

**RECLAMATION PLAN
and
COST ESTIMATE**

**NIXON FORK MINE PROJECT
McGrath, Alaska**

**Mystery Creek Resources, Inc.
2221 East Street – Suite 200
Golden, Colorado 80401**

Prepared For:

U.S. Bureau of Land Management
Anchorage Field Office
6881 Abbott Loop Road
Anchorage, Alaska 99507

and

State of Alaska
Department of Natural Resources
3700 Airport Way
Fairbanks, Alaska 99709

September 2005
(REVISED OCTOBER 20, 2005)

J. M. BECK & ASSOCIATES

Mining & Environmental Engineering Consultants

Lakewood, Colorado 80227 USA - (303) 985-1521

EXECUTIVE SUMMARY

J. M. Beck & Associates, independent mining and environmental engineering consultants, at the request of Mystery Creek Resources, Inc. (“MCRI”), has prepared this Reclamation Plan and Cost Estimate for MCRI’s proposed Nixon Fork Mine Project located approximately 32 miles northeast of McGrath in west-central Alaska. The Nixon Fork Mine would be an underground gold mining and milling facility situated in a relatively remote location, and is considered a “fly-in/fly-out” site.

The Reclamation Plan and Cost Estimate is based on the Plan of Operations (the proposed project for the Environmental Assessment) and has been developed to identify and assess closure, reclamation, and post-closure requirements and to identify and determine the associated closure, reclamation, and post-closure costs for bonding purposes.

This Reclamation Plan and Cost Estimate document has been developed concurrent with the Plan of Operations so that it may be of assistance to the U.S. Bureau of Land Management (BLM) in the preparation of the Nixon Fork Mine Environmental Assessment (AK-040-04-EA-022). The Environmental Assessment is being prepared by the U.S. Bureau of Land Management (“BLM”), Anchorage Field Office, Anchorage, Alaska.

The proposed project would involve rehabilitation and startup of facilities originally constructed during the 1990s by a predecessor operator, Nevada Goldfields, Inc. (“NGI”). NGI commenced operations in 1995, and terminated operations approximately four years later (May 1999) when the parent company Real Del Monte Mining Corporation and its subsidiaries were voluntarily placed into bankruptcy. Mining rights and all facilities were later legally abandoned and returned to (and placed under caretaker status by) Metsmelt & Almasay Mining Company, LLC.

In early 2003, MCRI leased the property from the Metsmelt & Almasay Mining Company, LLC. MCRI proposes to conduct underground mining and milling operations utilizing conventional gravity-flotation and cyanide leaching processes. The previously produced (NGI) tailings would be reprocessed to extract gold values in addition to the milling and processing of to-be-mined ore known to exist in two developed ore bodies. This is to be accomplished through rehabilitation and limited upgrading of the existing facilities sufficient to accommodate an anticipated six-year operational life (inclusive of one-year closure and reclamation).

The Reclamation Plan and Cost Estimate has been developed under the context that BLM and/or the Alaska Department of Natural Resources would, as the administering agency(ies), contract with an independent contractor to supply all manpower, equipment, and materials necessary to perform all aspects of site closure, reclamation, and post-closure activities. Therefore, the Plan analysis incorporates verifiable price quotes from vendors located in the Anchorage area that

are representative of what would be required to mobilize and transport all equipment, men, and materials to the site for full execution of plan requirements, followed by demobilization and return transport to Anchorage. In addition, the plan analysis incorporates a provision for a 30-year post-closure monitoring period.

The evaluation of closure and reclamation requirements at the Nixon Fork Mine indicates that the estimated direct closure and reclamation cost is \$1,838,322. With associated BLM and ADNR administrative cost add-ons totaling \$756,143 the total cost (exclusive of post-closure monitoring and maintenance) is \$2,603,464 (difference attributable to rounding). When taking expenditure scheduling and post-closure monitoring costs into consideration, as well as the effects of inflation at 3% per annum, the resulting (inflated) value of the estimated overall closure, reclamation, and post-closure expenditures is \$3,429,524.

J. M. Beck & Associates believes the Reclamation Plan and Cost Estimate to be representative of what would be required to close and reclaim the site, as described, in general accordance with those requirements put forth in 43 CFR 3809. In the event there were to be significant change(s) from the described Plan of Operations (such that there would be a material effect on or an amendment to the Reclamation Plan and Cost Estimate), it would be incumbent on MCRI to notify BLM in a timely manner and to ensure that appropriate levels of financial surety are maintained.

TABLE OF CONTENTS

1.0	INTRODUCTION AND OVERVIEW	1
1.1	Site Location and Description	1
1.2	Site History	4
1.3	Proposed Project.....	4
2.0	RECLAMATION PLAN AND COST ESTIMATE	6
2.1	Scheduling Considerations	6
2.2	Equipment Fleet Determination	7
2.3	Equipment Operating and Maintenance Costs	10
2.4	Manpower Requirements	11
2.5	Site Revegetation Plan Requirements	13
2.6	Additional Cost Considerations.....	18
2.6.1	Incremental Closure and Reclamation Costs.....	18
2.6.2	Administrative Costs	20
2.6.3	Inflation Factors	21
2.7	Closure and Reclamation Schedule and Cost Analysis.....	21
3.0	RECLAMATION COMPONENT BREAKDOWN	28
3.1	North Area.....	30
3.1.1	Mystery Decline Portal.....	30
3.1.2	Mystery Development Rock Stockpile.....	33
3.1.3	Infiltration Gallery and Pumphouse	34
3.1.4	Mystery Ventilation Raise.....	36
3.1.5	Utility Corridor.....	37
3.2	Central Operations Area.....	38
3.2.1	Multi-Use Complex	38
3.2.2	Miscellaneous Camp Area Outbuildings.....	41
3.2.3	Water Treatment Plant.....	42
3.2.4	Water Storage Tank.....	43
3.2.5	Office/Dry Complex.....	44
3.2.6	Maintenance Shop	45
3.2.7	Mill Complex	47
3.2.8	Leach Tank Building – Proposed	49
3.2.9	Miscellaneous Mill Area Outbuildings	50
3.2.10	Filter Building – Proposed	51
3.2.11	Generator Set Enclosure - Proposed.....	52
3.2.12	Crystal Decline Portal	53
3.2.13	Crystal Development Rock Stockpile	54
3.2.14	Crystal Ventilation Raise.....	56
3.2.15	Main Tailing Impoundment and Pipeline Corridor	57
3.2.16	Filtered Tailings Disposal Site - Proposed	59
3.2.17	Meteorological Station	61
3.2.18	Explosives Magazine.....	61

3.2.19	Fuel Depot	62
3.3	South and Outlying Areas	64
3.3.1	Hercules Airstrip East Embankment Cut	66
3.3.2	DC-6 Crash Debris	67
3.3.3	Sand Pit Borrow Area.....	68
3.3.4	Tailing Dike Borrow Area - Proposed	69
3.3.5	Solid Waste Landfill.....	70
3.3.6	Rock Quarry	71
3.3.7	Old (South) Camp Area.....	72
3.4	Sitewide or Unbounded Areas.....	73
3.4.1	Underground Workings.....	73
3.4.2	Site Roadways	76
3.4.3	Exploration Sites	78
3.4.4	Post-Closure Monitoring.....	79
3.5	Specifically Excluded Areas	80
3.5.1	Hercules (1995) Airstrip Landing Surface	80
3.5.2	Historic Features	80
3.5.3	Historic Mine Shafts.....	81
3.5.4	Historic Roadways and Trails	82
3.5.5	Areas Subject to CERCLA Removal Authority.....	82
4.0	LIST OF REFERENCES	84

LIST OF FIGURES

<u>Figure</u>		<u>Page</u>
Figure 1-1:	General Location - Nixon Fork Mine Project	2
Figure 1-2:	Site Location and Boundaries – Nixon Fork Mine Project	3
Figure 2-1:	Representative Closure and Reclamation Schedule	23
Figure 3-1:	Nixon Fork Mine Project - Reclamation Areas	29
Figure 3-2:	North Area Detail	32
Figure 3-3:	Central Operations Area Detail	40
Figure 3-4:	South and Outlying Areas Detail	65
Figure 3-5:	Sitewide or Unbounded Areas Detail	75

LIST OF TABLES

<u>Table</u>		<u>Page</u>
Table 2-1:	Major Equipment Shift Allocation Schedule	8
Table 2-2:	Equipment Capital Cost Spread	9
Table 2-3:	Equipment Operating and Maintenance Cost Spread	12
Table 2-4(a):	Manpower Cost Spread	14
Table 2-4(b):	Manpower Support Spread	14
Table 2-5:	Revegetation Requirements	17
Table 2-6:	Materials, Supplies, and Other Costs Spread	19
Table 2-7(a):	Closure and Reclamation Cost Summary	24
Table 2-7(b):	Component Cost Breakdown	26
Table 2-8:	Inflated Value Expenditure Schedule	27

APPENDICES

APPENDIX A:	Cost Estimating Detail and Backup
	Table A-1: Equipment Capital (Lease) Costs
	Table A-2: Equipment Delivery/Removal Costs
	Table A-3: Monthly Equipment Operating and Maintenance Costs
	Table A-4: Labor Rate Schedule
	Table A-5: Post-Closure Monitoring Costs
	Miscellaneous Vendor Quotes/Backup Documentation
APPENDIX B:	Site Photographs

1.0 INTRODUCTION AND OVERVIEW

This document presents the Reclamation Plan and Cost Estimate for Mystery Creek Resources, Inc.'s proposed Nixon Fork Mine Project near McGrath, Alaska. Mystery Creek Resources, Inc., an Alaska corporation, proposes to reopen the Nixon Fork Mine and existing facilities with operations to commence upon receipt of all required permits and authorizations. The Nixon Fork Mine was last operated during the 1990s, with operations having terminated in mid-1999.

J. M. Beck & Associates Mining and Environmental Engineering Consultants was retained by Mystery Creek Resources, Inc. to prepare an independent, third-party evaluation of closure and reclamation requirements and associated costs. The objective of the Reclamation Plan and Cost Estimate is to provide the basis for the determination of reclamation bonding requirements in a manner conforming to U.S. Bureau of Land Management (BLM) Rule 3809 and State of Alaska - Department of Natural Resources (ADNR) requirements. Accordingly, the Reclamation Plan and Cost Estimate has been prepared on the basis that BLM and/or ADNR (as administering agencies) would be required to contract with an independent contractor to perform all aspects of site closure and reclamation.

1.1 Site Location and Description

The Nixon Fork Mine site (**Photos 1 and 2; Appendix B**) is located approximately 32 miles northeast of McGrath and 8 miles north of Medfra in west central Alaska. **Figure 1-1: General Location Nixon Fork Mine Project** shows the location of the property, which is generally centered at Latitude 63° 14' N; Longitude 154° 46' W. The property consists of federal and state mining claims (**Figure 1-2: Site Location and Boundaries Nixon Fork Mine Project**) that lie on either side of the line between Township 26 South, Ranges 21 and 22 East, Kateel River Meridian (KRM). The property consists of 95 unpatented mining claims, 15 unpatented placer claims and 48 mostly overlapping State of Alaska mining claims. Site elevation ranges from approximately 925 feet (ft.) above mean sea level (amsl) in the vicinity of the Mystery Creek water infiltration gallery (northeast portion of the site) to approximately 1,375 ft. amsl in the vicinity of the main camp area (central portion of the site). The main tailing impoundment, located on the western portion of the site within Ruby Creek drainage has an embankment crest elevation of 986-ft. amsl.

Access to the property is limited to air transport or via winter road. A 4,200-ft. landing strip is present at the site, capable of handling DC-6 or C-130 Hercules sized aircraft. The runway extends in a generally north to south direction along the west flank of a ridge that extends through the property. Seasonal barging on the Kuskokwim River is possible as far as the villages of McGrath or Medfra. Supplies can also be transported via the winter road (under permit) from either of these villages.

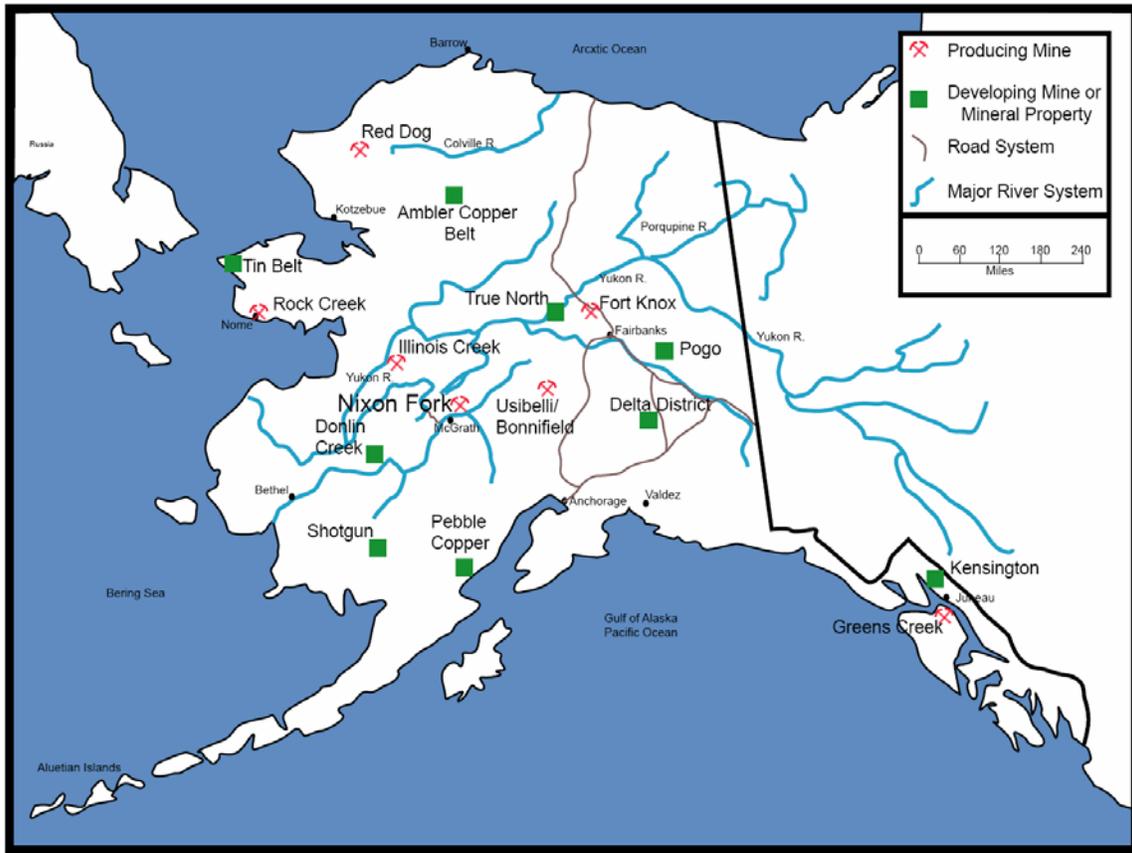
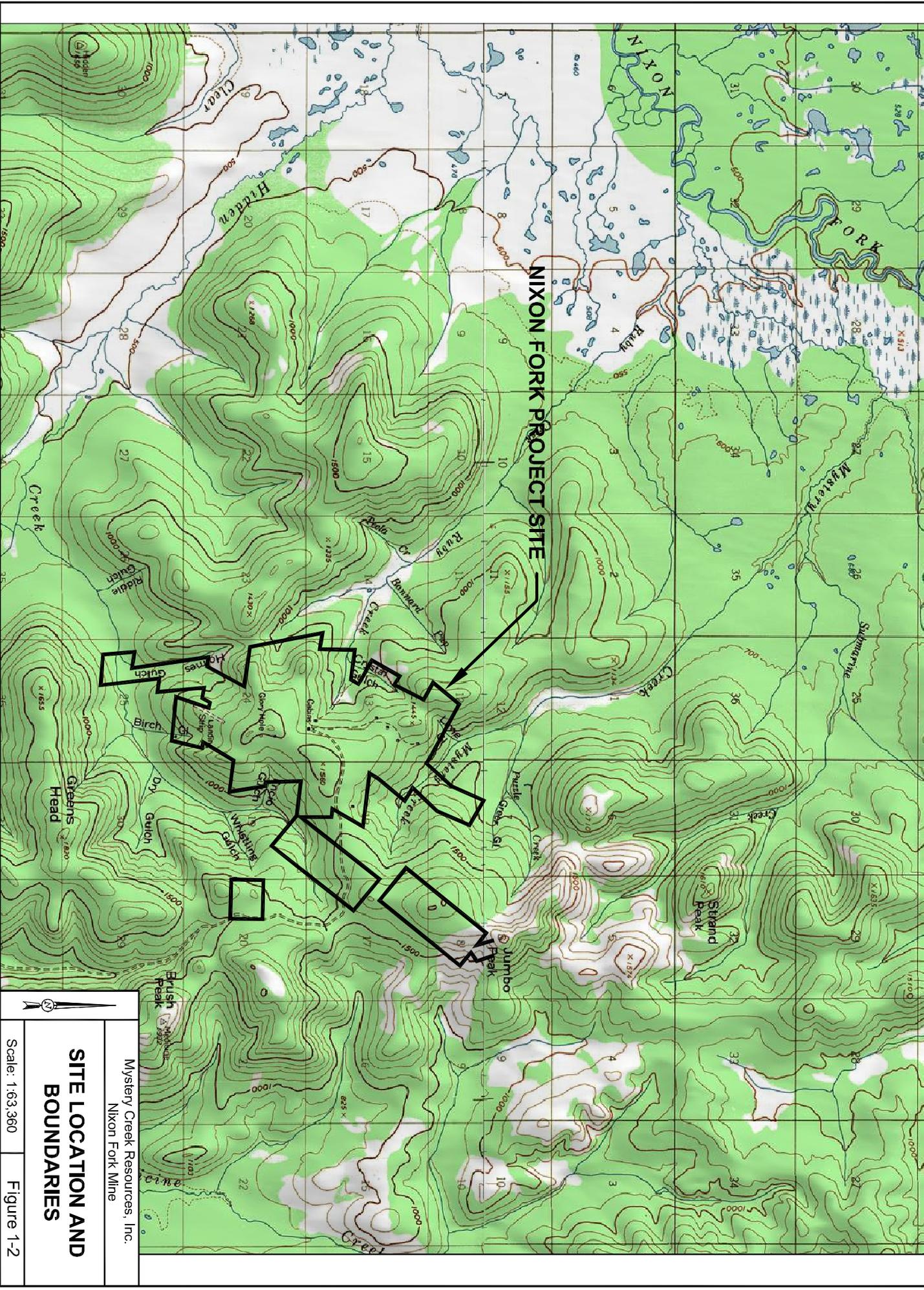


Figure 1-1: General Location Nixon Fork Mine Project



Mystery Creek Resources, Inc.
Nixon Fork Mine

SITE LOCATION AND BOUNDARIES

Scale: 1:63,360

Figure 1-2

1.2 Site History

The area surrounding the present day Nixon Fork Mine was first staked in 1917. During the next two years a few small ore bodies were developed. In 1919 the most promising claims were taken over by the Treadwell Yukon Company. In 1920 Treadwell built a ten-stamp mill and operated the claims until 1924. Shortly thereafter seven claims at the head of Ruby Creek, including the stamp mill, passed into the hands of the Mespelt brothers who conducted small-scale operations into the early 1950s. Since then, several other small, intermittent operations have been carried out. In addition to hard rock mining, placer mining occurred in Ruby and Hidden creeks. Remains of the old stamp mill and several cabins remain on the property.

Nevada Goldfields, Inc. ("NGI") initially placed the Nixon Fork Mine (in its current configuration) in operation in 1995. Production activities at the Nixon Fork Mine began in the fall of 1995 and ceased in May of 1999 when Real Del Monte Mining Corporation (parent company of NGI) and its subsidiaries were voluntarily placed into bankruptcy. A total of approximately 122,400 tonnes of ore were produced and processed by the Nixon Fork facility while in operation. After filing for bankruptcy in the U. S. Bankruptcy Court in Delaware, the property went into receivership in mid-1999. The trustee of the U.S. Bankruptcy Court subsequently relinquished rights to the mining leases held by Nixon Fork Mining, Inc., and later legally abandoned ownership of the inventory, equipment, and fixtures at the site. The rights to the site and facilities were returned by court action to the federal mining claimant Mespelt & Almasy Mining Company, LLC. (Almasy). A caretaker was retained by Almasy in December 1999 to protect the mine and equipment.

Mystery Creek Resources, Inc. leased the property from Almasy in early 2003, and is currently preparing permit applications to allow for a phased return to full production at the mine.

1.3 Proposed Project

Mystery Creek Resources, Inc. ("MCRI") is a wholly owned subsidiary of St. Andrew Goldfields, Ltd., a publicly listed mining company headquartered in Oakville (Toronto), Ontario, Canada. As the current lessee and operator of the Nixon Fork Mine, MCRI has been restoring the existing mining and milling facilities at the mine in conjunction with exploration activities that have been conducted since May 2003. This work has been accomplished under an Exploration Plan of Operation approved by the Bureau of Land Management (BLM), and various permits issued by the Alaska Department of Natural Resources (ADNR) and the Department of Environmental Conservation (ADEC). No production has occurred since 1999. MCRI proposes to reinstitute mining and gold production from the facility beginning in the fall or winter of 2005-2006.

The project currently consists of two developed small ore bodies with currently defined resources of approximately 126,400 tonnes, containing 131,500 ounces of gold. In addition, approximately 116,000 tonnes of (NGI-produced) tailings containing about 30,200 ounces of gold are available for reprocessing. Ongoing and future drilling will evaluate several other mineralized zones that are known to exist between or adjacent to the two ore bodies. Currently, diamond drilling is in progress on the property to expand these resources and upgrade them to reserve status. Existing infrastructure (constructed by the former operator in 1995) will be augmented by structural and mechanical improvements, as warranted. In addition, MCRI is undertaking metallurgical process modifications to the existing milling circuit, and may construct a filtered tailings disposal site to accommodate incremental or total tailing disposal requirements.

When placed into operation the facility would treat ore mined by underground mining methods in a gravity-flotation-cyanide leach mill capable of handling 150 tonnes of run-of-mine ore per day. In addition, 350 tonnes per day of tailings (from prior operations) would be reprocessed by treatment in the cyanide leach portion of the facility during the late spring through early fall portion of the year.

Based on the existing deposit and anticipated additional resources, the project has an expected life of approximately six years from commencement of mining through completion of closure and reclamation activities. Current exploration indicates a likely potential that project life could be extended.

All activities would occur on existing unpatented federal mining claims administered by BLM. A Nixon Fork Mine Plan of Operations document (MCRI; 2005) outlines the initial six years of activities (five years active mining; one year closure/reclamation) currently planned by MCRI for the Nixon Fork Mine.

2.0 RECLAMATION PLAN AND COST ESTIMATE

The Reclamation Plan and Cost Estimate (“the Plan”) has been prepared on the basis that the U.S. Bureau of Land Management (BLM) and/or ADNR would contract with a third-party contractor from a proximal regional location (e.g., Anchorage or Fairbanks) to fully execute the required closure and reclamation activities. All costs associated with reclamation activities at the Nixon Fork Mine therefore reflect air delivery of mobile equipment and supplies, as well as all crew requirements (on a rotational basis), as further described below. In general, the Plan addresses all reasonably foreseeable mine closure and reclamation requirements, while also incorporating a 30-year post-closure monitoring and maintenance program.

The Plan has been compiled utilizing a combination of vendor-obtained quotes for the anticipated capital equipment, prevailing wage rates, and current prices for identifiable supplies and/or consumable items. Where vendor verifiable quotes were not obtainable, standard estimating data (i.e., Means Heavy Construction Cost Estimator) has been reviewed for comparative purposes and/or data obtained from experience on similar features and/or at similar mines has been utilized. In the case of the latter, appropriate upward adjustments have been made (as described in individual sections) where warranted to reflect anticipated reclamation activity costs at a remote Alaska site.

2.1 Scheduling Considerations

The current anticipated “operational” (active mining) life of the Nixon Fork Project is approximately five (5) years, with an anticipated project start date (dependent on receipt of all required permits and authorizations) of 4th Quarter 2005. Mine operations are thus anticipated to cease in approximately September 2010, and accordingly, mine closure would commence immediately on cessation, or not later than April/May 2011 (to be completed over a six-month duration).

It is anticipated that closure and reclamation activities would be completed over the course of a single construction season of approximately six months duration, with the more significant activities (major structure demolition/disposal and recontouring of slopes) being accomplished during the initial four months. In developing scheduling for closure and reclamation of the Nixon Fork Mine, an all encompassing 24-week duration has been assumed, therefore, the Plan reflects a total of twelve (12) two-week shift rotations. Shift rotations are based on 10-hour days over a continuous 14-day period.

The Plan has been developed in a manner to ensure that any alteration in planned closure schedule (i.e., earlier or later closure, or abandonment) would have no material effect on closure and reclamation requirements or the total estimated cost (except on a net present value basis).

While work activities reflect the 24-week duration, equipment leasing is based on a full six-month's duration, allowing one week for fly-in delivery and vendor assembly of heavy equipment and an equivalent one week for teardown and fly-out. Actual onsite reclamation activities are proposed to be carried out from May 2011 through September 2011, to include all activities through final site preparation, revegetation, project closeout, and establishment of monitoring program requirements.

Once the mine closure has been completed, the subsequent 30-year post-closure monitoring (and maintenance, if warranted) activities would commence the following year (2012) and continue through 2042. These activities would be carried out on a fly-in/fly-out basis utilizing small (ATV or snowmobile) equipment for onsite movements.

Equipment scheduling information is provided within equipment and manpower cost spreadsheets provided under the respective sections that follow.

2.2 Equipment Fleet Determination

The formulative basis for development of the Plan is selection of an appropriate major capital equipment spread that is: (1) transportable via C-130 Hercules aircraft; and, (2) capable of providing the required productivity under the imposed 6-month timeline.

Based on these requirements, the major capital equipment (trucks, loader, and dozer) shift allocation was developed for the most significant closure components (e.g., main tailing impoundment closure and mill area demolition/closure) on the basis of closure requirements identified within Section 3.0 – Reclamation Component Breakdown. The allotted shifts were then totalized to verify that the selected major equipment suite is capable of providing the required production with sufficient capacity remaining for all other identified reclamation components. The result of this analysis is provided as **Table 2-1: Major Equipment Shift Allocation Schedule**.

Additional support equipment was also identified and selected on the basis of closure requirements identified within Section 3.0 – Reclamation Component Breakdown. The resulting overall equipment capital spread is provided as **Table 2-2: Equipment Capital Spread**.

Vendor quotes were obtained for equipment rental/lease rates from two entities (NC Machinery, Inc. and Airport Equipment Rentals, Inc., both of whom are located in Anchorage); confirming information is provided in Appendix A. The two quotations were then averaged for each piece of equipment. In addition to the direct leasing rate (based on a maximum usage of 200 hrs./month), the rates

Table 2-1: Major Equipment Shift Allocation Schedule

RECLAMATION COMPONENT	CAT 725 Art. Truck	CAT 725 Art. Truck	CAT 966G Loader	CAT D6G Dozer	Total
Total cost per shift¹:	\$1,170.82	\$1,170.82	\$1,271.53	\$1,057.50	\$
North Area					
Mystery Portal	0	1	0.5	1	\$2,864.09
Mystery Waste Rock Dump	0	3	1.5	7	\$12,822.26
Infiltration Gallery and Pump House	0	0	0	0.5	\$528.75
Mystery Ventilation Raise	0.5	0	0.5	0.5	\$1,749.93
Utility Corridor	0	0	0	0	\$0.00
Central Operations Area					
Multi-Use Complex	0	3	3	3	\$10,499.55
Miscellaneous Outbuildings (MU Complex)	0	0	1	1	\$2,329.03
Water Treatment Plant	0	0	1	1	\$2,329.03
Water Storage Tank	0	0	1	1	\$2,329.03
Office/Dry Complex	0	3	3	3	\$10,499.55
Maintenance Shop	0	2	2	2	\$6,999.70
Mill Complex	0	28	28	10	\$78,960.80
Leach Tank Building (Proposed)	0	2	2	2	\$6,999.70
Miscellaneous Outbuildings (Mill)	0	1	1	1	\$3,499.85
Filter Building (Proposed)	0	1	1	1	\$3,499.85
Generator Set Enclosure (Proposed)	0	1	1	1	\$3,499.85
Crystal Portal	0	2	2	2	\$6,999.70
Crystal Waste Rock Dump	0	7	7	14	\$31,901.45
Crystal Ventilation Raise	0	0.5	0.5	0.5	\$1,749.93
Tailing Impoundment and Pipelines	50	50	50	50	\$233,533.50
Filtered Tailings Disposal Site (Proposed)	0	4	4	6	\$16,114.40
Meteorologic Station	0	0	0	0.5	\$528.75
Explosives Magazine	0	0	1	1	\$2,329.03
Fuel Depot	0	2	2	1	\$5,942.20
South and Outlying Areas					
Hercules Airstrip Embankment Cut	0	0	2	3	\$5,715.56
DC-6 Crash Debris	0	0	1	1	\$2,329.03
Sand Pit Borrow Area	0	0	1	1	\$2,329.03
Tailing Dike Borrow Area (Proposed)	0	0	0	2	\$2,115.00
Solid Waste Landfill	0	0	4	4	\$9,316.12
Rock Quarry	0	0	4	4	\$9,316.12
Old South Camp Area	0	0	1	2	\$3,386.53
Unbounded Areas					
Underground Workings	0	0	7	7	\$16,303.21
Site Roadways	0	0	4	10	\$15,661.12
Exploration Sites	0	0	2	5	\$7,830.56
TOTALS:	50.5	110.5	139	149	\$522,812.19
Total Workshifts²					
Rental Months Onsite (28 days/mo)	3 Months³	4 Months	6 Months	6 Months	

¹Includes all direct capital, O&M, and operator labor costs.

²Maximum available shifts = 168 (allowing for 1 week setup; 1 week tear down)

³Incorporates 1 additional month of non-dedicated availability

Note: Reference Appendix B for estimating basis.

