Rio Tinto

Erik Best
Kennecott Exploration Company
2640 West 1700 South
Salt Lake City, UT 84104
USA
T + 1 (801) 363-5870

Fedex Delivery

February 26, 2019

State of New Mexico
Energy, Minerals and Natural Resources Department
Director, Mining and Minerals Division
1220 South Saint Francis Drive
Santa Fe, New Mexico, 87505

Re: Part 3 Minimal Impact Exploration Operation; Kennecott Exploration Company; Hidalgo County

To Whom It May Concern

Please find attached, six copies of Kennecott Exploration Company's Minimal Impact Exploration Operation Permit Application (Part 3) together with a check in the amount of $500.00 as application fee.

If you have any questions or concerns regarding the application, please do not hesitate to contact me at (801) 363-5870.

Sincerely,

KENNECOTT EXPLORATION COMPANY

Erik Best
Land Manager

cc. R. Franklin
R. Patterson
D. Fischer

PART 3
MINIMAL IMPACT EXPLORATION OPERATION

PERMIT APPLICATION

Accompanying instructions for this permit application are available from MMD, and on MMD webpage:

http://www.emnrd.state.nm.us/MMD/MARP/MARPApplicationandReportingForms.htm

Send 6 copies of the completed application to:

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
Director
Mining and Minerals Division
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505
Telephone: (505) 476-3400

Webpage: www.emnrd.state.nm.us/MMD/index.htm

CHECK OFF LIST TO DETERMINE YOUR PROJECT'S STATUS AS A MINIMAL IMPACT EXPLORATION OPERATION:

☐ Yes ☑ No My project **will exceed 1000 cubic yards of excavation**, per permit.

☐ Yes ☑ No Surface disturbances for constructed roads, drill pads and mud pits **will exceed 5 acres** total for my project.

☐ Yes ☑ No My project is located in or is expected to have a direct surface impact on wetlands, springs, perennial or intermittent streams, lakes, rivers reservoirs or riparian areas.

☐ Yes ☑ No My project is located in designated critical habitat areas as determined in accordance with the federal Endangered Species Act of 1973 or in areas determined by the Department of Game and Fish likely to result in an adverse impact on an endangered species designated in accordance with the Wildlife Conservation Act, Sections 17-2-37 through 17-2-46 NMSA 1978 or by the State Forestry Division for the Endangered Plants Act, section 75-6-1 NMSA 1978.

☐ Yes ☑ No My project is located in an area designated as Federal Wilderness Area,

Wilderness Study Area, Area of Critical Environmental Concern, or an area within the National Wild and Scenic River System.

☐ Yes ☑ No My project is located in a known cemetery or other burial ground.

☐ Yes ☑ No My project is located in an area with cultural resources listed on either the National Register of Historic Places or the State Register of Cultural Properties.

☐ Yes ☑ No My project will or is expected to have a direct impact on ground water that has a total dissolved solids concentration of less than 10,000 mg/L, except exploratory drilling intersecting ground water may be performed as a minimal impact operation.

☐ Yes ☑ No My project is expected to use or using cyanide, mercury amalgam, heap leaching or dump leaching in its operations.

☐ Yes ☑ No My project is expected to result in point or non-point source surface or subsurface releases of acid or other toxic substances from the permit area.

☐ Yes ☑ No My project requires a variance from any part of the Mining Act Rules as part of the permit application.

If you answer yes to any of the above questions, your project does not qualify as a minimal impact exploration operation.

Confidential Information

☐ Yes ☑ No Is any of the information submitted in this application considered by the applicant to be confidential in nature? If yes, please provide this information separately and marked as "confidential."

Timeline

- Exploration applications must be provided no less than 45 days prior to the anticipated date of operations desired by the applicant.
- Renewal applications shall be filed at least 30 days preceding expiration of the current permit. Permits are valid for one year.
- Approved permit is valid for one year from the date of approval.

SECTION 1 – OPERATOR INFORMATION (§304.D.1)

Project Name: Steeple Rock

Nearest Town To Project: Duncan, AZ

Applicant Name and Contact Information (entity obligated under the Mining Act):

Name: Kennecott Exploration Company, Attn: Erik Best, Land Manager

Address: 2640 W 1700 S

Salt Lake City, UT 84104-4269

Office Phone: : 801-363-5870 Cell Phone: _____

Fax Number: _____ Email: erik.best@riotinto.com

Name of On-Site Contact, Representative, or Consultant:

Name: Richard Patterson

Address: 2640 W 1700 S

Salt Lake City, UT 84104-4269

Office Phone: (801)-204-3881 Cell Phone: (801)-232-6380

Fax Number: _____ Email: richard.patterson@riotinto.com

SECTION 2 – RIGHT TO ENTER INFORMATION (§302.D.1)

A. Describe or attach copies of documents that give the applicant the right to enter the property to conduct the exploration and reclamation, include: lease agreements, access agreements, right of way agreements, surface owner agreements, and claim numbers, if applicable.

Kennecott has entered into an access agreement with private property owners Dale and Evelyn Earven (split estate pursuant to the Stock Raising Homestead Act; unpatented mining claims held by Kennecott) for exploration activities contemplated under this Plan, for a period through September 30, 2021, unless extended. (See overview map at Exhibit A) Additionally, on BLM lands, Kennecott holds unpatented mining claims and has submitted a 3809 Notice to conduct activities (attached at Exhibit B)

Attachment Exhibit E

B. List the names and addresses of surface and mineral ownership within the proposed permit area. If the mineral is federal mineral, indicate as federal mineral, but provide the name of the claim holder or lease holder.

Surface Estate Owner(s):

Name	Address	Phone #
☒ U.S. BLM	301 Dinosaur Trail	505-954-2000
	Santa Fe, NM 87508	
☐ U.S. Forest Service		
☐ State of NM		
☒ Private/Corporate	195 Arroyo Ln	520-431-4618
Name: Dale Earven	Duncan, AZ, 85534	
☐ Other		
Name:		

Lease Holder(s) of Surface Estate (if applicable):

Name	Address	Phone #

Mineral Estate Owner(s):

Name	Address	Phone #
☒ Bureau of Land Management	301 Dinosaur Trail Santa Fe, NM 87508	505-954-2000
☐ US Forest Service		
☐ State of NM		
☒ Claim/Lease Holder Name:	Kennecott Exploration Company See attached map at Exhibit A	801-363-5870
Claim Numbers:		
☐ Claim/Lease Holder Name:		
Claim Numbers:		
☐ Other Name:		

C. Has a Cultural Resource Survey been performed on the site? ☒ Yes ☐ No

If yes, please provide the author, title, date and report number, and include a copy of the survey with this application, if possible:

Archaeologists (SWCA Environmental Consultants) have completed a Cultural Resource Survey over the proposed drill site locations and access routes. The report will be submitted from SWCA to supplement this application.

Attachment _____

D. Has a wildlife survey or vegetation survey been performed for the permit area?

☐ Yes ☒ No If yes, please provide the author, title, date and report number, and include a copy of the survey with this application, if possible:

Attachment _____

SECTION 3 – MAPS AND PROJECT LOCATION (§302.D.2)

A. Project Location:

Township 16S Range 21W Section 20,21 and 33

Township _____ Range _____ Section _____

Township _____ Range _____ Section _____

List the drill hole/exploration name and the GPS coordinates for each site.

I.D. Number	Northing / Latitude	Easting / Longitude
19PDS-Ar	32.89718849	-109.0234406
19PDS-Br	32.89583575	-109.01716
19PDS-Er	32.87782823	-109.0162877
19PDS-Fr	32.87921647	-109.0218295
19PDS-H	32.87545851	-109.0240209
19PDS-Ir	32.87552774	-109.0206909
19PDS-Jr	32.87454052	-109.0178856
19PDS--Kr	32.8752838	-109.0150289
19PDS-Mr	32.89733342	-109.027837
19PDS-P	32.87300509	-109.0212843
19PDS-Q	32.879877	-109.013778

I.D. Number	Northing / Latitude	Easting / Longitude

Coordinate system used to collect GPS data points:

- ☐ NAD83 Geographic
- ☐ NAD83 UTM Zone 13 (or 12)
- ☒ WGS 1984
- ☐ NAD27 Geographic
- ☐ NAD27 UTM Zone 13 (or 12)
- ☐ Other: _____

Attachment NA (for listing additional boreholes)

B. Maps (see application form instructions for examples of maps to be included):

Are topographic maps included with the application that show the following items:

☒ Yes – The boundary of the proposed exploration project Permit Area

☒ Yes – The proposed exploration locations (i.e., borehole locations)

☒ Yes – Existing roads, new roads and overland travel routes

☐ Yes ☒ N/A – Areas of proposed road improvement

Attachments Exhibit A

Are maps or figures included with the application showing the approximate dimensions and locations of drill pads and other disturbances:

☒ Yes – Drill pad dimensions and constructed drill pad locations

Attachments Exhibit C

C. Provide detailed driving directions to access the site:

See Exhibit D for driving instructions

SECTION 4 – EXPLORATION DESCRIPTION (§302.D.3 & 4)

A. Anticipated exploration: Start Date: June 1, 2019 End Date: May 31, 2020

B. List the mineral(s)/element(s) to be explored for: Copper & associated base and precious metals

C. Proposed method(s) of exploration:

☐ **Air drilling (air rotary, coring, etc.):**

_____# of holes _____Depth (ft.) _____Diameter (in.)

_____# of drill pads _____Length (ft.)_____Width (ft.)

Will drill pads be graded/bladed or overland: ☐ Graded/bladed ☐ Overland

Will drill pads need some mechanical leveling (grading/blading): ☐ Yes ☐ No

Approx. Weight of Drill Rig (lbs.) 36000 Number of Axles: 3

Total length of drill stem that can be carried on the rig: _____

Is a support pipe truck anticipated? ☐ Yes ☐ No _____Weight (lbs.)

Weight of support compressor (lbs.):_____Trailer mounted?_____

Anticipated Drilling Contractor: Boart Longyear License No. WP-1161

■ **Mud/fluid drilling:**

11 # of holes ~ 6000 Depth (ft.) 4.8;3.8; 2.9 Diameter (in.)

11 # of drill pads 100 Length (ft.)_____Width (ft.)

Will drill pads be graded/bladed or overland: ■ Graded/bladed ☐ Overland

Will drill pads need some mechanical leveling (grading/blading): ■ Yes ☐ No

Will a closed loop system be used or will mud/fluid pits be used? mud/fluid pits

If mud/fluid pits are proposed:

22 # of pits 20 Length (ft.) _____ Width (ft.) 4 Depth (ft.)

