6035

GEOLOGICAL-MINERALOGICAL

ASSESSMENT REPORT

Describing Diamond Drill Holes #1 and #3

on the

East Group of Mineral Claims (Big Kidd Breccia Property)

(to Apply to Broach #3, #4 and Halo FR)

situated at Aspen Grove

Nicola Mining Division NTS 92/15E

HALO, TOUCH
92H/15E

Latitude 49°55'N; Longitude 120°35'W

British Columbia

on behalf of

DAVID MINERALS LTD.

of

Vancouver, B.C.

MERRITT, B. C.

10CT 2 11976

MINING RECORDER

MINERAL RESOURCES BRANCH

ASSESSMENT REPORT

Report by:

D. R. Cochrane, P.Eng., Oct. 16, 1976, Delta, B.C.



Cochrane Consultants Limited 4882 Delta St., Delta, B.C. V4K 2T8 946-9221 Geotechnical Consulting / Exploration Services geology geophysics geochemistry

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1. INTRODUCTION

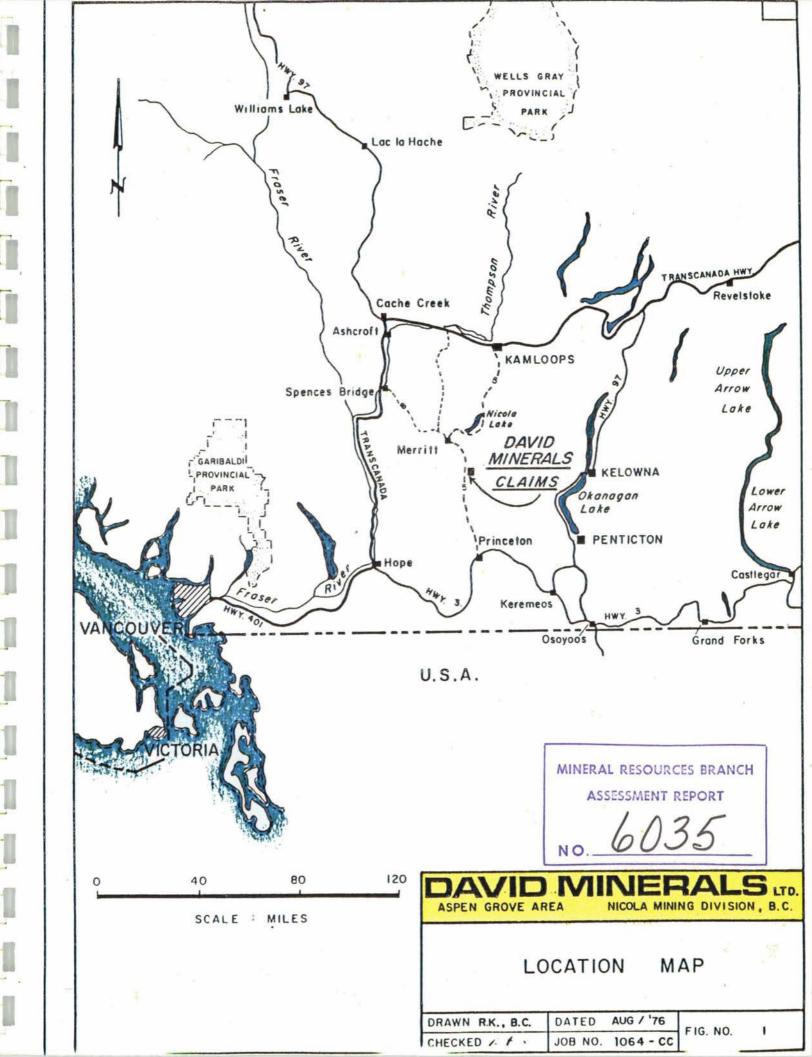
In July, 1976, Scope Exploration Services Ltd. of
Merritt, B.C. completed three (3) short EX diamond drill holes on
the Aspen Grove copper/silver property of David Minerals Ltd.
The details of the drilling were described in an Assessment Report
by the author dated August 9, 1976. The August 9 report only
briefly described the core and mineralization, and consequently
in September, 1976, nine (9) sections of core were cut and polished
from D.H. 76-1 and seven (7) sections cut from D. H. 76-3. This
report describes the results of the microscopic examinations of
these sections.

