



# **2020 Annual Reclamation Report**

Palmer Project

Surface Exploration

Porcupine Mining District, Alaska

APMA# 5690

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## LOCATION AND ACTIVITY DESCRIPTION

Constantine North Inc. (CNI) is the operator of a mineral exploration program at the Palmer Property, which consists of 340 federal unpatented lode mining claims, 63 state mineral claims and Mental Health Trust (MHT) lands that are subject to a mining lease. Figure 1 is a property map of the federal claims showing the core location of the exploration activities and the location of the Glacier Creek road. Note this report covers activities associated with surface exploration only. CNI is currently preparing for underground exploration, and related disturbances are restricted to MHT Lands (delineated as “Site Boundary – Phase 2 PoO” in Figure 1). Financial assurance for disturbance associated with the Phase 2 PoO is separate from surface exploration covered in this report and will be summarized separately in a forthcoming Annual Report submitted to the ADNR under Reclamation Plan Approval Amendment 1 No J20185690RPA (due March 1<sup>st</sup> 2020).

The Property is host to two volcanogenic massive sulphide deposits, the Palmer Deposit and the AG Zone Deposit, with a combined NI 43-101 compliant 4.68 million tonne Indicated Resource (10.2 ZnEq.) and 9.59 million tonne Inferred Resource (8.9% ZnEq.) (using an NSR cut-off of US\$75/t; 27) that is open to expansion. Constantine is conducting a multi-year exploration campaign focused on expansion and definition drilling to define a deposit meeting economic threshold. The exploration drill program is seasonal, with helicopter-supported drill activity typically from late May to early October each year. ***No drilling occurred in 2020 and activities were limited to environmental studies, soil sampling and surface mapping.***

The Palmer Property is 55 km (35 miles) northwest of the port town of Haines, Alaska. Access from Haines is by the paved, all-weather Haines Highway, across the Klehini river by a bridge, and along the Porcupine logging road that leads to camp and to the eastern part of the property. Practical access to most of the property is by helicopter. A 3.4 km (2.1 mile) access road was constructed during the 2014 field season, to extend the existing Porcupine road up the Glacier Creek valley to the base of the prospect area (Phase 1 of Glacier Creek Road construction). A laydown yard, the “Glacier Creek laydown,” was constructed in 2014 and served as the base for drill supplies and helicopter activity in following field seasons. Two additional kilometers (1.2 miles) of the Glacier Creek access road were constructed in 2016 (Phases 2 and 3 of Glacier Creek Road construction). In 2017, an additional 500 m (0.3 mile) of road was constructed, of which 300 m (0.2 mile) is on BLM lands (Phase 4a). In 2018, the existing borrow pit adjacent to Glacier Creek Laydown was used for resurfacing and a new quarry on Phase 4a was developed and subsequently closed. Minor adjustments were made to the calculation of surface disturbance in 2018: first, the spur road at the end of Phase 3 was closed, and is now considered a stockpile; and second, new mapping information resulted in a 6 m shift of the BLM/MHT boundary on Phase 4a. *No additional construction was performed on Glacier Creek Road in 2019 or 2020.*

All personnel were lodged at the privately-owned Big Nugget Camp facility rented by Constantine. The camp is located off the Property claim group along Porcupine Creek and accessed by 13 km (8 miles) of gravel road connecting to the Haines highway. A helicopter is based either at the Big Nugget Camp or the Glacier Creek laydown area during the active exploration program to provide daily crew access to work sites. *The helicopter was based at Big Nugget Camp in 2020.*

The following structures and equipment are temporarily stored within the BLM claim boundaries at the Glacier Creek laydown:

- Fuel storage facility (Photo 1)
  - Fuel containment structure with holding capacity of >11,000 gallon
  - 1 x 5,000 gallon steel-walled diesel tank
  - 1 x 3,000 gallon, steel-walled Jet-A tank

\*Note all tanks were empty in 2020
- Unused and closed 10,000 gallon double walled fuel tank (Photo 2)
- Four shipping containers containing drilling supplies (Photo 3)
- Miscellaneous drilling equipment and supplies: drill rods, hose line, sling baskets, core boxes, lumber, PVC and other small items.

