# APPENDIX A

## Engineering and Geological Analysis

### Property Rights and Water:

Property rights involved in this plan of operations consist of multiple placer mining claims within Mineral Survey No. 923 which were patented without surface use restrictions. Mineral Survey No. 923 consists of Discovery Nos. 1, 2, 3, and 4 Above, Nos. 1, 2, 5, 6, and 8 Below, No 1 on Washington Gulch, No. 1 on California Gulch, No. 1 on Utah Gulch, No. 1 C on Colorado Creek, No. 1 on Ohio Gulch, Claim on Oregon Gulch, Williams, Homestake, and Bolder Creek Placer Claims (Figure A1). These patented claims were located between 1901 and 1906 by The Dan Creek Mining Company. Mineral Survey No. 923 contains approximately 472 acres and was patented (#385873) January 22, 1912.

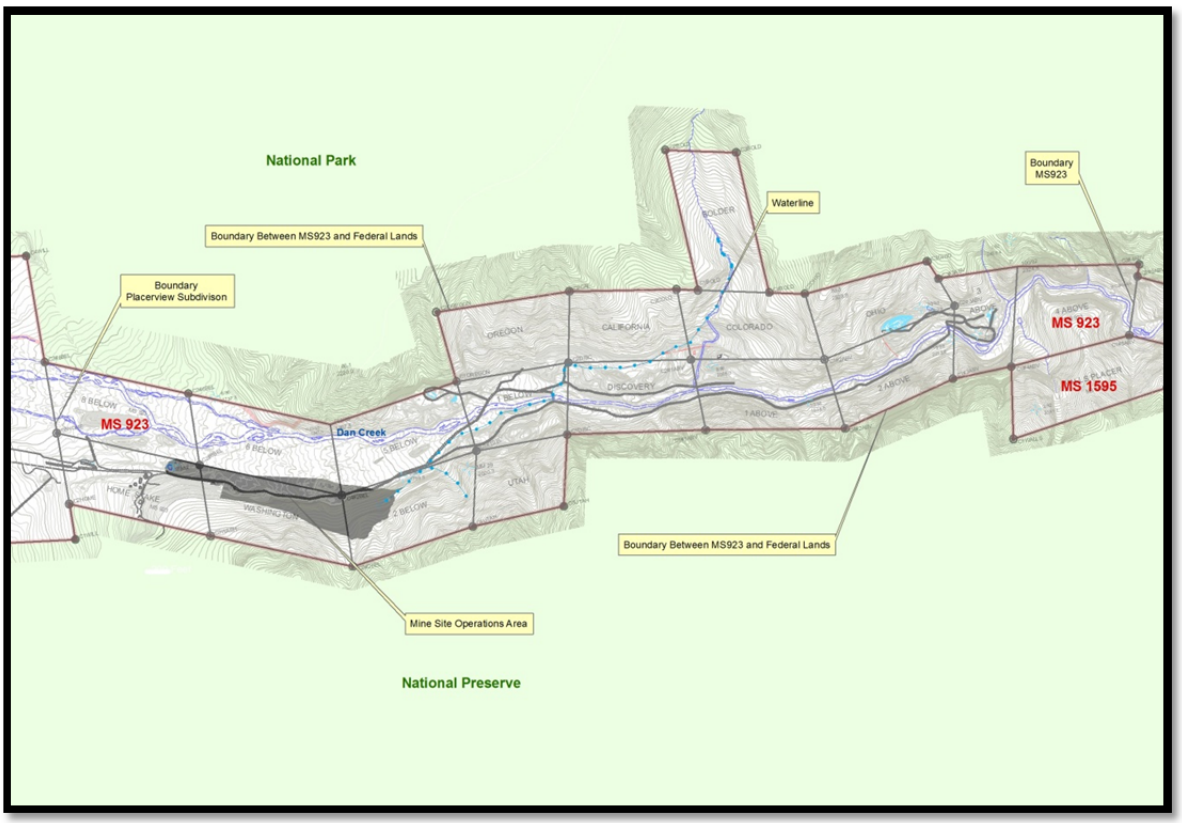


**Figure A11: Mineral Survey 923 - Claim Names**

A title search reveals that U. S. Mineral Survey No. 923 is owned by Dan Creek Placer Mines Partnership, a limited partnership except for "The Placerview at Dan Creek Unit No. 1 Subdivision" official plat No. 92-22 within Williams Placer. The Placerview at Dan Creek Subdivision contains 139 one-acre lots and the Dan Creek Airstrip/Runway. This is a private airstrip and is also utilized by Randy Elliott in support of his mining operations. Mr. Elliott entered into a Purchase Agreement with James O. Tallman, President, TALMO Inc., Managing Partner for Dan Creek Placer Mine for the mineral rights

and surface rights to mine at Dan Creek. Under this agreement Randy Elliott is the authorized agent for Dan Creek Placer Mines Partnership and may apply for permits and conduct any other business for the partnerships.

Water Rights:
The State of Alaska issued a permit and a certificate of appropriation (ADL No. 46293) to Dan Creek Placer Mines on April 22, 1968, to withdraw 11.5 cubic feet/second (5161 gpm) of water from Dan Creek for placer gold mining operations between April 1 and November 1 every year. The mineral patent documents associated with these claims do not include any additional water rights.

**Mineral Deposit:**

Discovered in the early 1900s, mining operations at Dan Creek have produced in excess of an estimated 60,000 ounces of placer gold. This placer gold has been mined from both stream alluvium and from elevated bench deposits in the Dan Creek valley. The target of the subject mining plan of operations is an elevated bench along the south side of Dan Creek (Figure A2). In the area of Mining Block 12, this bench deposit is perched on a bedrock terrace approximately 50 feet above the Dan Creek channel and its associated floodplain. Preliminary backhoe testing indicates that the bedrock terrace is sloping towards and approaches the elevation of the Dan Creek floodplain in Mining Block 15. The bench varies in width but averages around 100 feet. The pay gravel is in contact with bedrock and averages 6 feet thick. Overburden above the pay gravel ranges from less than 10 feet to more than 100 feet thick. The operator estimates that annually 50000 cy of topsoil and/or overburden would be removed and 4000 cy of gravel would be processed to recover the gold.

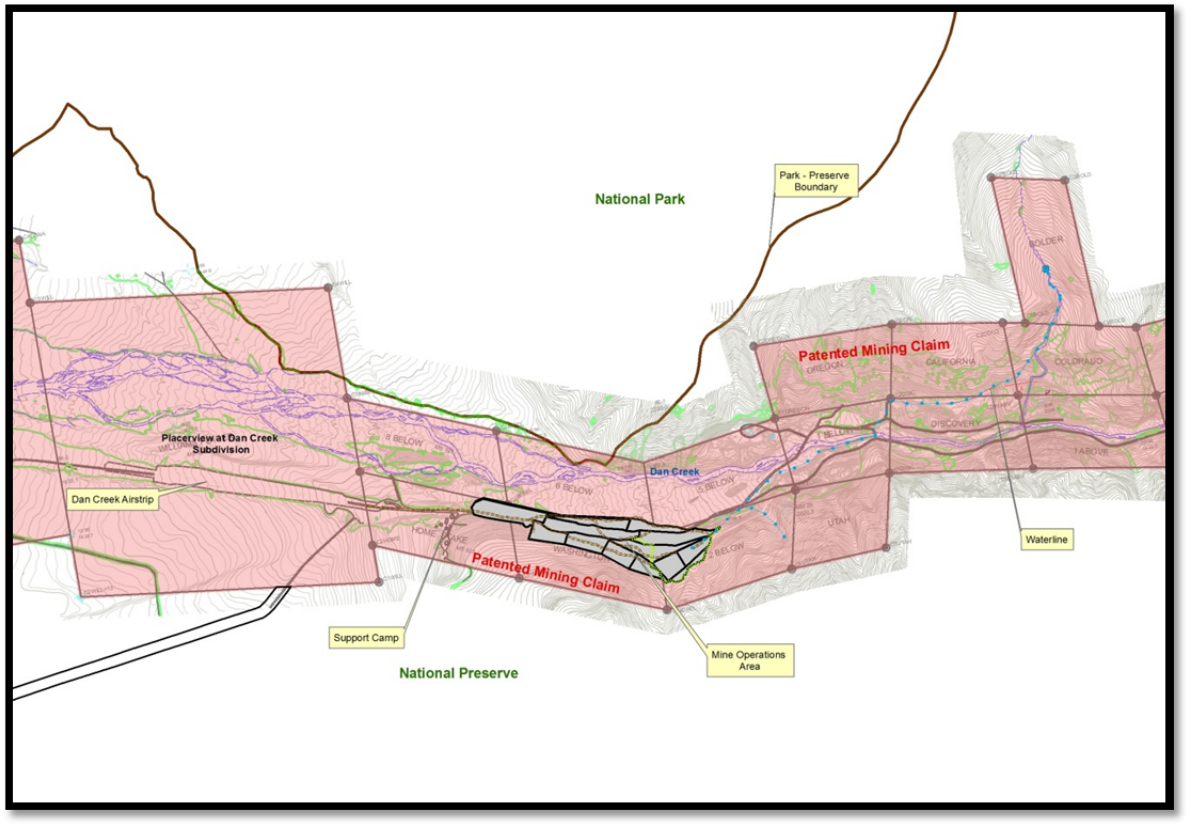


**Figure A2: Area of Operations at Dan Creek**

## Access and Equipment:

At the time of statehood in 1959, Alaska was granted a ROW for an existing road connecting McCarthy and Dan Creek. That ROW, known as the McCarthy-Dan Creek Road included an 8.5-mile-long segment which crosses uplands between the community of McCarthy and the Nizina River; a bridge and 0.6-mile-long causeway crossing the Nizina River; and a 10-mile-long upland segment between the Nizina River and Dan Creek.

None of the McCarthy-Dan Creek Road ROW is presently maintained by ADOT, and most is now impassible or unusable beyond the north bank of the Nizina River (Figure A3). The Nizina River Bridge and its associated causeway were destroyed by floods between 1914 and 1964. Much of the ROW between the south bank of the Nizina River and Dan Creek is now overgrown. Some segments have washed away, including both approaches to the Young Creek Bridge. Since the Nizina River Bridge was destroyed, the established motorized access to the private property east of the Nizina River has included traversing the river's barren gravel riverbed and few active stream channels at low water.

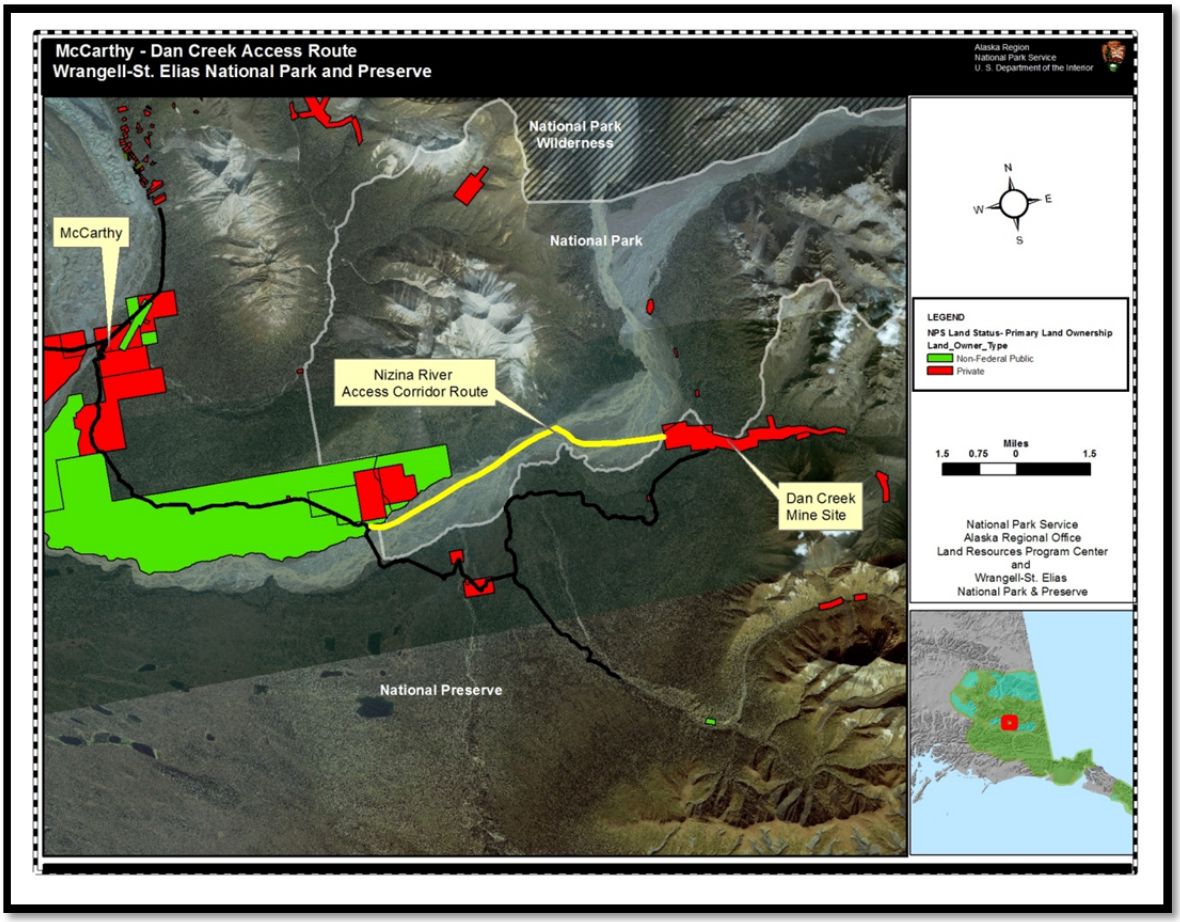


**Figure A3: Access to Dan Creek**

The proposed access to Dan Creek follows the established route; it consists of utilizing the state ROW between McCarthy and the Nizina River and then travel over the Nizina Riverbed to Dan Creek. Elliott has a long history of motorized travel between McCarthy and Dan Creek which includes routinely

traversing a six-mile portion of the Nizina River floodplain. According to Elliott, it is easiest to access Dan Creek by that route during low water periods, which generally occur during the months of May and October. Once the river freezes in October, travel with rubber-tired loaders and wheeled vehicles remains possible. However, operations can be difficult during periods when thin ice covers the channels or shelf ice hides the banks. Most overland travel along this route involves transporting heavy equipment and supplies. The operator has not constructed a roadbed across the floodplain and only attempts channel crossings where the ground is firm and at sites where the gravel terraces taper naturally into the streambed. Pulling sleds behind motorized equipment is not proposed. The use of sleds would be limited to periods when the round is frozen and/or there is adequate ice or snow cover to avoid ground disturbance.

The NPS has worked with the State of Alaska and local residents regarding long-term access to Dan Creek and will consider granting Elliott and other landowners RWCAs for motorized travel on the Nizina Riverbed under this EA Figure A3 and Appendix H. No performance bonds would be required from the NPS for overland access to the Dan Creek Inholdings by landowners. For landowners to in compliance with applicable requirements, they must contact the State of Alaska to secure required state authorization(s).

Equipment and structures utilized and/or parked at Dan Creek during 2011:

Wash plant (blue bed – operational)
Marooka MST800 on tracks (yellow-operational)
Excavator Komatsu PC5UU on tracks (blue-operational)
Excavator Kobelco on tracks (yellow-operational, 1cy)
Excavator on wheels (yellow & black-operational)
Excavator Komatsu on tracks (yellow-operational, 1cy)
Bulldozer Case (yellow & black-operational)
Excavator Link-Belt on tracks (orange & white operational, 4cy)
Front-end Loader (green-operational)
Dump Truck (red-operational)
Service Trailer (white)
Dump truck (white & red)
ORV, 4-wheeler
Light Plant (white)
(2) 2kw generators
Fuel Storage Tank (white 3x4x4)
Fuel Storage Tank (red 3x3x6)
Trailer on wheels
Wooden storage shed
Work shop (covered)
Work Truck (white enclosed backend)
Truck with bed (camo-colored)
Storage Container (metal-white)
Storage Container (metal-green)
Airplane
Boat (flatbed-grey)
Caterpillar D2-500 6-wheeled drive dump truck
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Excavator Bucyrus-Erie on tracks (yellow & red inoperable)
Excavator (yellow-inoperable)

Bulldozer (cable drive yellow-inoperable)
Front-end Loader (gray-inoperable)
Trailered Wash plant parts including trammel, inoperable
Fuel Truck for Storage (white 1100 gallon capacity, inoperable)

## Mining Block Descriptions:

The mining operations and physical characteristics of each delineated Mining Block are described below (Figure A4).

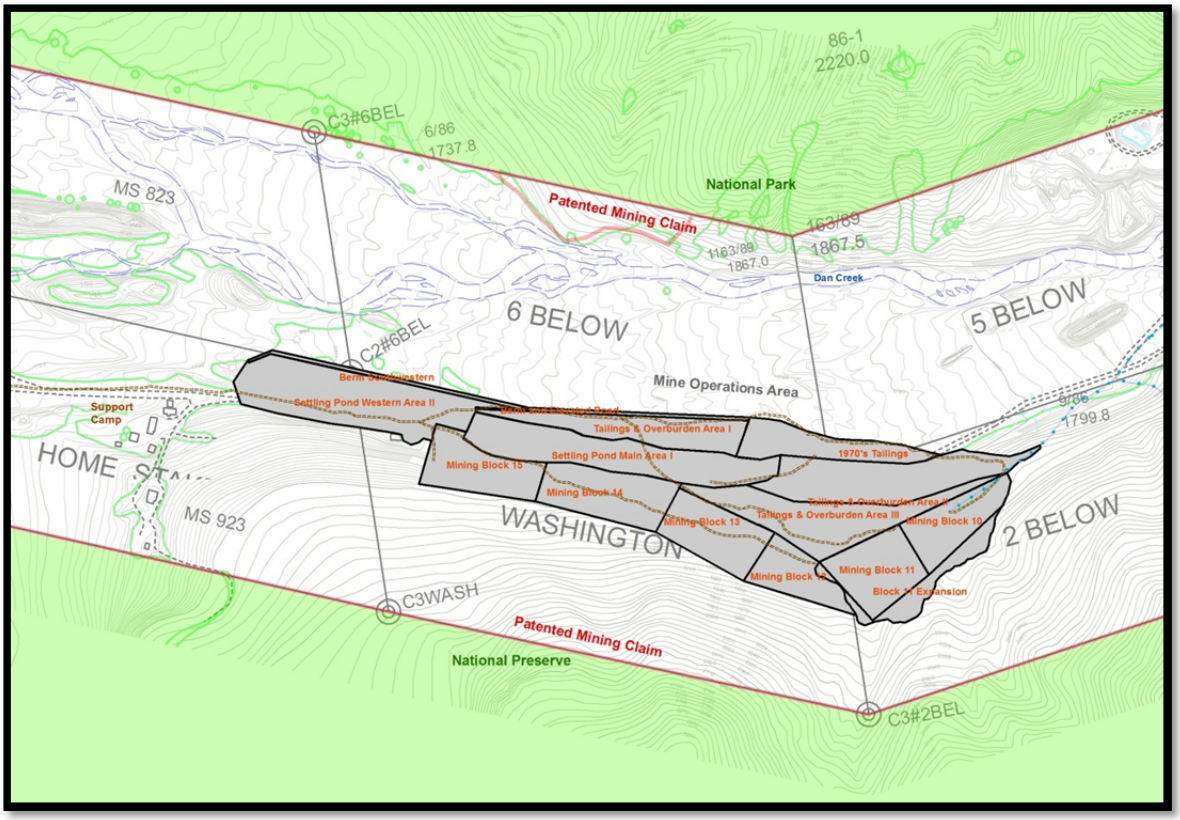



**Figure A4: MPO - Mining Blocks**

### *Mining Block 10:*

Mining Bloc 10 was mined prior to 2011 and operations within this block have already been completed. It contains 0.80 acres (a surface area of approximately 3,870 square yards) and originally had a slope of 34 percent. The existing pit floor slopes westward with elevations ranging from approximately 1,950 to 1,965 feet. Bedrock is exposed on the pit floor (Tables A1& A2). The pit is 325 feet long with an average width of 110 feet and a maximum width of 160 feet along its western boundary. Its pre-mining unconsolidated sediment cap ranged from 0 to 85 feet thick. Assuming an average thickness of 35 feet, approximately 45,000 cubic yards of overburden were removed from this block. This area is currently used for staging equipment and for support of ongoing operations. The high wall along the southern margin of its pit ranges between 20 feet and 85 feet in height. This area, which has not been reclaimed, would continue to be used in support of future mining operations when the southern expansion areas are mined (Figure A5).

