

STATE OF ALASKA
Application for Permits to Mine in Alaska (APMA)

Single Year Multi-year Start: 3/1/2022 Finish: 12/31/2026 APMA Number (A/F/J, Year, ****) A-22-3099

What type activity are you planning to perform? <small>*REQUIRED</small> (1) <input checked="" type="checkbox"/> Exploration/Reclamation <input type="checkbox"/> Mining/Reclamation <input type="checkbox"/> Hardrock Exploration/Reclamat	Surface estate of mineral properties: <small>*REQUIRED</small> (2) <input type="checkbox"/> Access Equipment <input type="checkbox"/> Suction Dredge <input type="checkbox"/> Reclamation
<input type="checkbox"/> State (General) <input type="checkbox"/> Private (Patented) <input type="checkbox"/> Private (Native Corp.)	<input type="checkbox"/> State (Mental Health) <input type="checkbox"/> Federal <input type="checkbox"/> City or Borough

Check All That Apply: Mineral Property Owner Lessee Operator *Required (3)

Name: Rob Retherford Primary Phone Number: 907-522-4664

Address: 11401 Olive Lane Secondary Phone Number: 9074449553
Anchorage, AK 99515 Email: rretherford@alaskaearthsciences.com

If Applicable, Corporation Name: Chuchuna Minerals Co. Alaska Business/Corporation Entity# 10025654
 Registered Agent (Corp./LLC/LP) Rob Retherford [Click here for the Department of Commerce Link](#)

Check All That Apply: Mineral Property Owner Lessee Operator *Required (4)

Name: Connor Taylor Primary Phone Number: 907-522-4664

Address: 11401 Olive Lane Secondary Phone Number: _____
Anchorage, AK 99515 Email: ctaylor@alaskaearthsciences.com

If Applicable, Corporation Name: Chuchuna Minerals Co. Alaska Business/Corporation Entity# 10025654
 Registered Agent (Corp./LLC/LP) _____

Check All That Apply: Mineral Property Owner Lessee Operator *Required (5)

Name: _____ Primary Phone Number: _____ RECEIVED
 Address: _____ Secondary Phone Number: _____ FEB 22 2022
 Email: _____

If Applicable, Corporation Name: _____ Alaska Business/Corporation Entity# _____
 Registered Agent (Corp./LLC/LP) _____

Check All That Apply: Mineral Property Owner Lessee Operator *Required (6)

Name: _____ Primary Phone Number: _____

Address: _____ Secondary Phone Number: _____

Email: _____

If Applicable, Corporation Name: _____ Alaska Business/Corporation Entity# _____
 Registered Agent (Corp./LLC/LP) _____ Attach a separate sheet for additional contacts

Project Name If Applicable: (7) <u>Groundhog</u>	Average Number of Workers: <small>*REQUIRED</small> (8) <u>12</u>	Start-Up/Shut Down: (Month/Day) (9) <u>May 1</u> to <u>October 31</u>
Mining District: <small>*REQUIRED</small> (10) <u>Bristol Bay</u>	Applicable USGS Map: <small>*REQUIRED</small> (11) <u>Lake Clark A6, A7 & Iliamna D6, D7</u>	On What Stream Is This Activity? (12) <u>See attached maps and narrative</u>

Legal Description of mineral properties to be worked (MTRS) *REQUIRED (13)

Example: Fairbanks Meridian Township 001N Range 003E Sections 15, 16, and 21 or F 001N 003E Sec. 15, 16, and 21

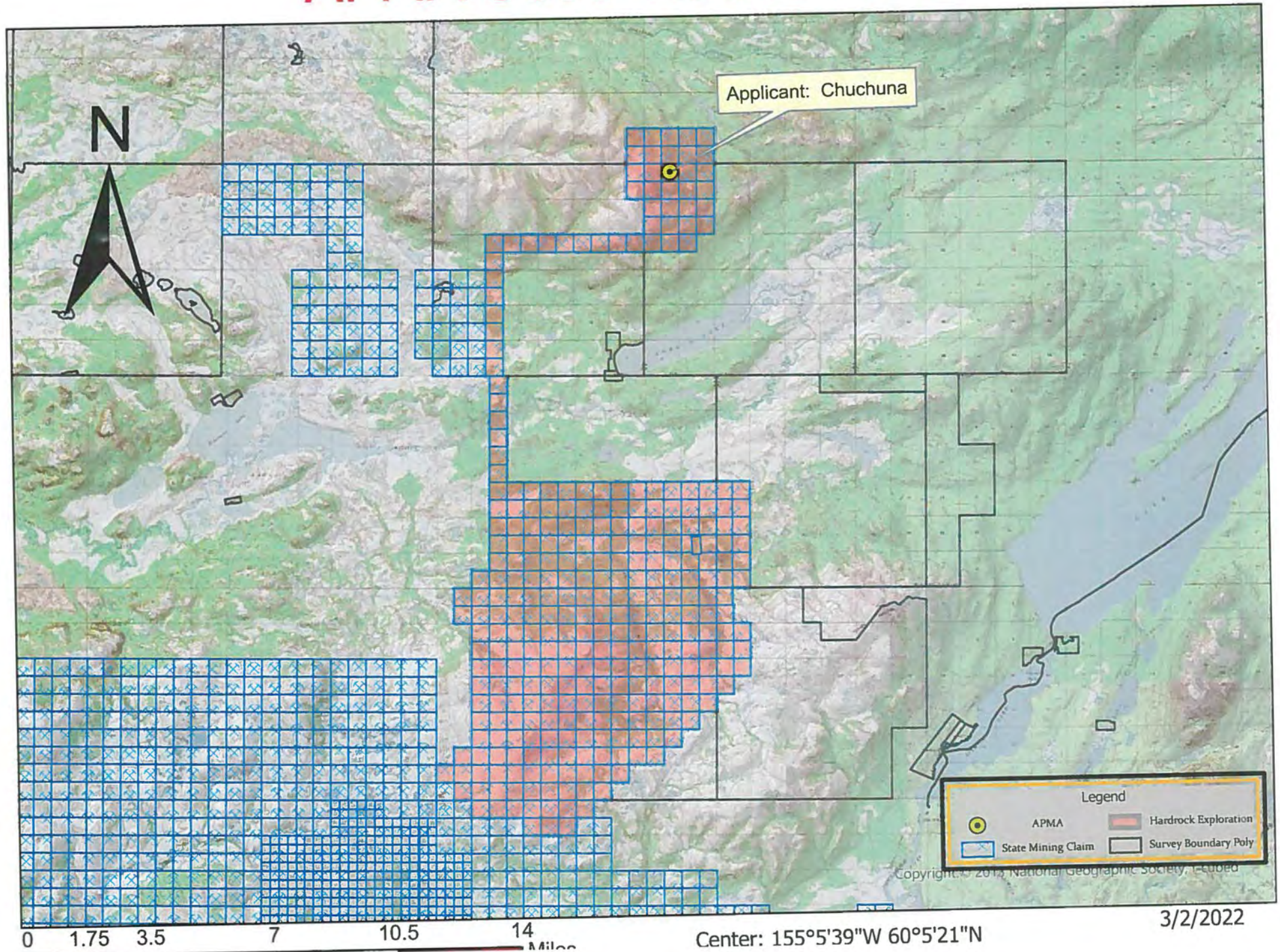
S 001N 033W Sec. 5, 6, 7, 8, 17, 18 ; S 001N 034W Sec. 01, 13, 14, 15, 16, 17, 19, 20, 29, 30, 31, 32 ; S 001N 035W Sec. 24, 25, 36 ;
 S 001S 033W Sec. 19, 30, 31 ; S 001 S034W Sec. 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36 ;
 S 001S 035W Sec. 01, 12, 13, 24, 25, 36 ; S 002N 033W Sec. 31, 32 ; S 002N 034W Sec. 36 ; S 002S 033W 6, 7, 18 ;
 S 002S 034W Sec. 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32,
 33, 34 ; S 002S 035W Sec. 01, 02, 12, 13, 24, 25, 26, 35, 36 ; S 003S 034W Sec. 4, 5, 6 ; S 003S 035W Sec. 1

