



US Army Corps  
of Engineers  
Alaska District

# Public Notice of Application for Permit

Regulatory Division (1145)  
CEPOA-RD  
Post Office Box 6898  
JBER, Alaska 99506-0898

**PUBLIC NOTICE DATE:** January 17, 2020

**EXPIRATION DATE:** February 18, 2020

**REFERENCE NUMBER:** POA-1996-00352

**WATERWAY:** Quartz Creek

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Interested parties are hereby notified that a Department of the Army permit application has been received for work in waters of the United States (U.S.) as described below and shown on the enclosed project drawings.

Comments on the described work, with the reference number, should reach this office no later than the expiration date of this Public Notice (PN) to become part of the record and be considered in the decision. Please contact Laurel Gale at (907) 458-1601, toll free from within Alaska at (800) 478-2712, by fax at (907) 753-5567, or by email at: [Laurel.A.Gale@usace.army.mil](mailto:Laurel.A.Gale@usace.army.mil) if further information is desired concerning this notice.

**APPLICANT:** Mr. Jason Otteson, NM Operations LLC (NM Ops), 10604 Marbury Court, Austin, Texas 78726; 512-983-5570; [jotteson@noblemining.com](mailto:jotteson@noblemining.com)

**LOCATIONS:** The adjacent project sites are located as follows:

Lower Quartz Bench:	The project site is located within Section 30, T. 1 S., R. 29 W., Kateel River Meridian; USGS Quad Map Bendeleben B-6; Latitude 65.3659° N., Longitude 164.7141° W.; 82 Mile Taylor Highway (a.k.a. Kougarok Road), near Nome, Alaska.
North Fork:	The project site is located within Section 31, T. 1 S., R. 29 W., Kateel River Meridian; USGS Quad Map Bendeleben B-6; Latitude 65.3643° N., Longitude 164.7153° W.; 82 Mile Taylor Highway (a.k.a. Kougarok Road), near Nome, Alaska.
Dahl Creek:	The project site is located within Section 36, T. 1 S., R. 30 W., Kateel River Meridian; USGS Quad Map Bendeleben B-6; Latitude

	65.3557° N., Longitude 164.7349° W.; 82 Mile Taylor Highway (a.k.a. Kougatok Road), near Nome, Alaska.
Joe Creek:	The project site is located within Section 25, T. 1 S., R. 30 W., Kateel River Meridian; USGS Quad Map Bendeleben B-6; Latitude 65.3694° N., Longitude 164.7332° W.; 82 Mile Taylor Highway (a.k.a. Kougatok Road), near Nome, Alaska.
Atlas Creek:	The project site is located within Section 25, T. 1 S., R. 30 W., Kateel River Meridian; USGS Quad Map Bendeleben B-6; Latitude 65.3668° N., Longitude 164.7509° W.; 82 Mile Taylor Highway (a.k.a. Kougatok Road), near Nome, Alaska.
Camp:	The project site is located within Section 31, T. 1 S., R. 29 W., Kateel River Meridian; USGS Quad Map Bendeleben B-6; Latitude 65.3621° N., Longitude 164.7148° W.; 82 Mile Taylor Highway (a.k.a. Kougatok Road), near Nome, Alaska.

**PURPOSE:** The applicant's stated purpose is to produce commercial quantities of precious metals from alluvial deposits discovered on State of Alaska mining claims.

**PROPOSED WORK:** The applicant proposes to recover precious metals from alluvial deposits in previously mined and in un-mined stream valleys on State of Alaska mining claims owned by Mammoth Valley Mining LLC and occurring on adjacent areas of Quartz Creek, Dahl Creek, North Fork, Joe Creek and Atlas Creek, which were previously mined under separate Regional General Permit (GP) POA-2014-00055. Due to the fact these individual areas are operated as one mine, NM Operations LLC has submitted plans for the four areas under the following APMA's for an Individual Permit (404) that combines the activities of all four mine sites under a single plan and bond under F-9398 as an after-the-fact individual permit to cover impacts that exceeded coverage under the GP POA-2014-00055, last year, and to cover proposed future impacts, as well as reclamation and restoration of aquatic resources.

- F-9398 (2016 to 2020, re-issued) – Lower Quartz Bench and camp, more than 5 acres active footprint
- F-9335 (2014 to 2018, re-issued) – Joe Creek and Atlas Creek, less than 5 acres active footprint
- F-2803 (2015 to 2019, new) – Dahl Creek, less than 5 acres active footprint
- F-2836 (2016 to 2020, new) – North Fork, less than 5 acres active footprint

As currently proposed, the following volumes in cubic yards (CY) and areas of acreage disturbance are planned for the selected mine sites and infrastructure:

Lower Quartz Bench (F-9335):

Plans propose a total of 23.3 acres of jurisdictional wetland impacts, of which 12.5 acres are proposed future impacts, 10.8 acres of previous wetland impacts of which 5.56 acres has been reclaimed, and an estimated 135,000 CY of gravel has been discharged as fill. No stream relocations or diversions have been completed or are proposed in this area.

#### North Fork (F-2836):

Plans propose a total of 9.11 acres of jurisdictional wetland impacts, of which 9.0 acres are proposed future impacts, and 0.11 acre are previous jurisdictional wetland impacts. No reclamation has been completed, and an estimated 46,000 CY of silt and gravel overburden has been discharged as fill. Two stream diversions have been constructed on North Fork Quartz Creek operation area. The first is sized 300 linear feet (lnft.) long x 10 ft. wide with a discharge of approximately 200 CY of gravel fill, and the second stream diversion which was constructed in 2019 is approximately 1,600 lnft. long x 10 ft. wide with a discharge of approximately 1,200 CY of gravel fill.

#### Dahl Creek (F-2803):

Plans propose a total 11.7 acres of future jurisdictional wetland impacts. Previously completed work in this area includes approximately 2.7 acres of wetland impacts, which has been reclaimed, and the discharge of approximately 21,000 CY of gravel fill. Additionally, plans propose the construction of one stream relocation at Dahl Creek, sized 1,600 lnft. long x 6 ft. wide with a discharge of approximately 500 CY of gravel fill.

#### Joe Creek and Atlas Creek (F-9335):

Joe Creek plans propose a total of 3.5 acres of future jurisdiction wetland impacts. Previous work consists of impacts to approximately 0.02 acres of jurisdictional wetlands, which has been reclaimed. Additionally, previous work also includes the construction of a permanent stream relocation at Joe Creek, sized 1,500 lnft. long x 15 ft. wide with a discharge of approximately 700 CY of gravel fill.

Atlas Creek plans propose a total of 1.6 acres of future jurisdictional wetland impacts including the discharge of approximately 10,400 CY of gravel fill. Additionally, plans propose the construction of a temporary stream diversion, sized 200 lnft. long x 10ft. wide and a discharge of approximately 100 CY of gravel fill.

#### Camp

The camp is located in approximately 1 acre of previously mined uplands.

#### **Total Jurisdictional Impacts for Entire Project:**

The current unreclaimed disturbance for the combined mined areas consists of approximately 6.82 acres of jurisdictional tundra wetlands with approximately 250,000 CY of silt and gravel overburden, and an additional approximately 0.1 acre previously disturbed naturalized riparian wetland habitat with approximately 100 CY of gravel overburden.

The proposed future disturbance to jurisdictional wetlands will include an additional approximately 2.7 acres of previously disturbed naturalized riparian habitat with approximately 14,600 CY of gravel overburden, as well as approximately 12 acres of tundra wetland with approximately 476,000 CY of silt and gravel overburden.

The total combined jurisdictional impacts, to be completed by 2024, is approximately 2.8 acres of previously disturbed naturalized riparian habitat with approximately 14,700 CY of silt and gravel overburden, and approximately 18.82 acres of tundra wetlands with approximately 726,000 CY of silt and gravel overburden.

**Reclamation Schedule:**

All disturbances related to mining activities will be reclaimed by the end of the 2024 mining season. When mining beyond 2020 is complete and no further mining activity is planned, the Lower Quartz Bench primary process site and the Camp areas will be reclaimed by contouring the surface and grading over with organic material. At this time, 3.5 acres of previously mined uplands (process site & camp) will be reclaimed as dry grass uplands, and the disturbed wetland areas will be graded and contoured to near original conditions, organic overburden will be spread to induce revegetation, and localized shallow ponds with littoral shelves will be constructed to contain surface drainage and control erosion and to provide for intermittent lacustrine wetlands habitat to develop.

All work would be performed in accordance with the enclosed plan (Figures 1-26), dated December 30, 2019.

**ADDITIONAL INFORMATION:**

Other certificates or approval/denials received from other federal, state, or local agencies for the work described are State of Alaska Department of Fish and Game Fish Habitat Permit Number: FH16-111-0066, dated April 5, 2016; State of Alaska Department of Environmental Conservation APDCS-GP Number: AKG370C19 and B60, dated January 12, 2017. Additionally the State of Alaska Department of Natural Resources-Mining MLUP Numbers: F-9398 dated 2016 to present, F-9335 dated 2014 to present, F-2803 dated 2015 to 2019, and F-2836 dated 2016 to present.

NM Operations LLC has submitted plans for the four areas under the following APMA's:

- F-9398 (2016 to 2020, re-issued) – Lower Quartz Bench and camp, more than 5 acres active footprint
- F-9335 (2014 to 2018, re-issued) – Joe Creek and Atlas Creek, less than 5 acres active footprint
- F-2803 (2015 to 2019, new) – Dahl Creek, less than 5 acres active footprint
- F-2836 (2016 to 2020, new) – North Fork, less than 5 acres active footprint

It is proposed to submit an application for an Individual Permit (404) that combines the activities of all four mine sites under a single plan and bond under F-9398.

**APPLICANT PROPOSED MITIGATION:** The applicant proposes the following mitigation measures to avoid, minimize, and compensate for impacts to waters of the U.S. from activities involving discharges of dredged or fill material.

- a. Avoidance: The valley floors and benches of the Quartz Creek drainage were extensively mined by various methods since discovery in 1902. Modern mechanized exploration and mining began in 1996 and has been ongoing since then, in escalating scale. Proposed new mining will take place in areas that have been previously prospected by drilling and trenching and are known to contain economic concentrations of precious metals. Overburden will be placed on previously mined ground or within the active mine pits, thus avoiding additional impacts to wetlands adjacent to the mine



workings. Impoundments constructed in previously mined areas are used to contain meltwater draining from the active mine pits and from stockpiles of frozen material to prevent mud and silt from covering riparian zones along stream banks. Where unavoidable, streams will be placed in temporary or permanent bypasses to protect water quality of flowing streams and to allow for passage of fish. Existing roads and trails will be used to access the proposed mine sites.

- b. Minimization: Mining will take place only in areas that have been prospected and found to contain economic concentrations of precious metals. In some places, previously mined areas will be re-mined to recover placer minerals that were missed or lost by previous miners. Barren silt overburden will be stockpiled in areas that have been previously mined (uplands) or within the active mine pits to backfill excavations. Where unavoidable, stream bypasses will be constructed within previously mined areas to divert streams around active mining operations in order to preserve water quality and allow passage of fish.

Additionally, Organic rich overburden removed during mining will be reserved in segregated stockpiles for use in final reclamation. All excavations will be backfilled, contoured to blend with the surroundings, and graded over with reserved organic material. Where ever possible, shallow ponds will be created within the reclaimed excavations, outside of active floodplains of local streams, to promote development of numerous small, lacustrine wetlands habitat. Pond banks will be sloped to ~1:20 to prevent erosion and cut banks. These ponds and depressions will also serve to control rain sheetwash over reclaimed surfaces and will trap and retain settleable solids. Previous experience in this region suggests that natural re-vegetation occurs rapidly (& densely) where organic material can be spread over reclaimed mined areas, as well as along margins of waterbodies.

Stream diversions will be necessary in several locations to protect water quality and allow for passage of fish. In some places, the stream bypass will be placed in a permanent, stable location, where floodplains will be constructed to contain 20 year floodwaters. In other places, streams will be re-established in their original locations with floodplains to contain 20 year high water events.

- c. Compensatory Mitigation: No compensatory mitigation is proposed at this time.

WATER QUALITY CERTIFICATION: A permit for the described work will not be issued until a certification or waiver of certification, as required under Section 401 of the Clean Water Act (Public Law 95-217), has been received from the State of Alaska Department of Environmental Conservation.

CULTURAL RESOURCES: The latest published version of the Alaska Heritage Resources Survey (AHRS) has been consulted for the presence or absence of historic properties, including those listed in or eligible for inclusion in the National Register of Historic Places. There are cultural resources in the permit area or within the vicinity of the permit area. The

permit area has been determined to be those areas comprising the waters of the US that will be directly affected by the proposed work. The Corps of Engineers (Corps) has made a No Potential to Cause Effects determination for the proposed project. Consultation with the State Historic Preservation Office (SHPO) is not required, however, any comments SHPO may have concerning presently unknown archeological or historic data that may be lost or destroyed by work under the requested permit will be considered in our final assessment of the described work.

ENDANGERED SPECIES: No threatened or endangered species are known to use the project area.

We have determined the described activity would have no effect on any listed or proposed threatened or endangered species, and would have no effect on any designated or proposed critical habitat, under the Endangered Species Act of 1973 (87 Stat. 844). Therefore, no consultation with the U.S. Fish and Wildlife Service or the National Marine Fisheries Service (NMFS) is required. However, any comments they may have concerning endangered or threatened wildlife or plants or their critical habitat will be considered in our final assessment of the described work.

ESSENTIAL FISH HABITAT: The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996, requires all Federal agencies to consult with the NMFS on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH).