10/20/05 (No Revisions)

Table 2-2: Equipment Capital Spread

Unit	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Total
	\$						
CAT 725 Art. Truck 1	11,695	11,695	11,695	0	0	0	35,085
CAT 725 Art. Truck 2	11,695	11,695	11,695	11,695	0	0	46,780
CAT 966G Loader	10,483	10,483	10,483	10,483	10,483	10,483	62,898
CAT D6G Dozer	8,186	8,186	8,186	8,186	8,186	8,186	49,116
CAT 420D Backhoe	2,850	2,850	2,850	2,850	2,850	2,850	17,100
Ford F250							
Utility/Svc.Truck	1,690	1,690	1,690	1,690	1,690	1,690	10,140
Ford F250 Pickup	1,690	1,690	1,690	1,690	1,690	1,690	10,140
Honda ATV/Seeder	800	800	800	800	800	800	4,800
Misc. Equipment	2,500	2,500	2,500	2,500	2,500	2,500	15,000
Subtotal:	51,589	51,589	51,589	39,894	28,199	28,199	251,059
Fly-In/Assembly	156,500	0	0	0	0	0	156,500
Disassembly/Fly-Out ¹	0	0	0	24,000	24,000	180,500	228,500
Total:	208,089	51,589	51,589	63,894	52,199	208,699	636,059

¹ Reference also (Appendix A) Table A-1: Equipment Capital (Lease) Costs and Table A-2: Equipment Delivery/Removal Costs.

² Based on removal of 725 Truck 1 (Month 4) and 725 Truck 2 (Month 5).

10/20/05 (No Revisions)

were adjusted upward to reflect the 280 hrs./month usage for the projected operating schedule (14-day rotations; 10-hour shifts = 140 hours per rotation; therefore = 280 hours per "month"). Equipment capital costs are considered to be inclusive of all minor accessory equipment such as removable fork tines (adaptable to the front-end loader), detachable hydraulic hammer (for the utility backhoe loader), etc.

A provision for air delivery of the equipment fleet via Hercules C-130 aircraft from Anchorage, Alaska as well as vendor-provided mobilization and assembly/disassembly at the site has also been incorporated. The number of transport trips was calculated on the basis of maximum allowable load capacity as well as volumetric capacity (i.e., optimization of equipment loads to fit into the C-130 on a maximum allowable load basis either completely assembled, or with some disassembly, as necessary). Supporting information and assumptions that provide the basis for Tables 2-1 and 2-2 are provided in **Table A-1: Equipment Capital Costs**, and **Table A-2: Equipment Delivery and Removal Costs** (both of which are in Appendix A).

It should be noted that while specific equipment is cited in this analysis, the specification is solely intended to be representative of the required size or productive capacity of the given piece of equipment. Equivalent sized equipment by other manufacturers can be substituted for performance of the required work. It should be noted that NC Machinery, Inc. quoted Caterpillar equipment rates (as depicted in this Plan), whereas Airport Equipment Rental, Inc. quoted equivalent sized Volvo and John Deere equipment rates. Therefore, the equipment capital spread (utilizing the average of the two quotes) provides a representative rental cost across the differing equipment brands/designations.

2.3 Equipment Operating and Maintenance Costs

Equipment operating costs have been developed in general accordance with the Caterpillar Handbook format. It should be noted that the hourly operating and maintenance (O&M) cost does not include the operator wage, as operator expense is carried under manpower (see Section 2.4, below), nor does it include ownership and depreciation/amortization costs, since rented/leased equipment is utilized. Similarly, labor cost for repair/maintenance is carried under manpower in Section 2.4. The hourly operating costs conservatively incorporate cost provision for various operating expenses to include:

- Preventative Maintenance Consumables (e.g., lubrication, oil, filters, grease)
- Tires (e.g., repair, replacement)
- Undercarriage/Track (e.g., repair/replacement)
- Special Wear Items (e.g., cutting edges, ground engaging tools, etc.)
- Fuel Consumption
 - A base diesel fuel cost of \$2.00/gallon was adjusted upward to reflect \$3.50/gallon delivered cost (per ADNR letter of June 9, 2005). The \$3.50/gallon cost was also utilized for non-leaded gasoline.

As a verification measure, the hourly operating costs for each piece of major equipment were crosschecked with staff at NC Machinery, Inc. It was ascertained that the utilized costs adequately cover and most likely significantly exceed anticipated costs for the given application at a remote Alaska site (i.e., there is a built-in contingency on the direct hourly cost that should readily accommodate fluctuations in fuel price). The equipment operating cost spread is presented in **Table 2-3: Equipment Operating and Maintenance Cost Spread**. Supporting information and assumptions that provide the basis for Table 2-3 are provided in **Table A-3: Monthly Equipment O&M Costs** (Appendix A).

2.4 Manpower Requirements

On the basis of the identified equipment suite and recognition of additional support personnel requirements, a detailed manpower spread was compiled for the proposed closure and reclamation activities. This spread and the resultant costs recognize all anticipated factors, to include: (a) fly-in and fly-out of crews on a rotational basis; (b) direct wage/salary (reflective of prevailing straight wage plus overtime) along with benefits burden; (c) room and board onsite; and, (d) other costs as noted.

The roster of anticipated personnel (on a per rotational shift “peak” basis) and a general description of job responsibilities for reclamation activities is as indicated below (maximum 10-person crew plus 1 camp service staff). However, the total number of personnel onsite would vary over the duration of the closure and reclamation effort based on jobsite demands (i.e., individual component requirements) and manpower utilization optimization.

PEAK PERSONNEL REQUIREMENTS

<u>Title:</u>	<u>Qty:</u>	<u>Responsibility:</u>
<u>Management/Technical:</u>		
Project Manager/Superintendent	1	Site Manager; HS&E; engineering; administrative
<u>Equipment Operators:</u>		
Haul Truck Operators	2	Cat 725 Articulated Truck
Front End Loader Operator	1	Cat 966G Front End Loader
Dozer Operator	1	Cat D6G Dozer
<u>Technicians:</u>		
Mechanical/Maintenance Spec.	1	Mobile equipment maintenance; mechanical demo
Craft - Electrician	1	Electrical demolition; maintenance as required
General Labor	3	Dismantling/demolition/cleanup/miscellaneous
<u>Other:</u>		
Camp Management	1	Contract Service – food service; cleaning, etc.

Table 2-3: Equipment Operating and Maintenance Cost Spread

Unit	Month 1 \$	Month 2 \$	Month 3 \$	Month 4 \$	Month 5 \$	Month 6 \$	Total \$
CAT 725 Art. Truck 1	7,280	7,280	7,280	0	0	0	21,840
CAT 725 Art. Truck 2	7,280	7,280	7,280	7,280	0	0	29,120
CAT 966G Loader	11,312	11,312	11,312	11,312	11,312	11,312	67,872
CAT D6G Dozer	7,616	7,616	7,616	7,616	7,616	7,616	45,696
CAT 420D Backhoe	1,687	1,687	1,687	1,687	1,687	1,687	10,122
Ford F250 Utility/Svc Truck	910	910	910	910	910	910	5,460
Ford F250 Pickup	910	910	910	910	910	910	5,460
Honda ATV/Seeder	350	350	350	350	350	350	2,100
Misc. Equipment	490	490	490	490	490	490	2,940
Subtotal:	37,835	37,835	37,835	30,555	23,275	23,275	190,610

¹Reference also (Appendix A) Table A-3: Monthly Equipment Operating and Maintenance Costs.

Note:

Major Equipment @ 80% Load (Usage) Factor
 Support Equipment @ 50% Load (Usage) Factor
 Total of 6 ea. 280-Hour Months (12 Rotations)

10/20/05 (No Revisions)

In general, manpower requirements and associated costs for the Nixon Fork Mine closure and reclamation activities have been accounted for in the following manner:

- The complete manpower spread and cost estimate is provided in **Table 2-4(a): Manpower Cost Spread**. This table presents, on a direct cost basis, the rotational requirements for each individual position, inclusive of management/supervision, and provides the basis upon which indirect costs (transportation, room and board, etc.) are calculated.

Costs have been assembled to reflect prevailing wage/salary plus burden (inclusive of overtime) for the indicated 14-day/10-hour per day rotation. Supporting information and assumptions that provide the basis for Table 2-4 are provided in **Table A-4: Labor Rate Schedule** (in Appendix A).

- Manpower support costs (i.e., fly-in/fly-out transportation to and from the site, room and board, and camp general and administrative costs, etc.) are independently calculated based on vendor quotes, and are depicted in **Table 2-4(b): Manpower Support**. Supporting information and vendor quotes are again provided in Appendix A.

2.5 Site Revegetation Plan Requirements

The general revegetation approach utilized in the planning of closure and reclamation activities at the Nixon Fork Mine incorporates scarification (by dozer) of compacted areas followed by placement of growth medium utilizing stockpiled materials to the greatest extent practicable. In general, due to the presence of pervasive shallow bedrock conditions and numerous bedrock exposures across the site, minimal quantities of growth medium are available, and on an overall basis the site is likely growth medium deficient. Where sufficient volume of stockpiled material is not readily available, it has been assumed that incremental volumes of growth medium can be obtained from the immediately surrounding area with minimal additional disturbance by scarifying and pulling the material down slope onto the disturbed/recontoured surface area. Accordingly, certain component acreage totals utilized in revegetation estimating within this Plan may vary slightly from the individual area acreages presented in the Nixon Fork Mine "Plan of Operations." A total of eleven growth medium stockpiles are currently present at the site with the following estimated volumes (as verified by field surveys conducted July 2005).

Table 2-4a Manpower Cost Spread¹
Table 2-4b Manpower Support Spread¹

Position	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Total
	\$	\$	\$	\$	\$	\$	\$
Project							
Mgr./Superintendent	19,205	19,205	19,205	19,205	19,205	19,205	115,230
CAT 725 Art. Truck Operator	13,808	13,808	13,808	0	0	0	41,424
CAT 725 Art. Truck Operator	13,808	13,808	13,808	13,808	0	0	55,232
CAT 966G Loader Operator	13,808	13,808	13,808	13,808	13,808	13,808	82,848
CAT D6G Dozer Operator	13,808	13,808	13,808	13,808	13,808	13,808	82,848
Maintenance/Mechanical	14,198	14,198	14,198	14,198	7,099	7,099	70,990
Craft-Electrician	7,099	14,198	14,198	0	0	0	35,495
Laborer	11,956	11,956	11,956	11,956	11,956	11,956	71,736
Laborer	0	11,956	11,956	11,956	11,956	11,956	59,780
Laborer	<u>0</u>	<u>11,956</u>	<u>11,956</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>23,912</u>
Total¹:	107,690	138,701	138,701	98,739	77,832	77,832	639,495

¹Reference also Appendix A: Table A-4: Labor Rate Schedule.

No. Personnel Onsite: 8 10 10 7 6 6

Table 2-4(b): Manpower Support Spread¹

Item	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Total
	\$	\$	\$	\$	\$	\$	\$
Air Transport (\$1,300) ²	2,600	0	0	2,600	2,600	2,600	10,400
Air Transport (\$3,400) ²	0	6,800	6,800	0	0	0	13,600
Camp Service ³	14,000	14,000	14,000	14,000	14,000	14,000	84,000
General & Administrative ⁴	<u>10,000</u>	<u>10,000</u>	<u>10,000</u>	<u>10,000</u>	<u>5,000</u>	<u>5,000</u>	<u>50,000</u>
Total:	26,600	30,800	30,800	26,600	21,600	21,600	\$158,000

¹Reference also (Appendix A) Table A-4: Labor rate Schedule.

²Includes 1 camp service staff; transport ≤ 9 persons = \$1,300/Flt.; ≥ 10 persons = \$3,400/Flt.

³Current cost = \$500/day up to 12 persons.

⁴G&A includes all indirect camp operating costs (i.e., power, phone, etc.)

10/20/05 (No Revisions)

GROWTH MEDIUM STOCKPILES

<u>Stockpile Location (Map Designator) - Description:</u>	Estimated Volume¹ m³/yd³	
(1) Below Tailings Dam	1,800	2,350
(2) North of Tailings Dam	470	600
(3) North of Office	100	130
(4) West of Office	1,200	1,600
(5) Below Crystal Development Rock Stockpile	700	900
(6) East of Crystal Vent Raise	150	200
(7) Southeast of Main Camp	60	80
(8) Southwest of Main Camp	425	550
(9) Below Mystery Development Rock Stockpile	1,000	1,300
(10) Hercules Airstrip	10,000	13,000
(11) Old (1990) Airstrip	<u>1,200</u>	<u>1,500</u>
Total:	17,105	22,210¹

¹ Cubic yards are approximated by multiplying m³ x 1.3

As indicated above, compacted areas would be scarified by ripping and covering with an evenly distributed layer of growth medium previously removed from the area and reserved in stockpiles (or utilizing proximal scavenged materials). The grubbed material would be spread over the area to mitigate erosion potential and to add organic matter and seeds to facilitate revegetation processes. For cost estimating purposes, it has been assumed that all areas to be reclaimed would then receive at minimum 200 lbs. per acre of 20-20-10 fertilizer (excepting the Main Tailings Pond and the Filtered Tailings Disposal Site, which would each receive at minimum 300 lbs. per acre fertilizer). This would be followed by broadcast seeding at the rate of 45 lbs. Pure Live Seed (PLS) per acre. The delivered cost of fertilizer has been quoted as \$0.22 per lb. (\$44.00 per acre), and the delivered cost of seed mixture quoted as \$12.70 per lb. (\$571.50 per acre) [Source: Alaska Mill & Feed; Anchorage]. A detailed estimate of revegetation fertilization and seeding requirements is provided in **Table 2-5: Revegetation Requirements**. [Note: The associated costs are carried forward to individual component cost totalizations within Section 3.0].

SEED MIXTURE

<u>Species</u>	<u>PLS/acre (lbs.)</u>	<u>Cost (\$/lb.)</u>	<u>Total (\$/acre)</u>
Gruening Alpine Bluegrass	18	\$16.81	
Arctared Fescue	13.5	1.16	
Tundra Glaucous Bluegrass	11.25	17.39	
Alyeska Polargrass	<u>2.25</u>	24.00	
Totals:	45.0 lbs. PLS	@ \$12.70	= \$571.50

While the foregoing seed mixture/application rate has been assumed for cost estimation purposes, it is anticipated that reclamation (revegetation) advisory would be obtained from the Alaska Plant Materials Center and final specifications

Table 2-5: Revegetation Requirements

RECLAMATION COMPONENT	Reclaimed	Fertilizer Applic. Rate	Fertilizer Cost	Subtotal	Seed Applic. Rate	Seed Cost	Subtotal	Total
	Acres	Ibs/Acre	Per Acre	Fertilizer (\$)	Ibs/Acre	Per Acre (\$)	Seed Applic. (\$)	(\$)
North Area								
Mystery Decline Portal	0.20	200	\$44.00	\$8.80	45	\$571.50	\$114.30	\$123.10
Mystery Development Rock Stockpile	2.90	200	\$44.00	\$127.60	45	\$571.50	\$1,657.35	\$1,784.95
Infiltration Gallery and Pumphouse	0.10	200	\$44.00	\$4.40	45	\$571.50	\$57.15	\$61.55
Mystery Ventilation Raise	0.50	200	\$44.00	\$22.00	45	\$571.50	\$285.75	\$307.75
Utility Corridor	0.20	200	\$44.00	\$8.80	45	\$571.50	\$114.30	\$123.10
Central Operations Area								
Multi-Use Complex	1.70	200	\$44.00	\$74.80	45	\$571.50	\$971.55	\$1,046.35
Miscellaneous Outbuildings (MU Complex)	0.20	200	\$44.00	\$8.80	45	\$571.50	\$114.30	\$123.10
Water Treatment Plant	0.10	200	\$44.00	\$4.40	45	\$571.50	\$57.15	\$61.55
Water Storage Tank	0.10	200	\$44.00	\$4.40	45	\$571.50	\$57.15	\$61.55
Office/Dry Complex	0.70	200	\$44.00	\$30.80	45	\$571.50	\$400.05	\$430.85
Maintenance Shop	0.30	200	\$44.00	\$13.20	45	\$571.50	\$171.45	\$184.65
Mill Complex	0.70	200	\$44.00	\$30.80	45	\$571.50	\$400.05	\$430.85
Leach Tank Building (Proposed)	0.10	200	\$44.00	\$4.40	45	\$571.50	\$57.15	\$61.55
Miscellaneous Outbuildings (Mill)	0.10	200	\$44.00	\$4.40	45	\$571.50	\$57.15	\$61.55
Filter Building (Proposed)	0.20	200	\$44.00	\$8.80	45	\$571.50	\$114.30	\$123.10
Generator Set Enclosure (Proposed)	0.10	200	\$44.00	\$4.40	45	\$571.50	\$57.15	\$61.55
Crystal Decline Portal	0.20	200	\$44.00	\$8.80	45	\$571.50	\$114.30	\$123.10
Crystal Development Rock Stockpile	12.00	200	\$44.00	\$528.00	45	\$571.50	\$6,858.00	\$7,386.00
Crystal Ventilation Raise	0.50	200	\$44.00	\$22.00	45	\$571.50	\$285.75	\$307.75
Tailing Impoundment and Pipelines	10.60	300	\$66.00	\$699.60	45	\$571.50	\$6,057.90	\$6,757.50
Filtered Tailings Disposal Site (Proposed)	13.50	300	\$66.00	\$891.00	45	\$571.50	\$7,715.25	\$8,606.25
Meteorologic Station	0.05	200	\$44.00	\$2.20	45	\$571.50	\$28.58	\$30.78
Explosives Magazine	0.50	200	\$44.00	\$22.00	45	\$571.50	\$285.75	\$307.75
Fuel Depot	0.60	200	\$44.00	\$26.40	45	\$571.50	\$342.90	\$369.30
South and Outlying Areas								
Hercules Airstrip Embankment Cut	5.70	200	\$44.00	\$250.80	45	\$571.50	\$3,257.55	\$3,508.35
DC-6 Crash Debris	0.25	200	\$44.00	\$11.00	45	\$571.50	\$142.88	\$153.88
Sand Pit Borrow Area	1.10	200	\$44.00	\$48.40	45	\$571.50	\$628.65	\$677.05
Tailing Dike Borrow Area (Proposed)	3.40	200	\$44.00	\$149.60	45	\$571.50	\$1,943.10	\$2,092.70
Solid Waste Landfill	3.00	200	\$44.00	\$132.00	45	\$571.50	\$1,714.50	\$1,846.50
Rock Quarry	4.60	200	\$44.00	\$202.40	45	\$571.50	\$2,628.90	\$2,831.30
Old South Camp Area	0.80	200	\$44.00	\$35.20	45	\$571.50	\$457.20	\$492.40
Unbounded Areas								
Underground Workings	0.00	0	\$44.00	\$0.00	0	\$571.50	\$0.00	\$0.00
Site Roadways (Incl. 6.7 ac. Old Runway)	20.00	200	\$44.00	\$880.00	45	\$571.50	\$11,430.00	\$12,310.00
Exploration Sites	20.00	200	\$44.00	\$880.00	45	\$571.50	\$11,430.00	\$12,310.00
TOTALS:	105.00			\$5,150.20			\$60,007.50	\$65,157.70

would be subject to the approval of BLM and ADNR. Particular emphasis would be placed on species and application rates that would increase cover and aid in natural invasion of native species. Regardless, it is not anticipated that a variation on the assumed fertilization and/or seeding application rates or seed species would materially affect the cost estimate developed herein.

2.6 Additional Cost Considerations

Beyond those costs defined in the preceding sections, there are a number of other cost factors that have been incorporated into the overall reclamation cost estimate. These cost factors include those generally described below. Effort has been made to ensure that all reasonably foreseeable items have been incorporated into the analysis on an individual reclamation component basis, while the overall line item cost detail and totalization is provided in **Table 2-6: Materials, Supplies, and Other Costs**.

2.6.1 Incremental Closure and Reclamation Costs

The following specific line item costs have been identified and quantified (on an estimated basis) for other specific closure and reclamation components, as warranted.

- ***Petroleum Hydrocarbon Contamination Cleanup and Disposition:*** Provision for onsite management of hydrocarbon contaminated soils has been incorporated into the cost estimate. It is assumed that contaminated soils would be transported to the existing treatment area adjacent to the Landfill feature. An additional \$50.00 per yd³ of contaminated soil has been utilized to address special handling requirements. Refer to specific “reclamation component” sections for detailed discussion.
- ***Special and/or Hazardous Wastes Disposition:*** Provision for special and/or hazardous waste removal and for recycling or disposal has been incorporated into the cost estimate. An additional \$400 per 55-gallon drum (recycle) and/or an additional \$800 per 55-gallon drum (hazardous waste disposal) have been utilized. This is based on back-haul via routine scheduled flights to Fairbanks (recycle) and normal freight rate to Seattle (disposal in a regional RCRA TSD facility). Refer to specific “reclamation component” sections for detailed discussion.
- ***Ventilation Shaft Sealing:*** Provision for installing low-density polyurethane foam plugs atop wooden bulkheads in a 15-ft. shaft column from 20-ft. to 5-ft. below ground surface ($40 \text{ yd}^3 \times \$225/\text{yd}^3 = \$9,000$ per shaft).

Table 2-6 Materials Supplies and Other Costs Spread

RECLAMATION COMPONENT	Petroleum	Waste	Waste (RCRA TSDf)	Misc.	Total	Comments
	Contam. Soil	(Recycled)	(RCRA TSDf)	Material		
	\$50/yd ³	\$400/drum	\$800/drum	\$	\$	
Mystery Ventilation Raise	250	2,000	0	9,000	\$11,250.00	Misc. = Foam Plug
Multi-Use Complex	250	0	1,600	0	\$1,850.00	
Office/Dry Complex	0	0	4,800	0	\$4,800.00	
Maintenance Shop	500	2,000	1,600	0	\$4,100.00	
Mill Complex	500	10,000	8,000	0	\$18,500.00	
Crystal Ventilation Raise	250	2,000	0	9,000	\$11,250.00	Misc. = Foam Plug Geotextile; Land
Main Tailing Impoundment	0	0	0	81,250	\$81,250.00	Application
Fuel Depot	2,000	0	0	0	\$2,000.00	
Underground Workings	0	6,000	4,000	0	\$10,000.00	
Exploration Sites	0	0	0	4,000	\$4,000.00	Bentonite Seal
Total:	3,750	22,000	20,000	103,250	149,000	

¹Refer to specific reclamation component for detailed analysis.

10/20/05 (No Revisions)

- **Tailing Impoundment Closure:** Provision for land application of residual fluids (\$10,000 for pump and materials) and system set-up/tear-down labor); and, provision for materials (\$71,250 - to include delivery and installation of non-woven, geotextile fabric) to be installed prior to placement of development rock/growth medium cover zones.
- **Exploration Drill Hole Abandonment:** Provision for miscellaneous materials to include bentonite, benseal, etc. at \$50/drill hole.
- **Post-Closure Monitoring:** Provision for long-term monitoring (i.e., 30 years post-closure - \$30,440/annual event) has been incorporated into the cost estimate for years 1, 2, 5, 10, 20, and 30 commencing in 2012, the year following completion of site closure and reclamation activities. Refer to Section 3.4.4 – Post-Closure Monitoring for detailed discussion. **Note:** *These costs are not included in the general totalization amount as they represent future expenditures. They are, however, incorporated into the net present value calculation.*

2.6.2 Administrative Costs

Administrative Costs have been based on guidelines issued in the U.S. Bureau of Land Management Instruction Memorandum No. 2003-082 (Change 1) issued March 1, 2004.

The guidelines specify percentages for certain factors; however, some flexibility on other factors (to reflect site specific conditions or requirements) is provided through recommended percentage “ranges.”

The Nixon Fork Mine Project has been evaluated within this context and accordingly, the following factors have been utilized. Where the “applied percentage” has been independently determined, explanation is provided.

ADMINISTRATIVE COSTS

Administrative Cost Category:	Guideline % Range:	Applied Percentage:
Engineering, Design and Construction Plan (as % of O&M)	4 to 8	4 ¹
Contingency (as % of O&M)	4 to 10	8 ²
Contractor Profit (as % of O&M)	10	13 ³
Liability Insurance (as % Total Labor)	1.5	1.5
Payment and Performance Bonds (as % of O&M)	3	3
BLM Contract Administration (as % of O&M)	10 to 18	10 ⁴
ADNR Contract Administration (as % of O&M)		1 ⁵
BLM Indirect Costs (as % of BLM Contract Administration)	21	21

Notes:

¹The BLM ED&C Plan Cost is based on anticipated reclamation complexities and degree of detail put forth in the reclamation plan for the proposed project. The proposed Nixon Fork Mine is an underground mine with no anticipated acid mine drainage concerns or long-term water management issues. Specific details for each reclamation component are provided in this Plan. Therefore, ED&C should reflect only that necessary to support the identified traditional mine reclamation activities. Thus, 4% was utilized.

²Contingency allowances are for cost overruns that are expected to occur, but cannot be defined. They are also based on anticipated reclamation complexities and degree of detail put forth in the reclamation plan for the proposed project. The proposed Nixon Fork Mine is an underground mine with no anticipated acid mine drainage concerns or long-term water management issues. Therefore, ED&C should reflect only that necessary to support the identified traditional mine reclamation activities. Thus, 8% was utilized.

³Contractor profit has been increased from 10% to 13% to incorporate a provision for contractor overhead (Source: *Training Guide for Reclamation Bond Estimation and Administration*; USDA/USFS; April 2004)

⁴The BLM Contract Administration Cost is also based on size and complexity of the proposed operation. The proposed Nixon Fork Mine Project would be an underground operation with no anticipated acid mine drainage or long-term water management concerns. Specific details for each reclamation component are provided in this Plan. Therefore, Contract Administration Cost should reflect only that necessary to support the identified traditional mine reclamation activities. Thus, 10% was utilized.

⁵The Alaska Department of Natural Resources requires that the provision for State contract administration costs be calculated at 1% of O&M costs.

2.6.3 Inflation Factors

MCRI's final reclamation bond cost totalization (as presented in Section 2.7, below) includes a provision for a 30-year post-closure monitoring period, commencing the first year following completion of reclamation/closure activities. Therefore, the expenditure schedule incorporates a provision for annual inflation of the costs. The inflated value expenditure schedule utilized the following factors:

Inflation Factor: 3% per annum

Discount Rate: No discount factor applied

2.7 Closure and Reclamation Schedule and Cost Analysis

The six-month overall reclamation and closure schedule was developed in accordance with the shift allocation schedules defined above, and in accordance with the individual closure and reclamation component sequencing as described within Section 3.0. The projected overall schedule is depicted in **Figure 2-1: Representative Closure and Reclamation Schedule**. Scheduling (i.e., productivity) is based on conservative estimating methods; it is our opinion that optimization of manpower, equipment, and activity sequencing could significantly enhance (reduce) overall costs as well as scheduling.

The Plan has addressed each individual component from the perspective of full build-out or maximum total disturbance. Further, in many instances, projected disturbance area totals depicted in the Nixon Fork Mine Plan of Operations have been nominally increased to reflect incremental disturbance attributable to reclamation and closure activities.

Figure 2-1: Representative Closure and Reclamation Schedule

RECLAMATION COMPONENT	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
North Area						
Mystery Portal						
Mystery Development Rock Stockpile						
Infiltration Gallery and Pump House						
Mystery Ventilation Raise						
Utility Corridor						
Central Operations Area						
Multi-Use Complex						
Miscellaneous Outbuildings (MU Complex)						
Water Treatment Plant						
Water Storage Tank						
Office/Dry Complex						
Maintenance Shop						
Mill Complex						
Leach Tank Building (Proposed)						
Miscellaneous Outbuildings (Mill)						
Filter Building (Proposed)						
Generator Set Enclosure (Proposed)						
Crystal Portal						
Crystal Development Rock Stockpile						
Crystal Ventilation Raise						
Tailing Impoundment and Pipelines						
Filtered Tailings Disposal Site (Proposed)						
Meteorologic Station						
Explosives Magazine						
Fuel Depot						
South and Outlying Areas						
Hercules Airstrip Embankment Cut						
DC-6 Crash Debris						
Sand Pit Borrow Area						
Tailing Dike Borrow Area (Proposed)						
Solid Waste Landfill						
Rock Quarry						
Old South Camp Area						
Unbounded Areas						
Underground Workings						
Site Roadways						
Exploration Sites						

Table 2-7(a): Closure and Reclamation Cost Summary¹

Item	Reference	Amount
Equipment Capital	Tables 2-1, 2-2	\$636,059
Equipment Operation and Maintenance	Table 2-3	\$190,610
Manpower	Table 2-4(a)	\$639,495
Manpower Support	Table 2-4(b)	\$158,000
Revegetation Requirements	Table 2-5	\$65,158
Materials, Supplies and Other	Table 2-6	\$149,000
Subtotal Operating and Maintenance Cost		\$1,838,322
Engineering, Design, and Construction Plan (4% O&M)	BLM IM 2003-82(1)	\$73,533
Contingency (8% O&M)	BLM IM 2003-82(1)	\$147,066
Contractor Profit (13% O&M)	BLM IM 2003-82(1)	\$238,982
Liability Insurance (1.5% Manpower)	BLM IM 2003-82(1)	\$9,592
Payment and Performance Bonus (3% O&M)	BLM IM 2003-82(1)	\$55,150
BLM Contract Administration (10% O&M)	BLM IM 2003-82(1)	\$183,832
ADNR Contract Administration (1% O&M)	BLM IM 2003-82(1)	\$18,383
BLM Indirect Costs (21% BLM Contract Admin.)	BLM IM 2003-82(1)	\$38,605
Subtotal Administration Cost		\$765,143
TOTAL		\$2,603,464

¹Does not include 30-year Post-Closure Monitoring Costs.

Revised 10/20/05

Based on the information provided in the foregoing sections (and the individual component discussions that follow within Section 3.0), the total estimated operating and maintenance cost for closure and reclamation is \$1,838,322 (prior to consideration of BLM and ADNR administrative add-ons). With the administrative add-ons, the estimated total is \$2,603,464 as detailed in **Table 2-7(a): Closure and Reclamation Cost Summary**. Individual reclamation cost breakdowns by component are provided in **Table 2-7(b): Component Cost Breakdown**.

The inflated value (using a 3% per annum inflation rate) of the sequenced closure and reclamation expenditures (inclusive of the 30-year post-closure monitoring costs commencing in 2011 and continuing through 2041) is \$3,429,524, as detailed in **Table 2-8: Inflated Value Expenditure Schedule**.

