

Ken Coyle

823802
Rexspar

82M

Rexspar

JF

Rexpar -
Report Aug 27th - 1958
to Dr. Joseph

General Mineralogy

Fine grained siliceous mainly feldspar & mica
Abundant pyrite & fluorite

Uranium minerals - fine grained uranium
pitchblende, uraninite & metatorbernite - generally
intergrowth with silice

Mit. Testing

1951-56 - N of M & T S
UBC - Prof. Foward
(Bulk samples)

Conv. Acid & carbonate leach out
Acid pressure leach - excellent
Low leaching reagent cost
Only air & water used in leach

1956 (Sept) - April 1957 - further acid
press. leach testing @ D of T S. (Bulls)

1956 - Battelle review

1957 - 12 tons - pilot plant - Sherif Jordan

1958 - D of M & T S. - 10 tons bulk fine ore
from A & R O zone

Conclusions (Sherif Jordan)

Ⓐ Excellent extraction

Ⓑ Severe corrosive erosion

(N of M & T S)

Ⓒ Satisfactory performance - Test too short
to draw conclusions on corrosion

Ⓓ Prefers solvent extraction as method
of recovering U from leach liquor -
results satisfactory

Mill Design

Program - Acid pressure leach - solvent
extraction flowchart.
1st of its kind.
- 1170 tons per day.

Costs - (ultimate after 6 months break in) + 18%
Crushing, aerial trans, mulling - \$ 5.05/ton
- excluding ins., H.O., mine, dykes, ~~gravel~~
- process royalties inc.

Power - Steam plant at site

Tailings - must be neutralized - included
(\$ 0.70 imp. lime or \$ 0.29/ton on site)

Pengasleben & Durva - average mill feed 1.53 to 1.70
#/t

Recovery - 86%

Technical risks exists.

Flourstone -

contains substantial pyrite, celestite,
sulfate & feldspars with little quartz.

1957 - Col. Sof Durva

Report May 5, 1958

And leach - basic leach - 50-66% recovery
Purcs .. + 90%

Reports

Letter Nov 29 1966 - Patella

April 9, 1957 - Sheritt Gold

Report of M.

SR-468/57 - March 29/57

475/57 - May 21/57

476/57 - " 29/57

Sheritt Conclusions

Extractions - 93-95% consistent in batch

Corrosion severe

Solvent test @ Colorado Feb 1958

Patella Conc

Process simple - pilot work not
needed.

Contract with Colorado - No PH-RX-113

Jan 19, 1957

Wright Engineers engaged to design the crushing,
grinding & recovery facilities.
Ball, Craig, Short - design of leaching, solvent
extraction etc.

Power line 33 1/3 % completed B.C. Pow. Comm.

Water - angle 3/4 mile North Thompson River

Royalties - negotiated to 5¢/ton ore milled
Can. Patents & Dev. Company.

Op. Costs 5.09 (milling only)
 Royalties 0.10
 \$ 5.19

Bungsleben & Burns Report July 31, 1957
 1.55# / ft mill head.

Inventory - \$ 145,000 120 days materials

Working Cays - 22,000 tons
 Op. Cost @ \$6.20 = \$ 285,000
 @ \$18.00 = \$ 368,000

22# H₂O₄ / f
 20# H₂O₄ / f

2.10	0.10	1.80	4.50	2.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
2.10	0.10	1.80	4.50	2.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Op. Cost	Royalties	Inventory	Working Cays	Op. Cost	Royalties	Inventory	Working Cays	Op. Cost	Royalties	Inventory	Working Cays	Op. Cost	Royalties	Inventory	Working Cays	Op. Cost	Royalties	Inventory	Working Cays	Op. Cost

Labour - 0.71
 Sal - 0.155
 O. headl. - 0.115
 Purch - 0.305
 Chem 1.124
 Powr - 0.815
 Water - 0.103
 Heat - 0.365
 Maint - 0.72
 Anal - 0.14
 4.495
 Sal, Tay 0.13
 4.625
 Cont 10% .462
 5.087
 Roy 0.10
 \$ 5.19

Solv Est Cost \$ 0.532 / 8
 22# H₂SO₄ / 7

1.33x
 13.30
 2.00
 0.10
 1.90