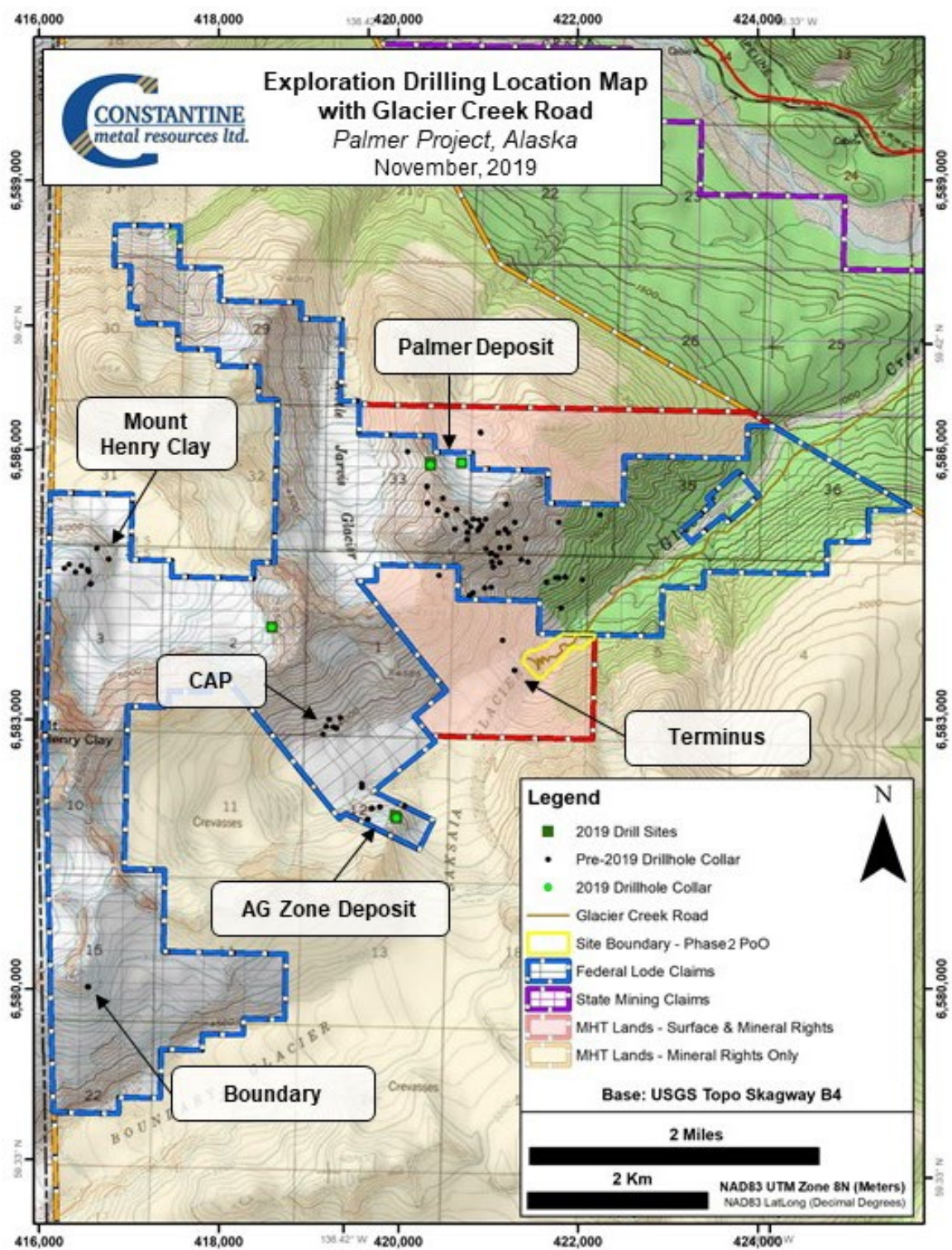


Figure 1. Palmer Project Core Property Map of the claims & leases with the location of exploration drilling activities and the location of the Glacier Creek road. No new drilling was performed in 2020.

**SITE RECLAMATION**

Reclamation on BLM claims will be designed to achieve post-exploration land uses consistent with the BLM’s land use management plans for the area. Reclamation is intended to return disturbed land to a level of productivity comparable to pre-exploration levels. Post-exploration land use includes wildlife habitat, hunting, and dispersed recreational activities. The post-exploration land use is not expected to differ from pre-exploration land use. Constantine is currently authorized to conduct up to 40 acres of surface disturbance within the Project Area under the approval of Project Operations and Environmental Assessment (AA-094088; DOI-BLM-AK-A020-2016-0006-EA) and subsequent 2017 Plan modification and Environmental Assessment (DOI-BLM-AK-A010-2017-0025-EA). Constantine was bonded for 15 acres of disturbance in 2020 and follows authorized reclamation guidelines on State lands described in APMA #5690. The authorized surface disturbance under BLM and APMA authorization includes exploration drilling and road construction. **Current estimated disturbance as of December 31st, 2020 totals 11.47 acres (pending BLM approval of CNI status reclamation).** For calculating annual Statewide Bond pool renewal fees, 11.47 acres is rounded up to 12 acres. Areas defined as reclaimed in this report are pending evaluation and approval of the BLM.

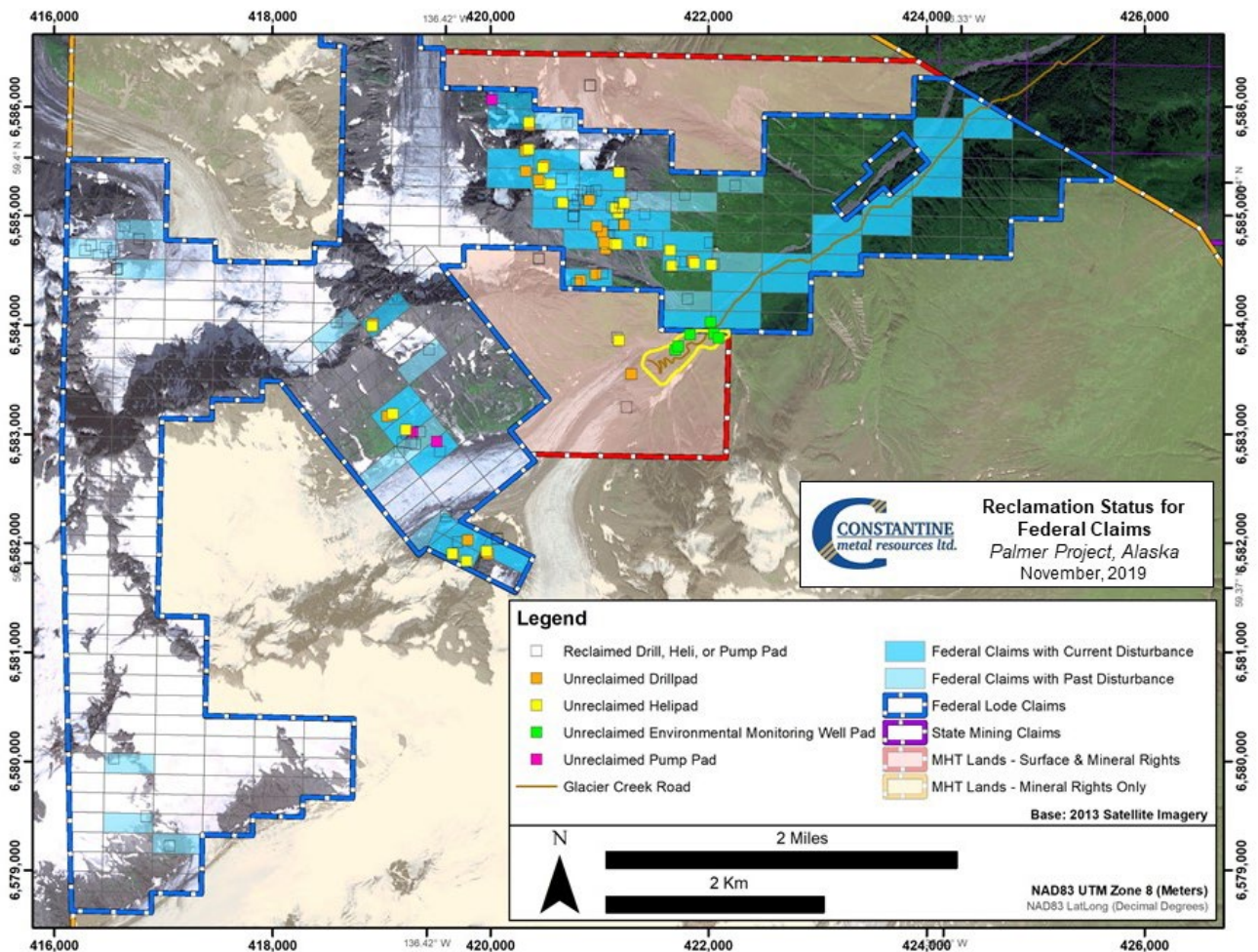
Tables 1 & 2 summarize the acreage of unreclaimed surface disturbance within the Project Area and associated disturbance factors. Figure 3 is a location map that shows claims that have unreclaimed surface disturbance as of December 31<sup>st</sup>, 2020. Table 3 summarizes the MHT, State, and Federal mining claims that contain unreclaimed surface disturbance at the end of 2020.