No EFH species are known to use the project area.

We have determined the described activity would not adversely affect EFH in the project area.

TRIBAL CONSULTATION: The Alaska District fully supports tribal self-governance and government-to-government relations between Federally recognized Tribes and the Federal government. Tribes with protected rights or resources that could be significantly affected by a proposed Federal action (e.g., a permit decision) have the right to consult with the Alaska District on a government-to-government basis. Views of each Tribe regarding protected rights and resources will be accorded due consideration in this process. This PN serves as notification to the Tribes within the area potentially affected by the proposed work and invites their participation in the Federal decision-making process regarding the protected Tribal right or resource. Consultation may be initiated by the affected Tribe upon written request to the District Commander during the public comment period.

PUBLIC HEARING: Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, reasons for holding a public hearing.

EVALUATION: The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts of the proposed activity and its intended use

on the public interest. Evaluation of the probable impacts, which the proposed activity may have on the public interest, requires a careful weighing of all the factors that become relevant in each particular case. The benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. The outcome of the general balancing process would determine whether to authorize a proposal, and if so, the conditions under which it will be allowed to occur. The decision should reflect the national concern for both protection and utilization of important resources. All factors, which may be relevant to the proposal, must be considered including the cumulative effects thereof. Among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people. For activities involving 404 discharges, a permit will be denied if the discharge that would be authorized by such permit would not comply with the Environmental Protection Agency's 404(b)(1) guidelines. Subject to the preceding sentence and any other applicable guidelines or criteria (see Sections 320.2 and 320.3), a permit will be granted unless the District Commander determines that it would be contrary to the public interest.

The Corps is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

AUTHORITY: This permit will be issued or denied under the following authorities:  
(X) Discharge dredged or fill material into waters of the U.S. – Section 404 Clean Water Act (33 U.S.C. 1344). Therefore, our public interest review will consider the guidelines set forth under Section 404(b) of the Clean Water Act (40 CFR 230).

Project drawings and a Notice of Application for State Water Quality Certification are enclosed with this PN.

District Commander  
U.S. Army, Corps of Engineers

Enclosures

# STATE OF ALASKA

DEPT. OF ENVIRONMENTAL CONSERVATION  
DIVISION OF WATER  
401 Certification Program  
Non-Point Source Water Pollution Control Program

DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
WQM/401 CERTIFICATION  
555 CORDOVA STREET  
ANCHORAGE, ALASKA 99501-2617  
PHONE: (907) 269-7564/FAX: (907) 334-2415

## NOTICE OF APPLICATION FOR STATE WATER QUALITY CERTIFICATION

Any applicant for a federal license or permit to conduct an activity that might result in a discharge into navigable waters, in accordance with Section 401 of the Clean Water Act of 1977 (PL95-217), also must apply for and obtain certification from the Alaska Department of Environmental Conservation that the discharge will comply with the Clean Water Act, the Alaska Water Quality Standards, and other applicable State laws. By agreement between the U.S. Army Corps of Engineers and the Department of Environmental Conservation, application for a Department of the Army permit to discharge dredged or fill material into navigable waters under Section 404 of the Clean Water Act also may serve as application for State Water Quality Certification.

Notice is hereby given that the application for a Department of the Army Permit described in the Corps of Engineers' Public Notice No. **POA-1996-00352, Quartz Creek**, serves as application for State Water Quality Certification from the Department of Environmental Conservation.

After reviewing the application, the Department may certify there is reasonable assurance the activity, and any discharge that might result, will comply with the Clean Water Act, the Alaska Water Quality Standards, and other applicable State laws. The Department also may deny or waive certification.

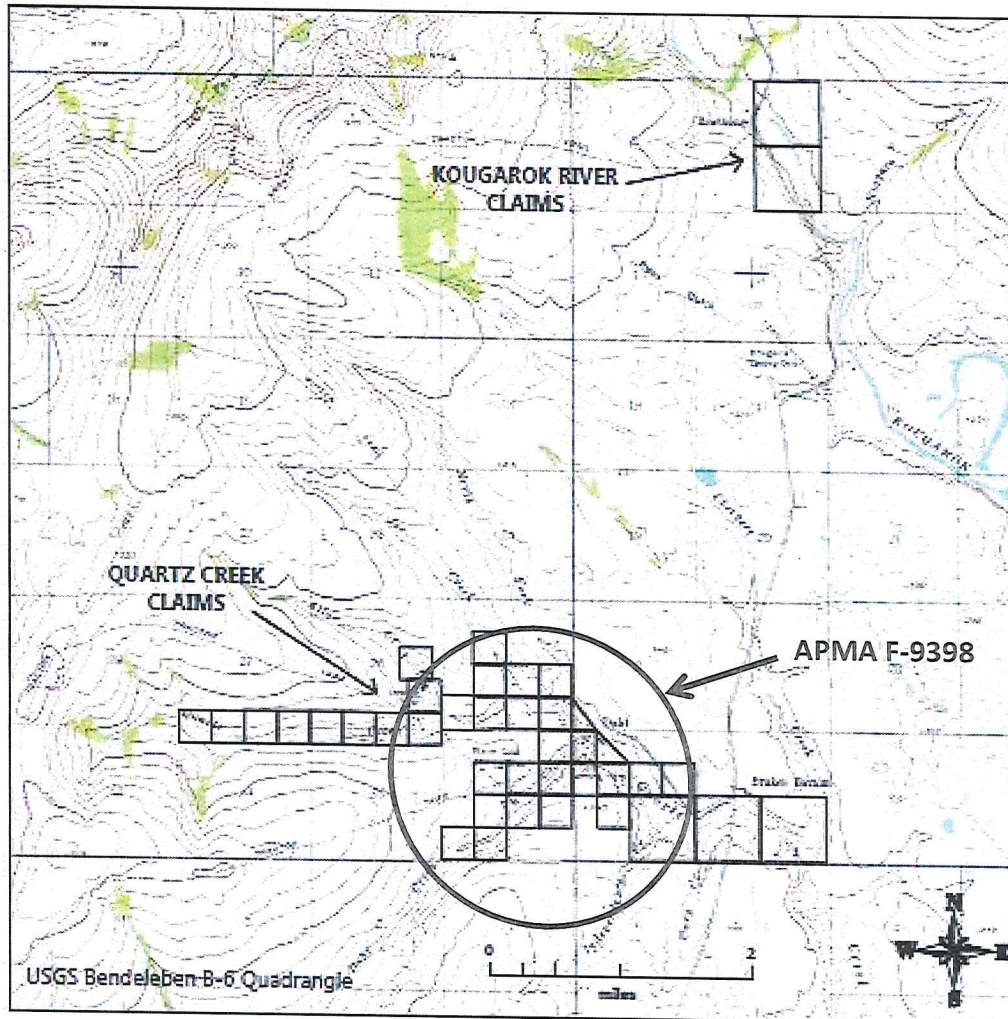
Any person desiring to comment on the project, with respect to Water Quality Certification, may submit written comments to the address above by the expiration date of the Corps of Engineer's Public Notice.

**NM Operations LLC**

**Project Location**

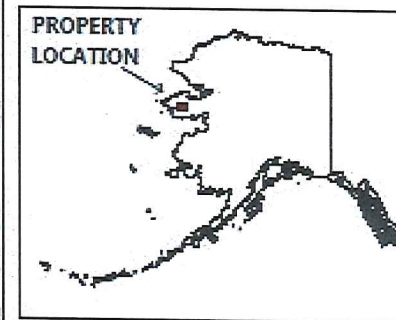
**Bendeleben (B-6)... 65.3659N, 164.7141W**

**APMA F-179398**



**MAMMOTH VALLEY  
MINERAL PROPERTIES**

**40 State of Alaska Mining Claims  
Kougarok Mining District  
2121 Acres**



METALLOGENY INC. JANUARY 2014

POA-1996-00352  
Quartz Creek  
December 30, 2019  
1 of 26



# NM Operations LLC

APMA F-179398

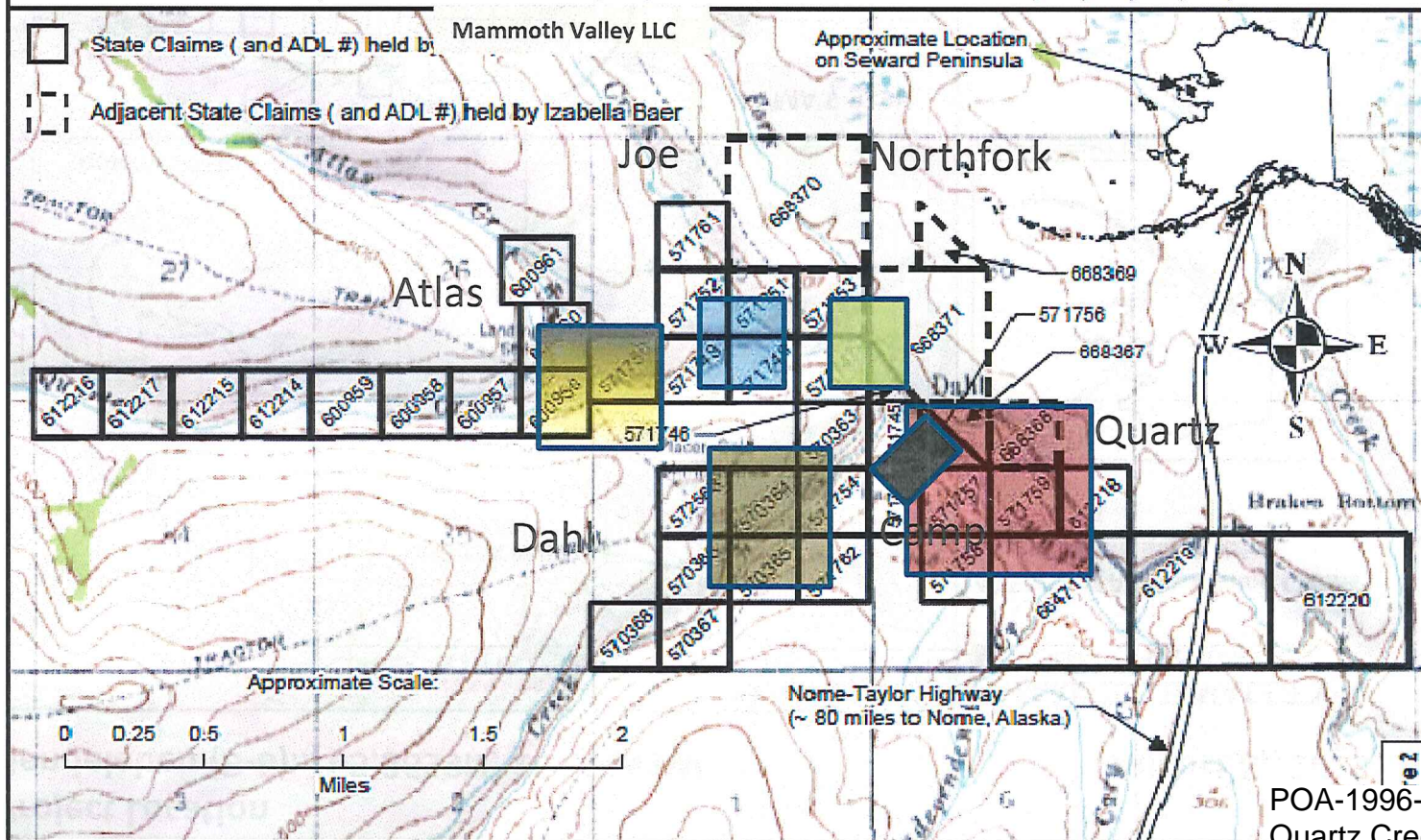
## Vicinity Map

Bendeleben (B-6)... 65.3621N, 164.7148W

### Mammoth Valley Mining LLC State Mining Claims

**Bendeleben (B-6) Quadrangle, Alaska**

**Kateel River Meridian; T1S R29W Sect. 30, 31, and 32; T1S R30W Sect. 25, 26, 27, 34, 35, and 36**



Quartz Creek  
December 30, 2019  
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**NM Operations LLC**

**NM Operations Camp**

**Bendeleben (B-6)... 65.3621N, 164.7148W**

.....Camp area is ~500 ft long by 80 ft wide and located on old bench workings just south of mouth of Dahl Creek