***Mining Block 11:***

Mining Block 11 is situated on an upland slope of approximately 36 percent. Measuring 190 feet by 215 feet, it contains approximately 0.93 acres (4,500 square yards). Its trees, associated vegetation, and soil were removed during the 2010 mining season. This area was the focus of the 2011 mining operations. Most of the colluvium overburden was removed from all areas within the mining block, but bedrock was only exposed in trenches in the northeast corner and the southwest corner, where the high wall approaches 100 feet tall (Figure A5).

A stream-channel boulder layer was mined in the northeast corner during 2011 season, and approximately 1,800 yards of material was run through the wash plant. During 2012, mining operations would strip the remainder of the overburden and process gravels along the channel to the west. The thickness of unconsolidated sediments range from 40 to 100 feet and appear to average more than 60 feet. Assuming an average overburden thickness of 60 feet, the estimated volume of material to be removed and/or mined within this block would total about 90,000 cubic yards. Although overburden removal and mining would continue, the mined portions would be reclaimed by leveling overburden into an upland terrace.

| Area Name | Pre-2004 Land Cover Category | Cross section (XS) | Area Acreage | Surface Area (sq. yards) | Natural % Slope | Slope degrees +/- 10 | Overburden Estimated Thickness (Feet) | Overburden Calculated Volume (yards) |
|---|---|---|---|---|---|---|---|---|
| Mining Block 10 | Forest | A-A' | 0.8 | 3872 | 34.5% | 20 | 35 | 45,000 |
| Mining Block 11 | Forest | C-C' | 0.93 | 4501 | 36.3% | 20 | 63 | 93771 |
| Mining Block 11 Expansion | Forest | C-C' | 0.51 | 2468 | | | 70 | 57587 |
| Mining Block 12 | Forest and 40% disturbed | B-B' | 0.73 | 3484 | 37.1% | 20 | 35 | 40647 |
| Mining Block 13 | Forest | D-D' | 0.94 | 4549 | 55.2% | 29 | 60 | 90980 |
| Mining Block 14 | Forest | E-E' | 1.13 | 5469 | 51.7% | 27 | 50 | 91150 |
| Mining Block 15 | Forest | F-F' | 1.11 | 5324 | 36.6% | 20 | 35 | 62113 |
| | | | | | | | | |
| **Total** | | | **6.15** | | | | | **481,248** |

**Table A1: Mining Blocks - Pre-mining Characteristics**

***Mining Block 11 Expansion:***

Mining Block 11 Expansion contains about 0.5 acres (or around 2,460 square yards). The operator cut and removed the trees from here in 2010 and removed some overburden in 2011. Overburden removal, mining, and reclamation would continue in this area (Figures A5 & A6).

***Mining Block 12:***

Mining Block 12 contains 0.73 acres (or about 3,500 square yards) and measures approximately 270 feet long with an average width of 110 feet. It is widest along its shared boundary with Mining Block 13 and its pre-mining slope was approximately 37 percent. Its overburden thickness ranges from 20 to 50 feet, averaging 35 feet thick. The vegetation and soil cover was removed or impacted by past mining and/or road construction in about 40 percent of the area. This area will be stripped and mined, and the mined portion would eventually be reclaimed by leveling the overburden into an upland terrace (Figure A6).

**Figure A5: Mining Blocks No. 10, 11 and 12**

***Mining Block 13:***

Mining Block 13 contains about 0.94 acres (or around 4,500 square yards). Measuring approximately 280 feet long and with an average width of about 150 feet, its elevations range from 1,780 feet to 1,910 feet in its southeast corner, with a pre-mining slope of 55 percent over 145 feet. This forested block is transected by a cut/fill roadbed from the 1970s and a mining access road along its northern boundary. Some of its vegetation cover and overburden were removed in 2011. Overburden thicknesses range from about 40 to 80 feet, averaging 60 feet thick. The mined portion would eventually be reclaimed by leveling overburden into an upland terrace (Figure A6).

**Figure A6: Mining Blocks No. 11, 12 and 13**

***Mining Block 14:***

Mining Block 14 contains 1.1 acres and measures about 350 feet long by 150 feet wide (Figure A7). A cut/fill roadbed from the 1970s crosses the side hill with a slope of 52 percent over 120 feet. Elevations range from 1,770 feet on the river terrace to 1,840 feet in its southeast corner. This mining block will be stripped and mined below the level of the current Dan Creek floodplain. Though the mining cut may be below the surface elevation of the Dan Creek floodplain, this mine cut is segregated from the floodplain by approximately 200 feet of upland terrace that is planned for settling pond construction and tailing/overburden disposal. The mined portion will be reclaimed by leveling overburden into an upland river terrace. The operator estimates overburden thickness to be about 50 feet, hence about 90,000 cubic yards of material caps the underlying bedrock.

***Mining Block 15:***

Mining Block 15 is the westernmost area presently delineated for mining. Containing about 1.1 acres, it measures 325 feet long by 150 feet wide, with its northern boundary situated on a forested upland terrace with adjacent side slopes of 37 percent (Fig. A8). Its western portion was previously prospected and/or mined and a road presently occupies the break in slope between the river terrace and the uplands. Potentially, this mining block will be stripped and mined below the level of the current Dan Creek floodplain. Though the mining cut may be below the surface elevation of the Dan Creek floodplain, this mine cut is segregated from the floodplain by approximately 200 feet of upland terrace that is planned for settling pond construction and tailing/overburden disposal. Assuming an average overburden thickness of around 35 feet, overburden removal operations within this block would require stripping approximately 62,000 cubic yards. Once this block is stripped and mined, the mined portion would be reclaimed by leveling overburden onto an upland terrace.

**Figure A7: Mining Block No. 14**

**Figure A8: Mining Block No. 15**

| Area Name | Cross section (XS) | Overburden Volume (Yards)15% Swell | Pit Floor Elevation (feet) | Pit High Wall Height (feet) | Pit High Wall rise/run | Pit High Wall Slope Degrees +/- 10 |
|---|---|---|---|---|---|---|
| Mining Block 10 | A-A' | 51,750 | 1900 | 33 | 33ft/10ft | 73 |
| Mining Block 11 | C-C' | 107836 | 1865 | 100 to110 | 108ft/60ft | 61 |
| Mining Block 11 Expansion | C-C' | 66225 | | 100 to110 | | |
| Mining Block 12 | B-B' | 46744 | 1850 | 50 to 60 | 50ft/20ft | 68 |
| Mining Block 13 | D-D' | 104627 | 1805 | 90 | 90ft/40ft | 66 |
| Mining Block 14 | E-E' | 104822 | 1760 | 76 | 76ft/10ft | 82 |
| Mining Block 15 | F-F' | 71429 | 1735 | 42 | 42ft/10ft | 77 |
| | | | | | | |
| **Total** | | **553,433** | | | | |

**Table A2: Mining Blocks - Operation Characteristics**

## Tailings & Overburden Areas:

### *Berm and Elevated Road:*

A 0.23-acre berm would be constructed and maintained along the northern perimeter of the development area adjacent to the "Settling Pond Main Area I" on the northern edge of a sparsely vegetated terrace with the Dan Creek floodplain directly adjacent and to the north. Once constructed, this structure would confine and prevent discharge of mine waters onto the Dan Creek floodplain (Figure A9 & Table A3). Extending westward from the 1970 tailings piles into the area now occupied by the settling ponds, it would be up to 10 feet high, 10 feet wide, and armored and stabilized with large riprap. Overburden would be placed to the south of the structure, which, following reclamation, would become an elevated terrace connecting to the adjacent mined areas. The berm would be utilized as a road during mining operations as well as after they have ended. The location of this structure approximates the planned alignment of the 60-foot-wide airstrip which will be constructed during the final reclamation of the mining site and settling pond areas.

### *Berm Western Extension:*

An extension of the elevated road and berm would be constructed and maintained along the northern perimeter of the development area adjacent to the Settling Pond Western Area II on the northern edge of a sparsely vegetated terrace with the Dan Creek floodplain directly adjacent and to the north. Once constructed, this structure will confine and prevent discharge of mine waters onto Dan Creek floodplain. It will be armored and stabilized with large riprap from the mine site. This berm covers approximately 0.2

acres and will be up to 10 feet high and 10 feet wide. Overburden will be placed south of the structure and eventually become an elevated terrace once reclamation is completed.

| Area Name | Operations Primary Use | 2004 Landform Category | Surface Area Acres | Surface Area (sq yards) |
|---|---|---|---|---|
| Berm & Elevated Road | Retainment | River terrace | 0.23 | 1113 |
| Berm Southwestern | Retainment | River terrace | 0.17 | 823 |
| Settling Pond Main Area I | Tailings | River terrace | 1.75 | 8470 |
| Settling Pond Western Area | Tailings | River terrace | 2.07 | 10019 |
| Tailings & Overburden Area I | Overburden | River terrace | 1.00 | 4840 |
| Tailings & Overburden Area II | Overburden | Upland Slope | 1.58 | 7647 |
| Tailings & Overburden Area III | Overburden | Upland Slope | 1.47 | 7115 |
| Tailings Prior Disturbance | Overburden | Tailings | 0.81 | 3920 |
| | | | | |
| **Total** | | | **9.08** | |

**Table A3: Mine Site Tailings and Overburden Areas**

**Figure A9: Elevated road and berm under construction**

***Settling Pond Main Area I:***

Settling Pond Main Area I contains approximately 1.75 acres and is situated on a sparsely vegetated terrace between the Dan Creek floodplain and the uplands terraces of Mining Blocks 13, 14 and 15 (Fig A10). Waste water generated from processing gravel and removing overburden would be contained by a series of gravel retainment dams within associated ponds. Mud would settle out in the ponds and the water would travel between the ponds through a series of overflow pipes. This area would be filled with overburden and tailings and reclaimed as an elevated terrace, part of which would eventually be used as an airstrip. As fine material accumulates in the settling ponds, it will be removed with an excavator and incorporated into surface of the overburden and tailings disposal areas.

**Figure A10: Aerial view of Settling Pond Area No. I**

***Settling Pond Western Area II:***

This settling pond area, located on a sparsely vegetated terrace with the Dan Creek floodplain directly adjacent and to the north, which would consist of a second series of dams and ponds, was added to provide sufficient capacity for mining discharge even during high water use and periods of heavy rainfall. Overburden and tailings would be placed in this area, a portion of which would eventually be reclaimed as an elevated terrace and airstrip. As fine material accumulates in the settling ponds, it will be removed with an excavator an incorporated into surface of the overburden and tailings disposal areas (Table A3).

***Tailings and Overburden Area I:***

Tailings and Overburden Area I is at the lowest tailings and stockpile elevation. Containing approximately one acre, it is situated between the Settling Pond Main Area I and the berm/elevated road, which forms the area's northern margin. Tailings from the settling pond would be deposited in this area and overburden stockpiling activities are expected to occur here as well when mining operations begin in Mining Blocks 12, 13 and 14. During reclamation, this area would be capped with overburden and converted into a terrace. A recreational building site would eventually occupy this terrace.

***Tailings and Overburden Areas II and III:***

These tailings and overburden areas are situated between the 1970s tailings and Mining Blocks 10, 11, 12 and 13. Much of this area was mined or directly affected by mining prior to 2010. Unconsolidated gravels and tailings are currently placed in these areas. Overburden and mine tailings will be placed in this area when Mine Blocks 11, 12 and 13 are mined. Together, these areas encompass slightly more than three acres.

***1970s Tailings:***

This 0.75-acre area was disturbed by mining in the 1970s and consists of placer tailings piles constructed with a bulldozer. It is presently used to support operations, roads, and for placing and containing overburden.

## Excavation and Cross Sections:

Cross sections of the topography before, during and after operations depict conditions at the mine site (Figure A11)

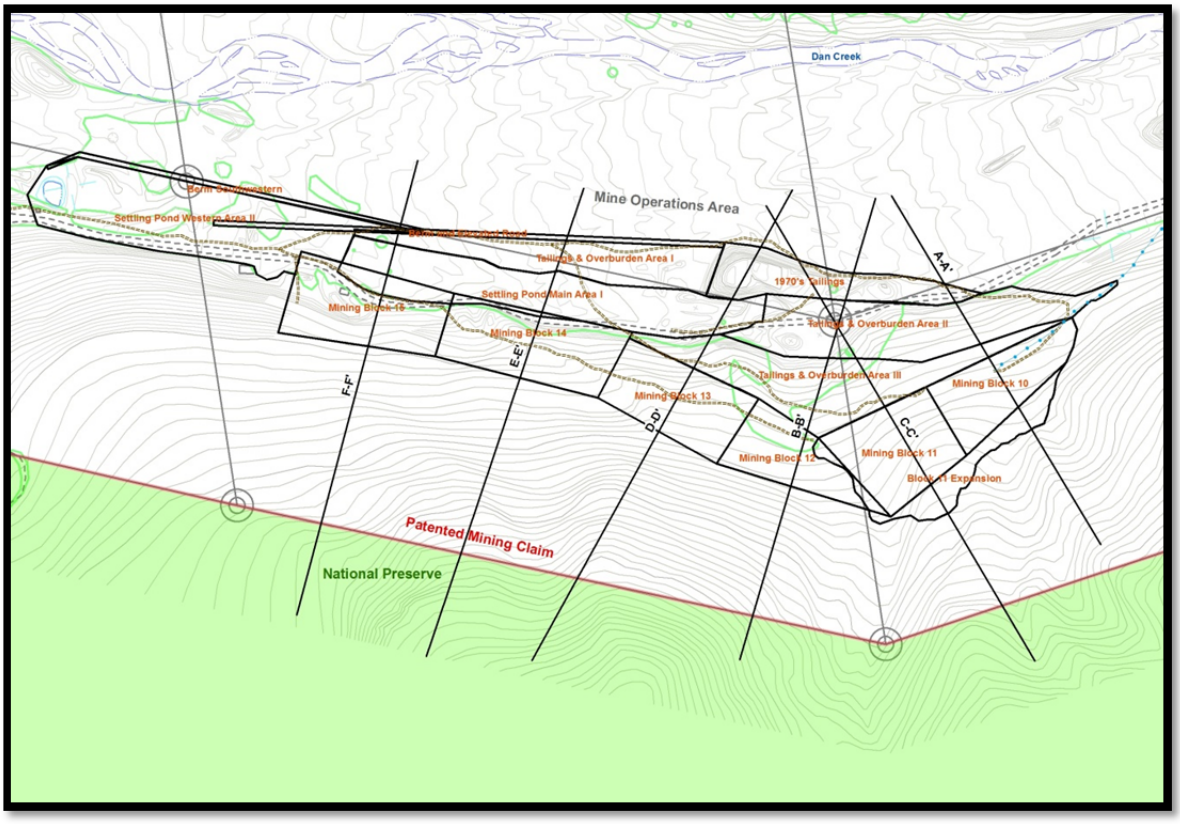
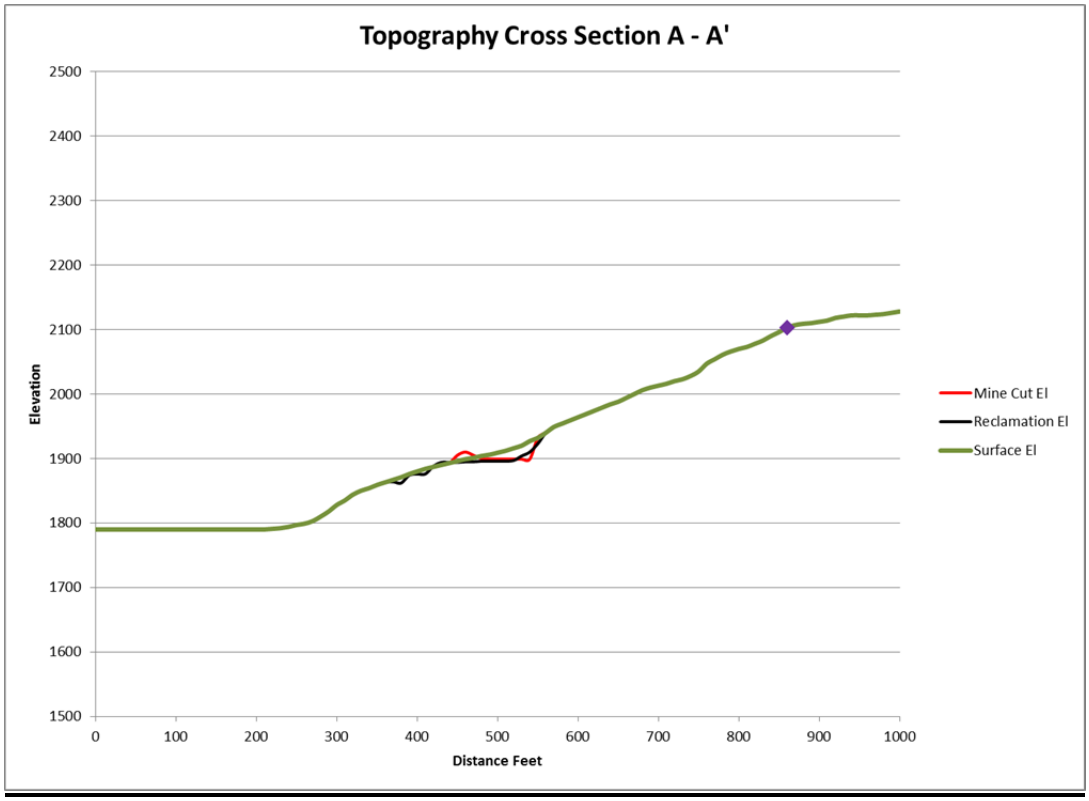