**Table 1. Summary of Disturbance Components and Associated Acreage of Disturbance, 2020**  
 (Note that acreage of road disturbance is for portion of road located on federal claims)

<b>Disturbance Component</b>	<b>Current Unreclaimed Disturbance (Acres)</b>
Helicopter-Supported Drilling with timber-frame drill pads	0.34
Linear Exploration Road (BLM only)	5.78
Equipment Laydown Area	0.5
Helipad	0.11
Fuel Station	0.05
Weather Station Clearing	0.16
Borrow Pit	0.58
Borrow Pit Extension	0.08
Quarry 1	0.56
Executive Laydown (previously Stockpile #1)	0.82
Stockpile #2	0.94
The Cut	1.13
Quarry 2	0.16
Road Pullouts	0.26
Environmental Work	0.00
<b>Total</b>	<b>11.47</b>

**Table 2. Summary of disturbance changes from 2019 to 2020.**  
 (Note that acreage of road disturbance is for portion of road located on federal claims).

Disturbance Component	Unreclaimed Disturbance reported in 2019 Reclamation Statement (Acres)	Acres Reclaimed 2020	Additional Acres Disturbed 2020	Unreclaimed Disturbance 2020 (Acres)
Helicopter-Supported Drilling with timber-frame drill pads	0.34	0.00	<b>0.00</b>	0.34
Linear Exploration Road + Associated Cleared Areas	11.13	0.00	<b>0.00</b>	11.13
Environmental Work <i>(new 2020)</i>	0.0	0.314	<b>0.314</b>	0.00
<b>Total</b>	<b>11.48</b>	<b>0.06</b>	<b>0.05</b>	<b>11.47</b>



**Figure 2. Location Map showing reclamation status for Federal claims (pending BLM approval).**

**Table 3. List of Palmer Project Mining Claims with past disturbance, including a designation for the current reclamation status of each claim (pending BLM approval).**

Claim Type	Claim Name/ Parcel Number	Claim Number	Disturbance Type	Current Status
Federal	#1 OF MARMOT MINE	AA 27186	Drill	Unreclaimed
Federal	#2 OF MARMOT MINE	AA 27187	Drill	Unreclaimed
Federal	M.V.P. MINING CLAIMS #1	AA 27191	Drill	Unreclaimed
Federal	MARMOT #6	AA 27193	Drill	Reclaimed
Federal	MARMOT #7	AA 27194	Drill	Reclaimed
Federal	MARMOT #8	AA 27195	Drill	Unreclaimed
Federal	MARMOT #9	AA 27196	Drill	Reclaimed
Federal	MARMOT CLAIM #20	AA 27198	Drill	Unreclaimed
Federal	MARMOT CLAIM #21	AA 27199	Drill	Unreclaimed
Federal	MARMOT CLAIM #22	AA 27200	Drill	Unreclaimed
Federal	MARMOT CLAIM #25	AA 27203	Drill	Reclaimed
Federal	MARMOT CLAIM #27	AA 27205	Drill	Unreclaimed
Federal	MARMOT CLAIM #29	AA 27207	Drill	Unreclaimed
Federal	MARMOT CLAIM #30	AA27208	Pump	Reclaimed
Federal	MARMOT #101	AA 27213	Drill	Unreclaimed
Federal	MARMOT #102	AA 27214	Drill	Unreclaimed
Federal	MARMOT #103	AA 27215	Drill	Unreclaimed
Federal	MARMOT #106	AA 27218	Road	Unreclaimed
Federal	MARMOT #112	AA 27224	Drill	Unreclaimed
Federal	MARMOT #113	AA 27225	Drill	Reclaimed
Federal	MARMOT #114	AA 27226	Road	Unreclaimed
Federal	MARMOT #115	AA 27227	Road	Unreclaimed
Federal	MARMOT #116	AA 27228	Drill	Unreclaimed
Federal	MARMOT #119	AA 27231	Road	Unreclaimed
Federal	MARMOT #120	AA 27232	Road	Unreclaimed
Federal	MARMOT #121	AA 27233	Drill	Reclaimed
Federal	MARMOT #122	AA 27234	Road	Unreclaimed
Federal	MARMOT #124	AA 27236	Drill	Unreclaimed
Federal	MARMOT #125	AA 27237	Road	Unreclaimed
Federal	MARMOT #130	AA 27242	Road	Unreclaimed
Federal	MARMOT #131	AA 27243	Road	Unreclaimed
Federal	MARMOT #137	AA 27249	Road	Unreclaimed
Federal	MARMOT #144	AA 27256	Road	Unreclaimed
Federal	MARMOT #150	AA 27262	Road	Unreclaimed
Federal	MARMOT #151	AA 27263	Road	Unreclaimed
Federal	MARMOT #156	AA 27268	Road	Unreclaimed
Federal	MARMOT #161	AA 27273	Road	Unreclaimed
Federal	MARMOT #162	AA 27274	Road	Unreclaimed
Federal	MARMOT #167	AA 27278	Road	Unreclaimed
Federal	RAT DAWG #53	AA 29577	Drill	Reclaimed
Federal	RAT DAWG #56	AA 29580	Drill	Unreclaimed
Federal	RAT DAWG #57	AA 29581	Drill	Unreclaimed
Federal	RAT DAWG #64	AA 29583	Drill	Reclaimed
Federal	RAT DAWG #66	AA 29585	Drill	Unreclaimed
Federal	RAT DAWG #67	AA 29586	Drill	Unreclaimed
Federal	RAT DAWG #68	AA 29587	Drill	Unreclaimed
Federal	RAT DAWG #77	AA 29590	Drill	Unreclaimed
Federal	ICE 60	AA 51532	Drill	Unreclaimed
Federal	ICE 70	AA 51542	Drill	Reclaimed
Federal	ICE 74	AA 51546	Drill	Reclaimed
Federal	KIC 5	AA 51562	Drill	Reclaimed
Federal	KIC 12	AA 51569	Drill	Reclaimed
Federal	KIC 14	AA 51571	Drill	Reclaimed
Federal	BOUNDLESS 9	AA 52981	Drill	Reclaimed
Federal	BOUNDLESS 12	AA 52984	Drill	Reclaimed
Federal	BOUNDLESS 28	AA 53000	Drill	Reclaimed
Federal	CONNEXION 27	AA 53044	Drill	Reclaimed
MHT	MHT C70451	9100759	Drill Sites & Road	Unreclaimed
MHT	MHT C81210	9100759	Drill Site	Reclaimed
MHT	MHT C81210	9100759	Enviro Work	Reclaimed
State	JARVIS 26	661292	Road	Unreclaimed
State	JARVIS 27	661293	Road	Unreclaimed
State	JARVIS 24	661290	Road	Unreclaimed
State	GE21	662081	Road	Unreclaimed