**APMA F-179398**





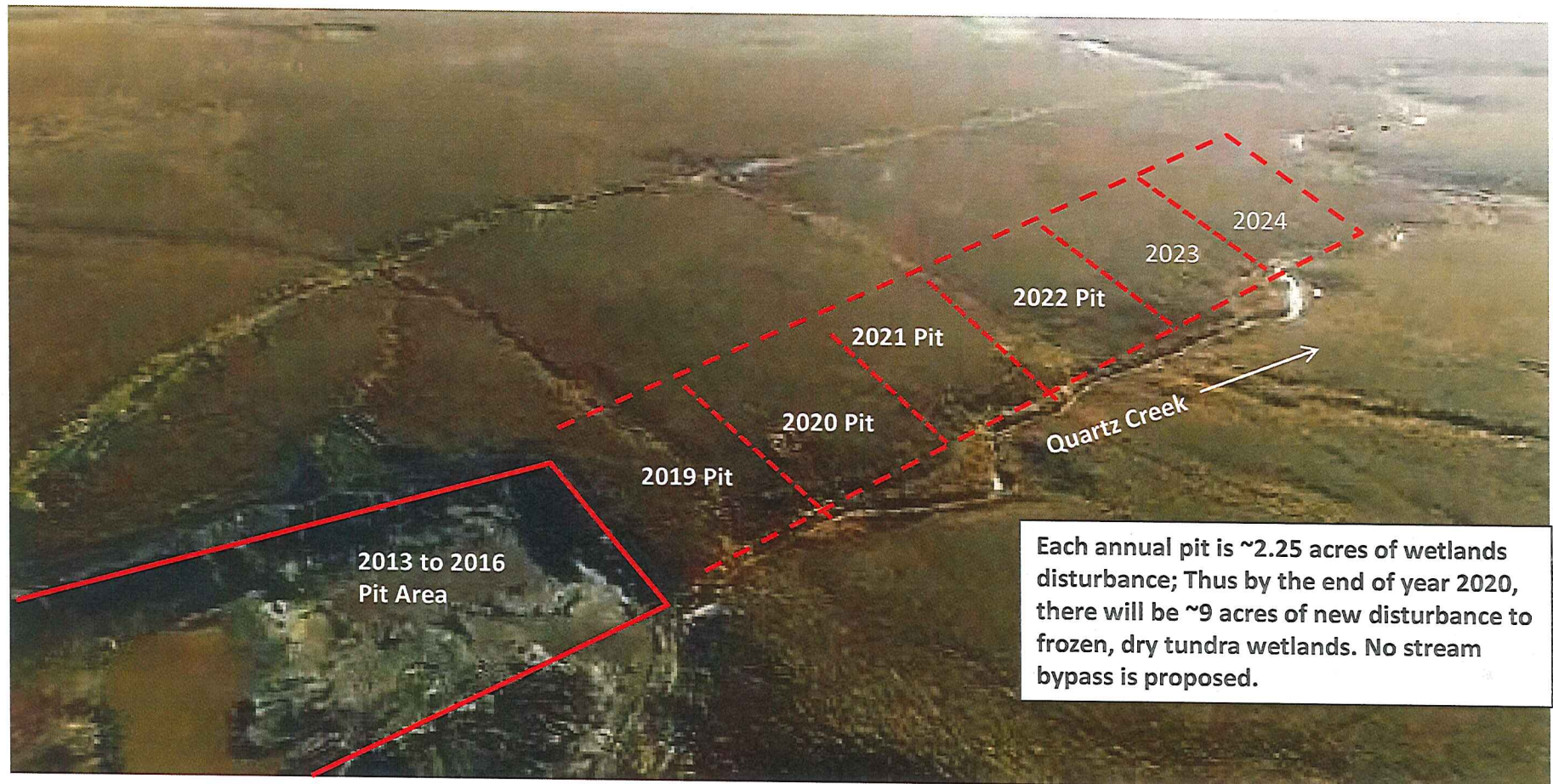
**NM Operations LLC**

Lower Quartz Bench

Bendeleben (B-6)... 65.3659N, 164.7141W

Proposed Future Mine Pits, 2019 to 2022

APMA F-179398

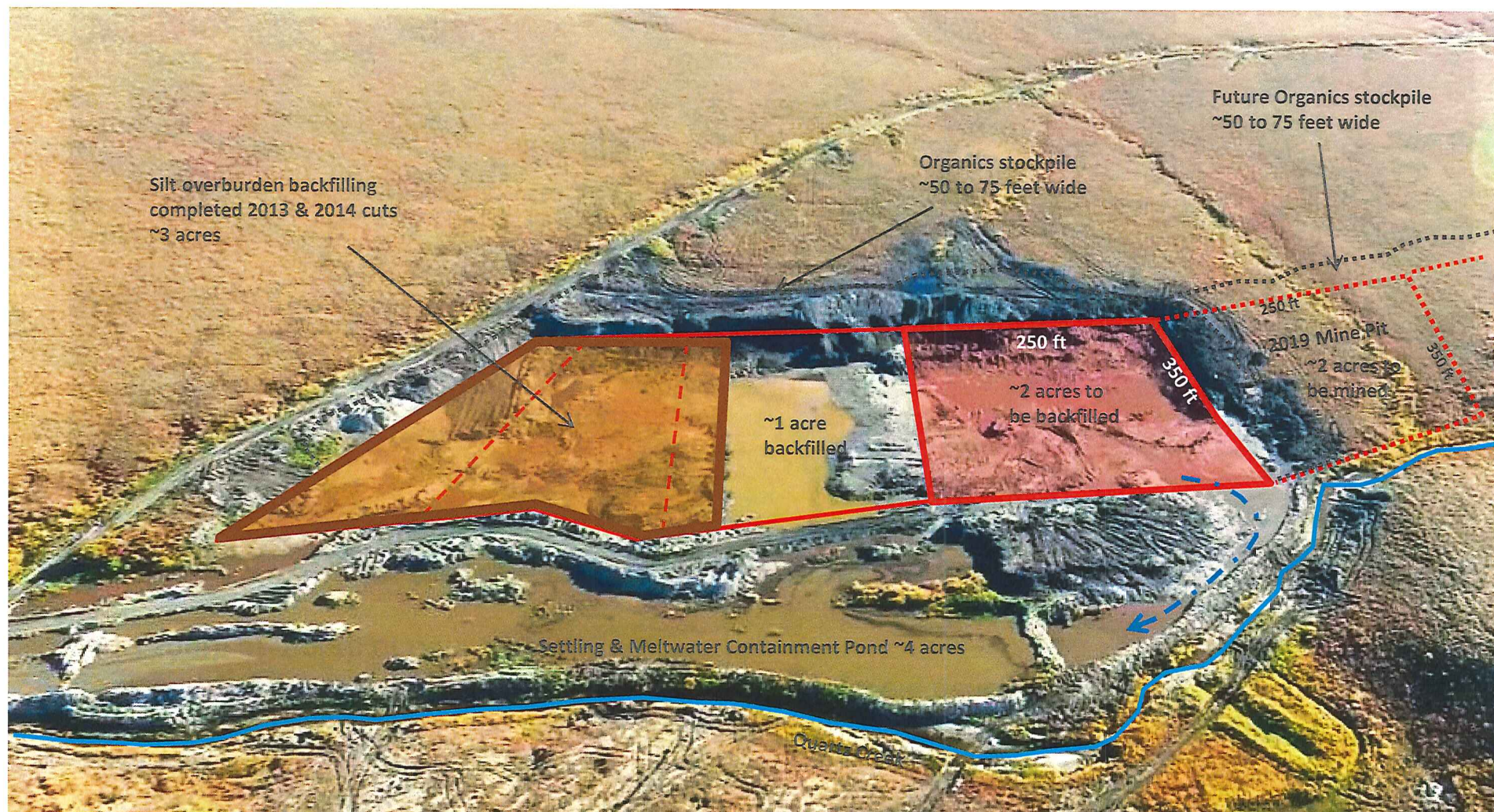


POA-1996-00352  
Quartz Creek  
December 30, 2019  
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## 9Annual Mine Cuts and Associated Areas of Disturbance

**Future Organics stockpile  
~50 to 75 feet wide**



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Quartz Creek  
December 30, 2019  
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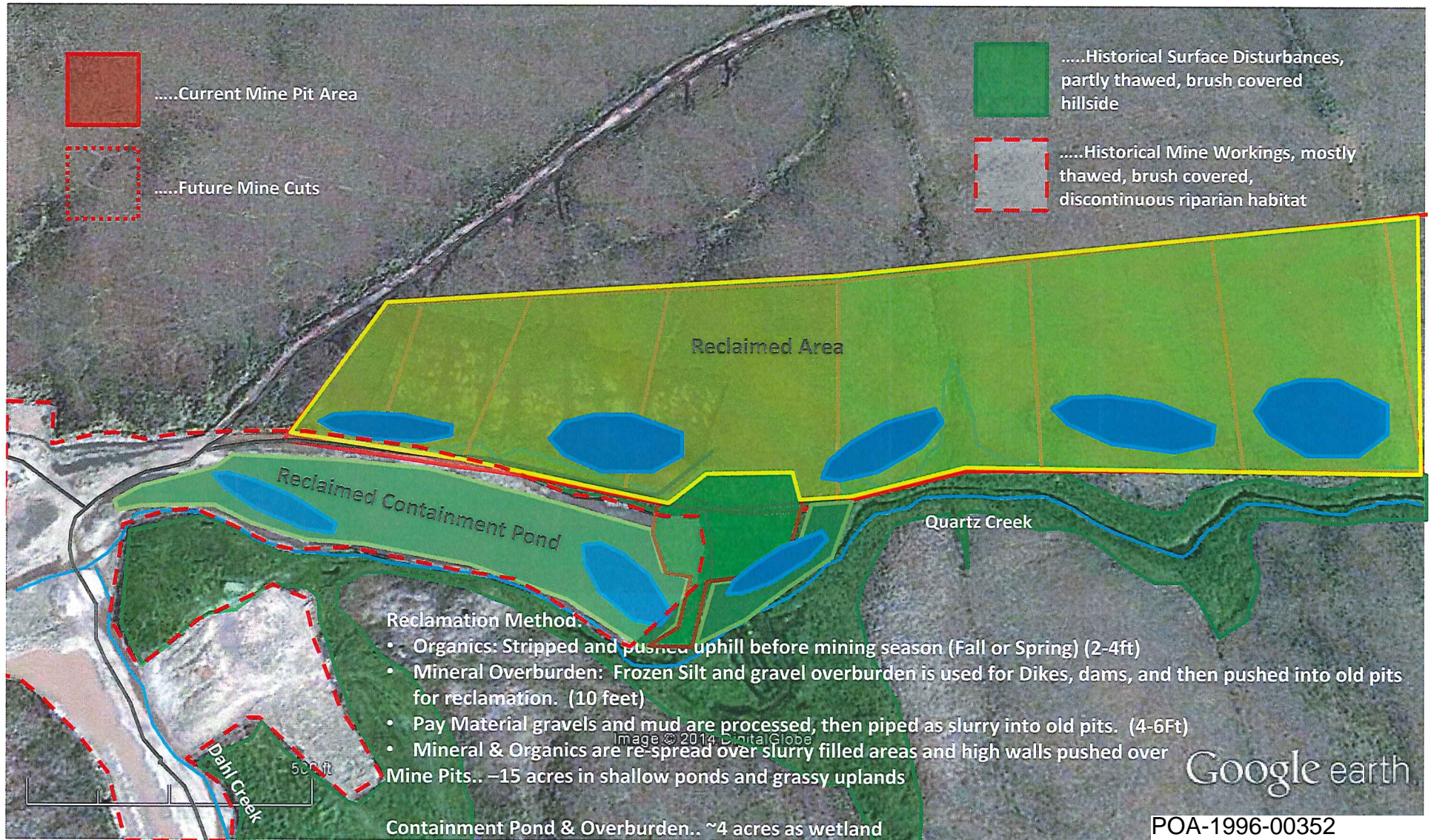
# NM Operations LLC

