

APPENDIX A

Drill Rig Specifications

**COMMANDER RESOURCES LTD.
DRILL RIG SPECIFICATION SUMMARY
FOR STORM PROJECT LAND USE PERMIT AMENDMENT**

We have not yet confirmed which drill contractor will be used, however the typical drill rig specifications are as follows:

Heli-Portable Diamond Drill Rig Specifications (From Major Drilling)

Specification	Details	Comments
Drill Type	Boyles 17-A	Lightweight, portable drill rig made for helicopter transport.
Engine-Generator	4 Cylinder Turbo Deutz	
Pumps	Boyles Triplex diesel pump Or Electric submersible pump	The electric submersible pump can be used in deeper water, in relatively flat terrain (it is more likely that we will be using the Boyles Triplex diesel pump).
Weight	Total rig setup: 7 tons (14 000 lbs)	With all tanks full of fuel. Depending on helicopter capacity, a drill move usually involves 18-20 helicopter trips. See breakdown below.
Drill Platform Dimensions	5 m ²	The drill itself is approximately 2m long and 1.5 m wide, and sits on 5m long skids.
Water usage	15-30 m ³ /day	Whenever possible, water will be recirculated to minimize uptake from water source. 30m ³ is the maximum amount, based on continuous drilling 24 hours/day. This amount does not take into account time spent on drill moves and maintenance.

Weight Breakdown for Heli transport:

1. 1200 lbs - Timbers for drill set-up (pad)
2. 1000 lbs - Drill skids and bunks
3. 1200 lbs - Drill floor complete
4. 1000 lbs - Aluminum sub base c/w w/line tugger
5. 1500 lbs - Hoist and gear box assembly
6. 1500 lbs - Drill motor and transmission
7. 1150 lbs - 12-HH hyd. drill head c/w chuck and rod breaker
8. 1000 lbs - Drill tower (20 ft. alum)
9. 750 lbs - Hyd. M/Mix tank with Triplex pressure pump
10. 1000 lbs - Drill shack and roof plywood
11. 1000 lbs - Misc. drill equip in shack
12. 1500 lbs - Generator and gen shack unit
13. 4500 lbs - 3-fly baskets with drill equipment, spares, and supplies etc.
14. 1200 lbs - 3-fly Tidy tanks (fuel tanks)
15. 1500 lbs - Survival shack with gear
16. 5000 lbs - Drill steel (70 NQ 3m rods, 10 NW 3m casing, 2 NQ core barrels and tubes etc., misc. items)
17. 1500 lbs - Safety equipment (spill kits, fire extinguishers, pack board and basket, first aid kits, emergency communication etc.)
18. 1500 lbs - Supply pump and shack unit
19. 3000 lbs - Hoseline to reach 1500m
20. 1500 lbs - Possible misc. supply line equip. depending on length and time of the year
21. 1500 lbs - Misc. supplies also depending on location and/or weather