BACKGROUND

The Halo and East groups of mineral claims are situated in the Thompson plateau subdivision of the British Columbian interior plateau physiographic system. This is, in general, a gently rolling upland of low to moderate relief. The local Aspen Grove area lies within the Fairweather Hills, with elevations normally between 1000 and 1200 meters. (A.S.L.) It is a rather impressive area of British Columbia, with a moderately dry climate, with open fields, bushy draws, and the landscape dotted with lakes.

The general region is underlain dominantly by Upper Triassic
Nicola group intermediate volcanics with minor amounts of sediments.

This complex is intruded by stocks, plugs, and dikes of Jurassic
Coast Acidic intrusions. A series of north striking faults trend



across the area under discussion. One of the focal points of economic interest in the area is the Big Kidd Breccia, consisting of altered brecciated diorite, with silicification, carbonatization and sporatic sections mineralized with magnetite, pyrite, chalcopyrite, bornite, and chalcocite. A number of pits, adits, trenches and drill holes have partially explored the breccia and work on the property has been conducted for many decades and by several different companies.

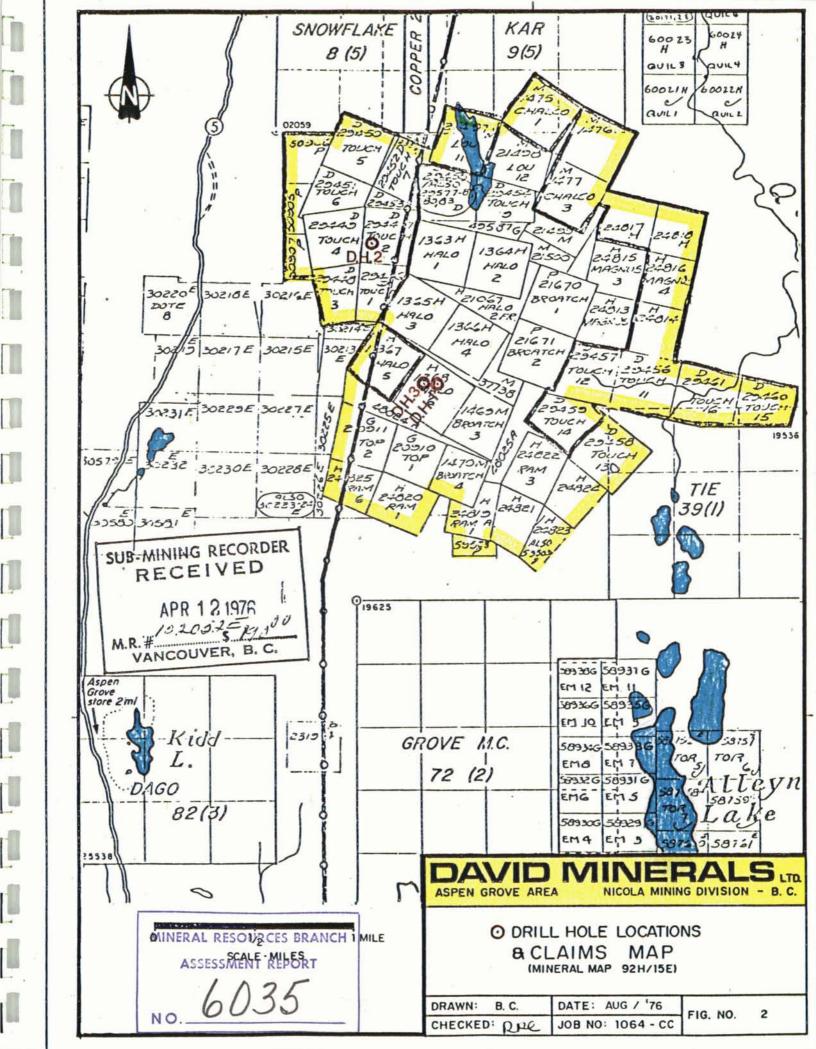
Previous work on the claims has included limited diamond drilling, test pitting, driving of prospect tunnels, and in 1968, a magnetometer and induced polarization survey. In 1972 the property was optioned to Amax Exploration who conducted geological and geochemical surveys. Most recently (1976) work has consisted of additional IP surveying and the drilling of three (3) short EX diamond drill holes.