**Fig. A11 Mine Operations Area - Cross Sections**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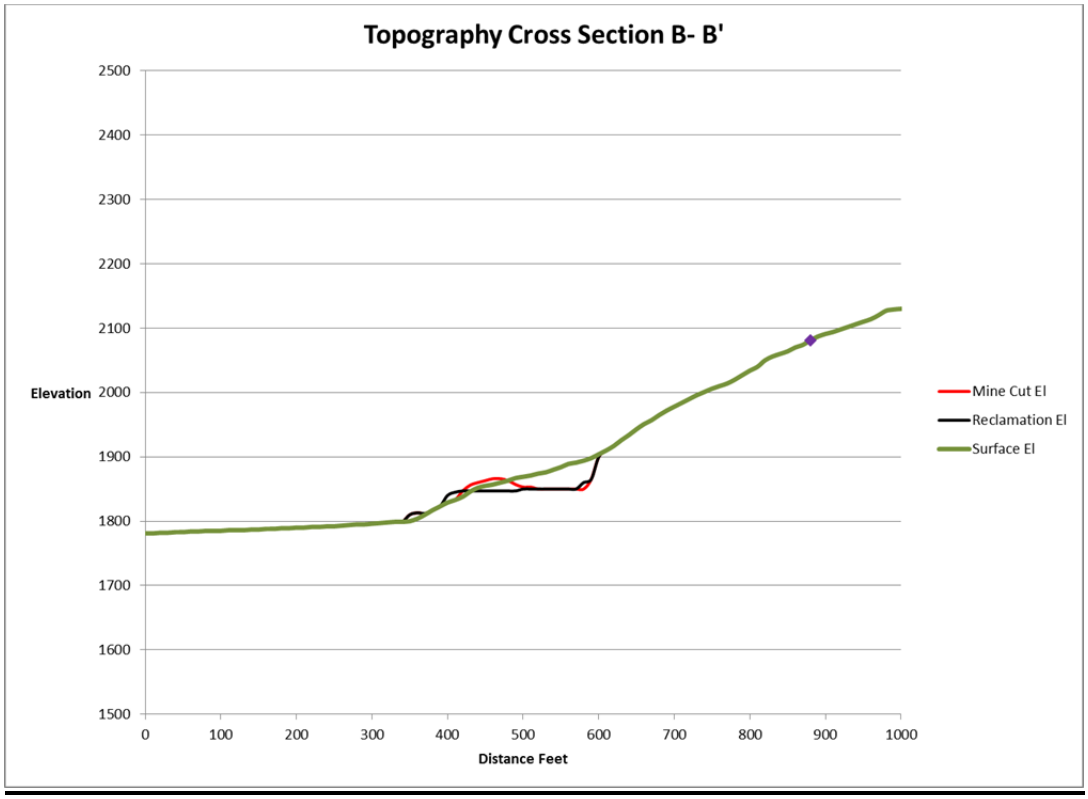
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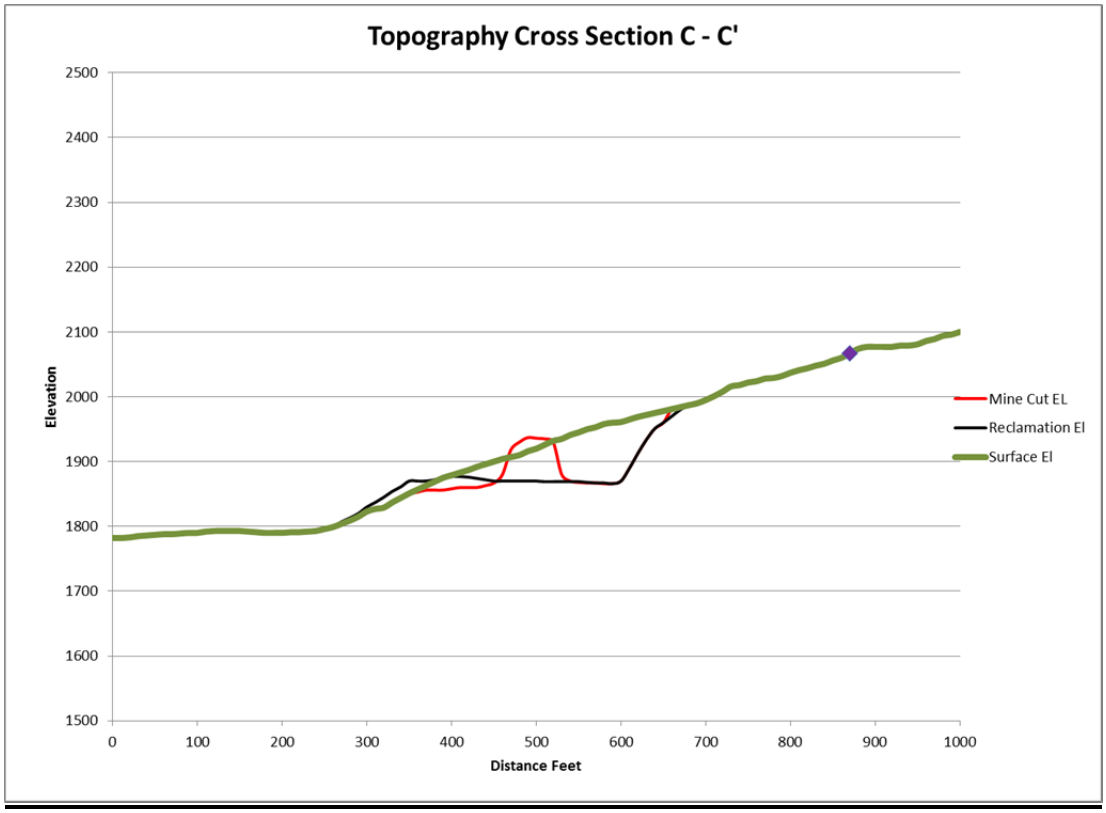
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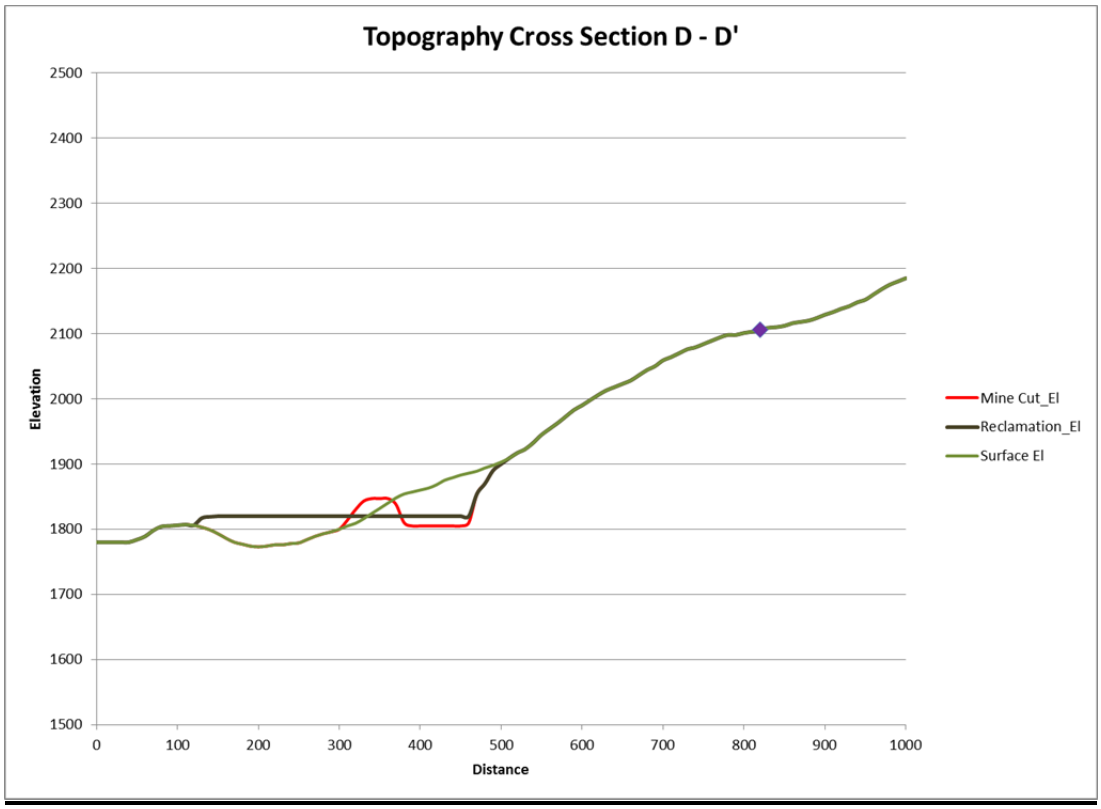
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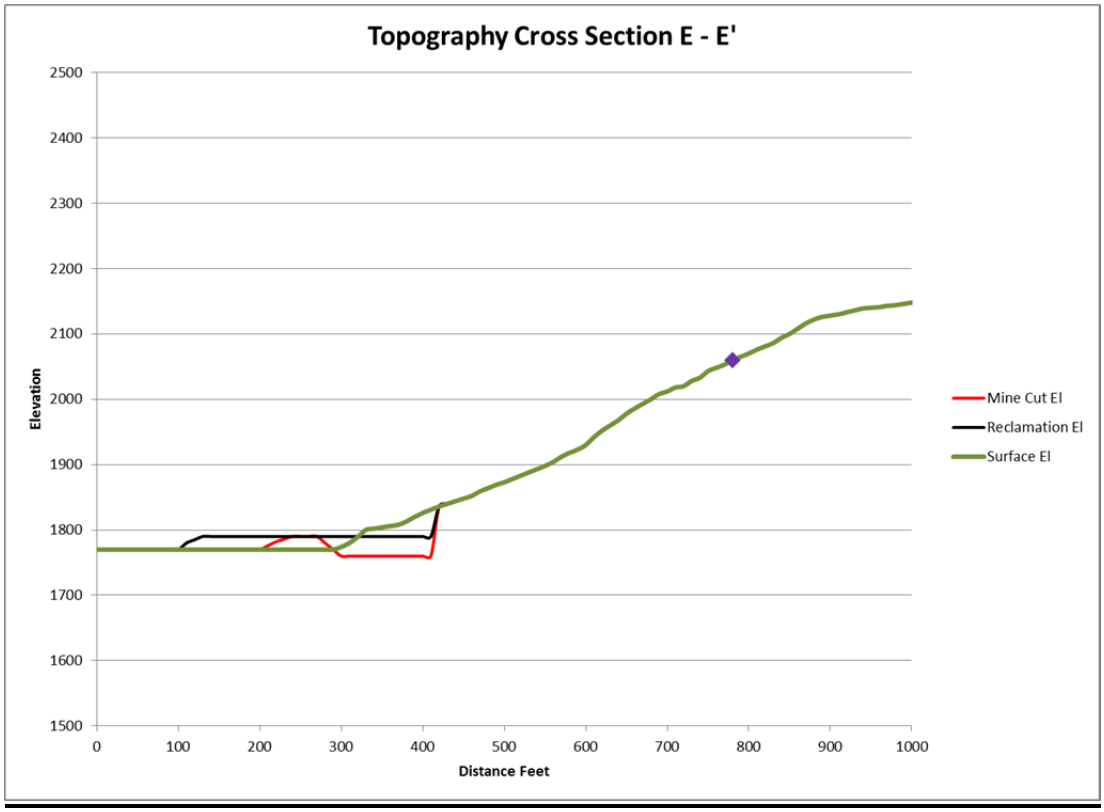
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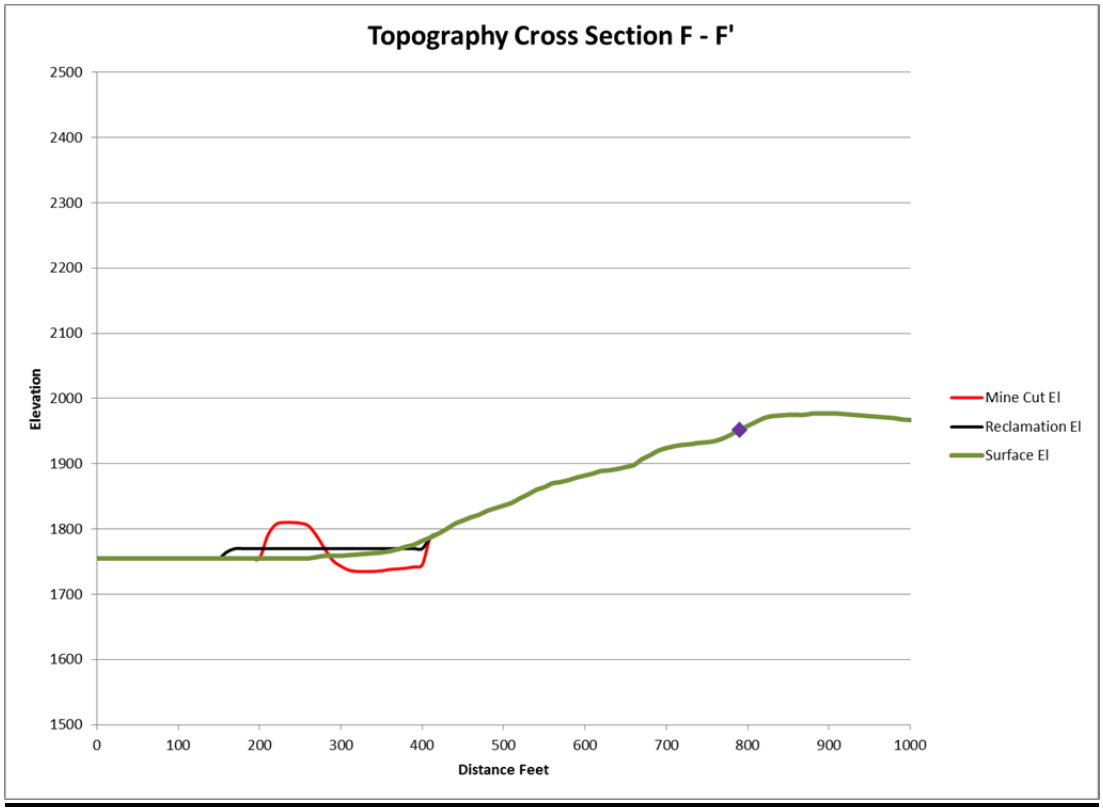
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**Description and Discussion of Proposal**

Access:

In this proposed action, access to Dan Creek would be accomplished by both overland and air travel. Overland travel would occur on the established AKDOT ROW between McCarthy and the Nizina River and then travel over the Nizina Riverbed floodplain to Dan Creek. The Nizina River floodplain portion of the overland route is six miles long and consists of a motorized track eight to ten feet wide within an ADF&G approved corridor and subject to any ADF&G, AKDEC, or AKDNR permit requirements. No construction or blading of the Nizina River floodplain gravel surface is proposed. The alignment within the Nizina Riverbed is located on National Park lands; all other motorized travel between McCarthy and Dan Creek would be within the AKDOT ROW or on non federal lands.

Motorized vehicle travel could occur on the Nizina River floodplain whenever there is low water, most travel would likely occur during the May-June and October-November periods. After freeze up in October, travel with rubber-tired loaders and wheeled vehicles remain possible, but operations during periods when thin ice covers the channels or shelf ice hides the banks can be problematic. Channel crossings occur where the ground is firm and at sites where the river gravels taper naturally into the streambed.

Randy Elliott filed an SF-299 application with the NPS for overland travel on the Nizina Riverbed . The NPS anticipates granting Randy Elliott and potentially other landowners at Dan Creek ANILCA 1110(b) Rights-of Way Certificates of Access to Dan Creek.

The proposed overland motorized vehicle route within the Nizina River Floodplain would be approximately 6.75 miles long. Depending upon river condition, the route may be slightly longer or shorter. Assuming that one alignment is followed each year and most motorized vehicles and mining equipment will have track widths 10 feet or less, we anticipate that the access route on the Nizina Riverbed will be confined to less than 10 acres. The operator has already secured an ADF& G Fish habitat Permit and may need to secure additional authorizations for travel from AKDNR.

Most overland travel along this route involves transporting heavy equipment and supplies. The operator anticipates between three and six freight trips per year in support of his mining operations. Freight trips such as these generally consist of round trip travel, and often include more than one vehicle. The operator most often uses a 20-ton, four-wheel-drive mining loader, but also uses tracked-equipment like bulldozers, excavators, and Nodwells. His current vehicles include excavators up to 45 tons (2-5 cubic yard); bulldozers in the D3 to D8 range; rubber-tired equipment such as a front end loader, a dump truck, a wheeled crane, and a flatbed; pickup trucks; and off-road vehicles, including a modified Toyota Land Cruiser and an assortment of ATVs. Mining equipment, such as his wash plant and pumps, is generally transported on a flatbed truck or wheeled trailer. Bulk fuel would be transported overland to Dan Creek annually in AKDOT-approved, 350-gallon containers or on a trailer carrying (2) 1000-gallon tanks.

A private airstrip at Dan Creek (approximately 2,000 feet long of usable surface) provides for access to Dan Creek for more routine and periodic re-supply needs, such as food and equipment replacement parts and transporting personnel to and from the work site. The operator transports fuel via aircraft if necessary.

Water Supply:

The primary water source for the mining operation originates from a water diversion located on the patented Boulder placer claim (Figure A2). A timber and rock diversion structure at an elevation of 2,200 feet redirects a portion of the surface flow from Boulder Creek's main channel into two water lines,

consisting of 4-inch- and 8-inch-diameter irrigation aluminum pipes. Mine water usage is estimated at 300 gallons per minute (gpm) and domestic use is less than 100 gallons per day.

The main waterline would range from 4,500 to 6,200 feet long. Hydraulic head at the mine site would vary from 200 feet at the 2,000-foot elevation to 450 feet at the 1,750-foot elevation. All water pipes would follow established roads, paths, and/or historic alignments, placed on the surface and anchored to slopes to prevent movement of the pipeline. The water line to the support camp would extend an additional 800 feet beyond the mine site.

A secondary water source would originate at a spring at the 2,050-foot elevation on the patented No. 2 Below Placer Claim. Water would be piped from there through approximately 475 feet of rubber and/or plastic hose. The primary use for this source is for domestic purposes.

Removing Vegetation, Stripping Topsoil and Overburden:

The proposed mining operations would occur on a forested upland terraces and slope situated on a bedrock terrace, above and to the south of Dan Creek and its associated floodplain. Overburden ranges from less than 10 feet- to more than 100-feet thick. The overburden stockpile and settling pond areas would be situated in part within areas previously mined and/or disturbed by past mining-related operations.

Initially, larger trees would be cut with a chainsaw and usable timber would be salvaged for use as firewood and/or building materials. After usable timber is salvaged, the smaller trees and brush would be removed with excavators and/or bulldozers during the initial top soil stripping phase. Soil and vegetation material ranging from 6 to 18 inches thick would be stored on slopes to the north of the area being stripped and saved for reclamation.

Overburden ranges from less than 10- feet to more than 100-feet thick and would be removed and cast to the north by a combination of techniques which include blading with a bulldozer, lifting and side-casting with excavators, and/or hydraulically stripping the overburden by use of water from the Boulder Creek pipeline and gravity. All overburden removed and/or cast to the north would be deposited onto upland terraces or side slopes. No overburden would be placed on top of topsoil. The remaining high wall would range from 20 to 80 feet in height and would approach 75 degrees. Overburden removal operations would produce up to 50,000 cubic yards of material each season.

Mineral Extraction/Mining and Mineral Processing:

The pay gravel is typically contained within a six-foot-thick layer in contact with bedrock. A series of excavators would excavate, lift, transport, and feed the pay gravel to the wash plant. The simple wash plant consists of a dump box, a series of screens and sluice box. The pay gravels are fed into the dump box and washed with the gravity fed water supply. Coarse materials are removed by a series of screens and deposited as coarse tailings next to the wash plant. Materials passing through the screens flow into the sluice box where the placer gold is recovered. Turbid waters and fine tailings exit the sluice box. The wash plant would process about 4,000 cubic yards of material each season.

The gold-bearing bench channel gravels on this north-facing slope would be the third bench in this general area to be mined. The overburden stockpile and settling pond areas would be situated in part within areas previously mined and/or disturbed by past mining-related operations. The active and barren portion of Dan Creek floodplain is located immediately north of the mine site; no mining operations are proposed in the floodplain

Tailings Management:

The wash plant will produce both coarse and fine tailings. Depending on the nature of the wash plant location and site conditions, either a bulldozer and/or excavator will be used to clear the buildup of tailing from the wash plant. Depending on the situation, an excavator may load the coarse tailings into a vehicle

for eventual transport to the dump area or a bulldozer may simply push these tailings away from the wash plant. The tailings generated by the wash plant would be deposited areas identified for Tailings and Overburden disposal.

Waste Water Management:

Discharge from the wash plant operations and the removal of overburden would generate mud-laden waters, which would issue from the wash plant and flow through a series of migrating channels across and down the adjacent zone of barren overburden into settling ponds. A series of dams/dikes would be constructed to contain muddy waters and allow solids to settle in these settling ponds. There would be as many as five or more discrete settling pond/trench structures that are inter-connected. The mine operator does not propose to add any chemicals or flocculants to the mine's waste water to enhance fine particle settling.

Containment structures and ponds would require regular maintenance. Excavators and/or bulldozers would be used to remove fine sediments from the settling ponds, stockpiling them in "Tailings and Overburden Area 1" and/or using them as fill in the "Berm and Elevated Road Area". Periodic removal of the fines will facilitate water percolation into the underlying gravel, which would serve as a filter system. The mine's waste water design would prevent release of surface water outside the settling pond areas. No surface discharge will occur from the settling pond area.