Lower Quartz Bench

Bendeleben (B-6)... 65.3659N, 164.7141W

## Reclamation Plan

APMA F-179398



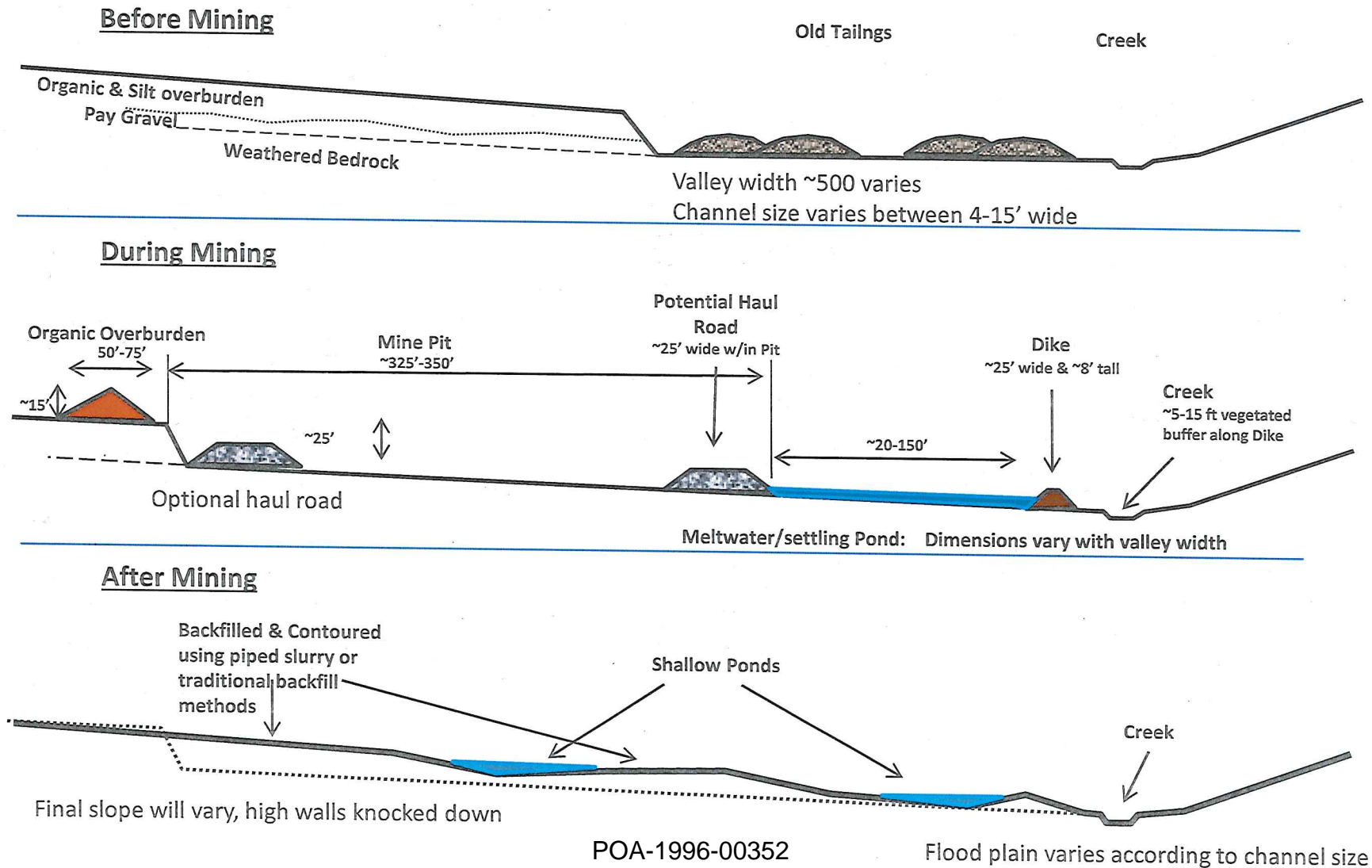


# NM Operations LLC

Bendeleben (B-6)... 65.3659N, 164.7141W

Typical Cross-Sections all creeks-Not to Scale

APMA F-179398



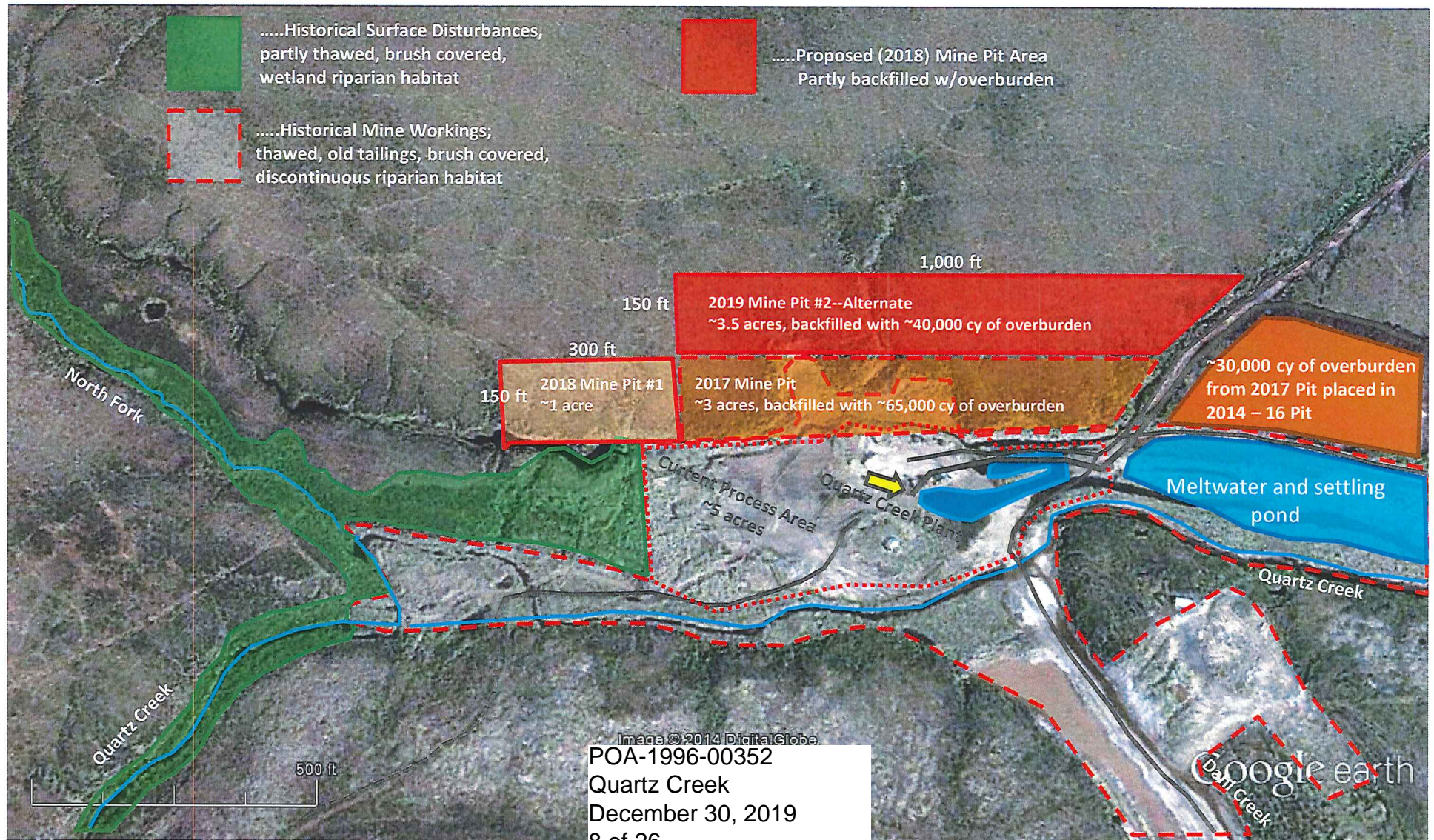


# NM Operations LLC

Lower Quartz Bench

Bendeleben (B-6)... 65.3659N, 164.7141W

## 2018 Mine Pit





NM Operations LLC

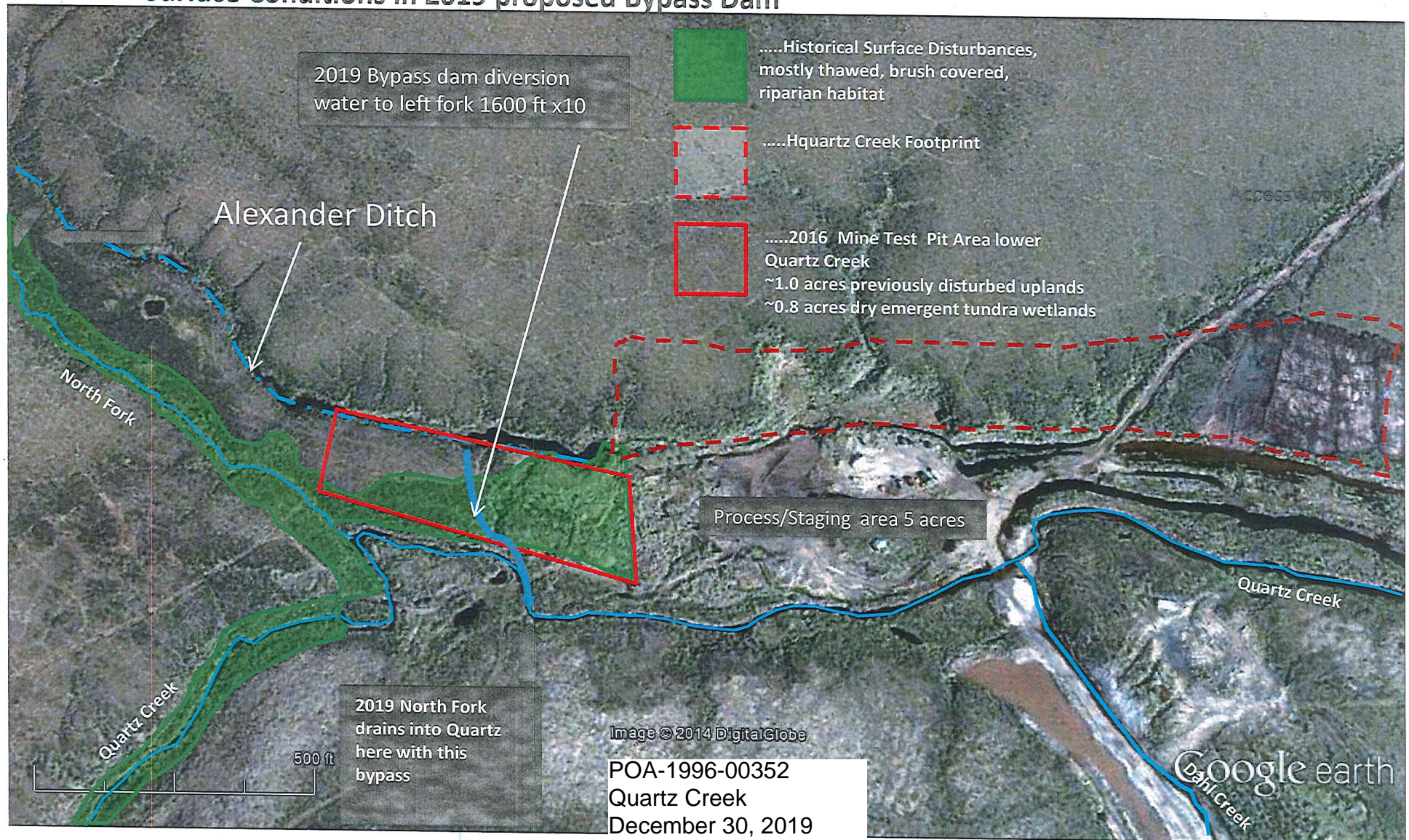
North Fork

Bendeleben (B-6)... 65.3643N, 164.7153W

Surface Conditions in 2019 proposed Bypass Dam

APMA F-179398

(formerly F-2836)





## NM Operations LLC

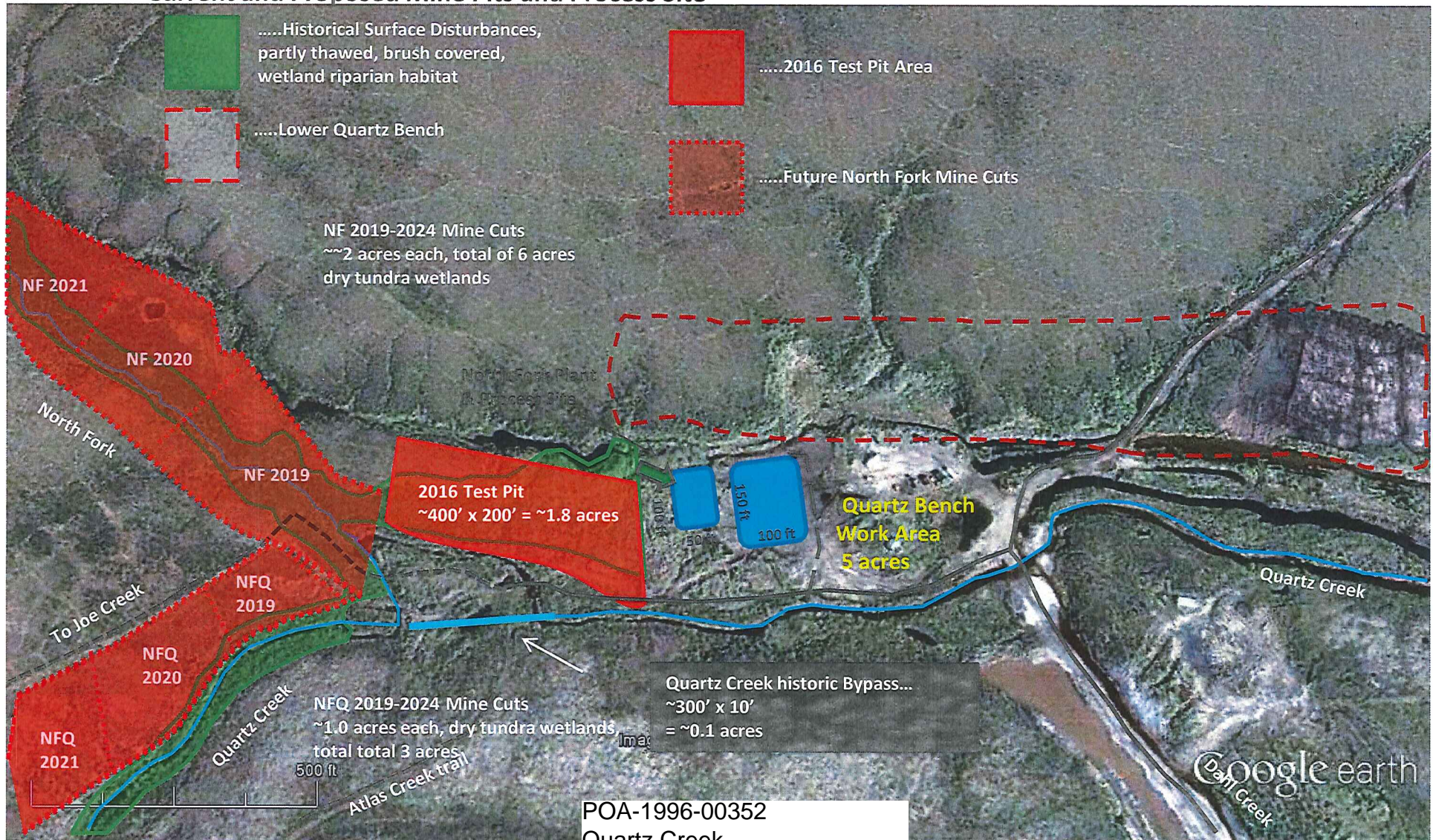
North Fork (NF) & North Fork Quartz (NFQ)

(formerly F-2836)

