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:

Amended Application 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 <u>will exceed 1000 cubic yards of excavation</u> , per permit (dril pads, mud pits, and roads will not be counted in excavated materials).
☐ 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.

☐ Ye	es 🛭 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.			
☐ Ye	es 🛚 No	My project is located in a known cemetery or other burial ground.			
☐ Ye	es 🛚 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.			
☐ Ye	s ⊠ 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.			
☐ Ye	s 🛭 No	My project is expected to use or using cyanide, mercury amalgam, heap leaching or dump leaching in its operations.			
☐ Ye:	s 🛭 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.			
☐ Ye	es 🛭 No	My project requires a variance from any part of the Mining Act Rules as part of the permit application.			
lf you a	answer <u>yes</u> to a ation operation	any of the above questions, your project <u>does not</u> qualify as a minimal impact			
Confi	dential Inforr	nation			
□ Ye	s 🛭 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."			
Γimel	ine				
•	Exploration ap	oplications must be provided no less than 45 days prior to the anticipated ons 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: Emma-B						
Nearest Town To Project: Tyrone, NM 88065						
Applicant Name and Contact Information (en	tity obligated under the Mining Act):					
Name: Freeport-McMoRan Tyrone Mining,	LLC.					
Address: P.O. Box 571 Tyrone, NM 88065						
Office Phone: (575) 912-5757	Cell Phone: (575) 313-0913					
Fax Number: Email: tbays@fmi.com						
Name of On-Site Contact, Representative, or	Consultant:					
Name: <u>Ty Bays</u>						
Address: Same as above	s: Same as above					
Office Phone: <u>Same as above</u>	Cell Phone: Same as above					
Fax Number:	Email:					

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. Applicant owns most of the property and has an agreement with the other landowner to access and drill on the property. Tyrone does own and or control all mineral rights to both properties. Attachment _____ 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 U.S. Forest Service State of NM LT Ranch LLC, P.O. Box 1497 □ Private/Corporate Silver City, NM 88061 <u>(575) 574-2283</u> Name: Freeport-McMoRan Tyrone Mining, LLC P.O. Box 571, Tyrone, NM 88065 (575) 912-5757 Other

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	(505) 954-2039
	Santa Fe, NM 87505	
US Forest Service		
☐ State of NM	T	
Claim/Lease Holder		
Name:		
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:					
A review of the files and data show no known burial sites or cultural sites on this land.					
Attachment					
D. Has a wildlife survey or vegetation survey been performed for the permit area?					
\square Yes \square No If yes, please provide the author, title, date and report number, and include a copy of the survey with this application, if possible:					
A breeding bird survey will be conducted just prior to construction if construction occurs during					
the period of May 1 thru August 31. Surveys of soil, vegetation and wildlife for the Tyrone					
Mine area are summarized in Sections 2.6 and 2.9 of the Revised Closure/Closeout Plan					
Tyrone Mine dated April 30, 1999 and are applicable to the proposed exploration area.					
Attachment					

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

A. Project	Location:				
Townsh	nip <u>19S</u>	F	Range	15W Section	25
Townsh	nip19S	R	lange	15W_Section_	36
Townsh	nip	F	Range	Section	
List the dril	I hole/exploration r	name and the GPS o	coordinates fo	or each site.	
I.D. Number 1 2 3 4 5 6 7 8	Northing / Latitude 32'37'14.00' 32'36'58.64" 32'36'58.50" 32'37'10.00 32'37'07.00" 32'37'06.00" 32'37'05.69" 32'37'04.57	Easting / Longitude 108'21'18.00" 108'21'32.11" 108'21'27.54" 108'21'18.00" 108'21'26.00" 108'21'22.00" 108'21'17.00" 108'21'15.66"	I.D. Number 10 11 12 13 14 15 16	Northing / Latitude 32'37'02.52" 32'37'02.45 32'36'54.68" 32'36'54.54" 32'36'49.93" 32'36'49.97" 32'36'49.72" 32'37'16.00	Easting / Longitude 108'21'31.28" 108'21'27.90" 108'21'26.93" 108'21'22.82" 108'21'18.25" 108'21'18.25" 108'21'13.00"
☐ NAD83 (Geographic UTM Zone 13 (or 1	2)	AD27 Geogra AD27 UTM Z	aphic one 13 (or 12)	
Attachment .	(for list	ing additional boreho	oles)		
B. Maps (se	ee application form	instructions for exa	mples of map	os 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
Attachments 4
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
Attachments1
C. Provide detailed driving directions to access the site: From Silver City, drive 10 miles south
on Hwy 90S. Turn west onto Tyrone Thompson Canyon county maintained road. Approximately
1 mile west turn onto existing access road. Gate is locked and will require an escort to the area
by permittee.

