glacial Lake Missoula sediments and Clark Fork River alluvium on fractured siltstone bedrock on fairly level topography.  |
| 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? | [Y] <b>No Action Alternative:</b> The Exploration License has been granted and the Exploration Plan has been approved. Additionally, RC Resources has complied with the stipulations of the 2001 ROD (DEQ and USFS 2001b) and the 2003 ROD (USDA 2003). RCR, therefore, may commence exploration activities after posting the reclamation performance bond calculated by the Agencies.<br><br>Under the No Action Alternative, treated adit water meeting the limitations imposed by Montana Pollution Discharge Elimination |



## IMPACTS ON THE PHYSICAL ENVIRONMENT

System (MPDES) permit MT0030287 would be discharged to surface water (Clark Fork River). The water treatment system evaluated in the 2001 EIS consisted of a passive biotreatment system with an ion exchange system. The MPDES limits were calculated to prevent degradation of the Clark Fork River, and were not based upon a particular treatment system; rather, the treatment provided by RC Resources must produce a discharge that complies with MPDES permit discharge requirements. According to the 2001 analysis, the actual effects of the treated water discharge on the Clark Fork River would vary both seasonally and annually, and are a function of the volume of water discharged, the flow rate in the Clark Fork River, and concentrations of chemical constituents in both the discharged water and the Clark Fork River. The analysis concluded that water quality standards would be met during average and low flow conditions in the Clark Fork River and no exceedances would be allowed anywhere in the discharge for carcinogens and bioaccumulating metals.

**Proposed Action:** RCR has proposed a revised water disposal plan. Under the Proposed Action, treated adit water meeting criteria under Montana's non-degradation rules would be discharged to ground water via infiltration ponds (Hydrometrics 2008b). The option to discharge to the Clark Fork River would be maintained for operational flexibility. The surface water discharge was analyzed in the 2001 EIS and will not be discussed further here. Impacts of the proposed discharge to ground water disposal via infiltration ponds were not analyzed in 2001 EIS (DEQ and USFS 2001).

*Water Quantity:* The 2001 EIS estimated that water flow rates pumped from the mine adit would vary depending on water inflow to the mine, and sustained flows would average 112 gallons per minute (gpm), with peak flow rates up to 250 gpm. A factor of safety of 1.5 was applied to the sustained flow estimate, and a rate of 168 gpm was used for design purposes and analyzed in the EIS. Due to similarities in the geology of the ore bodies, mining methods, and type of explosives proposed, the 2001 EIS used as the basis for its water quality analysis water produced from the Troy Mine, an operation that currently extracts silver and copper ore from the Revett Formation near Troy, Montana. The 2001 EIS analyzed the treated mine water discharge of 168 gpm to surface water (Clark Fork River below the Noxon Dam) from the adit (DEQ and USFS 2001a).

*Untreated Water Quality:* The primary impact to mine water quality would result from drilling and blasting activities. The

## IMPACTS ON THE PHYSICAL ENVIRONMENT

ammonium-nitrate based explosives would contribute residues of nitrogen compounds on blasted rock particles. The metals load to mine water would result from rock solids suspended in mine water (suspended solids). The parameters considered in the 2001 analysis included: total suspended solids, nitrogen compounds (ammonia, nitrate, nitrite, total nitrogen, total inorganic nitrogen), sulfate, total phosphorus and ortho-phosphorus, and metals (aluminum, arsenic, barium, cadmium, copper, iron, lead, manganese, mercury, silver, and zinc) (DEQ and USFS 2001a). These metals are not necessarily present in the mine water, but monitoring for them was required by the ROD (DEQ and USFS 2001b).

*Proposed Treatment System:* The Proposed Action would treat adit water for removal of oil and grease (which may be released from underground equipment), solids (which would reduce any metals present), sulfate, phosphorus, and nitrogen compounds. RC Resources has upgraded the treatment system analyzed in the 2001 EIS (passive biotreatment system with ion exchange), to a more advanced best available technology system. The proposed treatment would consist of the following processes: Water pumped from the adit would flow to an equalization tank where oil and grease would be separated from the water and collected in drums for offsite disposal; methanol (a food source that allows the biological organisms to treat the nitrogen compounds) would be mixed with water then pumped to the biological treatment reactor for removal of nitrate and ammonia; water would be routed to ultra-filtration membranes for solids (metals and sediment) removal; the water would be sampled, and if the water meets ground water standards, it would be discharged. If the water requires additional polishing, it would be routed through ion exchange resin tanks, sampled to ensure it meets ground water standards and then discharged. The proposed water treatment plant would be operated 24-hours per day, 7-days per week. Treated water quality would comply with ground water standards and non-degradation standards (listed below) at the end of the pipe prior to discharge. No mixing zone is being requested by RC Resources (Hydrometrics 2008a).