Bendeleben (B-6)... 65.3643N, 164.7153W

Current and Proposed Mine Pits and Process Site

APMA F-179398



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Quartz Creek

December 30, 2019

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# NM Operations LLC

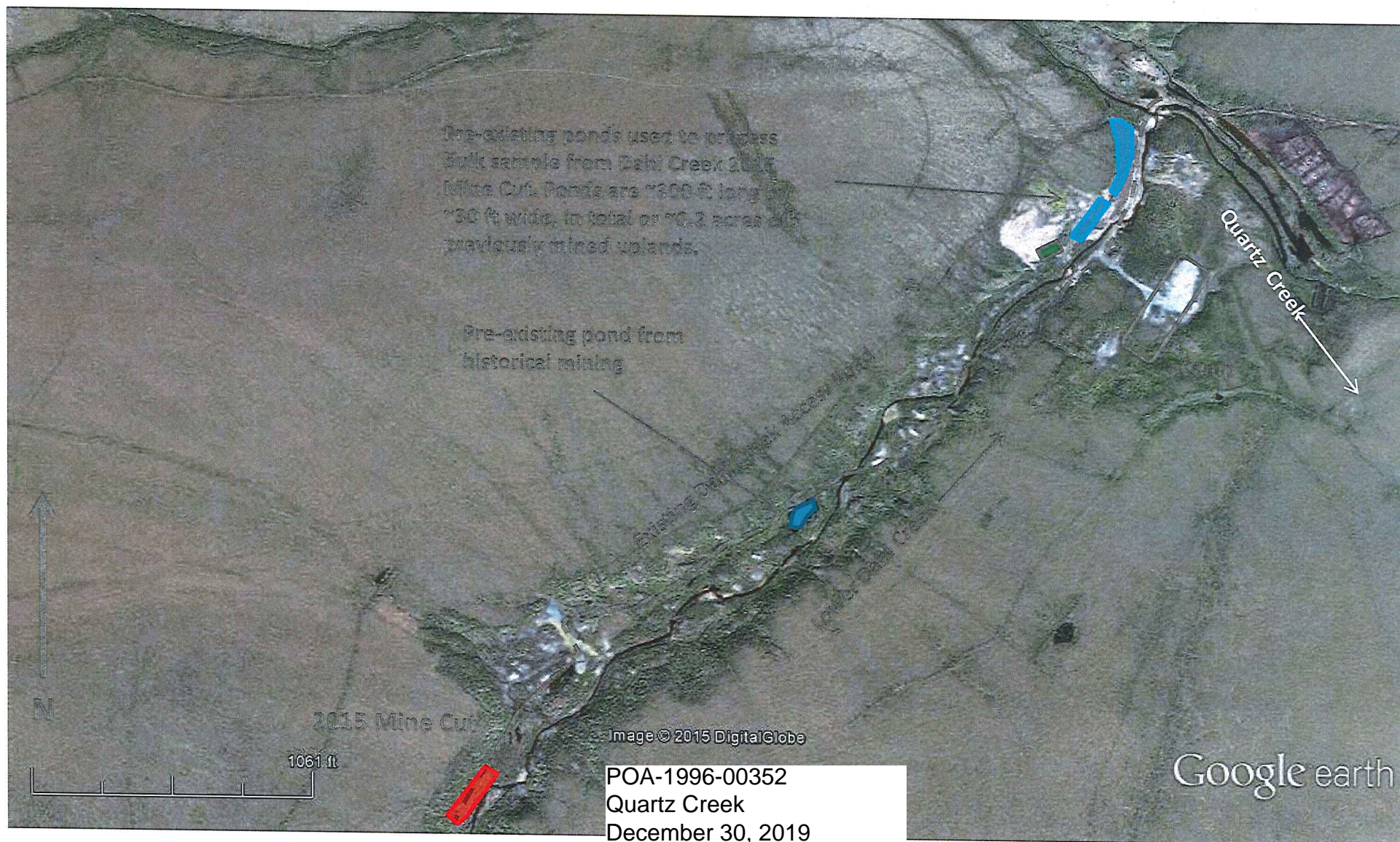
Dahl Creek

Bendeleben (B-6); N65.3557, W164.7349

Access to Camp and to Mine Site.....

APMA F-179398

(formerly F-2803)





**NM Operations LLC**

Dahl Creek 2019-2024

Bendeleben (B-6); N65.3557, W164.7349

Mine Site.....Overview

**APMA F-179398**

**(formerly F-2803)**



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Quartz Creek

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# NM Operations LLC

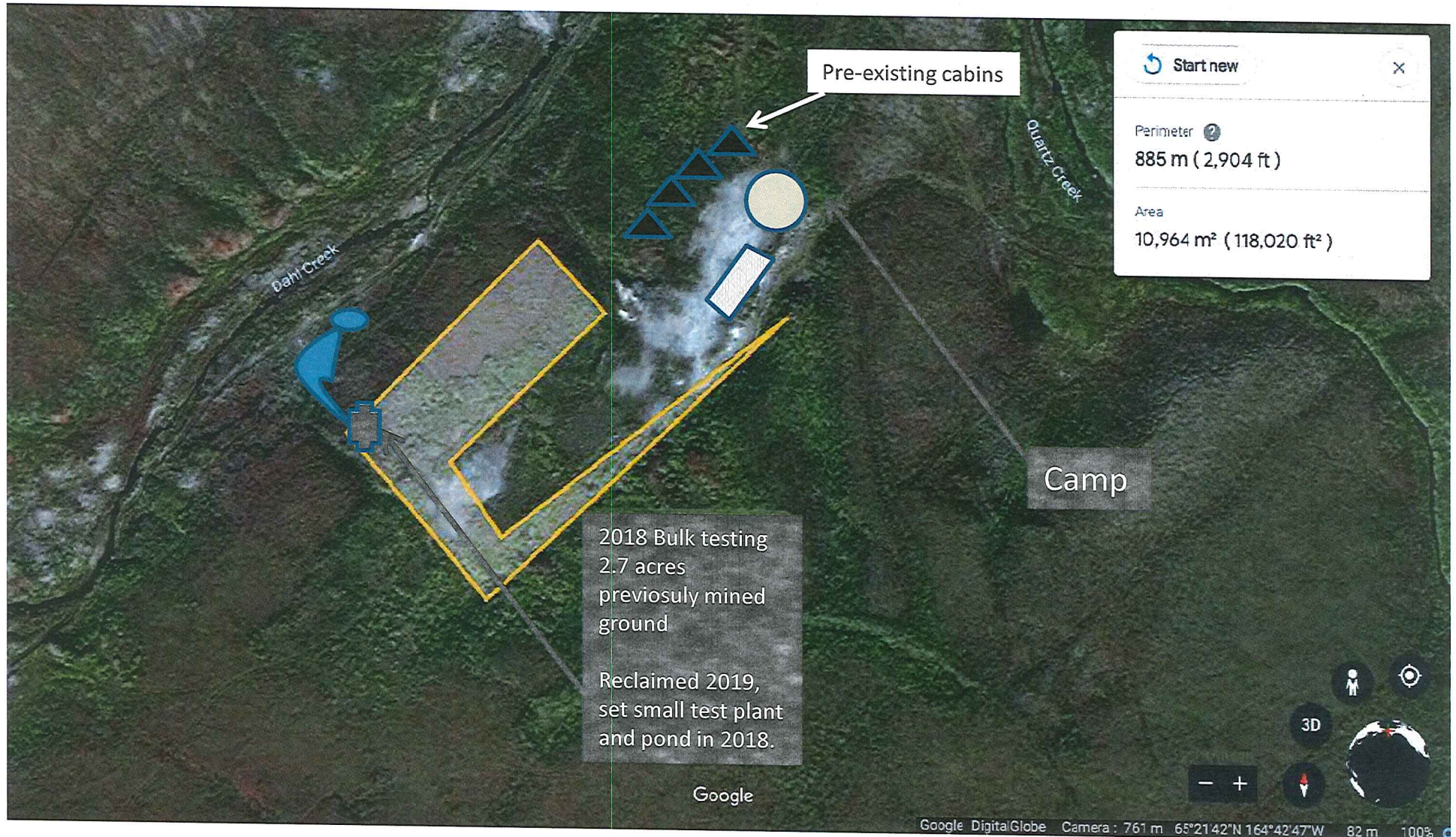
Dahl Creek

Bendeleben (B-6); N65.3557, W164.7349

Testing and Bulk Sample 2018 Lower Dahl

APMA F-179398

(formerly F-2803)



POA-1996-00352

Quartz Creek

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## NM Operations LLC

Dahl Creek Left Limit 2019-2024

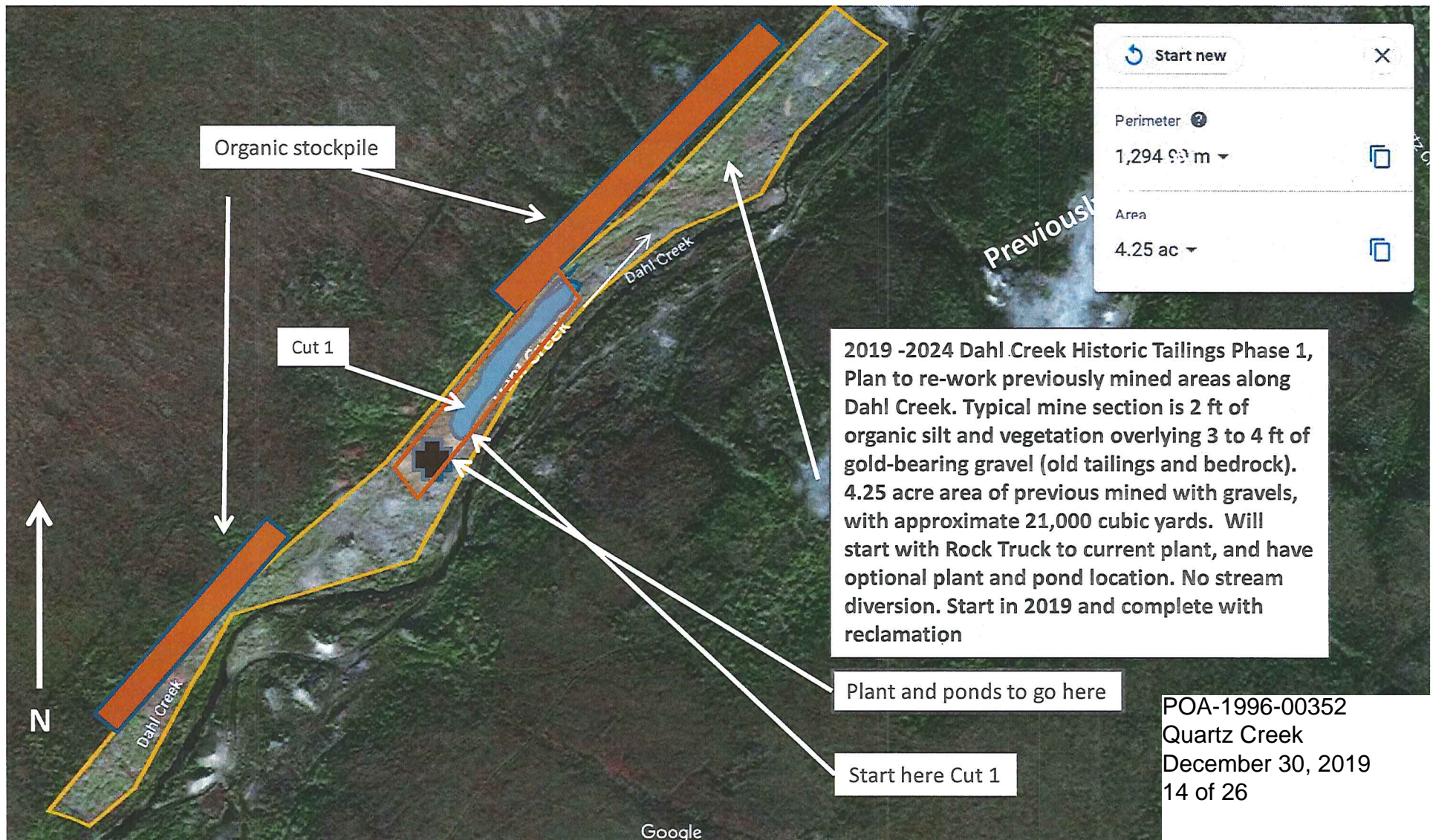
Bendeleben (B-6); N65.3557, W164.7349

Lower Dahl Left Limit

APMA F-179398

(formerly F-2803)

Phase 1



POA-1996-00352  
Quartz Creek  
December 30, 2019  
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## NM Operations LLC