Table 2-7b Component Cost Breakdown¹

RECLAMATION COMPONENT	Total Direct Cost² \$	Total Indirect Cost³ \$	Grand Total
North Area			
Mystery Decline Portal	2,987	3,491	6,478
Mystery Development Rock Stockpile	14,607	17,070	31,677
Infiltration Gallery and Pump House	1,606	1,877	3,483
Mystery Ventilation Raise	15,016	17,548	32,564
Utility Corridor	1,820	2,127	3,947
Central Operations Area			
Multi-Use Complex	16,627	19,431	36,058
Miscellaneous Outbuildings (MU Complex)	2,879	3,364	6,243
Water Treatment Plant	2,818	3,293	6,111
Water Storage Tank	2,818	3,293	6,111
Office/Dry Complex	18,799	21,969	40,768
Maintenance Shop	14,353	16,773	31,126
Mill Complex	147,956	172,905	320,861
Leach Tank Building (Proposed)	8,769	10,248	19,017
Miscellaneous Outbuildings (Mill)	4,415	5,159	9,574
Filter Building (Proposed)	4,477	5,232	9,709
Generator Set Enclosure (Proposed)	5,615	6,562	12,177
Crystal Decline Portal	7,123	8,324	15,447
Crystal Development Rock Stockpile	39,287	45,912	85,199
Crystal Ventilation Raise	15,016	17,548	32,564
Tailing Impoundment and Pipelines	329,875	385,499	715,374
Filtered Tailings Disposal Site (Proposed)	25,899	30,266	56,165
Meteorologic Station	1,495	1,747	3,242
Explosives Magazine	3,491	4,080	7,571
Fuel Depot	16,852	19,694	36,546
South and Outlying Areas			
Hercules Airstrip Embankment Cut	9,548	11,158	20,706
DC-6 Crash Debris	2,483	2,902	5,385
Sand Pit Borrow Area	3,006	3,513	6,519
Tailing Dike Borrow Area (Proposed)	4,208	4,918	9,126
Solid Waste Landfill	12,871	15,041	27,912
Rock Quarry	12,147	14,195	26,342
Old South Camp Area	5,587	6,529	12,116
Unbounded Areas			
Underground Workings	35,828	41,869	77,697
Site Roadways	32,094	37,506	69,600
Exploration Sites	25,319	29,588	54,907
TOTALS:	847,691	990,631	1,838,322

Before Addition of BLM Administrative Costs

²From Individual Reclamation Component Analysis

³Proportionate Fixed Overhead

Table 2-8: Net Present Value Analysis¹

Calendar Year	Sequence Year	Expenditure 2005 \$	Inflated \$ Value
2005	0	Startup	0
2006	0	Active Mining	0
2007	0	Active Mining	0
2008	0	Active Mining	0
2009	0	Active Mining	0
2010	0	Active Mining	0
2011	1	2,603,464	3,108,672
2012	2	30,440	37,437
2013	3	30,440	38,560
2014	4	0	0
2015	5	0	0
2016	6	30,440	42,136
2017	7	0	0
2018	8	0	0
2019	9	0	0
2020	10	0	0
2021	11	30,440	48,847
2022	12	0	0
2023	13	0	0
2024	14	0	0
2025	15	0	0
2026	16	0	0
2027	17	0	0
2028	18	0	0
2029	19	0	0
2030	20	0	0
2031	21	30,440	65,647
2032	22	0	0
2033	23	0	0
2034	24	0	0
2035	25	0	0
2036	26	0	0
2037	27	0	0
2038	28	0	0
2039	29	0	0
2040	30	0	0
2041	31	30,440	88,224
Total:		2,786,104	3,429,524

¹Incorporates 30-Year Post Closure Monitoring Costs Applying 3% Per Annum Inflation Rate

3.0 RECLAMATION COMPONENT BREAKDOWN

The reclamation plan and associated cost estimate have been prepared on the basis of segmenting the various facilities and/or features associated with both “prior” and “proposed” disturbance areas at the Nixon Fork Mine property into five (5) discrete “reclamation area” designations. The methodology for categorization is based on geographic location as well as interrelationship(s) between various mine operations, mineral processing operations, administrative, and ancillary features. This has been done to both facilitate ease of reference as well as to ensure full site coverage. Further, foreseeable reclamation obligations are therefore identified at a level of detail sufficient to allow preparation of a meaningful completion sequence and reclamation bond cost estimate. The categories, which are described in greater detail in each of the following respective sections, are identified as follows:

- North Area
- Central Operations Area
- South and Outlying Areas
- Unbounded Areas
- Areas Not Subject To Reclamation

The reclamation areas, as presented above, commence at the northernmost extent of the property, and continue in a generally southerly direction. The property-wide layout is presented in **Figure 3-1: Nixon Fork Mine Project -Reclamation Areas**, and enlarged/detailed views of each area or sub-areas (as warranted) are incorporated into the respective sections that follow.

Detailed discussion of reclamation components, closure and reclamation operational considerations, and other relevant information is provided in the following subsections. Component reclamation activities are independently detailed and estimated accordingly. Major capital equipment and manpower commitments are as previously presented and have been cross-checked against total available work shifts to ensure that the anticipated work scope can be accomplished within the allotted time frame with the specified equipment. Estimating detail is provided under each respective component, and where other materials and supplies or special considerations are recognized, associated costs are identified (refer back to Tables 2-1 through 2-6 for detail).

Note that unless otherwise specified, structural slabs or footings would be left in place (at or below grade) and covered with a nominal 12-inches of sand and crushed rock, overlain by 12-inches of growth medium (for a minimum total cover of 24-inches). If and where such features are to be buried at substantially greater depth as part of the recontouring effort, the crushed rock or development rock horizon would be increased accordingly.

Note also that site “roadways” and “exploration sites” are addressed on a stand-alone basis (see Section 3.4), and as such are omitted from the individual area discussions.

In addition, certain areas of disturbance on the Nixon Fork Mine property are associated with actions of prior operators and/or unrelated activities, and as such are not the responsibility of MCRI. These specifically excluded features are described within Section 3.5.

3.1 North Area

The North Area encompasses the extreme northeast portion of the Nixon Fork Mine property, as depicted in **Figure 3-2: North Area Detail**. It contains the following primary features that incorporate the described reclamation actions.

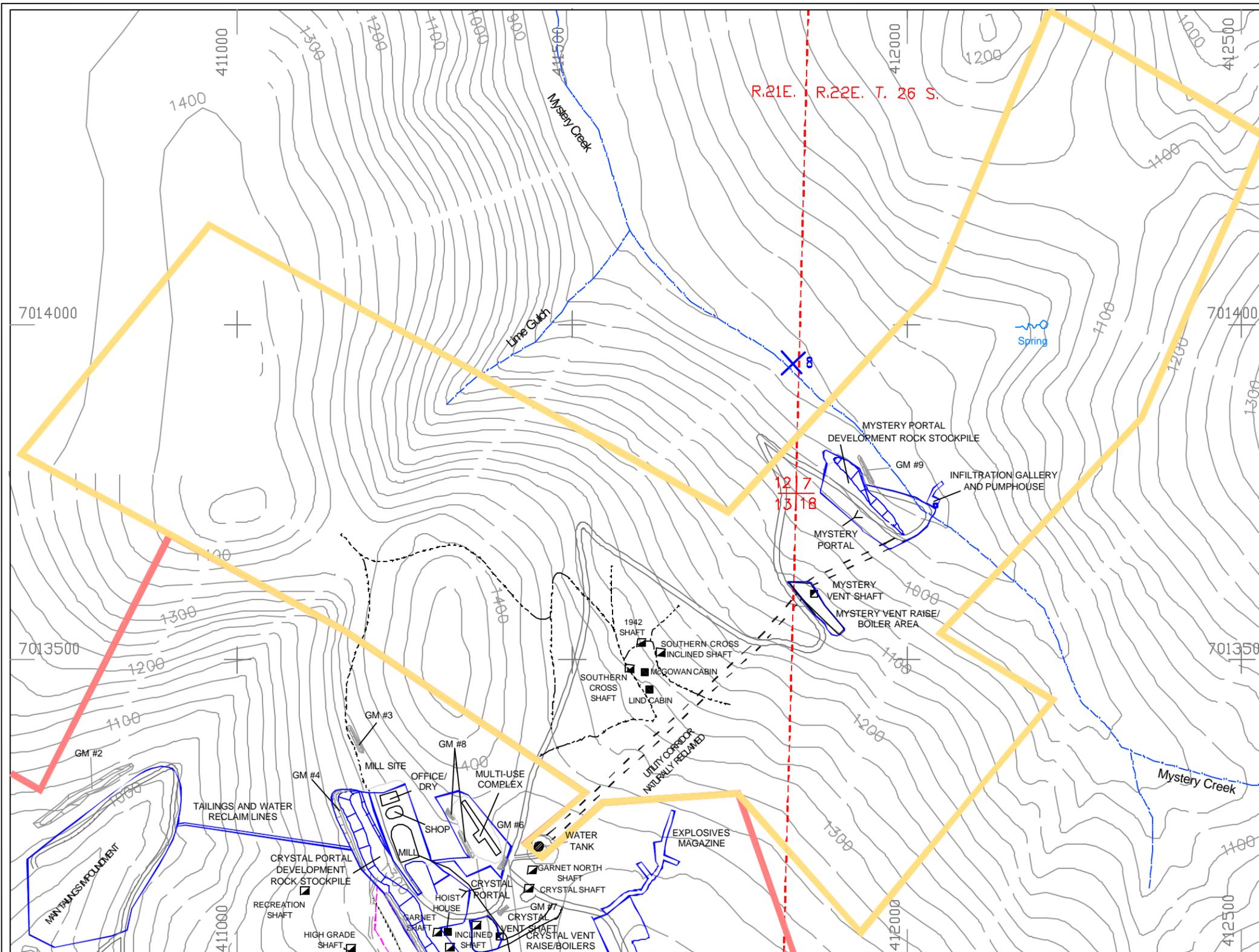
3.1.1 Mystery Decline Portal

Description: The Mystery Decline Portal (**Photographs 3 through 6; Appendix B**) is situated in the northeast portion of the site. The cross-sectional dimensions of the actual adit opening are approximately 14 ft. high x 15 ft. wide; however, the brow area enlarges to approximately three times the width in the surrounding slope. The Mystery Portal ramp descends at an approximate 15% gradient commencing at a point approximately 30 ft. out on the Mystery Development Rock Stockpile surface. The current estimated area of disturbance is approximately 0.2 acre. No further disturbance is anticipated.

Closure Plan: The Mystery Portal would be closed by placing backfill against the portal opening following emplacement of materials obtained from demolition of nearby features (e.g., the Mystery Ventilation Raise boiler, Connex box debris, etc.). There is approximately 235 ft. of straight decline ramp available to accept waste debris. Development rock from the surrounding area would be trucked up to the decline slot and recontoured by dozer such that the feature would be backfilled to blend with the surrounding topography. Locally available (surrounding upslope and side slope areas) seedbed material and loam would be scarified and pushed down or across (by dozer) to provide a nominal 4-inch growth medium over the backfilled development rock matrix. The surface would then be fertilized and seeded in accordance with the standard specification.

Anticipated Closure Requirements: Estimated to include the use of a 725 Truck (1 ea. X 1 day) along with 966G Loader (0.5 day) to load and transport development rock onto the portal brow area following emplacement of waste

materials in the decline. Use of D6G Dozer for 1 day to recontour, scarify upslope and surrounding growth medium and



**MYSTERY CREEK RESOURCES, Inc.
NIXON FORK MINE AREA
LEGEND**

- Former stream gauge approximate location and number from 1890 project.
- Approximate location of spring with flow direction
- Mine Portal
- Existing Shaft
- GM #1 - Growth Media Stockpile
- Historic Cabin/Building
- Existing Disturbance
- Proposed Disturbance
- North Area Reclamation
- Central Area Reclamation
- South and Outlying Areas Reclamation
- Existing Road
- Existing Road or Track
- Existing Trail



0m 50m 100m 150m 200m

Map compiled and modified by:
Wayne R. Kemp
Mystery Creek Resources, Inc.
Golden, Colorado
(303) 277-1222
(303) 907-2599 (mobile)
E-mail: Wrkemp@cs.com

MYSTERY CREEK RESOURCES, INC	
FIGURE 3-2	
NORTH AREA DETAIL	
August 18, 2005	SCALE: SCALED TO FIT

spread across completed area. Fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit.

This activity would be carried out in coordination with the development rock stockpile reclamation activities described below, and following emplacement burial of waste materials in the decline. Emplacement of waste materials within the decline ramp is addressed individually under the respective components.

Estimated Direct Component Cost:

Major Equipment:	\$ 2,864.09
Dedicated Labor:	\$ ----
Revegetation:	\$ 123.10
Other:	\$ ----
Total:	\$ 2,987.19

3.1.2 Mystery Development Rock Stockpile

Description: The Mystery Development Rock Stockpile (**Photos 7 – 10; Appendix B**), established by the development of the Mystery decline, consists of an approximately 600-ft. long development rock pile with a surface elevation of 750 ft. amsl. The material extends outward roughly 150 ft. (at its southeasterly end) to as much as 200 ft. (at its northwesterly end), with a total disturbed area of 2.9 acres. Estimated development rock depth at the face ranges from about 45 ft. to as much as 50-ft., with the face at angle of repose (approximately 1H:1V). Reclamation constraints associated with the feature include: (i) the presence of the permit boundary (Doyon Regional Lands) immediately exterior to the northwest end; (ii) the dump's proximity to Mystery Creek, the flow course of which is approximately 125 ft. to 150 ft. from the dump toe; and, (iii) the steepness of the face slope. The dump material is primarily comprised of non-mineralized marble and quartz monzonite, and is non-acid generating. A growth medium stockpile is located adjacent to the toe of the existing feature, and is estimated to contain approximately 1,300 yd³ of recoverable growth medium. No further increase in disturbed area is anticipated.

Closure Plan: The dump would be recontoured utilizing a dozer push to move the majority of the material upslope onto the existing dump bench to be blended into the natural slope above. This would be accomplished by dozing a bench into the face from each end of the dump, moving the material generally upward and toward the central portion of the dump in the vicinity of the portal (to augment portal closure activities). The material would then be

pushed into the existing hillside to result in a nominal slope gradient of approximately 2.5H:1V along the extent of the dump. Terracing swales would be introduced to mitigate erosion potential. Topsoil would be retrieved from the stockpile utilizing a front-end loader and truck, and the topsoil would be placed on the slope for spreading by dozer. It is anticipated that the limited available growth medium would provide a nominal 4-inch cover on the reclaimed stockpile. On conclusion of growth medium recovery, the toe of the development rock stockpile below the bench would be dozed upward into the 2.5H:1V slope to ensure that development rock and/or equipment do not encroach on the Mystery Creek flow course. Fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit.

Anticipated Closure Requirements: Estimated to include the use of the D6G Dozer for 5 days to cut a mid-level bench/ramp and push doze the dump material upslope onto the development rock bench and slope it into the hillside. Use of 725 Truck (1 ea. X 3 days) along with 966G Loader (1.5 days) to augment recontouring activities and to load and transport growth medium from the proximal stockpile to the reclaimed surface area. Use of D6G Dozer for 2 days to final grade the recontoured dump in preparation for growth medium application, to include scarification recovery from upslope areas and spreading of growth medium across the completed area. Fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit.

This activity would be carried out in coordination with the portal closure activities described above.

Estimated Direct Component Cost:

Major Equipment:	\$ 12,822.26
Dedicated Labor:	\$ -----
Revegetation:	\$ 1,784.95
Other:	\$ -----
Total:	\$14,607.21

3.1.3 Infiltration Gallery and Pumphouse

Description: The Infiltration Gallery and Pumphouse (**Photos 11 and 12; Appendix B**) provide the raw water supply for the Nixon Fork Mine operations. It consists of a small earthen core and rock impoundment structure located within Mystery Creek that is on the order of 3 ft. in height. The trapezoidal-shaped embankment has a crest length of approximately 35 ft. to 40 ft. from bank to bank, with the visible downstream face exhibiting an

approximately 2.5H:1V outslope. The feature is constructed with large (12" to 15") angular shot rock, and perforated PVC infiltration piping is present below the creek bed within the interior catchment area. The pumphouse consists of a wood-frame structure approximately 8 ft. x 16 ft. in overall size. Siding and roof are constructed of plywood, with roofing felt present on the roof. Interior to the non-floored building are dual pumps and feed lines which are routed along a buried utility corridor to the Water Supply Tank (see 3.1.5, below). The feature currently occupies 0.1 acre; no increase in disturbed surface is anticipated.

Closure Plan: The central portion of the impoundment feature would be breached utilizing a small utility backhoe, leaving the remainder of the feature in place. This approach would result in minimal disturbance of the streambed sediments, and would allow for rapid natural stream recovery through the zone. The minimal volume of excavated material (primarily rock) would be cast onto the adjacent downstream face of the impoundment. Pumps and related piping would be removed from the pumphouse and transported upslope to the Mystery Portal area for burial prior to portal closure. The pumphouse structure would be disassembled, and wood materials either salvaged for use in constructing the Mystery Ventilation Raise bulkhead (see below) or disposed in the Mystery Portal prior to portal closure. The area occupied by the pumphouse structure is considered riparian zone, therefore no growth medium material is considered necessary. The footprint area would, however, be scarified and graded to level utilizing a dozer. The 0.1-acre surface area would then be fertilized and seeded in accordance with the standard specifications.

Anticipated Closure Requirements: Estimated to include the utilization of the utility backhoe/loader (0.5 day) to conduct dam breaching and transport of debris to the Mystery Portal area prior to portal closure. In addition, 2 laborers x 1 day to dismantle and clean up, followed by 0.5 day D6G Dozer time to final grade and scarify the area. Fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit.

Estimated Direct Component Cost:

Major Equipment:	\$ 690.75
Dedicated Labor:	\$ 854.00
Revegetation:	\$ 61.55
Other:	\$ -----
Total:	\$ 1,606.30

3.1.4 Mystery Ventilation Raise

Description: The Mystery Ventilation Raise (**Photo 13; Appendix B**) consists of a rectangular, vertical shaft (approximate dimensions 8.5 ft. x 8.5 ft.) extended from the underground workings. The shaft collar is enclosed by a steel Connex box that is also utilized to house a boiler, and an associated 500-gallon diesel fuel day tank (w/secondary containment). The ventilation fan is top-mounted on the Connex. A graveled service drive enters the area from the main road.

Closure Plan: The fan and boiler units (and appurtenant piping, etc.) would be dismantled and transported down to the Mystery Portal area for emplacement prior to portal closure activities. While it is assumed that a minimal quantity of asbestos material may be present in conjunction with the boiler unit, the material would remain integral to the boiler unit and as such be acceptable for monofill disposal (as part of the boiler unit) in the Mystery Portal. It is further assumed that an estimated five 55-gallon drums of glycol would be drained from the system prior to disassembly and managed as special waste for offsite transport and recycling at an approved facility. The day tank would be inerted and demolished (torch-cut). Any residual fuels would be either consumed in reclamation activities or burned. In conjunction with tank removal, it is assumed that a nominal 5 yd³ of hydrocarbon contaminated soils that would be encountered, and managed onsite.

All steel structural materials (i.e., fan housing/shroud, stacks, and Connex box) would be dozer crushed and/or torch-cut into manageable size for transport to the Mystery Portal emplacement area. The raise feature would be plugged by anchoring timber cross-members at a location approximately 20 ft. down, adding plywood decking (i.e., scrap material from the pumphouse), and installing a low-density polyurethane foam plug to 5 ft. below surface. A development rock column would be introduced to surface level. The 0.5 acre area would be scarified by dozer. The surface area would then be fertilized and seeded in accordance with the standard specifications.

Anticipated Closure Requirements: Estimated to include the utilization 2 laborers x 1 day to dismantle and clean up. Use of 966G Loader and 725 Truck (<0.5 day each) to excavate hydrocarbon contaminated soils and transport to Landfill treatment area, and to transport boiler and debris to the Mystery Portal area prior to portal closure. Use of 2-man labor crew for 1 day to install polyurethane foam plug. Use of D6G Dozer (0.5 day) to push final subgrade fill into plugged shaft and to final grade and scarify the area. Fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit.

Incremental Requirements:

- 5 ea. 55-gallon drums of glycol (offsite recycle) @ \$400/drum
- 5 yd³ hydrocarbon contaminated soil (to containment area) @ \$50/yd³
- polyurethane plug – 8.5ft. x 8.5ft. x 15 ft. = 40 yd³ @ \$225/yd³

Estimated Direct Component Cost:

Major Equipment:	\$ 1,749.93
Dedicated Labor:	\$ 1,708.00
Revegetation:	\$ 307.75
Other:	<u>\$ 11,250.00</u>

Total: \$15,015.68

3.1.5 Utility Corridor

Description: The utility corridor (**Photo 14**) extends from the infiltration gallery to the main camp area (water storage tank), and contains a buried 4-inch diameter raw water line and an associated buried electrical service line to provide power for pumphouse operation. The approximately 2,100-ft. corridor has been substantially revegetated either through natural progression or via reclamation activities previously carried out by MCRI.

Closure Plan: Closure assumes that the buried utility lines would be left in place. The power line would be de-energized and cut to a depth of 6-inches below ground surface at both the source end and the load end. The water line would be similarly cut at each end. A foam sealant and cap would be placed on each end of the water line. Surface disturbance at either end would be minimal, and otherwise addressed under adjoining features. The previously reclaimed utility corridor would be inspected along its length for revegetative success. For purposes of this estimate, MCRI has conservatively assumed revegetative enhancement would be required over 30% of its length (12-ft. width assumed), resulting in <0.2 acres of revegetation.

Anticipated Closure Requirements: Estimated to include the utilization of electrician (0.5 day) and 2 laborers x 0.5 day to de-energize and sever the power line. Use of 2 laborers x 1 day (utilizing utility backhoe/loader) to cut and cap pipeline and scarify areas requiring supplemental revegetation efforts. Fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit.

Estimated Direct Component Cost:

Major Equipment:	\$ 162.00
Dedicated Labor:	\$ 1,534.50
Revegetation:	\$ 123.10
Other:	\$ -----
Total:	\$ 1,819.60

3.2 Central Operations Area

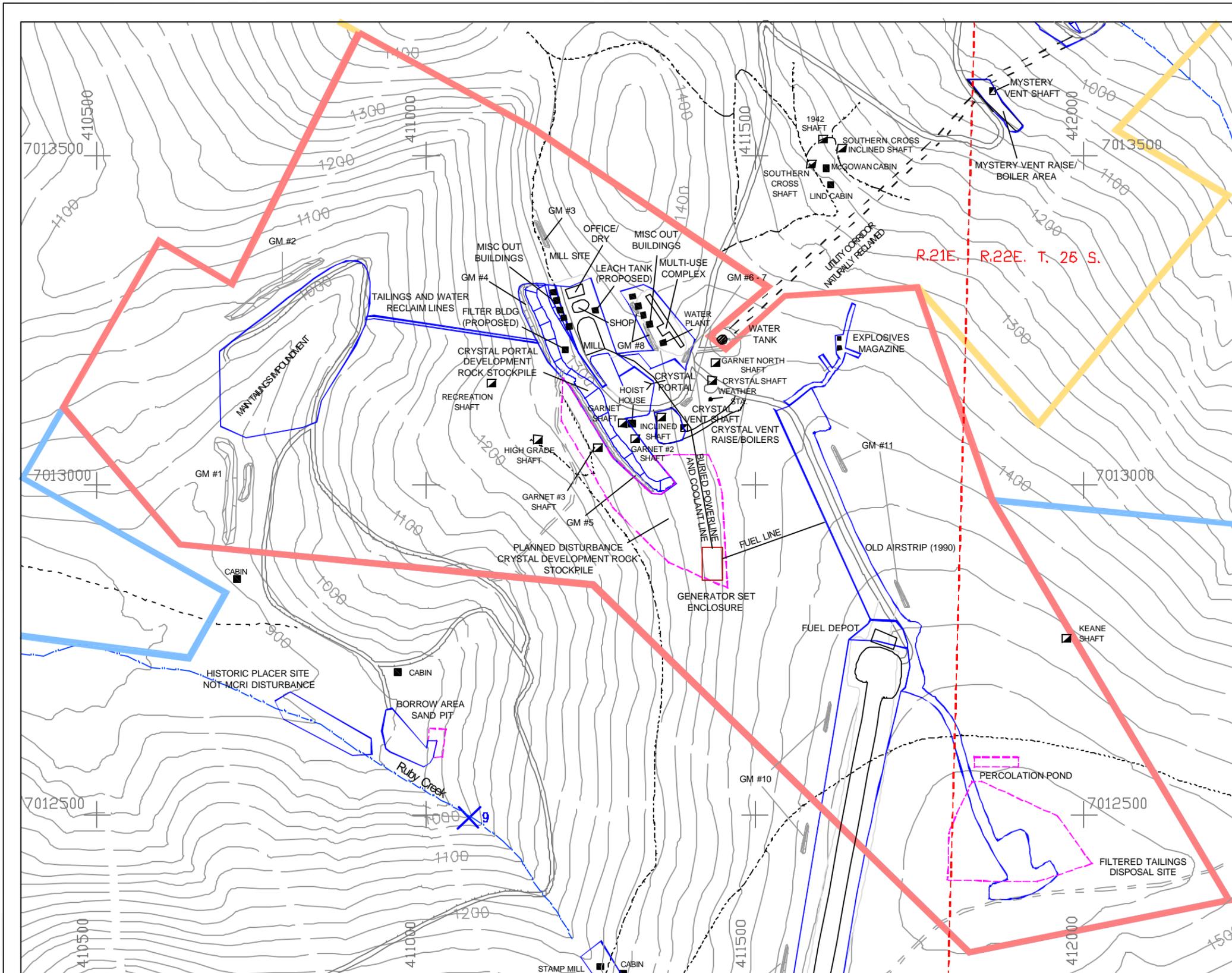
The Central Operations Area encompasses the primary mining and milling operations and main camp facilities located in the central portion of the Nixon Fork Mine property, as depicted in **Figure 3-3: Central Operations Area Detail**. It contains the following primary features that incorporate the described reclamation actions.

3.2.1 Multi-Use Complex

Description: The 1.7-acre (total area estimated at 1.9-acre, inclusive of outbuildings described in Section 3.2.2) Multi-Use Complex consists of a series of an estimated 7,500 ft.² of interconnected modular units that comprise sleeping quarters and bathroom facilities, a kitchen area and mess hall, and an entrance/foyer, and common (recreation) area (**Photo 15; Appendix B**). The units are similar to manufactured housing, with wood and/or steel stud frame, batt insulation, and aluminum exterior sheathing. Septic tank and leach field facilities are associated with the complex. In addition, the complex contains 3 satellite receivers, a fire protection system that includes pressure tank and piping, and a cold-box refrigeration unit. There is also a 500-gallon diesel fuel day tank (w/secondary containment) situated adjacent to the Multi-Use Complex. Two small growth medium stockpiles are located along the western edge of the area; it is estimated that approximately 1,700 yd³ of material is present.

Closure Plan: Demolition of the Multi-Use Complex would be deferred until late in the closure schedule to accommodate onsite reclamation personnel. When undertaken, structure demolition would commence with utility disconnects (electrical, water/sewer, and fuel). Hazardous materials (i.e., fluorescent bulbs, ballasts, etc.) would be selectively removed and temporarily stored for offsite disposal. It has been estimated that two 55-gallon drums of hazardous waste would be containerized for offsite disposal at an approved RCRA TSD facility. Structures would then be leveled utilizing a dozer and/or front-end loader. Scrap materials would be loaded to trucks with the front-end loader and transported directly to the Crystal portal area for

emplacement burial. The associated septic tank and leach field would be closed in place in accordance with applicable guidelines. The day tank would be inerted and torch-cut; remnant materials would be trammed to the Crystal portal for burial emplacement. Any residual fuels would be either consumed in reclamation activities or burned. It has been assumed that there will be 5 yd³ of hydrocarbon contaminated soils that will be excavated and transported to the Landfill treatment area. The eastern edge (slope cut) of the area would be ripped and blended with the surrounding terrain (also providing incremental seedbed material). The entire area would then be scarified and stockpiled.



**MYSTERY CREEK RESOURCES, Inc.
NIXON FORK MINE AREA
LEGEND**

-  Former stream gauge approximate location and number from 1990 project.
-  Approximate location of spring with flow direction
-  Mine Portal
-  Existing Shaft
-  GM #1 - Growth Media Stockpile
-  Historic Cabin/Building
-  Existing Disturbance
-  Proposed Disturbance
-  North Area Reclamation
-  Central Area Reclamation
-  South and Outlying Areas Reclamation
-  Existing Road
-  Existing Road or Track
-  Existing Trail



UTM Grid N
Scale To Fit



Map compiled and modified by:
Wayne R. Kemp
Mystery Creek Resources, Inc.
Golden, Colorado
(303) 277-1222
(303) 907-2599 (mobile)
E-mail: Wkemp@cs.com

MYSTERY CREEK RESOURCES, INC	
FIGURE 3-3 CENTRAL OPERATIONS AREA DETAIL	
August 18, 2005	SCALE: SCALED TO FIT

growth medium would be pushed across the area using a dozer. The surface area would then be fertilized and seeded in accordance with the standard specifications.

Anticipated Closure Requirements: Estimated to include the use of one 725 Truck (3 days) and the 966G Loader (3 days) in conjunction with the D6G Dozer (2 days) to demolish and transport debris to the Crystal Portal prior to portal closure. Incorporated in the 3 day allotment is excavation and transport of hydrocarbon contaminated soils to the Landfill treatment area as well as provision for loader retrieval and placement of stockpiled growth medium and dozer (1 day) spreading, scarification, and final grading of the area. In addition, use of electrician (1 day) to de-energize the facility and use of 2 laborers (3 days each) to assist in debris tear-out and consolidation of waste materials. Use of utility backhoe loader for closure of septic tank and leach field (1 day). Fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit.

Incremental Requirements:

- 2 ea. 55-gallon drums of haz. waste (RCRA TSDF) @ \$800/drum
- 5 yd³ hydrocarbon contaminated soil (to containment area) @ \$50/yd³

Estimated Direct Component Cost:

Major Equipment:	\$ 10,661.55
Dedicated Labor:	\$ 3,069.00
Revegetation:	\$ 1,046.35
Other:	<u>\$ 1,850.00</u>

Total: \$ 16,626.90

3.2.2 Miscellaneous Camp Area Outbuildings

Description: In addition to the main complex, there is a 0.2-acre area (actually a part of the total 1.9-acre main camp surface area) occupied by a total of nine associated outbuildings (**Photo 16; Appendix B**). These outbuildings consist of four plywood platform tent structures and five wood frame/plywood structures. All are approximately 10 ft. x 15 ft. in size and (individually) occupy about 150 ft.² in footprint area.