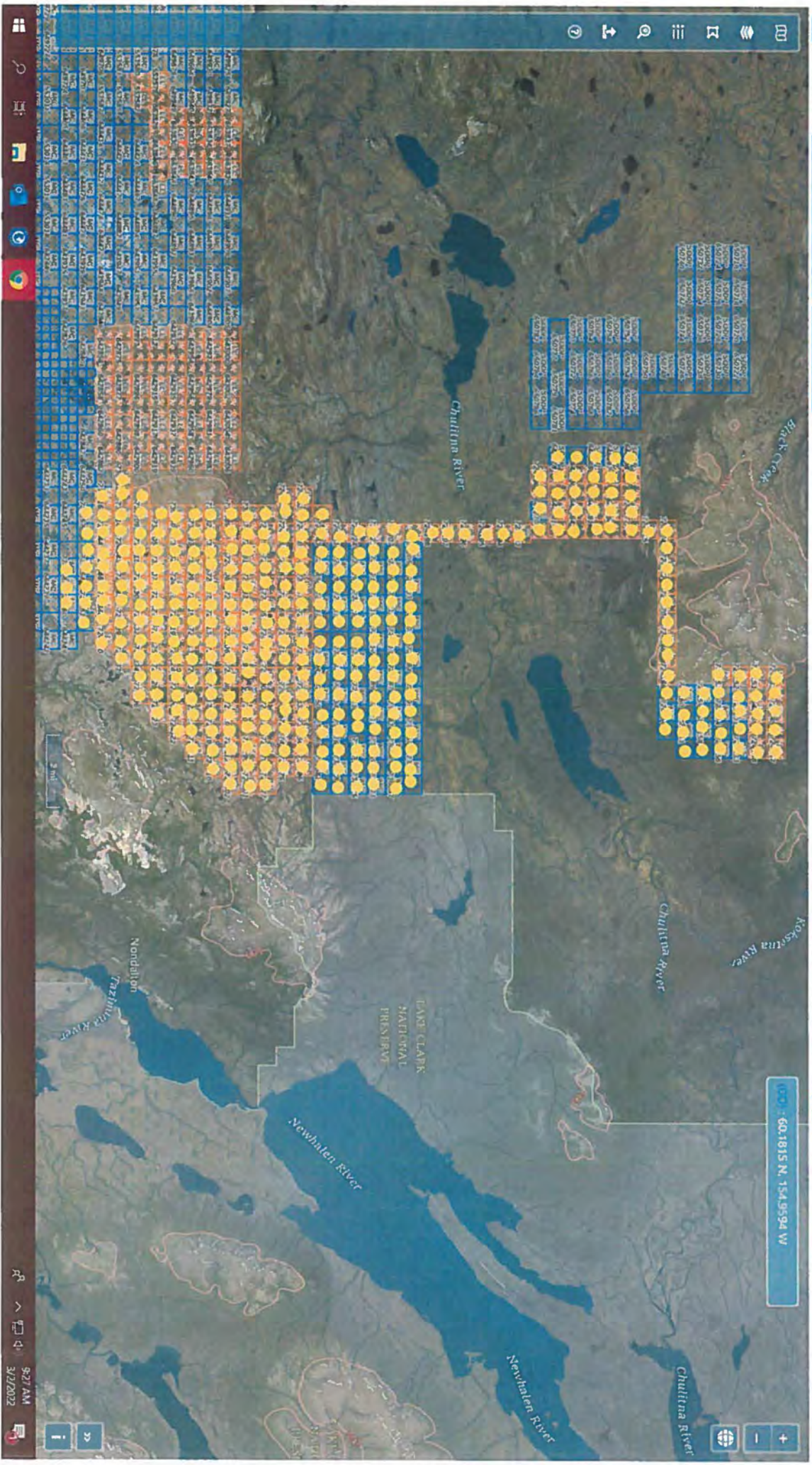
Internal Use Only:

Date Application Received Complete: 2-22-22 Adjudicator: Sackinger LAS Entry: 2-8-22

CID(s): 57563 CID(s): _____ CID(s): _____

APMA 3099 Active Area





ADL 728091	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	08-MAY-18	MC	160
ADL 728092	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	08-MAY-18	MC	160
ADL 728093	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	08-MAY-18	MC	160
ADL 728094	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	08-MAY-18	MC	160
ADL 728095	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	08-MAY-18	MC	160
ADL 728130	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	08-MAY-18	MC	160
ADL 728131	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	08-MAY-18	MC	160
ADL 728132	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	08-MAY-18	MC	160
ADL 728133	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	08-MAY-18	MC	160
ADL 728134	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	08-MAY-18	MC	160
ADL 728135	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	08-MAY-18	MC	160
ADL 728136	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	08-MAY-18	MC	160
ADL 730658	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	13-SEP-19	MC	160
ADL 730659	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	13-SEP-19	MC	160
ADL 730660	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	13-SEP-19	MC	160
ADL 730661	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	13-SEP-19	MC	160
ADL 730662	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	13-SEP-19	MC	160
ADL 730663	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	13-SEP-19	MC	160
ADL 730664	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	13-SEP-19	MC	160
ADL 730665	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	13-SEP-19	MC	160
ADL 730666	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	13-SEP-19	MC	160
ADL 730667	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	13-SEP-19	MC	160
ADL 730668	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	13-SEP-19	MC	160
ADL 730669	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	13-SEP-19	MC	160
ADL 730670	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	13-SEP-19	MC	160
ADL 730671	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	13-SEP-19	MC	160
ADL 730672	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	13-SEP-19	MC	102
ADL 730673	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	13-SEP-19	MC	145
ADL 730674	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	13-SEP-19	MC	160
ADL 730675	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	13-SEP-19	MC	160
ADL 730676	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	13-SEP-19	MC	154
ADL 730677	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	13-SEP-19	MC	158
ADL 730678	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	13-SEP-19	MC	160
ADL 730679	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	13-SEP-19	MC	160
ADL 730680	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	13-SEP-19	MC	160
ADL 730681	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	13-SEP-19	MC	160
ADL 730682	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	13-SEP-19	MC	160
ADL 730683	Active (35)	Mining Claim (713)	Chuchuna Minerals Company	13-SEP-19	MC	160

END OF REPORT

Report Information

Source ID 60

Source Name MV_ST_MINING

Source Desc

Run Date and Time 03/02/2022 09:28:42 AKST

Record Count 343

[SQL Statement](#)

MINERAL PROPERTIES LIST

(14)

If requesting more than 12 claims, Are additional sheets with ADL/BLM/USMS and Legal Descriptions Attached? Yes No
 Are any of these mineral properties an Upland or Offshore Mining Lease? Yes No

	ADL/BLM/USMS #	PROPERTY NAME		ADL/BLM/USMS #	PROPERTY NAME
1.	SEE ATTACHED		7.		
2.			8.		
3.			9.		
4.			10.		
5.			11.		
6.			12.		

INVENTORY OF EQUIPMENT

(15)

List all mechanized equipment to be used (make, model, type, size, purpose, and number of each, including pumps). Attach additional sheets as necessary. If you are transporting on a trailer to the claim block, include the trailer size.

Check One:

	Make, Model, Type, Size, Purpose of Equipment or Pump	Quantity of this type	Located on the claim block?	Transporting to claim block?
1.	SEE PROJECT NARRATIVE			
2.				
3.				
4.				
5.				
6.				
7.				
8.				

ACCESS OUTSIDE OF CLAIM BLOCK

(16)

Access across surface estates not owned by the State requires approval of the managing agency. It is the responsibility of the applicant to contact the owners of private property to obtain authorization for access.

All season roads may be an improved dirt road intended to be used during all seasons of the year without causing long term damage to the road. NOTE: It is strongly recommended that you contact the appropriate Regional Land Office as certain roads are subject to Generally Allowed Uses, and authorization (permit or easement) may be required for use of the route with off-road vehicles greater than 1500 lbs curb weight (like mining equipment).

A completed access map must be submitted with your application. Copies of USGS topographic maps at a scale of 1"=1 mile must clearly indicate the proposed access route from start to finish and include appropriate legal descriptions (township and range) on each map sheet. The quadrangle map name should also be indicated (Healy A-3, etc.). Paper size should be limited to 8 1/2" x 11". Do not tape maps together.

Is a complete route map attached, including winter cross country travel if applicable? Yes No

Access is: Existing To be constructed off claim block Both, or Helicopter Supported

Access outside the claim block crosses what type of land(s)? State (General) State (Mental Health)
 City/Borough Federal Private Private (Patented) Private (Native Corp. Land)

Does the proposed route of travel include use of RS 2477 access? Yes No.

If the RS 2477 ROW has a State of Alaska RST number, please list: _____

ACCESS OUTSIDE OF CLAIM BLOCK, CONTINUED

Indicate type(s) of existing access:

- All Season Road: Existing ATV Trail System
- Summer Cross Country Travel off of claim block that is not considered Generally Allowed Uses (Complete Box 17)
- Airstrip
- River
- Winter Cross Country Travel that is not generally allowed use (Complete Box17)

Indicate type(s) of access to be constructed:

- Access Road
- Airstrip

Please describe your construction activities and include mitigation measures to protect water, fish and game resources. (A map outlining the route of construction activities is required). Attach additional pages if necessary:

SEE PROJECT NARRATIVE

CROSS COUNTRY TRAVEL

(17)

Summer Cross Country Travel: Approvals for summer travel are issued from the DNR/DMLW Land section. Applications for LUPs may require sixty to ninety days to process and applications for easements may require six months to one year to process. A performance guarantee, insurance and fees are required before a permit will be issued and will only be released after travel is completed and no negative trail impacts have occurred.