RC Resources proposes to collect composite samples of adit water prior to and after treatment for the following parameters on a weekly basis: ammonia (total as N), nitrate + nitrite (as N), total phosphate (as P), and the following metals as composite samples analyzed both as total recoverable and dissolved on a weekly basis: arsenic, cadmium, copper, lead, manganese, mercury, selenium, silver, and zinc. The following parameters would be daily grab samples: pH, total suspended solids, and a daily visual

## IMPACTS ON THE PHYSICAL ENVIRONMENT

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The following additional parameters would be sampled from untreated adit water and treated effluent on a quarterly basis, both as total recoverable and dissolved: antimony, beryllium, chromium, nickel, thallium, and uranium. Should any of the additional parameters be detected in the untreated adit water, the routine monitoring would be expanded to include those metals.

The following table lists the average ambient ground water quality and the non-significant criteria that would be met at the end of pipe prior to discharge. All metals are dissolved concentrations.

|                        | Receiving Ground Water<br>Quality (mg/L) | Non-Degradation<br>Criteria (mg/L) |
|------------------------|--|------------------------------------|
| Nitrate + Nitrite as N | 0.23                                     | 7.5                                |
| Aluminum               | 0.049                                    | not applicable                     |
| Antimony               | <0.005                                   | 0.009                              |
| Arsenic                | 0.0019                                   | no increase                        |
| Barium                 | 0.153                                    | 0.3                                |
| Beryllium              | 0.0006                                   | no increase                        |
| Cadmium                | 0.00061                                  | 0.00075                            |
| Chromium               | <0.015                                   | 0.015                              |
| Copper                 | 0.0012                                   | 0.195                              |
| Iron                   | 0.07                                     | 0.3                                |
| Lead                   | 0.002                                    | 0.0023                             |
| Manganese              | 0.24                                     | 0.05                               |
| Mercury                | <0.0003                                  | no increase                        |
| Nickel                 | 0.01                                     | 0.015                              |
| Selenium               | 0.003                                    | 0.008                              |
| Silver                 | <0.0005                                  | 0.015                              |
| Thallium               | 0.001                                    | 0.0003                             |
| Zinc                   | 0.028                                    | 0.30                               |

*Ground Water Discharge:* The treated water would be routed to three proposed infiltration ponds (total area 1.0 acre) within the tailings impoundment disturbance footprint in the Miller Gulch drainage. See the attached figures for the proposed location and conceptual design of the infiltration ponds. (Figure 1, Discharge Vicinity Map, Surface Water Features, Domestic Water Supplies, and Springs; and Figure O-3 (Hydrometrics, Inc. 2008b).

**IMPACTS ON THE PHYSICAL ENVIRONMENT**

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|  | <p><i>Hydrogeology:</i> Surficial geology in the vicinity of the proposed infiltration site consists of four basic units: varved (light and dark paired layers), clayey silts interpreted as Glacial Lake Missoula sediments; massive clay, also interpreted as Glacial Lake Missoula sediments; basal sand and gravel deposits; and fractured siltstone bedrock (RC Resources, Inc. 2008b).</p> <p>Depth to ground water is generally between 14 feet (RC Resources, Inc. 2008b) and 25 feet in the vicinity of the proposed infiltration site (DEQ and USFS 2001a). The infiltration ponds would be excavated through the clayey silts and massive clay to intersect the coarse, basal gravel encountered at about 8 to 10 feet below ground surface in the vicinity of the tailings impoundment. Measured infiltration rates during a 2006 test-pitting investigation conservatively indicated the basal gravel would be able to percolate a minimum of 144 feet of water per day. Based upon the results of the test pitting, the design of each percolation pond would consist of a 600-square foot gravel infiltration area to be able to accommodate the peak treatment plant design flows of 250 gpm (Hydrometrics, 2008b).</p> <p>The majority of the treated adit water would enter the basal gravel into the fractured bedrock and flow southwestward toward, and eventually discharge to, the Clark Fork River alluvium.</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>[N]</p>   |
| <p>4. VEGETATION COVER, QUANTITY AND QUALITY: Will vegetative communities be significantly impacted? Are any rare plants or cover types present?</p> | <p>[N]</p>   |
| <p>5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS: Is there substantial use of the area by important wildlife, birds or fish?</p>               | <p>[N] Impacts of the exploration adit have already been analyzed in the 2001 FEIS. The proposed action would discharge to ground water rather than the Clark Fork River. RCR has committed to treat water and comply with ground water standards and non-degradation standards at the end of the pipe prior to discharge. There would be no impacts to Rock Creek, fisheries, other aquatic life or their habitats as a result of this action.</p>  |
| <p>6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL</p>   | <p>[N] Impacts of the exploration adit have already been analyzed in the 2001 FEIS. Impacts of the proposed action are comparable to</p>   |

| IMPACTS ON THE PHYSICAL ENVIRONMENT   |   |
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| RESOURCES: Are any federally listed threatened or endangered species or identified habitat present? Any wetlands? Species of special concern?   | the Proposed Action as analyzed in the 2001 FEIS. |
| 7. HISTORICAL AND ARCHAEOLOGICAL SITES: Are any historical, archaeological or paleontological resources present?  | [N]   |
| 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]   |
| 9. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY: Will the project use resources that are limited in the area? Are there other activities nearby that will affect the project? | [N]   |
| 10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES: Are there other activities nearby that will affect the project?   | [N]   |