3. CLAIMS INFORMATION

The Aspen Grove property of David Minerals consists of a group of surveyed and unsurveyed claims and fractions, collectively called the Big Kidd property. It is comprised of the following:

Record Number	Expiry Date
29446 - 61	April 12 (17), 1977
20910 - 11	June 10, 1977
24813 - 18	July 20, 1977
49587	June 18, 1977
24819	July 20, 1977
24820 - 25	July 20, 1977
1363 - 6	July 28, 1977
1367 & 8	July 28, 1977
	29446 - 61 20910 - 11 24813 - 18 49587 24819 24820 - 25 1363 - 6





Claim Name	Record Number	Expiry Date
Halo 2 Fraction	21067	July 12, 1977
Broach 1 & 2	21670 - 71	Nov. 21, 1976
Broach 3 & 4	1469 - 70	Sept. 22, 1976
Chalco 1 - 3 (incl.)	1475 - 77	Sept. 22, 1977
Halo Fraction	37738	Sept. 26, 1976
Lou 11 to 14	21497 - 500	Sept. 27, 1977
SNO 1 & 2 Fraction	48024 - 25	Jan. 26, 1977
EX 1, 1 Fraction, 2	50905, 06, 07	Nov. 18, 1977

Total 56

The claims are held by David Minerals Ltd. of Vancouver, B.C. (FML #143181)

4. METHODS

A Boyles X-Ray type drill, equipped with EXT rods and bits was mobilized early in July, 1976 to a site previously flagged by the author. Holes #1 and #3 were located on the Halo #6 claim. Hole #1 was drilled west at an angle of -45 and to a depth of 18.3 meters. Hole #3 was drilled vertically and was collared 30 meters west and in line with Hole #1.

Hole #2 was vertical and collared in a trench on the Touch #2 claim. Drilling was completed on the 20th of July, 1976.

The core was shipped to Delta, B.C. on the 23rd of July where it was inspected by the author in early August, 1976. (see report dated August 9, 1976).

Subsequently, in September, sections of core were cut by a diamond saw and polished by Cochrane Consultants and examined by the author under a binocular (Nikon Zoon microscope). A section of near the center of Hole 76-1 was crushed with a mortar and pestle and panned, and the heavy mineral concentrate examined under the

5. DESCRIPTION OF DRILL CORE

Drill Holes #1 and #3 drilled at the south end of the Kidd Breccia Pipe, cored hybrid type rocks per haps best described as medium grained andesite or microdiorite which is brecciated in certain sections, and often quite altered. The rock is a green, grey colour and relic porphyritic mafic minerals are occasionally present and up to 2.5 mm long by 1 mm wide. K spar crystals are occasionally much larger, and in one case up to 2 cm in diameter. Plagioclase feldspars, quartz, epidote, chlorite, calcite and magnetite make up the largest percentage of the groundmass. The host rock is sometimes well brecciated and fractured and shows broken feldspar crystals, and quartz-carbonate microveinlets cutting all above described rock forming minerals.

The first few meters of both holes are weathered with considerable limonite, hematite and traces of malachite.

A sub adamanite white to pinkish, fine grained unidentified alteration mineral is often disseminated about high sulphide sections of the core.

MINERALOGY

Nine (9) polish sections from Drill Hole #76-1 and seven

(7) polished sections from Drill Hole 76-3 were examined under the microscope by the author. A description of each section is appended. The following summarized the findings.



6 (a) Principal Opaque Minerals

Most of the polished sections examined contained a simple suite of opaque minerals consisting of magnetite, pyrite and chalcopyrite. Traces of bornite were found in Section 76-1 (7.6 meters) and other minerals included secondary products such limonite, earthy hematite, cuprite (?) and malchite.

Magnetite is by far the most abundant opaque mineral and makes up from a few to approximately 10 percent of the percentage composition of the sections (as estimated by use of a hand magnet and visual estimation charts).

Pyrite is the next most abundant mineral and is usually present in the 1 to 5 percent rage. Chalcopyrite normally makes up less than 1 percent of the polished section surface (as estimated by use of Visual Estimation Charts).

Secondary minerals are normally present only in the upper few meters of the core, however one section from Hole 76-3 at a depth of 14.6 meters contained 1 percent limonite and traces of hematite and malachite.

6 (b) Textures

The magnetite is normally fine grained; appears as an integral part of the ground mass, and as a normal rock forming mineral. Section 76-3 (12.6 meters) however shows a crude banding to the magnetite/gangue minerals, and a narrow band of almost massive magnetite is parallel to mafic-felsic gangue mineral banding.