Closure Plan: The wood structures would be demolished using a dozer and/or front-end loader, and combustible materials stockpiled at a central burn location for eventual incineration (under approved conditions). Miscellaneous debris and non-combustibles would be trucked to the Crystal portal for emplacement burial prior to portal closure. The area would be scarified and

fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit.

Anticipated Closure Requirements: Estimated to include the use of one 725 Truck (1 day) and the 966G Loader (1 day) in conjunction with the D6G Dozer (1 day) to demolish and transport debris to the Crystal Portal prior to portal closure and scarify the area. Use of 1 laborer for 1 day to assist in teardown and debris consolidation. Fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit.

Estimated Direct Component Cost:

Major Equipment:	\$ 2,329.03
Dedicated Labor:	\$ 427.00
Revegetation:	\$ 123.10
Other:	\$ -----
Total:	\$ 2,879.13

3.2.3 Water Treatment Plant

Description: The water treatment plant (blue Connex visible at extreme left of **Photo 16; Appendix B**) is a modular facility situated in a standard Connex box that occupies less than 0.1 acre. Raw water is delivered to the plant (from the water storage tank) via a buried pipeline, and treated water is supplied to the Multi-Use Complex via a buried pipeline. Contents primarily consist of chemical treatment and filtration equipment. A second Connex box (utilized for storage) is adjacent to the unit.

Closure Plan: Interior equipment would be dismantled and trammed to the Crystal portal area for burial emplacement. The two Connex structures would be dozer crushed and/or torch cut into manageable sized pieces and also transported to the Crystal portal area for emplacement burial. Supply and delivery pipelines would be cut 6-inches below ground surface. Foam plugs would be installed and ends capped prior to burial.

Anticipated Closure Requirements: Estimated to include the use of the 966G Loader (1 day) in conjunction with the D6G Dozer (1 day) to demolish and transport debris to the Crystal Portal prior to portal closure and scarify the area. Use of 1 laborer for 1 day to assist in teardown and debris consolidation. Fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit.

Estimated Direct Component Cost:

Major Equipment:	\$ 2,329.03
Dedicated Labor:	\$ 427.00
Revegetation:	\$ 61.55
Other:	\$ -----

Total: \$ 2,817.58

3.2.4 Water Storage Tank

Description: The 20,000-gallon raw water storage tank is a double-walled, cylindrical steel tank situated at the top of the hill immediately east of the main camp area (visible in **Photos 1, 2 and 48; Appendix B**). The tank rests on a concrete ring pad, and has an associated area of disturbance of approximately 0.1 acre.

Closure Plan: The tank would be emptied of all contents and torch cut into manageable sized pieces for transport to the Crystal portal for emplacement burial prior to portal closure. The concrete ring pad will be broken and resultant debris also taken to the Crystal portal. The immediate area would then be scarified using a dozer. The <0.1 acre surface area would then be fertilized and seeded in accordance with the standard specifications. Note: Capping of incoming and outgoing pipelines has been previously addressed under other components and is therefore not addressed here.

Anticipated Closure Requirements: Estimated to include the use of the 966G Loader (1 day) in conjunction with the D6G Dozer (1 day) to demolish and transport debris to the Crystal Portal prior to portal closure and scarify the area. Use of 1 laborer for 1 day to assist in teardown and debris consolidation. Fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit.

Estimated Direct Component Cost:

Major Equipment:	\$ 2,329.03
Dedicated Labor:	\$ 427.00
Revegetation:	\$ 61.55
Other:	\$ -----

Total: \$ 2,817.58

3.2.5 Office/Dry Complex

Description: The Office/Dry Complex (**Photos 17 – 20; Appendix B**) occupies approximately 0.7-acres of the overall 2.1-acre mill area. It is a multiple-use structure that contains administrative, engineering, and geological offices, two miner's dries, and sample preparation and assay lab facilities. Geologic and assay support infrastructure is augmented by a series of adjacent outbuildings and an area of palletized outdoor core storage, all of which are addressed under Section 3.2.9 – Miscellaneous Mill Area Outbuildings. The Office/Dry complex consists of a series of nine interconnected modular units that comprise an estimated total of 5,400 ft.² of office, dry and lab space. The units are similar to manufactured housing, with wood and/or steel stud frame, batt insulation, and aluminum exterior sheathing. Septic tank and leach field facilities are associated with the complex; however the septic/leach field features are shared facilities that have been previously addressed with the main camp Multi-Use Complex.

The complex is situated proximal to a bank-cut on a leveled area immediately adjacent to the northern extent of the Crystal Development Rock Stockpile. A limited quantity of stockpiled growth medium is present along the toe of the development rock stockpile; however, it is assumed that this material would be consumed as final cover in reclamation of the dump feature itself. Accordingly, any growth medium to be utilized in reclamation of the Office/Dry Complex area would likely be sourced from the soil horizon of the immediately easterly bank-cut.

Closure Plan: Structure demolition would commence with utility disconnects (electrical, water/sewer, and fuel). Hazardous materials (i.e., fluorescent bulbs, ballasts, etc.) would be selectively removed and temporarily stored for offsite disposal. For this Plan, it is estimated that two 55-gallon drums of associated hazardous waste consolidation would result. It is also estimated that in addition, four 55-gallon drums of special and/or hazardous waste would result from assay lab materials (i.e., crucibles, chemicals, refractory brick, etc.). Structures would then be leveled utilizing a dozer and/or front-end loader. Scrap materials would be loaded with the front-end loader and directly trucked to the Crystal portal area for emplacement burial. The adjacent eastern bank-cut along the area would be ripped and pulled down to blend with the surrounding terrain (also providing incremental seedbed material). *Note:* Ultimately, this entire area would be scarified and available growth medium placed across the area using a dozer, with final reclamation activities (scarification, fertilization, and seeding) being deferred until final closeout of the entire Crystal Development Rock Stockpile area. Associated costs for revegetation in this area are, however, incorporated in the following cost estimate.

Anticipated Closure Requirements: Estimated to include the use of one 725 Truck (3 days) and the 966G Loader (3 days) in conjunction with the D6G Dozer (3 days) to demolish and transport debris to the Crystal Portal prior to portal closure. In addition, use of electrician (1 day) to de-energize the facility and use of 2 laborers (3 days each) to assist in debris tear-out and consolidation of waste materials. Fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit.

Incremental Requirements:

- 6 ea. 55-gallon drums of haz. Waste (RCRA TSDF) @ \$800/drum

Estimated Direct Component Cost:

Major Equipment:	\$ 10,499.55
Dedicated Labor:	\$ 3,069.00
Revegetation:	\$ 430.85
Other:	<u>\$ 4,800.00</u>
Total:	\$ 18,799.40

3.2.6 Maintenance Shop

Description: The Maintenance Shop (**Photos 21 and 22; Appendix B**) occupies approximately 0.3-acres of the overall 2.1-acre mill area, and is located immediately south of the Office/Dry Complex. It is an elliptical-shaped, domed structure (nominally 115-ft. x 62-ft.) situated on a radiant-heated concrete slab, with steel framework and woven fabric cover construction. The slab floor heating system incorporates recirculating glycol lines, and there is also a 7-ft. x 3-ft. x 3-ft. deep oil and grease separator pit. There is an exterior 500-gallon diesel fuel day tank (w/secondary containment) located on the south side of the structure.

Closure Plan: All non-hazardous interior equipment and supplies would be removed from the shop area for disposal. Interior divider wall (drywall, wood, etc.) materials would be removed for disposal. The superstructure would be demolished by removing and cutting the woven fabric material into manageable sizes for disposal, and steel structural supports would be similarly torch-cut into manageable lengths. All of these materials would be transported to the Crystal portal for burial emplacement. All glycol would be extracted from the floor system and collected for management offsite. It is estimated that five 55-gallon drums of glycol would be extracted for offsite transport and recycling. It is also estimated that two 44-gallon drums of

hazardous waste would be consolidated for offsite transport and disposal at an approved RCRA TSD facility.

The day tank would be inerted and the steel tank would be torch cut for burial emplacement at the Crystal portal. Any residual fuels would be either consumed in reclamation activities or burned. It is assumed that 10 yd³ of hydrocarbon contaminated soils would be excavated and transported to the Landfill treatment area (to include residual materials from the oil-water separator sump). The concrete slab would remain intact; however, it would be subject to burial upon final reclamation of the overall area. *Note:* Ultimately, this entire area would be scarified and available growth medium placed across the area using a dozer, with final reclamation activities (scarification, fertilization, and seeding) being deferred until final closeout of the entire Crystal Development Rock Stockpile area. Associated costs for revegetation in this area are, however, incorporated in the following cost estimate.

Anticipated Closure Requirements: Estimated to include the use of one 725 Truck (2 days) and the 966G Loader (2 days) in conjunction with the D6G Dozer (2 days) to demolish and transport debris to the Crystal Portal prior to portal closure. In addition, use of electrician (1 day) to de-energize the facility and use of 2 laborers (3 days each) to assist in debris tear-out and consolidation of waste materials. Fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit.

Additional considerations:

- 2 ea. 55-gallon drums of haz. Waste (RCRA TSDF) @ \$800/drum
- 5 ea. 55-gallon drums of glycol (offsite recycle) @ \$400/drum
- 10 yd³ hydrocarbon contaminated soils (onsite containment) @\$50/yd³

Estimated Direct Component Cost:

Major Equipment:	\$ 6,999.70
Dedicated Labor:	\$ 3,069.00
Revegetation:	\$ 184.65
Other:	<u>\$ 4,100.00</u>
Total:	\$14,353.35

3.2.7 Mill Complex

Description: The Mill Complex (**Photos 23 – 36; Appendix B**) is the next structure south of the Maintenance Shop. It is the largest structure on the property, and will likely be the most labor-intensive feature from a closure/demolition perspective due to the extensive mineral processing equipment contained therein. It is a generally rectangular structure (152-ft. x 89-ft. with one half-circular end), with an adjoining 26-ft. x 10-ft. hopper on the south end. The domed structure is situated on a radiant heated concrete slab, and is of steel framework and woven fabric cover construction. The 0.7 acre facility includes 4160V and 440V step-down transformers, electrical switchgear, and various electric motors.

In general, the southern portion of the structure is occupied by primary and secondary ore crushers, fine ore bins, and conveyor galleries. The central portion is occupied by two ball mills and rougher and cleaner flotation cell banks, gravity tables, and other processing equipment, tanks, and piping. One of the ball mills is pedestal-mounted, whereas the other is skid-mounted. Along the west one-half of the central portion there are currently four diesel powered generator sets; however, these will be removed prior to startup of the proposed operation and a new generator/power plant installed at a location approximately 1,200 ft. south (see Section 3.2.11 – Generator Set Enclosure - Proposed). Following removal of the generator sets, the available space will be converted to a gold recovery area.

The northern portion is occupied by 2 ea. 25-ft. and 1 ea. 18-ft. diameter thickener tanks and filtration equipment, and there is an open area utilized for concentrate bagging and temporary storage present at the extreme north end (if determined feasible, this area may ultimately be occupied by drum filtration equipment – see also Section 3.2.10). With the exception of the one ball mill on a 6-ft. fixed concrete pedestal, all equipment is supported by structural steel bolted directly to the concrete slab. Exterior to the mill (near the northwest corner) is a 1,000-gallon diesel fuel storage tank (w/secondary containment).

Closure Plan: Closure would initiate by completing all utility disconnects. All non-hazardous interior equipment and supplies would be removed from the mill area for disposal. It is assumed a total of ten 55-gallon drums of hazardous or special waste (i.e., process or reagent residuals, etc.) would be generated in closure of the mill feature for ultimate offsite transport and disposal at an approved RCRA TSD facility. The radiant floor heating system is assumed to contain the equivalent of twenty-five 55-gallon drums of glycol requiring management for recycle. In addition, it has been estimated that 10 yd³ of hydrocarbon contaminated soils would be encountered in closure of the AST. Interior divider wall (drywall, wood, etc.) materials would be removed

for transport and disposal in the Crystal Portal prior to portal closure. MCRI has assumed a four-man crew would be dedicated to mill dismantlement for a period of 4 weeks, as most equipment tear-down and removal will be labor intensive. The crew of 3 laborers would be supported by a full-time craftsperson (electrical) and mechanical support would be provided on an as-needed basis. Demolition and disposal would be accomplished using the 966G Loader, as well as a 725 Truck and D6G Dozer. The equipment would be utilized for heavy lifting tasks and ongoing removal of debris for disposition.

Electrical transformers and switchgear would be dismantled and removed. Crushing and grinding equipment would be dismantled and/or torch-cut to manageable size for disposition. Piping and small tanks, etc. would be torch-cut. Large (thickener) tanks would be dismantled into sections by torch-cutting connection bolts and then cutting sections, as warranted. Structural steel and matting would be torch-cut. The concrete ball mill pedestal would be drilled (jackleg or jackhammer) and blasted down to grade and resultant concrete debris either removed for disposition or utilized as fill in the subgrade conveyor gallery slot.

The superstructure would be demolished by removing and cutting the woven fabric material into manageable sizes for disposal, and steel structural supports would be similarly torch-cut into manageable lengths. All of the foregoing materials (with the exception of hazardous wastes and hydrocarbon-contaminated soils) would be transported via front-end loader and/or dozer to the Crystal portal area for emplacement burial. The concrete slab base would remain intact at ground level. Any wing-walls, etc. would be jack hammered (hydraulic hammer on backhoe/loader) and/or blasted down to grade, and resultant concrete debris would be utilized to fill the subgrade conveyor gallery slot. *Note:* Ultimately, this entire area would be scarified and available growth medium placed across the area using a dozer, with final reclamation activities (scarification, fertilization, and seeding) being deferred until final closeout of the entire Crystal Development Rock Stockpile area. Associated costs for revegetation in this area are, however, incorporated in the following cost estimate.

Anticipated Closure Requirements: Estimated to include the use of one 725 Truck (28 days) and the 966G Loader (28 days) in conjunction with the D6G Dozer (10 days) to demolish and transport debris to the Crystal Portal prior to portal closure. In addition, use of craftsperson/electrician (28 days) to de-energize the facility and dismantle electrical gear, use of 3 laborers (28 days each) to assist in debris tear-out and consolidation of waste materials. Fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit.

Incremental Requirements:

- 10 ea. 55-gallon drums of haz. waste (RCRA TSDF) @ \$800/drum
- 25 ea. 55-gallon drums of glycol (offsite recycle) @ \$400/drum
- 10 yd³ hydrocarbon contaminated soil (onsite containment) @ \$50/yd³

Estimated Direct Component Cost:

Major Equipment:	\$ 78,960.80
Dedicated Labor:	\$ 50,064.00
Revegetation:	\$ 430.85
Other:	\$ -----

Total: \$147,955.65

3.2.8 Leach Tank Building – Proposed

Description: The Proposed Leach Tank Building would be constructed adjacent to the northeast end of the Mill Building. Preliminary design indicates the structure will be of slab-on-grade construction with 4-ft. wing walls, a steel structural frame and aluminum exterior sheathing. The structure would contain a total of 6 tanks. The 110-ft. x 25-ft. x 23-ft. high structure would occupy an estimated footprint area of 2,750 ft² or <0.1 acre.

Closure Plan: It is assumed that this facility would first be completely flushed by a detoxification water rinse with neutralized rinsewater reporting to the tailing impoundment. Closure of the Leach Tank Building would then include dismantlement/removal of the structural enclosure with debris being reduced to manageable size for disposition. Interior tankage would be dismantled by torch-cutting, and debris would be reduced to manageable size for transport and emplacement burial at the Crystal Portal prior to portal closure. Above-grade concrete features would be removed to grade by jackhammer and/or blasting. The slab-on-grade concrete would remain intact and be subject to eventual burial with reclamation/closure of the overall area. *Note:* Ultimately, this entire area would be scarified and available growth medium placed across the area using a dozer, with final reclamation activities (scarification, fertilization, and seeding) being deferred until final closeout of the entire Crystal Development Rock Stockpile area. Associated costs for revegetation in this area are, however, incorporated in the following cost estimate.

Anticipated Closure Requirements: Estimated to include the use of one 725 Truck (1 day) and the 966G Loader (1 day) in conjunction with the D6G Dozer (1 day) to demolish and transport debris to the Crystal Portal prior to portal closure. In addition, use of 2 laborers (1 day each) to assist in debris tear-out

and consolidation of waste materials. Fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit.

Estimated Direct Component Cost:

Major Equipment:	\$ 6,999.70
Dedicated Labor:	\$ 1,708.00
Revegetation:	\$ 61.55
Other:	\$ -----
Total:	\$ 8,769.25

3.2.9 Miscellaneous Mill Area Outbuildings

Description: The west side of the Mill Area is occupied by a series of miscellaneous outbuildings (**Photos 37 – 39; Appendix B**) generally comprised of three platform tent structures, five Connex boxes, and one wood-framed/sided building. Two of the tent structures and four of the Connex boxes are utilized for storage of miscellaneous parts and supplies. The remaining tent structure, as well as one Connex box and the recently constructed slab-on-grade wood-framed structure are associated with exploration core sawing, logging/analysis, and storage activities. In addition, there is a large area of the surface yard in this vicinity (north of the Office/Dry Complex) that is occupied by palletized core box storage. There is also a series of steel racks, etc. and parts storage at the south end of the row of outbuildings.

Closure Plan: Any/all remaining parts and supplies would be removed for disposition. Connex boxes would then be dozer crushed and/or torch-cut into manageable size. All tent platform structures and the wood-framed structure would be demolished by dozer. The concrete slab (wood structure) would remain intact for eventual burial in conjunction with development rock recontouring and reclamation. All demolition debris would be picked up by front-end loader and be transported by truck to the Crystal portal for emplacement burial. Core samples would be pushed (by dozer) against the easterly adjacent hillside cut to provide fill. Wood pallets would be separated for eventual disposition by burning. *Note:* Ultimately, this entire area would be scarified and available growth medium placed across the area using a dozer, with final reclamation activities (scarification, fertilization, and seeding) being deferred until final closeout of the entire Crystal Development Rock Stockpile area. Associated costs for revegetation in this area are, however, incorporated in the following cost estimate.

Anticipated Closure Requirements: Estimated to include the use of one 725 Truck (1 day) and the 966G Loader (1 day) in conjunction with the D6G Dozer (1 day) to demolish and transport debris to the Crystal Portal prior to portal closure. In addition, use of 2 laborers (1 day each) to assist in consolidation and removal of waste materials. Fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit.

Estimated Direct Component Cost:

Major Equipment: \$ 3,499.85
Dedicated Labor: \$ 854.00
Revegetation: \$ 61.55
Other: \$ -----

Total: \$ 4,415.40

3.2.10 Filter Building – Proposed

Description: The Proposed MCRI Filter Building (if constructed) would be located immediately west of the central portion of the Mill Building in the vicinity of the existing generator set cooling fans. Preliminary considerations suggest that the structure would be slab-on-grade construction, with steel frame and aluminum sheathing. Current design considerations incorporate the use of a drum filtration system. Anticipated dimensions of the structure would be on the order of 20-ft. x 30-ft., for a total footprint of approximately 600 ft². *Note:* Although this feature may not be constructed if a two-drum filter configuration can be accommodated interior to the mill structure (north end), it has been appropriately included in the Plan and cost estimate as 0.2 acres potential maximum disturbance area.

Closure Plan: Closure of the Filter Building would include dismantlement/removal of the structural enclosure with debris being reduced to manageable size for emplacement burial in the Crystal Portal decline ramp. Interior equipment would be dismantled and/or torch-cut, and debris would be reduced to manageable size. Above-grade concrete features, if any, would be removed to grade by jackhammer and/or blasting. The slab-on-grade concrete would remain intact and be subject to eventual burial with reclamation/closure of the overall area. *Note:* Ultimately, this entire area would be scarified and available growth medium placed across the area using a dozer, with final reclamation activities (scarification, fertilization, and seeding) being deferred until final closeout of the entire Crystal Development Rock Stockpile area. Associated costs for revegetation in this area are, however, incorporated in the following cost estimate.

Anticipated Closure Requirements: Estimated to include the use of one 725 Truck (1 day) and the 966G Loader (1 day) in conjunction with the D6G Dozer (1 day) to demolish and transport debris to the Crystal Portal prior to portal closure. In addition, use of 2 laborers (1 day each) to assist in consolidation and removal of waste materials. Fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit.

Estimated Direct Component Cost:

Major Equipment:	\$ 3,499.85
Dedicated Labor:	\$ 854.00
Revegetation:	\$ 123.10
Other:	\$ -----
Total:	\$ 4,476.95

3.2.11 Generator Set Enclosure - Proposed

Description: MCRI has obtained air emissions permits for a proposed Generator Set Enclosure to be located at coordinates generally coinciding with the extreme southern end (at ultimate build-out configuration) of the Crystal Development Rock Stockpile. The approximately 0.1-acre area to be occupied is approximately 1,200 ft. south of the current generator set location within the Mill Building. The enclosure would consist of four adjoining Connex boxes (on timber footings) and would occupy an anticipated 1,000-ft.² footprint area. The fixed-position, elevated boxes would be skid-mounted to facilitate service access. Three of the Connex units would contain generator sets, while the fourth unit would contain switchgear, with 4160V and 440V transformers attached. *Note:* MCRI is considering potential relocation of the units to an alternate location (in the vicinity of the proposed Filter Building) at a later date. If such were to occur, there would be no material effect on the reclamation plan or associated cost estimate as the relocated feature would be virtually identical and the proposed location would occupy Crystal Development Rock Stockpile surface that is already disturbed and incorporated into the reclamation plan.

Closure Plan: Closure of this feature would include draining all fluids from the generator units. MCRI has estimated that a total of three 55-gallon drums of glycol would require management as a special waste. Used motor oil would be burned. Residual fuels would be either consumed in reclamation activities or burned. The Connex boxes would be torch-cut into manageable size for truck transport and disposition. The generator units would then be removed and transported by dozer (towed on skids) to the Crystal portal for emplacement burial along with the Connex debris. Associated buried utility

and glycol lines would be cut and/or capped at or below grade. *Note:* Ultimately, this entire area would be scarified and available growth medium placed across the area using a dozer, with final reclamation activities (scarification, fertilization, and seeding) being deferred until final closeout of the entire Crystal Development Rock Stockpile area. Associated costs for revegetation in this area are, however, incorporated in the following cost estimate.

Anticipated Closure Requirements: Estimated to include the use of one 725 Truck (1 day) and the 966G Loader (1 day) in conjunction with the D6G Dozer (1 day) to demolish and transport debris to the Crystal Portal prior to portal closure. In addition, use of 2 laborers (1 day each) to assist in consolidation and removal of waste materials. Fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit.

Incremental Requirements:

- 3 ea. 55-gallon drums of glycol (offsite recycle) @ \$400/drum

Estimated Direct Component Cost:

Major Equipment:	\$ 3,499.85
Dedicated Labor:	\$ 854.00
Revegetation:	\$ 61.55
Other:	<u>\$ 1,200.00</u>
Total:	\$ 5,615.40

3.2.12 Crystal Decline Portal

Description: The Crystal Decline Portal (**Photo 40; Appendix B**) would be the primary production adit for MCRI's Nixon Fork Project. The approximately 14-ft. wide x 12.5-ft. high portal occupies a 0.2-acre area and is situated roughly 250 ft. south of the Mill Building. It is accessed via a 15% decline ramp commencing from the back edge (at the approximate mid-point) of the Crystal Development Rock Stockpile. The slope above the portal brow has been laid back such that the overall slot opening for the decline approach is on the order of 30 ft. deep (ramp surface to pre-existing slope contour at the portal entry point). Side cut slopes are at approximately 1H:1V along the ramp as it approaches the portal.

Closure Plan: Approximately 360-ft of the decline ramp, plus an additional 295-ft. in the J5A crosscut is available for emplacement burial of debris (subject to monofill permit requirements). Miscellaneous demolition debris as

indicated above (i.e., ball mills, etc.) would be placed into the available underground area and in the open decline slot to supplement backfill requirements in preparation for final recontouring and closure. *Note:* Ultimately, this entire area would be scarified and available growth medium placed across the area using a dozer, with final reclamation activities (scarification, fertilization, and seeding) being deferred until final closeout of the entire Crystal Development Rock Stockpile area. Associated costs for revegetation in this area are, however, incorporated in the following cost estimate.

Anticipated Closure Requirements: Estimated to include the use of a 725 Truck (2 days) along with 966G Loader (2 days) to load and transport development rock onto the portal brow area (following emplacement of waste materials in the decline). Use of D6G Dozer for 2 days to recontour, scarify upslope and surrounding growth medium and spread across completed area. Fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit.

This activity would be carried out in coordination with Crystal Development Rock Stockpile reclamation activities, and following emplacement burial of waste materials in the decline. Emplacement of waste materials within the decline adit is addressed individually under the respective components.

Estimated Direct Component Cost:

Major Equipment:	\$ 6,999.70
Dedicated Labor:	\$ ----
Revegetation:	\$ 123.10
Other:	\$ <u>----</u>
Total:	\$ 7,122.80

3.2.13 Crystal Development Rock Stockpile

Description: The Crystal Development Rock Stockpile (**Photo 41; Appendix B**) currently occupies a footprint area of approximately 5.3 acres. It is anticipated that underground development work associated with the Nixon Fork Project would expand the dump feature in the southerly direction to a maximum build-out area of approximately 12.0 acres. The development rock is generally comprised of limestone, marble, and quartz monzonite, and as such does not pose an acid generating concern. A limited volume of stockpiled growth medium (estimated to be on the order of 900 yd³) is situated along the west edge, just off the toe of the feature. *Note:* The closure plan associated with this feature incorporates final site reclamation activities

associated with the numerous features located on or contiguous to the dump feature, as individually described above.

Closure Plan: Closure of the Crystal Development Rock Stockpile would occur in two phases. Final closure would not occur until all structural and related features proximal to or on the dump have been removed (as specified above). However, prior to final dump recontouring, an estimated 41,000 yd³ of development rock material (33,000 yd³ coarse rock plus 8,000 yd³ of fines) would have been removed from the development rock dump to facilitate closure of the Main Tailing Impoundment feature (see also Section 3.2.15). It is assumed that the tailing impoundment borrow material would be excavated by benching the outslope along the southern portion of the west edge of the dump in a manner that augments ultimate dump recontouring (slope reduction) efforts.

The remaining development rock material would then be pushed upslope and/or downslope (using a dozer) to effectuate the desired 2.5H:1V reduction in overall face slope. Material would also be trucked and/or dozed to provide cover and/or fill where necessary at various locations along the dump, and in particular, those areas of the Central Operations Area where concrete slabs require in-place burial.

Since minimal growth medium is available in stockpile locations in this vicinity, locally available (surrounding upslope and sideslope areas) growth medium would be scarified and pushed down (by dozer) to provide a nominal 4-inch growth medium over the recontoured/backfilled development rock matrix. The limited volume of stockpiled growth medium would be retrieved utilizing front-end loaders and transported to the dump surface for spreading by dozer. On conclusion of all recontouring activities, the entire Central Operations Area along with the associated Crystal Development Rock Stockpile would be addressed as one contiguous area and be fertilized and seeded in accordance with the standard specifications.

Note: Reclamation activities would be carried out in a manner that precludes damage to the historic Garnet #3 Shaft and appurtenant hoisthouse and sawmill structures. The Garnet Shaft and the Garnet #2 Shaft positions are located within the outline of the current dump, and were previously inundated by prior operators.

Anticipated Closure Requirements: Estimated to include the use of the D6G Dozer for 10 days to reslope the benching created by tailing impoundment borrow excavation and to push doze dump material upslope onto the development rock bench and into the hillside. Use of one 725 Truck (7 days) along with the 966G Loader (7 days) to augment recontouring activities and to load and transport growth medium from the proximal stockpile to the

reclaimed surface area. Use of D6G Dozer for 4 days to final grade the recontoured dump in preparation for growth medium application, to include scarification recovery from upslope areas and spreading of growth medium across the completed area. Fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit (2 days).

This activity would be carried out in coordination with the portal closure activities described above.

Estimated Direct Component Cost:

Major Equipment:	\$ 31,901.45
Dedicated Labor:	\$ ----
Revegetation:	\$ 7,386.00
Other:	\$ ----
Total:	\$ 39,287.45

3.2.14 Crystal Ventilation Raise

Description: The Crystal Ventilation Raise (**Photo 42; Appendix B**) is located immediately upslope from the southern portion of the existing Crystal Development Rock Stockpile. The approximately 0.5-acre area includes an approximately 8.5 ft. x 8.5 ft. inclined ventilation shaft slightly offset from the associated exhaust fan equipment. There is a Connex box fan housing, a fan shroud consisting of a segment of corrugated steel culvert, a glycol circulation system (radiators and insulated lines), and an adjacent boiler installation. The boiler installation is partially enclosed in a tent structure, and has an associated 500-gallon diesel fuel day tank (w/secondary containment). Both the fan unit and the boiler unit areas are accessed off the main mine road by short segments of gravel roadway.

Closure Plan: The fan and boiler units (and appurtenant piping, etc.) would be dismantled and transported down to the Crystal Portal area for emplacement burial prior to portal closure activities. While it is assumed that a minimal quantity of asbestos material may be present in conjunction with the boiler unit, the material would remain integral to the boiler unit and as such be acceptable for monofill disposal (as part of the boiler unit) in the Mystery Portal.

It is further assumed that an estimated five 55-gallon drums of glycol would be drained from the system prior to disassembly and managed as special waste for offsite transport and recycling at an approved facility. The day tank would be inerted and demolished (torch-cut). Any residual fuels would be

either consumed in reclamation activities or burned. In conjunction with tank removal, it is assumed that a nominal 5 yd³ of hydrocarbon contaminated soils that would be encountered, and managed onsite. All steel structural materials (i.e., fan housing/shroud, stacks, and Connex box) would be dozer crushed and/or torch-cut into manageable size for transport to the Crystal Portal emplacement area.

The raise feature would be plugged by anchoring timber cross-members at a location approximately 20 ft. down, adding plywood decking (i.e., scrap material from nearby demolition), and installing a low-density polyurethane foam plug to 5 ft. below surface. A development rock column would be introduced to surface level. The estimated 0.5-acre area would be scarified using a dozer. The surface area would then be fertilized and seeded in accordance with the standard specifications.