Anticipated excavating equipment: Backhoe (Caterpillar)

How will excavating equipment be transported to the site (i.e., driven, low-boy, etc.):

Equipment will be driven out to site after being transported to laydown/staging

Will mud pits be lined?: ☐ Yes ☒ No

If yes, proposed material to line the mud pits: _____

Approx. Weight of Drill Rig (lbs.) 36000 Number of Axles: 3

Anticipated Drilling Contractor: Boart Longyear License No. WP-1161

☐ **Test pits / exploratory trenches:**

_____ # of pits _____ Length (ft.) _____ Width (ft.) _____ Depth (ft.)

Anticipated excavating equipment: _____

How will excavating equipment be transported to the site (i.e., driven, low-boy, etc.):

☐ **Other methods of exploration** (i.e., cuts, shafts, tunnels, adits, declines, blasting, etc.). Indicate method and details:

TOTAL ACREAGE TO BE DISTURBED DUE TO DRILL PADS = 2.519 **acres**
(to convert to acres, multiply total square footage of drill pads by 0.0000229)

D. Disposal of drill cuttings

If this exploration project is for uranium or other radioactive elements/minerals, applicant agrees to perform a gamma radiation survey at each drill site prior to, and after, exploration activities. Applicant/Owner/Operator agrees to restore gamma radiation levels at each drill site to pre-exploration levels. ☐ Yes ☐ No ☒ N/A

Will excess drill cuttings be buried at each drill site location or within a single disposal pit?
☒ At each drill pad location ☐ Within a single disposal pit

If a single disposal pit is proposed, please provide the following:

Description or GPS coordinates of the proposed cuttings disposal pit location:

Dimensions of the single proposed cuttings disposal pit (length, width, and depth):

_____Length (ft.) _____Width (ft.) _____Depth (ft.)

TOTAL ACREAGE TO BE DISTURBED DUE TO DISPOSAL PIT = N/A **acres**
(to convert to acres, multiply total square footage of disposal pit by 0.0000229)

E. Other Supporting Equipment (check all that apply):

☒	4x4 Trucks/Vehicles	Quantity:	5
☒	Water Truck	Weight (lbs.):	18,000
☐	Geophysical Truck	Weight (lbs.):	
☒	Pipe Truck (rig support)	Weight (lbs.):	40,000
☐	Bulldozer	Type:	
☒	Backhoe	Type:	Backhoe Loader (Cat 416)
☐	Trackhoe	Type:	
☐	Scaper/Grader	Type:	
☒	Trailers	Quantity/Type:	1 small enclosed trailer for logging drill cl
☒	Portable Toilet	Quantity:	2
☒	Other	List:	one mud system tank
			one parts container
			one core press
			one sand removal unit (centrifuge)

F. Roads and Overland Travel:

List of <u>new</u> roads to be constructed for this exploration project:

Description of *NEW* Roads	Length (ft.)	Width (ft.)	Total Acres (length x width x 0.0000229)
	1943	10	0.444947
	1256	10	0.287624
	1659	10	0.379911
TOTAL ACRES DISTURBED BY NEW ROAD CONSTRUCTION :			1.112482

Describe how new roads will be constructed:

An excavator bucket (backhoe) will be used to build a short (temporary) road starting from an existing road. This road will be created to safely gain access to 19PDS-Fr, 19PDS-P, 19PDS-Jr, and 19PDS-Kr sites. No new material from proposed construction will be needed. Road length is 1058 feet but needs intermittent re-surfacing.

List for <u>extension or widening of existing</u> roads:

Description of Modification to *EXISTING* Roads	Length (ft.)	Width (ft.)	Total Acres (length x width x 0.0000229)
TOTAL ACRES DISTURBED BY ROAD IMPROVEMENTS :			0

Describe how existing roads will be extended or widened:

List for routes of overland travel:

Description of *OVERLAND TRAVEL* Routes	Length (ft.)	Width (ft.)	Total Acres (length x width x 0.0000229)
TOTAL ACRES DISTURBED BY OVERLAND TRAVEL :			0

G. Support Facilities

Describe (location and size) any support facility disturbances (equipment staging, equipment and material storage and/or lay down areas, vehicle parking, temporary housing and/or trailers) to be created or situated on the site during exploration operations.

One staging/lay-down area will be created on one of the proposed drill pads, on private lands where Kennecott has an access agreement

H. **TOTAL ACREAGE TO BE DISTURBED BY PROJECT =** 3.631482 **acres**
(include all disturbed acreage from drill pads, cuttings disposal pit, new roads, improved roads and overland travel routes)

SECTION 5 – CHEMICAL USE (§302.D.4)

A. Check any and all chemicals that will be used for this project.

■	Drilling Mud (i.e., EZ Mud)	Type/Quantity: Poly-Plus, Poly-Plus 2000, Soda
■	Diesel Fuel	Quantity: 150 Gallons/day
■	Down-hole Lubricants	Type/Quantity: Platinum Lube, Tube Lube
■	Lost Circulation Materials	Type/Quantity: Kwik-Plug
■	Oils/Grease	Quantity: 5 gallons
■	Gasoline	Quantity: 10 gallons/day
■	Hydraulic Fluid	Quantity: 5 gallons
☐	Ethylene Glycol	Quantity:
■	Cement	Type/Quantity: Portland Cement/500 lbs.
■	Water	Source: Private land owner in AZ source
☐	Bentonite	Quantity:
☐	Fertilizer	Type/Quantity:
■	Other	Type/Quantity: Soda Ash/100 lbs.

B. Describe, in detail, a plan for the containment, use and disposal of all chemicals listed above:

See Exhibit D for additional information

C. Describe where equipment fueling/refueling will occur:

Fueling/refueling will occur on the proposed drill pads with adequate liner/containment.

D. Describe how hazardous material spills/leaks will be handled:

See Exhibit D for additional information

E. Identify spill cleanup materials that will be kept on-site (check all that apply):

- [x] Bentonite clay or cat litter
- [x] Adsorbent pads, rolls, mats, socks, pillows, dikes, etc.
- [x] Drum or barrel for containing contaminated soil/adsorbent materials
- [ ] Other/list: _____
- [ ] Other/list: _____
- [ ] Other/list: _____

F. Applicant/owner/representative agrees to immediately notify the State of New Mexico immediately of any spills of hazardous materials (see page 1 of this application for phone numbers to notify): [x] Yes [ ] No

SECTION 6 – GROUNDWATER/SURFACE WATER INFORMATION (§302.D.5)

A. Provide an estimate of depth to ground water and the total dissolved solids (TDS) concentration.

Depth to groundwater (ft.): 670 TDS concentration (mg/L): 2890

Describe the source of this information:

New Mexico Office of the State Engineer Water Column/Average Depth to Water. Total dissolved solids (TDS) is from a nearby USGS well 325429109031501.

B. Will dewatering activities be conducted: ☐ Yes ☒ No

If yes, please describe:

C. Is groundwater anticipated to be encountered during exploration: ☒ Yes ☐ No

If YES:

Have you completed Form WR-07 (Application for permit to drill a well with no consumptive use of water) and mailed it to the District Office of the State Engineer? ☒ Yes

Have you completed Form WD-08 (Well plugging plan of operations) and mailed it to the District Office of the State Engineer? ☒ Yes

Attachment Exhibit E (copies of the completed WR-07 and WD-08 forms)

D. Exploration Borehole Abandonment

Dry Boreholes

☐ Dry hole abandonment (option 1): 100% bentonite pellets/chips (i.e. HOLEPLUG® manufactured by Baroid Industrial Products), dropped from surface then hydrated in place according to the manufacturer's recommendations, emplaced from total depth to within 12 feet of the original ground surface, followed by 10 feet of neat cement, followed by 2 feet of topsoil/topdressing.

☐ Dry hole abandonment (option 2): Neat cement slurry, mixed according to the manufacturer's recommendations, emplaced with a tremie pipe from total depth to within 2 feet of the original ground surface, followed by 2 feet of topsoil/topdressing.

☐ Dry hole abandonment (option 3): Cement + 6% bentonite slurry, mixed according to the manufacturer's recommendations, emplaced with a tremie pipe from total depth to within 2 feet of the original ground surface, followed by 2 feet of topsoil/topdressing.

■ Dry hole abandonment (option 4): High-density bentonite clay (≥ 20% active solids; i.e. QUIK-GROUT® manufactured by Baroid Industrial Products), mixed according to the manufacturer's recommendations, emplaced with a tremie pipe from total depth to within 12 feet of the original ground surface, followed by 10 feet of neat cement, followed by 2 feet of topsoil/topdressing.

☐ Dry hole abandonment (option 5): Other materials / describe and justify use:

Wet Boreholes

☐ Wet hole abandonment (option 1): Neat cement slurry, mixed according to the manufacturer's recommendations, emplaced with a tremie pipe from total depth to within 2 feet of the original ground surface, followed by 2 feet of topsoil/topdressing.

■ Wet hole abandonment (option 2): High-density bentonite clay (≥ 20% active solids; i.e. QUIK-GROUT® manufactured by Baroid Industrial Products), mixed according to the manufacturer's recommendations, emplaced with a tremie pipe from total depth to within 12 feet of the original ground surface, followed by 10 feet of neat cement, followed by 2 feet of topsoil/topdressing.

☐ Wet hole abandonment (option 3): Other sealing material approved by the Office of the State Engineer. Describe and include well plugging plan approval by the State Engineer:

D. Applicant agrees to contain any water produced from the exploration borehole at the drill site and acknowledges that discharge of this water to a watercourse may be a violation of the Federal Clean Water Act: ■ Yes ☐ No

E. Is any drilling proposed to occur within the channel of any perennial, intermittent, or ephemeral streams? ☐ Yes ☒ No

F. Is any drilling anticipated to occur within 100 feet of any perennial, intermittent, or ephemeral streams? ☒ Yes ☐ No

SECTION 7 – RECLAMATION & OPERATION PLAN (§302.D.6 AND 302.I.K)

A. Salvage/Preservation of Topsoil

Before any grading/blading or similar activities occur in relation to this project, operator agrees to salvage and preserve all topsoil and topdressing for use in future reclamation of this project ☒ Yes ☐ No

Describe how topsoil will be salvaged prior to initiation of exploration activities (check all that apply):

☐ N/A – no construction work will occur, therefore no soil salvage is needed.
☒ Excavated from drill pads and stored at each drill pad
☒ Excavated from road improvements/construction and stored adjacent to road
☐ Excavated from mud/fluid pits and storage at each pit
☐ Other, describe:

See guidance notes at Exhibit F

B. Erosion Control

Describe the best management practices that will be implemented to control erosion:

☐ Silt fencing Location: _____

☐ Straw waddles Location: _____

☐ Straw bales Location: _____

☐ Ditches/swales Location: _____

☒ Berms/dikes/dams Location: Around perimeter of drill sites

☐ Sediment basins Location: _____

☐ Other or N/A Type/Location: _____

C. Wildlife Protection / Noxious Weed Prevention

Will the perimeter of drill pits be fenced to prevent wildlife entrapment? ☒ Yes ☐ No

Proposed pit perimeter fence material:

Chain link fence

Describe how the pit perimeter fencing will be installed and secured (i.e., T-posts, wooden stakes, etc.):

Fence will be secured with T-posts. If required, Kennecott will install netting over the sumps to further protect bird species.

Will at least one side of the interior of the drill pits be sloped at 3:1 as a ramp for wildlife escape? ☒ Yes ☐ No

If No, will another type of constructed escape ramp be installed? Describe:

Applicant/Owner/Operator commits to pressure-washing or steam-clean all equipment prior to entering the permit area: ☒ Yes ☐ No

D. Reclamation Details

Describe in general how re-contouring or re-establishment of the surface topography will be restored:

Re-contouring/re-establishment will be completed using a backhoe bucket. Before/during/after drilling photos will be taken, these will be used to re-establish the original surface topography.