Winter Cross Country Travel: May be approved when ground conditions will support the movement of heavy equipment. Existing roads and trails should be used whenever possible. The winter operation of ground contact vehicles for off-road travel must be limited to areas where ground frost and snow cover are adequate to prevent damage to the vegetation mat and underlying substrate. A completion report is required within 30 days of travel completion. Travel is generally not authorized after April 15th of each year (extensions may be granted as conditions allow).

A Cross Country Travel Route Map is required to obtain authorization. Is the map attached? Yes No

Name the individual(s) or business(es) who will be conducting the cross country travel:

Alaska Earth Sciences, Inc

List all equipment and vehicles being transported from box 14, including vehicle weights:

ATV - 500-800lbs

State the average total miles traveled in one round trip: _____ State the number of trips proposed: 2

State the start and end date(s) or period(s) of proposed cross country travel: May- October 30

Select the following terrain type(s) that best describes your route of travel: Wetlands Tundra

Uplands Rivers or Other Water Bodies Wooded Areas (6" Trees or larger at breast height)

Will water be needed to construct ramps/ ice bridges? Yes No

If Yes, estimated quantity of water will be used _____ gallons/day WaterSource: _____

CROSS COUNTRY TRAVEL, CONTINUED

Are you transporting fuel? Yes No Fuel flown via Helicopter (see Narrative)

The volume of fuel and hazardous substances to be used is the total volume (in gallons) to be carried on one vehicle and any trailers or sleds that vehicle is towing.

Maximum volume of fuel (in gallons) that is being transported by one vehicle and any trailers or sleds it is towing:

[Empty box for fuel volume]

Are you transporting other hazardous substances? Yes No If "yes", indicate type and amount (e.g. gallons, lbs, psi):

[Empty box for hazardous substances]

How are petroleum products contained? (i.e., drums, bladders, steel tanks, etc.) Indicate size of containers:

[Empty box for containment method]

How are petroleum products being transported? (i.e., skid-mounted tank; trailer; 55 gallon drums on skid; etc.)

[Empty box for transport method]

Do you have an Oil Discharge Prevention and Contingency Plan approved by the Alaska Department of Environmental Conservation? Yes No

Do you have either a trained spill response team or a contract with a spill response company? Yes No

Describe any measures you plan to take to minimize drips or spills from leaking equipment or vehicles:

[Empty lines for spill prevention measures]

Does your cross country travel include the staging or storage of equipment or structures off the claim block? Yes No
If Yes, describe the location and dimensions of the long term or short term parking and/or storage areas.

[Empty lines for staging/storage description]

PETROLEUM PRODUCTS AT PROJECT SITE

(18)

Will Petroleum Products Be Stored on the Project Site?

- 0-1,320 gallons of total storage (Secondary Containment recommended, but not required)
1,321-10,000 gallons of total storage (count only containers greater than 55 gallon capacity). A self-certified Spill Prevention, Control, and Countermeasure (SPCC) plan is required...
10,000+ gallons of total storage (count only containers with 55 gallons or greater storage capacity). An SPCC certified by a professional engineer is required...

Indicate Distance Stored From Flowing Waters: water bodies required by DNR is 100 feet. 500 Feet. (Minimum distance from naturally occurring

Is waste oil stored on the project site? Yes No If yes, describe quantity and storage modality:

Are fuel containment berms around storage containers? Yes No Is berm area lined? Yes No

TEMPORARY STRUCTURES/FACILITIES

(19)

Is a camp or placement of any temporary structure requested? Yes No
 If No, Please explain:

Describe all temporary improvements (including buildings, tent platforms, out-buildings, etc., including thier quantity, dimensions and building type.

What type of property is the camp located on? State Federal Private (Patented) City or Borough MHTL
 If camp is on private land, provide location:

Proposed Perimeter Dimensions of Camp: 100 length (ft) 50 Width (feet).

Request use of existing facilities, list ADL(s):
 Year-Round Seasonal, from Approx. _____ to _____, annually.

Request to place temporary structures, list ADL(s): 724338, 724213
 Year-Round Seasonal, from Approx. May 1 to October 30, annually.

	Temporary New Structures Quantity	Existing Structure Quantity	Use (Shop, office, etc.)	Dimensions (ft x ft)	Dimensions (ft x ft)	Dimensions (ft x ft)
Framed						
Tent						
Trailer						
Platforms						
Out-Buildings						
Other:			SEE ATTACHED TABLE			

** If Required, list any other structures on a separate sheet, include dimensions, use and type.*

Grey water and Biological Waste - Describe storage and proposed method of disposal(e.g.; leach line, septic, holding tank, or pit privy):
 pit privy

Solid Waste - Describe the types of waste that will be generated on-site including garbage, scrap metal, industrial; and describe its disposal (e.g.; burn, haul away, buried).
 Garbage and food scraps. Hauled away.

What is the distance grey water, biological, and solid waste will be located from the ordinary high water mark of the nearest freshwater body (lake, stream, river, rivulet, etc.), or the mean high water mark of a saltwater body: 100 feet . Will there be any use of animals (horses, dogs, goats/sheep, etc)? Yes No

Required: Dismantle, Removal, and Restoration Plan: Provide a plan for dismantling and removing structures, equipment, and storage tanks. Include the method and timeline for restoration of all location areas.

Any and all structures, equipment, and storage tanks will be removed immediately following the completion of field activities via helicopter and or ATV.

EXPLOSIVES

(22)

Will explosives be used? Yes No If "Yes", Indicate: Type: _____ Amount: _____
 Explosive Handler's Certification/ATF Permit Numbers: _____
 Describe your blast design, blast schedule, and explosives handling plan in the project narrative.

DAMS

(23)

No dam required Existing To be constructed
 Proposed Structure: Temporary Permanent
 Purpose: Makeup water pond Settling/recycle pond Stream diversion Other: _____
 Length: _____ ft Height: _____ ft Width At Crest: _____ ft Width At Base: _____ ft
 Note: Height should be measured from the lowest point at either the upstream or downstream toe of the dam to the crest of the dam.
 Water impoundment capacity (if known): _____ acre-feet

IN-STREAM ACTIVITIES and STREAM CROSSINGS

(24)

List any equipment that will be crossing streams (including low-water crossings along established trails/roads) or used in any natural waterbody (refer to Box 14 if necessary). or used in-stream (refer to Box 14 if necessary):

See Project Narrative

List all stream crossings, suction dredge or pump locations, including unnamed streams.

	Stream Name/ Water Source	NAD 83 Datum (approximate) Coordinates can be obtained using Alaska Mapper http://dnr.alaska.gov/mapper/controller		MTRSC ¼ ¼ Ex: F001S001N01 SWSW	Check boxes to indicate type(s) of activity		
		Latitude ddd.mmmm	Longitude -ddd.mmmm		Crossing	Dredging	Water Intake
1.	SEE ATTACHED TBL				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If in-stream activities and/or stream crossings are requested at more than 5 locations, please provide tabular data format (DNR template available at <http://dnr.alaska.gov/mlw/forms/?tab=mining>).

WATER USE AUTHORIZATIONS

Water usage (including from 100% recycle systems) may require approval by either Temporary Water Use Authorization or a Water Right. Information provided below will be used to determine the quantity of water that you may be authorized to use for your mining operation. When estimating water quantities, please estimate withdrawal amounts typical of a dry summer and provide the maximum quantity that you may withdraw from a particular source (e.g. stream, pond, groundwater, etc.) in a season.

A Temporary Water Use Authorization application may be initiated from this APMA application unless a Water Right is requested. Please contact the ADNR, Water Resources Section at telephone number (907) 451-2790 if interested in a Water Right or for more information.

A. START-UP WATER AND MAKE-UP WATER:

Is water withdrawn from any lake, stream, creek, river, etc. (does not include recycling/settling ponds)? Yes No

What is the name(s) of the lake, stream, creek, river, etc.? Notes on Maps most unnamed.

What are the months of water use needed (for example May 1st through October 31st)? May- October 31

Start-up water: Is water required at the start of the season to fill your recycle/settling pond system?