Pyrite normally occurs as discrete disseminated (cubic habit) grains up to 5 mm in diameter. The pyrite also occurs along fractures associated with chalcopyrite and gangue minerals including pink K spar, quartz and carbonate.

Chalcopyrite occurs in several modes including

- (a) finely disseminated in the groundmass usually associated with magnetite (see sketch of section 76-1; 14.9 m)
- (b) intimately associated with pyrite (see sketch of section 76-1; 10.6 meters), and
- (c) pseudomorphous after pyrite as shown in the sketch of section 76.-1 at 15.5 meters.

This suggests a fairly complex history for chalcopyrite.

The original host rock is believed to have been copper rich since chalcopyrite sometimes occurs in fine grained disseminations apparently as part of the groundmass and as a normal rock forming mineral.

A later fracturing of the rock and introduction of pyrite/chalcopyrite is indicated by the chalcopyrite-pyrite intergrowths especially prevalent along fractures. Finally, presumably late in the process, some of the pyrite was wholly or partly replaced by chalcopyrite since chalcopyrite pseudomorphous after (cubic) pyrite is observable.



7. CONCLUSIONS

The altered microdiorite or medium grained andesite encountered in drill holes 76-1 and 76-3 is quite magnetite rich, and magnetite is an important rock forming mineral which makes up to 10 percent of the percentage composition of the rock. The host rock also appears to be (originally) copper rich and chalcopyrite sometimes occurs in fine disseminations as a typical accessory mineral. The (original) grade is certainly much below economic considerations, however certain sections have been fractured and pyrite/chalcopyrite and chalcopyrite replacing pyrite is evident and, of course, considerably augments the copper content of the zone.

It appears as if significant amounts of copper may be found in areas of high fracturing (and subsequent mineralization) which commonly occur near contacts, along zones of primary banding or within highly siliceous zones (which tend to crackle rather than shear and slip).

A detailed re-mapping of the Kidd Breccia and environs is warranted. Considerable detail should be devoted to fracture density (degree of brecciation), alteration, and to the position and attitude of contacts.

Respectfully submitted,



D. R. Cochrane, P.Eng., October 15, 1976, Delta, B.C.

APPENDIX III

Assessment Work Details

Project: David Minerals/Big Kidd Breccia Project

Location: 2 miles north of the Aspen Grove Store, Nicola M.D.

N.T.S. 92 H/15 E

Work Done: Polished section work on Drill Holes 76-1 and 76-3

Dates: Microscope Examination, September, 1976

Report Preparation, October, 1976

Personnel: D. R. Cochrane, P.Eng. - Microscope and Report

W. Cochrane - typing

G. Wilson - sketches

Costs:

Total 16 polished sections @ \$35.00 each (including cutting and polishing)

= \$. 560.00

Sketches of Sections (4 sketches @ \$10/ea.)

40.00

Report Preparation/Reproduction

Tota1

\$ +600.00

D. R. Cochrane, P.Eng. October 15, 1976.

Assessment Work Cost Appropriation:

To apply for 1 year to Broach 3 \$ 4 and Halo Fraction (part of the East Group on which holes 76-1 & 76-3 were drilled)

3 claims @ \$200.00 each \approx \$600.00



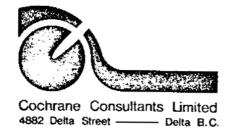


west of collar of 76-1 and drilled vert	ical.
Principal minerals I MAGNETITE	abundance (%)
2 Pyrite	3
3 CHALCOPURITE	1/2
4 LIMONITE	TR
5 CUPRITE	TR
6	
7	
8	
9	
10	
ures : FINE GRAINED CUHEDRAL MAGNE	TITE DISSEMINATED IN GROUPS
BHEDRAL PURITE LIPTO 1.5 MM. DIA.	

classification : Altered andesite/microdiorite ______

examined by : D.R.C.

sample # :D.H. 76-1:26 m collected by : Scope Exploration/D.R.C.