Describe how the reclamation of portals, adits, drilling fluid/mud and/or waste pits, shafts, ponds, roads and other disturbances will be performed:

Reclamation will be completed using a backhoe to backfill any drilling fluid and/or waste pits restoring landscape to the original topography.

Is seeding of the reclaimed areas proposed: ☒ Yes ☐ No

If no, provide a justification as to why no revegetation is needed:

Plant mix to be used in the re-establishment of vegetation:

☐ US Forest Service specified mix applied through broadcast at their recommended rate
☒ BLM specified mix applied through broadcast at their recommended rate
☐ Other:

Plant Name	Seeding Rate (lbs./acre)

Broadcast applied or drill-seeded: ☒ Broadcast ☐ Drill-seeded

Scarification Methods (check all that apply):

- ☐ Primary tillage to greater than 6-inches depth of all constructed drill pads and roads
- ☐ Secondary tillage of all constructed drill pads and roads, and/or overland travel routes
- ■ Chain drag or tire drag over seeds in areas used for overland travel
- ■ Light raking of soil over seeds in areas used for overland travel
- ☐ None
- ☐ Other/describe:

Mulch Use:

- ☐ Certified weed-free straw mulch will be placed over areas that have been tilled/disced or ripped at a rate of 2 tons per acre, and will be crimped in place
- ■ No mulch is proposed

E. Reclamation Timeline

Applicant/Owner/Operator commits to reclamation of the disturbed area as soon as possible following the completion or abandonment of the exploration operation, unless the disturbed area is included within a complete permit application for a new mining permit:

■ Yes ☐ No

Anticipated Start of Reclamation:

- ☐ 0-30 days after completion of drilling
- ☐ 31-60 days after completion of drilling
- ■ Other/specify: As soon as exploration activites end; seasonal and weather dependent.

SECTION 8 – PERMIT FEES AND FINANCIAL ASSURANCE (§302.I.2 AND 5)

A. Financial assurance must be posted with Mining and Minerals Division prior to approval of this application. The acceptable forms of financial assurance are surety bonds, letters of credit, and certificates of deposit. Provide an estimate of, and an instrument for, the proposed financial assurance required by Subpart 3.

- [x] Surety Bond
- [ ] Letter of Credit
- [ ] Cash Account / Certificate of Deposit

- [ ] Estimated amount of financial assurance: _____

Or

- [x] Applicant will provide the amount of financial assurance calculated by MMD.

B. Attach the permit fees as determined pursuant to Subpart 2. The application fee for a minimal impact exploration permit is $500.00.

- [ ] Money Order/Cashier's Check
- [x] Check

Check Number : _____

Financial Institution: _____

SECTION 9 – CERTIFICATION REQUIREMENT (§302.I.3 & 4)

I certify that I have personally examined and am familiar with the information submitted herein, and based on my inquiry of those individuals responsible for obtaining the information; I believe the submitted information is true, accurate, and complete. I agree to comply with the reclamation requirements set forth in this permit application and related correspondence, the New Mexico Mining Act and the Rules. Further, I certify that I am not in violation of any other obligation under the New Mexico Mining Act or the Rules adopted pursuant to that Act and I allow the Director to enter the permit area, without delay, for the purposes of conducting inspections during exploration and reclamation.

Signature of Permittee or Authorized Agent: _____ 26 FEB 2019

Name (type or print): Land Manager and Operating Officer

Title/Position: Land Manager and Operating Officer

Date: Salt Lake City, UT 84104-4269

Exhibit A

Map

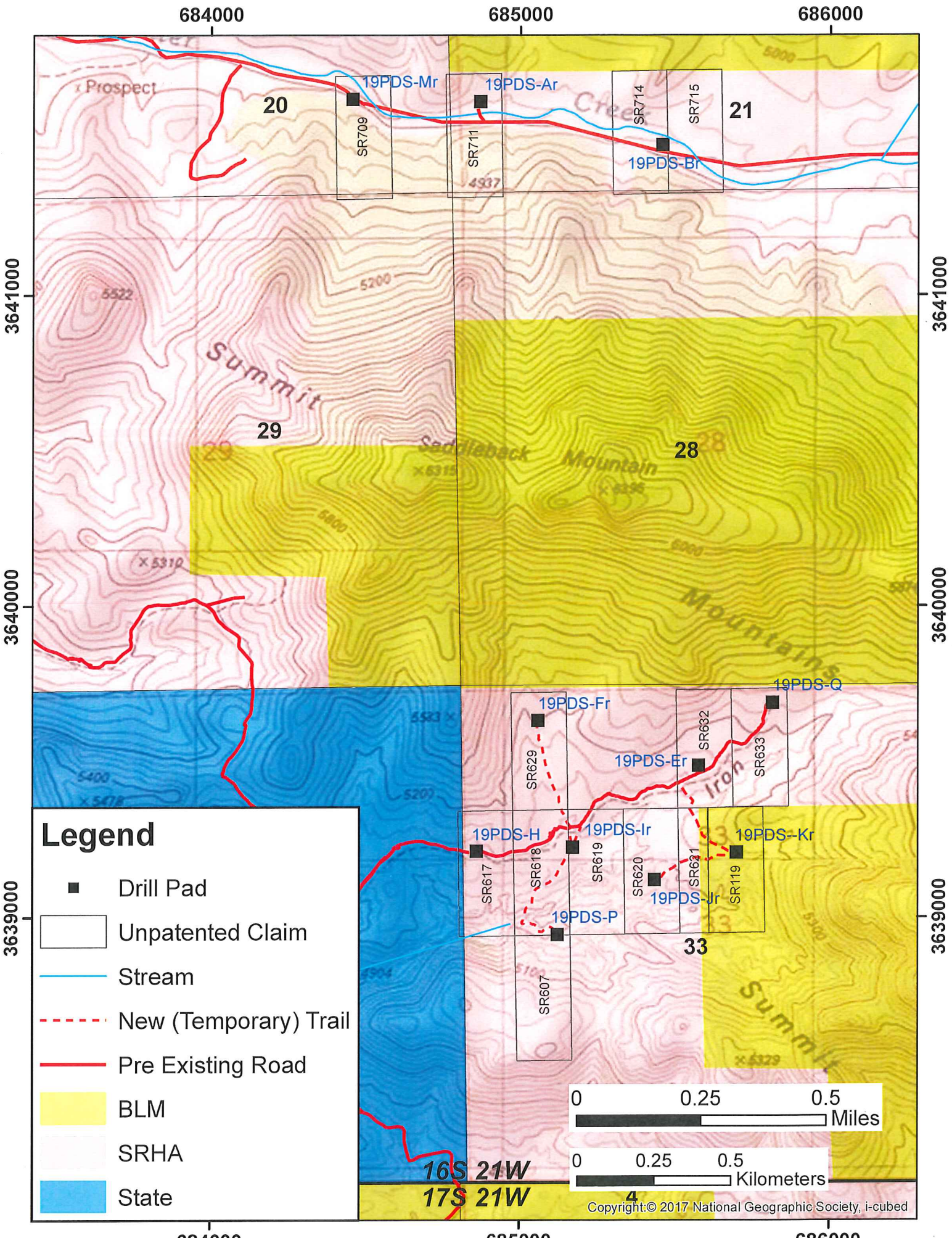

684000
685000
686000
3641000
3640000
3639000
Prospect
20
21
29
28
33
4
19PDS-Mr
19PDS-Ar
19PDS-Br
SR709
SR711
SR714
SR715
Summit
Saddleback Mountain
Mountains
19PDS-Fr
19PDS-Er
19PDS-Q
SR629
SR632
SR633
Iron
19PDS-H
19PDS-Ir
19PDS-Kr
SR617
SR618
SR619
SR620
SR621
SR119
19PDS-Jr
19PDS-P
SR607
Summit
16S 21W
17S 21W
Legend
Drill Pad
Unpatented Claim
Stream
New (Temporary) Trail
Pre Existing Road
BLM
SRHA
State
0 0.25 0.5 Miles
0 0.25 0.5 Kilometers
Copyright:© 2017 National Geographic Society, i-cubed

Exhibit B

BLM 3809 NOTICE

Rio Tinto

Erik Best, Land Manager
Kennecott Exploration Company
2640 West 1700 South
Salt Lake City, UT 84104
USA
T +1 801 363-5870

PRIVATE and CONFIDENTIAL
(to the Extent Allowable under Law)

By email: lkeeven@blm.gov

January 30, 2019

Leighandra Keeven
Geologist
U.S. Bureau of Land Management
Las Cruces District Office
1800 Marquess Street
Las Cruces, NM, 88005

Re: Notice of Intent to Conduct Mineral Exploration, Grant County, New Mexico

Dear Ms. Keeven:

Kennecott Exploration Company ("Kennecott"), a subsidiary of Rio Tinto, with an address of 2640 West 1700 South, Salt Lake City, UT 84104, Tel: 801-363-5870, (Federal Identification Number (FEIN) 52-1626611; New Mexico Business ID # 5600588) and pursuant to the BLM's § 3809 regulations, is submitting a Notice of Intent to explore on the **Steeple Rock** project located on BLM lands in Grant County, New Mexico. Kennecott holds mineral rights (unpatented mining claims) where current exploration under this notice is planned. *Kennecott will limit any surface disturbance on BLM lands subject to this Notice to less than five acres* (emphasis supplied).

All areas planned for disturbance have undergone a cultural resource review with identified artefacts (if any) to be avoided. A copy of the cultural resource survey will be supplied to the BLM for review.

Kennecott will be the operator for the planned drilling activities. Richard Patterson is the project geologist supervising the drilling activities.

A. Lands Affected:

Kennecott holds unpatented mining claims in Section 33 of Township 16S Range 21W NMPM, Grant County, New Mexico, where all work under this notice is contemplated[1] *(See maps at Exhibits 1a and 1b).* The site is approximately 14 miles by road, NE of Duncan, Arizona (across the New Mexico state line). For access, Kennecott proposes using both existing trails on private lands pursuant to the Stock Raising Homestead Act ("SRHA") that may require minimal maintenance, and also, creation of a new

[1] Located on the "SR119" unpatented mining claim; NMMC 198398

(temporary) trail on both SRHA and BLM lands. The drill site and access roads will be demarcated with "T" posts marked with flagging, prior to commencement of activities.

B. Cultural and Wildlife Resources:

Kennecott has commissioned a cultural resources survey as part of this Notice, with no identified cultural resources being impacted. Kennecott will submit a report of the survey as soon as practicable. In the event that Kennecott does find additional cultural resources impacting areas for disturbance under this Notice, Kennecott will immediately cease activities impacting such areas and will report those findings to the New Mexico State Historical Preservation Office.

C. Commencement and Duration:

Anticipated drilling commencement date is approximately April 1, 2019 and is projected to last for up to 30 days, seasonally and weather dependent.[2] Drilling operations are conducted on a schedule of 24 hours a day (two shifts), 7 days a week. Reclamation of drill sites is anticipated to be completed at the cessation of exploration activities, seasonally and weather dependent.