Yes (if **YES**, complete information below). No If yes, what is the source name? _____

- Source: Seepage infiltration from groundwater gained from cut and/or stream
- Diversion ditch from stream. Number of days diverting from stream for start-up water: _____
- Water intake rate: _____ gpm _____ hrs/day
- Pump from stream. Number of days pumping from stream for start-up water: _____
- Number of water pumps for start-up water: _____ Water intake rate (list for each pump): _____ gpm _____ hrs/day

Make-up water: Is water required to maintain water level in your recycle/settling pond system?

Yes (if **YES**, complete information below). No If yes, what is the source name? _____

- Source: Seepage infiltration from groundwater gained from cut and/or stream
- Ditch from stream. Number of days diverting from stream for make-up water: _____
- Water intake rate: _____ gpm _____ hrs/day
- Pump from stream. Number of days pumping from stream for make-up water: _____
- Number of water pumps for make-up: _____ Water intake rate (list for each pump): _____ gpm _____ hrs/day Pump intake size: _____ inches

B. RECYCLE/SETTLING POND SYSTEM.

Beaver ponds or other natural water features will not be permitted for use as settling ponds.

Is a pre-settling pond used?: Yes No Is recycle used?: Yes No

How many ponds are used in the recycle system? _____

Recycle pond is pond #. _____ Settling pond is pond #: _____

C. RECYCLE/SETTLING POND SYSTEM (continued).

Indicate Length (L), Width (W), and Depth (D) of each pond:

Pond # 1: L: _____ ft	W: _____ ft	D: _____ ft	Pond # 2: L: _____ ft	W: _____ ft	D: _____ ft
Pond # 3: L: _____ ft	W: _____ ft	D: _____ ft	Pond # 4: L: _____ ft	W: _____ ft	D: _____ ft
Pond # 5: L: _____ ft	W: _____ ft	D: _____ ft	Pond # 6: L: _____ ft	W: _____ ft	D: _____ ft

Estimated hours per day that pump(s) will be used, return line size (in inches), operating pump rate (in gallons per minute), and water usage days per month:

Pump #1: _____ hrs/day _____ inches _____ gpm _____ days/month
Pump #2: _____ hrs/day _____ inches _____ gpm _____ days/month
Pump #3: _____ hrs/day _____ inches _____ gpm _____ days/month

D. CAMP WATER USE.

Is camp water used? Yes No

Maximum number of persons present in camp at a time 10-24

Camp water source: Well Haul Stream Spring Lake

Name of water source (if any): Unnamed Lake at Camp Site

Camp pump intake diameter: 2 Camp pump rate: 1-3 gpm 10 hrs/day

E. EXPLORATION ACTIVITIES.

Is water required for exploration activities? Yes No

If **YES**, What types of exploration activities are being performed? Trenching Drilling

If **YES**, How many total pumps are used in the exploration activities? 1 (Max pumps per source).

Estimated hours per day that pump(s) will be used, return line size (in inches), operating pump rate (in gallons per minute), and water usage days per month: Pump #1: 20 hrs/day 1 inches 2-5 gpm _____ days/month

A map of your requested drilling water sources is required with the following information:

- MTRS sections,
- stream reaches or other water sources (please label, including take points if known)
- and drill hole locations

F. SUCTION DREDGING.

If suction dredging activity is occurring please ensure that you have completed the dredge table in Section (20) MINING METHOD.

**TIMBER CLEARING AND USE
(Operations on State Lands Only)**

(26)

Pursuant to AS 38.05.255, timber from land open to mining without lease, except "timberland", may be used by a mining claimant or prospecting site locator for the mining or development of the location or adjacent claims under common ownership. Timber not used for the mining or development of the location or adjacent locations, that is removed from the operation must be acquired via timber sale or written letter of non-objection from the Alaska Division of Forestry.

For questions on the appropriate use of timber on federal mining claims, contact your local BLM field office.

On other lands ("timberlands" and in areas that are closed to mining without lease), timber cleared, used and/or removed must be acquired via a timber sale or a written letter of non-objection from the Alaska Division of Forestry.

Will timber be used for the mining or development of the location or lease? Yes No

Describe the timbered area or areas to be cleared; include a map or drawing of the areas of timber to be cleared.

Describe the amount of timber to be used for the mining or development of the location or lease and the clearing methods you will use.

Are more than 40 acres of timbered area(s) to be cleared? Yes No

11 AAC 86.145, "A classification or designation indicating that timber and other forest products of significant value are included within a mining property is prima facie evidence that the land on which the property is located is considered to be "timberlands" for purposes of AS 38.05.255"

WASTEWATER DISCHARGE PERMIT APPLICATION

(27)

All mechanical placer mine, suction dredge, and mechanical dredge operations that discharge to a water of the U.S. require an Alaska Pollutant Discharge Elimination System (APDES) permit from DEC. See Cover Pages for a list of APDES permit fees.

Operations wishing to discharge under the APDES Small Suction Dredge General Permit (dredges with intake diameters of 6" or less, or highbankers) may skip this section but must complete annual online registrations, including \$25 fee payments, at <http://alaska.gov/go/2MPF>.

Previously issued DEC-APDES Wastewater discharge permit #: _____

Do you want this APMA to act as an application or renewal for any of the following APDES general permits (GPs)*:

- Mechanical Placer Miners GP (open-cut terrestrial operations): Yes No
- Medium-Size Suction Dredge GP (nozzle diameter greater than 6" to 10"): Yes No
- Norton Sound Large Dredge GP (nozzle diameter greater than 10" or mechanical dredge): Yes No

Waterbody the discharge flows directly into, or would potentially flow: _____

Approximate coordinates of mine site:

Latitude: _____ Longitude: _____

Source (e.g., DNR - Alaska Mapper): _____

*Mechanical placer operations that do not elect coverage under the Mechanical Placer Miners GP may be required to obtain coverage under the Multi-Sector General Permit for Storm Water. Contact DEC to terminate a permit.

Optional* - Mixing Zone Request or Termination for Mechanical Placer Mine Operations

Do you wish to apply for a mixing zone and modified turbidity limit from DEC? Yes No

If a mixing zone is requested, provide the following:

Coordinates of discharge location: Latitude: _____ Longitude: _____

Maximum Effluent Flow anticipated from your operation _____ (GPM) [must be greater than zero (0)].

Distance to nearest downstream drinking water source _____ and downstream placer mine _____

Do you wish to terminate an active authorized mixing zone? Yes (APDES# _____) No

*A mixing zone authorizes an increase in the permit's turbidity limit based on available dilution from the surface water. Permittees without mixing zones must meet the water quality standard for turbidity at the point of discharge into the surface water.

Certification Statement – applicable only to information required for DEC authorizations (required for all DEC permit or mixing zone applicants)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of Responsible Party: _____

Responsible Party Name (First Last, Position) - Printed: _____

Business Name (if applicable) - Printed: _____

SECTION 404 WETLANDS PERMIT

JURISDICTIONAL DETERMINATION (CORPS JD) and MITIGATION STATEMENT

All Placer Mining applicants are required to contact the Corps of Engineers for submittal requirements.

A complete application for a Department of the Army (DA), U.S. Army Corps of Engineers (Corps) Section 404 permit includes a description of project impacts (contained in the APMA), a Jurisdictional Determination (JD) and a Mitigation Statement. The applications for the JD and the Mitigation Statement are contained in two Corps Supplements, which may be attached to this APMA. The Supplements may be downloaded from the Corps and DNR websites, or obtained directly from a Corps office in paper copy, by email, or mail. Please contact the Corps to determine what supplements are required.

Corps Supplement, Attachment 1, Jurisdictional Determination: Attachment 1 must be filled in and submitted to the Corps for **all new placer applications (New and Existing Operations)**. Photos of your mine site are required. Your JD will be valid for five years. Your photos will be used only for the purpose of conducting an offsite JD.

Corps Supplement, Attachment 2, Mitigation Statement: Alaska District regional mitigation policy for placer mining operations under this General Permit (GP) emphasizes avoidance and minimization of impacts; **compensatory mitigation is not required**. However, by regulation, a Mitigation Statement covering measures for avoidance, minimization, and compensatory mitigation, or, a reason why compensatory mitigation is not proposed, must be submitted to the Corps with each new APMA for projects that impact waters of the U.S.

Note:

- If your APMA requires, but does not include a JD or Mitigation Statement, your application will be considered incomplete. The Corps may also contact you for additional information. Please ensure your contact information on the front page is current.
- For BLM Operators: A complete 404 Wetland Permit Package with additional photos of the upland areas to be mined will be sufficient to meet the requirement for the uplands reclamation baseline data and riparian mitigation measures as required by § 43 CFR 3809.