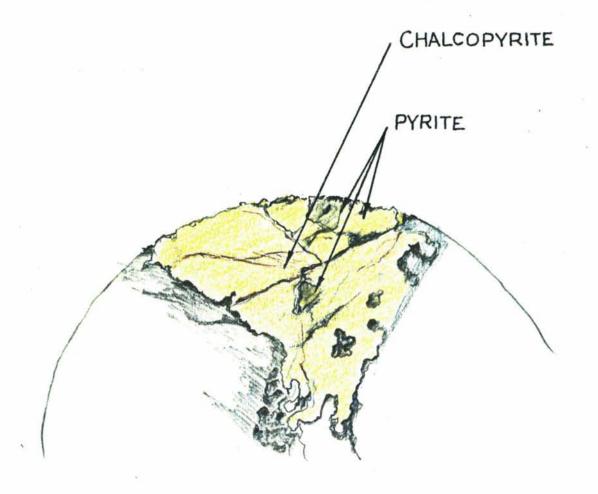
location : David Minerals: Big Kidd Breccia Project: As	
field relations : South end of Kidd Breccia on Halo #6 cl hand specimen desc. : Fine to medium grained grey-gree	
microdiorite	
remarks: Drill Hole 76-1 drilled west @ -45°: D.H.	76-3 located 100'
west of collar of 76-1 and drilled vertical.	
principal minerals	abundance (%)
1 MAGNETITE	25
2 PURITE	3
3 CHALCOPYRITE	41
4	
5	·
6	
7	
8	
9	
10	
textures: FINE DISSEMINATED MAGNETITE IN GO DISSEMINATED CUBIC HABIT PYRITE (WITH SOM CHALCOPYRITE) UP TO 2 MM. × 2 MM. alteration: SAME AS 76-1 1.8 M	E MINOR ADMIXED
origin !	
classification : Altered andesite/microdiorite	
examined by : D.R.C.	



sample # :D.H. 76- L: 7.6m collected by : Scop	
ocation : David Minerals: Big Kidd Breccia Proje	
ield relations : South end of Kidd Breccia on Hall	
microdiorite	ey-Riceural affered didesife
remarks : Drill Nole 76-1 drilled west @ -45°:	D.H. 76-3 located 100'
west of collar of 76-1 and drilled vertic	
principal minerals	abundance (%)
1 PURITE	3
2 MAGNETITE	3
3 CHALCOPYRITE	
4 BORNITE (?)	TR
5 LIMONITE	
6	
7	
8	
9	
10	
extures: FINE TARNISHED SOFT BROWN/ TENTATIVELY IDENTIFIED AS BORNI alteration: SAME	re
· · ·	
origin	
classification : Altered andesite/microdiorite	
examined by : D.R.C.	



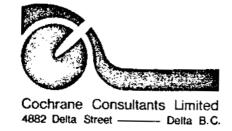
cation: David Minerals: Big Kidd Breccia Project: Asp	
eld relations : South end of Kidd Breccia on Halo #6 cla	
and specimen desc. Fine to medium grained grey-green	
microdiorite	
emarks : Drill Hole 76-1 drilled west @ -45°: D.H. 7	6-3 located 100'
west of collar of 76-1 and drilled vertical.	1
principal minerals	abundance (%)
1 MAGNETITE	5
2 LIMONITE	2
3 HEMATITE	1
4 Pyrite	TR
5	
6	
7	
8	
9	
10	
ACROSS SECTION	FRACTURES
Iteration:	
rigin !	
lassification : Altered andesite/microdiorite	
xamined by : D.R.C.	



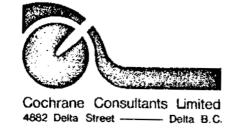
D.H. 76-1 10.6 METERS (TIMES 20) MINERAL RESOURCES BRANCH

ASSESSMENT REPORT

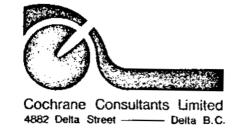
examined by : D.R.C.



