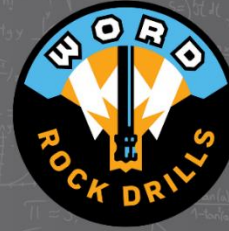


**PAYBACK ANALYSIS:**

The Cost to Hire Automation



## A COMPARISON BETWEEN A TYPICAL AIR-TRACK PNEUMATIC DRILL AND THE **RAPTOR** HYDRAULIC DRILL

PRODUCTION NUMBERS AND CONSUMABLES		PNEUMATIC	RAPTOR
Penetration Rate: Inches/Minute		20	61
Daily Production: Feet Drilled in 8 Hrs.		324	2000
Average Bit Life in Feet (1 ¼" Button Bit)		300	500
Average Steel Life in Feet (7/8" Hex 12° taper)		1500	3500
Fuel Consumption: Gallons/Hr		5.5	2
COST/ VARIABLES			
Labor Rates in \$ per Hour	\$22.50		
Cost of Diesel Fuel per Gallon	\$2.28		
Cost of 8 Foot Drill Steel	\$145.00		
Cost of 1 ¼" Button Bit	\$34.25		
No. of Days Worked per Year	240		
		+	
COST COMPARISON		PNEUMATIC	RAPTOR
Cost of Fuel per Foot Drilled		\$0.39	\$0.02
Cost of Bits and Steel per Foot Drilled		\$0.21	\$0.15
Cost of Labor per Foot Drilled		\$0.56	\$0.09
PRODUCTION COST		PNEUMATIC	RAPTOR
Production Rate: Feet/Hr		40.5	250
Total Drilling Cost Per Foot		\$1.15	\$0.26
Annual Production in Feet Drilled per Year		77,760	480,000
Annual Cost of Drilling		\$89,690.40	\$124,800
Drilling Cost Based on Raptor's Production #'s		\$552,000	\$124,800
EQUIPMENT INVESTMENT		RAPTOR	
Fully Equipped RAPTOR Quarry Drill		\$325,000	
RETURN ON INVESTMENT		RAPTOR	
RAPTOR Annual Drilling Costs Savings		\$427,200	
RAPTOR Payback (in months) Compared to Pneumatic Drill		9.1	

Notes and Assumptions:

- Raptor production numbers & costs based on 95,000 feet of drilling in a hard granite.
- Raptor test environment consisted of multiple setup/day, average hole depth 65"
- Percussion hours (time penetrating the stone) is calculated at 42% or available time/
- Air supplied to pneumatic drill is from a portable diesel powered air compressor
- In addition to the production & cost figures, the Raptor also:
  - Keeps the operator in the cab and out of harsh weather conditions
  - Significantly reduces air born dust to the operator as well as other quarry workers
  - Allows the operator to position and set up drilling parameters from inside the cab.
  - Not as physically demanding as typical drills making it easier to hire new operators.
  - A mobile fully self-contained drill that does not require any outside power source.

The information shown above is representative of data collected from a large granite producer. However, because drilling conditions vary widely (i.e. hole depth & spacing, bits & steel, set-up conditions & stone type) production and cost figures will vary from quarry to quarry.