Anticipated Closure Requirements: Estimated to include the utilization 2 laborers x 1 day to dismantle and clean up. Use of the 966G Loader and 725 Truck (<0.5 day each) to excavate hydrocarbon contaminated soils and transport to Landfill treatment area, and to transport boiler and debris to the Crystal Portal area prior to portal closure. Use of 2-man labor crew for 1 day to install decking and cellular foam plug. Use of D6G Dozer (0.5 day) to push final subgrade fill into plugged shaft and to final grade and scarify the area. Fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit.

Incremental Requirements:

- 5 ea. 55-gallon drums of glycol (offsite recycle) @ \$400/drum
- 5 yd³ hydrocarbon contaminated soil (to containment area) @ \$50/yd³
- polyurethane plug – 8.5 ft. x 8.5 ft. x 15 ft. = 40 yd³ @ \$225/yd³

Estimated Direct Component Cost:

Major Equipment:	\$ 1,749.93
Dedicated Labor:	\$ 1,708.00
Revegetation:	\$ 307.75
Other:	<u>\$ 11,250.00</u>

Total: \$15,015.63

3.2.15 Main Tailing Impoundment and Pipeline Corridor

Description: The Main Tailing Impoundment (**Photos 43 – 46; Appendix B**) is an approximately 10.2-acre feature located approximately 1,500 ft. downslope

and west of the mill (Central Operations Area). The current impoundment crest elevation is at approximately 986-ft. amsl. While the facility could potentially be permitted for a raise to a design crest elevation of 1,010-ft. amsl, the Nixon Fork Project does not incorporate an expansion. Therefore, the feature is considered to be at maximum build-out for purposes of this Plan, and representative of maximum surface disturbance. The Tailing Impoundment is lined with a 60-mil HDPE liner, and upslope perimeter diversions are present exterior to the lined area. The HDPE tailing launder (delivery line from mill) and supernatant return lines were previously laid on-surface along a corridor extending from the Mill to the Main Tailing Impoundment. No significant disturbance was associated with this above ground line placement, and the corridor is considered naturally reclaimed. An additional HDPE slurry delivery line is proposed in conjunction with planned tailing reprocessing activities. It is assumed that the new slurry line will generally follow the same corridor, however, an incremental 0.4-acre disturbance has been assumed to result from placement of the new line, for a total reclamation area of 10.6 acres.

Closure Plan: It is assumed that the Main Tailing Impoundment would be closed in the following manner. Residual fluids would be removed via land application at an area southeast of and below the earthen embankment. The formerly inundated (interior) area would be allotted sufficient drain down and air-dry time to accommodate heavy equipment. The earthen embankment would then be breached along one side. Following this, the tailing material surface would be lightly worked in order to modify the surface to effectuate positive drainage off the feature. A non-woven geotextile fabric would then be placed atop approximately 50% of the reconfigured tailing to augment bearing capacity (August 2005 field examination indicates approximately 50% of the area would not require placement of geotextile material to augment the encapsulating cover) and to facilitate placement of development rock cover. A nominal 2-ft. cover of development rock (obtained from the expanded Crystal Development Rock Stockpile) would then be placed atop the geotextile, followed by a nominal 6-inch cover of development rock fines and/or growth medium. The entire feature would then be revegetated in accordance with (modified to a minimum of 300 lbs./acre fertilizer) standard specifications.

Anticipated Closure Requirements: Estimated to include the use of the 966G Loader in conjunction with 2 ea. 725 Trucks for an overall work duration of 50 days. This equipment suite would accomplish excavation, loading, and transport of the development rock cover from the Crystal Development Rock Stockpile area down to the tailing feature. Also, use of the D6G Dozer for an equivalent 50-day duration to accomplish preparation and contouring of the tailing surface as well as spreading and leveling of encapsulating materials. Use of a 3-man labor crew and utility backhoe/loader for 4 days to install the

geotextile material. Use of 2-man labor crew for 2.5 days to remove surface conveyance lines and to install and make operational the spray evaporation system and 0.5 days for subsequent removal (also, provision for 300 gpm pump and perforated PVC piping).

Incremental Requirements:

- 225,000 ft.² of 16 oz. non-woven geotextile fabric (\$56,250)
- DC-6 delivery of geotextile fabric (non-verified cost: \$15,000)
- 300 gpm pump and perforated PVC pipe (non-verified cost: \$10,000)

Estimated Direct Component Cost¹:

Major Equipment:	\$ 234,181.50
Dedicated Labor:	\$ 7,686.00
Revegetation:	\$ 6,757.50
Other:	<u>\$ 81,250.00</u>

Total: \$ 329,875.00

¹Important Note: It should be noted that the above closure scenario is based on closure of an “at or near capacity” Main Tailing Impoundment. In the event the Main Tailing Impoundment were to be closed after virtual “emptying” (i.e., indicative that transfer of substantially all tailing materials to the Filtered Tailings Disposal Site would occur), the Main Tailing Impoundment closure requirements would be significantly reduced. In general, the modified closure would likely involve limited to no free liquid removal, followed by impoundment breaching and minimal drainage earthworks, liner destruction and burial, and placement of a nominal 4-inch growth medium across the surface formerly occupied by the impoundment feature. In the event MCRI operations result in this type of modified closure, it shall be incumbent upon MCRI to timely amend the reclamation plan and address any resultant change in bonding requirements accordingly (See also Section 3.2.16 – Filtered Tailings Disposal Site).

3.2.16 Filtered Tailings Disposal Site - Proposed

Description: The proposed Filtered Tailings Disposal Site (**Photos 48 and 48(b); Appendix B**) would be constructed off the south end of the Old (1990) Airstrip. (Note: This roughly coincides with the current drum storage and staging area for the pending BLM-administered Removal Action). The proposed 13.5-acre facility would be constructed by excavating to bedrock (nominally at 4- to 6-ft. depth, based on recent investigatory trenching). Excavated material would be stockpiled proximal to the excavated area

(stockpile area included in 13.5 acres). Detoxified and filtered tailings (<20% moisture content) would then be stacked in a benched or terraced configuration such that the resultant overall side slope(s) would not exceed 4H:1V. Residual draindown (if any) and surficial runoff would report (via constructed drainage channel) to an adjacent “percolation pond”. Note: The facility design at full build-out accommodates all tailing that is to be reprocessed. Therefore, the Plan is based on maximum total disturbance for this feature.

Closure Plan: The feature would be closed through recontouring the mound (by dozer) such that terraces are eliminated and outslopes are maintained at a maximum 4H:1V gradient. The top of the feature would be altered to a “domed” configuration with a nominal 3% slope gradient to the north. In order to accomplish this, a ramp would first be constructed up the north face of the feature by dozer. A thin mantle of development rock would be placed upon the ramp to create a working surface for rubber-tired equipment. Stockpiled cover material (from the original excavation) would be moved up the ramp by front-end loader and distributed for subsequent downslope placement. (It has been assumed that the excavated cover volume (due to swell) would be sufficient to provide a nominal 3-ft. cover of natural growth medium). A dozer would be utilized to complete the final contouring and spreading of the cover material (to include closure/cover of the ramp as well as the percolation pond). The resulting 13.5-acre feature subject to reclamation and closure activities would then be fertilized and seeded in accordance with the standard specifications.

Anticipated Closure Requirements: Estimated to include the use of D6G Dozer for period of 4 days to construct access ramp and conduct general recontouring. Use of one 725 Truck and the 966G Loader for a period of 4 days each to transport and deliver development rock (for ramp construction) and bring cover material to the feature. D6G Dozer for an additional 2 days to spread cover material and establish final grade. Use of 1 laborer and utility backhoe/loader for 2 days to augment activities. Fertilization and seeding would be accomplished under the standard specification (modified to a minimum of 300 lbs./acre fertilizer) utilizing the ATV broadcast seeder unit.

Estimated Direct Component Cost:

Major Equipment:	\$ 16,438.40
Dedicated Labor:	\$ 854.00
Revegetation:	\$ 8,606.25
Other:	\$ -----
Total:	\$ 25,898.65

3.2.17 Meteorological Station

Description: The Meteorological Station (**Photo 47; Appendix B**) consists of a single metal tower located immediately north of the Crystal Ventilation Raise. The tower is mounted on a concrete pad and is guyed to ground anchors and occupies approximately 0.05 acres.

Closure Plan: The guy wires would be severed and the tower pulled down using the utility backhoe. The tower would then be broken down into segments along bolted connecting plates and/or torch cut. Debris would then be transported to the Landfill for disposal utilizing the utility backhoe/loader. The concrete pad would be buried using surrounding soil materials (by dozer) and the immediately surrounding area would be scarified. The <0.1 acre surface area would then be fertilized and seeded in accordance with the standard specifications.

Anticipated Closure Requirements: Estimated to include the use of 2-man labor crew for period of 1 day. Use of utility backhoe/loader for 0.5 day. Use of D6G Dozer for <0.5 day to level and scarify surface. Fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit.

Estimated Direct Component Cost:

Major Equipment:	\$ 609.75
Dedicated Labor:	\$ 854.00
Revegetation:	\$ 30.78
Other:	\$ -----
Total:	\$1,494.53

3.2.18 Explosives Magazine

Description: The Explosives Magazine (**Photos 49 and 50; Appendix B**) consists of a series of four individual steel storage units situated at an isolated, level 0.5 acre area accessed via the road from the north end of the reclaimed Old (1990) Runway. The storage units (property of Atlas Alaska, Inc.) include one Connex box and a series of three skid-mounted vault units, each approximately 6 ft. x 6 ft. by 6 ft. high. Blasting caps, detonators, and blasting agent (ammonium nitrate/fuel oil, or "ANFO") or similar materials would be stored in the units during the Nixon Fork Mine operational life. There is also an additional wood-sided storage unit (similar in appearance to

a Connex box) located in this immediate vicinity that would be addressed in conjunction with this feature.

Closure Plan: It has been assumed that even though the units are the property of Atlas Alaska, Inc., the cost of removal from the site would likely exceed the value of the units and the owner would forego recovery. Therefore, the units have been incorporated into the Plan. It is further assumed that there would be no explosives products remaining at time of closure. Closure would entail dozer crushing and/or torch-cutting the units into manageable size, and transport of the resulting debris to the Crystal Portal area for emplacement burial.

Anticipated Closure Requirements: Estimated to include the use of 2-man labor crew for period of 1 day. Use of 966G Loader for 1 day to assist in demolition and transport of debris. Use of D6G Dozer for 1 day to level and scarify surface. Fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit. It is assumed that the units are fully depreciated by Atlas and that no settlement remuneration would be required.

Estimated Direct Component Cost:

Major Equipment:	\$ 2,329.03
Dedicated Labor:	\$ 854.00
Revegetation:	\$ 307.75
Other:	\$ -----
Total:	\$ 3,490.78

3.2.19 Fuel Depot

Description: The 0.6-acre Nixon Fork fuel depot is located immediately off the north end of the Hercules Airstrip (**Photos 51 and 52; Appendix B**). The facility design is such that air transport delivery of fuel supplies can be offloaded using quick-connect flexible piping that feeds a series of up to four individual storage bladders. There are two parallel hypalon-lined secondary containment cells approximately 30-ft. x 60-ft. in footprint area with approximately 6-ft. high perimeter berms. Each cell holds up to two individual #2 diesel fuel storage bladders, for a total of four. A dual-walled underground pipeline delivers fuel to the Central Operations Area. In addition to the diesel fuel bladders, there are two small, above ground tanks (utilized for gasoline storage) that are located atop the containment cell perimeter. Two small wood-frame structures that house pumping equipment are also present. One of the two cells (along with its two bladders) is currently decommissioned; however, it is anticipated that both cells (totaling four bladders) would be

utilized during the operational life of the mine. The complete four-bladder unit is incorporated into this Plan in order to address maximum total disturbance.

Closure Plan: Pump equipment, hoses, and valves would be removed from the wood structures and placed on the interior crest of the containment cell and allowed to air dry to ensure there is no residual free product, and transported to the Landfill. Wood structures would be demolished and debris transported to the central burn area. The buried fuel delivery line would be cut, allowed to siphon (with residual product being collected and utilized for reclamation activities or burned), capped at each end, and left in place. Above ground delivery lines would be cut, drained, and allowed to air dry, and then transported to the Landfill. Bladders would be emptied of contents (to be either consumed in reclamation activities or burned), cut open, and wiped down with absorbent materials. The bladders would then be further cut up into smaller segments and allowed to air dry to ensure there is no residual free product, and then transported to the landfill. The containment cell liners would be wiped down with absorbent materials, then cut and/or folded for burial in place. The area would then be backfilled/leveled by dozer using the locally available soils (generally present as the perimeter berming features). The 0.6-acre surface area would then be fertilized and seeded in accordance with the standard specifications. *Note:* Provision has been allowed for potential shallow-zone hydrocarbon soil contamination to be present beneath the containment liner. It has been assumed that a nominal contamination depth of 4-inches is present under the bladder area (60 ft. x 60 ft.), resulting in approximately 40 yd³ of contaminated soil to be managed onsite, to include transport to the Landfill containment area.

Anticipated Closure Requirements: Estimated to include the use of 2-man labor crew for period of 10 days to accomplish tear-down of fuel bladders, lines, etc. Use of 966G Loader and 725 Truck for 2 days to excavate and transport hydrocarbon contaminated soils and equipment debris to Landfill and associated treatment area. Use of D6G Dozer for 1 day to level and scarify surface. Fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit.

Incremental Requirements:

- 40 yd³ hydrocarbon contaminated soil (onsite containment) @ \$50/yd³

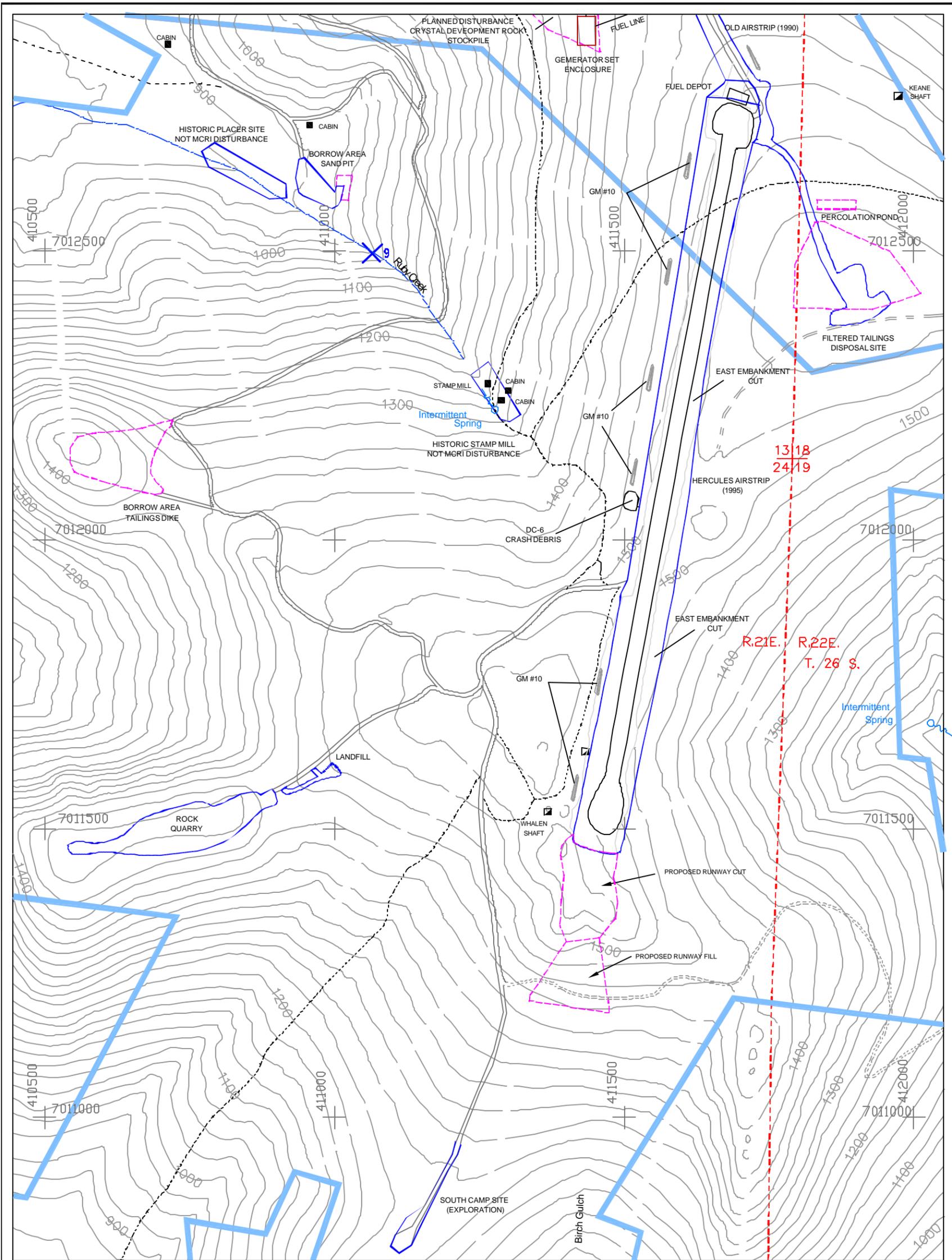
Estimated Direct Component Cost:

Major Equipment:	\$ 5,942.20
Dedicated Labor:	\$ 8,540.00
Revegetation:	\$ 369.30
Other:	<u>\$ 2,000.00</u>

Total: \$16,851.50

3.3 South and Outlying Areas

The South and Outlying Areas encompass a number of ancillary features located generally throughout the southern portion of the Nixon Fork Mine property, as depicted in **Figure 3-4: South and Outlying Areas Detail**. It contains the following primary features and associated closure and reclamation activities.



MYSTERY CREEK RESOURCES, Inc.
NIXON FORK MINE AREA
LEGEND

- | | | | |
|--|--|--|--------------------------------------|
| | Former stream gauge approximate location and number from 1990 project. | | Existing Disturbance |
| | Approximate location of spring with flow direction | | Proposed Disturbance |
| | Mine Portal | | North Area Reclamation |
| | Existing Shaft | | Central Area Reclamation |
| | GM #1 - Growth Media Stockpile | | South and Outlying Areas Reclamation |
| | Historic Cabin/Building | | |
| | Existing Road | | |
| | Existing Road or Track | | |
| | Existing Trail | | |



0m 50m 100m 150m 200m

Map compiled and modified by:
Wayne R. Kemp
Mystery Creek Resources, Inc.
Golden, Colorado
(303) 277-1222
(303) 907-2599 (mobile)
E-mail: Wrkemp@cs.com

MYSTERY CREEK RESOURCES, INC

FIGURE 3-4
SOUTH AND OUTLYING AREAS
DETAIL

August 18, 2005

SCALE: SCALED TO FIT

Note that MCRI has proposed to construct an extension of the south end of the Hercules Airstrip. However, since the Hercules Airstrip landing surface would not be reclaimed (see also Section 3.5) only the east-side embankment cut of the runway is addressed herein.

Further, the Old (1990) Airstrip (already reclaimed) is not identified as a specific reclamation component in this Plan, however, affected portions are otherwise addressed in conjunction with reclamation of those components described in Section 3.2.16 - Filtered Tailings Disposal Site and more specifically within Section 3.4.2 – Roadways (incorporates a 6.7-acre incremental add-on).

3.3.1 Hercules Airstrip East Embankment Cut

Description: The 4,200 ft. Hercules Airstrip (**Photos 53 and 54; Appendix B**) will not be reclaimed as it will be left intact to serve as an emergency landing strip (see Section 3.5). However, the original 1995 cut and fill construction of the runway resulted in an exposed embankment along the extent of the east side of the runway that remains non-vegetated and as such is subject to minor erosion. The embankment cut exhibits an approximate 2.5H:1V gradient. Given that a runway extension (approximately 800 ft. in length) is proposed for the south end of the airstrip and assuming that increment would also require equivalent revegetation (to address maximum total disturbance) the nominal distance to be addressed would be on the order of 5,000 ft. It has been assumed that the slope width is approximately 50 ft., resulting in a total area of 5.7 acres to be revegetated.

Closure Plan: Utilizing a dozer, the embankment would be scarified in the longitudinal direction to introduce erosion resistant furrows and zones for seed entrapment. Final grade would be established by dozer pushing of toe materials back upslope, followed by using the dozer to slope walk (traverse perpendicular to the slope to introduce full upslope grouser compaction and seed bed traps) the length of the embankment. In this manner, the feature can be revegetated without consuming stockpiled growth medium. It is assumed that stockpiled growth medium in the immediate area (estimated to total on the order of 13,00 yd³) would be better utilized elsewhere onsite. The 5.7-acre surface area would then be fertilized and seeded in accordance with the standard specifications. Following fertilizer/seed application, the runway-adjacent v-ditch would be cleaned utilizing the utility backhoe/loader, and a windrow of the material placed along the runway side of the ditch to mitigate potential run-on concerns associated with the runway surface.

Anticipated Closure Requirements: Estimated to include the use of D6G Dozer for 3 days to scarify and prepare final grade. Use of 966G Loader for 2 days to assist in slope preparation. Use of utility backhoe/loader for 2 days to excavate ditch and place windrowed material. Fertilization and seeding would

be accomplished under the standard specification utilizing the ATV broadcast seeder unit.

Estimated Direct Component Cost:

Major Equipment:	\$ 6,039.56
Dedicated Labor:	\$ -----
Revegetation:	\$ 3,508.35
Other:	\$ -----

Total: \$ 9,547.91

3.3.2 DC-6 Crash Debris

Description: During operations conducted by prior operators in the 1990s, a DC-6 cargo plane (**Photos 55 and 56; Appendix B**) went off the west side of the Hercules Airstrip at a location approximately 1,200 ft. north of the south end (in the vicinity of the road to the Landfill). One wing was apparently salvaged, crated, and subsequently placed near the north end of the runway for eventual recovery (it remains at that location). The remaining crash debris (fuselage, etc.) was left in place at the original crash site. This feature is not related to MCRI's proposed activities, but is voluntarily included in the Plan.

Closure Plan: The toe of the embankment area immediately to the south of the wreckage would be excavated by dozer to create a slot or void area sufficient for the wreckage volume. The wreckage would then be dozed into the slot and consolidated using the dozer. The crated wing would be transported by front-end loader down to the burial location and also placed in the void. The slot would be backfilled by dozer and blended with the surrounding area. The approximately 0.25-acre disturbed surface area would then be fertilized and seeded in accordance with the standard specifications.

Anticipated Closure Requirements: Estimated to include the use of D6G Dozer for 1 day to excavate disposal trench, crush emplaced debris, and push cover material over the buried debris. Use of 966G Loader for 1 day to transport aircraft wing and fuselage debris to the trench cut. Final grade would be established with the dozer. Fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit.

Estimated Direct Component Cost:

Major Equipment:	\$ 2,329.03
Dedicated Labor:	\$ ----
Revegetation:	\$ 153.88
Other:	\$ ----

Total: \$ 2,482.91

3.3.3 Sand Pit Borrow Area

Description: The Sand Pit Borrow Area (**Photos 57 and 58; Appendix B**) is an existing 0.9-acre borrow area associated with a thin mantle of alluvial sand just east of the historic placer area. It consists of a level-floor, excavated area with an open face cut ranging from approximately 3-ft. to as much as 15-ft. in height along an estimated 300-ft. length. There has been significant natural revegetation encroachment on the feature. The adjacent undisturbed area is predominantly dense forestation of aspen and spruce. It is proposed that this area would be again utilized as a borrow source (cover material for concrete foundations), resulting in an anticipated final disturbed surface area of 1.1 acres. It is assumed that this incremental borrow volume would be obtained by directly advancing into the open face.

Closure Plan: Closure of the Sand Pit Borrow Area would be accomplished in a manner that reduces the potential for incremental damage to undisturbed forest and/or naturally revegetated areas to occur. In order to reduce interior slopes to a nominal 2.5H:1V gradient, it has been assumed that a front-end loader would be utilized to extract a thin mantle of material along the remnant crest, depositing the material along the toe area, followed by backdragging (perpendicular to the face) with the bucket to establish the desired grade. A dozer would be then utilized to push and distribute the growth medium up the face slope, and to establish final grade. The approximately 1.1-acre disturbed surface area would then be fertilized and seeded in accordance with the standard specifications.

Anticipated Closure Requirements: Estimated to include the use of 966G Loader for 1 day to perform highwall reduction and redistribution of material along face. Use of D6G Dozer for 1 day to push/distribute growth medium up and along the exposed face area and to establish final grade. Fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit.

Estimated Direct Component Cost:

Major Equipment:	\$ 2,329.03
Dedicated Labor:	\$ ----
Revegetation:	\$ 677.05
Other:	\$ ----

Total: \$ 3,006.08

3.3.4 Tailing Dike Borrow Area - Proposed

Description: The Tailing Dike Borrow Area [**visible in Photo 14 (center) and Photo 44 (right); Appendix B**] was utilized by a prior operator as the primary source of material for the construction of the starter dam and initial embankment of the Main Tailing Impoundment. The leveled hilltop area contains remnant fragmented and colluvial materials located on a hillside within intermittent bedrock exposures. It has been previously reclaimed and currently exhibits significant vegetative cover that is subject to ongoing encroachment by natural revegetation processes. The area may (or may not) be utilized as an additional borrow source for various activities (more suitable sources may exist in other features). If so, it is assumed that approximately 3.4 acres in this area would be re-disturbed. The presumed total has been addressed in the Plan to incorporate maximum total disturbance.

Closure Plan: Any embankments or cut slopes would be reduced to a nominal 2.5:1V gradient utilizing a dozer w/ripper. The affected area and the immediate surrounding area would be aesthetically blended into the hillside and scarified, introducing growth medium (to the extent available around the perimeter of the area) into the surface. The approximately 3.4 acres of disturbed surface area would then be fertilized and seeded in accordance with the standard specifications.

Anticipated Closure Requirements: Estimated to include the use of D6G Dozer for 2 days to rip/scarify materials and establish final grade. Fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit.

Estimated Direct Component Cost:

Major Equipment:	\$ 2,115.00
Dedicated Labor:	\$ ----
Revegetation:	\$ 2,092.70
Other:	\$ ----

Total: \$ 4,207.70

3.3.5 Solid Waste Landfill

Description: The Solid Waste Landfill (**Photos 60 – 62; Appendix B**) is located adjacent to the Rock Quarry (also referred to as the former “upper airstrip”) and is approximately 0.4 mile west of the south end of the Hercules Airstrip. The 0.3-acre site is permitted and utilized for disposal of solid waste, and it is anticipated that an additional 0.2 acres of landfill capacity would be developed by MCRI. However, concurrent reclamation would occur during the operational life of mining operations. Regardless (in order to address maximum total disturbance), it has been assumed that total disturbance at time of closure would be on the order of 3.0 acres as the landfill would serve as the final staging area and repository for various demolition related wastes. Easterly adjacent to the active landfill area is a hydrocarbon contaminated soil containment (treatment by aeration/biodegradation) area approximately 50-ft. in length x 12-ft. wide and 2-ft. deep. It is estimated to currently contain approximately 50 yd³ of contaminated soil, and it is anticipated that the area will be enlarged during closure activities in order to accept and treat additional hydrocarbon contaminated soils. Based on Plan development, it is anticipated that an additional 125- to 150 yd³ of hydrocarbon contaminated soil would be added to the area for in-place aeration/biodegradation treatment. An empty fuel tank trailer (tanker) and a mobile generator unit are also present at the Landfill.

Closure Plan: The tanker would be inerted and cut apart for disposal in the adjacent landfill area. The mobile generator unit (if still present) would be transported to the Crystal portal for emplacement burial. The Landfill would be closed by placement of adjacent stockpiled material augmented by rock cover materials obtained from the adjacent Rock Quarry (former landing strip), as necessary. It is assumed that the rock cover would be placed directly atop compacted waste and in any remaining void areas to consolidate underlying materials and obtain a stable, recontoured surface that blends with surrounding topography (maximum slope gradient of 2.5H:1V). Growth medium cover material from the immediately surrounding area would then be obtained through scarification and dozing onto the surface of the Landfill. The approximately 3.0 acres of disturbed surface area would then be fertilized and seeded in accordance with the standard specifications. The hydrocarbon contaminated soil containment area would be designed and constructed in accordance with requirements under an approved ADEC-administered “contaminated sites program” application and corrective action plan. Construction of a temporary fence enclosure (plastic barrier) would be anticipated.

It is assumed the (post closure) corrective action plan requirements would incorporate annual observation. This would be done in conjunction with routine post-closure monitoring (see Section 3.4.4) activities during years 1,

2, and 5. It is further assumed that at year 5 the containment area would be determined a “no further action” site, and as such, would receive fertilizer and seed in accordance with the standard specification. The required minimal quantity of fertilizer and seed supplies would be transported in with monitoring personnel at non-significant cost. Fence materials would be removed from the site. The year 5 activities are assumed to be incidental to the planned monitoring program and as such, all associated costs are considered non-significant.

Anticipated Closure Requirements: Estimated to include the use 2 labor personnel for period of 2 days to perform general site cleanup and demolition (tanker) activities. Use of D6G Dozer for 4 days to backfill and compact cover material and to rip/scarify materials and establish final grade. Use of 966G Loader for 4 days to augment cover placement and facilitate construction of the hydrocarbon contaminated soil stockpile. Fertilization and seeding of the landfill area would be accomplished under the standard specification utilizing the ATV broadcast seeder unit.

Incremental Requirements¹:

¹Note that a \$50/yd³ special handling cost has previously been assigned to petroleum hydrocarbon contaminated soils in each respective component where presence of such has been identified. Costs associated with the preparation of a Corrective Action Plan are considered adequately addressed under the BLM Administrative Costs - ED&CP reserve amount.

Estimated Direct Component Cost:

Major Equipment:	\$ 9,316.12
Dedicated Labor:	\$ 1,708.00
Revegetation:	\$ 1,846.50
Other:	\$ -----
Total:	\$12,870.62

3.3.6 Rock Quarry

Description: The Rock Quarry (**Photo 63; Appendix B**) is a former runway that is situated immediately west of and proximal to the Landfill Area. It occupies an approximately 4.6-acre, somewhat undulating area of crushed rock surface. Multiple face excavations are present as the area has been previously used as a borrow source. MCRI may also utilize the feature as a potential source of borrow material. However, it is unlikely that doing so would result in any increase in disturbed area as there are numerous accessible faces already opened up within the already disturbed surface area.