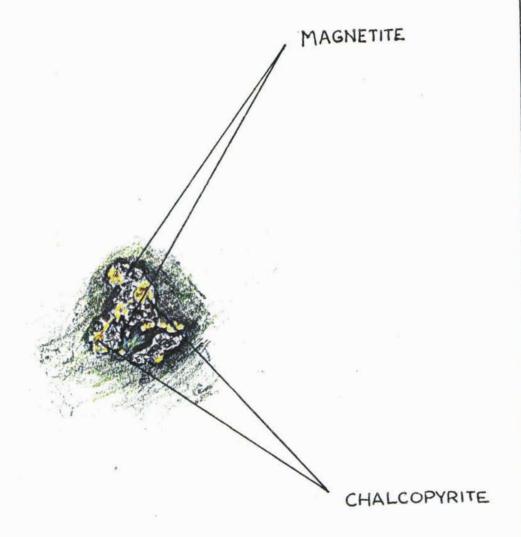
sample # :D.H. 76-1:10.6 m collected by : Scope Expl	
ocation : David Minerals: Big Kidd Breccia Project: A	
ield relations : South end of Kidd Breccia on Halo #6 of	
nand specimen desc. Fine to medium grained grey-gre	enish altered andesite/
microdiorite	
remarks: Drill Hole 76-1 drilled west @ -45°: D.H. west of collar of 76-1 and drilled vertical.	, /6-3 located 100
principal minerals	abundance (%)
I MAGNETITE	4
2 CHALCOPYRITE	2
3 PYRITE	TR
4 LIMONITE	TR
5	
6	
7	
8	
9	
10	
extures : FINELY DISSEMINATED MAGNETITIES PYROXENE CRYSTAL 2.5 MM.X IMM. LA	
CHALCOPYRITE GMM X 4 MM WITH CUE	(SEE SKETCH)
olteration :	
origin -	
classification : Altered andesite/microdiorite	



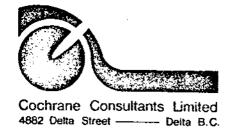
ld relations : South end of Kidd Breccia of nd specimen desc. : Fine to medium grain	
microdiorite	
marks : Drill Hole 76-1 drilled west @	-45°: D.H. 76-3 located 100'
west of collar of 76-1 and drilled v	
principal minerals	abundance (%)
1 Pyrite	3
2 MAGNETITE	2_
3 LIMONITE	TR
4	
5	
6	
7	
8	
9	
10	
xtures : DISSEMINATED CUBIC H FRACTURES .	ABIT PYRITE - LIMONITHE
teration :	
rigin :	
	te



	1.
principal minerals	abundance (%)
1 MAGNETITE	8
2 PURITE	
3 CHALCOPURITE	
4	
5	· · · · · · · · · · · · · · · · · · ·
6	
7	
8	
9	
10	
PUTES: EXTREMELY FINE DISSEMINATION:	= GROUND MASS
jin !	
,	

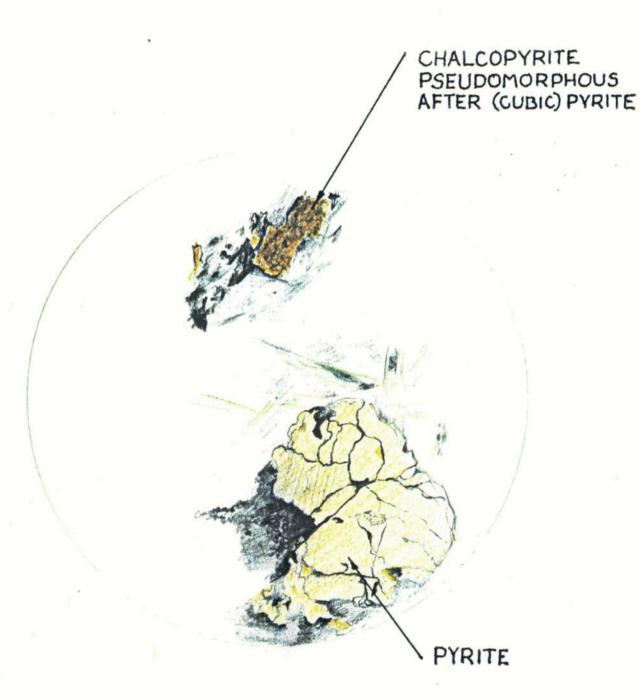


D.H. 76-1 14.9 METERS (TIMES 40) MINERAL RESOURCES BRANCH



emarks : Drill Hole 76-1 drilled west @ -	
west of collar of 76-1 and drilled ve	abundance (%)
1 MAGNETITE	10
2 PURITE	1
3 CHALCUPYRITE	<1
4	
5	
6	
7	
8	
9	
10	
extures: FINE COMINED MAGNET INTERGROWTHS AND COURSE PURITE (SEC SKETCH)	
ilteration :	
origin :	

sample # :D.H. 76-1:14.9 m collected by : Scope Exploration/D.R.C.