Dahl Creek Right Limit 2019-2024

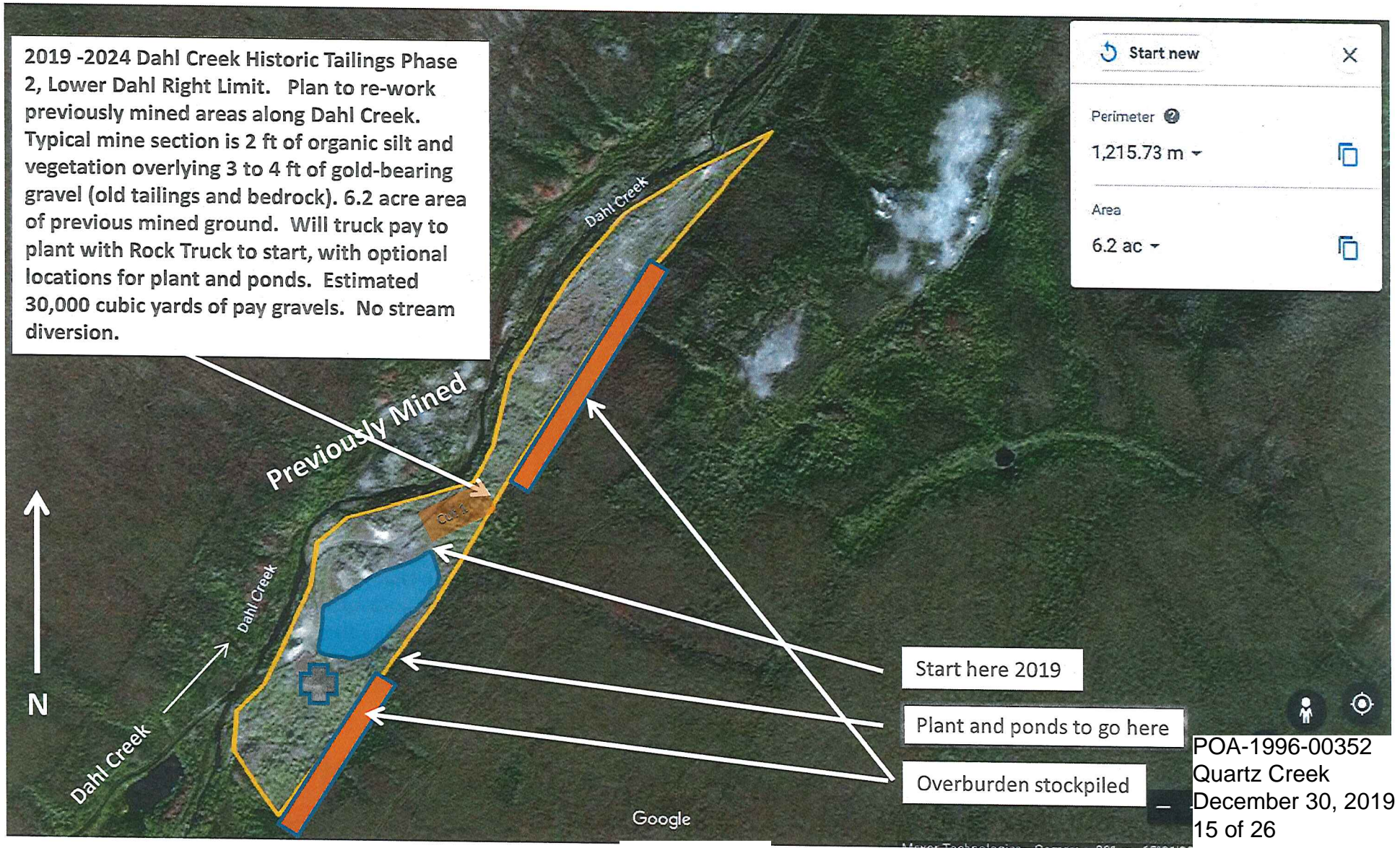
Bendeleben (B-6); N65.3557, W164.7349

LowerDahl Right Limit Phase 2

APMA F-179398

(formerly F-2803)

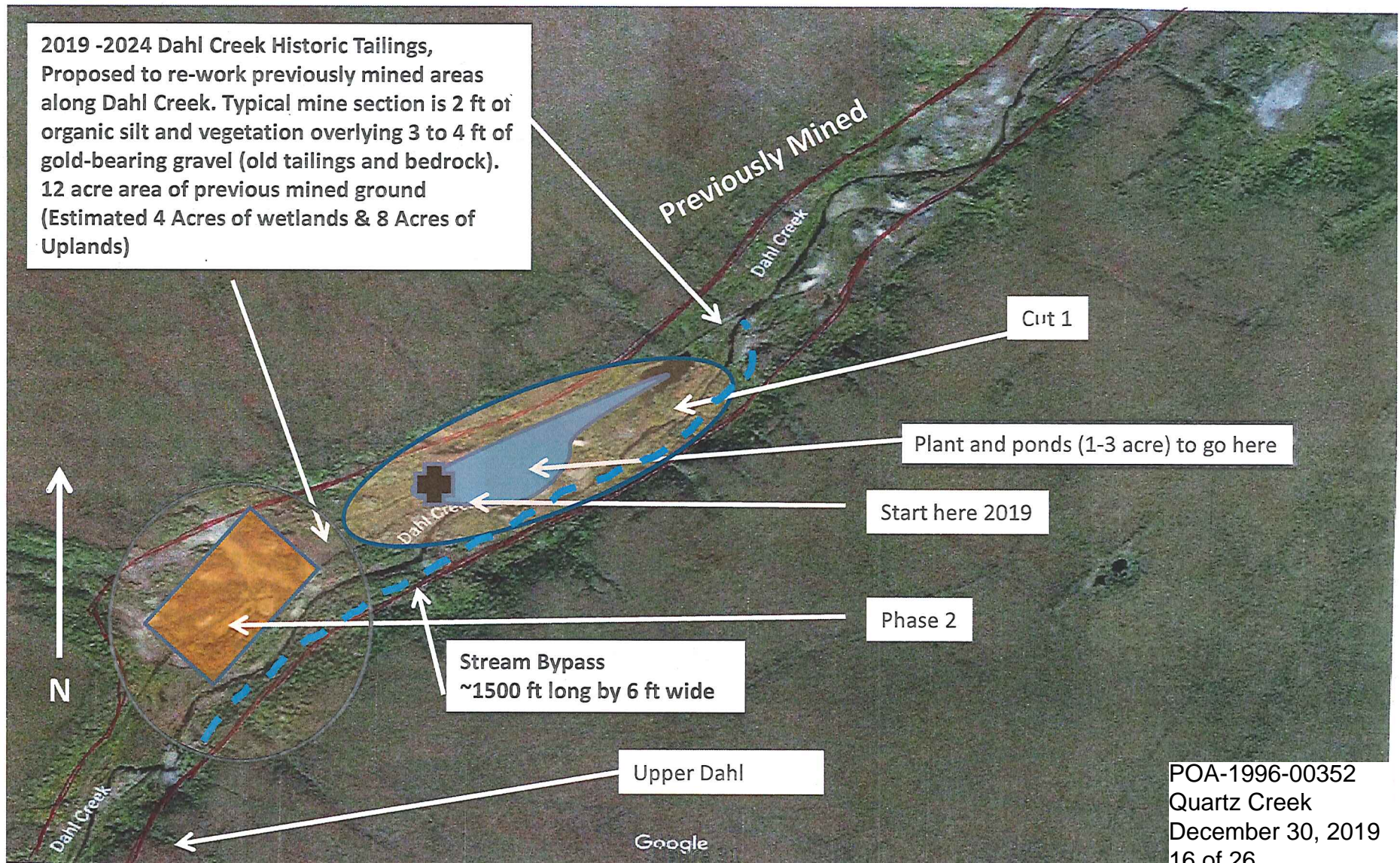
2019 -2024 Dahl Creek Historic Tailings Phase 2, Lower Dahl Right Limit. Plan to re-work previously mined areas along Dahl Creek. Typical mine section is 2 ft of organic silt and vegetation overlying 3 to 4 ft of gold-bearing gravel (old tailings and bedrock). 6.2 acre area of previous mined ground. Will truck pay to plant with Rock Truck to start, with optional locations for plant and ponds. Estimated 30,000 cubic yards of pay gravels. No stream diversion.





**Dahl Creek  
Bendeleben (B-6); N65.3557, W164.7349  
Mid Dahl Phase 1**

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Quartz Creek  
December 30, 2019  
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# NM Operations LLC

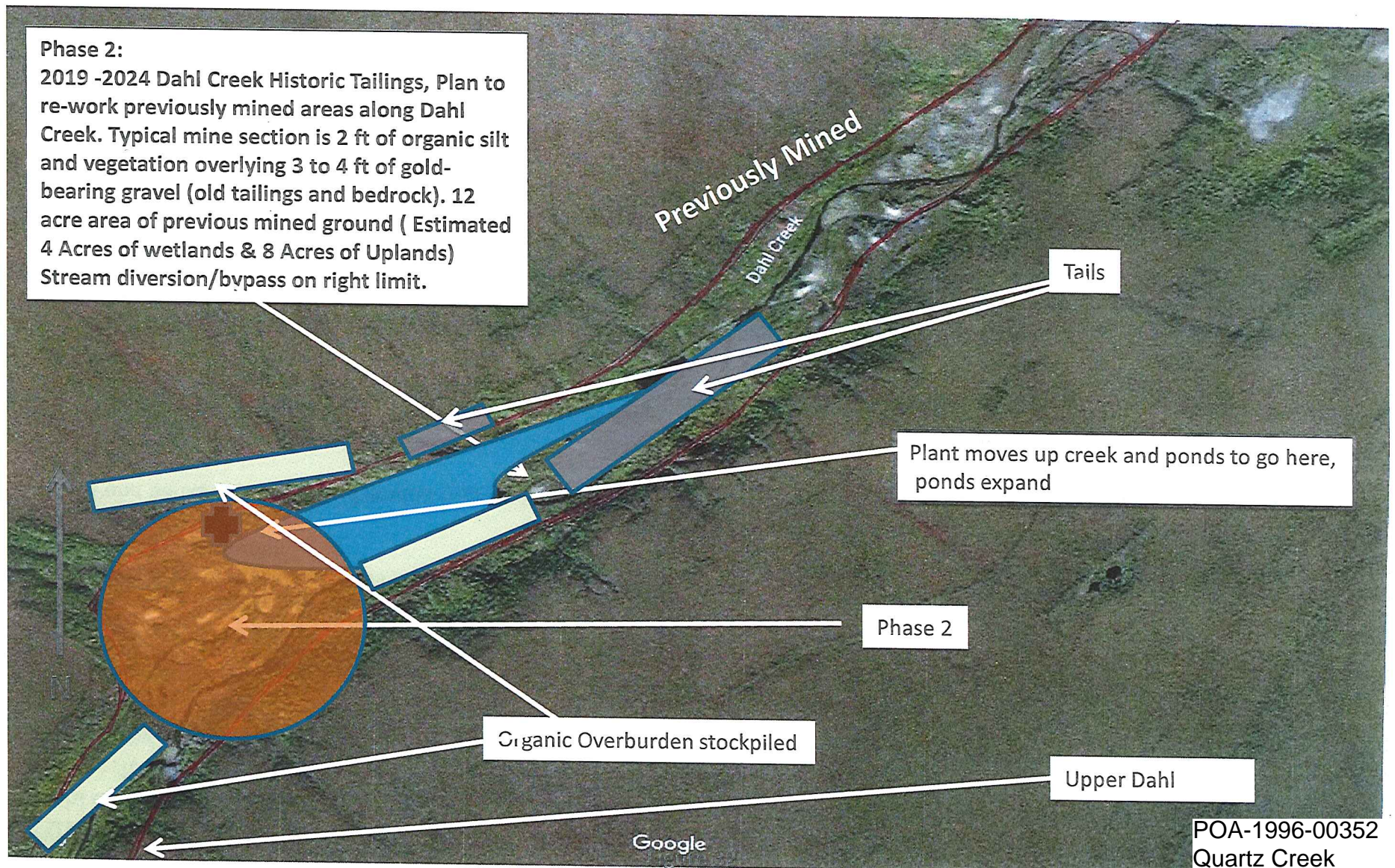
Dahl Creek

Bendeleben (B-6); N65.3557, W164.7349

Mid Dahl Phase 2

APMA F-179398

(formerly F-2803)





**NM Operations LLC**

Dahl Creek Reclamation

(formerly F-2803)

Bendeleben (B-6); N65.3557, W164.7349

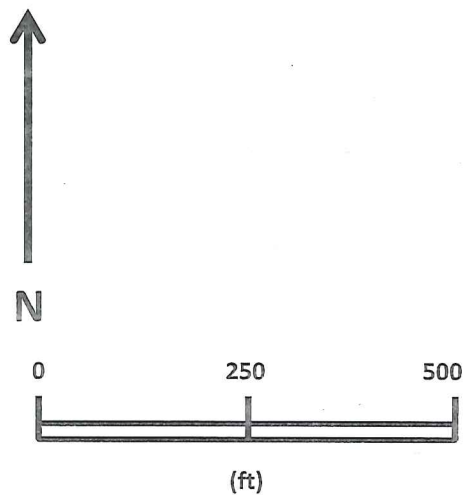
APMA F-179398

Mine pit is backfilled with tailings and graded over with organic overburden.

Pond banks are sloped and graded over with organic overburden.

Stream is re-established with a 6 to 8 ft wide by 1 ft deep active channel within a 15 to 20 ft wide floodplain.