| IMPACTS ON THE HUMAN POPULATION  |   |
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| 11. HUMAN HEALTH AND SAFETY: Will this project add to health and safety risks in the area? | [Y] The nearest private water supply wells that could potentially be affected by the water discharged to the infiltration ponds are located west and southwest of the infiltration site (see Figure 1, Discharge Vicinity Map, Surface Water Features, Domestic Water Supplies and Springs). The Montana Ground Water Information Center lists 16 private wells within sections 20, 28, and 29, adjacent to the proposed infiltration site. A tracer (fluorescein dye) test intended to evaluate the potential ground water connection of the percolation pond site and private water supplies was conducted in 2006 and 2007 (Hydrometrics 2008a). Eleven monitoring wells and private wells and 8 springs were sampled over a nine-month period. No tracer dye had been detected in any of the samples from October 2006 through July 2007. The results of the tracer test indicate that water percolating at the |

| IMPACTS ON THE HUMAN POPULATION  |  |
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|  | proposed ground water discharge infiltration site either does not follow a pathway to any of the private wells sampled or the ground water velocities are too low to have reached any of the sampling sites (Hydrometrics 2008a). Treated water discharged at the infiltration site would meet the above-listed ground water standards and non-degradation standards at the end of the pipe prior to discharge (Hydrometrics 2008b). |
| 12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION: Will the project add to or alter these activities?  | [N]  |
| 13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT: Will the project create, move or eliminate jobs? If so, estimated number.   | [N]  |
| 14. LOCAL AND STATE TAX BASE AND TAX REVENUES: Will the project create or eliminate tax revenue?   | [N]  |
| 15. DEMAND FOR GOVERNMENT SERVICES: Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc.) be needed?                                   | [N]  |
| 16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS: Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?  | [N]  |
| 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] Impacts of the exploration adit have already been analyzed in the 2001 FEIS. Impacts of the revised Proposed Action are comparable to the Proposed Action as analyzed in the 2001 FEIS.  |
| 18. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:  | [N]  |

| IMPACTS ON THE HUMAN POPULATION   |       |
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| Will the project add to the population and require additional housing?  |       |
| 19. SOCIAL STRUCTURES AND MORES: Is some disruption of native or traditional lifestyles or communities possible?  | [N]   |
| 20. CULTURAL UNIQUENESS AND DIVERSITY: Will the action cause a shift in some unique quality of the area?  | [N]   |
| 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]   |
| 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]   |
| 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] |
| 24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:  | [N]   |

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| IMPACTS ON THE HUMAN POPULATION |  |
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25. Alternatives Considered:

No Action, Denial of the proposal: The Exploration Adit Plan has been approved and may be implemented when RC Resources complies with the stipulations of the 2001 ROD (DEQ and USFS 2001b) and the 2003 ROD (USDA 2003) and posts the reclamation performance bond calculated by the Agencies. Discharge of adit water would be in compliance with the existing MPDES permit to the Clark Fork River.

Approval: The initial Exploration Adit Plan has been approved and may be implemented with the final design modifications specified in the updated Exploration Plan [minimization of surface disturbance, final design for soil volumes, evaluation adit length, access road improvements, borrow sources, change in post mine land use, and disposal of adit water] when RC Resources complies with the stipulations of the 2001 ROD (DEQ and USFS 2001b) and the 2003 ROD (USDA 2003) and posts the reclamation performance bond calculated by the Agencies.

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

26. Public Involvement: The Evaluation Adit Plan was reviewed and approved by both agencies with stipulations in the 2001 ROD for DEQ and the 2003 ROD for the USFS (DEQ and USFS 2001b, USFS 2003).

27. Other Governmental Agencies with Jurisdiction: USFS, Kootenai National Forest.

28. Magnitude and Significance of Potential Impacts: There would be no significant impacts associated with the proposed changes to the evaluation plan over those analyzed and approved in the 2003 ROD.

29. Cumulative Effects: Cumulative Impacts were analyzed for the evaluation adit as part of the EIS in 2001. The USFS has sold some timber in a commercial thinning timber sale along the powerline on 17 acres Township 26 North, Range 32 West, Section 29. No new projects are being initiated by the USFS in the Rock Creek drainage because of the Rock Creek Project (John McKay, Kootenai National Forest, personal communication, June 2, 2008). The only USFS activities occurring in the drainage are routine road and trail maintenance and noxious weed control. These activities were analyzed in the 2001 EIS.

The only new project on private land in the area since the EIS is a custom log beam operation adjacent to Highway 200 on private land. The project was developed in an old gravel pit. No new surface disturbance was created. There would be no cumulative impacts as a result.

30. References Cited

ASARCO Inc. 1992. Rock Creek Evaluation Adit License Application. July.

DEQ and USFS. 2001a. Final Environmental Impact Statement. Rock Creek Project. Volumes I – IV. September.