D. Planned Activity:

Kennecott is planning a drill program of one (1) drill holes on BLM lands. The site will be accessed by a new (temporary) trail approximately 160 feet in length and 10 feet wide. The total disturbance for all drill pads and new (temporary) access trail is **0.265 acres** (emphasis supplied).

Additionally, Kennecott is requesting the ability for multiple boreholes that can be drilled from the proposed exploratory drill site.

Kennecott will utilize experienced and bonded drill contractors utilizing one diamond drill rig. It is anticipated that the exploratory borehole(s) is expected to be less than 3000 feet.

It is anticipated that each drilling contractor will have one mud system tank, one parts container, one core press, one sand removal unit (centrifuge), multiple ½ to ¾ ton support trucks (left at staging area), and drilling equipment such as rods and benign drilling muds. Drill muds will include Kwik-Plug, Poly-Plus, Poly-Plus 2000, Soda Ash, Smooth Grout 20, Max Gel, Platinum Pac, Platinum Pac UL, Tube Lube, Portland Cement, and Platinum Lube *(Drill mud names are proprietary to the chosen mud company, but the contents will be very similar to those outlined above.)*

It is anticipated that it will take approximately 30 days to drill and abandon each drill hole.

Kennecott and its drill contractors will access the sites with 4x4 Trucks/Vehicles. One of the support trucks is contemplated to be a 4000-gallon water truck.

---

[2] While Kennecott anticipates both a 30 day program for the drill hole on BLM lands and a planned start-up date of June 1, 2019, this is subject to Kennecott internal budget and scheduling. Therefore, Kennecott requests a full two year time frame for this Notice, unless amended.

E. Drill Pads

One (1) drill sites is proposed under this Notice. The site will be accessed by a new (temporary) access trail and will be reclaimed as soon as practicable at the cessation of the drill program. It is anticipated that the drill pad will may require minimal disturbance or levelled with earth moving equipment. The Atlas Copco rig requires a relatively small operating area of approximately 100 ft. x 100 ft (0.229 acres).

There will be a sump associated with the drill pad, which will be lined and fenced off.

Additionally, trash will be removed daily and Kennecott will have hydrocarbon containment and fire suppression equipment on site.

A staging area/lay down site will be sited on adjacent, private lands not subject to this Notice.

F. Drill Access

Kennecott is proposing to use existing trails that may require minimal disturbance, and where practicable, use of overland travel that does not require any ground disturbance.

A small bulldozer/excavator or equivalent will be used to maintain/create temporary roads and construct drill sites. Roads will be maintained to a 10 foot maximum width, with clearing of vegetation only where necessary for access/safety.

G. Water Management

While water from adjacent lands will be used for the drill program, groundwater may be encountered. Together with this Notice, Kennecott is seeking a New Mexico State Engineer "*Application for Permit to Drill a Well with No Water Right*" *(NM State Engineer form WR-07)*

Drill cuttings will be buried in lined sumps on site.

H. Water Source for Drilling:

Kennecott is planning on securing water from an adjacent landowner (ranch), which will be transported to the site to support drilling and to make cement slurry used for drillhole abandonment.

I. Proximity to Water Bodies:

The proposed exploration program lands are located in rolling desert terrain with dry washes. There is no permanent water body nearby the lands covered by this Notice.

The planned access will cross seasonal water streambeds on pre-existing access roads/trails.

J. Signage Controls:

When the drill rig is operational, the drill site will be cordoned off and marked with highly visible signage including warning signs indicating that it is an active work site. Kennecott will have containment for all potential leaks of drill fluids and hydrocarbons at the drill sites. Additionally, the drill rig is fitted with fire precautions including engine and exhaust guarding, and adequate firefighting equipment will be available at drill sites.

K. Abandonment:

All drill holes will be abandoned to meet New Mexico State requirements. Holes will be abandoned immediately after drilling activities and will be cemented from bottom-to-top using "Portland" cement and water in a proportion to yield a slurry weight of approximately fifteen (15) pounds per gallon. This method of plugging will ensure successful long term plugging of each hole.

L. Drill Pad and Access Reclamation:

Kennecott's practice is to record the status of drill sites prior to ground disturbance, during drilling, and after reclamation to monitor and document the reclamation process.

The drill sites and access trails will be reclaimed in accordance with BLM and New Mexico State MMD requirements and Kennecott procedures. If required by the BLM and the MMD, reclaimed areas will be seeded with an approved seed mixture.

M. Bonding:

As part of this Notice, Kennecott is requesting a surety bond calculation from the BLM and MMD in an appropriate amount for the activities contemplated by the Notice. In order to comply with Kennecott's internal requirements, the bond amount will need to be on State or Federal Government letterhead.

N. Health, Safety, Environment and Communities (HSEC)

Kennecott is committed to the highest standards of Health, Safety, Environment and Communities (HSEC) practice. Kennecott uses an audited environmental management system and will implement an "Integrated Project Management Plan" for the proposed exploration program. This Management Plan will contain an "Emergency Response Plan", copies of permits, identified HSEC risks and controls, and Rio Tinto operational guidelines on drill site environmental management, reclamation, and fire control.

Additionally, for protocols, Kennecott has guidance notes on Reclamation and Topsoil Management together with Ground Disturbance

If you have any questions or comments, or require further information, please contact me by email at erik.best@riotinto.com