D.H. 76-1 15.5 METERS (TIMES 25) MINERAL RESOURCES BRANCH

ASSESSMENT REPORT



sample # :D.H. 76-1 :/5.5 m collected by : Scope Exploration/D.R.C.
ocation : David Minerals: Big Kidd Breccia Project: Aspen Grove
field relations : South end of Kidd Breccia on Halo #6 claim
hand specimen desc. : Fine to medium grained grey-greenish altered andesite/
microdiorite

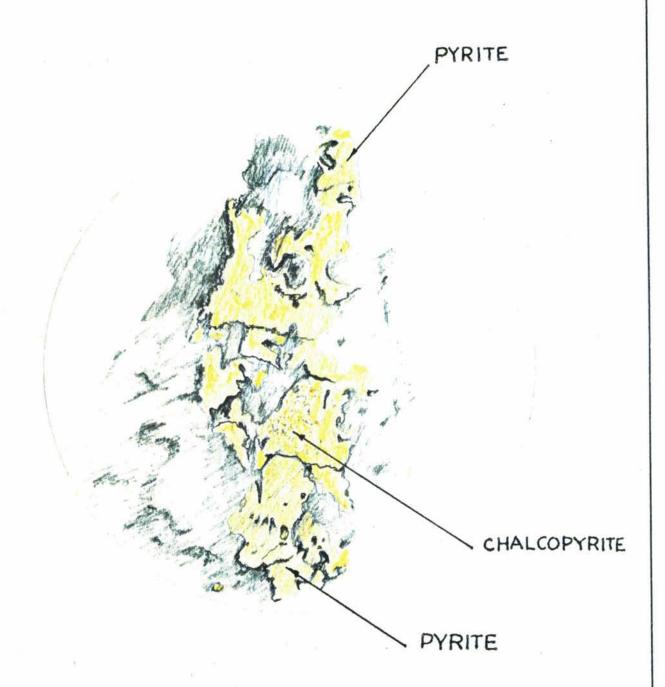
remarks: Drill Hole 76-1 drilled west @ -45°: D.H. 76-3 located 100'

west of collar of 76-1 and drilled vertical.	
principal minerals	abundance (%)
1 PURITE	5
2 MAGNETITE	5
1 PURITE 2 MAGNETITE 3 CHALCOPURITE	1
4	
5	
6	
_ 7	
8	
9	
10	

textures : LARGE CRYSTAL OF PURITE 4 MM. DIA,	_
INTERGROWTHS OF PURITE AND CHALCOPYRITE	_
INTERGROWTHS OF PURITE AND CHALCOPYRITE CHALCUPURITE PSEUDOMORPHOUS AFTER PURITE (SEE SCETCH	"
alteration:	
origin :	
classification : Altered andesite/microdiorite	_
examined by : D.R.C.	



sample # :D.H. 76-3 :6-4 m collected by 1.5 ocation : David Minerals: Big Kidd Breccia Pr	
ield relations: South end of Kidd Breccia on	
microdiorite	
emarks: Drill Hole 76-1 drilled west @ -4 west of collar of 76-1 and drilled ver	
principal minerals	abundance (%)
1 MAGNETITE	4
2 PURITE	4
3 CHALCUPURITE	
4	
5	
6	
7	
8	
9	
10	
extures : CHALLO SPLATTERED THRE DISSEMINATIONS ESPECIALLY ASSOC	CATED WITH MAGNETITE
AND ALTERED MAFIC MINERAL	£
Iteration :	·
rigin	
lassification : Altered andesite/microdiorite	
examined by <u>D.R.C.</u>	·



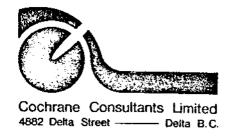
D.H. 76-3 9.0 METERS (TIMES 30)
MINERAL RESOURCES BRANCH



ample # : D.H. 76-3 : 9-0 m collected by :	
cation : David Minerals: Big Kidd Breccia	
eld relations : South end of Kidd Breccia or and specimen desc. : Fine to medium grain	
microdiorite	ed Krey-greensn artered andesite
emarks : Drill Hole 76-1 drilled west @	-45°: D.H. 76-3 located 100'
west of collar of 76-1 and drilled v	
principal minerals	abundance (%)
1 PURITE	4
2 MAGNETITE	3
3 CHALCOPYRITE	2
4	
5	
6	
7	
8	;
9	
10	
extures : LARGE BLEBOF PURITE/C	HALCOPYRITE TAM LONG X
2MM WIDE SHOWING CHALCOP	
CUBIC HABIT PYRITE (SEE SC	ETCH)
-	
Iteration :	
• •	
rigin	
lassification : Altered andesite/microdiorit	•
xamined by : D.R.C.	