Provide the Latitude and Longitude of the operation location (DD, NAD83):

Latitude: _____ Longitude: - _____

Source (e.g., DNR - Alaska Mapper): _____

Please list Corps permits previously issued for this site: POA- _____ - _____, POA- _____ - _____

Certification Statement

The Alaska District will accept the APMA as a pre-construction notification, pursuant to 33 CFR 320.1 (c). Application is hereby made for a permit to authorize the work described in this APMA. I certify the information in the APMA, and any required Supplements, is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the operator/ applicant.

Operator or Agent:

Print Name	Signature	Date
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STREAM DIVERSION

(29)

A MAP OF COMPLETE STREAM DIVERSION IS REQUIRED: Plan Map of Operation included in the APMA should show the entire length of the diversion (i.e. where the water is diverted from the natural stream channel to where it returns to the natural stream channel) with start and end locations clearly marked. Operations on BLM lands that are proposing a stream diversion are encouraged to contact their local field office as early as possible in the permitting process due to additional requirements.

Please note: If you have a stream diversion structure; this structure may also qualify as a dam and be subject to the Alaska Department of Natural Resources Dam Safety Program per definitions provided in AS 46.17.900(3). Complete Section 23 (regarding a Dam) of this APMA. If you require further regulatory guidance regarding dams, please contact our Dam Safety and construction Unit, Dam Safety Engineer at telephone number (907) 269-8636 or for more information go to the Alaska Dam Safety Program website at: <http://dnr.alaska.gov/mlw/water/dams/>

Is stream diversion required? Yes (if Yes, complete information below). No

Stream Name: _____

Existing (Date Constructed _____) To Be Constructed (Date _____)

If a diversion is required or pre-existing, please contact your local ADF&G, Habitat Section for Fish Habitat Permitting information. To facilitate permit issuance, please provide the following information:

Is Stream Diversion? Permanent Temporary _____ year(s) _____ months

Will diversion be reclaimed annually prior to freeze-up or be retained throughout the mine life?

Annually reclaimed/returned to natural stream Maintained throughout mine life

Dimensions of existing stream in diversion area:

Length _____ (ft) Top Width _____ (ft) Bottom Width _____ (ft) Depth _____ (ft) Floodplain Width _____ (ft)

Dimensions of proposed diversion:

Length _____ (ft) Top Width _____ (ft) Bottom Width _____ (ft) Depth _____ (ft) Floodplain Width _____ (ft)

Dominant substrate type (Choose Two): Bedrock Boulder Cobble Gravel Sand Silt/Clay

Note: Diversion should approximate the existing stream in terms of meander bends, length, depth, stream width, and floodplain width.

(Please provide plan and profile diagrams of diversion in Section 30, PLAN MAP OF OPERATION or attach additional sheets as necessary)

PLAN MAP OF OPERATION *REQUIRED

(30)

VICINITY MAP

See Attached

Date Prepared:	Applicant Name:
STATE OF ALASKA DEPARTMENT OF NATURAL RESOURCES DIVISION OF MINING, LAND AND WATER	
MAP:	
Sec.(s) _____ Township _____, Range _____, Meridian _____	
Scale: 1" = _____	ADLs:
SHEET OF _____	APMA # _____

(Attach additional sheets, along with detailed explanations as necessary)

CROSS SECTION SKETCH *REQUIRED

BEFORE ACTIVITY

(31)

DURING ACTIVITY

AFTER ACTIVITY

Date Prepared:	Applicant Name:
STATE OF ALASKA DEPARTMENT OF NATURAL RESOURCES DIVISION OF MINING, LAND AND WATER	
MAP:	
Sec.(s) _____ Township _____, Range _____, Meridian _____	
Scale: 1" = _____	ADLs:
SHEET OF _____	APMA # _____

HARDROCK NARRATIVE *REQUIRED

(32)

A narrative of the operation is required. Please use this space to describe the access, process, environmental protection measures and reclamation measures to be used for the duration of this permit. Use prompts provided below and include any additional information relevant to the proposed activities.

SEE ATTACHED NARRATIVE

DESCRIBE ACCESS TO PROPERTY, DRILL/TRENCH SITES, INCLUDING LENGTH AND TYPE OF ACCESS ROUTES. DESCRIBE ACCESS RECLAMATION MEASURES TO BE CONDUCTED AND TIMELINE:

DESCRIBE EXPLORATION METHOD, SCOPE OF WORK PROPOSED, EQUIPMENT, WHEN AND WHERE ACTIVITIES WILL OCCUR, PERSONNEL HOUSING LOCATION AND CAMP DESCRIPTION:

DESCRIBE SITE PREPARATION ACTIVITIES AND PRE-RECLAMATION MEASURES:

DESCRIBE PAD CONSTRUCTION AND DIMENSIONS:

DESCRIBE DRILL WASTE AND DRILL WATER MANAGEMENT, DRILL FLUIDS AND DISPOSAL METHODS. ATTACH MSDS/SDS FOR ALL SUBSTANCES:

DESCRIBE FUEL HANDLING AT EXPLORATION SITES DRILL (PADS AND TRENCHES) AND OFF SITE (CAMP OR BASE OPERATIONS). DISCUSS SPILL PREVENTION AND RESPONSE PLAN:

DESCRIBE WATER USE INCLUDING ESTIMATE OF DAILY WATER USE:

DESCRIBE HOW THE OPERATION WILL AVOID AND/OR MITIGATE POTENTIAL IMPACTS TO FISH, WILDLIFE AND CULTURAL RESOURCES:

DESCRIBE CLOSURE, PLUGGING METHODOLOGY, SURFACE RECLAMATION AND ABANDONEMENT:

2021 ANNUAL RECLAMATION STATEMENT

(33)

- Placer Mining
- Suction Dredging
- Hardrock Exploration

APMA # 3099

Complete and return this statement by December 31, 2021. If you did not operate, fill in your name, check bottom box, sign, and return form.

In accordance with AS 27.19 (Reclamation Act):

I, Connor Taylor hereby file an annual reclamation statement for the 2021 mining operation described in subject Application for Permits to Mine in Alaska. (Submission of this statement does not constitute reclamation approval.)

Volume of material disturbed in 2021: 0 cubic yards (Includes strippings and processed material.)

Sluice days last season: 0 Cubic yards of material processed daily: 0 Annually: 0

Total acreage disturbed in 2021: State 0, Federal 0, Private 0. (Includes stripped areas, mining cuts, overburden and tailing stockpiles and disposal areas, temporary stream diversions, stream bypasses, and settling ponds.) Federal operators should include area of camp and access roads.

Length feet and Width feet of stream diversion.

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Stream diversion: Temporary Permanent No Diversion (check one).

FEB 22 2022

Total Area reclaimed in 2021: acres.

Total un-reclaimed acres: 0 (This should match "total acreage currently disturbed" on the 2022 Reclamation Plan Form.)

For areas reclaimed, the following reclamation measures were used (check only measures that were used).

You must include photographs or videotapes of the completed reclamation work:

- Spread and contoured tailings
- Spread topsoil, vegetation, overburden muck or fines on the surface of contoured tailings
- Reestablished flood plain with stream channel in stable position
- Ponds are reclaimed
- Backfilled and reclaimed temporary stream diversions
- Camp removed, cleaned up and left free of debris
- Hardrock Exploration: Complete and submit an electronic Annual Reclamation Report

Other Reclamation Measures Taken:

[Empty box for other reclamation measures taken]

Did not operate in 2021 and therefore did not conduct reclamation. Relationship to Claim(s)

Signed Connor Taylor Date 2/21/2022 Owner Lessee Operator

Agent For: Chuchuna

2022 RECLAMATION PLAN FORM (HARDROCK EXPLORATION)

<input type="checkbox"/> A. RECLAMATION PLAN (REQUIRED if the operation will disturb five or more acres this year, OR 50,000 cubic yards, OR if the operation has a cumulative disturbed area of five or more acres).	<input type="checkbox"/> B. RECLAMATION PLAN VOLUNTARY (for an operation below limits shown in Box A but wanting to qualify for the statewide bonding pool. (Operations on BLM Lands and others not filing Letter of Intent).	<input checked="" type="checkbox"/> C. LETTER OF INTENT (34) (less than five acres to be disturbed AND less than 50,000 cubic yards AND less than five acres unreclaimed area).
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In accordance with Alaska Statute 27.19, reclamation is required of all mining operations. Reclamation bonding is required of operations with disturbance of 5 acres or greater. Completion of this application will meet the requirements for a "Reclamation Plan" for operations 5 acres and larger in size and for a "Letter of Intent To Do Reclamation" for operations under 5 acres. If you do not intend to use the reclamation methods presented below, you must provide additional information concerning your plans for reclamation under separate attachments.