Closure Plan: At closure, the feature would be recontoured and ripped (by dozer) to eliminate any active face (highwall) areas and to re-establish the undulating surface such that it blends with the surrounding terrain. It is envisioned that ripping of the already fragmented material would generate “fines” and porosity in the upper zone to aid in the establishment of vegetation. Maximum final slope gradients will be maintained at 2.5H:1V. As there is no readily identifiable source of growth medium in the vicinity, there would be no placement of growth medium. However, the approximately 4.6 acres of disturbed surface area would be fertilized and seeded in accordance with the standard specifications.

Anticipated Closure Requirements: Estimated to include the use of D6G Dozer for 4 days to rip/scarify materials and establish final grade. Use of 966G Loader for 4 days to augment material transport and placement. Fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit.

Estimated Direct Component Cost:

Major Equipment:	\$ 9,316.12
Dedicated Labor:	\$ -----
Revegetation:	\$ 2,831.30
Other:	\$ -----
Total:	\$12,147.42

3.3.7 Old (South) Camp Area

Description: The Old South Camp Area (**Photo 64; Appendix B**) has been utilized as a seasonal exploration camp since about 1990. Located approximately 2,500 ft. south of the south end of the Hercules Airstrip (and accessible by road), the area constitutes approximately 0.8 acre of disturbed surface. Two weatherport buildings, several plywood tent platforms, a maintenance shed, and a core sawing shed remain present at the site, along with several stacks of palletized drill core. The area may be utilized by MCRI as part of the proposed project; however, no additional surface disturbance is anticipated other than incremental disturbance associated with site closure.

Closure Plan: Closure would be accomplished by using a dozer and/or loader to excavate a bank cut and/or burial trench at the location. Structures would be demolished (using the dozer) and pushed into the burial trench and compacted. The stored drill core would be dozed into the slot atop the structural debris and consolidated using the dozer. Excavation spoil would then be dozed back over the burial trench and final grade consistent with surrounding topography would be established. The approximately 0.8 acre of

disturbed surface area attributable to the burial trench and equipment movement would then be fertilized and seeded in accordance with the standard specifications.

Anticipated Closure Requirements: Estimated to include the use of D6G Dozer (2 days) and the 966G Loader (1 day) to excavate the disposal trench, demolish structures and transfer debris to the disposal trench, backfill trench and establish final grade. Use of 2 labor personnel for 2 days to assist in material sorting and segregation. Fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit.

Estimated Direct Component Cost:

Major Equipment:	\$ 3,386.53
Dedicated Labor:	\$ 1,708.00
Revegetation:	\$ 492.40
Other:	\$ -----
Total:	\$ 5,586.93

3.4 Sitewide or Unbounded Areas

The Sitewide or Unbounded Areas category has been reserved for specific features that are not readily addressed within the specific geographic boundaries presented for the preceding reclamation areas. For purposes of this Plan, the included features are limited to “underground workings”, “site roadways”, and “exploration sites.”

The extent of “site roadways” that will either be reclaimed or left intact is depicted in **Figure 3-5: Sitewide or Unbounded Areas Detail.**

Note that “underground workings” incorporate the extent of underground development (generally accessed via the Crystal and/or Mystery declines) and are therefore not specifically depicted in Figure 3-5. Likewise, “exploration sites” are indeterminate at this time, and as such are not depicted in Figure 3-5.

3.4.1 Underground Workings

Description: At termination of mining activities, there would be an extensive network of underground workings that includes decline ramps, working levels, mined out stopes, cross-cuts, and ventilation raises, etc. Mine equipment that

remains present at closure would likely be at or near the end of economic life and therefore would be abandoned underground.

Closure Plan: Closure of the Underground Workings would include a comprehensive underground reconnaissance/assessment to determine the presence of hazardous materials, if any. It is assumed that five 55-gallon drums of hazardous waste (for offsite disposal at a RCRA TSD facility) would be generated as a result of this effort. Fixed equipment that is determined not to present a hazardous or toxic material concern would remain in place. Mobile equipment would be brought to an inby location (i.e., stope area) in the vicinity of the Crystal portal area and be drained of fluids (e.g., hydraulic fluids, motor oil, coolant), batteries removed, and the equipment subsequently abandoned in place. It is assumed that fifteen 55-gallon drums of special waste (coolant, lead-acid batteries, etc. for offsite recycle) would be generated from this effort, allowing that hydraulic oil and used motor oil would be burned onsite for disposition. Final portal closure is independently addressed under Section 3.1.1 – Mystery Portal and Section 3.2.12 - Crystal Portal, respectively.

Anticipated Closure Requirements: Estimated to include the use of D6G Dozer and the 966G Loader for a 7-day duration to move and place equipment in underground disposition areas. Use of maintenance/mechanical specialist and 2-man labor crew for 7 days to perform equipment abandonment tasks.

Incremental Requirements:

- 15 ea. 55-gal. drums glycol/batteries (offsite recycle) @ \$400/drum
- 5 ea. 55-gallon drums haz. Waste (RCRA TSDF) @ \$800/drum

Estimated Direct Component Cost:

Major Equipment:	\$ 16,301.21
Dedicated Labor:	\$ 9,527.00
Revegetation:	\$ ----
Other:	<u>\$ 10,000.00</u>
Total:	\$ 35,828.21

3.4.2 Site Roadways

Description: The existing network of roads that are directly associated with modern and proposed mining operations comprises an aggregate 13.3 acres of surface disturbance, inclusive of cut and fill slopes, where present. No additional road construction is anticipated (except as noted below under Section 3.4.3 - Exploration Sites).

There are also a number of historic roads and/or trails that approach and/or cross the site; however, these are not included in the aforementioned total and are not subject to reclamation (see Section 3.5).

Closure Plan: Those roads that are clearly delineated on Figure 3-5 as being subject to reclamation would be reclaimed as follows. For those road segments that exist on level ground (versus a cut/fill profile), a dozer would be utilized to rip the compacted surface longitudinally, followed by final grade preparation to approximate original contour. It has been assumed that 25% of the roadway area fits this description. For those road segments that exist as cut/fill profiles (assumed as 75% of the total roadway area), a dozer would be positioned perpendicular to the bank and the ripper shank utilized in a manner such that the upslope bank is pulled down into the roadway. The available growth medium horizon (**Photo 68; Appendix B**) throughout the site is limited. Final grade would be prepared to an aesthetically blending profile. If and where downslope spoil can be brought up into the recontouring operation without resulting in additional downslope surface disturbance, such would be undertaken, most likely utilizing the utility backhoe. Otherwise, downslope spoils would remain in their current configuration. It has been assumed that the 75% portion would experience a disturbed surface area increase of approximately 15% due to the upslope ripping/pulldown and subsequent grading. This, with incorporation of roadway portions of the Old Runway results in a total reclaimed area for roadways (subject to fertilization and seeding) of approximately 20.0 acres. The incremental area in the Plan therefore incorporates maximum total disturbance.

Anticipated Closure Requirements: Estimated to include the use of D6G Dozer for duration of 10 days, augmented with use of the 966G Loader for 4 days. Use of 1 labor person with utility backhoe/loader for period of 7 days to assist. Fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit (2 days).

Estimated Direct Component Cost:

Major Equipment:	\$ 16,795.12
Dedicated Labor:	\$ 2,989.00
Revegetation:	\$ 12,310.00
Other:	\$ -----
Total:	\$ 32,094.12

3.4.3 Exploration Sites

Description: MCRI would carry out exploration programs on an annual basis, with concurrent reclamation also occurring on an annual basis and subject to annual ADNR inspection. Individually, the Exploration Sites (**Photo 65; Appendix B**) are generally very small areas, on the order of ¼-acre, and future drilling locations at this juncture are indeterminate and/or considered proprietary information. On average, MCRI anticipates approximately 10-acres disturbance per year to be associated with exploration access roads and drilling pads and/or trenching.

In general, site preparation for these activities would be limited to tree removal (where necessary), and surficial soils and vegetative mats would remain in place. Trails used to access drill sites would be constructed in a similar manner. On this basis, it has been conservatively assumed for bonding requirements (as a “worst-case” basis) that a maximum two years of exploration activity (i.e., 20 acres) would remain unreclaimed at any time or at termination of mining operations.

Closure Plan: Boreholes would first be plugged with a bentonite hole plug, a benseal mud, or equivalent slurry, for a minimum of 10-ft. within the top 20-ft. of the drill hole in competent material. The remainder of the hole would be backfilled to the surface with drill cuttings. In the event water is encountered in any drill hole, a minimum of 7-ft. of bentonite hole plug, benseal mud, or equivalent slurry would be placed immediately above the static water level in the drill hole. Boreholes exhibiting artesian conditions would require special notification to ADNR or ADEC as to method of closure/abandonment.

Final closure of exploration sites would include dozer backfilling of trenches and any other surface depressions created as a result of drilling activities. The backfilled areas would then be lightly scarified and final graded, taking maximum advantage of any stockpiled growth medium at the site. The disturbed surface area(s) would be fertilized and seeded in accordance with the standard specifications.

Equipment and Related Anticipated Closure Requirements: Due to the probable remoteness and relative inaccessibility of exploration sites, allowance has been made for equipment travel time. Therefore, closure/reclamation is estimated to include the use of D6G Dozer for a duration of 5 days, augmented with use of the 966G Loader for 2 days. Use of 1 labor person with utility backhoe/loader for a period of 2 days to assist. Fertilization and seeding would be accomplished under the standard specification utilizing the ATV broadcast seeder unit.

Incremental Requirements:

- Assume 80 boreholes @ \$50/borehole miscellaneous materials for borehole plugging/abandonment (e.g., bentonite, benseal, etc.)

Estimated Direct Component Cost:

Major Equipment:	\$ 8,154.56
Dedicated Labor:	\$ 854.00
Revegetation:	\$ 12,310.00
Other:	<u>\$ 4,000.00</u>
Total:	\$25,318.56

3.4.4 Post-Closure Monitoring

A 30-year post-closure monitoring plan would be implemented following completion of closure and reclamation activities. The plan would provide for site visits/inspections to conduct routine monitoring of the following major components.

- Tailing Dam Stability
- Surface Water Quality
- Storm Water Management Controls
- Reclamation Status

The post-closure monitoring would be conducted annual for the first two years commencing in 2012, the first year following completion of mine closure and reclamation activities. Thereafter, monitoring events would occur on the fifth and tenth year, and then at each successive ten year interval until a 30-year post-closure monitoring cycle has been completed (i.e., years 2012, 2013, 2016, 2021, 2031, and 2041).

The estimated cost for annual monitoring is \$29,440, inclusive of personnel costs, sampling and laboratory analysis, and travel to/from the site. A detailed compilation of costs is provided as **Table A-5: Post-Closure Monitoring Costs** (Appendix A). It has been assumed that an additional \$1,000 would be required (above the estimated amount) to cover miscellaneous expenses associated with each monitoring event.

Estimated Direct Component Cost:

Major Equipment:	\$ n/a
Dedicated Labor:	\$ n/a
Revegetation:	\$ n/a
Other:	<u>\$30,440</u> per Table A-5 (Appendix A)
Total:	\$30,440 per monitoring event

Since post-closure monitoring costs would not occur until after completion of closure and reclamation activities, they have not been included in the reclamation cost estimate totalizations provided in Table 2.7(a) and Table 2.7(b). However, the post-closure monitoring costs have been integrated into the inflated value expenditure schedule presented as Table 2.8.

3.5 Specifically Excluded Areas

The following features or areas are either considered not subject to reclamation, or are otherwise specifically excluded from MCRI's Reclamation Plan for the reasons indicated.

3.5.1 Hercules (1995) Airstrip Landing Surface

The Hercules Airstrip (**Photos 53 and 54; Appendix B**) landing surface would be left intact to provide future site access for post-closure monitoring activities and to serve as an emergency landing strip. On completion of long-term monitoring activities it would continue to remain intact to function as an unmanned emergency landing strip. MCRI, in conjunction with ADNR and BLM, has determined that the airstrip surface exhibits densely compacted and stable characteristics and as such, is not subject to washout or erosion under normal weather conditions. The east (cut slope) embankment of the Hercules Airstrip will, however, be subject to revegetation processes as described previously within Section 3.3.1.

3.5.2 Historic Features

A number of onsite features (Photos 66 and 67; Appendix B) have been determined to exhibit potential historical significance and/or eligibility for nomination to the National Historic Register (Bacon; 1990 and ADNR; 1995). Because of this, and the fact that most or all of the features are specifically excluded from MCRI's planned operations per conditions of a February 4, 2003 mining lease agreement between Mespelt, M. L., Almasy, T. J., Mespelt & Almasy Mining Company, LLC (as "Lessor") and Mystery Creek Resources,

Inc. (as “Lessee”), the features are excluded from the Reclamation Plan. Accordingly, MCRI has no obligation for reclamation associated with these features.

Eligible for Inclusion in National Historic Register

- Treadwell 10-Stamp Mill (along upper Ruby Creek)
- Tailings Pond (along upper Ruby Creek)
- Bunkhouses (2) at Almasy Camp
- Mespelt Camp
- Winan Cabin

Excluded Per Lease

- Mespelt Hoisthouse and Buried Sawmill
 Located at south end of Crystal Development Rock Stockpile
- Mespelt Camp Area
 Located near stamp mill on upper Ruby Creek
 - Large cabin
 - Small cabin (powerhouse)
 - Bunkhouse
 - Mess house
 - Warehouse at old mill
- Lower Mespelt Camp Area
 Located downslope from Mespelt Camp Area
 - Warehouse
 - Stamp mill
- Margaret Mespelt Cabin Area
 - Cabin
 - Cache on poles
 - Small warehouse
- Pupinsky Claims Area
 - Wannigan structure
 -

3.5.3 Historic Mine Shafts

A total of fourteen (14) historic shafts have been identified as being present at various locations on the property. These features pre-date MCRI activities at the site, and in addition, have been determined to exhibit potential historic significance (Bacon; 1990).

MCRI has no reclamation obligation associated with these features. However, in the event it is determined that closure of a given shaft is required

to mitigate water inflow to the mine, MCRI will voluntarily assume closure/reclamation obligation associated with the respective shaft feature(s). Also, in the event the features are determined to be safety hazards, MCRI has indicated a willingness to assist BLM/ADNR with closure or sealing of those features.

3.5.4 Historic Roadways and Trails

There are at least two (2) documented historically significant roads or trails that enter upon or cross the Nixon Fork Mine site. In addition, there are historic trails associated with mining activity throughout the site, as generally identified below (may not be all-inclusive) and depicted on Figure 3-5. None of these features are subject to reclamation.

- Ruby Creek Trail – approaches from west side of site
- Medfra Road (and trail) – approaches from east side of site
- Unnamed Trail(s) – vicinity of Mespelt Camp Area
- Unnamed Trail(s) – vicinity of Southern Cross Mine

3.5.5 Areas Subject to CERCLA Removal Authority

MCRI has no reclamation obligation (other than that which may be incurred as a result of, and to the extent attributable to, its own subsequent activities, if any) on or at areas that are the subject of the ongoing BLM-administered Removal Action. This Removal Action is related to disposition of hazardous substances identified in the February 11, 2005 report entitled “Removal Site Evaluation – Nixon Fork Mine” prepared by MACTEC (MACTEC Project No. 4034040003).

Certain Removal Actions have been carried out and are ongoing as related to removal of drummed wastes and/or contaminated soils. It is presumed that these actions are or will be completed prior to startup of MCRI operations, and would be fully documented in the Administrative Record.

Specific items that are being or are to be addressed by the Removal Action(s) are generally described as follows:

- Historic tailings at old mill location
- Used oil and grease (357 drums m/l)
- Mill reagents (organic chemicals and lime)
- Explosives

- Laboratory reagents
- Soil contaminated by diesel, grease, gasoline, and mill reagents

MCRI shall bear no responsibility for remediating contamination resulting from Removal Action(s) activities (to include that occurring at waste removal and/or packaging areas, drummed waste storage areas, staging areas, and loading areas) that are directly attributable to the aforementioned hazardous substances or waste streams. As lessee and operator of the Nixon Fork property, MCRI should be an acknowledged recipient of all non-confidential/enforcement-sensitive communications that are made part of the Administrative Record. This would include copies of work plans, reports, data, transmittals and other relevant information pertaining to any Removal Action activities that are carried out at or on areas that thereafter become active areas of the proposed Nixon Fork Mine Project.

4.0 LIST OF REFERENCES

Alaska Department of Environmental Conservation; "Cleanup Process" Brochure; Undated.

Alaska Department of Natural Resources; Letter (S. McGroarty; ADNR to D. Kelly; BLM) dated June 9, 2005.

Bennett, S.; Preliminary Reclamation Bond Cost Calculation - Nixon Fork Mine; July 5, 2005.

Caterpillar, Inc.; *Caterpillar Performance Handbook* – Edition 32; October 2001.

Hudson, T.L., Fox, F.D., and Plumlee, G.S.; *Metal Mining and the Environment*; American Geological Institute; 1999.

Hutchinson, I.P.G. and Ellison, R.D.; *Mine Waste Management*; for California Mining Association; 1992.

MACTEC; "*Removal Site Evaluation – Nixon Fork Mine; Near McGrath, Alaska*"; February 11, 2005.

Means, R.S. Company, Inc.; *Means Building Construction Cost Data*; 2004.

Mystery Creek Resources, Inc.; *Nixon Fork Mine Plan of Operations*; 2005.

Office of the Federal Register; Title 43 - Public Lands: Interior; Subpart 3809 - Surface Management (43CFR 3809); U.S. Government Printing Office

Ripley, E.A., Redmann, R.E., and Crowder, A.A.; *Environmental Effects of Mining*; 1996.

U.S. Bureau of Land Management; "Instruction Memorandum No. 2003-082"; February 5, 2003.

U.S. Bureau of Land Management; "Instruction Memorandum No. 2003-082 – Change 1"; March 1, 2004.

U.S. Geological Survey; Bulletin 2220 - Environmental Considerations of Active and Abandoned Mine Lands; 1995

U.S. Geological Survey; "Medfra, Alaska A4" and "B4" 1:63360 Quadrangles; 1959 and 1953, respectively.

APPENDIX A

COST ESTIMATING DETAIL AND BACKUP

Table A-1: Equipment Capital (Lease) Costs¹

Unit	NC Machinery, Inc.	Airport Rental Equipm't, Inc.	Avg Cost per 200 Hr. Mo.	Cost per Hr. over 200 Hrs.	Adj. Cost 280 Hr/Mo. (85% Avail.)
CAT 725 Truck 1	10,300	8,990	9,645	51.43	11,695
CAT 725 Truck 2	10,330	8,990	9,645	51.43	11,695
CAT 966G Loader	9,300	7,990	8,645	46.10	10,483
CAT D6G Dozer	8,250	5,250	6,750	36.00	8,186
CAT 420D Backhoe	2,850	-	2,850	N/A	2,850
Ford F250 Utility/Svc. Truck	-	1,690	1,690	N/A	1,690
Ford F250 Pickup	-	1,690	1,690	N/A	1,690
Honda ATV	-	800	800	N/A	800
Misc. ¹	-	-	2,500	N/A	2,500
Total					\$51,589

¹ These costs are reflected in Table 2-2: Equipment Capital Cost Spread.

² Includes mobile compressor, generator, etc.

Table A-2: Equipment Delivery/Removal Costs¹

Unit	Weight (lbs)	Inbound Breakdown (lbs)	Outbound Breakdown (lbs)
CAT 725 Articulated Truck 1	48,000	40,000 + 8,000	24,000 + 24,000
CAT 725 Articulated Truck 2	48,000	40,000 + 8,000	24,000 + 24,000
CAT 966G Loader	50,500	40,000 + 10,500	25,250 + 25,250
CAT D6G Dozer	42,300	40,000 + 2,300	21,150 + 21,150
CAT 420D Backhoe/Loader	17,500	17,500	17,500
Ford F250 Utility/Service Truck	6,000	6,000	6,000
Ford F250 Pickup	5,750	5,750	5,750
Honda ATV	600	600	600
Misc. Equipment	5,000	5,000	5,000
Total		223,650	223,650

Inbound² 4 @ 40,000 lbs
 2 @ 31,950 lbs
 6 Flights

Outbound³ 9 @ 21,150 - 25,250 lbs
 1 @ 18,000 lbs
 9 Flights

Cost Total: 15 Flights x \$24,000 per Flight	\$360,000
Local Mobilization/Demobilization & Teardown/Assembly	\$25,000
	\$385,000

¹ These costs are reflected in Table 2-2: Equipment Capital Cost Spread.

² Maximum allowable inbound = 44,000 lbs. with current runway.

³ Maximum allowable outbound = 28,000 lbs. with current runway.

Table A-3: Monthly Equipment Operating and Maintenance Costs¹

Unit	O&M Cost (\$/Hr.)	Mid-Range	Factor Used (Gal)	Addt'l. Fuel Cost ² (\$/Hr.)	Total Hrly O&M Cost (\$)	Monthly O&M Cost (\$)
		Fuel Consumption (Gal)				
CAT 725 Truck 1	\$25.00	4.0-5.5	5.0	7.50	32.50	7,280
CAT 725 Truck 2	\$25.00	4.0-5.5	5.0	7.50	32.50	7,280
CAT 966G Loader	\$40.00	6.0-7.5	7.0	10.50	50.50	11,312
CAT D6G Dozer	\$25.00	4.5-6.0	6.0	9.00	34.00	7,616
CAT 420D Backhoe	\$8.00	2.7-3.2	2.7	4.05	12.05	1,687
F250 Utility/Svc. Truck	\$5.00	1.0	1.0	1.50	6.50	910
F250 Pickup	\$5.00	1.0	1.0	1.50	6.50	910
Honda ATV	\$1.00	1.0	1.0	1.50	2.50	350
Misc. Equipment	\$2.00	1.0	1.0	1.50	3.50	490

¹ These costs are reflected in Table 2-3: Equipment Operating and Maintenance Cost Spread.

² Base fuel cost \$2.00/gal; Additional \$1.50/gal added for total delivered cost of \$3.50/gal.

Note:

Major Equipment Based on 280 Hrs.; 80% Load Factor.

Support Equipment Based on 280 Hrs; 50% Load Factor.

Table A-4: Labor Rate Schedule

Position	Hourly Base	Hourly Burden¹	Hourly Total	Hourly w/Overtime	Cost Per Shift	Cost Per Rotation
Project Mgr./Superintendent	46.37	22.22	68.59	68.59	685.90	9,602.60
725 Truck Operator	30.50	14.33	44.83	67.25	493.14	6,903.96
725 Truck Operator	30.50	14.33	44.83	67.25	493.14	6,903.96
966G Loader Operator	30.50	14.33	44.83	67.25	493.14	6,903.96
D6G Dozer Operator	30.50	14.33	44.83	67.25	493.14	6,903.96
Maintenance/Mechanical	31.36	14.74	46.10	69.12	507.04	7,098.56
Craft-Electrician	31.36	14.74	46.10	69.12	507.04	7,098.56
Laborer	26.41	12.41	38.82	58.23	427.02	5,978.28
Laborer	26.41	12.41	38.82	58.23	427.02	5,978.28
Laborer	26.41	12.41	38.82	58.23	427.02	5,978.28
Total			\$456.57	\$650.52	\$4,953.60	69,350.40

¹Burden: FICA/MED 7.65%
FUTA 0.80%
SUI 3.46%
WCB 36.00%
47.91%

Note: These costs are reflected in Table 2-4(a): Manpower Cost Spread.

Table A-5: Post-Closure Monitoring Costs

ACTIVITY	PERSONNEL					LABORATORY SAMPLE			TRAVEL		
	Type	Number Inspections/Events	Rate (daily)	Days per Inspection/Event	Cost	Number Samples	Price (per sample)	Cost	Number Airfares	Price (per fare)	Cost
Dam Safety / Geotechnical	Engineer (1)	1	\$1,000	1	\$1,000	NA			1	\$750	\$750
Surface Water Quality Monitoring	Technicians (2)	1	\$880	5	\$4,400	10	\$550	\$5,500	2	\$750	\$1,500
	Engineer (1)	1	\$1,000	1	\$1,000	NA			1	\$750	\$750
Storm Water Visual Monitoring and Mitigation	Technicians (2)	1	\$880	3	\$2,640	NA			2	\$750	\$1,500
	Engineer (1)	1	\$1,000	1	\$1,000	NA			1	\$750	\$750
Reclamation Monitoring	Engineer (2)	1	\$2,000	1	\$2,000	NA			1	\$750	\$750
Seeps and Springs Monitoring	Technicians (2)	1	\$880	3	\$1,500	3	\$550	\$ 1,650	2	\$750	\$1,500
	Engineer (1)	1	\$1,000	1	\$500	NA			1	\$750	\$750
Subtotals					\$14,040			\$7,150			\$8,250
Grand Total =					\$29,440						

Periods:
 2 year closure activities - demolition, facility covering, and reclamation.
 5 year post closure - water quality monitoring, dam safety and revegetation success

SOURCE: GOLDR ASSOCIATES, INC.

FEL/Truck Productivity

For: Tailing Pond Closure

Total surface area to be covered = 10.2 acres

$$\text{For 2 ft. coarse rock cover: } \frac{10.2 \text{ acres} \times 43,560 \text{ ft}^2/\text{acre} \times 2 \text{ ft.}}{27 \text{ ft}^3/\text{yd}^3} = 32,912 \text{ yd}^3$$

$$\text{For 0.5 ft. fines/growth medium: } \frac{10.2 \text{ acres} \times 43,560 \text{ ft}^2/\text{acre} \times 0.5 \text{ ft.}}{27 \text{ ft}^3/\text{yd}^3} = 8,228 \text{ yd}^3$$

$$\text{Total Volume Required} = 41,140 \text{ yd}^3$$

Truck – Caterpillar 725 (18.8 yd³ struck capacity); disregard swell factor

Assume 20-minute cycle time per trip (Crystal Development Rock Stockpile to Main Tailing Impoundment) – therefore system is “truck dependent.”

$$\frac{10 \text{ hours per shift} \times 60 \text{ min/hour}}{20 \text{ min/trip}} = 30 \text{ trips/shift} \times 83\% \text{ efficiency} = 25 \text{ trips/shift}$$

$$25 \text{ trips/shift} \times 2 \text{ trucks} \times 18.8 \text{ yd}^3 \text{ capacity} = 940 \text{ yd}^3 \text{ total volume moved per shift}$$

$$940 \text{ yd}^3/\text{shift} \times 28 \text{ shifts/month} = 26,320 \text{ yd}^3 \text{ total volume moved per month}$$

$$\frac{41,140 \text{ yd}^3}{26,320 \text{ yd}^3} = 1.56 \text{ months; round up and say 2 months with 2 trucks}$$

Therefore, to cover all site needs:

Maintain 1 truck for 3 months and remove from site at beginning of month 4

Maintain 1 truck for 4 months and remove from site at beginning of month 5

Tailing Impoundment Closure Estimate

Cover: 16 oz. non-woven geotextile (Geotex 1601 by Synthetic Industries, Inc.) to be placed first; overlain by 2 ft. coarse rock cover; overlain by 0.5 ft. fines/growth medium.

Geotextile price quote from CETCO: \$0.25/ft² material cost only to Alaska
Geotextile price quote from Colorado Lining, Inc. \$0.25/ft² material cost only to Alaska

10.2 acres x 43,560 ft²/acre x 50% coverage = 222,156 ft² - Say 225,000 ft²

225,000 ft² x \$0.25/ft² = \$56,250

Delivery to Mine: 50 rolls at 15 ft. length; 2.5 ft. diameter; 500 lbs./roll = 25,000 lbs.
Assume one DC-6 flight at \$15,000 to deliver

Assume geotextile can be laid by reclamation crew (no special assembly required).
Assume minimal overlay – torch seaming.

VENDOR CONTACTS

Airport Equipment Rental, Inc.
(907) 522-6466 (Ray Rank)

Alaska Air Taxi
(907) 243-3944 (Holly)

Alaska Air Transit
(907) 276-5422 (Josie)

Chiulista Camp Services, Inc.
(907) 278-2208 (George Gardner)

Colorado Lining International
(303) 841-2022

Foam Concepts
(218) 340-1838 (Dennis Dunham)

Lynden Air Cargo
(907) 249-0231

NC Machinery, Inc.
(907) 561-1766 (David Graham – Fairbanks)
(Jeff Scott - Anchorage)

AIRPORT EQUIPMENT RENTALS

Sales & Service



JOHN DEERE

PROPOSAL

NAME JM Beck & Assoc
6130 W. Vassar Way
Lakewood Col 80227
Attn: Jim Beck
303-985-1521
FAX 1532

DATE 8-3-05
FOB AIM
TERMS 5+0
DELIVERY In Stock

WE ARE PLEASED TO OFFER FOR YOUR CONSIDERATION.

EACH

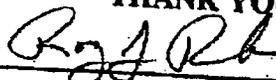
2 @	CAT 725 / Volvo A-25 ADTs	\$8990	per 200 hour month @
1 @	CAT 966G / JD 744 Loader w/ 2C Forks	\$7990	" " " " month
1 @	JD 750J Dozer w/ CAB - P.A.T - Ripper	\$5250	" " " " month
1 @	Ford F-250 Crew Cab 4WD Diesel	\$1690	" " " " month
1 @	Enclosed Service Truck	\$5990	" " " " month
1 @	ATV	\$800	" " " " month

THIS PROPOSAL IS GOOD FOR 30 DAYS AND SUBJECT TO AVAILABILITY.