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

A.	Anticipated exploration: Start Date: 6/1/19 End Date: 12/31/19		
В.	List the mineral(s)/element(s) to be explored for: Copper		
C.	Proposed method(s) of exploration:		
	Air drilling (air rotary, coring, etc.):		
	# of holesDepth (ft.)Diameter (in.)		
	# of drill padsLength (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.) 65,000 lbs Number of Axles: <u>Track mounted</u>		
	Total length of drill stem that can be carried on the rig: 400' (20' pipe) 8800 lbs.		
(lbs.)	Is a support pipe truck anticipated? ⊠ Yes □ No <u>65,000</u> Weight		
	Weight of support compressor (lbs.): N/A Trailer mounted? N/A		
	Anticipated Drilling Contractor: <u>Layne Christensen</u> License No. <u>WD -1728</u>		
	Mud/fluid drilling:		
	<u>17</u> # of holes <u>1,300</u> Depth (ft.) <u>6"</u> Diameter (in.)		
	# of drill pads <u>70</u> Length (ft.) <u>40</u> 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?		

	If mud/fluid pits are proposed:					
	17 # of pits 10 Length (ft.) 10 Width (ft.) 4 Depth (ft.)					
Anticipated excavating equipment: Dozer						
How will excavating equipment be transported to the site (i.e., driven, low-boy, etc.): Driven						
	If yes, proposed material to line the mud pits:					
	Approx. Weight of Drill Rig (lbs.) Number of Axles:					
	Anticipated Drilling Contractor: License No					
	Test pits / exploratory trenches:					
	# of pitsLength (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:					
	AL ACREAGE TO BE DISTURBED DUE TO DRILL PADS = 1.09 acres nvert to acres, multiply total square footage of drill pads by 0.0000229)					
	sposal of drill cuttings					
ag	this exploration project is for uranium or other radioactive elements/minerals, applicant rees to perform a gamma radiation survey at each drill site prior to, and after, exploration tivities. Applicant/Owner/Operator agrees to restore gamma radiation levels at each drill					

	site	to pre-exploration levels	s. 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:						
			-				
	1	Dimensions of the single	proposed cutting	gs dispos	al pit (length, width, and de	pth):	
		Length (ft	.)	Width	(ft.)De	oth (ft.)	
TO (to	TOTAL ACREAGE TO BE DISTURBED DUE TO DISPOSAL PIT =acres (to convert to acres, multiply total square footage of disposal pit by 0.0000229)						
E.	Othe	er Supporting Equipment	t (check all that a	ipply):			
	\boxtimes	4x4 Trucks/Vehicles	Quantity:	4 4X4 tr	ucks		
	\boxtimes	Water Truck	Weight (lbs.):	25,000			
		Geophysical Truck	Weight (lbs.):				
	\boxtimes	Pipe Truck (rig support)	Weight (lbs.):	65,000			
	\boxtimes	Bulldozer	Type:	Cat D6			
	\boxtimes	Backhoe	Type:	Cat 420			
		Trackhoe	Type:				
		Scaper/Grader	Type:				
		Trailers	Quantity/Typ e:				
	\boxtimes	Portable Toilet	Quantity:	1			
		Other	List:				
			-				
			-				
			-				

F. Roads and Overland Travel:

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

TOTAL ACRES DISTURBED BY NEW ROA	2.17		
Emma-B Roads	6,325	15	2.17
Description of NEW Roads	Length (ft.)	Width (ft.)	Total Acres (length x width x 0.0000229)

Describe how new roads will be constructed:	Bulldozer will push them in following GPS staked
points from map.	

List for extension or widening of existing roads:

TOTAL ACRES DISTURBED BY ROAD	IMPROVE	MENTS:	.166
Emma-B Modification of Existing Roads	485	15	.166
Description of Modification to EXISTING Roads	Length (ft.)	Width (ft.)	Total Acres (length x width x 0.0000229)

Describe how existing roads will be extended or widened: <u>Existing roads will be bladed of rocks</u> and fallen debris as need to for safe passage.

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 OV	ERLAND T	RAVEL:	
Describe (location and size) any support facility disturban material storage and/or lay down areas, vehicle parking, created or situated on the site during exploration operation	temporary ho	ent stagin ousing and	g, equipment and d/or trailers) to be
H. TOTAL ACREAGE TO BE DISTURBED BY PRO include all disturbed acreage from drill pads, cutting roads and overland travel routes)	OJECT = _ gs disposal p	3.43 oit, new r	acres oads, improved

SECTION 5 - CHEMICAL USE (§302.D.4)