Total acreage currently disturbed: 0 acres. This should match: "Total Unreclaimed Acres" on your 2021 Annual Reclamation Statement for Small Mines, or line #7 on your 2022 Bond Pool Renewal Form. Disturbed ground includes all unreclaimed mining and exploration activity (excluding camps and roads) since October 1991. Federal operators must include areas of camps and roads.

New acres to be disturbed in 2022 0 acres. Total acreage (currently disturbed plus new acres): 2 acres.

Acreage disturbed by land status: 2 State (general) _____ State (Mental Health) _____ Private _____ Federal _____

Total acreage to be reclaimed in 2022 2 acres; Total volume of material to be disturbed in 2022: 25 cubic yards.

Include strippings and overburden to be removed. Cubic yards = Length (yards) x Width (yards) x Depth (yards).

Reclamation will be conducted concurrently with activity. Reclamation will be conducted at the end of the season.

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THE FOLLOWING RECLAMATION MEASURES SHALL BE USED:

(These measures are required by law. Those that do not apply may be crossed out; but, an explanation must be given.)

SEP 9 2022

- Topsoil, vegetation, and overburden muck, not promptly redistributed to an area being reclaimed, will be individually separated and stockpiled for future use. This material will be protected from erosion and from contamination by acidic or ~~toxic materials and will not be buried by tailings.~~
- The area reclaimed will be reshaped to blend with the surrounding area using tailings, strippings, and overburden and be stabilized.
- Stockpiled topsoil, overburden muck, will be spread over the contoured exploration sites to promote natural plant growth such that
- Exploration trenches will be backfilled. Brush piles, stumps, topsoil, and other organics will be spread on the backfilled surface to inhibit erosion and promote natural revegetation. All exploration trenches will be reclaimed by the end of the exploration season in which they are constructed, unless specifically approved by the DMLW (Mining operations are required by law to be reclaimed as contemporaneously as practicable with the mining operation to leave the site in stable condition).
- Shallow auger holes (limited to depth of overburden) will be backfilled with drill cuttings or other locally available material in such a manner that closes the hole to minimize the risk to humans, livestock and wildlife.
- All drill hole casings will be removed or cut off at, or below, ground level. All drill holes will be plugged by the end of the exploration season with bentonite holeplug or equivalent slurry, for a minimum of 10 feet within the top 20 feet of the drill hole. The remainder of the hole will be backfilled to the surface with drill cuttings. If water is encountered in any drill hole, a minimum of 7 feet of bentonite holeplug or equivalent slurry will be placed immediately above the static water level in the drill hole. (NOTE: The operator understands that complete filling of the drill holes, from bottom to top, with bentonite holeplug or equivalent slurry is also permitted and is considered to be the preferred method of hole closure, unless communicated otherwise by DMLW.)
- If artesian conditions are encountered, the operator will take all measures practicable to prevent the offsite discharge of those waters subject to 11 AAC 97.240 and will contact the DMLW for approval of hole plugging measures.
- At closure, all shafts, adits, tunnels, and air vents to underground workings will be stabilized and properly sealed to ensure protection of the public, wildlife and the environment.
- On state lands, all buildings and structures constructed, used, or improved will be removed, dismantled, or otherwise properly disposed of unless the surface owner or manager authorizes that the buildings and structures may stay.
- On state lands, all scrap iron, equipment, tools, piping, hardware, chemicals, fuels, waste, and general construction debris will be removed or properly disposed of.
- Reclamation measures taken will be consistent with any alternative post mining land use approved by the Commissioner, subject to the provisions of 11 AAC 97.300(h) and the conditions (if any) of an approved reclamation plan.

IMPORTANT: 1. Alternative reclamation measures may be approved if the reclamation measures presented above are not applicable to your site. Please explain in separate correspondence. Submit a sketch and describe additional reclamation measures you propose to conduct at your operation. Reclamation measures must comply with AS 27.19.

BONDING: In accordance with AS 27.19, bonding is required for all operations having a mined area of \geq five acres on State Land. This area must be bonded for \$750.00 per acre, unless the miner can demonstrate that a third party contractor can do the needed reclamation for less. The Statewide Bonding Pool may be joined by completing a bond pool application form and meeting certain requirements. No reclamation plan approval goes into effect until the bonding pool deposit and annual nonrefundable fees are paid. Use bond form to calculate area of disturbance for bonding.

BLM requires that a reclamation plan be consistent with §43 CFR 3809.420, Performance Standards for the Surface Management regulations for Federal Operations. Refer to 43 CFR 3809 or the BLM minerals website available at <https://www.blm.gov/programs/energy-and-minerals/mining-and-minerals> for more information on what is needed for a reclamation plan on Federal lands, as they may be different than those identified above.

Connor Taylor Printed name (Applicant)  Signature (Applicant)	Relationship to Mineral Property: <input type="checkbox"/> Owner <input type="checkbox"/> Lessee <input type="checkbox"/> Operator <input checked="" type="checkbox"/> Agent For: <u>Chuchuna</u>	Date: _____ APMA #: <u>3099</u>
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CHUCHUNA Minerals Company

**Application for Permits for
Hardrock Exploration
Bristol Bay Mining District**

For

Chuchuna Minerals

February 21, 2022



CHUCHUNA Minerals Company

Groundhog Project 2017	
Mining District	Bristol Bay
USGS Quadrangle	Lake Clark A-6, A7 & Iliamna D6, D7
Presented by	Connor Taylor
Date	February 21, 2022

Narrative of Project:

Chuchuna Minerals Company (CMC) is planning on conducting various forms of exploration on its Groundhog Project, 20 miles north-northwest of the village of Iliamna, in the Bristol Bay mining district. The methods of exploration are planned to involve ground based reconnaissance, ground or airborne geophysics and core drilling. The State mining claims forming the Groundhog Property are held 100% by CMC which is a corporation composed primarily of Kijik Corporation (KC), a Nondalton village corporation, and Alaska Earth Sciences, Inc (AES) of Anchorage.

Summary

The project will include several seasons of diamond core drilling, with ground-based reconnaissance and geophysics to be conducted either simultaneously with drilling or as separate programs. Twenty (20) drill sites are identified on the attached map (Section 30) along with water source points which include both relatively shallow holes of less than a thousand feet in depth to much deeper holes that may exceed 4000 feet in depth. The holes shown all lie within State mining claims, however some future drilling may take place on adjacent Native land. The drilling and geophysics will be conducted by subcontractors to Alaska Earth Sciences Inc. Operations will be supported by helicopters from Robinson 44 to Bell 205 (Huey) in size. Crews will be housed in private lodging located in Iliamna and in Nondalton or in remote camps within CMC held mining claims. Depending on results of exploration a semi-permanent camp may be established near Nondalton on Native land. Some exploration operations may be conducted using the help of four-wheelers traveling over existing trails to reach the claims.

Access

The project area will be accessed by helicopter from Iliamna and Nondalton, or by ATV from Nondalton using existing trails. All equipment and personnel will be flown to the project site daily for projects using Helicopter access. There may be a temporary camp set up on State claims for projects using ATV's for transportation. Access from Anchorage to Iliamna and Nondalton during project operations will be by fixed wing aircraft, primarily wheeled aircraft. With the possible exception of the use of a heli-portable crawler system to aid in moving small core drills short distances, movement over the ground is anticipated to be done either by ATV on existing trails, or by foot. Therefore, nearly all movement of personnel and equipment to and from and within the claim block will depend on helicopters or ATVs.

CHUCHUNA Minerals Company

On-Site Camp

For shorter field programs, a remote lodging camp may be set up on Chuchuna Minerals Company held mining claims. The camp will hold no more than 10 workers and will consist of Arctic Oven tents for kitchen/office, and Hurricane Hut sleeper tents. For larger programs the camp will hold no more than 24 workers and will consist of weatherport tents, wooden decks and boardwalks (See attached table section (19) for structure list). A bear fence will be used around the camp including the kitchen. Food and trash will be secured in bear proof containers. Trash and food scraps will be flown off site. Greywater produced from the kitchen will be treated as per conditions of the Temporary Camp Permit, following the guidelines of Alaska Department of Environmental Conservation's 'Temporary Camp Greywater Use and Handling' guide (<https://dec.alaska.gov/media/9824/forms-food-temporary-camp-application-worksheet.pdf>.) See attached map (section 30) for camp location.

Mobilization

Mobilization of drilling equipment and supplies will typically occur between mid-May and mid-June of each year. Supplies and equipment will be flown by helicopter from either Iliamna or Nondalton airport.