Settling ponds will be constructed to at least be able to contain and treat the maximum volume of wastewater resulting from the mining and processing operation during a four-hour period plus the volume that would be discharged from a five-year, six hour precipitation event as described in EPA effluent guidelines.

Water management from infiltration may be required if the cut is below the floodplain; hence pumping may be necessary from below grade cuts within Blocks 14& 15.

Waste Water:

All mine waste water generated by the mining operations would be confined in two settling pond areas located on an upland terrace above Dan Creek. No discharge or fill into wetlands or surface waters is proposed or anticipated. As of the writing of this document, the operator has neither applied for nor obtained any EPA National Pollution Discharge Elimination System or Army Corps of Engineers 404 permit.

Petroleum Products, Transport, Storage and Use:

As of this writing of the document, the operator has not provided the NPS with a Spill Prevention Control and Counter Measure Plan (SPCC) filed AKDEC. The operator will be required to be in compliance with all applicable AKDEC fuel transport, storage and use standards.

Potential Safety Issues:

The mine cuts will generate highwalls similar the existing high walls which resulted from past mining operations elsewhere on MS 923 (Figure A12). The high wall may approach 75 to 80 degrees (nearly vertical. Hence mine development should conform to MSHA regulations for surface mines. Mass wasting occurs on over-steepened slopes and unstable slopes. No massive slope failures have been reported by the operator at Dan Creek, but there is a risk of a catastrophic slope failure that could bury workers and/or equipment. In addition highwalls along the southern margin of the pits are prone to rock fall. Intermittent release of debris and rock pose a risk to the workers. The stability of these slopes is undetermined.

Proposed operations within Mine Block 14 and 15 would occur below the adjacent streambed. Ground water is likely to be encountered; these may fill with water and or require pumping. Tailings ponds also present risks to works or visitors to the site.

Operation of heavy equipment at a mine site poses risks to mine workers and visitors.

The Mine Safety Health Administration (MSHA) regulates mine sites. The Alaska Miners Association has indicated there are MSHA requirements for small scale placer mining operations such as Randy Elliott's. It is the operator's responsibility to be incompliance with all applicable laws and regulations.

Reclamation/Bonding:

We anticipate that the mine operations area will resemble others mined sites at Dan Creek after operations have ceased and natural vegetation recolonizes the site (Figure A12).

**Figure A12: Circa 1980 - Dan Creek Mine Site**

MS 923 mining claims were patented without surface use restrictions. The operator will rehabilitate the area of operations to a condition which would not constitute a nuisance; or would adversely affect, injure or damage federally owned lands. To achieve this, the operator's reclamation would involve smoothing of tailings and overburden storage areas with a bulldozer creating an elevated terrace adjacent to the Dan Creek Floodplain. Potentially, a large portion of the tailings/overburden material would be moved to cap the settling pond areas and smoothed. This will distribute sizable amounts of overburden and tailings across within the 15 acre mine site footprint resulting in to a much more subdued land feature after mining. Some amount of overburden and tailings will be placed directly back into mine cuts and smoothed.

Approximately four acres of the site was previously disturbed by past mining operations and was never reclaimed. Elliott will reclaim some of the mine site as operations proceed. Annually 1 acre of additional

land would be mined. Once mining ceases the site will be leveled to an upland terrace with a highwall along the upslope side. The terrace will be left for future development including residential structure(s)

The operator will not be removing any above ground structures from Dan Creek. The permanent structures in the support camp are personal residences and are most are historic buildings which are also used by the landowner and/or the operator for purposes other than mining. Most of the equipment on site predates the current operations and/or will continue to be used for purposes other than mining. Neither the structures nor equipment pose any risk to federally owned lands.

Reclamation and smoothing of tailings and overburden would be undertaken in a manner which in general moves material off the north-south cross sections and places it westward. Hence the resulting east west longitudinal profile through the mine site at cessation of operations and reclamation would resemble a cut and fill. Neither the mine cut nor reshaped tailings/overburden pose any risk to federally owned lands.

Tailings and Reclamation:

Tailing and overburden disposal areas total approximately 4.05 acres. Total bank yards of overburden/tailings would be approximately 481000. Assuming a 15% swell, operations would generate approximately 553000 loose cubic yards (Table A4). If this were equally distributed across the entire area of tailings/overburden it would potentially result in an elevation increase between 75 and 85 feet in the finished terraces.

Final reclamation and smoothing will include all settling pond areas and the berm/elevated road areas (4.02 acres). This will provide an additional acreage, for a total of 8.07 acres available to spread and reshape tailings. There would not be any depression/pit features nestled between the terrace and the high wall. Spreading the 553000 loose cubic yards evenly over these areas would potentially generate a terrace approximately 40 feet in height (Mine Site Cross Sections).

If all the material is spread evenly across the entire mine site (15 acres), the mine site would be capped by approximately 20-25 feet of material disturbed by Elliott's operations. The final topography will consist of a series of terraces and slopes. These terraces will be cut and fill or fill only. Elevations on the reclaimed terraces will differ from the original topography. The reclaimed landscape will be barren gravel and mineral soil until such time as local vegetation begins to recolonize the site through natural succession. There will be locations in the mine site where resulting topography has decreased between 25 to 75 feet; at other locations the topography may have increases of a similar magnitude. Neither the mine cut nor reshaped tailings/overburden pose any risk to federally owned lands.

**State of Alaska - Reclamation on private property:**

Reclamation on private property under the State standard, Alaska Stat. § 27.19.020:

*Alaska Statutes - Section 27.19.020: Reclamation standard*

> *A mining operation will be conducted in a manner that prevents unnecessary and undue degradation of land and water resources, and the mining operation shall be reclaimed as contemporaneously as practicable with the mining operation to leave the site in a stable condition.*

As of the writing of this EA, the operator has not provided the NPS with a reclamation plan filed with the AKDNR Division of Mining.

| Area Name | Cross section (XS) | Reclamation Terrace Elevation (feet) | Reclamation Slope Rise (feet) | Reclamation rise/run | Reclamation Slope Degrees +/- 10 |
|---|---|---|---|---|---|
| Mining Block 10 | A-A' | 1900 | 36 | 36ft/30ft | 50 |
| Mining Block 11 | C-C' | 1870 | 80 | 110ft/70ft | 57 |
| Mining Block 11 Expansion | C-C' | 1870 | 80 | 110ft/70ft | 57 |
| Mining Block 12 | B-B' | 1850 | 50 | 50ft/30-40ft | 45 |
| Mining Block 13 | D-D' | 1810 | 80 | 80ft/50ft | 58 |
| Mining Block 14 | E-E' | 1790 | 46 | 46ft/10ft | 78 |
| Mining Block 15 | F-F' | 1760 | 17 | 17ft/10ft | 60 |

**Table A4: Mining Blocks - Reclamation Characteristics**

The proposed mining operation qualifies as a small operation as defined by Alaska Statute § 27.19.050. Small mines are exempt from filing a reclamation plan and posting a bond with the State of Alaska.

*Alaska Statutes - Section 27.19.050.: Exemption for small operations*
*(a) AS 27.19.030 (a) and 27.19.040 do not apply to a mining operation*
*(1) where less than five acres are mined at one location in any year and there is a cumulative unreclaimed mined area of less than five acres at one location; or*
*(2) where less than five acres and less than 50,000 cubic yards of gravel or other materials are disturbed or removed at one location in any year and there is a cumulative disturbed area of less than five acres at one location.*
*(b) To obtain an exemption under (a) of this section, a miner shall file a letter of intent notifying the commissioner of the*
*(1) total acreage and volume of material to be mined;*
*(2) total acreage to be reclaimed; and*
*(3) reclamation measures to be used.*
*(c) A miner exempt under (a) of this section shall file an annual reclamation statement with the commissioner disclosing the total acreage and volume of material mined by the operation in the current year, the total acreage reclaimed, and the specific reclamation measures used to comply with AS 27.19.020 . A miner does not qualify for an exemption under (a) of this section for subsequent operations unless the annual reclamation statement for the previous operation has been filed with the commissioner.*
*(d) A miner exempted from the requirements of AS 27.19.030 (a) and 27.19.040 under (a) of this section that fails to reclaim a mining operation to the standards of AS 27.19.020 is required for two consecutive years to conduct each subsequent mining operation, regardless of size, under an approved reclamation plan and to provide an individual financial assurance.*

Support Facilities:

Fuel Storage / Fuel Transfer:
Fuel would be stored on site in a single 1,100 gallon fuel truck located on a previously mined bench to the east of the ongoing mining operations. Average seasonal fuel usage would range between 2,000 and 2,500 gallons. Fuel is transferred from the main fuel storage are to equipment in 5-gallon jerry cans.

Camp:
The camp to be used is located on private property (Homestake Placer) on a terrace above the aircraft tie down and the runway threshold/overrun area at the eastern end of the private Dan Creek Airstrip. It is situated approximately .25 mile down valley from the center of the mine site. The camp serves as the residential area for the operator, workers, and family, and includes eight structures for sleeping, dining, storage, and equipment maintenance. Some temporary fuel storage also occurs at the camp. No new structures are planned.

Roads and Infrastructure:
The project area contains a network of existing roads and trails on private property. The established infrastructure includes:

- Dan Creek Airstrip (1,800 feet) – airplanes are parked in the tie down area at its eastern end;
- Road alignment from the western boundary of the private property to the eastern end of the Dan Creek Airstrip (1.1 miles);
- Road alignment from the Dan Creek Airstrip to Dan Creek No. 3 Above Claim (1.5 miles);
- Road alignments (multiple) on northern side of Dan Creek (1 mile);
- Road alignment spur from the Dan Creek Airstrip to the AKDOT ROW (1,000 feet);
- Numerous mine site roads used by ORVs, machinery and equipment.

# APPENDIX B

## ANILCA Section 810(a)

## Summary Evaluation and Findings

I. INTRODUCTION

This section was prepared to comply with Title VIII, Section 810 of the Alaska National Interest Lands Conservation Act (ANILCA). It summarizes the evaluations of potential restrictions to subsistence activities that could result from authorizing a Mining Plan of Operations (MPO) for access to and ongoing placer mining operations on patented mining claims (private property) at Dan Creek in Wrangell-St. Elias National Park and Preserve, Alaska.

II. THE EVALUATION PROCESS

Section 810(a) of ANILCA states:

"In determining whether to withdraw, reserve, lease, or otherwise permit the use, occupancy, or disposition of public lands … the head of the federal agency … over such lands … shall evaluate the effect of such use, occupancy, or disposition on subsistence uses and needs, the availability of other lands for the purposes sought to be achieved, and other alternatives which would reduce or eliminate the use, occupancy, or disposition of public lands needed for subsistence purposes. No such withdrawal, reservation, lease, permit, or other use, occupancy or disposition of such lands which would significantly restrict subsistence uses shall be effected until the head of such Federal agency -

(1) gives notice to the appropriate State agency and the appropriate local committees and regional councils established pursuant to section 805;

(2) gives notice of, and holds, a hearing in the vicinity of the area involved; and

(3) determines that (A) such a significant restriction of subsistence uses is necessary, consistent with sound management principles for the utilization of the public lands, (B) the proposed activity will involve the minimal amount of public lands necessary to accomplish the purposes of such use, occupancy, or other disposition, and (C) reasonable steps will be taken to minimize adverse impacts upon subsistence uses and resources resulting from such actions."

ANILCA created new units and additions to existing units of the national park system in Alaska. Wrangell-St. Elias National Park, containing approximately eight million one hundred and forty-seven thousand acres of public lands, and Wrangell-St. Elias National Preserve containing approximately four million one hundred and seventeen thousand acres of public lands, was created by ANILCA, section 201(9), for the following purposes:

“To maintain unimpaired the scenic beauty and quality of high mountain peaks, foothills, glacial systems, lakes, and streams, valleys, and coastal landscapes in their natural state; to protect habitat for, and populations of, fish and wildlife including but not limited to caribou, brown/grizzly bears, Dall sheep, moose, wolves, trumpeter swans and other waterfowl, and marine mammals; and to provide continued opportunities including reasonable access for mountain climbing, mountaineering, and other wilderness recreational activities. Subsistence uses by local residents shall be permitted in the park, where such uses are traditional, in accordance with the provisions of Title VIII.”

The potential for significant restriction must be evaluated for the proposed action's effect upon "…subsistence uses and needs, the availability of other lands for the purposes sought to be achieved and other alternatives which would reduce or eliminate the use."

## III. PROPOSED ACTION ON FEDERAL LANDS

A draft Mining Plan of Operations (MPO) has been submitted to the National Park Service (NPS) by Randy Elliott, authorized agent for Dan Creek Placer Mines Partnership, for operations on patented mining claims within Mineral Survey No. 923 located at Dan Creek within Wrangell St. Elias National Park and Preserve (WRST). These claims were patented on January 22, 1912, prior to the establishment of the park without surface use restrictions, and are private lands. No operations, other than access to the claims, would occur on federal lands. The National Park Service (NPS) is considering two alternatives for authorizing the MPO. A full discussion of the alternatives and their anticipated effects is presented in the Environmental Assessment (EA). The alternatives are summarized briefly below.

Alternative 1 – No Action: The NPS would not grant a Right-of-Way Certificate of Access (RWCA) for motorized access to private property (inholdings) east of the Nizina River and would not approve the operator's proposed MPO. This alternative represents a continuation of the existing situation and provides a baseline for evaluating the changes and impacts of the action alternative.

Alternative 2 – Authorize Dan Creek MPO (proposed action): The MPO for placer mining to continue on patented mining claims owned by Dan Creek Placer Mines Partnership at Dan Creek would be authorized for a period of five years, starting with the 2012 season. In addition, a RWCA for motorized access to the claims would be granted. The mining at Dan Creek would occur on a bench along the south side of Dan Creek. Approximately six acres would be placer mined using an open cut method. The mine development would include areas for mining gold bearing gravels, stockpiling spoil, stripping and side-casting overburden and mine tailings, and controlling mine waste waters. Typical mining will consist of the following steps: vegetation removal, topsoil/organics stripping and stockpiling, overburden stripping, gravel mining and wash plant operations and reclamation.

The applicant is also requesting overland access between McCarthy and Dan Creek to transport equipment, fuel and supplies. The route includes part of a State of Alaska right-of-way as well as the bed of the Nizina River. The applicant does not propose to build any roads. He would undertake channel crossings when the ground is firm and at sites where the gravel naturally tapers into the streambed on both sides, typically during low water periods or after freeze-up. Approximately three to six round trips per year involving multiple vehicles are anticipated in support of the mining operations for each of the five years of the plan. Other access would by fixed-wing aircraft to the privately owned Dan Creek airstrip.

## IV. AFFECTED ENVIRONMENT

A summary of the affected environment pertinent to subsistence use is presented here. The following documents contain additional descriptions of subsistence uses within Wrangell-St. Elias National Park and Preserve:

Bleakley, Geoffrey T. 2002. Contested Ground, An Administrative History of Wrangell-St. Elias National Park and Preserve, Alaska, 1978-2001, NPS Alaska Region.

Final Environmental Impact Statement, Wilderness Recommendation, NPS Alaska Region, 1988.

Haynes, Terry L., Martha Case, James A. Fall, Libby Halpin, and Michelle Robert. 1984. The use of Copper River salmon and other wild resources by Upper Tanana communities, 1983-1984. ADF&G Division of Subsistence, Technical Paper No. 115.

Marcotte, James R. 1992. Wild fish and game harvest and use by residents of five Upper Tanana communities, Alaska, 1987-88. ADF&G Division of Subsistence, Technical Paper No. 168.

Norris, Frank. 2002. Alaska Subsistence: A National Park Service Management History, NPS Alaska Region.

NPS Alaska Region. 1986. General Management Plan/Land Protection Plan, Wrangell-St. Elias National Park and Preserve.

NPS Alaska Region. 1988. Wrangell-St. Elias Subsistence Management Plan. (Updated most recently in 2004.)

NPS Alaska Region. Wrangell-St. Elias National Park and Preserve Subsistence Users Guide. (Updated most recently in 2005.)

Stratton, Lee, and Susan Georgette. 1984. Use of fish and game by communities in the Copper River Basin, Alaska: a report on a 1983 household survey. ADF&G Division of Subsistence, Technical Paper No. 107.

Subsistence uses are allowed within Wrangell-St. Elias National Park and Preserve in accordance with Titles II and VIII of ANILCA. The national preserve is open to federal subsistence uses and state authorized general (sport) hunting, trapping and fishing activities. Qualified local rural residents who live in one of the park's twenty-three resident zone communities or have a special subsistence use permit issued by the park superintendent may engage in subsistence activities within the national park. State-regulated sport fishing is also allowed in the national park. The proposed action would take place within the national preserve.

Based on 2010 U.S. Census data, the National Park Service estimates that approximately 5,200 individuals are eligible to engage in federal subsistence activities in Wrangell-St. Elias National Park and Preserve. Most of these individuals live in communities along the road system, although there are a few scattered pockets of population off of the road system, including one at Dan Creek. Subsistence activities in WRST include hunting, trapping, fishing, berry picking, gathering mushrooms and other plant materials, collecting firewood, and harvesting timber for house construction. Most subsistence hunting within Wrangell-St. Elias occurs off the Nabesna and McCarthy roads and the trails that originate from them. The Copper, Nabesna, Chisana and Chitina rivers serve as popular riverine access routes for subsistence users. Most of the subsistence fishing takes place in the Copper River.

The Dan Creek Mining District is located within Game Management Unit 11. The Chitina and Nizina River valleys are sparsely populated, although several lots at the Placerview at Dan Creek Subdivision have been sold and are seeing construction activities that may result in at least seasonal occupation. While moose are indigenous to the area, their numbers are not numerous. Dall sheep are prevalent in the hills and mountains above the valleys, and black and brown bear occasionally use the area. Most of the common furbearers are present. Due to its relatively remote location and limited game numbers, most of the subsistence activities in the Dan Creek area are by the few households living in the Dan Creek area. Subsistence trapping takes place in the Nizina River valley when fur prices are favorable. Local residents also harvest plant-based resources such as berries and firewood.

The NPS recognizes that patterns of subsistence use vary from time to time and from place to place depending on the availability of wildlife and other renewable natural resources. A subsistence harvest in a given year may vary considerable from previous years due to weather conditions, migration patterns, and natural population cycles.

## V. SUBSISTENCE USES AND NEEDS EVALUATION

To determine the potential impact on existing subsistence activities, three evaluation criteria were analyzed relative to existing subsistence resources which could be impacted.

The evaluation criteria are as follows:

1. the potential to reduce important subsistence fish and wildlife populations by (a) reductions in numbers, (b) redistribution of subsistence resources, or (c) habitat losses;

2. what affect the action might have on subsistence fisher or hunter access; and

3. the potential for the action to increase fisher or hunter competition for subsistence resources.

The potential to reduce populations:

No significant impact to the numbers or distribution of fish or wildlife harvested for subsistence is anticipated as a result of the proposed action or the no-action alternative. Human presence in the area is historic, with continued use of the area today by residents, miners, and summer/fall recreational users. Noise in the immediate vicinity can be expected to temporarily displace some wildlife during operations. No significant loss of wildlife habitat is anticipated on park lands, as the proposed mining operations are restricted to private lands. In sum, the proposed alternatives are not expected to significantly reduce populations of important subsistence resources.

The effect on subsistence access:

The alternatives evaluated in this analysis are not anticipated to result in a significant restriction to subsistence access. Access for federal subsistence uses in the Wrangell-St. Elias National Park and Preserve is granted pursuant to Section 811 of ANILCA. Allowed means of access by federally qualified subsistence users in WRST include motorboat, snowmachine (subject to frozen ground conditions and adequate snow cover), ORVs, and airplane (preserve only), along with non-motorized means such as foot and horses. The proposed action alternative along with the no-action alternative would have no direct impact on allowed means of subsistence access, nor would the alternatives affect the areas open to subsistence users or access routes to those areas. Thus, neither of the alternatives discussed in this analysis would affect subsistence hunter or fisher access.