ACCEPTANCE OF PROPOSAL:

PURCHASER _____
BY _____
TITLE _____
DATE _____

THANK YOU



ROY RANK



**N C MACHINERY
ALASKA RENTAL RATES
2004**



TRACK TYPE TRACTORS

MODEL	WT	HP	BLADE CAP	DAY	WEEK	MONTH
D3G	16,300	70	1.88 CU YD	300	860	2575
D4G	17,300	80	2.50	350	1035	3100
D5G	19,700	90	2.86	400	1200	3600
D5N	28,300	115	3.40	520	1550	4650
D6N	34,250	140	4.16	690	2070	6200
D6R	42,300	185	7.34	920	2750	8250
D7R	55,000	240	8.98	1560	4670	14000
D8R	83,500	305	15.30	1810	5420	16250
D9R	108,000	410	21.40	2390	7170	21500

LOW GROUND PRESSURE

MODEL	WT	HP	BLADE CAP	DAY	WEEK	MONTH
D3G LGP	17,200	70	2.00	350	1035	3100
D4G LGP	18,000	80	2.40	400	1200	3600
D5G LGP	20,500	90	3.10	465	1385	4150
D5N LGP	29,300	110	3.40	550	1635	4900
D6N LGP	37,300	140	4.11	725	2170	6500
D6R LGP	46,400	185	4.83	1035	3100	9300

Winches are available for some models for an additional 20% of the rental rate



HYDRAULIC EXCAVATORS

MODEL	WT	HP	BUCKET CAP	DAY	WEEK	MONTH
302.5	6,000	22.5	0.07	245	725	2175
303 CR	7,500	24	0.07	260	770	2300
304CR	9,900	25.5	0.15	300	895	2675
305CR	11,000	37.4	0.21	325	975	2900
307	16,000	54	0.37	350	1035	3100
307 SWING BOOM	18,500	54	0.37	390	1170	3500
311	27,680	79	0.75	450	1335	4000
312L	29,000	90	0.75	460	1375	4125
315L	37,000	110	0.90	550	1635	4900
318L	43,300	125	1.50	635	1900	5700
320L	46,500	138	1.50	715	2135	6400
322L	53,350	165	1.50	825	2470	7400
325L	63,000	188	1.50	890	2670	8000
330L	77,400	247	1.88	1225	3670	11000
345L	98,000	321	3.00	1615	4835	14500
365L	149,000	404	4.00	2420	7250	21750
375L	182,000	428	5.75	2560	7670	23000
385L	190,000	513		2560	7670	23000



EXTRA EXCAVATOR BUCKET

	DAY	WEEK	MONTH
301 - 305	30	80	230
307 - 312	55	155	465
315 - 320	65	185	550
325 - 330	75	220	650
345 - 350	90	270	800
365 - 385	105	310	925



**N C MACHINERY
ALASKA RENTAL RATES
2004**



BACKHOE LOADERS

MODEL	WT	HP	DIG DEPTH	DAY	WEEK	MONTH
416D w/o e-stick	16,700	80	14'5"	275	825	2475
416D	17,200	80	18'2"	300	860	2575
420D	17,500	85	18'2"	325	950	2850
430D	18,000	94	19'11"	350	1035	3100
420D IT (toolcarrier)	19,500	85	18'2"	350	1035	3100
430D IT (toolcarrier)	20,000	94	19'11"	390	1170	3500
Frost Bucket is additional				20	55	155
Extra Bucket				25	65	185

All models are 4WD, Cab and e-stick, tool carrier version includes forks



INTEGRATED TOOL CARRIERS

MODEL	WT	HP	BUCKET CAP	DAY	WEEK	MONTH
IT14G	17,300	90	1.7	350	1035	3100
924G	22,800	114	2.25	400	1200	3600
IT28G	26,500	125	2.5	460	1375	4125
IT62G	40,225	200	4.5	800	2400	7200

Tool Carriers includes forks at no additional charge



WHEEL LOADERS

MODEL	WT	HP	BUCKET CAP	DAY	WEEK	MONTH
938G	29,000	160	3.5	620	1860	5575
950G	39,200	180	4.0	690	2070	6200
962G	41,000	200	4.5	745	2235	6700
966G	50,500	235	5.0	1035	3100	9300
972G	55,300	265	6.0	1300	3900	11700
980G	66,500	311	7.0	1445	4335	13000
988	110,000	475	8.0	2280	6835	20500



MOTOR GRADERS

MODEL	WT	HP	BLADE	DAY	WEEK	MONTH
140H	33,500	185	14 FOOT	860	2575	7725
160H	35,500	220	14 FOOT	975	2920	8750
14H	42,650	240	14 FOOT	1280	3835	11500
16H	54,500	275	16 FOOT	1835	5500	16500



ARTICULATED DUMP TRUCKS

MODEL	WT	HP	CAPACITY	DAY	WEEK	MONTH
725	48,000	280	18.8 Yds	1145	3435	10300
730	50,000	305	22.1	1435	4295	12875
735	66,000	365	31.8	1545	4635	13900
740	72,000	415	30.0	1665	4985	14950
740 Ejector	77,660	415	30.0	1775	5325	15975



**N C MACHINERY
ALASKA RENTAL RATES
2004**



ASPHALT DRUM COMPACTORS

MODEL	WT	HP	WIDTH	DAY	WEEK	MONTH
CB224	5,750	31.5	47"	200	585	1750
CB334	8,500	43	51"	275	825	2475
CB434	14,300	70	56"	460	1375	4120
CB534	20,270	105	67"	575	1720	5150
CB634	25,750	145	84"	690	2070	6200



SOIL DRUM COMPACTORS

MODEL	WT	HP	WIDTH	DAY	WEEK	MONTH
CS323	10,000	70	50"	350	1035	3100
CS433	15,000	100	66"	435	1295	3875
CS563	25,000	153	84"	575	1720	5150
CS583	34,000	153	84"	635	1895	5675
CS663	37,000	179	84"	690	2070	6200
CS683	41,000	179	84"	745	2235	6700
Elliot Grid				125	350	1030



TELESCOPIC MATERIAL HANDLERS

MODEL	WT	CAP LB	LIFT HT	DAY	WEEK	MONTH
TH62	14,500	6000	25	250	750	2250
TH350B	18,700	6600	36	300	860	2575
TH360B	21,000	7000	44	325	975	2925
TH83	23,000	8000	41	350	1035	3100
TH83 w/ Platform	23,000	8000	41	415	1235	3700
TH460B	24,000	9000	44	360	1080	3240
TH460B w/ Platform	24,000	9000	44	465	1400	4200
TH103	28,000	10000	44	435	1300	3900
TH560B	26,500	10000	44	435	1300	3900
Bucket 1.75 cu. Yd.				35	105	310



VIBRATORY COMPACTION PLATES

MODEL	WT	FORCE	EX MODELS	DAY	WEEK	MONTH
C4	910	7800	416/420/430	125	350	1030
C6	1,600	16000	312/315	200	600	1800



HYDRAULIC HAMMERS

MODEL	WT	ENERGY *	EX MODELS	DAY	WEEK	MONTH
H63	605	274	skidsteers,303-304	85	340	1020
4X	1,100	683	416/420/430	300	860	2575
8X	2,800	1700	315/320	770	2300	6900

* Certified CIMA Tool Energy



**N C MACHINERY
ALASKA RENTAL RATES
2004**



SKIDSTEER LOADERS

MODEL	LOADER TYPE	OPER. CAP. *	HP	DAY	WEEK	MONTH
216	Radial	1,400	48	155	620	1850
226	Radial	1,500	54	175	700	2100
236	Radial	1,750	59	195	770	2300
246	Radial	2,000	74	215	860	2575
232	Vertical Lift	1,750	49	175	700	2100
242	Vertical Lift	2,000	54	195	770	2300
252	Vertical Lift	2,250	59	215	860	2575
262	Vertical Lift	2,500	74	225	900	2700
247	Track	1,993	54	225	900	2700
257	Track/Vertical	2,306	59	250	975	2900
267	Track	2,900	59	275	1100	3300
277	Track	2,950	74	300	1200	3600
287	Track/Vertical	3,500	74	320	1275	3800

* 50% of tipping Load



SKIDSTEER ATTACHMENTS

NOTES	SSL MODELS	DAY	WEEK	MONTH
Auger w/ 1 bit	ALL	100	400	1200
Auger bit	ALL	20	80	240
Auger ext	ALL	5	20	60
Blade, angle	84" ALL	75	300	900
Broom, angle	\$75 / inch of wear ALL	85	340	1020
Broom, 60" pickup	\$75 / inch of wear ALL	90	360	1080
Broom, 66" pickup	\$75 / inch of wear 236/246	100	400	1200
Bucket, grapple	ALL	75	300	900
Bucket, utility	ALL	20	80	240
Compactor, vibratory roller	73" drum 236/246	65	250	750
Forks, utility grapple	ALL	50	200	600
Fks, pallet	ALL	20	80	240
Hammer	236/246	85	340	1020
Rake	62" working width ALL	75	300	900
Rake	74" working width 236/246	80	320	960
Trencher	8" x 48" ALL	150	600	1800



LIGHT TOWERS

MODEL	LIGHTS	GENERATOR	FUEL CAP	DAY	WEEK	MONTH
PRO	4 - 1000 WATT	6 KW	30 GAL	80	235	700
8330	4 - 1000 WATT	8 KW	50 GAL	95	285	850



**N C MACHINERY
ALASKA RENTAL RATES
2004**



IMPORTANT INFORMATION

Rates quoted are for 10-hour days, 50 hour weeks and 200-hour months. All rates are based on single shifts. Overtime
Ex: $(\text{weekly rate} / 50) \times 80\% = \text{Overtime hours}$
Double shift rates will be charged at 1.5 times the published single shift rate. Minimum daily rental is for an 10-hour day. Each

This rental rate card does not indicate that NC Machinery Co. carries all models in inventory.

- Rental rates DO NOT include pick-up and delivery charges or fuel
- Measurements may vary depending upon how unit is equipped.

RATES SUBJECT TO CHANGE WITHOUT NOTICE

RENTAL AGREEMENT TERMS AND CONDITIONS

Lessee is responsible for or agrees to the following:

- Normal daily maintenance and service of machine.
- Servicing and changing all lubricants and fluids at required intervals (Note: filters, oil and labor are at renter's expense.
- Lubricating required areas daily.
- Returning unit in reasonably clean condition. Minimum cleaning charge of \$100 will be assessed if returned excessively dirty.
- Cylinder head problems caused by lack of or low level coolant.
- Cutting edges and ground engaging tools.
- Excessive tire wear and / or damage.
- Missing fuel, attachments and excessive cleaning.
- Any damage to the machine due to neglect or abuse of the machine
- Returns the machine in good condition, less normal wear and tear.
- Lessor has the right to terminate rental, when in their opinion the machines are being damaged by improper use.
- All transportation is the responsibility of the lessee.
- Return machine to point of origin.
- Maintain liability, theft, vandalism, and fire insurance.

Anchorage Rental Headquarters (907) 786-7500

TOLL FREE:

Anchorage

1-800-478-7000 (in Alaska)

1-800-433-9120 (outside Alaska)

Fairbanks

1-888-852-6760

Juneau

1-800-478-0478

Juneau
Fairbanks

(907) 789-0181
(907) 452-7251

Subj: **raise closures in AK**
Date: 8/7/05 7:03:58 PM Mountain Daylight Time
From: ddunham@foamconceptsinc.com
To: jmbeckpe@aol.com
CC: ddunham@foamconceptsinc.com
Sent from the Internet ([Details](#))

Jim

thanks for your call. I should be able to call you later monday afternoon. meanwhile, some numbers

you are looking at a little under 20 yards for both raises. lets say 20 yards, cost is \$165/yard. shipping will depend on juneau or anchorage (anchorage is cheaper) but will be \$40-50 per yard, maybe more. if you give me a zip code i can get a price within 24 hours. It will take about 14 days to arrive. So you are about \$4200 in material and shipping

We have done several jobs in AK, in fact we sent 50 yards to the USFS in seward back in June. You can fly the foam in and leave it until you hike in, or you can take it on ATVs or pack animals. The bagged product is 3 22# bags in a box, for a combined 1 cubic yard. freezing does not affect the product, should be above freezing when you do the work. rodents will occassionally get into the foam (there is water in it), but otherwise it should be ok

ASSUME 165/40
60/40 SHIPPING

225/40³

FCI POUR SYSTEM ES 53-104

DESCRIPTION:

FCI ES 53-104 is a two component, water blown, all PMDI based low density pour-in-place polyurethane foam system designed for void filling. FCI ES 53-104 has been specifically formulated to facilitate hand bag mixing for specialty applications in the mining industry. FCI ES 53-104 is formulated to be mixed 1/1 by volume.

DISTINGUISHING CHARACTERISTICS:

- Ease of Mix
- High Closed Cell Content
- Good Dimensional Stability

TYPICAL RESIN PROPERTIES:

	<u>ES 53-104 R</u>	<u>ES 53-104 A</u>
Viscosity	550 cps	200 cps
Lbs./Gallon	8.8 lbs.	10.2 lbs.
Appearance	transparent, amber liquid	transparent, brown liquid
Shelf Life	6 months	6 months

MIX RATIO:

	<u>S 53-104 R</u>	<u>ES 53-104 A</u>
By Weight	100 parts	117 parts
By Volume	100 parts	100 parts

TYPICAL REACTION PROPERTIES:

Hand Mix @ 72°F

Cream Time (sec) 45
 Gel Time (sec) 200
 Rise Time (sec) 330
 Density (FRC) 2.6 pcf

TYPICAL PHYSICAL PROPERTIES:

Core Density 2.6 pcf
 Closed Cell Content >85%
 Compressive Strength 35 psi
 Moisture Vapor Transmission 2-4 perm in.
 Water Absorption, ASTM D2842 ≤0.06 lbs/ft²
 Resistance to Solvents Excellent
 Resistance to Mold and Mildew Excellent
 Maximum Service Temperature 200°F

*The above values are average values obtained from laboratory experiments and should serve only as guide lines.

FCI ES 53-104 APPLICATION INFORMATION

EQUIPMENT AND COMPONENT RATIOS:

FCI ES 53-104 can be mixed by hand (either mechanically or by bag kneeding). Chemicals should be brought to at least 70°F for optimum performance. Materials should be weighed out at the prescribed weight ratio.

FOAMING RECOMMENDATION:

To obtain optimum yield, consistent foam quality and quick set times, the surrounding ground temperature should be 70°F or higher and as free of water as possible.

STORAGE AND USE OF CHEMICALS:

Keep temperature of chemicals at 80 °F for several days before use. Cold chemicals can cause poor mixing or other process problems due to higher viscosity at lower temperatures. Storage temperature should not exceed 100°F. Prolonged exposure to temperatures below 40°F can cause the 'A' component to freeze. Do not store in direct sunlight. Keep drums tightly closed when not in use and under nitrogen pressure of 2 - 3 psi after they have been opened.

SAFE HANDLING OF LIQUID COMPONENTS:

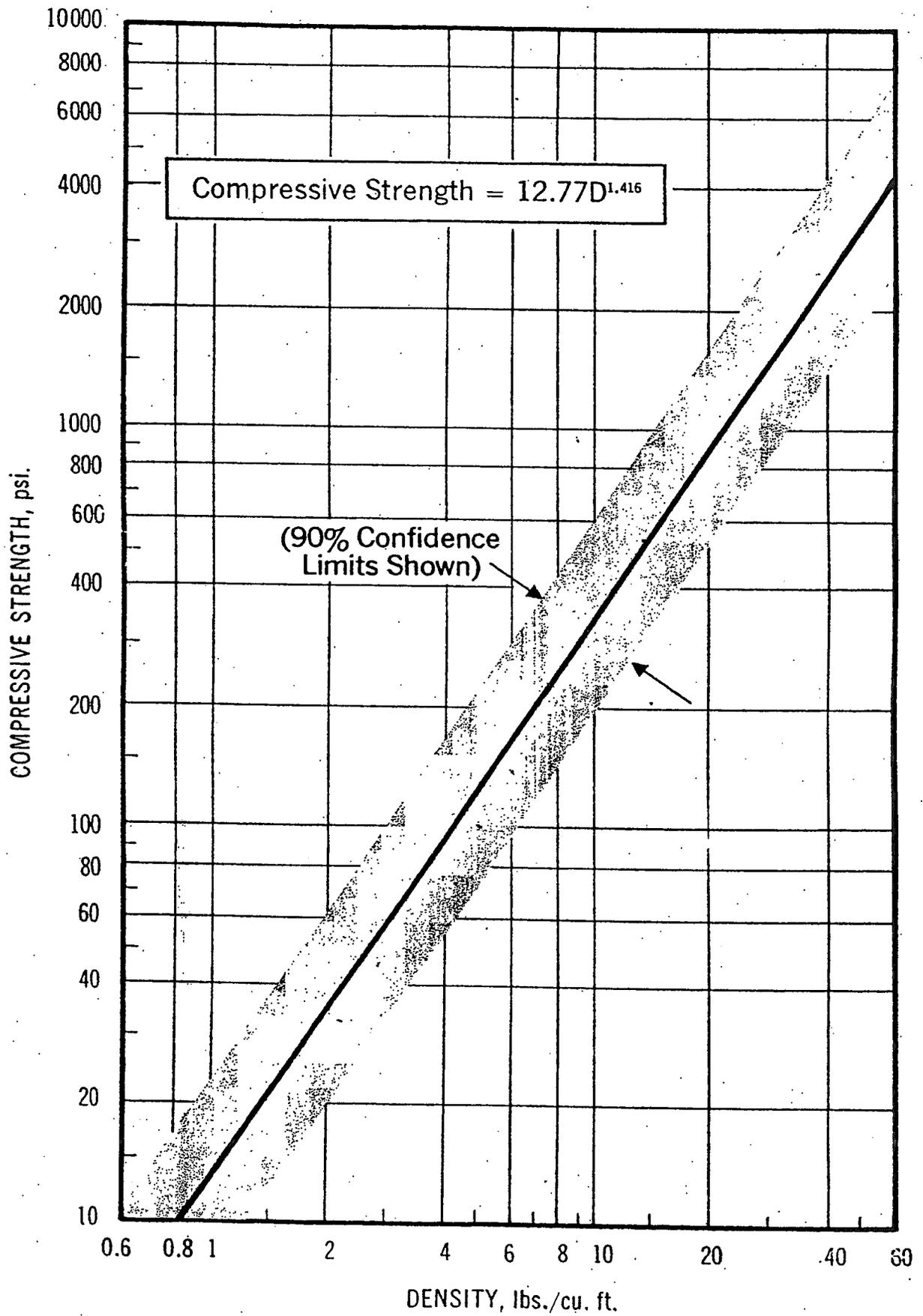
Use caution in removing bungs from the container. Loosen the small bung first and let any built up gas escape before completely removing. Avoid prolonged breathing of vapors. In case of chemical contact with eyes, flush with water for at least 15 minutes and get medical attention. For further information refer to "MDI-Based Polyurethane Foam Systems: Guidelines for Safe Handling and Disposal" publication AX-119 published by Alliance For The Polyurethanes Industry 1300 Wilson Blvd, Suite 800, Arlington, VA 22209.

Caution:

Polyurethane products manufactured or produced from this liquid system may present a serious fire hazard if improperly used or allowed to remain exposed or unprotected. The character and magnitude of any such hazard will depend on a broad range of factors which are controlled and influenced by the manufacturing and production process, by the mode of application or installation and by the function and usage of the particular product. *Any flammability rating contained in this literature is not intended to reflect hazards presented by this or any other material under actual fire conditions. These ratings are used solely to measure and describe the product's response to heat and flame under controlled laboratory conditions.* Each person, firm or corporation engaged in the manufacture, production, application, installation or use of any polyurethane product should carefully determine whether there is a potential fire hazard associated with such product in a specific usage, and utilize all appropriate precautionary and safety measures.

The information on our data sheets is to assist customers in determining whether our products are suitable for their applications. The customers must satisfy themselves as to the suitability for specific cases. Foam Concepts Inc. warrants only that the material shall meet its specifications; this warranty is in lieu of all other written or unwritten, expressed or implied warranties and North Carolina Foam Industries expressly disclaims any warranty of merchantability, fitness for a particular purpose, or freedom from patent infringement. Accordingly, buyer assumes all risks whatsoever as to the use of the material. Buyer's exclusive remedy as to any breach of warranty, negligence or other claim shall be limited to the purchase price of the material. Failure to adhere strictly to any recommended procedures shall relieve North Carolina Foam Industries of all liability with respect to the material or the use thereof.

EFFECT OF DENSITY ON COMPRESSIVE STRENGTH



Mystery Creek Resources, Inc.

2221 East Street, Suite 200
Golden Colorado 80401 USA

Tel: 303-271-1416
Fax: 303-277-0006

FAX FORM

TO: Jim Beck FROM: Paul C. Jones

RECEIVING FAX: 303-985-1532

Date: August 1, 2005 PAGES: - -

Dear Jim:

Below is the list of Alaska Payroll Burdens:

FICA & Medicare	7.65%
FUTA	0.80%
SUI	3.46%
WCB	<u>36.00%</u>
Total	47.91%

Alaska Workman's comp is extremely high.

I am attaching a series of quotes which Samuels obtained last year. These figures are "burdened" as they stand. One figure is for "straight time", the other, "overtime"

**CONAM CONSTRUCTION COMPANY
NIXON FORK
RE-OPENING PROJECT**

FORCE ACCOUNT STAFF LABOR RATES

STAFF CLASSIFICATION	HOURLY STRAIGHT TIME RATE	HOURLY OVER TIME RATE
Project Manager	75.15	75.15
Superintendent	68.59	68.59
Project Engineer	70.29	70.29
Field Engineer	67.01	67.01
Safety Engineer	65.31	65.31
Q. C. Manager	67.01	67.01
Q. C. Engineer	63.73	63.73
Material Coordinator	63.73	63.73
Office Manager	62.04	62.04
Timekeeper/Secretary	34.35	34.35

SE Project Number: 4060-01
 Nixon Fork Project

ALASKA MECHANICAL, INC. ALL INCLUSIVE LABOR RATES

<u>CLASSIFICATIONS</u>	<u>REGULAR TIME</u>	<u>OVERTIME</u>
Project Superintendent (on-site)	\$56.11	\$79.50
Project Superintendent (off-site/traveling)	\$53.33	N/A
General Foreman	N/A	N/A
Craft Foreman	\$50.17	\$70.18
Leadman	N/A	N/A
Pipefitter/Welder	\$44.83	\$63.02
Ironworker	\$47.58	\$65.82
Millwright	\$46.10	\$64.29
Carpenter	\$46.10	\$64.29
Heavy Equipment Operator	\$44.83	\$44.83
Truck Driver	N/A	N/A
Craft Helper (All Crafts)	\$38.82	\$38.82
Laborer II	\$38.82	\$38.82
Laborer	N/A	N/A
Field Clerk/time Keeper*	\$28.71	\$47.88

Hourly rates include wages, benefits, payroll taxes, insurance, small tools, (less than \$1,000.00), consumables, overhead and profit.

Overtime rates will apply for all hours worked in excess of 40 hours per week and/or hours worked over 8 per day.

NOTE: AMI removed the "subsistence" inclusion in labor rates since we anticipate an owner-supplied camp. Also excluded is travel costs (to/from site.)

* Probably not required on-site - we would propose using a laborer for this position (probably 1/2 time) on-site - for time keeping/and other admin duties to assist Superintendent.

Peak Oilfield Service Company Nixon Fork Craft Wages 6/16/2004		Preliminary	
Position	Billable ST Rate/ Mhr.	Billable OT Rate/ Mhr.	
Carpenter	\$ 41.00	\$ 56.00	
Electrician	\$ 54.00	\$ 75.00	
Equipment Operator	\$ 42.00	\$ 58.00	
Expeditor/Field Material Coordinator	\$ 40.00	\$ 55.00	
Field Clerk / Timekeeper	\$ 31.00	\$ 43.00	
Foreman, General	\$ 48.00	\$ 66.00	
Foreman, Supervisory	\$ 46.00	\$ 63.00	
Helper	\$ 38.00	\$ 53.00	
Ironworker	\$ 43.00	\$ 58.00	
Laborer 1	\$ 31.00	\$ 42.00	
Laborer 2	\$ 34.00	\$ 47.00	
Leadman, Level 1	\$ 44.00	\$ 60.00	
Mechanic	\$ 41.00	\$ 57.00	
Millwright	\$ 35.00	\$ 48.00	
Pipefitter / Welder	\$ 42.00	\$ 57.00	
Superintendent	\$ 56.00	\$ 78.00	
Staff Rates			
Administrative Assistant B	\$ 24.00	\$ 34.00	
Administrative Assistant A	\$ 29.00	\$ 41.00	
Draftsman, FOC 13 Oct 2003	\$ 41.00	\$ 58.00	
Office Manager	\$ 39.00	\$ 59.00	
Project Engineer	\$ 50.00	\$ 75.00	
QC Engineer	\$ 46.00	\$ 68.00	
Administrative, Cost Analyst	\$ 50.00	\$ 75.00	
Material Coordinator	\$ 43.00	\$ 64.00	
HSET Specialist	\$ 2,350	Per 70 Hr Wk	
HSET Manager	\$ 3,660	Per 70 Hr Wk	
Project Manager	\$ 4,450	Per 70 Hr Wk	
Rates do not include subsistence or travel.			

Mystery Creek Resources
Nixon Fork Gold Project
Power Generation Construction Manpower

June 2004
R. Monok

Assumptions: 7 days @ 10 hrs/day
Owner Supplies: Generators, Radiators, NOX Reduction System, Air Compressors, Insurance, Fuel, Mancamp, etc.
SE Supplies: Sprung Structure, ALL MTO's, Mechanical and Electrical Equipment, Cable
GC Supplies: Concrète, Reinforcement, PV&F's, Consumables

	Al. Mech. Reg.	OT	Peak Oifield Reg.	OT	HC Price Reg.	OT	Reg. Hrs.	OT Hrs.	Reg. Tot. \$	OT Tot. \$	Tot. \$
Project Superintendent	\$56.11	\$79.50	\$56.00	\$78.00	\$68.59	\$68.59	40	30	\$2,743.60	\$2,057.70	\$4,801.30
Foreman	\$50.17	\$70.18	\$46.00	\$63.00	\$47.75	\$68.57	40	30	\$1,910.00	\$2,057.10	\$3,967.10
Equipment Operator	\$44.83	\$63.02	\$42.00	\$58.00	\$40.00	\$57.24	40	30	\$1,600.00	\$1,717.20	\$3,317.20
Electrician	\$47.58	\$65.82	\$54.00	\$75.00	\$44.65	\$64.04	40	30	\$1,786.00	\$1,921.20	\$3,707.20
Electrician Helper	\$38.82	\$54.35	\$38.00	\$53.00	\$33.81	\$48.17	40	30	\$1,352.40	\$1,445.10	\$2,797.50
Pipefitter/Welder	\$44.83	\$63.02	\$42.00	\$57.00	\$44.65	\$64.04	40	30	\$1,786.00	\$1,921.20	\$3,707.20
Ironworker	\$47.58	\$65.82	\$43.00	\$58.00	\$40.00	\$57.24	40	30	\$1,600.00	\$1,717.20	\$3,317.20
Ironworker Helper	\$38.82	\$54.35	\$38.00	\$53.00	\$33.81	\$48.17	40	30	\$1,352.40	\$1,445.10	\$2,797.50
Millwright	\$46.10	\$64.29	\$35.00	\$48.00	\$44.65	\$64.04	40	30	\$1,786.00	\$1,921.20	\$3,707.20
Millwright Helper	\$38.82	\$54.35	\$38.00	\$53.00	\$33.81	\$48.17	40	30	\$1,352.40	\$1,445.10	\$2,797.50
Carpenter	\$46.10	\$64.29	\$41.00	\$56.00	\$40.00	\$57.24	40	30	\$1,600.00	\$1,717.20	\$3,317.20
Craft Helper	\$38.82	\$54.35	\$38.00	\$53.00	\$33.81	\$48.17	40	30	\$1,352.40	\$1,445.10	\$2,797.50
Laborer II	\$38.82	\$54.35	\$34.00	\$47.00	\$33.81	\$48.17	40	30	\$1,352.40	\$1,445.10	\$2,797.50
Average Labor	\$42.83	\$59.82	\$40.27	\$55.55	\$38.45	\$54.97			\$21,573.60	\$22,255.50	\$43,829.10
1 Civil/Concrete	Operator, Carpenter, Carpenter Helper, 4 Laborers										
2 Electrical	Electrician, 2 Electrician Helpers										
3 Bldg. Erect.	Operator, 2 Ironworkers, 2 Ironworker Helpers, 2 Laborers										
4 Mechanical	Operator, Millwright, Millwright Helper, Laborer										
5 Pipefitter/Welder	Pipefitter, Helper										
6 Demolition	Electrician, Operator, 3 Laborers										

\$20,621.90
\$9,302.20
\$21,141.60
\$12,619.40
\$8,504.70
\$15,806.90

Equipment Capital

Monthly Quotes from Airport Equipment Rental Anchorage AK
 Operating Costs and Weight from Cat Handbook
 Operating Costs do not include ownership or fuel costs

Quantity	Equipment	Rental Rate (\$/Month)	Weight (Lb)	Months	Total Equipment Hours	Excess Hours Costs	Operating Cost (\$/Hr.)	D&B Wages (\$/Hr.)	D&B Wages w/ot (\$/Hr.)	Total Cost
3	25 Ton Articulating Truck	10,500	34,767	2	903		30	\$41.62	\$49.54	\$63,000
1	.980 G Loader	11,900	64,600	2	461		50	\$45.76	\$54.71	\$23,800
1	D7R Dozer	11,000	55,000	3	638	2,068	30	\$44.22	\$52.76	\$35,068
1	120 H Grader	10,800	25,040	2	30		25	\$44.22	\$52.76	\$21,600
1	Service Truck	7,000	10,000	3			5			\$21,000
Total Weight										\$164,468

2 Equipment Maintenance Days 90 \$44.22 \$52.76 \$113,962

44,000 Lbs/ Herc to Nixon Fork 6
 28,000 Lbs/ Herc from Nixon Fork 9

15 total flights
 @ 24,000/Flight

Misc Costs \$360,000
 Labor \$40.81 \$48.29 \$360,000 \$638,430

Seed
 Bering Hairgrass \$18.00 \$18.55
 Alpine Bluegrass \$4.40 \$4.95
 Arctared Fescue \$1.78 \$2.33

20-20-10 Fertilizer \$0.31 \$0.86

Subj: **Estimate from Alaska Air Taxi, L.L.C.**
Date: 8/5/05 12:25:46 PM Mountain Daylight Time
From: holly@alaskaairtaxi.com
To: jmbeckpe@aol.com
File: **Est_15_from_Alaska_Air_Taxi.pdf** (6897 bytes) DL Time (31200 bps): < 1 minute
Sent from the Internet (Details)

Dear Jim :

Please review the estimate below. Feel free to contact us if you have any questions.

We look forward to working with you.

Sincerely,
Holly
Alaska Air Taxi, L.L.C.
907-243-3944

To view your estimate

Open the attached PDF file. You must have [Acrobat® Reader®](#) installed to view the attachment.