The drilling equipment to be mobilized will range from small compact heli-portable diamond drill rigs such as the Multipower, Discovery I drill used in 2017 drill program to the larger Quest AR 250 diamond drill rig capable of drilling HQ/NQ holes to over 4000 feet in depth. Ancillary tools and equipment will include drill rod in various diameters, rod handling systems, drill muds and additives, cutting handling systems, triplex/duplex high-pressure pumps, trash pumps, generators and pad building materials. Supplies such as muds, polymers, cement, hole plug material and other additives will be identified and hazmat sheets provided to all involved in their handling and usage.

Fuel Storage

Fuels including JET-A, diesel, and gasoline for the drill and ancillary motors will be stored and transferred in approved containers. They will be stored within properly sized containment ponds both at staging areas and on site. It is planned to use double-walled aluminum tanks for helicopter slinging operations.

C_uHUCHUNA Minerals Company

Water For Drilling

Water used for drilling will be gravity fed whenever possible but pumping will be required at most sites. Water will be diverted at a rate of 2-5 gallons per minute. If a gravity water source is not possible then a Bean 35 pump will be used. The pump will be placed as far from the creek as practicable and will be placed in a metal tray to prevent potential leaks from reaching the creek. The intake hose will be 3" in diameter and will be screened to less than or equal to 3/32 of an inch to avoid entrapment or impingement of juvenile fishes. High-pressure 1-inch diameter rubber hose will be used to supply water to the drill. The attached map (Section 30) shows anticipated water source areas and the table includes the legal descriptions for the water withdrawal areas.

Core Handling, Drill Cuttings/Fluids, Abandonment & Site Restoration

Diamond drill core samples will be obtained from bedrock after drilling and casing through overburden. Core size will vary from BTW (1 3/4") to HQ (2 1/2"). The outer diameter of the drill hole will vary from 2 1/4" (BTW) to 3.5" (HQ) depending on drill rod and bit size selected. After skeletal logging is completed, core will be removed from the site to either Iliamna or Nondalton for final logging and sampling.

Where possible, drill water and fluids will be recycled at the drill during operation thus reducing the total necessary amount of water from the source. A recycle reservoir will aid in separating cuttings from drill fluids. Drilling fluids will remain in the drill hole as much as possible. After hole completion, excess fluids will be captured, solids allowed to settle, and fluids return to the soil/ weathered bedrock profile. Any excess cuttings and fine sediment will be spread carefully on any disturbed areas and reseeded as necessary.

Drill holes will be reclaimed by filling with cutting solids to within 20 feet of the surface and then backfilling with bentonite chips to form a seal. Recycle pits will then be recovered with topsoil and vegetative mat. If water is encountered an additional bentonite seal will be placed immediately above the water table and a minimum of 7 feet of bentonite chips will be placed atop the plug to form a seal.

Disturbance of the vegetative mat will be negligible since the drill rig will not be placed directly on the ground. It is estimated that each drill site will disturb no more than 500 square feet and displace no more than 3 cubic yards of material (if a sump is required to contain drill cuttings). The drill sites are anticipated to revegetate naturally. Total surface disturbance is estimated to be 2500 square feet. Reclamation of drill sites will be completed immediately upon removal of the drill rig.

Operations & Personnel

The drill rigs will be operated day and night on 2-12 hour-shifts per day. Two, 2-man crews will be required at the drill with a day shift manager and maintenance person for a total crew size of 5 men covering the two shifts.

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Exploration Equipment

For future drilling programs, a light diamond core rig is planned for a series of shallow (500-1000 foot) holes. Succeeding seasons will likely require larger drills such as a DDM AF25F or Quest AR60. Should the program identify deep targets of 4000 feet or more, a heavier drill such as the Quest AR250 will be used. For pad building a small Digger-brand backhoe powered by a small diesel engine may be required to assist on the larger pads at deep drill hole sites. Other motorized equipment will include triplex Bean 35 pumps and duplex Bean 15 high pressure pumps, small gas powered trash pumps for transferring water, drill fluids and fuels, gas or diesel powered generators/welders for lighting and power tools. ATVs may also be utilized for transportation. Small hand tools will include chain saws and handheld drills for soil sampling and for anchoring hillside pads.

For work pads, the small drill would require a minimum-sized 16' X 16' wooden deck supported by 10"X10" or 8" X 8" timbers. Pads on low angles can be constructed without breaking the tundra layer. Steeper hillsides will require shallow trenches on the uphill sides for safe anchorage. Larger drills will require pads of 20' X 20' in size with somewhat larger support timbers. All sites will be completely reclaimed including reseeding after hole completion unless the hole can be used for a monitoring well. Spill prevention equipment and clean-up kits will be available at all active drill sites. A safe haven tent/shack will be placed centrally and nearby to primary activities during all phases of the operation. The tent will include emergency food, sleeping gear, heat source and first aid equipment

Fuel and fluids containment systems at staging areas will be adequate for storage of up to 1000 gallons including diesel, Jet-A, gasoline, lubricants, and liquid mud products. For sling transportation 100-gallon, double-walled aluminium fly tanks are planned. These tanks are custom designed with "no-leak" quick-connect-style hose couplers thereby eliminating the possibility of small spills associated with attaching separate pumps and hoses. The fly tanks will be refuelled from a bulk fuel storage containment tanks in Iliamna and flown by helicopter to the drill sites.

Drill Site Locations

The attached map (Section 30) show the location of the drill sites. A total of 20 possible drill sites have been selected within the Lake Clark A6, A7 and Ilimna D6, D7 quadrangles and located in four separate townships within the Seward Meridian.

C_UHUCHUNA_U Minerals Company

Core logging, splitting, and temporary storage will be based on private land near Nondalton. Core boxes will be stored in this area temporarily on wooden pallets.

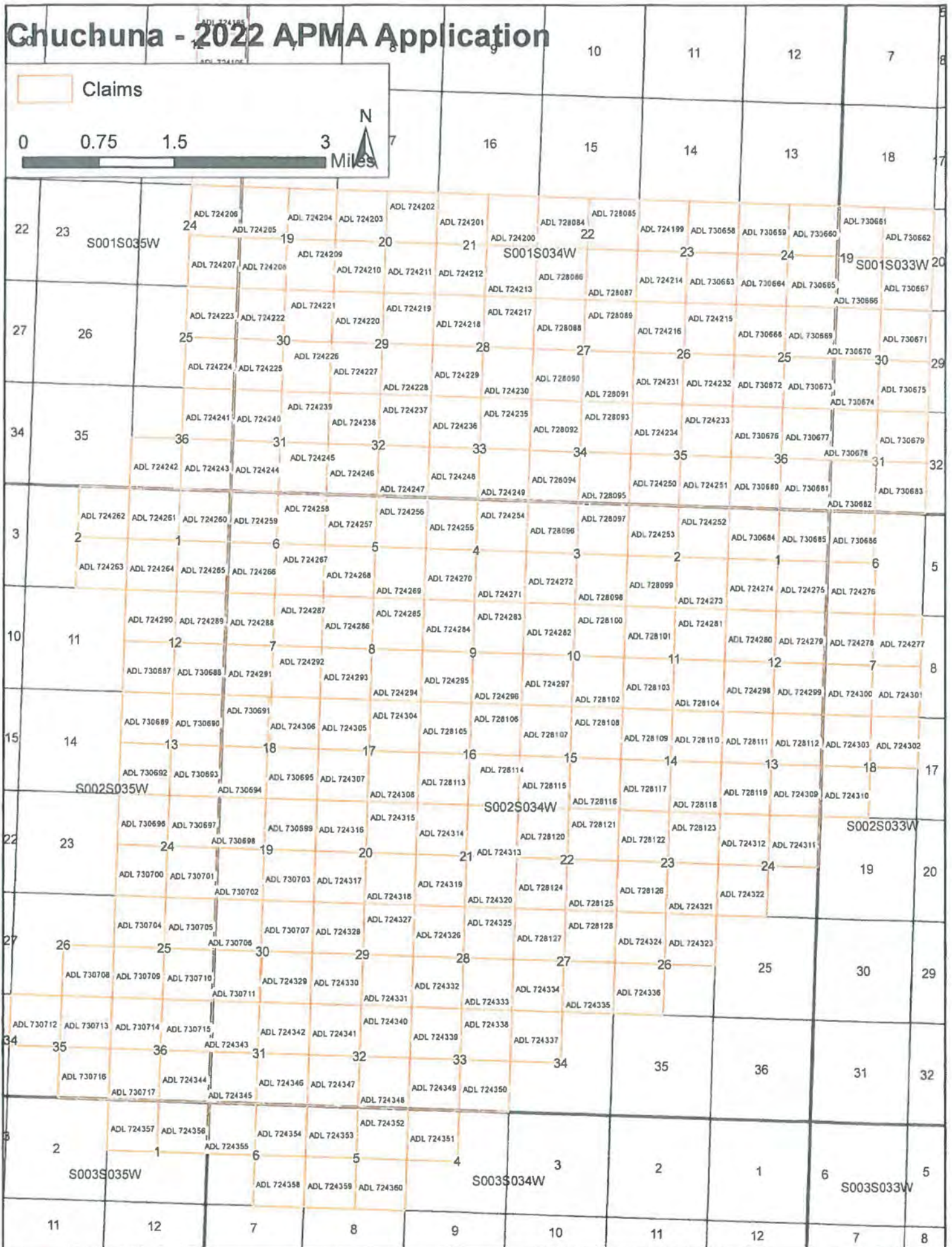
Project Duration

Including geophysics and surface sampling the future drilling projects are expected to last no more than 60 days. The planned drilling effort will require up to 20 days at the end of the program to complete.