The potential to increase competition:

Competition for subsistence resources on federal public lands is not expected to increase under either of the alternatives discussed in this analysis. Therefore, the proposed action is not expected to adversely affect resource competition.

## VI. AVAILABILITY OF OTHER LANDS

The EA and this evaluation have described and analyzed the proposed alternatives. No other alternatives that would reduce or eliminate the use of public lands needed for subsistence purposes were identified. The proposed action is consistent with NPS mandates and the General Management Plan. The applicant's right to utilize the land for mining purposes is confined within the bounds of the mining claims involved. The location of mineral deposits and of existing mining claims determines the area to be considered for mineral development. The claims are patented claims legally filed for under the 1872Mining Law. There is no allowance for use of lands outside of the claim for mining purposes except for access. The method of access proposed is reasonable and has minimal potential to impact subsistence resources.

## VII. ALTERNATIVES CONSIDERED

The EA and this evaluation have described and analyzed the proposed alternatives. The proposed actions are consistent with NPS mandates and the General Management Plan for the park and preserve. No other alternatives were considered.

## VII. FINDINGS

This analysis concludes that none of the alternatives discussed in this evaluation will result in a significant restriction of subsistence uses.

# APPENDIX C

## NHPA Section 106 Finding

**National Park Service**
**U.S. Department of the Interior**

**Wrangell-St. Elias National Park and Preserve**
**Alaska**

## Effects to Cultural Resources of Authorizing Mining Operations on Private Property at Dan Creek, Wrangell-St. Elias National Park and Preserve, Alaska

**December 16, 2011**

**Mining Operations at Dan Creek**

**Prepared by:**
**United Stated Department of the Interior**
**National Park Service**
**Wrangell-St. Elias National Park and Preserve**

## Introduction

Wrangell-St. Elias National Park and Preserve (WRST) is currently evaluating the possibility of authorizing mining operations on private property within the preserve boundary. Several patented mining claims at Dan Creek and their mineral rights are currently leased and seasonally mined, continuing a tradition of over a century of continuous mining and prospecting in the drainage. The current miner has filed a mining plan of operations with WRST to continue mining. In compliance with the National Environmental Policy Act (NEPA), WRST is currently writing an Environmental Assessment (EA) to evaluate the potential effects of the operation on the natural and human environment. This document is intended to serve both the NEPA and NHPA Section 106 processes.

The planned mining area includes an area of potential effects (APE) of 16.5 acres (Figure C-12) on portions of the Washington, Homestake, 2, 5, 6, and 8 Below claims. The APE is located on the left (south) bank of Dan Creek, a tributary of the Nizina River. The APE is situated just downstream of the point at which Dan Creek leaves a tight canyon and the terrain flattens onto a floodplain (Figure C-1). The proposed mining site lies at an elevation of approximately 2,000 feet above sea level in an area characterized by boreal forest flora and fauna. The project site is shown on the McCarthy B-5 1:63,360 USGS topographic map. The area is located in Section 4 of Township 6 South, Range 16 East of the Copper River Meridian

The plan for mining in the foreseeable future is described in detail in the Dan Creek Mining Plan of Operations. To summarize, the plan begins by clearing vegetation and top soil from the targeted area. Some vegetation will be used for firewood or structural timbers and soil will be stockpiled for reclamation. The overburden of colluvium and gravel will then be removed creating a large open cut into the steep hillside up to about 100-feet deep. Once it is exposed, the auriferous gravels will be run through a wash plant to sluice-out the gold. The waste water will be discharged into a series of settling ponds. When the mining process is complete, the waste material will be used to grade the mined area into a large terrace overlooking Dan Creek.

Pursuant to Section 106 (16 USC 470f) WRST historian Geoffrey T. Bleakley and WRST Compliance Archeologist Patrick O. Mullen conducted an effort to identify historic properties (36 CFR 800.4(b)) within the APE after having reviewed the APE and the mining plan with the lead miner. In evaluating the historic significance and integrity of the cultural resources within the APE of the undertaking (36 CFR 800.4(C)(1)) Bleakley and Mullen did not identify any cultural resources to which the National Register criteria (36 CFR part 63) could successfully be applied. The single site which is partially within the boundaries of the APE of this undertaking lacks integrity and is therefore not eligible for inclusion in the National Register. Therefore, a finding of “No Historic Properties Affected” (36CFR 800.4(d)(1)) was reached following this identification level archeological inventory.

The mine lies entirely on parcels of fee-simple private land within what is now part of the non-wilderness National Preserve portion of (WRST). These parcels represent some of the patented mining claims at Dan Creek. Because the mine is located on private land, the cultural resources of the area had not been thoroughly investigated previously. Also due to private ownership of the land, the laws which protect sites in WRST (NHPA, NEPA, ARPA) have not ordinarily been applicable to protect sites at Dan Creek. The Dan Creek Camp (49XMC-0007), the historic base of operations for mining activity in the Dan Creek Drainage, is partially within the APE of this project. Unfortunately, pre-existing damage to the site has been extensive due to subdivision and development of the claims and continued mining operations.

The archeology of the area represents the remains of the early twentieth century placer gold mining camp and workings at Dan Creek. The Dan Creek Camp is recorded in the Alaska Heritage Resource Survey files with a very low site number (XMC-007) because the site was first recorded from historic documents (Orth 1967:256) with a later site recording by the NPS under the Cultural Resources Mining Inventory and Monitoring Program (CRMIM) (Saleeby 2000). Upstream, the flume system (XMC-074) was first recorded in the early 1980’s as part of the WRST Historic Structures Inventory (Spude et al. 1984). Both the flume system and the compressor shed (XMC-069) were also visited and

recorded by the NPS in the 1980's. Because the site is on private land, the previously recorded sites had not been examined in decades.

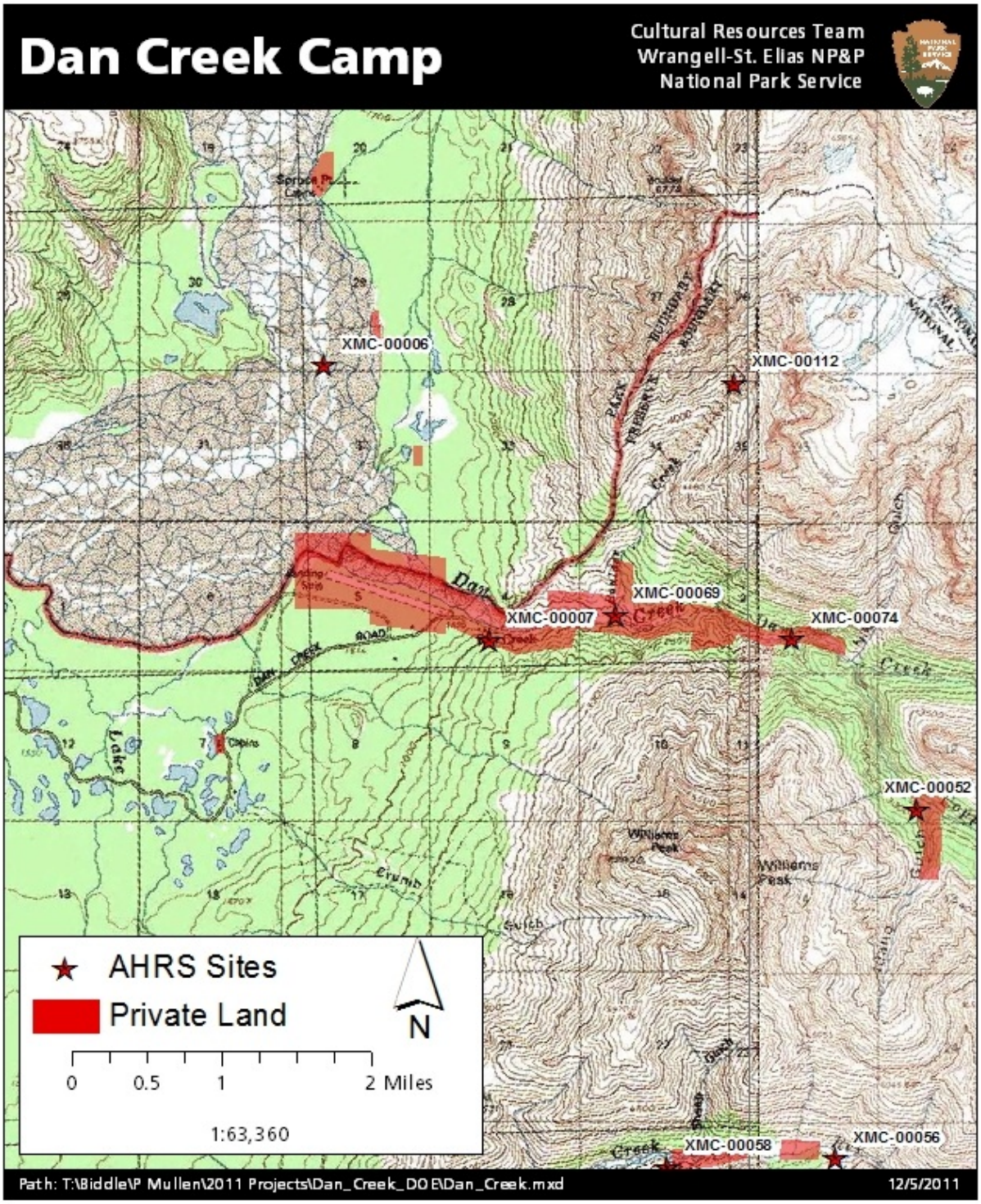


Figure C-1. Dan Creek location map with recorded sites and private land on the McCarthy B-4 (right side of figure) and B-5 (left side of figure) 1:63,360 USGS topographic maps.

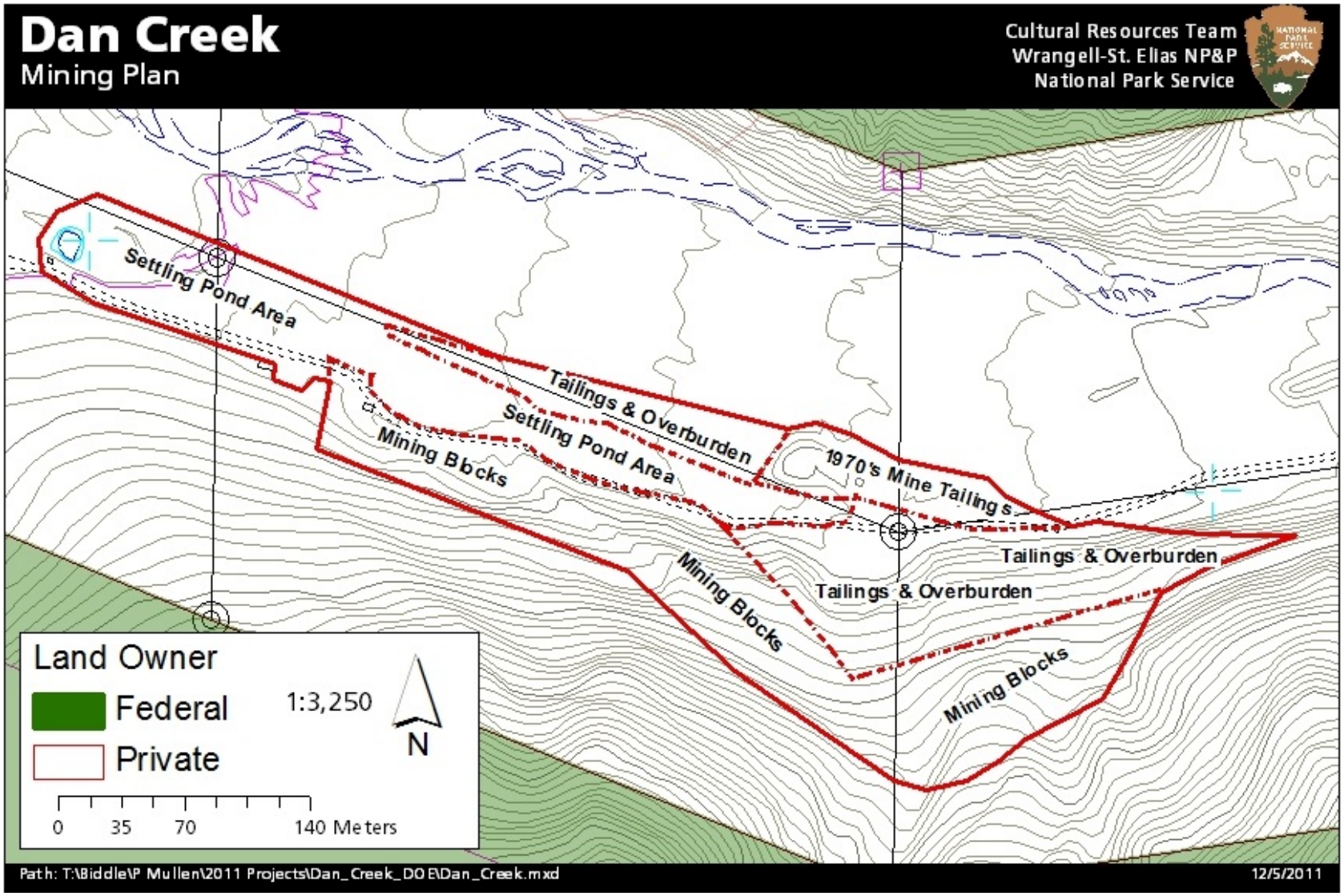


Figure C-12. The Dan Creek mining plan involves spatial segregation of various activities and stages of the extraction process. The thick red line surrounding the mining area also marks the area of potential effects for this project.

## CULTURAL SETTING

## Regional Mining History

Prospectors first entered the Nizina Basin early in the Klondike rush. Rufus Simpson was a fairly typical example. Writing to his wife in June 1898, he provided an itinerary of his movements:

> Instead of going up Copper River as I intended to go, I am now up Chityna [Chitina] River at the mouth of South Fork River [Tana River] and up that thirty miles, also up the Central River about seventy miles, a little ways up South Fork. But we found nothing worthwhile.

While Simpson failed in his efforts, other prospectors had better luck. One group, examining an area only a few miles to the northeast, detected gold traces on both Dan and Young Creeks in 1899. Unfortunately, quantities remained too small to justify development. Dan Creek, however, was not forgotten, and in 1901 Clarence Warner and Dan L. Kain staked much of the drainage.

Further discoveries quickly followed. In 1902, two competing outfits explored other tributaries of the Nizina River. One, grubstaked by Griffith and Brown and including Charles Koppus and Frank Kernan, examined Chititu Creek. The other, financed by Robert Blei and led by M. T. Rowland, concentrated on Rex Creek, one of Chititu's upper branches. Reaching the vicinity in early April, Rowland, Kernan, and Koppus located workable placers and staked most of Chititu, Rex, and White Creeks. By summer, reports of their find had reached Valdez, causing considerable excitement and even a brief rush. Few stampeders remained in the district for long.

Several claims, including Rex Creek Nos. 1 and 2 and Chititu Creek No. 10, received immediate attention, and many miners predicted that both streams would prove to be fabulously rich. In 1903 Blei, Kernan, and Koppus employed about 135 miners to work their ground. The trio had a successful season, recovering approximately $135,000 worth of gold.

Chititu Creek and its tributaries received the most attention, but eager miners also worked Dan Creek in 1903. Blakely, Roberts, and others operated the discovery claim; Kain and Williams opened up No. 1; Speck, Campbell, Merchant, Herron, and Range worked No. 2; and Poot mined No. 5.

Other creeks were also examined. Anthony J. "Tony" Dimond and his partner, Joseph H. Murray journeyed to the Nizina district in 1905 to investigate prospects on Young Creek and Calamity Gulch. While the men apparently located some promising ground and staked some claims, neither made any money. Few miners did much better. After the initial stampede concluded, miners found that most of the claims in the district were unprofitable to work.

By 1922, Chititu Creek had become the district's largest producer. Operating two separate hydraulic plants, John E. Andrus removed nearly 50,000 cubic yards of gravel on No. 9 and about 23,000 cubic yards of gravel on No. 1. Several smaller operations continued to work Rex Creek, driving adits into various bench deposits.

John J. Price's Dan Creek Hydraulic Mining Company worked the most important Dan Creek claims in 1924. Over the course of a 93-day season, it employed twenty or so employees and moved nearly 84,000 cubic yards of gravel.

Mining in the Nizina District drastically declined in the 1930s. The closure of the Copper River and Northwestern Railway in 1938, and war-time restrictions on mining beginning in 1942, eliminated many

operations, and by 1946 only the Pardners Mines Corporation and the Chititu Mining Company still fielded small crews.

## Site History

Placer gold was discovered in Dan Creek in 1901 by Daniel L. "Dan" Kain, for whom the creek is named, and his partner Clarence Warner. The discovery sparked a small stampede in 1902 and 1903. Ultimately the lower portion of Dan Creek, below the canyon, was found to be more productive and easier to work. This is not to say that significant discoveries and efforts were limited to the lower claims. By 1907/1908, miners began to employ hydraulic mining equipment on Dan Creek, but sluicing and even panning continued for another decade below the canyon and even longer above. Accessibility during the summer months was improved when the Dan Creek Road and Nizina River Bridge (49XMC-00128) were completed in 1914. By 1918, all of the easily accessible gold bearing gravels situated below the canyon had been worked and hydraulic mining became the only viable option (Figure C-13). Unfortunately, hydraulic mining is labor and capital intensive requiring significant infrastructure such as dams and thousands of feet of penstock. At the time, Stephen Birch, who had become wealthy from his work at Kennecott, owned much of Dan Creek and had the means to invest in the necessary equipment.

Birch sold his interests in Dan Creek to what became the Dan Creek Hydraulic Mining Company, Incorporated. As the name would suggest, they invested in improved hydraulic equipment. In 1934, Dan Creek came under the control of the Nicolai Placer Mines Company, later the Pardner's Mine Corporation. In 1935, that outfit constructed a new dam which supplied water to hundreds of feet of wooden flume and thousands of feet of iron penstock. This system is still largely present, but it is outside the APE of the current operations. In 1937, Pardner's became the Nicolai Mine Company which continued to use hydraulic mining to extract placer gold from Dan Creek until 1940. During WWII, the Joshua Green Association leased the claims from Nicolai, but made little progress.

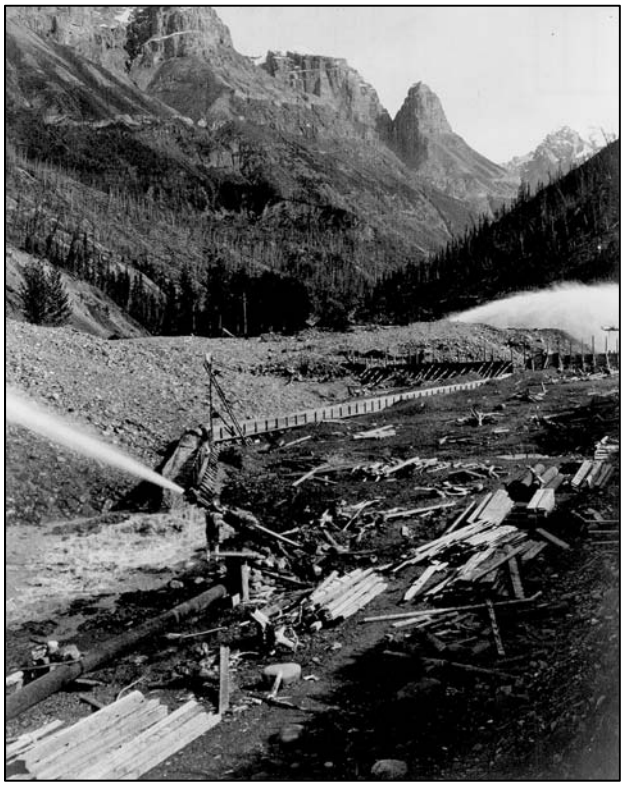

Figure C-13. Hydraulic mining operations at Dan Creek in 1916.