## **DRILLING**

### ***Diamond Drilling***

No drilling was conducted in 2020. Past drill hole reclamation and practices are reviewed in the 2019 reclamation report (CNI, 2019).

### ***Environmental Monitoring Wells***

No additional monitoring wells were installed in 2020. Information on existing monitoring wells is available in the 2019 reclamation report (CNI, 2019).

### ***Artesian Wells***

No changes to artesian wells were made in 2020. The most recent changes occurred in 2018 and are reviewed in the 2019 reclamation report (CNI, 2019).

### ***Drillpads & Access Helipads***

No drillpads or helipads were constructed in 2020. Refer to 2019 reclamation report (CNI, 2019) for current status of existing pads and Table 4 and Table 5 for summary of current disturbance.

**Table 4. Summary of Disturbance due to Unreclaimed Drillpads and Helipads  
(Includes pads located on MHT Lands)**

	<b>Dimensions (ft x ft)</b>	<b>Acres per Pad</b>	<b>Unreclaimed Number of Pads (CNI Status)</b>	<b>Total Acreage of pad disturbance (CNI Status, pending regulatory approval)</b>
<b>Drill pad</b>	20x20	0.009	21	0.19
<b>Helipad (includes pump pads)</b>	14x14	0.005	28	0.13
<b>Monitoring Well Pad (Cleared alders, dirt)</b>	26 x 26	0.015	1	0.02
<b>Total drill site disturbance:</b>				<b>0.34</b>

**Table 5. Summary of pads that are currently unreclaimed. Coordinates are in NAD83.**

Pad	Pad Type	Pad Use	Pad Status	Decking	Railings	Easting NAD83 (m)	Northing NAD83 (m)	Elevation Geoid12A	Longitude DD	Latitude DD	BLM Number
4Stroke	Drill		Unreclaimed	Yes	No	420358	6585830	1371	-136.4027	59.40357062	AA 29578
Blondie	Drill		Unreclaimed	No	No	419055	6583161	1345	-136.4247	59.3794	AA 27207
Camp	Drill		Unreclaimed	Yes	No	421227	6584917	1244	-136.3871	59.3955	AA 27186
Flip Out	Drill		Unreclaimed	Yes	No	420321	6585593	1508	-136.4033	59.4014	AA 29580
Go	Drill		Unreclaimed	Yes	No	419657	6581891	1340	-136.4136	59.3681	AA 27200
Green	Drill	Temporary-Use Water Source Access	Unreclaimed	Yes	No	420827	6584409	1246	-136.3940	59.3909	AA 27228
HFE-2	Drill		Unreclaimed	Yes	No	421022	6584848	1304	-136.3907	59.3949	AA 27213
JP	Drill	Monitoring Well Access	Unreclaimed	Yes	No	420976	6584901	1357	-136.3915	59.3953	AA 27187
K3	Drill		Unreclaimed	Yes	No	420325	6585408	1546	-136.4032	59.3998	AA 29581
KD	Drill		Unreclaimed	Yes	No	421057	6584697	1172	-136.3900	59.3935	AA 27222
Monument	Drill		Unreclaimed	Yes	No	418921	6584012	1819	-136.4273	59.3869	AA 52950
Onion	Drill		Unreclaimed	Yes	No	420908	6585142	1542	-136.3928	59.3975	AA 27195
Peace	Drill		Unreclaimed	Partial	No	420534	6585280	1679	-136.3994	59.3987	AA 29586
Ridge B	Drill	Monitoring Well + Temporary-Use Water Source Access	Unreclaimed	Yes	No	420963	6584464	1128	-136.3916	59.3914	AA 27228
RW Pad	Drill		Unreclaimed	Yes	No	420439	6585329	1668	-136.4011	59.3991	AA 29586
T&A	Drill		Unreclaimed	Yes	No	421042	6584758	1228	-136.3903	59.3941	AA 27213
Terminus	Drill		Unreclaimed	Yes	No	421292	6583550	819	-136.3855	59.3833	MHT Lands-Parcel C70451
U6	Drill		Unreclaimed	Yes	No	421856	6584588	781	-136.3759	59.3927	AA 27224
Whack-a-Mole	Drill		Unreclaimed	Yes	No	420495	6585462	1564	-136.4002	59.4003	AA 29585
Wishbone	Drill		Unreclaimed	Yes	No	419978	6581900	1351	-136.4080	59.3682	AA 27199
Zion	Drill		Unreclaimed	No	No	419794	6582028	1239	-136.4112	59.3693	AA 27198
4Stroke Heli	Heli		Unreclaimed	No	No	420353	6585855	1367	-136.4028	59.4037	AA 29578
Barbie	Heli	Wx Station Access	Unreclaimed	Yes	No	421650	6584685	881	-136.3796	59.3935	AA 27225
Barney Heli	Heli		Unreclaimed	No	No	421178	6585399	1460	-136.3881	59.3999	AA 29590
Blondie Heli	Heli		Unreclaimed	No	No	419106	6583184	1350	-136.4238	59.3796	AA 27207
Brazil Heli	Heli	Monitoring Well + Temporary-Use Water Source Access	Unreclaimed	Partial	No	421662	6584542	822	-136.3793	59.3923	AA 27224
Camp Heli	Heli		Unreclaimed	No	No	421171	6585027	1265	-136.3881	59.3965	AA 27187
Fire Heli	Heli		Unreclaimed	Yes	No	420664	6585123	1630	-136.3971	59.3973	AA 29587