Source Number	Name/Water Source Stream Reaches	Latitude	Longitude	MTRSC	ACTIVITY
SR-1	SR-1 - End	60.16051024	-155.2225989	S001N034W 19, 20, 29, 30, 31, 32	Water Intake
	SR-1 - Start	60.12740745	-155.2462152		
SR-2	Rock Creek - End	60.07260991	-155.0975526	S001S034W 22, 27, 28, 29, 31, 32 S002S034W 5, 6, 8	Water Intake
	Rock Creek - Start	60.02353202	-155.1482447		
SR-3	SR-3 - End	60.07423638	-155.2160123	S001S034W 19, 20 S001S035W 24	Water Intake
	SR-3 - Start	60.08009273	-155.1636781		
SR-4	SR-4 - End	60.06853407	-155.1505164	S001S034W 20, 29, 30, 31, 32	Water Intake
	SR-4 - Start	60.04655343	-155.1796507		
SR-5	SR-5 - End	59.98894725	-155.0849246	S002S034W 23, 26	Water Intake
	SR-5 - Start	59.97460068	-155.0632548		
SR-6	SR-6 - End	60.06953411	-155.1116226	S001S034W 22, 27, 28	Water Intake/Camp
	SR-6 - Start	60.06770765	-155.1211019		
SR-7	Groundhog Creek - End	60.06457185	-155.1143007	S001S034W 27, 34	Water Intake
	Groundhog Creek - Start	60.05150828	-155.1149384		
SR-8	SR-8 - End	60.05992294	-155.1312201	S001S034W 28, 34 S002S034W 4	Water Intake
	SR-8 - Start	60.02646799	-155.1357317		
WPS-1	Unnamed Lake	60.082693	-155.157256	S001S034W20	Water Intake
WPS-2	Unnamed Lake	59.96386	-155.123214	S002S034W33	Water Intake/Camp

Chuchuna - 2022 APMA Application

Claims



**Chuchuna APMA
Groundhog Project**

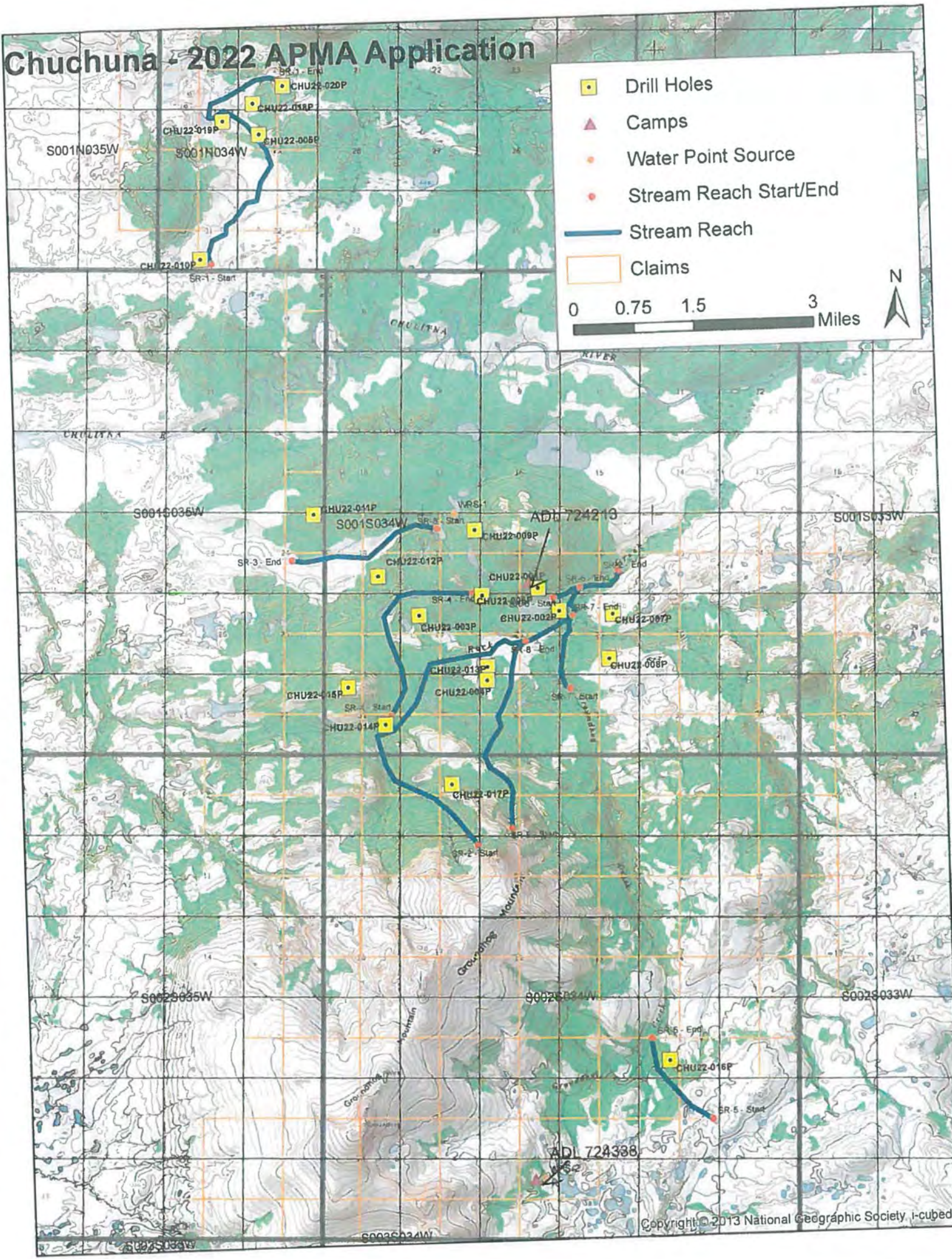

A-22-3099

Drill Hole	ADL #	Latitude DD	Longitude DD
CHU22-001P	724209	60.06952927	-155.1268533
CHU22-002P	724217	60.06546045	-155.1191839
CHU22-003P	724220	60.06456113	-155.1699411
CHU22-004P	724236	60.05294492	-155.1451376
CHU22-005P	648491	60.15066638	-155.2291686
CHU22-006P	724218	60.06813334	-155.1471192
CHU22-007P	728089	60.06489688	-155.0996732
CHU22-008P	728091	60.05689291	-155.100915
CHU22-009P	724202	60.079889	-155.1499842
CHU22-010P	724191	60.12827175	-155.2501994
CHU22-011P	724206	60.08253358	-155.2083712
CHU22-012P	724209	60.0715403	-155.1848567
CHU22-013P	724229	60.05537617	-155.1449834
CHU22-014P	724245	60.04500925	-155.1819796
CHU22-015P	724240	60.05169476	-155.1955029
CHU22-016P	728126	59.98508342	-155.0786228
CHU22-017P	724256	60.03432751	-155.1578721
CHU22-018P	648494	60.15624956	-155.2314267
CHU22-019P	724184	60.15302059	-155.2423115
CHU22-020P	724182	60.15943537	-155.2205409

Chuchuna - 2022 APMA Application

- Drill Holes
- ▲ Camps
- Water Point Source
- Stream Reach Start/End
- Stream Reach
- Claims

0 0.75 1.5 3 Miles



Chuchuna

Groundhog Project - APMA Application

Temporary Camp and Facilities

Temporary Structure

	Quantity	Dimensions (ft x ft)
Kitchen Tent	1	16x40
Food Storage	1	12x20
Soil Prep Tent	1	16x30
Bathhouse	1	16x30
Office	1	12x20
Sleeping Tents	11	12x10
Sleeping Tents	3	8x10
Outhouses	4	3x3
Wooden deck for satellite dish	1	tbd
Wooden boardwalk through camp	1	tbd

MINERAL PROPERTIES LIST

ADL No.	Property Name
ADL 647270	GDH3
ADL 648478	NIKA1
ADL 648481	NIKA4
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