Figure C-4. A view up Dan Creek similar to the historic photo above nearly a century later.

After the war and with the Copper River and Northwestern Railway defunct, mining at Dan Creek entered a third phase marked by a new extractive technique. The strategy of using heavy equipment to remove overburden and push paydirt into sluices and washer boxes took over in the post war era. That technique continues today, with the only difference being the greater size and diversity of the equipment employed, which now includes front-end loaders and excavators. This technique has the advantage of requiring comparatively little labor and expands the use of some equipment already employed to freight fuel and supplies up the river.

The riches produced by Dan Creek pale in comparison to Kennecott, and are even small relative to the gold yields on Chititu Creek. However, even WRST'S incomplete records are impressive. With 36 records for various claims worked by various individuals and corporations at Dan Creek between 1909 and 1943, a total of 34,960 fine ounces of gold were extracted. With prices today around $1,600 per ounce that would be worth $55,936,000 in 2011 dollars.

In order to be patented, the claims had to first be developed and surveyed. The surveys of the claims are now excellent historic documents with information on the developments and features at the time of the survey. The claims were surveyed in four stages. The first and largest stage was mineral survey number 923 conducted between July 21 and August 8, 1910 (Figure C-15). This survey includes 472 acres across three plats which include the Discovery, 1 Below, 2 Below, 5 Below, 6 Below, 8 Below 1 Above, 2 Above, 3 Above, 4 Above, Washington, California, Utah, Colorado, Ohio, Oregon, Williams,

Homestake, and Bolder[1] placer gold claims. The planned mining development is focused on the Washington and 2 Below claims, but includes small portions of the Homestake, 5, 6, and 8 Below claims. Mineral Survey number 948 was conducted June 5 and 6 of 1911 and recorded the 160 acre Dana placer claim. Mineral survey number 949 was conducted June 7 and 8 of 1911 and included 55 acres between the Copper Creek Discovery, Idaho Gulch Number 1, and Idaho Gulch Number 2 claims. Finally, mineral survey 1465 was conducted June 25 through June 29 of 1922. It included 50.7 acres among the 5, 6, and 7 above claims on Dan Creek. Together, these comprise the 738 acres of privately owned, patented mining claims in the Dan Creek drainage.

Figure C-14. The Dan Creek Camp (date unknown). This photo shows that the camp was extensive and well maintained with a garden, telephone lines to the buildings, and rolls of tar paper roofing matching the cabin recorded in 1987, 1987, and 2011.

[1] The 1910 survey identified "Bolder" creek and the "Bolder Placer Claim". This spelling mistake was corrected on USGS topographic maps and the site at the mouth of Boulder Creek is written with the correct spelling.

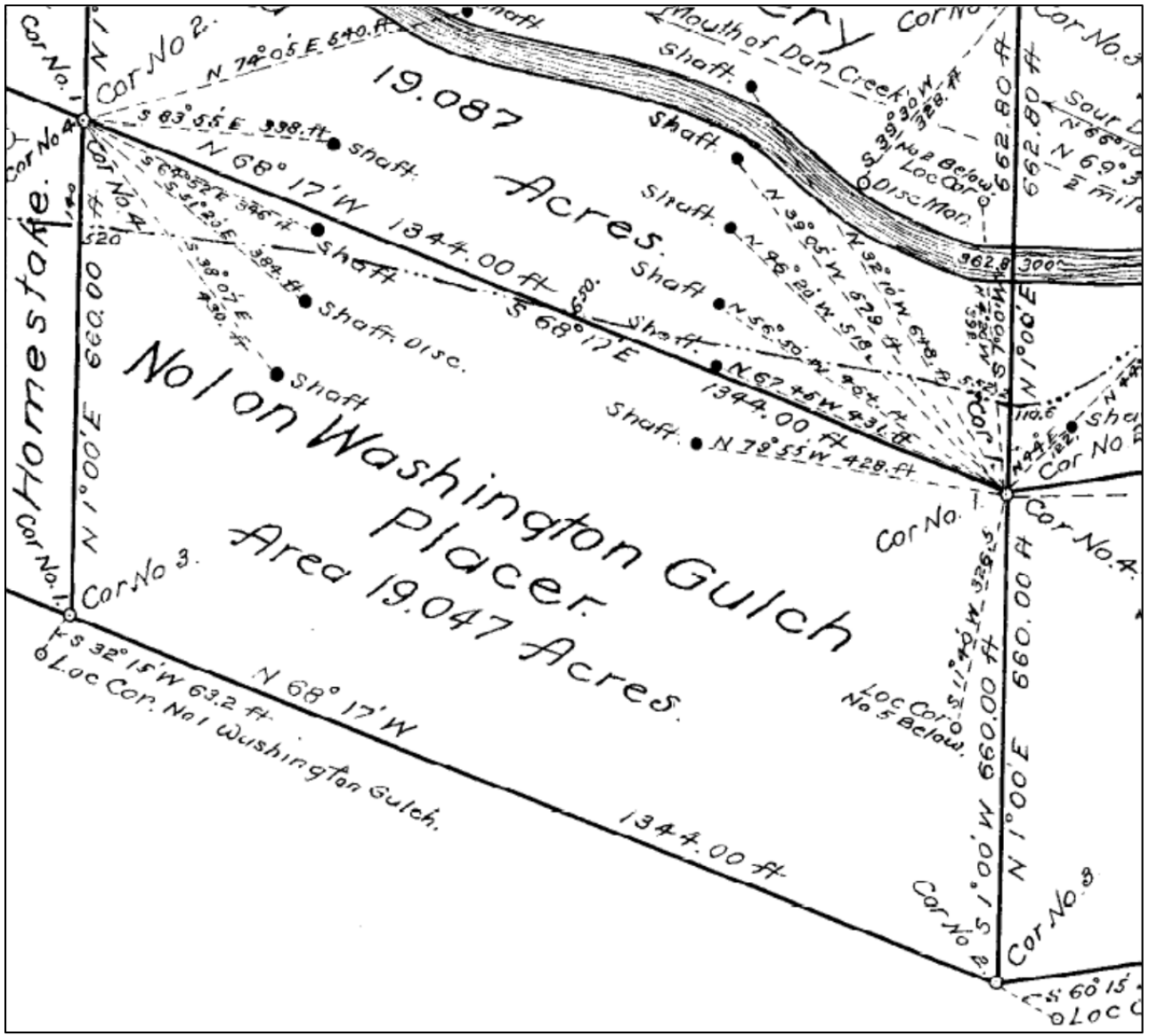


Figure C-15. Close-up view of the project area from the original survey conducted in 1910 under MS 923.

## Previous Research

Previous investigations in the area are extremely limited because the land is dominated by patented mining claims which are still privately owned. Presently, Alaska Heritage Resources Survey (AHRS) site data for sites in the Dan Creek drainage is limited to information from Orth (1967:256), Spude (Spude et al. 1984), and the CRMIM study (Saleeby 2000). The CRMIM project recorded the Dan Creek Camp (XMC-007), the Boulder Creek Compressor Shed (XMC-069), and the Dan Creek Hydraulic System (XMC-074). Three sites upstream representing the remains of smaller prospecting and small-scale mining operations were also recorded under the CRIMM project (XMC-052, 059, and 060).

## Previously Recorded Sites

### Dan Creek Camp (49XMC-00007)

The Dan Creek Camp appears on USGS 1:63,360 topographic maps of the area and both the creek and the camp are noted in Orth's (1967) book of place names. The 1987 CRMIM recording found that the site contained a cabin (Figure C-16), workshop, and cache all of which were in good repair as they were still in use. Artifacts recorded at the site included drill bits, a Pelton wheel (Figure C-17), a monitor and nozzles, saw mill parts, and various other artifacts. Saleeby notes that "the site appears to have been used as a storage area, and thus the artifacts may have been collected from various locales" (2000:186). The arrangement of the artifacts along the road indicates that they were placed in their current locations after their original abandonment. They appear to have been removed from their primary depositional context and placed on the side of the road for repair and reuse, as sources of scrap metal, and to remove them from the path of other projects. The Pelton wheel in Figure C-17 is an excellent example of this as it shows that it is out of its original context placed beside the road as seen in Figure C-17 and Figure C-16 shows that it was between the road and the cabin.

Figure C-16. The cabin at the Dan Creek Camp when it was recorded by the CRMIM crew in 1986 and 1987 when it was still used and maintained.

Figure C-17. This Pelton wheel was found at the Dan Creek Camp (XMC-007) by the CRMIM crew.

The wagon trail connecting the camp to the upper workings and to the Dan Creek Road is another feature of the site. The historic survey plats and associated notes show and describe the road as approximately in its current position as seen in Figure C-17 in 1986. However, it is possible that it could have been re-aligned given the abundance of heavy equipment in the area for the better part of the past century and the desire to find and extract gold.

### Boulder Creek Compressor Shed (49XMC-00069)

The Boulder Creek Compressor Shed is a workstation structure at the mouth of Boulder Creek north of the right bank of Dan Creek. The site includes a large frame structure with a smaller addition on the south side. The main structure is of frame construction with vertical plank siding and similar plank roofing. The roof is now mostly rotten and destroyed. The addition is constructed of corrugated metal for both siding and roofing. Inside the building is a large Ingersoll-Rand air compressor which was once connected via belt drive to a Pelton wheel. Ceramic insulators with attached segments of wire demonstrate that the Pelton wheel was once operational. The addition includes a variety of tools which indicate that it may have been used as a blacksmith's shop. The site is situated beside a large hydraulic pit. Large sections of pipe suggest that the machinery may have been run with hydraulic pressure from Dan or Boulder Creek. The site was first recorded by the CRMIM team in 1986 (Hovis and Feierabend 1986).

### Dan Creek Water System (49XMC-00074)

The Dan Creek Water System was probably constructed in its current configuration in 1935 to enable large-scale hydraulic placer mining in Dan Creek. The system includes the remains of a dam, flume, regulator, pipeline, and a pipeline tunnel. The system fed water to hydraulic mining operations further down Dan Creek and may have also supplied water to the Pelton wheel at Boulder Creek (Figure C-18). Pieces of the system may have also been dismantled for other purposes such as the collection of valves near the Dan Creek Camp (Figure C-23). The Dan Creek Water System was originally recorded by the CRMIM team in 1987 (Hovis et al. 1987). This site is outside the current APE and was therefore not evaluated in the 2011 survey.

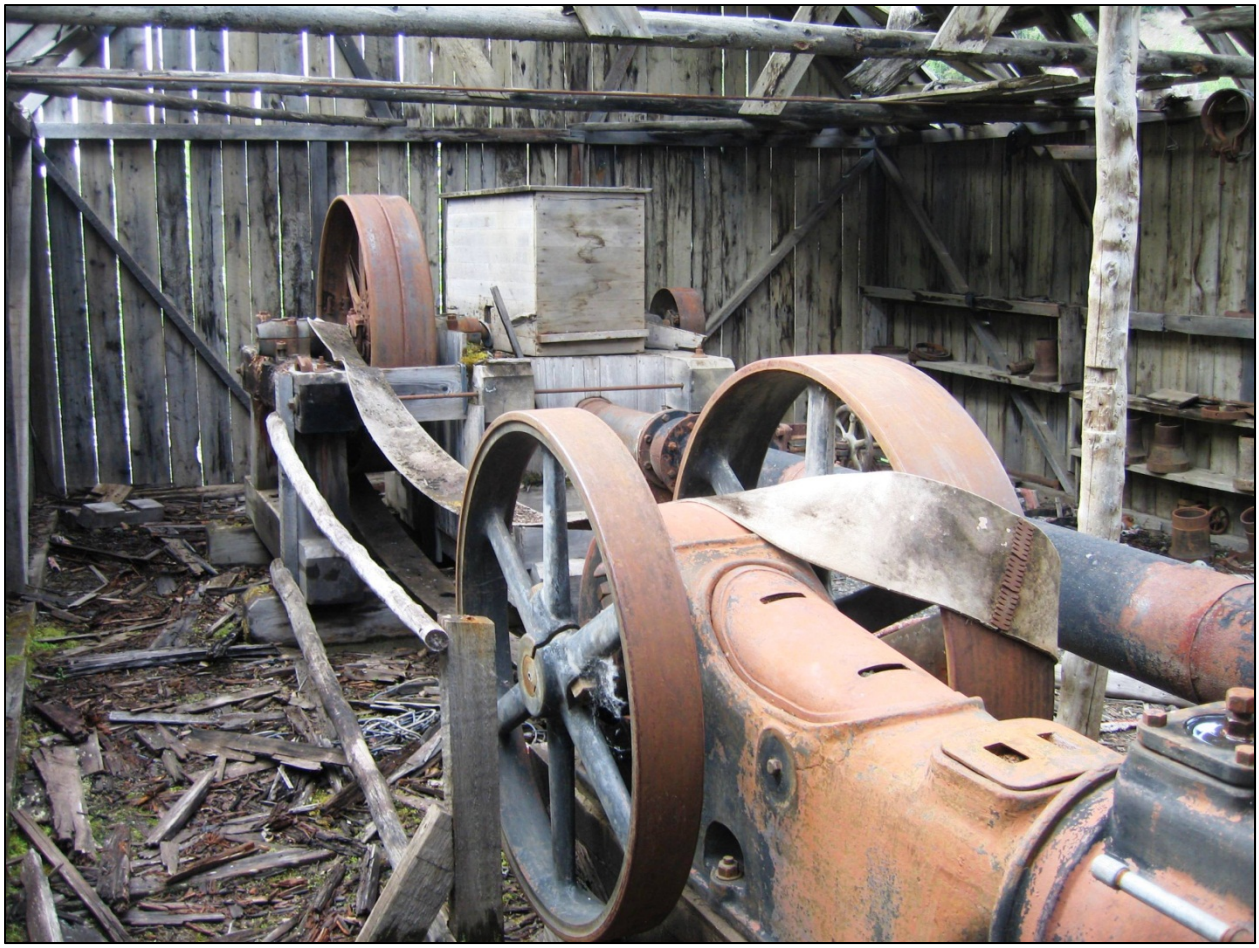

Figure C-18. Interior of the compressor shed. The compressor is in the lower right. The Pelton wheel is at center with a segment of large pipe connected to it.

### Idaho Gulch Tent Frame (49XMC-00052)

This former tent frame camp was reduced to sill logs by the time of the CRMIM survey in 1986. The site is located near the confluence of Copper Creek and Idaho Gulch on a small terrace on the left (west) bank of Idaho Gulch and the left (south) bank of Copper Creek. The tent frame remains were thought to be associated with a nearby open cut or possibly a partially filled-in ditch which ran parallel to nearby Idaho Gulch. Artifacts at the site were limited to some rubber rain pants and some cans. Beside 12' by 12' tent frame is a 16'by 12' leveled area. The Copper Creek trail runs by the site on the north side. The Idaho Gulch Tent Frame was originally recorded in 1986 by the CRMIM team (Feierabend and Hovis 1986). This site is outside the current APE and was therefore not evaluated in the 2011 survey.

### Radar Gulch Prospector's Cabin (49XMC-00059)[2]

The Radar Gulch Prospector's Cabin is a small, but finely crafted residential structure constructed on a diminutive sloping terrace near the confluence of Radar Gulch and Copper Creek. The terrace is situated on the left (west) bank of Radar Gulch and the left (south) bank of Copper Creek. The site

[2] "Rader Gulch" is the term printed on the USGS topographic map of the area, but "Radar Gulch" is commonly used reference to the site.

includes the small cabin, the remains of a cache, a pit of uncertain function, and a variety of historic artifacts both domestic and mining in nature. Across Copper Creek from the site there is a cache of penstock and pipe that may be associated with the site and with hydraulic mining that occurred in the area. The site was in use at the time of the CRMIM survey in 1986 (Feierabend et al. 1986a), but was abandoned when it was visited in 2011. The cabin is thought to have been built by John Lucky circa 1936.

This site is outside the current APE and was therefore not evaluated in the 2011 survey. The site was determined eligible for the National Register of Historic Places under criterion A because according to the nomination form (Bleakley 2006) it "helps to illustrate the Nizina district's placer mining revival of the 1930s" and therefore fits with the multiple property nomination: Historic Properties Associated with Mineral Development in Wrangell-St. Elias National Park and Preserve, Alaska, 1898-1942.

Figure C-19. The Rader Gulch Cabin is a humble, but well-constructed structure.

### Texas Creek Prospector's Cabin (49XMC-00060)

This site represents the remains of a small mining/prospecting camp. The site includes a large cabin (19'7" by 14'6"), a raised cache with an enclosed area underneath, work shed, outhouse, doghouse, and the partial remains of a tram which once crossed the creek. The site is located on the left (south) bank of Copper Creek opposite the mouth of Texas Gulch. When the site was recorded by the CRMIM crew in 1986, the site was recently or possibly intermittently occupied. The site is unique in that the cabin has a sizeable (19'7" by 6'6") porch and the logs supporting the cache are covered with corrugated metal which encloses a storage/living space beneath the cache. The ground floor of this two story cache even has two windows on the sides adjacent to the door. Artifacts were common when the site was recorded due to the continued occupation of the site. The site was originally recorded by the CRMIM team in 1986 (Feierabend et al. 1986b). This site is outside the current APE and was therefore not evaluated in the 2011 survey.

## Methods

On July 13, 2011, WRST historian Geoff Bleakley and archeologist Patrick Mullen inventoried the APE of the Dan Creek mining site for historic properties. Bleakley and Mullen conducted a meandering pedestrian survey of the portions of the site which were under lease to Randy Elliot and which were within the area that Mr. Elliot planned to disturb under future mining operations. Bleakley

and Mullen recorded their observations in field notes, photographs and by mapping key artifacts and features with a high-precision GPS. Simultaneously, geologists Bruce Giffen and Danny Rosenkrans examined the active mining operations.

Bleakley and Mullen meandered about the APE together after receiving a thorough explanation of the mining plan from the chief miner. Beginning at the existing pit and working their way downstream, Bleakley photographed all features and artifacts of interest with a digital camera while Mullen mapped them with a Trimble GeoXT GPS unit. In this fashion, Bleakley and Mullen surveyed the entire APE.

Figure C-20. Mullen mapping the location of a cache of historic penstock and valves. The road beyond the valves is the former wagon road and current access to the mining operations.

## Results

Only the Dan Creek Camp (XMC-007) site is within the APE so only it is discussed here. The remains of the Dan Creek Camp are in poor condition. The remaining artifacts almost all appear to be out of their original depositional context. Most artifacts appear to have been brought to the camp for parts or scrap at some point over the past decades only to be pushed further off the road to be put out of the way and eventually enveloped in the regenerating forest. Artifacts dating from the early decades of the twentieth century are intermingled with recent mining detritus and the rusting shells of heavy machinery of all vintages.

The remaining building in the APE is on the verge of collapse (Figure C-21). The building was still in at least seasonal when it was recorded by the CRMIM team in 1986 and 1987. When the site was recorded by the CRMIM team, they also noted a shed, and a cache/outbuilding. Neither of these structures was observed in 2011. The buildings may have collapsed completely and been buried under the thick duff of the forest. The buildings may have been destroyed by mineral development and exploration such as the pit beside the cabin, the tailings of which are shown in the bottom right of Figure C-21. The buildings may have been taken apart to be used as materials for other projects. Or, the buildings may have been moved out of the APE for use in other parts of the operation. The lead miner, who has been mining in

various capacities at Dan Creek for approximately three decades, stated that buildings at Dan Creek have been moved to suit changing needs.

Figure C-21. This cabin is within the APE of the mining plan. However, the cabin was reportedly moved to its current location within the past few decades and its condition is very poor.