Pad	Pad Type	Pad Use	Pad Status	Decking	Railings	Easting NAD83 (m)	Northing NAD83 (m)	Elevation Geoid12A	Longitude DD	Latitude DD	BLM Number
Flip Out Heli	Heli		Unreclaimed	No	No	420349	6585609	1530	-136.4028	59.4016	AA 29580
Go Heli	Heli		Unreclaimed	Yes	No	419651	6581904	1339	-136.4137	59.3682	AA 27200
Hari Heli	Heli	Monitoring Well Access	Unreclaimed	No	No	421179	6583857	882	-136.3876	59.3860	MHT Lands-Parcel C70451
HFE Heli	Heli		Unreclaimed	Yes	No	421019	6584855	1312	-136.3907	59.3949	AA 27213
KD/T&A Heli	Heli	Temporary-Use Water Source Access	Unreclaimed	Yes	No	421060	6584744	1210	-136.3900	59.3939	AA 27213
Long Heli	Heli	Monitoring Well Access	Unreclaimed	Yes	No	421158	6584738	1181	-136.3883	59.3939	AA 27214
Marmot Heli	Heli	Monitoring Well Access	Unreclaimed	Yes	No	421386	6584766	1085	-136.3843	59.3942	AA 27214
Mat Heli	Heli		Unreclaimed	No	No	419225	6583038	1264	-136.4216	59.3783	AA 27205
Merrill's Heli	Heli		Unreclaimed	Partial	No	421145	6585072	1369	-136.3886	59.3969	AA 27195
Monument Heli	Heli		Unreclaimed	Yes	No	418915	6583988	1812	-136.4274	59.3867	AA 52950
Peace Heli	Heli		Unreclaimed	No	No	420545	6585293	1680	-136.3993	59.3988	AA 29586
RW Heli	Heli		Unreclaimed	No	No	420455	6585304	1697	-136.4008	59.3989	AA 29586
Stryker Heli	Heli	Monitoring Well Access	Unreclaimed	Yes	No	421226	6585116	1301	-136.3872	59.3973	AA 27195
Taz Heli	Heli	Monitoring Well Access	Unreclaimed	No	No	422024	6584550	713	-136.3730	59.3924	AA 27224
U6 Heli	Heli	Monitoring Well + Temporary-Use Water Source Access	Unreclaimed	Yes	No	421871	6584564	770	-136.3756	59.3925	AA 27224
Whack-a-Mole Heli	Heli		Unreclaimed	No	No	420482	6585441	1592	-136.4004	59.4001	AA 29585
Wishbone Heli	Heli		Unreclaimed	Yes	No	419965	6581925	1340	-136.4077	59.3683	AA 27199
Zion Helipad	Heli		Unreclaimed	No	No	419782	6581834	1255	-136.4115	59.3691	AA 27198
MW-02	Monitoring Well	Monitoring Well	Unreclaimed	No	No	422020	6584024	533	-136.3728	59.3877	AA 27236
CAP Pump NW	Pump	Temporary-Use Water Source Access	Unreclaimed	Yes	No	419285	6583018	1252	-136.4206	59.3781	AA 27203
CAP Pump SE (Cantankerous)	Pump	Temporary-Use Water Source Access	Unreclaimed	Yes	No	419508	6582928	1150	-136.4166	59.3774	AA 51532
Little Jarvis Pump Pad	Pump		Unreclaimed	Yes	No	420030	6586069	1257	-136.4086	59.4057	AA 29577

## ROAD

Work on the Glacier Creek Road is summarized in the 2018 Annual Reclamation Report. No additional disturbance or reclamation work was performed on Glacier Creek Road in 2020. Glacier Creek Road is divided into 4 phases (Figure 3) spanning 5 years from 2014–2018.

**Total acreage of all ground disturbances for the road and related constructions on BLM managed lands has remained unchanged from 2019 to 2020 at an estimated 11.13 acres; see Table 2, Table 6, and Table 7.** Note that the acreage of the reclaimed road shoulders and cut slopes for the BLM section of Phase 1 has been deducted from the total disturbance. The estimated acreage of disturbance was calculated based on an average nominal road width of 4.3 m (14 ft), and an average road width of 8 m (26 ft), including shoulders and cut slopes (i.e., an average of 1.85 m (6 ft) of ground disturbance on either side of the 4.3 m (14 ft) wide road to include road shoulders and cut slopes). The road shoulders and cut slopes are areas that can be reclaimed while the main road stays open. The shoulders and cut slopes for Phase 1 have been fully reclaimed and approved by BLM. The shoulder and cut slopes for Phases 2 and 3 have been fully reclaimed and are pending approval by the BLM. The total estimated acreage of disturbance for the road (once reclamation acreage was accounted for) was then added to the disturbance acreage calculated for pullouts and other cleared areas (weather station clearing, the laydown, the fuel station, the helipad, one borrow-pit, the quarry, stockpiles, and “The Cut”). The pullout disturbance area is based on an ideal pullout size of 4.5 m x 30 m (note that many of the pullouts are smaller than 4.5 x 30 m). The geometry of the additional cleared areas was mapped with a Trimble GeoXH and then plotted and converted into polygons in ArcGIS. The ArcGIS geometry calculator tool was used to determine the acreage for each polygon. All existing road on Federal lands has been inspected by BLM and reclamation is pending approval.