Total reclaimed area is 2.1 acres & 9,000 cy



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Quartz Creek  
December 30, 2019  
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**NM Operations LLC**

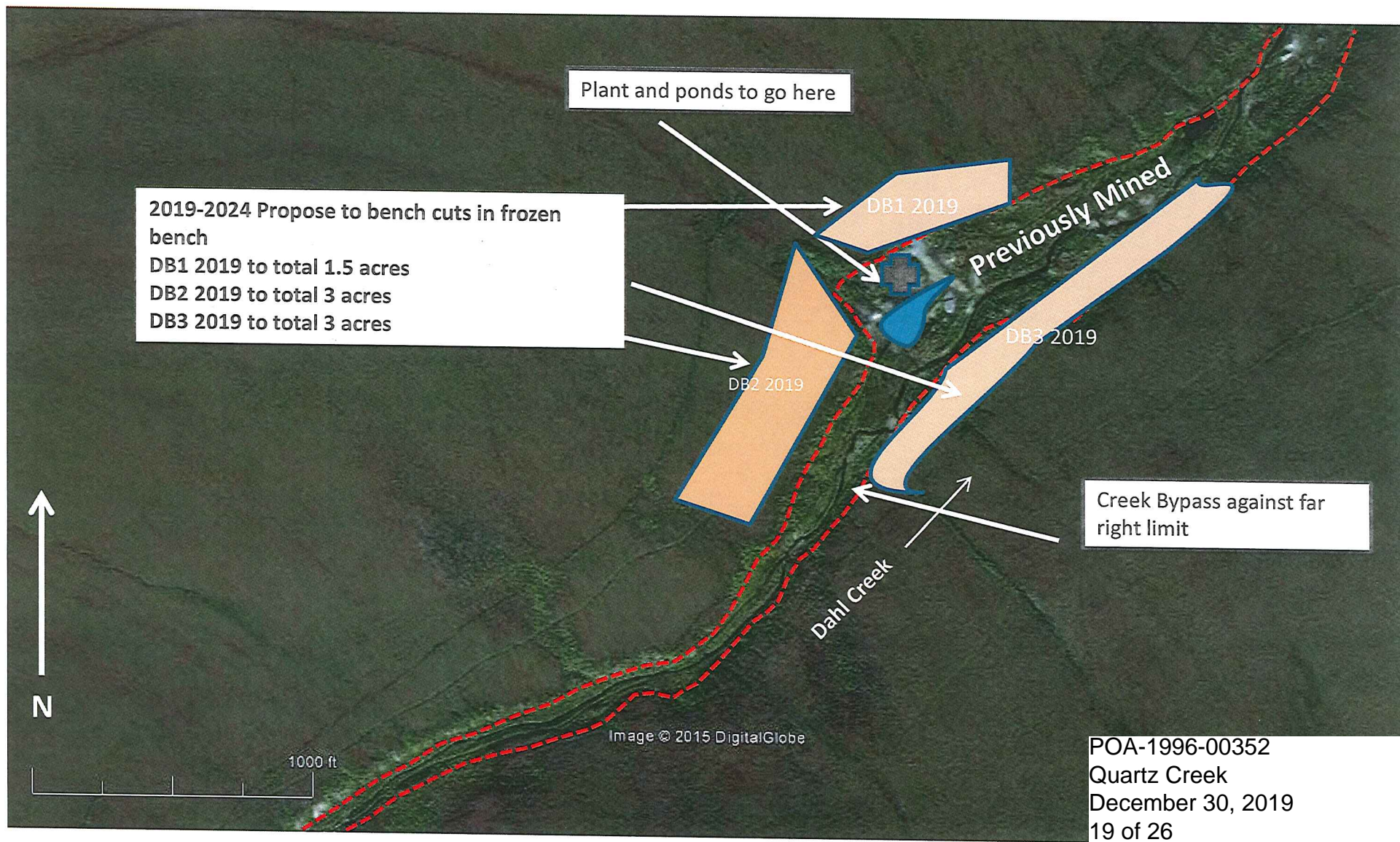
Dahl Creek

Bendeleben (B-6); N65.3557, W164.7349

Re- mine previous mined section and bench cuts not to scale

APMA F-179398

(formerly F-2803)





**NM Operations LLC**

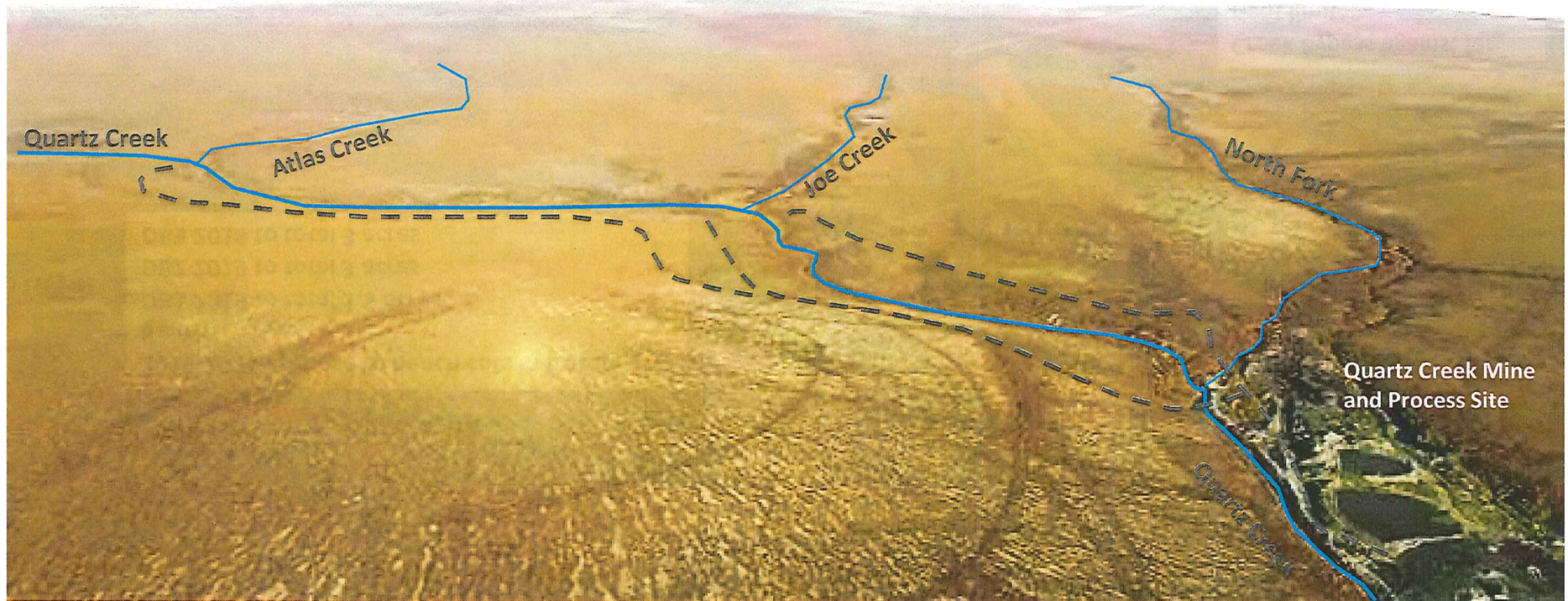
**Joe & Atlas Creeks**

**Bendeleben (B-6)... N65.3694, W164.7332**

**Vicinity Map**

**APMA F-179398**

**(formerly F-9335)**



POA-1996-00352  
Quartz Creek  
December 30, 2019  
20 of 26



**NM Operations LLC**

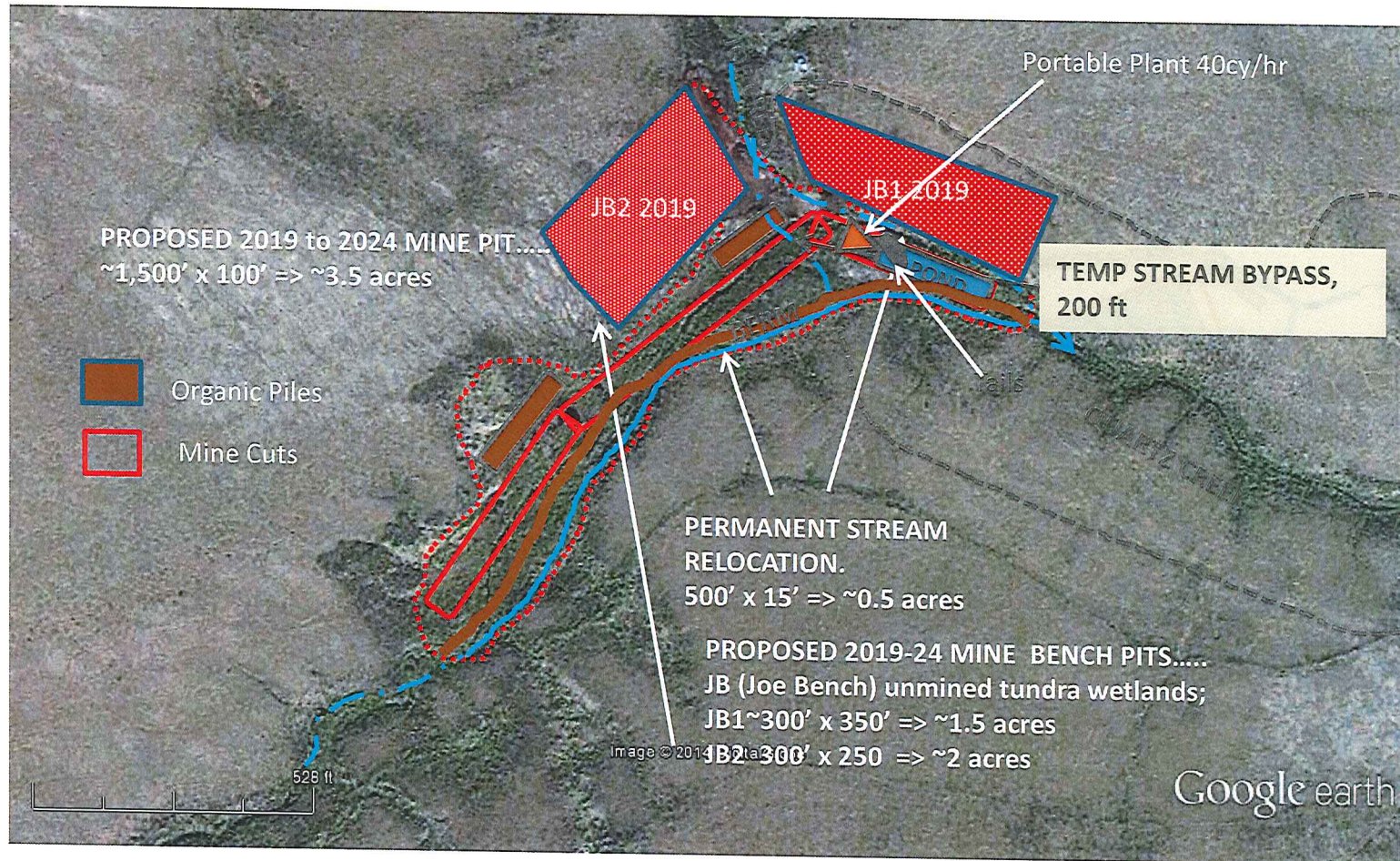
Joe Creek

Bendeleben (B-6)... N65.3694, W164.7332

Additional Proposed Bench cuts 2019-2024

APMA F-179398

(formerly F-9335)



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NM Operations LLC

Joe Creek

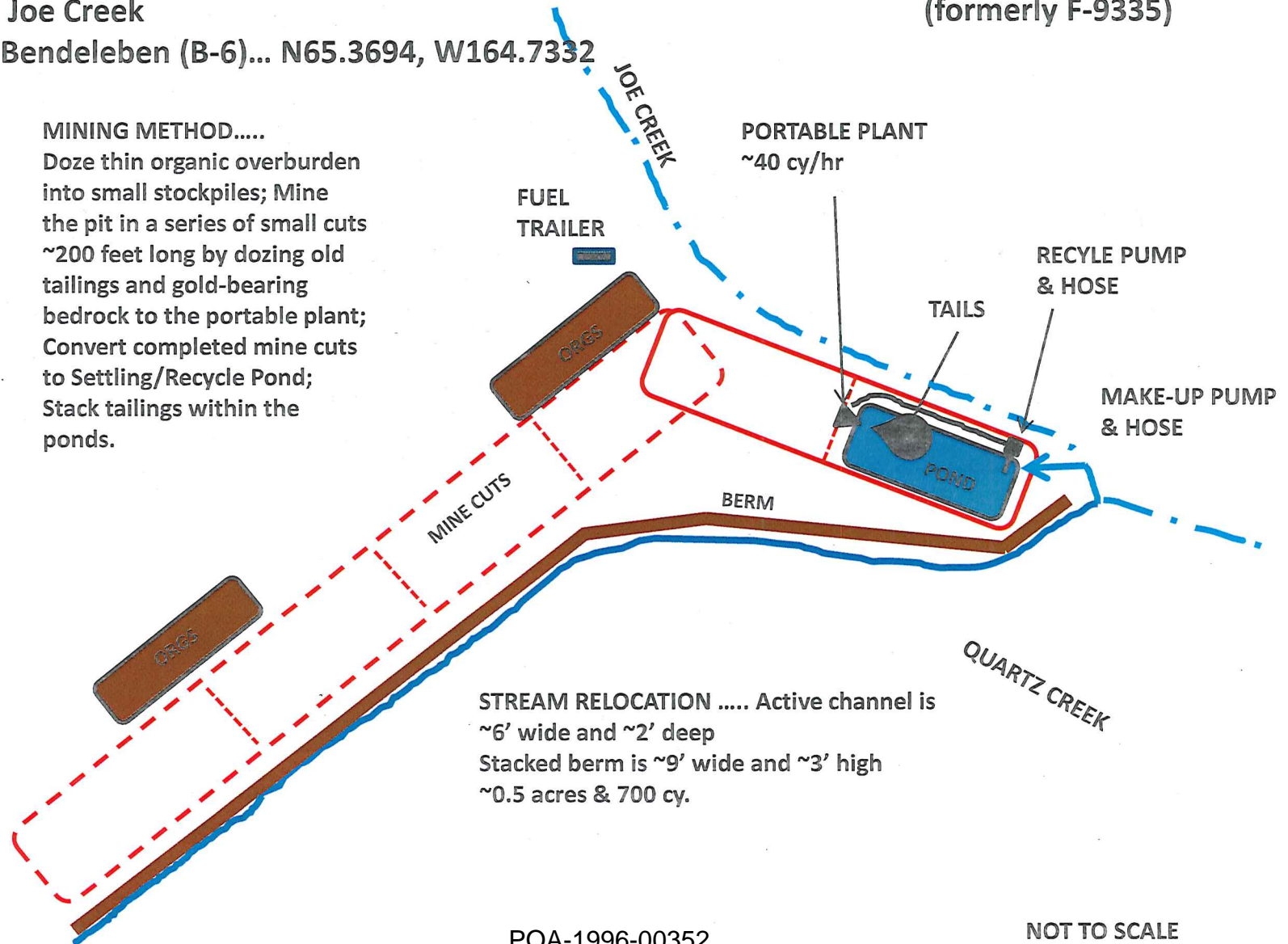
Bendeleben (B-6)... N65.3694, W164.7332

APMA F-179398

(formerly F-9335)

**MINING METHOD.....**

Doze thin organic overburden into small stockpiles; Mine the pit in a series of small cuts ~200 feet long by dozing old tailings and gold-bearing bedrock to the portable plant; Convert completed mine cuts to Settling/Recycle Pond; Stack tailings within the ponds.