Alaska Air Taxi, L.L.C.

4501 Aircraft Drive
Anchorage, AK 99502

Estimate

Date	Estimate #
8/5/2005	15

Name / Address
Jim Beck

Project

Qty	Description	Rate	Total
3.5	Hourly rate for Otter from ANC to Nixon Fork Mine to pick up or drop off 10 pax.	895.00	3,132.50
	Excise tax on aircraft of 6,000 pounds or more-for passenger transportation.	7.50%	234.94
10	Segment tax per pax (on aircraft over 6,000 pounds) for each take off and landing carrying pax that does not take place at rural airport (as listed in DOT, Office of Airline Information).	3.20	32.00
	Flight time is estimated.		
Thank you for your business.		Total	\$3,399.44

Phone #	Fax #	E-mail	Web Site
907-243-3944	907-248-2993	holly@alaskaairtaxi.com	www.alaskaairtaxi.com

APPENDIX B

SITE PHOTOGRAPHS



Photo 1: Aerial view of Nixon Fork Mine (looking SE). Central Operations Area and main camp (multi-use facility) at center left. Old (1990) runway (revegetated) and Hercules (1995) Airstrip visible at rear.



Photo 2: Aerial view of Nixon Fork Mine (looking NW) showing Central Operations Area (at right); main tailing impoundment at left.



Photo 3: Aerial view of Mystery Portal Area, looking NW down Mystery Creek.



Photo 4: Aerial view of Mystery Portal Area looking South across Mystery Creek; road leading to main camp area.



Photo 5: Surface of Mystery Development Rock Stockpile (looking NW).

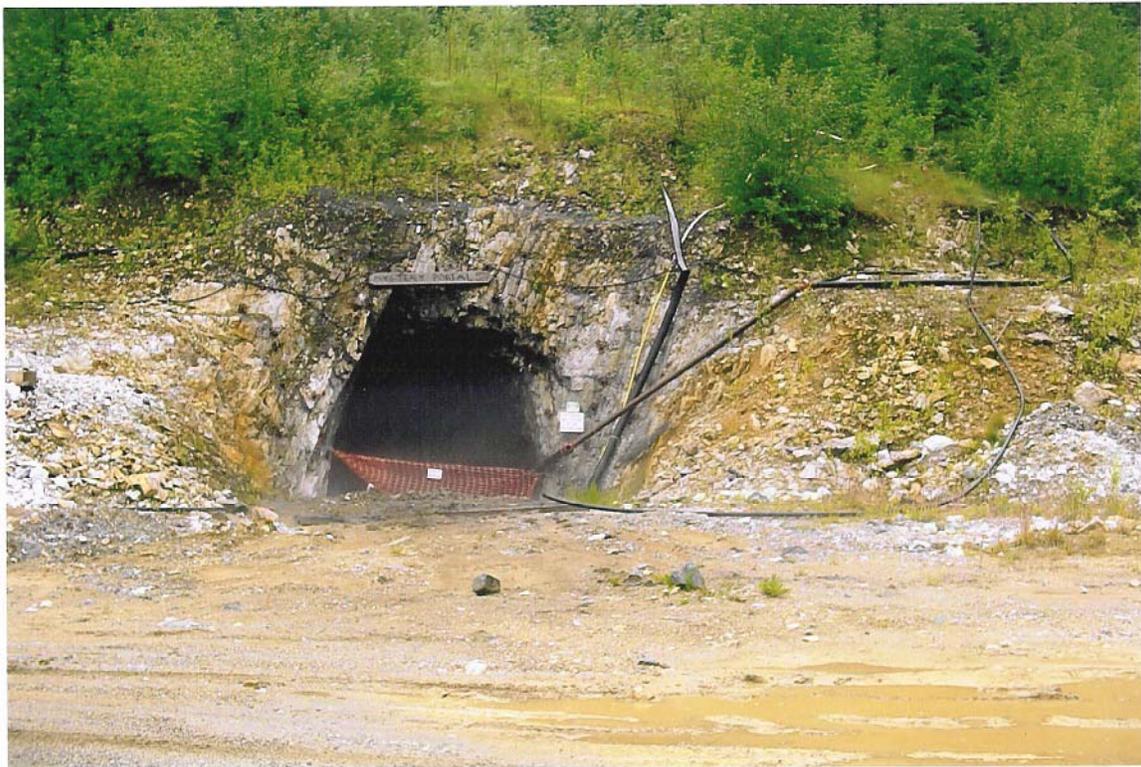


Photo 6: Mystery Decline Portal.



Photo 7: View of Mystery Development Rock Stockpile looking northwest from vicinity of water supply infiltration gallery.

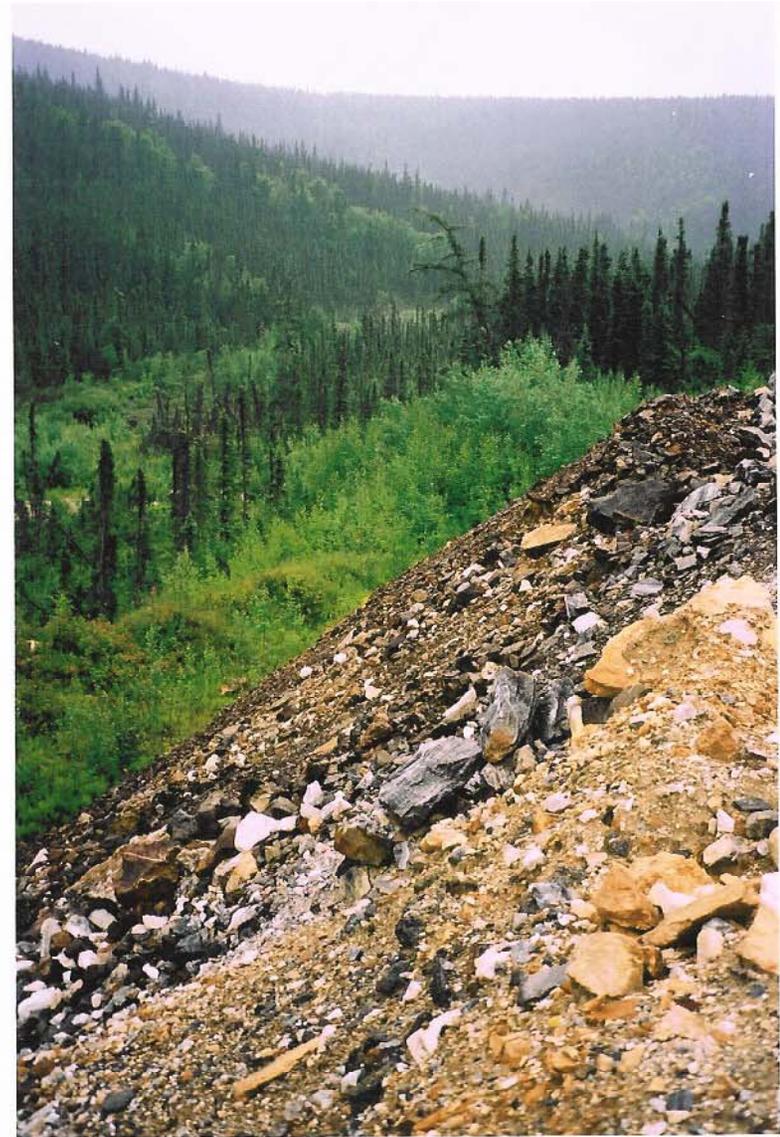


Photo 8: Longitudinal view from midpoint of Mystery Development Rock Stockpile looking southeast up Mystery Creek basin.



Photo 9: Longitudinal view from midpoint of Mystery Development Rock Stockpile looking northwest down Mystery Creek basin.



Photo 10: Longitudinal view of Mystery Waste Rock Dump (looking southeast) from extreme northwest end, proximal to permit boundary abutted by Doyon Regional Lands.



Photo 11: Water supply impoundment and Infiltration Gallery on Mystery Creek.
Structure at right is pumphouse.

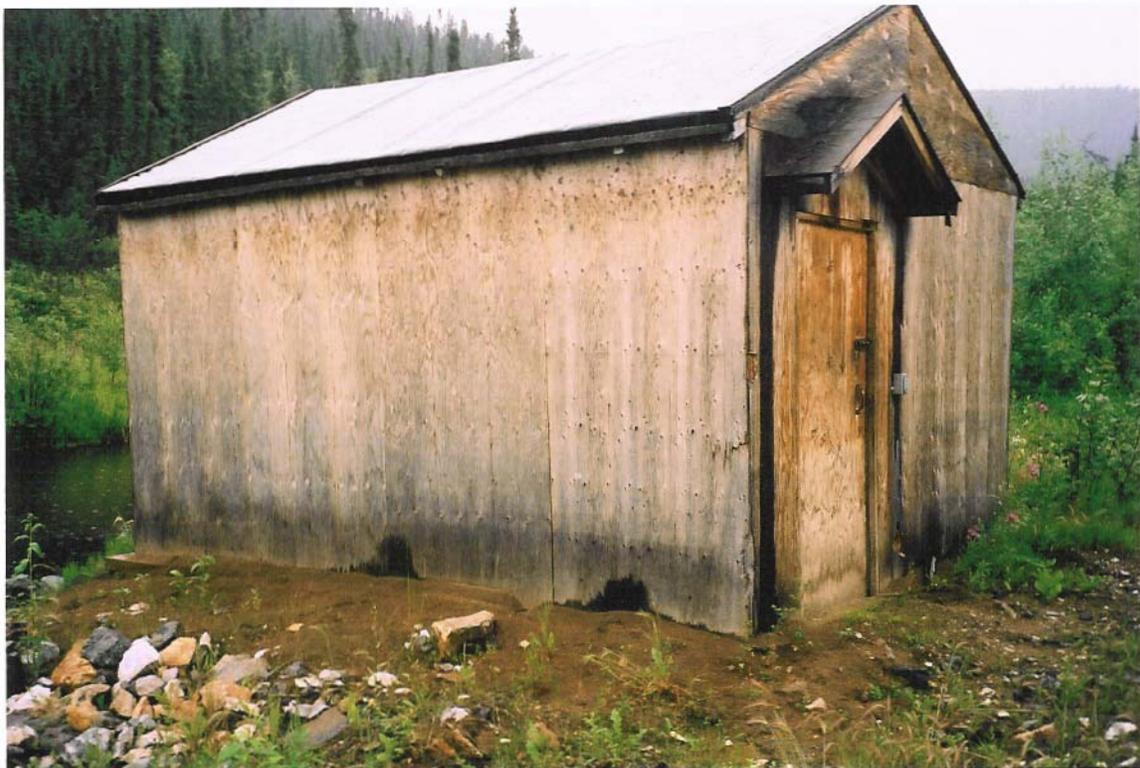


Photo 12: Water supply pumphouse at Infiltration Gallery on Mystery Creek.



Photo 13: Mystery Ventilation Raise. Connex box houses fan and heating boiler.



Photo 14: View of reclaimed utility corridor extending upslope to water storage tank.



Photo 15: View of Multi-Use Complex (living quarters) at main camp area, looking southeast.



Photo 16: Woodframe and platform tent outbuildings at main camp area.



Photo 17: Office/Dry Complex as viewed from central yard area on Crystal Development Rock Stockpile. Office at left; miner's dry in center; assay lab at far right.



Photo 18: View of Office/Dry Complex from upslope area to the east (walkway to camp). Associated Connex boxes and outbuilding walls visible at rear.



Photo 19: View along northeast corner of Office/Dry Complex showing depth of bank cut and thickness of available topsoil and humus horizon.



Photo 20: Interior view of assay laboratory area.



Photo 21: View of south side of Maintenance Shop structure with Office/Dry Complex visible at left rear. Note diesel fuel storage tank w/secondary containment.



Photo 22: View of north side of Maintenance Shop structure.



Photo 23: View looking south across Mill Building (from camp walkway).



Photo 24: Close-up view of north entrance to Mill Building.

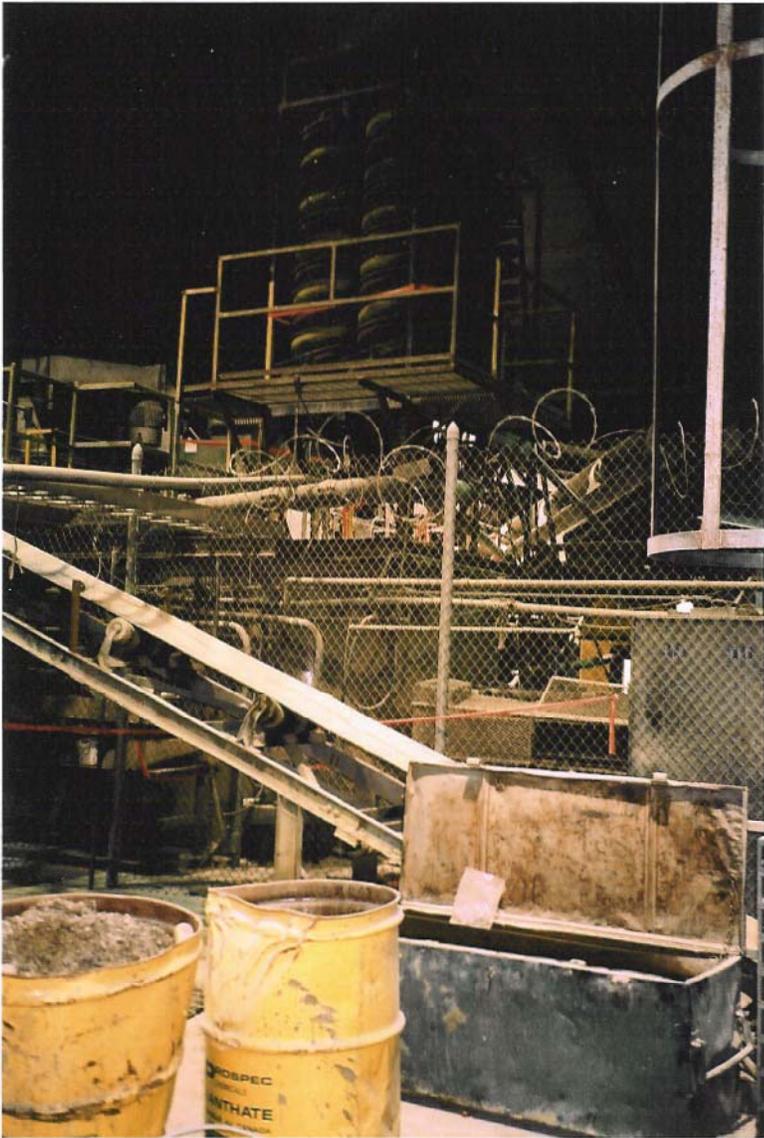


Photo 25: Mill interior – crushed ore feed conveyor. Spirals visible at top center.

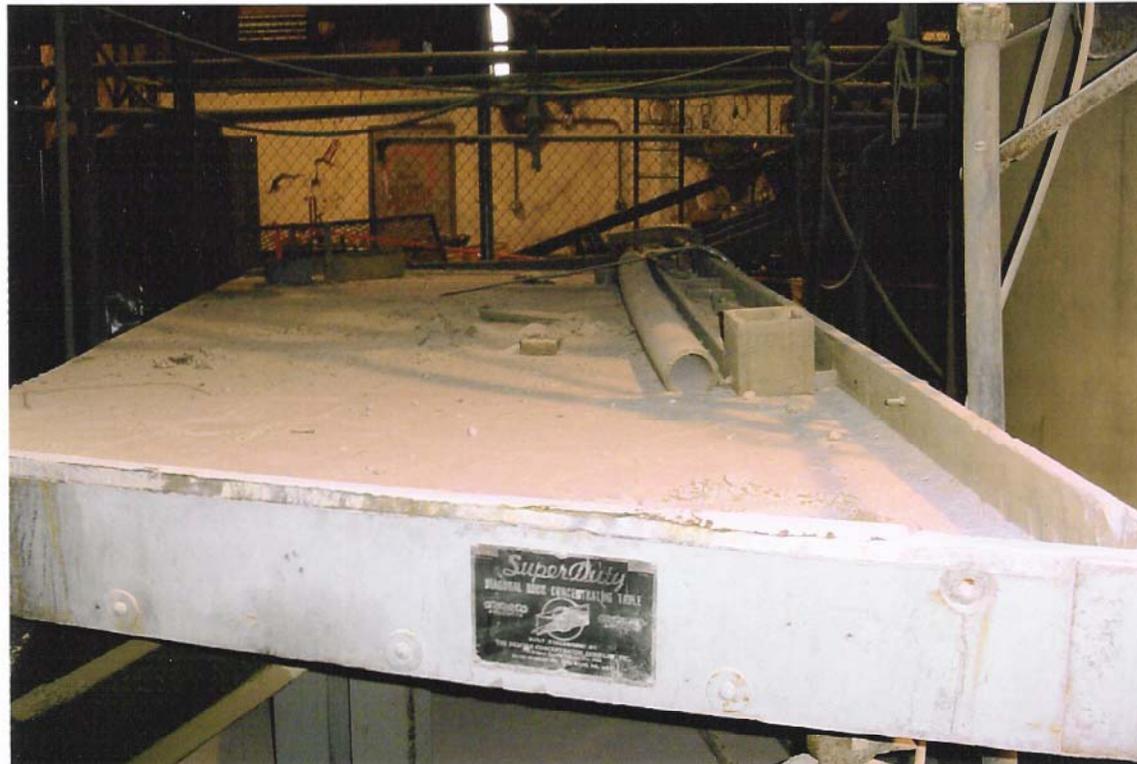


Photo 26: Gravity Concentrating Table.



Photo 27: Mill interior – Concrete pedestal mounted ball mill.

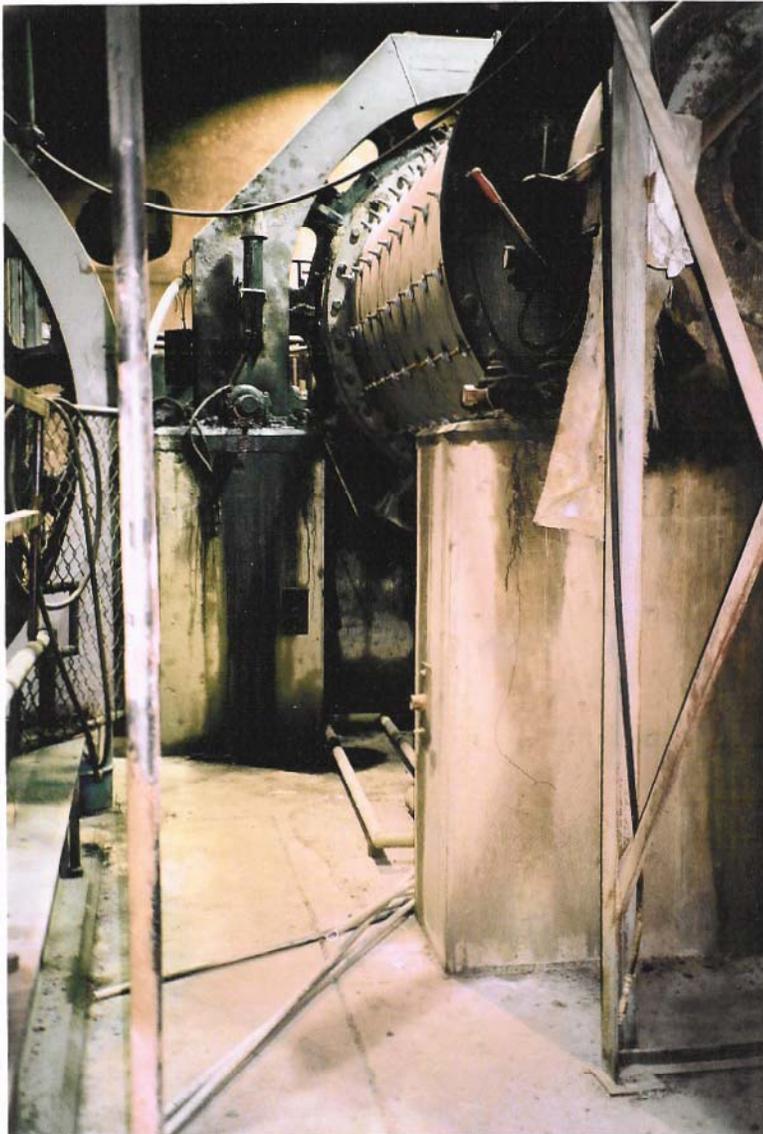


Photo 28: Mill interior – Reverse angle close-up view of concrete pedestal mounted ball mill. Adjacent (fixed position) skid-mounted ball mill just visible to the left.



Photo 29: Mill interior – Close-up view of (fixed position) skid mounted ball mill.



Photo 30: Mill interior – view looking south along west side. Caterpillar generator sets visible in room (right rear); electrical control panels at right. Note thickener tank visible at left.

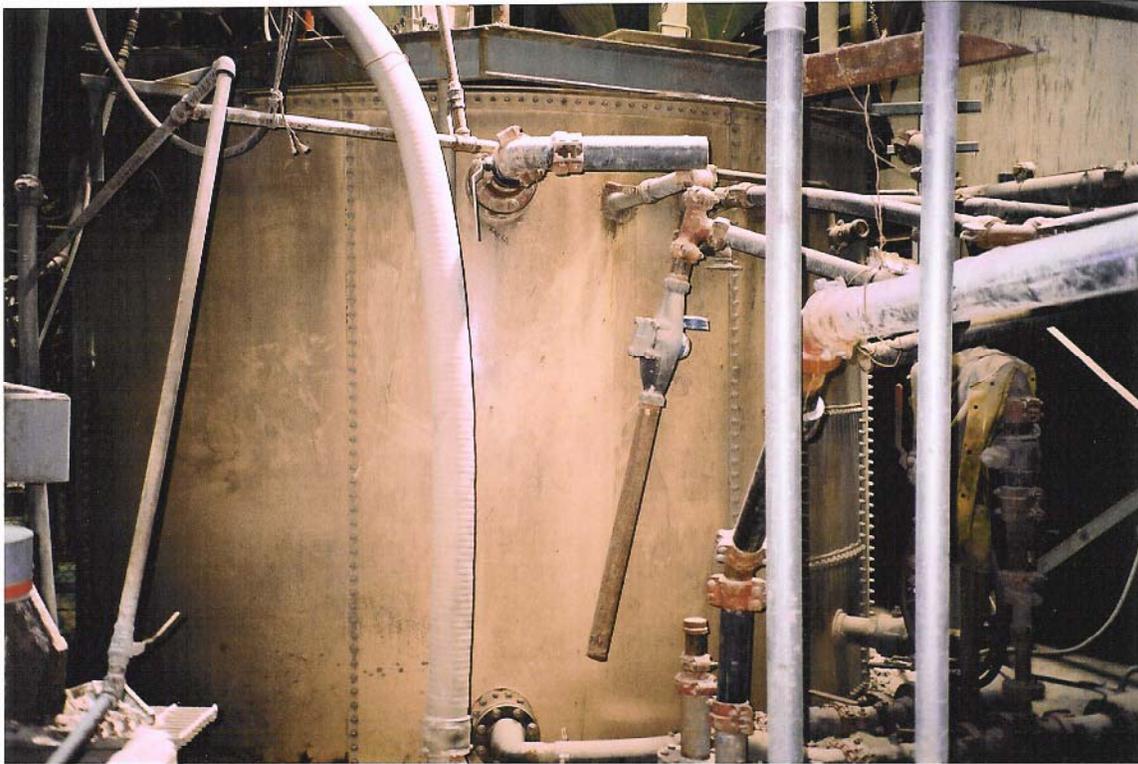


Photo 31: Mill interior – typical process tank showing extensive piping, valves, etc.



Photo 32: Mill interior – flotation cell bank located on upper level. Typical steel grate flooring.



Photo 33: Mill interior – view of structural support members under thickener tanks.



Photo 34: Mill interior – typical view of multi-level steel structural members. Thickener tank visible in upper left center of photo.

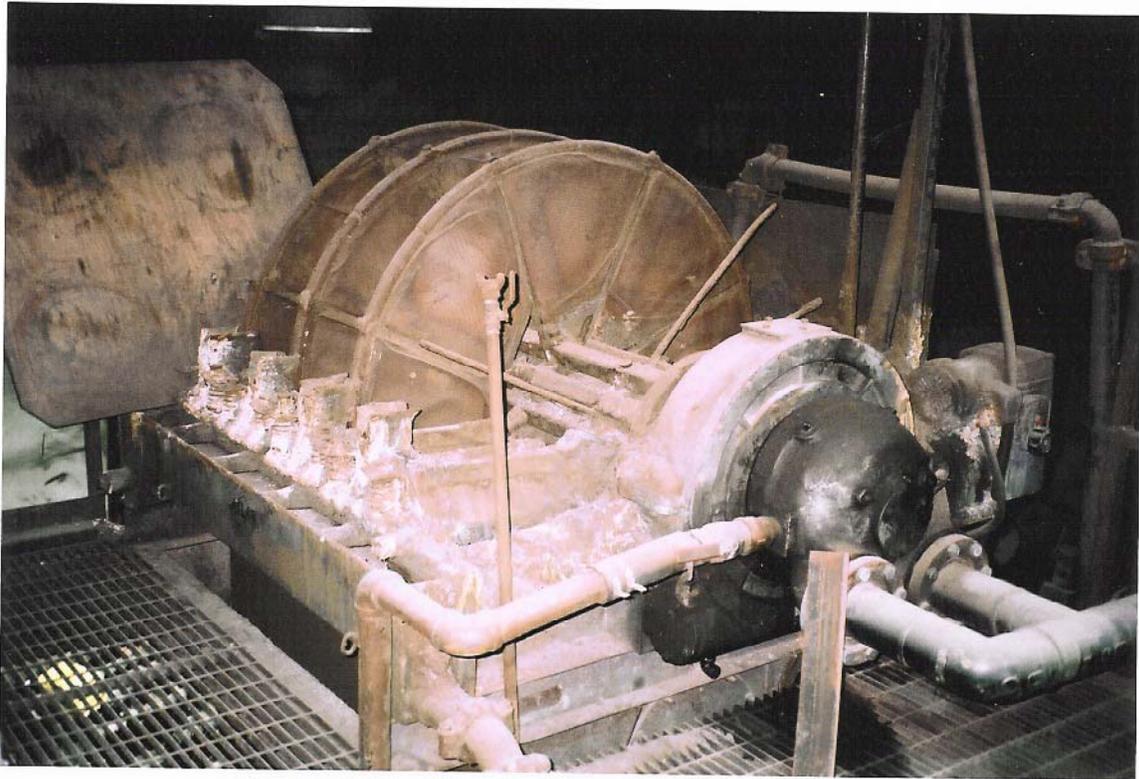


Photo 35: Mill interior – disk filter equipment.



Photo 36: Mill interior – Miscellaneous materials present at concentrate bagging area.
Drums contain ball mill charge; PVC tanks are empty.



Photo 37: Miscellaneous Outbuildings located west of Maintenance Shop and Office/Dry Complex. Four Connex boxes visible at left; platform tents and wood frame structure (core saw shed) visible beyond.



Photo 38: Reverse angle view of various Outbuildings west of Maintenance Shop and Office/Dry Complex. Core saw shed (wood-frame structure) at right, behind Connex box.



Photo 39: View of drill core storage area north of Office/Cry Complex.



Photo 40: Crystal Decline Portal.



Photo 41: Aerial view of Crystal Development Rock Stockpile (to be expanded in area to south (right)).



Photo 42: View of Crystal Vent Raise exhaust fan. Note glycol circulation system (radiator and insulated piping) at right. Heating boiler and associated diesel fuel AST (w/secondary containment) just out of photo to right.



Photo 43: Aerial view of Main Tailing Impoundment (looking north); main camp area visible upslope at right.



Photo 44: Aerial view of Main Tailing Impoundment (looking south). Tailing slurry and return water corridor discernible between Mill (extreme left) and tailing impoundment. Tailing Dike Borrow Area visible at right center (leveled peak to right of switchback in roadway).



Photo 45: View of upper end of tailing impoundment depicting liner and anchor trench; tailings beach visible at rear.



Photo 46: View of tailing impoundment from dike. Return water line/barge visible at left; water volume primarily attributable to precipitation events. Tailings beach visible at rear.



Photo 47: Meteorologic Station (tower).



Photo 48: Aerial view looking SE down Old (1990) Runway. Water Storage Tank visible left of center. Proposed Filtered Tailings Disposal Site at far end of Runway.



Photo 48(b): Site of proposed Filtered Tailings Disposal at south end of old (1990) airstrip. Currently used as drummed waste staging area by BLM.



Photo 49: View of two (of four) Atlas-Alaska explosives magazines.



Photo 50: View of the other two Atlas-Alaska explosives magazines.



Photo 51: Fuel Depot – view of two fuel storage bladders located off north end of Hercules Airstrip. Pumping installation housed in wood structure on right.



Photo 52: Fuel Depot – remaining two fuel bladder cells; currently inactive. Former (1990) airstrip (no longer used as runway) visible behind – now provides access to main camp area (to left) and proposed Dry Tailing Disposal Site (to right).



Photo 53: View looking south down 4,200 ft. Hercules Airstrip. Note small knob or hill at far end of runway that is to be removed in conjunction with the proposed south runway extension project. Embankment cut visible along left side of runway.



Photo 54: DC-4 taxiing near north end of Hercules Airstrip.



Photo 55: Scattered wreckage of DC-6 located near south end of Hercules Airstrip.



Photo 56: Close-up of DC-6 fuselage.



Photo 57: Exposed face in Sand Pit Borrow Area.



Photo 58: View to west from same location showing westerly extent of sand deposit.
Note natural vegetation encroachment.



Photo 60: Panoramic view of permitted landfill. Incinerator unit left foreground.



Photo 61: Hydrocarbon contaminated soils containment area, located adjacent to landfill.

Photo 62: Tanker trailer at landfill. Hydrocarbon contaminated soils containment area at rear.





Photo 63: Rock Quarry (formerly a runway).



Photo 64: Old South Camp Area, located off south end of Hercules (1995) Airstrip.



Photo 65: Typical core drilling exploration rig set-up showing limited extent of disturbance.



Photo 66: Historic Stamp Mill.



Photo 67: Historic Bunkhouse.



Photo 68: Typical view (vicinity of Office/Dry Complex) showing bank cut and shallow bedrock exposure. Crestline depicts typical soil/humus horizon that is available to provide growth medium for reclamation activities.