Road reclamation includes both concurrent reclamation, focused on immediate stabilization measures during and immediately following construction, and final reclamation, to be performed at such time that the road is no longer needed for exploration access. The 2.1 km (1.3 mile) portion of the road located within the Haines State Forest is expected to remain open indefinitely, providing long term access for timber harvest, mineral resources and recreation purposes, and therefore only subject to concurrent reclamation.

**Table 6. Summary of disturbance calculations for Glacier Creek Road (excluding cleared areas and pullouts).**

*\*Calculations for sections of road on BLM lands only. Note that the road length for Phase 3 was adjusted from the 2017 Reclamation Statement to reflect the updated road development to MHT lands as the main road and the removal of the spur at the end of Phase 3 located within Stockpile #2.*

Agency	Phase	Feature	Length (m)	Calculated Acreage of disturbance	Acres Reclaimed	Current Disturbance Acreage 2019
BLM	Phase 1	4.3m wide nominal road width	1274	1.35		1.35
BLM	Phase 1	Road shoulders + cut slopes		1.16	1.16	0
BLM	Phase 2	4.3m wide nominal road width	644	0.68		0.68
BLM	Phase 2	Road shoulders + cut slopes		0.59		0.59
BLM	Phase 3	4.3m wide nominal road width	1272	1.35		1.35
BLM	Phase 3	Road shoulders + cut slopes		1.16		1.16
BLM	Phase 4a	4.3m wide nominal road width	329	0.35		0.35
BLM	Phase 4a	Road shoulders + cut slopes		0.3		0.3
<b>Total (BLM only)</b>			<b>3519</b>	<b>6.94</b>	<b>1.16</b>	<b>5.78</b>

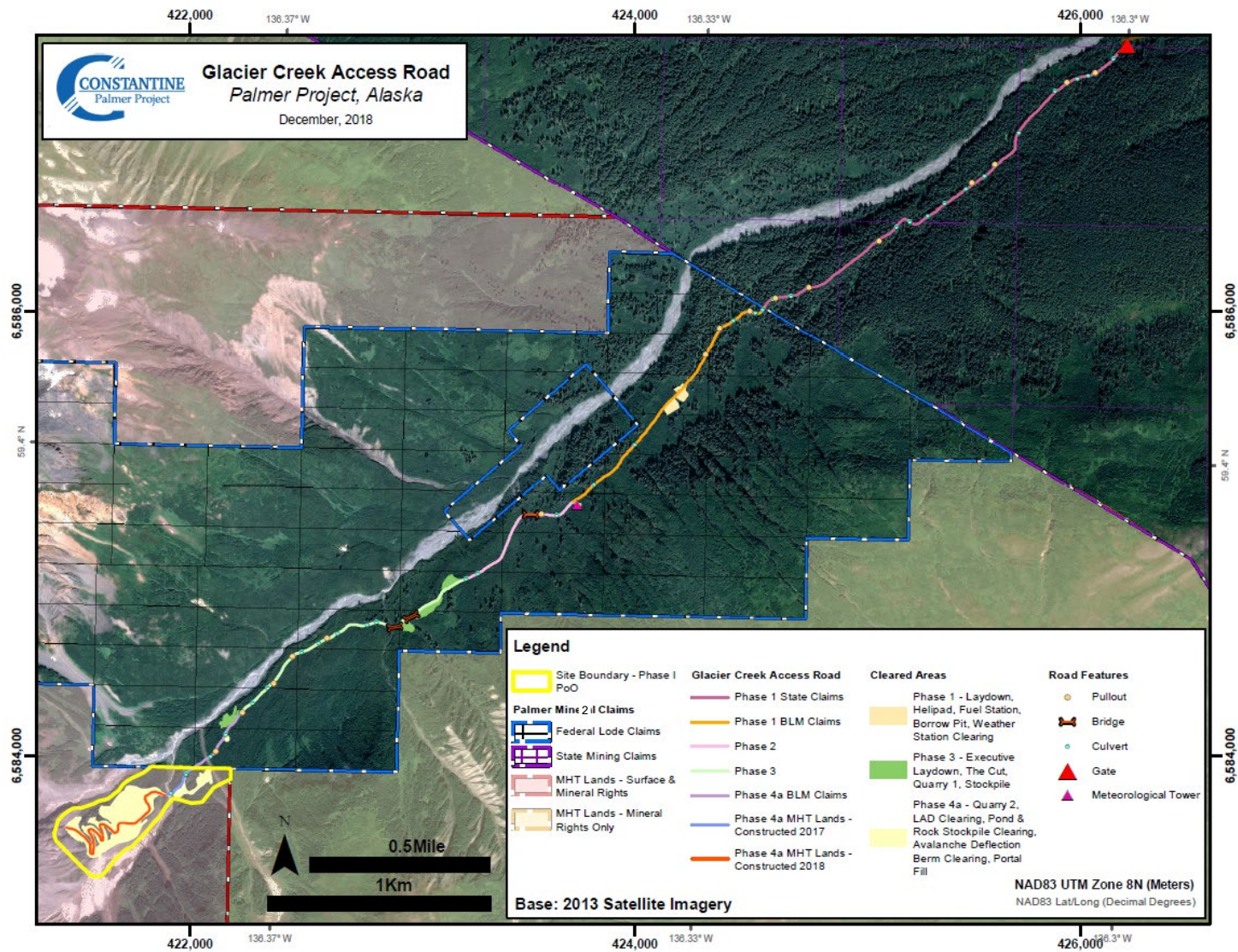


Figure 3. Glacier Creek road and associated disturbed areas. Note that the Phase 2 Plan of Operations Site Boundary outlined in yellow is discussed in greater detail in a separate