The cabin is constructed of unpeeled spruce logs. The ends of the logs are square-cut and were painted red. There is essentially almost no remaining chinking, but the cabin was once chinked with concrete. When it was originally constructed and when it was chinked with concrete is open to debate. Many of the joints are now covered with moss instead of chinking. The back gable end of the cabin does have the remnants of two ceramic insulators which probably indicate that the cabin was once connected to McCarthy and the Nizina Mining District via telephone. The roof of the cabin is constructed of horizontal milled boards which are now only partially covered by vertical strips of tar paper. The roof and walls of the cabin are compromised by the large fallen branches of nearby trees which have done irreparable damage. The combined effects of time, trees, and weather have resulted in a ridgeline which sags significantly in the middle as seen in Figure C-21. The north and east sides of the cabin are partially buried by sediments which have washed down the steep hillside behind the cabin. This has progressed to the point that while eleven courses of logs are visible above grade at the front of the building, only five courses are visible at some parts of the back of the building.

On the north end of the building is a small addition. The addition is of frame construction with a shed roof which runs perpendicular to the original pitches of the roof and out from the front gable end. The addition is sided with horizontal milled boards. Inside the cabin, the walls of the interior are constructed of more horizontal milled boards. The floor of the cabin is constructed of tongue-and-groove milled boards. The addition contains a bedframe with spring mattress, boxes of old (1980's) books and magazines, and a variety of domestic trash. The main room of the cabin once had a trap door which contained a small ladder down to a shallow root cellar. The root cellar is now full of leaves from the alders outside. The main room contains a large barrel-style stove and an array of domestic items in spectacular disarray. The walls, roof, ceiling, windows, and floor are all compromised leaving the

structure exposed to the elements and to the rodents that occupy it and the occasional bear that may investigate it.

Artifacts at the site include a mix of domestic refuse and the discarded tools of industrial mining. All of it represents a palimpsest of mining which spans over a century now. Many smaller artifacts are probably present, but obscured by the thick forest throughout the site and the thick layer of duff that it produces. Areas disturbed by mining and the gravel bed of Dan Creek range from completely denuded to various stages of re-growth depending on the time since they were last disturbed. The road from the upper portion of the active pit down to the access road near the cabin had a level of re-growth consistent with a no more than perhaps a dozen years of disuse.

Large pieces of abandoned industrial mining equipment dominate the assemblage of the site. The Pelton wheel seen in Figure C-16 and Figure C-17 is no longer in front of the cabin and has been removed from the area. On a landscape which has been heavily influenced by heavy equipment for over half a century, even the great bulk and mass of these artifacts has not protected their depositional location and context. Objects like a massive compressor (Figure C-22) and segments of penstock and valves (Figure C-23) are easily taken from their original locations with heavy equipment and put out of the way when their usefulness is outlived or never rediscovered. Similarly, small buildings are easily moved to new locations or destroyed as utility dictates. The quest for gold has further disturbed the site as a series of pits have been placed across the site at various times to test for the presence and depth of auriferous gravels.

Figure C-22. This piece of equipment is clearly in a secondary depositional context south of the road to the mine. The center panel is embossed “RIX COMPRESSED AIR & DRILL CO. SAN FRANCISCO CAL.” According to correspondence with the company, the absence of a serial number indicates that the compressor was manufactured before 1920 and the addition of “air and drill” to the Rix company name indicates that it was made after 1896.

The only artifacts that appear to be in approximate depositional context are those associated with the saw mill (Figure C-24). This is only suggested by the fact that the central piece of the mill is degrading in place and it is surrounded by its logical accessories including the gears, pulleys, and exhausted blades. The lackof nearby piles of waste wood which usually accompany such mills may refute this

interpretation.

Figure C-23. These penstock valves have similarly been deposited in a secondary context beside the road. The valves are embossed "JOSHUA HENDY IRONWORKS S.F. CAL." The corporation was active from 1856 to 1947 (ASME 1978). These valves were probably installed at Dan Creek in 1935.

Figure C-24. The remains of this saw mill appear to have been stripped of their useful parts and strewn

about the forest which now obscures it.

Other artifacts found in the area include a boiler, a truck bed and a separate truck cab, a donkey engine, six bed frames, a number of blazo cans, fuel drums, and a variety of other large metal objects associated with mining. All of these artifacts seem to have been dumped beside the access road. Some were probably dumped there when they exhausted their useful life and are therefore actually in primary depositional context. Others appear to have been brought from other areas of the mining operation for repair, parts, scrap, or future uses that were never realized. Still others may have been placed beside the road when their original depositional context became inconvenient.

## National Register Eligibility

Although the site was once a major placer gold mining district in the region, the integrity of the site has been compromised and it now lacks the feeling and setting of its historic role. This lack of integrity has destroyed its potential for eligibility under criterion A for inclusion in the National Register.

The Dan Creek Camp is not associated with any significant historic characters and is therefore not eligible for inclusion in the National Register under criterion B.

The remaining architecture at Dan Creek is unremarkable, significantly modified, in nearly ruinous condition, and is therefore not eligible for inclusion in the National Register under criterion C.

The information potential of the site is exhausted due to the severely compromised integrity of the site. This condition makes the site not eligible for inclusion in the National Register under criterion D.

Section 110(k) of the NHPA ensures that an applicant cannot receive a permit if they "intentionally adversely affected a historic property to which the grant would relate…" The destruction of the integrity of the Dan Creek Camp was not intended to avoid the compliance process. Rather, objects were moved, collected, and destroyed in a piecemeal fashion over a span of decades as life and work out at Dan Creek continued and evolved. Over time, objects that had been left where they had last been used came to be in the way or were needed for parts. This behavior explains the pattern of cultural materials that we see on the landscape today. In fact, the chief miner expressed a strong affection for the place and an interest in its history and its preservation. This is seen in the fact that he has gone out of his way to cover an abandoned wagon (outside the APE) and put it on blocks of wood to better preserve it.

Figure 25. Today's miners appreciate the history of the place where they work as shown by the effort invested in preserving this abandoned wagon near XMC-078 from the elements.

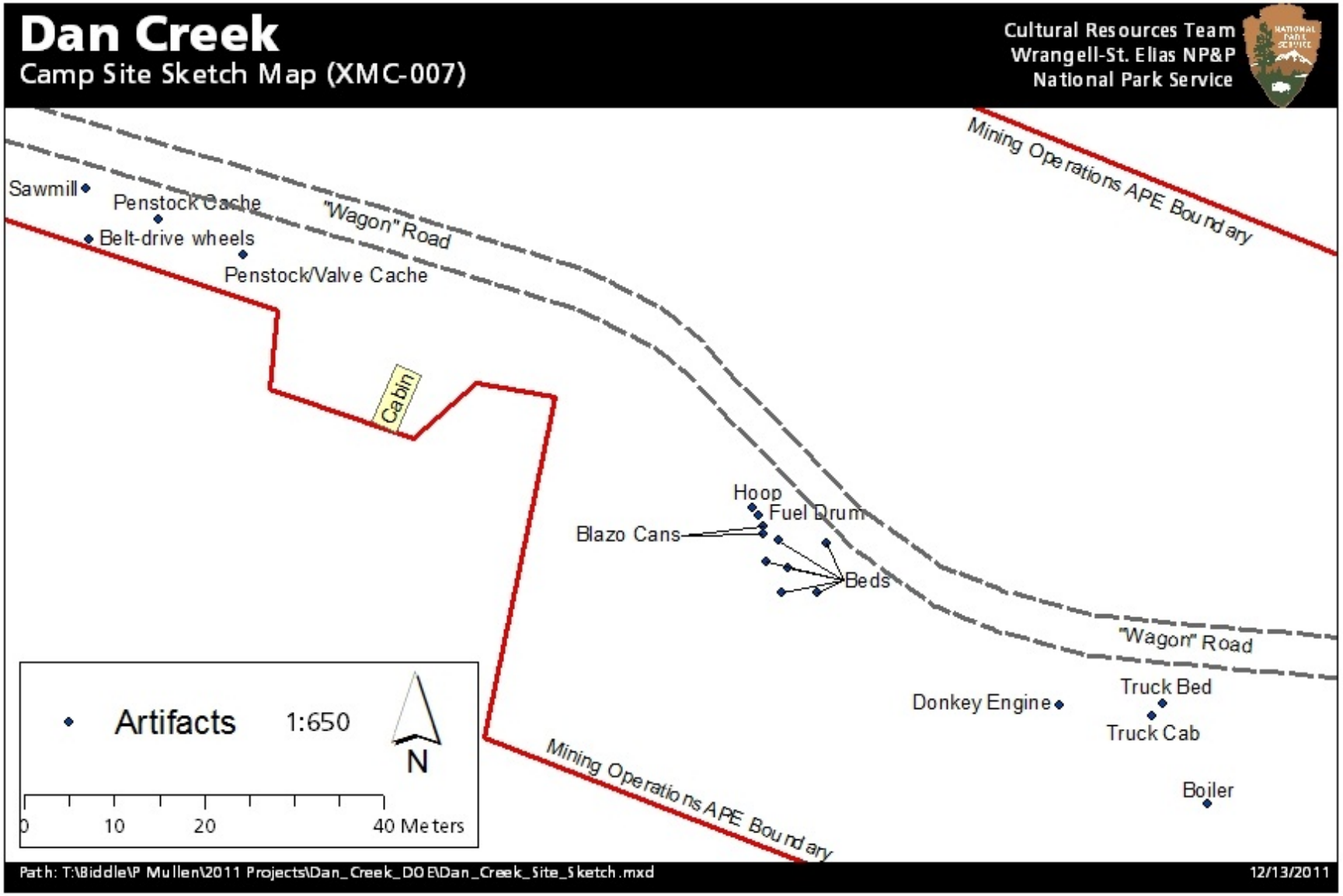


Figure 26. Sketch map of the Dan Creek Camp site (XMC-007) as artifacts and features were found in the 2011 survey.

## Summary and Recommendations

The integrity of the Dan Creek Camp (XMC-007) has been irreparably compromised through the destruction of the context of the site itself as well as the building, features, and artifacts which comprise it. There remains only one historic building within the APE and it is in poor condition. Artifacts have been re-used, re-purposed, and placed out of the way of continued development. Small artifacts that we would expect to find in a similar site in excellent condition have been removed from the landscape leaving behind, only the large, the bulky, and the mundane. Within the APE the landscape itself has been physically modified by continued mining development. Outside the APE, the landscape has been modified to provide home sites and infrastructure for modern development. The wagon road which once connected the camp with the upstream mining developments, the Dan Creek Road, and the outside world has been modified by heavy equipment within the APE and has been converted to an airstrip outside the APE.

Due to the poor condition of the site and its compromised integrity, the Dan Creek Camp (XMC-007) is ineligible for inclusion in the National Register of Historic Places. As such, this project will result in no historic properties affected.

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# APPENDIX D

## SHPO CONCURRENCE WITH NPS SECTION 106 FINDING

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PHONE: (907) 269-8721
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**DEPARTMENT OF NATURAL RESOURCES**

***DIVISION OF PARKS & OUTDOOR RECREATION***
***OFFICE OF HISTORY AND ARCHAEOLOGY***

January 9, 2012

File No.: 3130-1R NPS
3330-6N XMC-00007

Rick Obernesser
Superintendent
National Park Service
Wrangell-St. Elias National Park/Preserve
Mile 106.8 Richardson Hwy., P.O. Box 439
Copper Center, AK 99573

Subject: Planned Mining Operations Area at Dan Creek

Dear Mr. Obernesser:

The Alaska State Historic Preservation Office (AK SHPO) received your correspondence (dated December 19, 2011) on December 21, 2011.

Following our review of the documentation provided, we concur with your determination that XMC-00007 is **not eligible** for the National Register of Historic Places (NRHP). As such, we concur that a finding of **no historic properties affected** is appropriate for the proposed undertaking.

Please note that as stipulated in 36 CFR 800.3, other consulting parties such as the local government and Tribes are required to be notified of the undertaking. Additional information provided by the local government, Tribes or other consulting parties may cause our office to re-evaluate our comments and recommendations. Please note that our comment letter does not end the 30-day review period provided to other consulting parties.

Should unidentified archaeological resources be discovered in the course of the project, work must be interrupted until the resources have been evaluated in terms of the National Register of Historic Places eligibility criteria (36 CFR 60.4) in consultation with our office.

Thank you for the opportunity to comment. Please contact Shina duVall at 269-8720 or shina.duvall@alaska.gov if you have any questions or if we can be of further assistance.

Sincerely,

Judith E. Bittner
State Historic Preservation Officer

JEB:sad

Printed on Recycled Paper

# APPENDIX E

## DAN CREEK PURCHASE AGREEMENT

**DAN CREEK PLACER MINES**
**P. O. BOX 492**
**GIG HARBOR, WA 98335**
**253-858-8444/FAX 253-858-8448**
**jtallman@centurytel.net**


November 4, 2010

To Whom It May Concern:

Dear Sirs,

Randy Elliott has entered into a Purchase Agreement for the Mineral Rights and Surface Rights to the mine at Dan Creek.

Under this Agreement, he is the authorized Agent for the Dan Creek Placer Mines Partnership and may apply for permits and conduct any other business for our partnership.

Respectfully yours,

JAMES O. TALLMAN, President
TALMO, INC., Managing Partner for
Dan Creek Placer Mines

# APPENDIX F

## DAN CREEK 2011 TEMPORARY MINING AUTHORIZATION

**United States Department of the Interior**
NATIONAL PARK SERVICE
Alaska Region
240 West 5th Avenue, Room 114
Anchorage, Alaska 99501

IN REPLY REFER TO:
L3023 (WRST)
(WRST T30-103-MM)

Certified Mail
Return receipt requested

MAY 25 2011

Mr. Randy Elliott
HC 60 Box 253
Copper Center, Alaska 99573

Dear Mr. Elliott:

The National Park Service (NPS) acknowledges receipt of your "February 23 draft Mining Plan of Operations (MPO) documents" and the May19th cross section data as your proposed MPO within Mineral Survey 923 at Dan Creek within Wrangell-St. Elias National Park and Preserve (WRST).

This letter authorizes you to conduct mining operations within WRST as described in your MPO until September 30, 2011. This is a temporary authorization for the continuation of existing operations within Mineral Survey 923 at Dan Creek while the agency reviews your proposed plan of operations (36 C.F.R. § 9.10(g)).

This authorization is contingent upon:

1. Confining mining operations to private property within Mineral Survey 923.
2. Undertaking operations in a manner that prevents significant environmental effects to park resources and values.
3. The Superintendent having such reasonable access to the mine site within Mineral Survey 923 as is necessary to properly monitor and ensure compliance with the MPO and to collect information to analyze your proposed operations.
4. Compliance with applicable state and federal law.

If you have any questions, please contact Superintendent Meg Jensen or Senior Management Analyst Danny Rosenkrans.

Sincerely,

Sue E. Masica
Regional Director

cc:
James Tallman

# APPENDIX G

## NPS STIPULATIONS TO CONTROL MINING

**GENERAL STIPULATIONS:**

***Stipulation 1.*** *This plan of operations is approved for the scope of proposed actions, with the condition that the operator annually notifies the Superintendent of the activities planned for that mining year prior to commencing operations for the year.*

***Stipulation 2.*** *Compliance with the approved plan of operations ("preferred alternative plan" with NPS stipulations attached) under Alternative 2 of the environmental assessment (Rosenkrans, et al., 2012) is required.*

***Stipulation 3****. Compliance with all State and Federal laws and regulations is required. The operator will obtain all necessary State of Alaska and Federal authorizations prior to commencing operations, and keep them current during the life of the operation.*

***Stipulation 4****. All future plan of operations supplements, revisions, modifications and/or amendments are to be submitted, in writing, to the Superintendent for consideration, analysis and determination of appropriate action.*

***Stipulation 5.*** *The Superintendent of Wrangell-St. Elias NP/P or his/her representative will have reasonable access to the claims as is necessary to properly monitor and insure compliance with the plan of operations.*

***Stipulation 6.*** *The operator will notify the Superintendent, or the Superintendent's designee, prior to operations start up and the projected end of season shut down to enable park staff to meet with the operator and conduct the required monitoring and compliance investigations.*

***Stipulation 7.*** *The operator will work with park staff in conducting field measurements to (a) determine and verify water usage and quality, (b) volume of material processed, and (c) extent of surface area disturbed by operations.*

***Stipulation 8.*** *An annual report will be submitted to the Superintendent by the operator. The report shall be submitted by November 30 of the year in which operations were conducted. The annual report shall include, at a minimum, the following information:*

*1) Beginning of season arrival date on claims;*
*2) End of season departure date from claims;*
*3) Mining operations startup date;*
*4) Number of days mining was conducted;*
*5) Location on claims on which mining operations were conducted;*
*6) Estimate of the volume ( cubic yardage) of material mined;*
*7) Estimate of the volume of overburden removed and stockpiled;*
*8) Estimate of the surface area (acreage of new disturbance);*
*9) Estimated average annual water usage (gpm);*
*10) Reclamation completed;*
*11) Number of access trips across the Nizina floodplain;*
*12) Condition of and/or problems with the access route;*
*13) Support facilities maintenance/construction conducted;*
*14) Volume of fuel transported, used and/or stored on site*
*15) Identify locations of areas mined and reclaimed;*
*16) Identify cultural resources found including items discovered during mining operations ;*

*17) Operational changes to the approved plan of operations, which occurred and may need to be considered as alterations to the plan of operation; and*

*18) Future mining and exploration plans.*

***Stipulation 9.*** *Any large animal causing a nuisance, and/or the death of a large mammal occurring in the vicinity of the mine site will be reported to the Superintendent and the Alaska Department of Fish and Game as soon as possible.*

**Cultural Resources**

***Stipulation 10.*** *During all phases of the mining operation, all federal laws and regulations protecting cultural resources will apply including but not limited to those specified in 36 CFR 9.10(e ).*

**Water Management**

***Stipulation 11.*** *Mining activities should not cause deterioration of Dan Creek waters.*

***Stipulation 12.*** *Water treatment facilities for the operation will be constructed to meet EPA effluent guidelines.*

***Stipulation 13.*** *The operator will implement best available technology (BAT) for placer operations.. Discharge must meet state and federal water quality standards.*

***Stipulation 14.*** *Practices to control non-point runoff from mining operations will be implemented.*

***Stipulation 15.*** *Dredge and fill permits required by section 404 of the Clean Water Act must be obtained by the operator, if required prior to undertaking operations.*

***Stipulation 16.*** *The operator must secure all required AKDEC and/or EPA a National Pollution Discharge Elimination System (NPDES) permits.*

***Stipulation 17****. Alaska wastewater disposal regulations will be implemented so that surface and groundwater in the vicinity are not impaired.*

***Stipulation 18.*** *The operator must obtain and maintain an* AKDNR Water Rights - Permit and Certificate of Appropriation *to conduct mining operations. Operations are limited to the authorized rate of water withdrawal (11.5 cubic feet) to use in material processing.*

***Stipulation 19.*** *To the extent practical, the flow of surface waters (i.e., creek, river, or stream) into the plant site shall be interrupted and these waters diverted around and away to prevent incursion into the plant site.*

***Stipulation 20.*** *Any discharge of mine wastewater quality shall meet or exceed EPA and DEC standards.*

**STIPULATIONS RELATING TO THE MINING PLAN**

***Stipulation 21.*** *Mine Operations shall be undertaken in compliance with applicable MSHA standards and requirements*

***Stipulation 22.*** *Stockpiles, dams and dikes should be stabilized by making a "rampstyle" berm. We recommend they have 2:1 slopes and are compacted.*

***Stipulation 23.*** *Overburden gravel that the operator does process for extraction of gold should be removed and stockpiled to prevent unnecessary removal of fines.*

***Stipulation 24.*** *Mining operations will be conducted to insure those vegetated areas outside the approved area of operations, areas of cultural significance, and/or stream banks are not subject to increased erosion.*

**Settling Ponds**

***Stipulation 25.*** *The Superintendent will be notified if discharge from the mine site occurs . Pre-settling and settling ponds are required to prevent discharge into areas and waters outside the mine site. If mine waste water begins to discharge from the mine area, all mining operations shall immediately cease until the discharge is contained within the settling ponds area.*