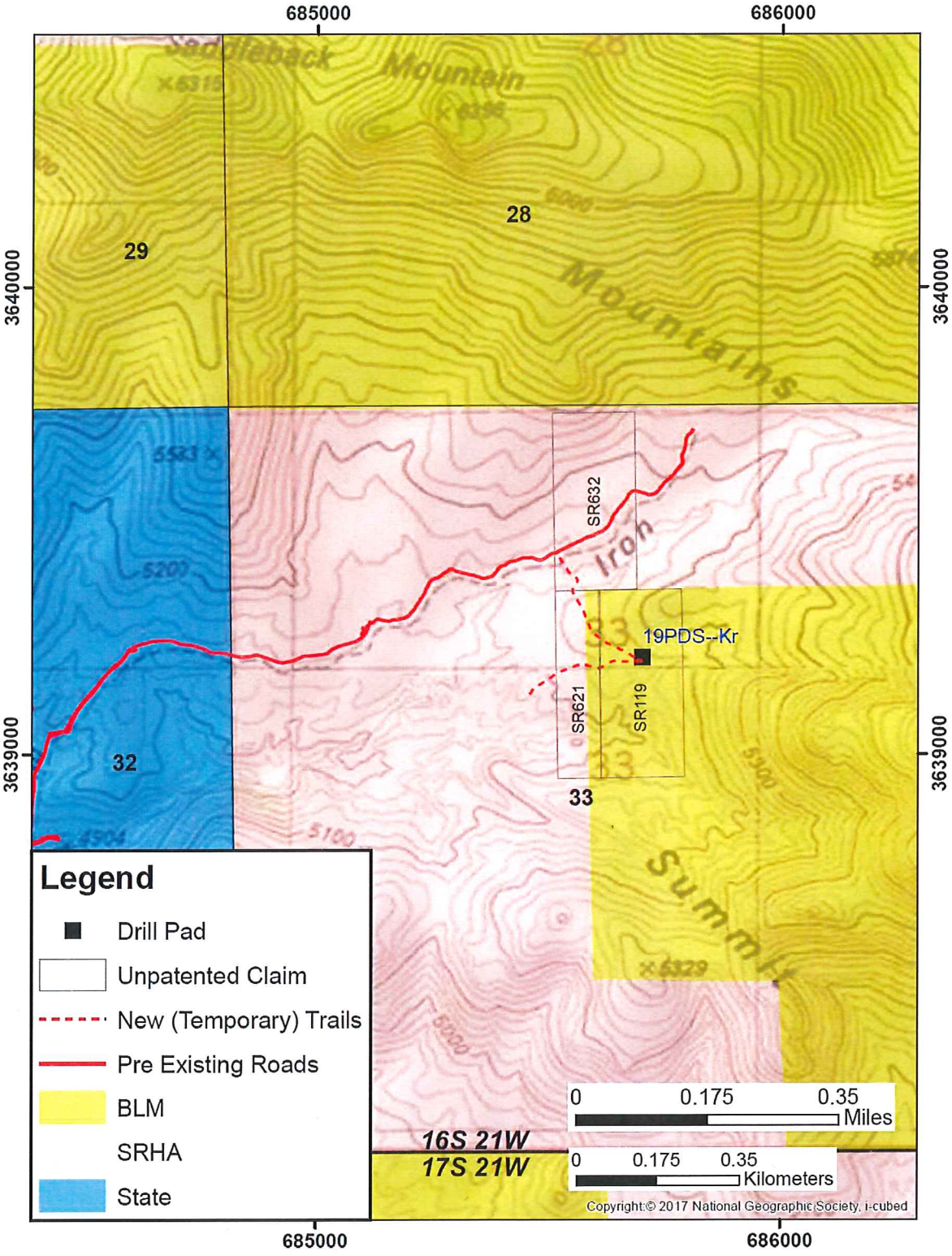
Sincerely,

KENNECOTT EXPLORATION COMPANY

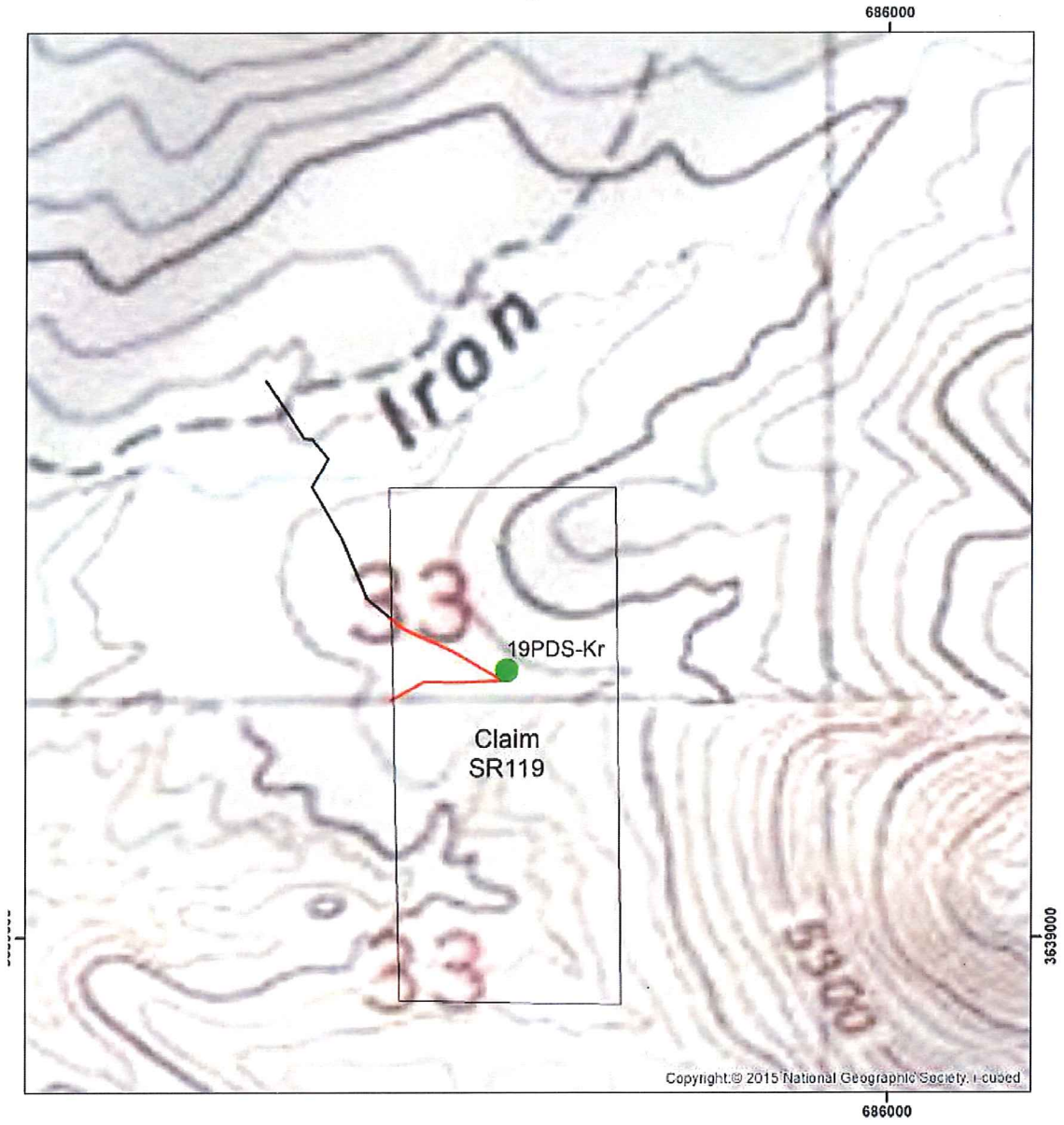
Erik Best
Land Manager

cc. R. Franklin
R. Patterson
Clint Chisler (NM MMD; Clinton.Chisler@state.nm.us)

Map 1a


685000
686000
3640000
3639000
Saddleback Mountain
Mountains
28
29
32
33
SR632
Iron
SR621
SR119
19PDS--Kr
Summit
16S 21W
17S 21W
Legend
Drill Pad
Unpatented Claim
New (Temporary) Trails
Pre Existing Roads
BLM
SRHA
State
0 0.175 0.35 Miles
0 0.175 0.35 Kilometers
Copyright:© 2017 National Geographic Society, i-cubed

Map 1b



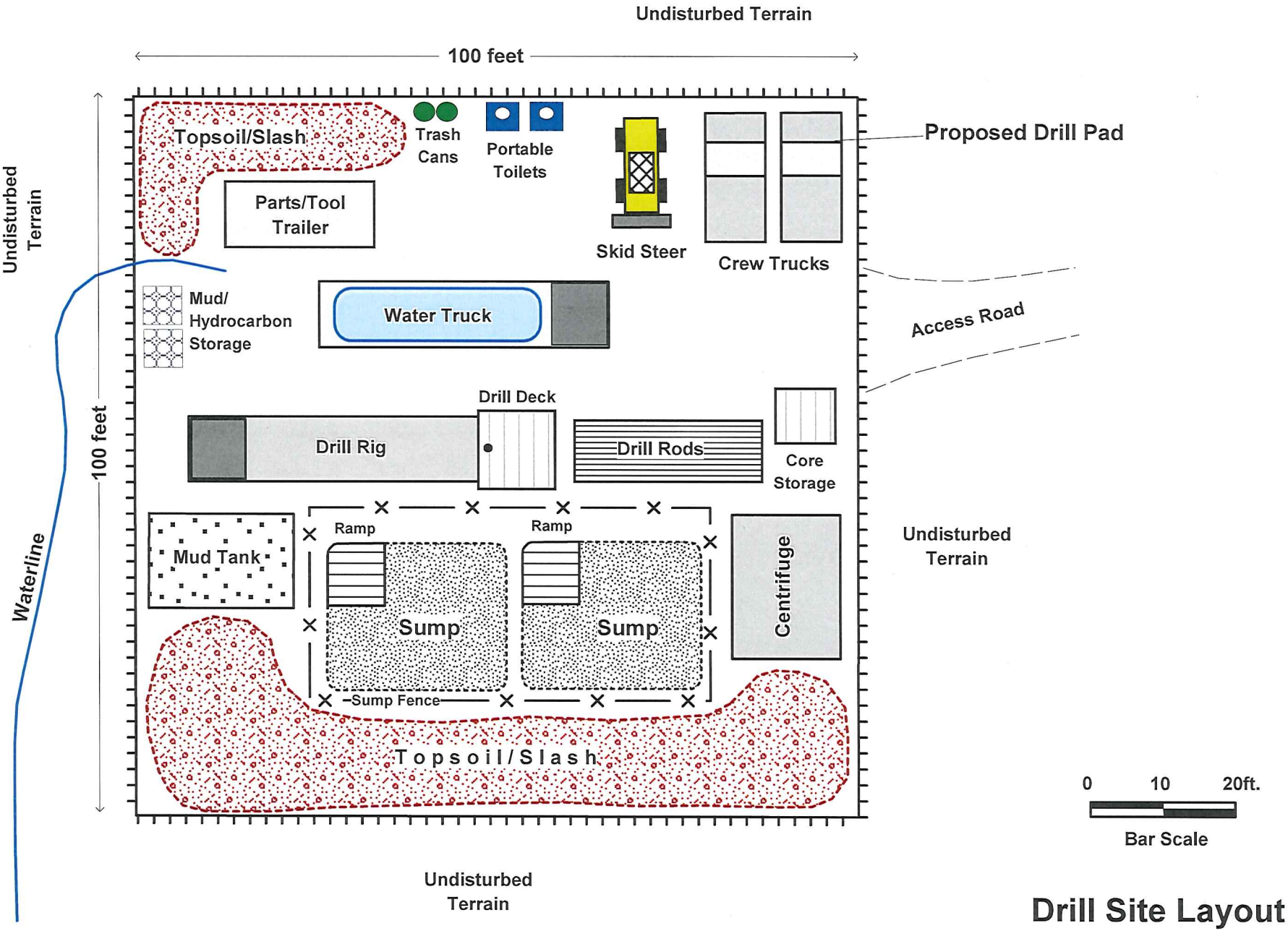
Drill Hole
claims
Road_Type
BLM
BLM Access on SRHA
0 0.015 0.03 0.06 0.09 0.12 0.15 Miles

Rio Tinto

Coordinate System: WGS 1984 UTM Zone 12N
Projection: Transverse Mercator
Datum: WGS 1984
False Easting: 500,000.0000
False Northing: 0.0000
Central Meridian: -111.0000
Scale Factor: 0.9996
Latitude Of Origin: 0.0000
Units: Meter
Scale: 14,000
Reference Scale: 1:0
Rio Tinto © Copyright

Exhibit C

Drill Site Layout



Drill Site Layout

Exhibit D

Supplemental Information

Exhibit D SUPPLEMENTAL INFORMATION

SECTION 3 (Maps and Project Location) Part C:

Provide detailed driving directions to access site:

(*Note, access requires crossing private property where Kennecott has an access agreement)

- For drill holes **19PDS-Mr, Ar, and Br:** From Apache Grove, AZ, go 1.7 miles south on State Highway 75. Turn east (left) on Bitter Creek Rd. Proceed for 10.4 miles to **19PDS-Mr**.
  19PDS-AR: from 19PDS-Mr proceed 0.3 miles along Bitter Creek Road.
  19PDS-Br: from 19PDS-Mr proceed 0.6 along Bitter Creek Road.

- For drill holes **19PDS- H, IR, ER, Q, Fr, P, Jr, and Kr:** From Duncan, AZ, drive 2.8 miles north on State Highway 75. Turn north (right) on Goat Camp Rd and proceed for 2.6 miles. Turn northwest (right) on an unnamed road for 1.7 miles. Turn north (left) on an unnamed road and proceed for 1.2 miles. Turn northeast (right) on an unnamed road and proceed 1.7 miles to **19PDS-H.**
  19PDS-Ir: From 19PDS-H proceed 0.2 miles on an unnamed road.
  19PDS-ER: From 19PDS-H proceed 0.5 miles on an unnamed road.
  19PDS-Q: From 19PDS-H proceed 0.7 miles on an unnamed road.
  19PDS-FR: At 19PDS-IR turn north (left) and proceed 0.2 miles on a newly constructed road.
  19PDS-P: At 19PDS-IR turn south (left) and proceed 0.8 miles on a newly constructed road.
  19PDS-KR: From 19PDS-H proceed 0.5 miles on an unnamed road. Turn south (right) and proceed for 0.2 miles on a newly constructed road.
  19PDS-JR: From 19PDS-Kr proceed 0.2 miles on a newly constructed road.

SECTION 5 (Chemical Use) Part B:

Describe, in detail, a plan for the containment, use and disposal of all chemicals listed above:

Containment/Spill protection –Two 55-gallon drums with secure, clamped lids for oil/solvent spill clean-up to absorb an amount of oil equal to the volume of hydraulic oil and the volume of motor and transmission oil contained in the drill rig, and a sufficient number of oil absorbent pads capable of oil/solvent recovery for spill clean-up, including a containment liner underneath the drill rig. All drums and barrels will be located in an appropriately sized aluminum tray (or suitable rubberized canvas) with absorbent pads and beneath any other equipment that may leak petroleum products. Absorbent pads and aluminum trays (or suitable rubberized canvas) will be placed below the drilling equipment at all times. Designated smoking areas at each drill site and each will be

equipped with a fire extinguisher and a container for burnt matches and other discarded smoking materials.

SECTION 5 (Chemical Use) Part D:

Describe how hazardous material spills/leaks will be handled:

Daily inspections of all equipment will be conducted and documented. Part of the inspection includes looking for leaks on the equipment lines (i.e. hydraulic lines). If a leak is discovered absorbent pads will be used to soak up as much of the spilled/leaked material as possible. Pads will then be placed into a 55-gallon drum with secure/clamped lids and disposed of at a disposal center or under the guidance of regulatory authority. If spill occurs contact will be made with the proper regulatory authorities, New Mexico Environment Department/EPA, to report environmental issue or incident.

Exhibit E

New Mexico Office of State Engineer WR07/08 Applications

Erik Best
Kennecott Exploration Company
2640 South 1700 West
Salt Lake City, UT 84104
USA
T + 1 (801) 363-5870

Fedex Delivery

February 26, 2019

State of New Mexico
Office of the State Engineer
321 West Spruce Street
Deming, New Mexico, 88030

Re: WR 07/08 Application for Permit to Drill 11 Exploratory Wells with No Water Rights

To Whom It May Concern

Please find attached, three copies of Kennecott Exploration Company's Wr07/08 Applcation for Permit to Drill 11 Exploratory Wells with No Water Rights and Well Plugging Plan of Operations together with a courtesy copy of the Part 3 Permit Application for Minimal Impact Exploration Permit submitted to the MMD. The fee for this should be $5.00 per well for a total of $55.00.