A. Check any and all chemicals that will be used for this project. \bowtie Drilling Mud (i.e., EZ Mud) Type/Quantity: EZ Mud Gold 3 5 gallon buckets □ Diesel Fuel Quantity: 7,500 gallons Down-hole Lubricants Type/Quantity: Lost Circulation Materials Type/Quantity: 12 tubes of grease/ 25 gal 15/40 Oils/Grease Quantity: oil Gasoline Quantity: Hydraulic Fluid Quantity: 10 gallons Ethylene Glycol Quantity: □ Cement Type/Quantity: Portland II / 660 50lb bags Source: Tyrone Mine □ Bentonite Quantity: Quick Gel / 66 50lb bags Fertilizer Type/Quantity: ○ Other Type/Quantity: Soda Ash/ 2 50lb bags B. Describe, in detail, a plan for the containment, use and disposal of all chemicals listed above: Drilling products are used down-hole with excess going into the sump with water. Portland II cement is used to abandon/plug the hole. Petroleum products will be used to equipment and all disposal will be offsite. C. Describe where equipment fueling/refueling will occur: Drill rig refueling will be done on-site via pickup with fuel tank. Soils will be cleaned up and contaminated soil will be disposed of at Tyrone Mine until final disposal.

		ow hazardous material spills/leaks will be handled: disposed of with licensed PCS containment facility.
-		
_	Idontif	
E.	identity spi	ll cleanup materials that will be kept on-site (check all that apply):
	\boxtimes	Bentonite clay or cat litter
	\boxtimes	Adsorbent pads, rolls, mats, socks, pillows, dikes, etc.
	\boxtimes	Drum or barrel for containing contaminated soil/adsorbent materials
		Other/list:
		Other/list:
		Other/list:
F.	Applicant/o immediate numbers to	owner/representative agrees to immediately notify the State of New Mexicolly of any spills of hazardous materials (see page 1 of this application for phone onotify):

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.): 500 TDS concentration (mg/L): Up to 1756 mg/L
	Describe the source of this information: Area monitor wells
В.	Will dewatering activities be conducted: ☐ Yes ☐ No
	If yes, please describe:
C.	Is groundwater anticipated to be encountered during exploration: Yes No No
	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 (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.

<u>Dry note abandonment (option 2):</u> 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:
et 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:
olicant agrees to contain any water produced from the exploration borehole at the drill site acknowledges that discharge of this water to a watercourse may be a violation of the leral Clean Water Act:

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? \square Yes \boxtimes 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): Stockpiled in place and used for reclamation.				
		V/A – no construction v	work will occur, the	erefore no soil salvage is needed.	
		xcavated from drill pa			
	\boxtimes E	excavated from road in	nprovements/cons	struction and stored adjacent to road	
	⊠ E	xcavated from mud/flu	uid pits and storag	ge at each pit	
		Other, describe:			
В.	Eros	ion 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:		
	\boxtimes	Berms/dikes/dams	Location:	Drill pads, roads and mud pits.	
		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: <u>Temporary plastic tarps over mud pits un</u> Pits will be backfilled upon completion of drilling.				
	Describe how the pit perimeter fencing will be installed and secured (i.e., T-posts, wooden stakes, etc.): Plastic tarps will be placed over mud pits while in use. Mud pits will be covered when drilling			
	is completed.			
	Will at least one side of the interior of the drill pits be sloped at 3:1 as a ramp for wildlife escape? \boxtimes Yes \square 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:			
	Back fill pits regrade drill sites and ripping if necessary. Roads will be regraded and ripped to			
	prevent erosion. All sites will be re-seeded.			

ponds, roads and other disturbances v Same as roads and drill pads- regradir	vill be performed:	waste pits, shafts
came as reads and ann pads regradii	ig and seeding.	
Is seeding of the reclaimed areas prop		
If no, provide a justification as to wl	ny no revegetation is needed:	
Plant mix to be used in the re-establish	ment of vegetation:	
☐ US Forest Service specified mix app☐ BLM specified mix applied through I☑ Other:		
Plant Name Blue Grama	Seeding Rate (lbs./acre)	
Sideoats Grama	2	
Sand Dropseed	.25	
Indian Ricegrass	2	
Purple Prairie Clover	2	
Scarlet Globemallow	1	
Winter Cover Crop of Triticale	10	_
		_
Broadcast applied or drill-seeded:	Broadcast	

	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: Rip with blade 4-6 inches prior to seeding.
	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:

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

Α.	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.
	 ☐ Surety Bond ☑ Letter of Credit ☐ Cash Account / Certificate of Deposit
	⊠ Estimated amount of financial assurance: See attached
	Or
	Applicant will provide the amount of financial assurance calculated by MMD.
В.	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☐ Check
	Check Number : 0000918765
	Financial Institution: Bank of America, N.A.

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:	
Name (type or print):	Ty Bays	
Title/Position:	Senior Land & Water Resource Analyst	
Date:	5/15/2019	