sample # :D.H. 76-3: E collected by	
ocation : David Minerals: Big Kidd Breccia	
ield relations : South end of Kidd Breccia	
and specimen desc. Fine to medium grain	ned grey-greenish altered andesite/
microdiorite	. (c ⁰
remarks : Drill Hole 76-1 drilled west @	
west of collar of 76-1 and drilled	
principal minerals	abundance (%)
1 MAGNETITE	3
2 PURITE	2
3 CHALCOPYRITE	41
4	
5	
6	
7	
8	
9	
10	
·	
extures: LARGE PURITE CRYSTA FINELY DISSEMINATED MAGN AS INTEGRAL PART OF GROUND	MASS.
alteration	
origin :	
classification : Altered andesite/microdior	Lte
examined by <u>D.R.C.</u>	



cation : David Minerals: Big Kidd Breccia F	
eld relations : South end of Kidd Breccia on	
and specimen desc. Fine to medium graine	
microdiorite	
marks · Drill Hole 76-1 drilled west @ -	
west of collar of 76-1 and drilled ye	abundance (%)
principal minerals	+10
1 MAGNETITE 2 LIMONITE	TR
3	
4	
5	
6	
7	
8	
9	
10	
extures: CRUDE BANDING WITH A OF MAGNETITE DARALLEL - CA ORIGINAL (?) BANDING Iteration:	LCITE MILROUEINLET CUT
rigin	
assification : Altered andesite/microdiorite	
xamined by <u>D.R.C.</u>	

examined by : D.R.C.



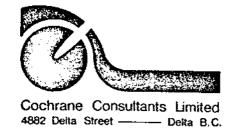
comple # :D.H. 76-3:144m collected by :S	Scope Exploration/D.R.C.
ocation : David Minerals: Big Kidd Breccia Pr	roject: Aspen Grove
eld relations : South end of Kidd Breccia on	Halo #6 claim
and specimen desc. : Fine to medium grained	grey-greenish altered andesite
microdiorite	
emarks : Drill Hole 76-1 drilled west @ -4	5°: D.H. 76-3 located 100'
west of collar of 76-1 and drilled ver	tical.
principal minerals	abundance (%)
1 MAGNETITE	2
2 LIMONITE	1
3 HEMATITE	TR
4 PURITE	TR
5 MALACHITE	TR
6	
7	
8	
9	
10	
xtures: Weathered Section: R Of Secondary Minerals.	Pusty-Pourous, ALOT
Iteration :	
rigin :	
assification : Altered andesite/microdiorite	
·	



sample # :D.H. 76-3 :120m collected by : Scope Exploration/D.R.C.
location : David Minerals: Big Kidd Breccia Project: Aspen Grove
field relations : South end of Kidd Breccia on Halo #6 claim
hand specimen desc. : Fine to medium grained grey-greenish altered andesite/
microdiorite
remarks : Drill Hole 76-1 drilled west @ -45°: D.H. 76-3 located 100'
west of collar of 76-1 and drilled vertical.

principal minerals	abundance (%)
1 MAGNETITE	2
2 PARITE 3 CHALCOPYRITE	1
3 CHALCOPYRITE	1R
4 LIMONITE	172
5	· · · · · · · · · · · · · · · · · · ·
6	
7	
8	
9	
10	

textures :	PURITE/	CHALCOPURITE	ESPECIALLY PR	EVALENT
ALONG	HEALED	FRACTURES _	ESPECIALLY PR CHALCO PSEUDO	AFTER
CURIC	PURITE.			
classificat	ion : Altered	andesite/microdiori	te	



ocation : David Minerals: Big Kidd Breccia Profield relations : South end of Kidd Breccia on I	
and specimen desc. Fine to medium grained	
microdiorite emarks: Drill Hole 76-1 drilled west @ -4	5° D.H. 76-3 located 100!
west of collar of 76-1 and drilled ver	
principal minerals	abundance (%)
1 MAGNETITE	5
2 LIMBNITE	TR
3 MALACHITE	TR
4	
5	
6	
7	
8	
9	
10	
extures : MAGNETITE FINELY DISSEMI	WATED THEOUGH SECTION
45 INTEGRAL ROCK MINERAL LIN	MONITIC LATE FRACTURE
WITH MALACHITE CUTS ALL MIN	ERALS .
Iteration :	
	•
origin	