Additionally, please find (1) copy of the Mineral Impact Exploration Operation Permit. The Drilling and Plugging Operations are described in Section 6, which indicate that holes will be fully plugged, total depth from bottom of hole to minus 12 fee of land surface with high density bentonite using a tremie pipe. The hole will then be plugged with ten feet of neat cement to minus 2 feet of land surface. The pipe is to be cut off at this point at minus 2 feet below land surface and the remainder of the hole filled with compacted earth and top soil.

If you have any questions or concerns regarding the application, please do not hesitate to contact me at (801) 363-5870.

Sincerely,

KENNECOTT EXPLORATION COMPANY

Erik Best
Land Manager

cc. R. Franklin
R. Patterson
D. Fischer

File No.

NEW MEXICO OFFICE OF THE STATE ENGINEER

WR-07 APPLICATION FOR PERMIT TO DRILL A WELL WITH NO WATER RIGHT

(check applicable box):

For fees, see State Engineer website: http://www.ose.state.nm.us/

Purpose:	☐ Pollution Control And/Or Recovery	☐ Ground Source Heat Pump
☐ Exploratory Well (Pump test)	☐ Construction Site/Public Works Dewatering	☒ Other(Describe): Hardrock Exploratory Drillhole
☐ Monitoring Well	☐ Mine Dewatering	

A separate permit will be required to apply water to beneficial use regardless if use is consumptive or nonconsumptive.

☐ Temporary Request - Requested Start Date: Requested End Date:

Plugging Plan of Operations Submitted? ☒ Yes ☐ No

1. APPLICANT(S)

Name: Kennecott Exploration Company	Name:
Contact or Agent: check here if Agent ☐ Erik Best, Operating Officer	Contact or Agent: check here if Agent ☐
Mailing Address: 2640 W 1700 S	Mailing Address:
City: Salt Lake City	City:
State: Zip Code: Utah 84104	State: Zip Code:
Phone: 801-363-5870 ☐ Home ☐ Cell Phone (Work):	Phone: ☐ Home ☐ Cell Phone (Work):
E-mail (optional): erik.best@riotinto.com	E-mail (optional):

FOR OSE INTERNAL USE Application for Permit, Form WR-07, Rev 11/17/16

File No.:	Trn. No.:	Receipt No.:
Trans Description (optional):		
Sub-Basin:	PCW/LOG Due Date:	

2. **WELL(S)** Describe the well(s) applicable to this application.

Location Required: Coordinate location must be reported in NM State Plane (NAD 83), UTM (NAD 83), or Latitude/Longitude (Lat/Long - WGS84).
District II (Roswell) and District VII (Cimarron) customers, provide a PLSS location in addition to above.

☐ NM State Plane (NAD83) (Feet)
☐ NM West Zone
☐ NM East Zone
☐ NM Central Zone

☐ UTM (NAD83) (Meters)
☐ Zone 12N
☐ Zone 13N

☒ Lat/Long (WGS84) (to the nearest 1/10th of second)

Well Number (if known):	X or Easting or Longitude:	Y or Northing or Latitude:	Provide if known: -Public Land Survey System (PLSS) (*Quarters or Halves , Section, Township, Range*) OR - Hydrographic Survey Map & Tract; OR - Lot, Block & Subdivision; OR - Land Grant Name
19PDS-H	109° 1' 26.48" W	32° 52' 31.65" N	W 1/2 Section 33, Township 16S, Range 21W
19PDS-Q	109° 0' 49.60" W	32° 52' 47.56" N	E 1/2 Section 33, Township 16S, Range 21W
19PDS-Er	109° 0' 58.64" W	32° 52' 40.18" N	E 1/2, Section 33, Township 16S, Range 21W
19PDS-Fr	109° 1' 18.59" W	32° 52' 45.18" N	W 1/2, Section 33, Township 16S, Range 21W
19PDS-Br	109° 1' 1.78" W	32° 53' 45.01" N	W 1/2, Section 21, Township 16S, Range 21W

NOTE: If more well locations need to be described, complete form WR-08 (Attachment 1 – POD Descriptions)
Additional well descriptions are attached: ☒ **Yes** ☐ **No** **If yes, how many** 6

Other description relating well to common landmarks, streets, or other:

Well is on land owned by:

Well Information: NOTE: If more than one (1) well needs to be described, provide attachment. Attached? ☐ **Yes** ☐ **No**
If yes, how many_____

Approximate depth of well (feet): 6000	Outside diameter of well casing (inches): 8
Driller Name: Boart Longyear	Driller License Number: WD-1161

3. **ADDITIONAL STATEMENTS OR EXPLANATIONS**

Applicant has submitted to the State of New Mexico, Energy, Minerals and Natural Resources Department, a Part 3 Minimal Impact Exploration Permit Application; a 3809 Notice for Exploration to the BLM-NM State office; where Applicant holds mineral rights.

FOR OSE INTERNAL USE

Application for Permit, Form WR-07

File No.:	Trn No.:

4. SPECIFIC REQUIREMENTS: The applicant must include the following, as applicable to each well type. Please check the appropriate boxes, to indicate the information has been included and/or attached to this application:

Exploratory: ☐ Include a description of any proposed pump test, if applicable.	**Pollution Control and/or Recovery:** ☐ Include a plan for pollution control/recovery, that includes the following: ☐ A description of the need for the pollution control or recovery operation. ☐ The estimated maximum period of time for completion of the operation. ☐ The annual diversion amount. ☐ The annual consumptive use amount. ☐ The maximum amount of water to be diverted and injected for the duration of the operation. ☐ The method and place of discharge.	**Construction De-Watering:** ☐ Include a description of the proposed dewatering operation, ☐ The estimated duration of the operation, ☐ The maximum amount of water to be diverted, ☐ A description of the need for the dewatering operation, and, ☐ A description of how the diverted water will be disposed of.	**Mine De-Watering:** ☐ Include a plan for pollution control/recovery, that includes the following: ☐ A description of the need for mine dewatering. ☐ The estimated maximum period of time for completion of the operation. ☐ The source(s) of the water to be diverted. ☐ The geohydrologic characteristics of the aquifer(s). ☐ The maximum amount of water to be diverted per annum. ☐ The maximum amount of water to be diverted for the duration of the operation. ☐ The quality of the water. ☐ The method of measurement of water diverted. ☐ The recharge of water to the aquifer. ☐ Description of the estimated area of hydrologic effect of the project. ☐ The method and place of discharge. ☐ An estimation of the effects on surface water rights and underground water rights from the mine dewatering project. ☐ A description of the methods employed to estimate effects on surface water rights and underground water rights. ☐ Information on existing wells, rivers, springs, and wetlands within the area of hydrologic effect.
Monitoring: ☐ Include the reason for the monitoring well, and, ☐ The duration of the planned monitoring.	☐ The method of measurement of water produced and discharged. ☐ The source of water to be injected. ☐ The method of measurement of water injected. ☐ The characteristics of the aquifer. ☐ The method of determining the resulting annual consumptive use of water and depletion from any related stream system. ☐ Proof of any permit required from the New Mexico Environment Department. ☐ An access agreement if the applicant is not the owner of the land on which the pollution plume control or recovery well is to be located.	**Ground Source Heat Pump:** ☐ Include a description of the geothermal heat exchange project, ☐ The number of boreholes for the completed project and required depths. ☐ The time frame for constructing the geothermal heat exchange project, and, ☐ The duration of the project. ☐ Preliminary surveys, design data, and additional information shall be included to provide all essential facts relating to the request.	

ACKNOWLEDGEMENT

I, We (name of applicant(s)), ERIK BEST, OPERATING OFFICER, KENNECOTT EXPLORATION COMPANY
Print Name(s)

affirm that the foregoing statements are true to the best of (my, our) knowledge and belief.

E B
Applicant Signature

Applicant Signature

ACTION OF THE STATE ENGINEER

This application is:

☐ approved ☐ partially approved ☐ denied

provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare and further subject to the attached conditions of approval.

Witness my hand and seal this _____ day of _____ 20 _____ , for the State Engineer,

_____, State Engineer

By: _____
Signature

_____
Print

Title: _____
Print

FOR OSE INTERNAL USE

Application for Permit, Form WR-07

File No.:	Trn No.:

NEW MEXICO OFFICE OF THE STATE ENGINEER

ATTACHMENT 1
POINT OF DIVERSION DESCRIPTIONS

This Attachment is to be completed if more than one (1) point of diversion is described on an Application or Declaration.

a. Is this a:	**b. Information on Attachment(s):**
☐ Move-From Point of Diversion(s) ☐ Move-To Point of Diversion(s)	Number of points of diversion involved in the application: _____ Total number of pages attached to the application: _____

☐ **Surface Point of Diversion** OR ☒ **Well**

Name of ditch, acequia, or spring:	
Stream or water course:	
Tributary of:	

c. Location (Required):
Required: Move to POD location coordinate must be either New Mexico State Plane (NAD 83), UTM (NAD 83), **or** Lat/Long (WGS84)

NM State Plane (NAD83) (feet) NM West Zone ☐ NM Central Zone ☐ NM East Zone ☐	UTM (NAD83) (meters) Zone 13N ☐ Zone 12N ☐	☒ Lat/Long–(WGS84) 1/10th of second	OTHER (allowable only for move-from descriptions - see application form for format) ☒ PLSS (quarters, section, township, range) ☐ Hydrographic Survey, Map & Tract ☐ Lot, Block & Subdivision ☐ Grant
POD Number: 19PDS-Kr	X or Longitude: 109° 0' 54.10" W	Y or Latitude: 32° 52' 31.02" N	Other Location Description: E 1/2, Section 33, Township 16S, Range 21W
POD Number: 19PDS-P	X or Longitude: 109° 1' 16.62" W	Y or Latitude: 32° 52' 22.82" N	Other Location Description: W 1/2, Section 33, Township 16S, Range 21W
POD Number: 19PDS-Jr	X or Longitude: 109° 1' 4.39" W	Y or Latitude: 32° 52' 28.35" N	Other Location Description: W 1/2, Section 33, Township 16S, Range 21W
POD Number: 19PDS-Ir	X or Longitude: 109° 1' 14.49" W	Y or Latitude: 32° 52' 31.90" N	Other Location Description: W 1/2, Section 33, Township 16S, Range 21W
POD Number: 19PDS-Mr	X or Longitude: 109° 1' 40.21" W	Y or Latitude: 32° 53' 50.40" N	Other Location Description: W 1/2, Section 20, Township 16S, Range 21W
POD Number: 19PDS-Ar	X or Longitude: 109° 1' 24.39" W	Y or Latitude: 32° 53' 49.88" N	Other Location Description: W 1/2, Section 21, Township 16S, Range 21W
POD Number:	X or Longitude:	Y or Latitude:	Other Location Description:
POD Number:	X or Longitude:	Y or Latitude:	Other Location Description:
POD Number:	X or Longitude:	Y or Latitude:	Other Location Description:

FOR OSE INTERNAL USE

Form wr-08
POD DESCRIPTIONS - ATTACHMENT 1

File Number:	Trn Number:
Trans Description (optional):	

Exhibit F

Guidance Notes on Ground Disturbance and Reclamation/Topsoil Management

Exploration

Procedure: Ground Disturbance - NAR

Role of Originator: HSEC Coordinator

Date approved: 22-Feb-2010

Document version number: 1.1

Purpose

This Procedure describes requirements for minimizing environmental impacts when carrying out activities that require vegetation and/or land clearing.