***Stipulation 26.*** *If the mine cut and settling pond does not adequately contain all of the water from the wash plant, infiltration water and runoff water from the mining reach area and hillsides, settling ponds will be enlarged or additional ponds constructed.*

***Stipulation 27.*** *Settling ponds must be designed and maintained to meet applicable regulations and requirements.*

***Stipulation 28.*** *A pre-settling pond should be constructed and sized to remove sand size and larger particles. This pond should be cleaned at periodic intervals and fines should be stockpiled for final reclamation .*

***Stipulation 29.*** *Cleaning schedules for the pre-settling ponds should follow standard practices. (Entrix, Inc., 1986) which requires removal of the material when the 60% of the capacity of the pond is exceeded or when water depth becomes less than 2 feet, whichever is first.*

***Stipulation 30.*** *Containment dams and dikes should have a crest width of at least 6-feet and slopes of 2:1 (horizontal: vertical) or flatter when constructed of granular tailing material.*

***Stipulation 31.*** *As a minimum, compactive effort should consist of repeated passes of heavy earthmoving equipment until a dense, firm embankment is achieved.*

**Fuel and Fuel Storage**

***Stipulation 32.*** *The operator shall maintain fuel handling and storage facilities in a manner that will prevent the discharge of fuel oil into the receiving waters. The storage area should provide for spill containment. This is generally accomplished by the construction of a depression or pond that is lined with a membrane that is impermeable, chemically stable when directly in contact with the fuel, chemically stable with respect to ultraviolet light and has the mechanical strength to withstand the physical abuse likely when in use as a fuel spill containment pond liner. There currently exist several plastic membranes on the market that would meet these requirements.*

***Stipulation 33.*** *A Spill Prevention Control and Countermeasure Plan (SPCC Plan) is required under 40 CFR Part 112 for facilities storing 660 gallons in a single container above ground, 1,320 gallons in the aggregate above ground, or 42,000 gallons below ground.*

***Stipulation 34.*** *There will be fuel absorbency pads and drip pans present during all fuel transfers. All diesel fuel, gasoline, and motor oil will be stored, handled and disposed of in accordance with all regulations.*

***Stipulation 35.*** *Fuel storage sites will be located outside any area subject to flooding. Sorbent pads will be kept on site at all storage sites during all phase of mining and access.*

***Stipulation 36.*** *Any leakage or spillage of oil based fuels, onto the ground or into the stream, shall be reported, according to Alaska State regulations, to the State of Alaska Department of Environmental Conservation and the Superintendent. Immediate actions will be taken to confine the spill to the smallest area.*

**Trash**

***Stipulation 37.*** *Refuse generated by the operator and/or his employees and coworkers will be disposed of in accordance with State and Federal law. Handling and disposal of all solid waste material will be conducted according to Alaska State Regulations (18 AAC 69).*

***Stipulation 38.*** *All food, perishables, and organic trash will be secured from bears and other wildlife in the camp areas.*

**Reclamation**

***Stipulation 39.*** *Reclamation shall provide for the safe movement of native wildlife, the reestablishment of native vegetative communities, and the normal flow of surface and reasonable flow of subsurface waters.*

***Stipulation 40.*** *The operator must rehabilitate the mine area to a condition which would not constitute a nuisance; or damage, federally owned lands.*

***Stipulation 41.*** *The operator will meet the State of Alaska mine reclamation on private property standard and fulfill any requirements to post a mining reclamation bond with the State. Mining operations will be conducted in a manner that prevents unnecessary and undue degradation of land and water resources, and the mining operation shall be reclaimed as contemporaneously as practicable with the mining operation to leave the site in a stable condition.*

***Stipulation 42.*** *The operator shall take whatever reasonable steps are appropriate to assure that, once mining is completed, all unreclaimed mine areas, including ponds, are in a condition which will not cause degradation to the receiving waters over those resulting from natural causes.*

***Stipulation 43.*** *Reclamation shall be a planned component of the mining operations and shall be accomplished contemporaneously with mining when feasible.*

# APPENDIX H

## ANILCA 1110(b) Right-of-Way Certificate of Access (RWCA)

| | |
|---|---|
| **National Park Service**<br>**Alaska Region**<br>**240 West 5th Avenue, Room 114**<br>**Anchorage, Alaska 99501** | **RWCA No.: 9865-12-002**<br><br>**Wrangell-St. Elias National Park and Preserve** |

1. An ANILCA 1110(b) Right-of-Way Certificate of Access (hereinafter "RWCA") is hereby issued pursuant to Section 1110(b) of the Alaska National Interest Lands Conservation Act (ANILCA) of December 2, 1980 (16 USC 3170).

2. This RWCA provides access across National Park Service (hereinafter NPS) managed lands in Wrangell-St. Elias National Park and Preserve to the following non-federal land:

U.S. Mineral Survey 923, Chitina Recording District, Third Judicial District, State of Alaska. Also identified as NPS Tract: WRST 30-103.

3. Nature of Interest:

a. By this instrument Mr. Randy Elliott (hereinafter "Holder"), whose address is HC60 Box 156 Copper Center, Alaska 99573, receives a right to construct, operate, use, maintain, and terminate an overland motorized vehicle route on NPS managed lands in Wrangell-St. Elias National Park and Preserve and within an area described as follows:

Beginning at the northern margin of the Nizina River floodplain at approximately 61°22'7.554"N, 142°46'35.421"W running northeasterly within the Nizina River floodplain approximately 6.5 miles to the southern margin of the Nizina River floodplain at approximately 61°22'48.037"N, 142°35'36.455"W, thence approximately 50 feet to the western boundary of Mineral Survey 948.

Located in Sections 1, 2, 3, 4, 5, 7 & 8, Township 6 South, Range 15 East; Sections 35 & 36, Township 5 South, Range 15 East; and Sections 5 & 6, Township 6 South, Range 16 East, Copper River Meridian, Alaska.

The area of use authorized by this RWCA is illustrated on the attached map(s) (Exhibit B).

b. The area authorized by this RWCA is composed of two segments. The Nizina River floodplain RWCA segment is within a river corridor and is an overland track approximately 10 feet wide, 6.5 miles long, and contains 8 acres. The eastern upland road segment of this RWCA is 25 feet wide (15-foot wide road and a 5-foot wide area on either side of the road) and approximately 50 feet long, and contains 1000 square feet, more or less.

c. This RWCA shall not be construed as an interest in the land authorized for use by this RWCA, or as an abandonment of use and occupancy by the United States, but shall be considered a use of the land as described, anything contained herein to the contrary notwithstanding.

d. The stipulations, plans, maps, or designs set forth in Exhibit A, dated May 16, 2012, attached hereto, are incorporated into and made part of this instrument as fully and effectively as if they were set forth herein in their entirety.

4. Rental Fee. No rental fees apply because it is NPS policy not to charge fees when a requested use involves exercise of a right (not a privilege).

5. General Terms and Conditions:

a. The Holder shall comply with all applicable State and Federal law and existing regulations in the construction, operation and/or maintenance within the area authorized by this RWCA. It is the responsibility of the Holder to obtain any permits or other authorizations that are required by other governmental entities for the uses authorized by this RWCA.

b. This RWCA will expire when it is no longer needed for the purposes for which it is issued unless, prior thereto, it is relinquished, abandoned, or modified pursuant to the terms and conditions of this instrument or of any other applicable federal law or regulation.

c. This RWCA may be amended to adjust the terms and conditions for changed conditions, to correct oversights, or to address conditions not previously contemplated. Either the NPS or Holder may initiate an amendment by notifying the other in writing and providing a justification for the proposed revision or supplement. Amendments by mutual consent of the NPS and Holder may occur, but the NPS may also require an amendment without the consent of the Holder if uses within the area authorized by this RWCA or other conditions become inconsistent with the regulatory standards of Title 43 CFR 36.9 and 36.10(e)(1). The NPS will consult with the Holder when any amendment is initiated. Any amendment must result in the Holder continuing to have adequate and feasible access to his/her property.

d. The Holder shall perform all operations in a good and workmanlike manner.

e. This RWCA is for the purpose of providing the Holder with access across NPS lands to his/her non-federal land or valid occupancy. It does not authorize the Holder to use the area authorized by this RWCA for any activities other than access.

f. This RWCA may be assigned. The proposed assignee must state in writing that he/she agrees to comply with and to be bound by the terms and conditions of the existing RWCA. With such a written statement from the proposed assignee, the NPS Regional Director will approve the assignment of the RWCA to the assignee, who shall become the Holder. The assignment becomes effective upon the written approval of the NPS Regional Director, Alaska Region.

g. Resource Protection. The Holder shall take adequate measures as directed and approved by the superintendent of the NPS unit to prevent or minimize damage to resources. This may include restoration, soil conservation and protection measures, landscaping with indigenous grasses and shrubs, and repairing roads, trails, etc. The superintendent or his/her representative may enter and inspect the area authorized by this RWCA and any facilities in it, as deemed necessary by the NPS and without restriction.

h. Cultural Resources. The Holder will halt any activities in the area authorized by this RWCA and notify the superintendent of the NPS unit upon discovery of archeological, paleontological or historical artifacts. All artifacts unearthed remain the property of the United States.

i. Pesticides/Herbicides. Use of pesticides or herbicides is prohibited within the area authorized by this RWCA.

j. Use by the Holder is subject to the right of the NPS to establish trails, roads, and other improvements and betterments over, upon or through the area authorized by this RWCA. Also, at the discretion of the NPS, the area authorized by this RWCA may be open to use by the public and others. If it is necessary for the NPS to exercise such right, every effort will be made by the NPS to refrain from unduly interfering with use of this area by the Holder for the purposes intended under this RWCA. The Holder agrees and consents to the occupancy and use by the NPS and by individuals and entities authorized by the NPS, of any part of the area authorized by this RWCA. The Holder's right to "adequate and feasible access" under Title XI of ANILCA will be respected by the NPS.

k. No deviations from the locations authorized in this RWCA shall be undertaken without the prior written approval of the superintendent of the NPS unit. The superintendent may require the filing of a new or amended application for a proposed deviation.

l. Notwithstanding the relinquishment or abandonment of this RWCA by the Holder, the provisions of this RWCA, to the extent applicable, shall continue in effect and shall be binding on the Holder, its successors, or assigns, until they have fully satisfied the obligations and/or liabilities accruing herein.

m. Upon expiration or termination of this RWCA, in the absence of any agreement to the contrary, the Holder will be allowed six (6) months or such additional time as may be granted in which to remove from the area authorized by this RWCA all property or improvements of any kind, other than a road and usable improvements to a road, placed thereon by the Holder; but if not removed within the time allowed, all such property and improvements shall become the property of the United States.

n. Upon expiration or termination of this RWCA the Holder may be required by the NPS to restore the NPS lands affected by the RWCA.

o. This RWCA has no effect on any valid existing rights of access pursuant to any other authority.

p. The Holder agrees that in undertaking all activities pursuant to this RWCA, it will not discriminate against any person because of race, color, religion, sex, or national origin.

q. No member of or Delegate to Congress or Resident Commissioner shall be admitted to any share or part of this RWCA or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this RWCA if made with a corporation for its general benefit.

r. Holder shall indemnify the United States against any liability for damages to life, person or property arising from Holder's occupancy or use of the areas authorized for their use.

s. Any alterations to this instrument must be in writing and signed by the NPS and Holder.

t. Nothing herein contained shall be construed as binding the NPS to expend in any one fiscal year any sum in excess of appropriations made by Congress or administratively allocated for the purpose of this RWCA for the fiscal year, or to involve the NPS in any contract or other obligation for the further expenditure of money in excess of such appropriations or allocations.

u. The waiver of any breach of any provision of this RWCA, whether such waiver be expressed or implied, shall not be construed to be a continuing waiver or a waiver of, or consent, to any subsequent or prior breach of the same or any other provision of this RWCA.

IN WITNESS WHEREOF, the Regional Director, Alaska Region of the National Park Service, acting on behalf of the United States, in the exercise of the delegated authority from the Secretary of the Department of the Interior, has caused this ANILCA 1110(b) Right-of-Way Certificate of Access (RWCA 9865-12-002) to be executed this _____day of _____, 2012.

_____

Sue Masica

Regional Director, Alaska Region

National Park Service

United States Department of the Interior

ACCEPTED this_____day of_____, 2012.

__ Randy Elliott ___ _____

Printed name of Holder Signature of Holder

**RWCA 9865-12-002**

## EXHIBIT A: ALLOWABLE USES AND SPECIAL STIPULATIONS

## ALLOWABLE USES:

### WITHIN THE NIZINA RIVER CORRIDOR SEGMENT:

- Holder may utilize the following types of motorized vehicles within the RWCA: 4-wheel drive vehicles, wheeled trailers, tracked and wheeled construction and mining equipment, 4 or 6-wheeled and tracked all-terrain-vehicles (ATVs) and off road vehicles (ORVs), and snowmachines.
- Holder may also drive trucks, bulldozers, excavators or equivalent motorized equipment within the approved river corridor.
- The Superintendent or his/her designees may accompany the holder for the purpose of monitoring activities.
- Overland motorized travel (other than by snow machine) shall be limited to the route identified and authorized by this RWCA.
- Existing roads and tracks shall be used whenever possible.
- Access across the Nizina River floodplain with tracked heavy equipment will be completed during periods of low water or frozen river bed conditions.
- The operator will obtain and maintain an ADF&G Fish Habitat Permit for travel on the Nizina riverbed.
- Movement of equipment through willow and alder shall be avoided.
- Route disturbance shall be kept to a minimum to protect local wildlife habitats. All activities along the route site shall be conducted in a manner that will minimize disturbance to soil and vegetation and changes of natural drainage systems.
- Refueling shall not occur within the annual floodplain. No fuel transfer activities may occur within 100 feet of any water body. Vehicles and equipment that are leaking fluids shall be pulled from service until leaks are repaired.
- The operator is prohibited from abandonment of supplies, fuel containers, vehicles or other equipment associated with the project on park lands
- Stream banks shall not be altered to facilitate crossing or be disturbed. The holder shall not blade the route or modify the entry into any channel.
- The use and storage of hazardous substances must be done in accordance with existing federal and state laws and regulations.
- Debris (such as soil) contaminated with used motor oil, solvents, or other chemical may be classified as hazardous substances and must be removed and disposed of in accordance with existing federal and state laws and regulations.

**WITHIN THE EASTERN UPLANDS ROAD SEGMENT:**

- Holder may utilize the following types of motorized vehicles within the RWCA: 2- wheel drive highway vehicles, 4-wheel drive highway vehicles, motorcycles, tracked and wheeled construction and mining equipment, 4 or 6-wheeled and tracked all-terrain vehicles (ATVs) and off road vehicles (ORVs), and snowmachines.
- Holder may use dump trucks, bulldozers, excavators or equivalent motorized equipment for placing fill and grading the road surface within the 15-foot-wide road.
- Holder may fill holes and depressions with gravel and soil.
- Holder may place fill material within the road to a level which exceeds the adjacent ground level.
- Holder may place synthetic materials such as geotextiles, geoblock, and/or natural materials such as logs, sand, gravel and rock within the 15- foot-wide road to prevent the loss of, and damage to, soils and substrates.
- Holder may plow snow within the 15-foot-wide road.
- Holder may install and maintain a chain (not to be locked) across the authorized road and post an NPS-approved sign road noting that the road provides access to private lands.
- Holder may clear brush within and excavate ditches 5 feet either side of the 15-foot-wide road.
- Holder may clear deadfall and windfall from the road.

## SPECIAL STIPULATIONS:

**GENERAL:**

- It is the Holder's responsibility to know private property and State of Alaska land boundaries and to secure permission for any access across private property and or State lands.
- Holder shall recognize the right of the any other owners of property within Mineral Surveys 948 and 923, Alaska, who have been issued RWCA's by the NPS to use and/or maintain the subject road and route in a manner that comports with this RWCA.

**FUEL:**

- The use, transport and storage of fuel must be done in compliance with all applicable federal and state law and regulation.
- No refueling is authorized within the area authorized by this RWCA.
- All spills of oil, petroleum products, and hazardous substances shall be reported to the Alaska Department of Environmental Conservation (ADEC) in accordance with Alaska law. Spill notification shall be provided to the superintendent at (907) 822-5234 at the time notification is provided to ADEC.
- All fuel will be transported and handled to minimize or prevent uncontrolled discharges and spills to the immediate environment. There will be fuel absorbency pads and drip pans present during all fuel transfers. All diesel fuel, gasoline, and motor oil will be stored, handled and disposed of in accordance with all regulations.

**AQUATIC HABITAT AND FISH:**

- Access facility drainages shall be routed away from potentially unstable stream channels, fills, and hill slopes.

- Side-casting of materials from an access facility is prohibited on segments within or abutting areas for riparian and aquatic protection.

**WATER RESOURCES:**

- Holder shall not measurably alter the water quality and/or the banks of streams, river, or lakes.
- Holder shall avoid impeding the passage of fish, disrupting fish spawning, and adversely affecting over-wintering or nursery areas identified by the superintendent or his/her designee.
- Holder shall not block or change the character or course of, or cause pollution in any stream, river, pond, pothole, lake, and lagoon or drainage system.
- A snow ramp or ice bridge may only be constructed of snow, ice, and cribbing, and must be largely free of soil and organic debris; it must be constructed to go out with natural ice breakup, or it must be breached and the cribbing removed before breakup to protect downstream structures, water quality, and fish habitat.
- Holder shall minimize the number of stream crossings and where feasible, cross streams at a right angle to the stream channel. Travel along the route shall avoid riparian areas, except where access is needed to a water body crossing, or where there is no feasible alternative. A stream crossing or route in any riparian area must be located to minimize adverse effects on fish habitat and on water quality.

**MAINTENANCE WITHIN THE EASTERN UPLAND ROAD SEGMENT:**

- Maintenance shall be confined to the existing road. New road construction, widening, or realignment is prohibited.
- Holder shall contact the superintendent prior to the start of all non-routine maintenance activities (such as grading the road surface or adding additional fill utilizing heavy equipment) to inform the NPS of the nature, extent and schedule of the work to be performed.
- Holder shall not plow snow or grade the road in a manner that disturbs the adjacent natural soil or vegetation.
- Holder shall remove any temporary stakes and/or flagging upon completion of maintenance activities.
- Holder shall take all precautions necessary to prevent wildfires. No burning of debris will be allowed without specific authorization of the superintendent.
- Holder shall not cut or clear any standing live trees with a DBH (diameter at breast height) greater than three inches unless authorized by the superintendent or his/her designees.
- Holder shall not use or place dust suppressants any suppressant chemicals within the area authorized by this RWCA unless authorized by the superintendent or his/her designee.
- Holder shall not disturb or damage any survey monuments.
- Holder is prohibited from taking sand, gravel, rock, soil or plant material from parklands outside of the area authorized by this RWCA (15-foot wide road plus 5 feet either side of the road).
- Holder shall maintain water control features to accommodate flood events and to avoid damage to the facility or environment.
- Holder shall insure that installation and replacement of surface water control features such as culverts, small bridges, french drains, ditches, grade dips, crowning, out-sloping, or depressions with permeable gravels, cobble, or rock will preserve natural hydrological functions within and adjacent to access facilities.

- Prior to importing fill material (such as borrow and gravel) for use on the access facility, there must be approval by the superintendent or his/her designee that these material are free of exotic or invasive plant species.
- When transporting livestock forage and bedding materials with non-native species and their seed across park lands, Holder shall prevent the loss of these materials onto park lands. These materials must be covered with tarps or enclosed in containers to prevent the introduction of exotic or invasive species on NPS lands.
- If Holder conducts vegetation clearing, grubbing, and other site preparation and construction activities during bird nesting seasons, such activities shall be conducted in a manner that shall not result in the destruction of active bird nests, eggs, or nestlings. If an active nest is encountered at any time, it must be protected from destruction.