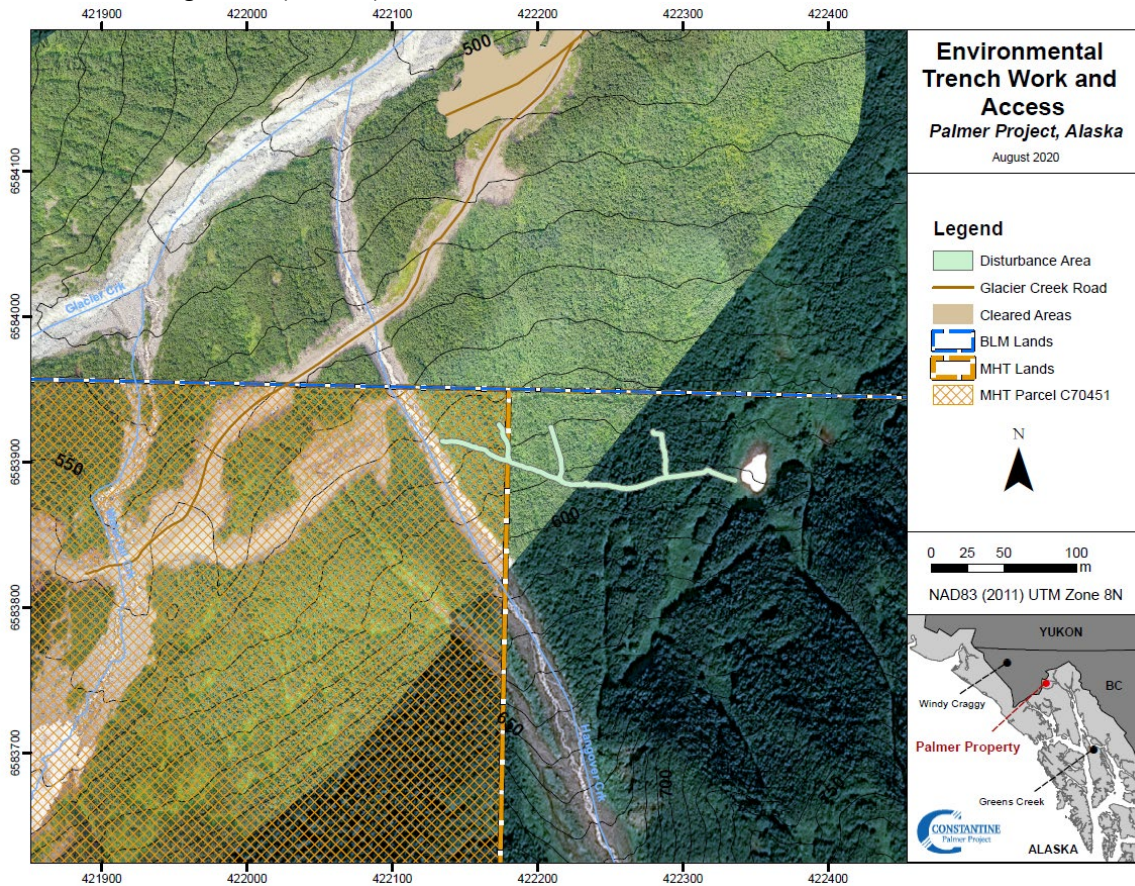
**Table 7. Summary of disturbances of additional cleared land and pullouts associated with Glacier Creek Road**  
*\*Calculations for sections of road on BLM lands only*

Agency	Phase	Pullouts	Acreage of Disturbance for Pullouts	Acreage of Disturbance for Cleared Areas	Current Disturbance Acreage 2019
BLM	Phase 1	3	0.1	1.48	1.58
BLM	Phase 2	1	0.03	0	0.03
BLM	Phase 3	3	0.1	3.45	3.55
BLM	Phase 4a	1	0.03	0.16	0.19
<b>Total (BLM only)</b>			<b>0.26</b>	<b>5.09</b>	<b>5.35</b>

**OTHER WORK**

**Environmental Studies**

In 2020, work for environmental studies included digging three trenches (roughly 45' x 9') and six pits (roughly 17' x 9') on MHT land packages C81210 and C70451 (Figure 4 and Photo 4). Access to the trench and pit test sites was with an excavator, which required clearing alder and flattening ground to form an excavator trail (Photo 5). The excavator trail was approximately 1017 feet long (including spur trails) and 13 feet wide, with a final surface area of 0.314 acres. All trenches and test pits were located within the excavator trail and immediately backfilled. The excavator trail was reclaimed by reshaping where needed and then covered with alder brush to inhibit erosion and promote natural revegetation (Photo 6).



**Figure 4. Disturbance area (excavator trail) related to Environmental studies conducted in August 2020 (now reclaimed)**

## **WATER SOURCES**

Constantine has two Temporary Water Use Authorizations (TWUA) – TWUA F2019-048, and TWUA F2019-049. The authorizations approve 10 water sources to supply water for drills and other work. As per regulations, a maximum of 5 sites can be permitted per authorization. Only two water sources were used in 2020 and both were non-fish bearing.

In 2020, water sources used to support project activities were approved under TWUA permit numbers F2019-048 and F2019-049. Water sources included two named streams: “Waterfall/Starbucks”, and “Marble”. Waterfall/Starbucks Creek was used intermittently to perform environmental test work in August, and Marble Creek was intermittently to provide water for core cutting. Table 8 lists the approved water sources used to support the Project in 2020.

**Table 8. Water Sources used to supply 2020 Project Activities.**

<b>Water Source Name</b>	<b>Waterfall Creek (Starbucks)</b>	<b>Marble Creek</b>
<b>Latitude (ddd.mmmm)</b>	59.380556	59.417352
<b>Longitude (ddd.mmmm)</b>	-136.386137	-136.228634
<b>Datum</b>	NAD83	NAD83
<b>Associated TWUP</b>	F2019-048	F2019-049
<b>Associated APMA</b>	5690	5690
<b>Mining Claim ADL, BLM # or USMS</b>	C70451	NA (Private Land)
<b>Water Source Type</b>	Glacial Melt / Creek	Glacial Melt / Creek
<b>Intake Size</b>	2"	1"
<b>Mesh Size</b>	1/8"	1/8"
<b>Submerged</b>	Yes	Yes
<b>Start Date</b>	12-Aug-20	1-Aug-20
<b>Stop Date</b>	24-Aug-20	30-Sep-20
<b>Avg GPM</b>	60	5
<b>Engine Size (HP)</b>	26	5

## **SUMPS**

No sumps were needed in 2020.