Scope

This Procedure applies to all RTX NAR employees and contractors involved in vegetation and/or land clearing activities, including road building, drill pad construction, air-strip construction, and trenching.

Accountabilities

Project Geologist

- Prior to beginning work, carefully plan all road building and other ground disturbance activities according to this guideline.
- Provide training to personnel to recognize endangered or valuable (commercial) species.
- Ensure all applicable regulations are adhered to.

Project Coordinator

- Develop project-specific procedures for ground disturbance activities and communicate them to contractors.
- Regularly inspect and correct deficiencies at the project site.

Contractors

- Ensure that environmental impacts associated with ground disturbance are managed according to legal requirements and project-specific procedures.

All Employees and Contractors

- Be aware of fire restrictions and forest or bush fire risks.
- Take all precautions to avoid starting fires.

Definitions

Procedure Detail

Table of Contents

1.0 General Requirements

All clearing activities must be planned and managed to expose the smallest practical area of land for the shortest amount of time, and to reclaim the area as soon as possible. The intent is to minimize disturbance without impacting on safety aspects (e.g. drill sites shall be as small as practicable without potential negative impact on safety). All regulations applicable to the activity must be defined and adhered to. Refer to *NAR HSEC Legal Obligations Register.*

The construction of access roads can result in hidden environmental and socio-economic impacts. The following must be considered when deciding to build roads:

- The cost of a road includes not just initial construction, but also maintenance and rehabilitation, as well as increased reputational and economic risk to KEX from impacts to the environment. Refer to *RTX NAR Change Management Procedure.*

- RTX must assume some responsibility for other users of the road and any impacts they might impose on the environment through hunting, fishing, camping, or other off road activities.

2.0 Planning

Prior to any ground disturbance, it is essential that all aspects of the activity are considered and planned carefully. Careful planning of a road or track will reduce environmental impacts, reduce maintenance costs, and make reclamation easier, cheaper, and more effective.

Planning must include the following:

2.1. Identification of Environmental Issues

Before beginning work, all project specific environmental issues related to ground disturbance must be identified in a risk assessment. To properly understand the site risks, an inspection of the length of the proposed route should be completed. The pre-existing site conditions must be documented with photos and/or an inspection report. For major disturbances and/or sensitive areas, a baseline environmental study and/or archaeological study, conducted by an appropriate professional, may be required.

2.2. Communication with Stakeholders

Discussions should take place with landowners/land managers and other key stakeholders prior to ground disturbance so their views can be taken into consideration. Local groups may provide information on alternative existing routes, areas to be avoided (sensitive or inaccessible areas, breeding grounds), or potential future uses of the road or track (which may influence the standard of construction). Consultation should continue as necessary during the work program and decommissioning stages.

2.3. Alternative Access Options

In difficult terrain, alternate methods of access (e.g. helicopter) may be less expensive and have less environmental impact. Existing roads should be used as much as possible. If using existing private roads, permission must be obtained from the appropriate road owner or manager, and RTX should provide for road maintenance. Consider scheduling the work for winter or dry season when

frozen or dry waterways may be used for access, and equipment may be driven over frozen or dry solid ground with minimal disturbance.

2.4. Determine the Best Route

Where available aerial photographs should be used to plan routes that:

- Maximize the use of existing adjacent tracks, to reduce the length requiring clearing;
- Follow the contour of the land;
- Make use of existing clearings and areas less prone to environmental impact (consider the possibility of driving vehicles directly over existing vegetation rather than clearing a track);
- Are located away from streams, wet areas, drainage features, steep slopes, areas of high erosion potential and other environmentally sensitive areas;
- Involve minimal stream crossings and require minimal tree clearing, particularly of any old growth or mature trees or cacti; and
- Are visually unobtrusive to the general public (this is an aesthetic consideration as well as one that discourages any future potential recreational use). eg. dog-legs at intersections and meandering routes. See Figure 1.

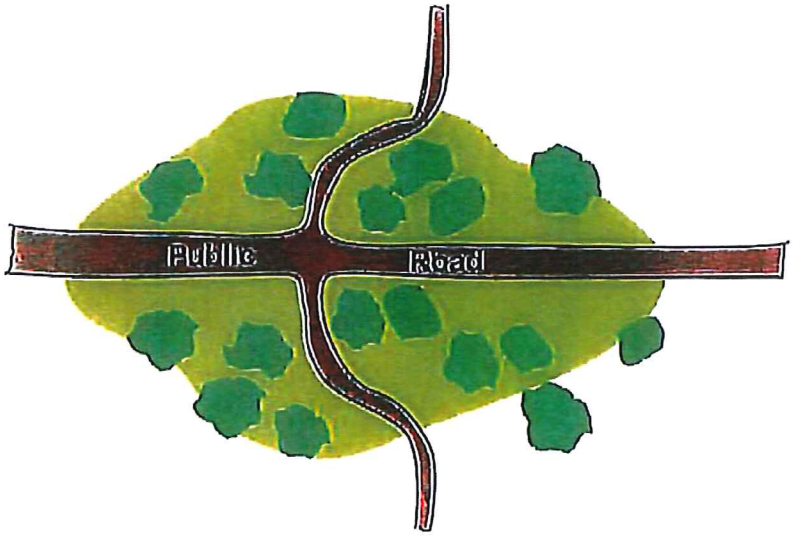


Figure 1. Correct positioning and "dogleg" layout of a new track leaving an existing roadway

2.5. Development and Reclamation Plan

Before beginning construction, a Reclamation Plan must be developed. Refer to the *RTX NAR Reclamation and Topsoil Management Procedure.* Please note that reclaimation plans may be incorporated into Project Management Plans as determined by the Project Geologist and HSEC Team. The decesion may be based on risk, project size and project complexity.

3.0 Construction

3.1. General Construction Requirements

During road construction and other ground clearing activities, all efforts must be made to minimize the disturbance of vegetation, soil, and rock.

In addition, the following must be adhered to:

- Prior to work (if relevant), all equipment must be cleaned and checked so as to prevent the introduction of weeds.
- Roads must be designed and constructed to match their intended use.
- Avoid working at times of animal migration, spawning, nesting, or calving.
- Work should be completed with the smallest, lightest machine suitable and safe for the job.
- Only experienced, trained, and certified operators are permitted to use heavy equipment.
- The length and width of the road must be marked prior to beginning work to prevent over-cutting.

- Fuels and oils must be managed according to the *RTX NAR Hazardous Materials Management Procedure.*
- Employees and Contractors must be aware of fire restrictions and forest or bush fire risks and take all precautions to avoid starting fires.

3.2. Vegetation Removal and Management

The careful removal and management of vegetation and topsoil will minimize erosion and facilitate rehabilitation. Refer to the *RTX NAR Reclamation and Topsoil Management Procedure.*

- MINIMIZE VEGETATION AND SOIL DISTURBANCE. DO NOT CLEAR VEGETATION MORE THAN 6 MONTHS IN ADVANCE OF WHEN IT IS REQUIRED.
- Train personnel to recognize endangered or valuable (commercial) species to avoid cutting them.
- Cut vegetation close to the ground (unless a dozer is to be used for road building).
- Leave an appropriate buffer zone around all waterways (check local regulatory requirements).
- As much as possible, leave large trees intact and weave the track around them (to reduce visual and commercial impact)
- Manage cut and cleared vegetation so that it does not degrade habitats or pose a fire hazard.
- Remove cut vegetation, decaying vegetation (mulch), topsoil, and subsoil and stockpile separately. If possible, leave the organic mat, roots, and topsoil intact. Refer to *RTX NAR Reclamation and Topsoil Management Procedure.*

3.3. Surface Water Management and Erosion Control

During clearing activities, surface water must be managed with water diversion systems in order to reduce the volume of water entering disturbed areas (run-on), and prevent ditch water (runoff) from draining directly to streams. Sediment should be controlled (settled and/or filtered) as close to source as possible using temporary structures such as straw bale barriers or silt fences.

Stream crossings must be constructed to an appropriate standard and in compliance with local regulations.

3.4. Reopening Old Tracks

When opening former tracks or access roads, overhanging vegetation and logs across the track must be cut rather than pushed out of the way with either an excavator or a dozer. All former drainage must be reopened and additional drainage installed wherever necessary.

4.0 Operation and Maintenance

- Vehicles must drive at a reasonable speed and in a manner that minimizes soil erosion and disturbance to vegetation.
- Disturbed areas, sediment control structures, and stream crossings must be inspected regularly.
- To reduce and control dust, keep surfaces sprayed with water or a dust suppressant wherever practical, and reduce vehicle speeds.
- All damage caused to existing roads and tracks during the course of exploration activities must be repaired.

4.1. Other Land Clearing Activities

Other land clearing operations generally disturb a much smaller area than access roads but are subject to similar environmental procedures. Site selection is critical for special use clearings such as airstrips and campsites that may see long-term use.

Airstrips on land require a large flat well drained area with clear approach and departure paths. Airstrips typically require stripping and stockpiling of topsoil to expose subsoil. Areas with coarse sand and gravel are ideal to promote natural drainage.

Special considerations for campsite selection are described in the *RTX NAR Camp Management Procedure.*

5.0 Drill Pads

Drill pads are to be kept to the minimum possible size required for safe and practical drilling operations and should be located in an area that requires minimal or no clearing wherever practical. All drill pad sites must be located an appropriate distance from drainages, water bodies, and environmentally sensitive areas.

All cleared topsoil, subsoils and vegetation are to be stockpiled separately and managed in accordance with the *RTX NAR Reclamation and Topsoil Management Procedure.* Reclamation of drill pads must also be conducted according to the RTX NAR *Reclamation and Topsoil Management Procedure.*

6.0 Bulk Sampling, Trenching and Borrow Pits

The following issues must be considered during excavation activities:

- Divert any water which could run into the work area.
- Use fences around the work area and/or shore or bench excavation walls as required to protect wildlife and human life
- If material with Acid Rock Drainage (ARD) potential or other hazardous geological material (such as Uranium) is encountered, it should be handled as per the *RTX NAR Drilling Management Procedure* (generally buried and capped).
- Any groundwater should be managed as per the *RTX NAR Water Management Procedure.*
- Refer to *RTX NAR Rehabilitation and Topsoil Management Procedure.*

7.0 Inspections and Audits

Periodic inspections of cleared areas are to be undertaken by the Project Geologist or Project Coordinator. Sites are required to be inspected for, but not limited to:

- Signs of erosion;
- Unnecessary driving off access roads and tracks; and
- Litter and rubbish.