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NOT TO SCALE



NM Operations LLC

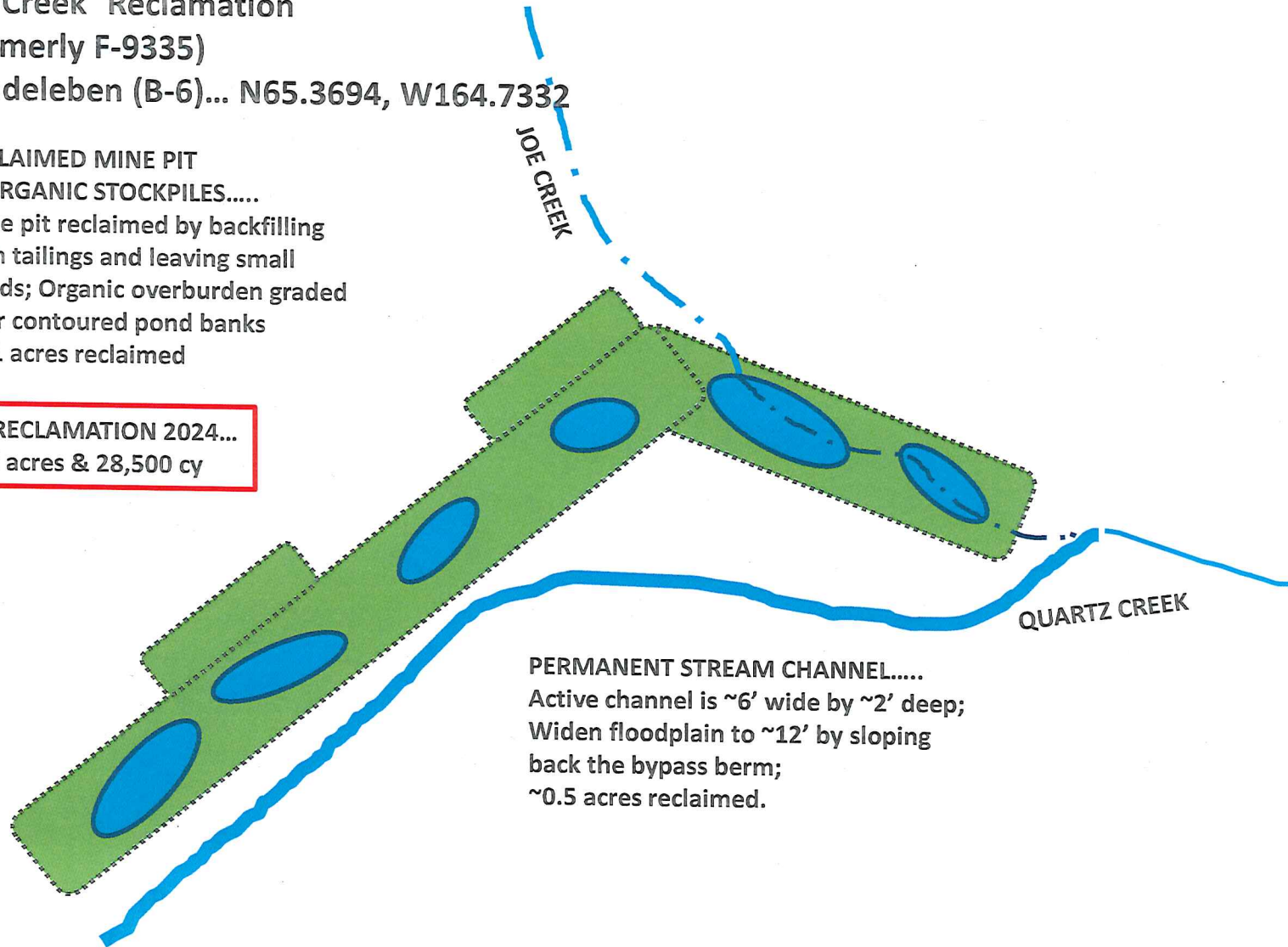
Joe Creek Reclamation  
(formerly F-9335)

Bendeleben (B-6)... N65.3694, W164.7332

APMA F-179398

RECLAIMED MINE PIT  
& ORGANIC STOCKPILES.....  
Mine pit reclaimed by backfilling  
with tailings and leaving small  
ponds; Organic overburden graded  
over contoured pond banks  
~4.1 acres reclaimed

TOTAL RECLAMATION 2024...  
All ~4.6 acres & 28,500 cy



PERMANENT STREAM CHANNEL.....  
Active channel is ~6' wide by ~2' deep;  
Widen floodplain to ~12' by sloping  
back the bypass berm;  
~0.5 acres reclaimed.

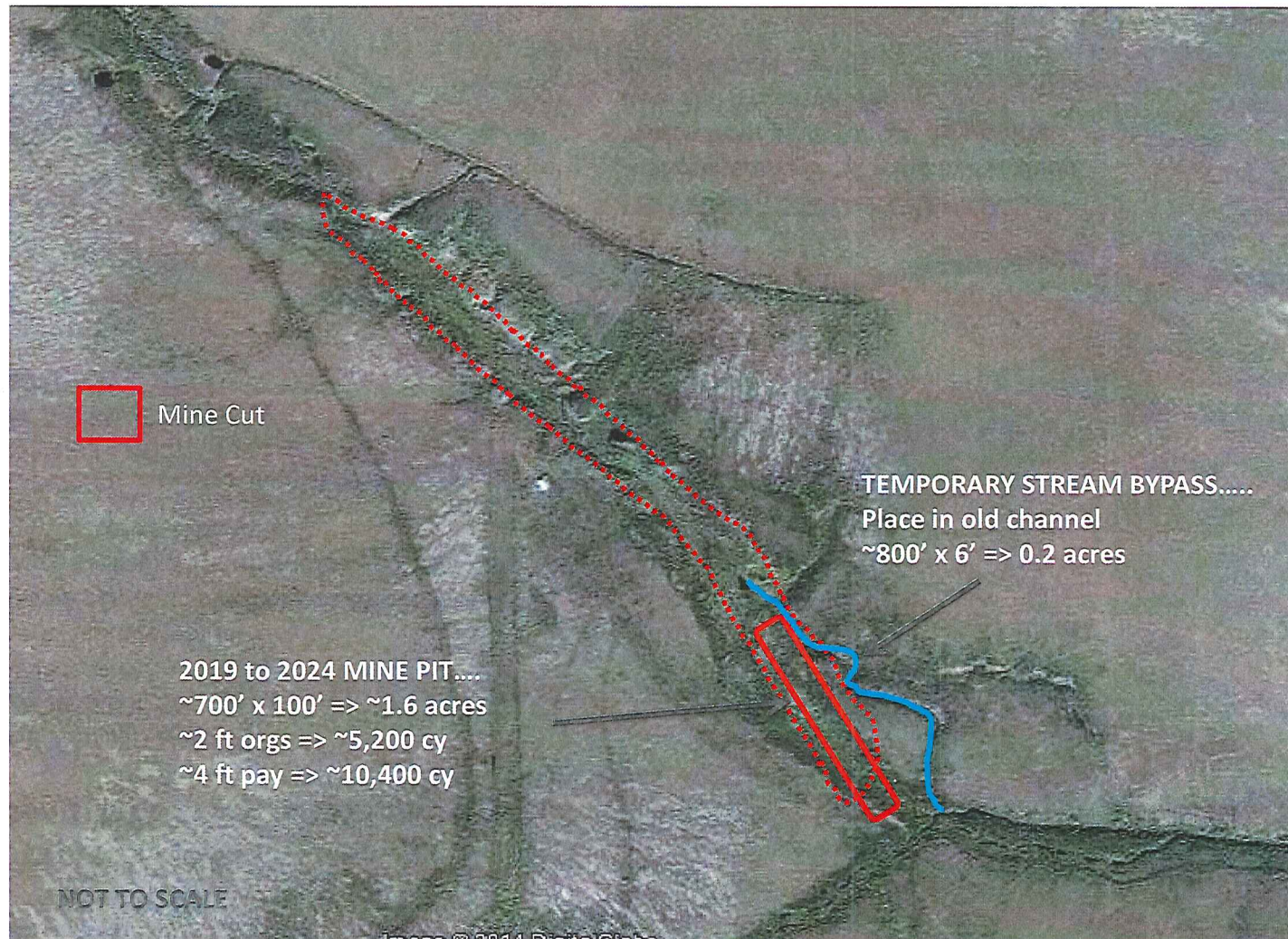
NM Operations LLC

Atlas Creek

Bendeleben (B-6)... N65.3668, W164.7509

APMA F-179398

(formerly F-9335)



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Quartz Creek

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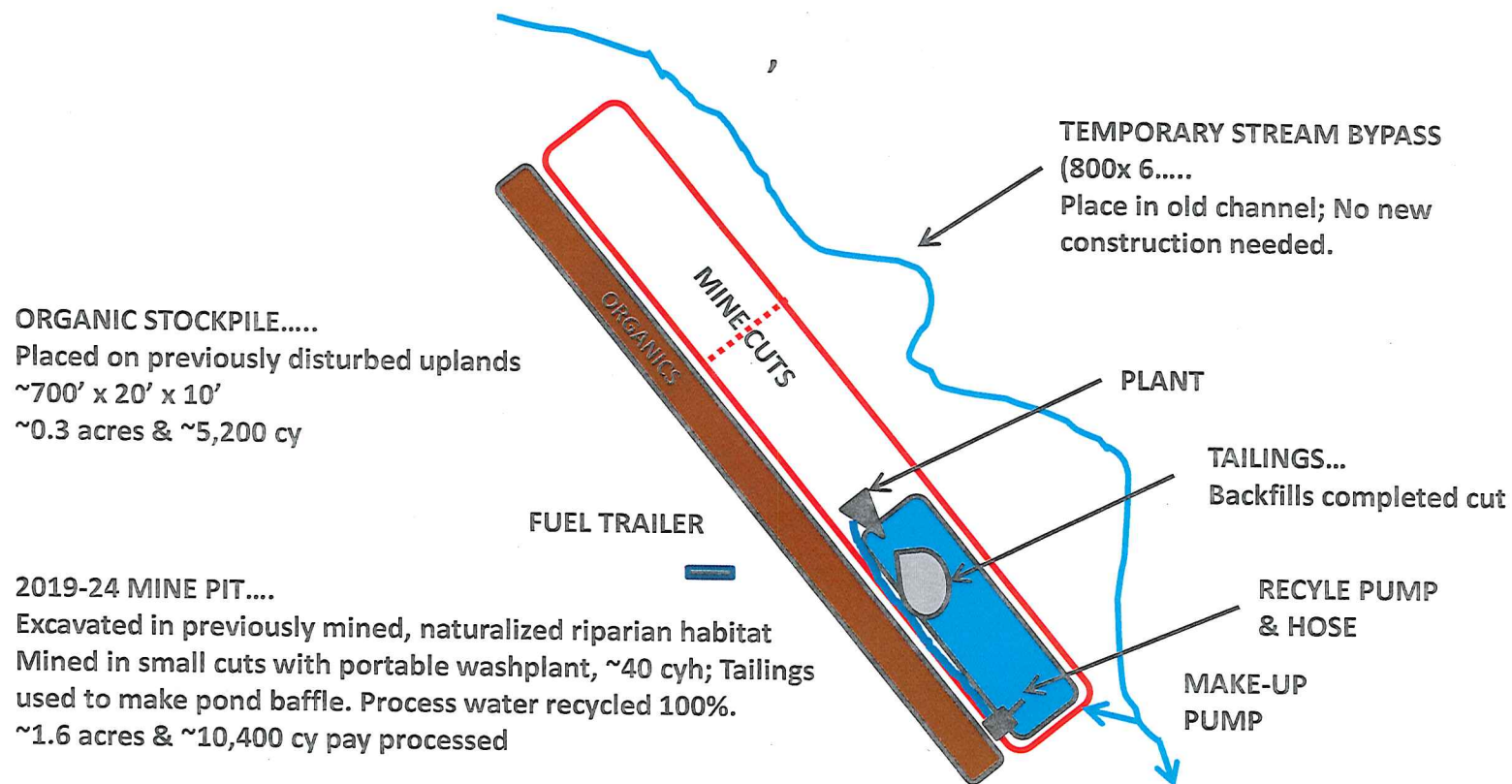
NM Operations LLC

Atlas Creek

Bendeleben (B-6)... N65.3668, W164.7509

APMA F-179398

(formerly F-9335)



NOT TO SCALE

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Quartz Creek  
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**NM Operations LLC**

**Atlas Creek Reclamation**

**(formerly F-9335)**

**Bendeleben (B-6)... N65.3668, W164.7509**

**APMA F-179398**