## **FUEL AND HAZARDOUS SUBSTANCES**

All fuel-related activities were performed in accordance with the EPA Emergency Spill Response Regulations and Spill Prevention Control and Countermeasures inspections (SPCC inspections) were conducted on a weekly basis. No reportable spills occurred in 2020.

At the Glacier Creek laydown, within the claim boundaries, the Glacier Creek Fuel Depot (Photo 1) holds 5000 gallons of diesel and 3000 gallons of Jet A fuel. The tanks are in a sturdy 11,000+ gallon containment, built well in excess of 110% capacity of total fuel storage tanks, fulfilling the BLM/EPA requirements. The containment is wood-framed and lined with 30 mL urethane-coated fabric. The 11,000+ gallon containment can also host the portable, 70-gallon, double-walled, steel fly tanks. A new 10,000 gallon tank was installed at the Glacier Creek Laydown at the end of the 2018 season (Photo 2). It is currently not in use and is staged for Phase II Plan of Operation. The tanks at Glacier

Creek laydown were not used in 2020, fuel needed for 2020 operations was sourced from an EPA compliant fuel station on private lands.

**MONITORING**

A summary of site monitoring activities is available in annual compliance reporting under the Palmer Project's Reclamation Plan Approval (J20185690RPA - ADNR) and Waste Management Permit (2019DB0001 - ADEC), both submitted in March of 2021.

**PHOTOGRAPHS**  
**2020 Annual Reclamation Report**

Palmer Project  
Surface Exploration  
Porcupine Mining District, Alaska

**GLACIER CREEK LAYDOWN & FUEL STATION**



**Photo 1. Fuel Station at the Glacier Creek Laydown. Tanks were emptied and winterized in October 2019, unused in 2020.**



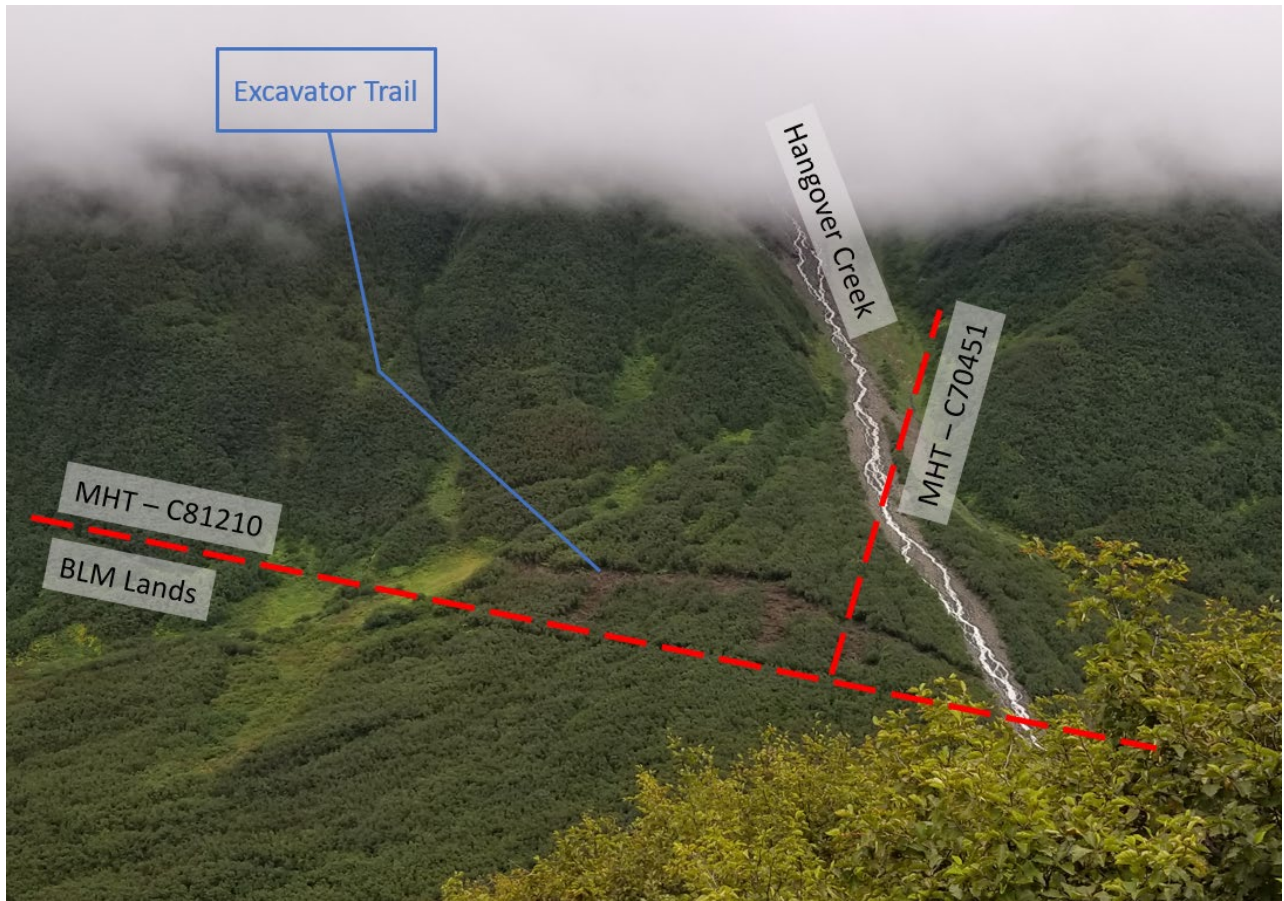
**Photo 2. 10,000 gallon fuel tank at Glacier Creek Laydown (added in 2018). Note that this tank is currently not in use and is staged for Phase II Plan of Operation.**





**Photo 3. Glacier Creek Laydown, looking SSE, away from the Fuel Station. Four shipping containers, a few pallets of core boxes and some lumber is temporarily stored at the laydown.**

**OTHER WORK**



**Photo 4. Annotated photo of newly reclaimed area of disturbance (excavator trail) on MHT parcels C81210 and C70451 (August 2020).**



**Photo 5. Photo of excavator trail, prior to reclamation (August 2020).**



**Photo 6. Photo of excavator trail, after reclamation (August 2020).**