References

1. Prospectors and Developers Association of Canada (PDAC). Environmental Excellence in Exploration. 2002-2003. Available at: URL:http://private.e3mining.com. Accessed September 22, 2004.
2. NAR HSEC Legal Obligations Register
3. RT HSEC Interactions Procedure
4. RTX NAR Change Management Procedure
5. RTX NAR Contractor Management Procedure
6. RTX NAR Camp Management Procedure
7. RTX NAR Water Management Procedure
8. RTX NAR Drilling Management Procedure
9. RTX NAR Waste Management Procedure
10. RTX NAR Hazardous Materials Management Procedure
11. RTX NAR Reclamation and Topsoil Management Procedure
12. Project Specific HSEC Management Plan

Figure 4: Guidance Note of Reclamation and Topsoil Management

Exploration

Procedure: Reclamation and Top Soil Management - NAR

Role of Originator: HSEC Coordinator

Date approved: 21-Feb-2010

Document version number: 1.1

Purpose

This Procedure is to describe the proper handling of topsoil and the steps that must be followed for reclamation of areas disturbed by exploration activities.

Scope

This Procedure applies to all RTX NAR employees and contractors involved in topsoil management or reclamation activities, including reclamation of roads, trenches, drill pads, and camps.

Accountabilities

Project Geologist
- Develop a project-specific reclamation plan as early as possible in the program, and revise it as necessary as the project develops.
- Ensure that reclamation work is successful and documented.

Project Coordinator
- Supervise and manage all earthworks and reclamation works on site.
- Periodically monitor reclaimed areas.

Contractors
- Ensure that earthworks and reclamation works are completed according to the project specific reclamation plan.

Definitions

Procedure Detail

Table of Contents

Procedure: Reclamation and Topsoil Management

1.0 General Requirements

The purpose of reclamation is to return disturbed sites to their near-original profile, drainage, and vegetation, to the maximum practical extent. Early and effective planning, prior to work commencing, is key to successful reclamation. All land disturbed by exploration activities must be reclaimed as soon as practical after the completion of the work (unless an alternative land use has been planned).

2.0 Topsoil Management

Topsoil must be carefully managed because it provides valuable nutrients, microorganisms, seeds, minerals, and rootstocks that are needed for successful reclamation following exploration activities. Topsoil management strategies must be included in a project specific reclamation plan (this can be part of the *Project HSEC Management Plan)*, developed at the beginning of the project, and revised as required throughout the project.

The plan should include the following considerations:

- whether clearing and stripping of topsoil within a specific area can be avoided in the first place;
- investigation of the area to be stripped to determine the depth of the soil horizons and the quality of the topsoil;
- timing of work and subsequent reclamation so that topsoil storage times are minimized (to protect soil integrity for reclamation);
- vegetation, topsoils and subsoils must be stripped and stockpiled separately, as per Figure 1. Stockpile locations should be planned carefully to minimize movement of soils;
- design topsoil stockpiles to be spread out as low as possible, in windrows less than 2m high;
- protection of stockpiles from water runoff (drains may be required on slopes);
- wet topsoil should not be handled, as this tends to destroy soil structure;
- if stockpiles are to be stored for a long time, they should be revegetated (preferably with local seeds) to help prevent erosion;
- monitoring of the stockpiles to ensure avoidance of weed infestation;
- replacement of all topsoil and subsoil in the correct order of removal and thickness; and
- scattering cut vegetation over the area to minimize erosion, act as a seed source, for moisture retention, and shade for new growth during reclamation.

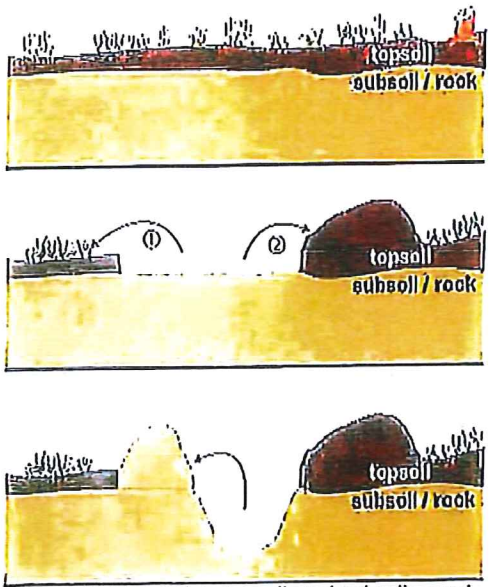


Figure 1. Vegetation, topsoil, and subsoils must be stripped and stockpiled separately

3.0 Reclamation

3.1. Planning for Reclamation

Prior to work being done on an exploration project, a project specific reclamation plan (this can be part of the *HSEC Management Plan)* must be in place that sets objectives and criteria for success, and describes what will be done to achieve them.

The following issues must be considered in developing the reclamation plan:
the views and expectations of relevant landowners and stakeholders;

- future land use and resource demands (eg. landowners and stakeholders may want access roads left open);
- the scale of the disturbance;
- identification of environmentally or culturally sensitive areas and/or features (eg. permafrost, wetlands, watercourses, wildlife habitat corridors, endangered or protected species, archaeological sites, etc);
- whether or not baseline studies are required (eg. water quality testing, wildlife and floral inventories), and whether or not environmental, or archaeological professionals are required to do the work;
- training of employees and contractors on their environmental obligations;
- timing of the work (reclamation should be done as soon as practical after work is completed and concurrently where possible);
- documentation requirements for pre disturbance and post disturbance conditions (photos taken from designated monitoring points, maps, inspection reports, soil profile logs, etc. as needed);
- re-contouring and other earthworks requirements (including topsoil management);
- revegetation or development of land for alternative use; and
- environmental monitoring and audits to determine the success of reclamation.

The reclamation plan must be revised as necessary during the work program. Refer to *RTX NAR Change Management Procedure.*

3.2. Implementing a Reclamation Program

The following actions must be considered during reclamation work (implementation will vary depending on the type and scale of disturbance):

- the general tidy up of any remaining waste, sample bags, survey tape, markers, etc.;
- removal of all temporary structures and facilities (fencing, water storage tanks, etc.) as well as any residual chemicals, hydrocarbons, or contaminated soil (*according to the RTX NAR Hazardous Materials Management Procedure*);
- installation of erosion control measures where required prior to vegetation establishment;
- re-contour land to re-establish (as close as possible) pre-disturbance topography and drainage patterns (refer to the *RTX NAR Ground Disturbance Procedure*);
- for extremely compacted areas, consider tilling/scarring/ripping to promote revegetation (see Figure 2);
- replacement of subsoil, topsoil, and vegetation cuttings in the proper order; and
- revegetation of the disturbed area as per section 2.0.

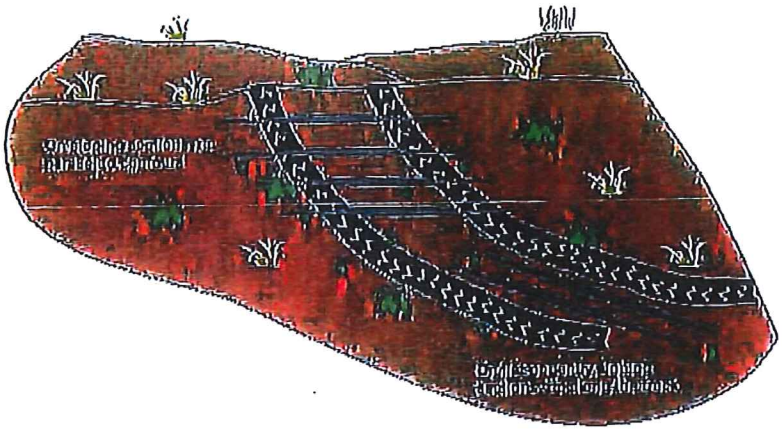


Figure 2. Compacted roads and tracks should be ripped to promote re-vegetation

3.3. Roads and Tracks

In addition to those described in section 2.0, reclamation of roads and tracks will include the following considerations:

- the removal of all drains, culverts, and creek crossings; and
- placement of barriers and/or signs across track entrances to prevent access.

3.4. Drill Pads

In addition to the considerations listed in section 2.0, reclamation of drill pads will include the following:

- Any sumps or other excavations should be filled in by replacing, in the correct order, excavated and stockpiled material (refer to section 2.0)
- Hole plugging/capping, drill core management, and other requirements must be managed as per the *RTX NAR Drilling Management Procedure* and *RTX NAR Water Management Procedure*.

3.5. Trenches, Sumps, Bulk Sampling Sites, and Borrow Pits

In addition to those described in section 2.0, reclamation of excavated areas including trenches, sumps, bulk sample sites, and borrow pits will include the following considerations:

- borrow pit floors may require tilling if severely compacted;
- if re-contouring to the original form is not possible, excavation walls are to be shored to a safe angle, to allow safe egress for people and wildlife;
- when filling a trench or pit, soil should be lightly compacted, and slightly mounded to compensate for settling and to discourage water collection; and
- pits should always be reshaped so that they are free draining.

3.6. Exploration Camps

Overnight and short-term campsites should be generally cleaned up and left as close as possible to their original condition. Long term exploration campsites should be reclaimed as per section 2.0.

In addition:

- toilet facilities are to be appropriately decommissioned and reclaimed (lime added and buried with at least 0.5 m of soil);
- sumps must be backfilled as per section 2.0;
- any stockpiled wastes and recyclable materials must be removed; and

any exotic plants are to be removed.

3.7. Revegetation

Re-establishment of vegetation is often the most effective form of erosion control and site stabilization. Requirements for revegetation will be site specific and should be considered in the planning phase.

Key factors to consider include:
- the objectives for revegetating disturbed areas (these may include erosion control, weed control, aesthetics, replace livestock forage, replace commercial forest species etc.);
- whether natural revegetation is sufficient (eg. from properly handled and re-spread topsoil), or is seeding and/or planting required;
- is an environmental professional required (to select appropriate species of plants, choose seeding and/or planting methods and densities, determine the need for fertilizers or mulches, etc.); and
- fences and/or guards may be required to protect seeds and/or young plants from wildlife.

3.8. Post Reclamation Works

After reclamation works have been completed, follow-up actions should include:
- erecting appropriate signage where necessary to advise that reclamation is in progress and personnel are not permitted to enter the area;
- final communication with land owners, land managers and other relevant stakeholders to demonstrate to them that work is completed, or obtain their input on what further work may be required;
- documentation of the reclamation procedures implemented (including photographs); and
- monitoring should continue until an inspection or environmental audit confirms that reclamation operations have been successfully completed.

4.0 Monitoring

All reclaimed areas must be monitored periodically to determine the success of the reclamation effort. Criteria for success should be determined during the planning stage of reclamation.

Environmental monitoring programs must define:
- the required frequency and duration of monitoring;
- monitoring methods to be used (photographs, inspection reports, water testing, etc.);
- monitoring parameters (eg. percentage cover compared to a control site, plant density, etc.);
- any ongoing requirements for sites contaminated by hydrocarbons or other chemicals; and
- contingency plans for areas of failed revegetation, erosion, weed infestations, etc.

References

1. Prospectors and Developers Association of Canada (PDAC). Environmental Excellence in Exploration. 2002-2003. Available at: URL:http://private.e3mining.com. Accessed September 22, 2004.
2. RTX NAR Change Management Procedure
3. RTX NAR Contractor Management Procedure
4. RTX NAR Hazardous Materials Management Procedure
5. RTX NAR Ground Disturbance Procedure
6. RTX NAR Drilling Management Procedure
7. RTX NAR Water Management Procedure
8. Project Specific HSEC Management Plan