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REPORT ON INSPECTION OF THE CRYSTAL MINE HATCHES CREEK AREA (G. BIRCHMORE'S GOLD PROSPECT)

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REPORT ON THE INSPECTION OF THE CRYSTAL MINE

HATCHES CREEK AREA

(G. BIRCHMORE'S GOLD PROSPECT.)

INTRODUCTION

On May 5th & 6th, 1966. A. Sturm assisted by E. Kalmberg inspected a gold prospect and surrounding area at the invitation of Mr. G. Birchmore of Alice Springs. Mr, Birchmore is well known in the area as a former cattle man and is now, more or less retired and prospecting as a hobby. He formerly held a grazing lease covering part of the Davenport Ranges and surroundings, which accounts for his knowledge of the area inspected.

May 5th was spent examining and sampling the quartz reef at the Crystal Mine, and the following day a brief inspection was made of the other quartz reefs in the A.P. area held by Mr. Birchmore and two partners.

LOCATION

The Crystal Mine quartz reef is located at 135° 12' longitude and 20° 51' latitude, about two miles northeast of the Pioneer Mine, and 5½ miles north of the Hatches Creek wolfram deposits. (See Frew River Geology Sheet SF 53-3)

AREA HELD BY A.P. OR MINERAL LEASE

Mr. Birchmore previously held an area of ten square miles surrounding the reef under A.P.1483, which expired on March 13th, 1966. As there was some doubt as to whether his application for renewal would be granted by the Mines Branch, he, along with two partners, pegged and applied for three mineral leases to cover the Crystal quartz reef and surroundings on April 5th. Names and holders of the leases are as follows:

Radiant Venture No.1	G. Birchmore
Radiant Venture No.2	A. Schulze
Radiant Venture No.3	J. K. Ronberg

The application for renewal of the A.P. (New No.1561) has now been granted and is valid until June 2, 1967. The Mineral Lease applications were not yet granted at the time of writing but during the inspection the tie-in of the lease boundaries to the workings revealed that the datum posts were placed incorrectly with the result that no part of the leases applied for cover the actual reef. Mr. Birchmore was informed of this at the time.

TERMS OF OPTION

Option terms were discussed briefly only, but Mr. Birchmore seemed willing to consider a 2-3 month free inspection followed by a cash option payment in the region of $3,000 if the Company was still interested, and if Company interest lapsed all information acquired during the free inspection to be made available to him.

PAST HISTORY

Mr. Birchmore stated that he discovered gold in the reef in 1929 or 1930, one specimen of which ran 17 oz/ton of gold. He sold his interest for £300 and shares in a new company called the Crystal Gold Mine formed by a Mr. Reff to explore the lode. About 1932 this Company apparently dug the trenches and the two shallow shafts which can be seen at present. The two shafts intersected the lode at approx. 55', but the gold values were not payable, and no further work was carried out by this Company. (Note: in B.M.R. Bulletin No.6 "The Hatches Creek Wolfram Field" by Ryan, it is stated that these shafts were sunk in 1950. This bulletin also includes a summary by Hossfeld on results of a detailed sampling campaign over these lodes - see below.)

DESCRIPTION OF THE CRYSTAL MINE LODES

The main lode of the group strikes 027°, dips about 45° to the east and extends for 1300'. The northern 700' of the vein is the most dominant, and ranges in width from 4' to about 20'. In the southern 600', the vein becomes more intermittent and irregular in occurrence and narrows in width from 1" to 5'.

The major portion of the reef is a white milky barren quartz. About 350' from the northern end of the reef, and close to the wall rock contact the quartz in places, is more glassy and grey in colour and contains blebs and thin stringers of malachite and hematite. A lens about 1' in size of a very tough, hard ferruginous quartz was also noted along the hanging wall contact.

Numerous narrow trenches have exposed the reef over its length. Two shallow vertical shafts have been sunk 50' east of the reef to intersect it down dip.

A number of smaller subsidiary reefs of similar white milky quartz are also present, some of which parallel the main lode.

The country rock which forms the small rise in which the quartz veins occur, is composed primarily of the Pedlar gabbro with minor remnants and blocks of banded sediments.

SAMPLING PROCEDURE AND RESULTS.

SAMPLING PROCEDURE AND RESULTS (CONT.)

In some cases where the trenches were filled in and no wall exposed, the excavated quartz surrounding the trench was chipped. A few grab samples were also taken of the more ferruginous quartz suspected to be gold bearing. All samples were panned and all those showing colours (16) were assayed. (See attached table)

Only two of the sixteen assays are of interest, (V161R & V162R)both of these are samples of the more ferruginous quartz suspected of being gold bearing. This material occurs as small sporadic lenses and was only seen at two locations over the entire reef.

Previously, sampling of the reef was summarized by Hossfeld and included in B.M.R. Bulletin No.6 by Ryan. Sampling results were as follows:

"A detailed sampling campaign showed that of sixty seven samples taken in the main reef, fortyone returned traces or nil, ten returned less than 1 dwt., nine returned between 1 and 2 dwt; 5 between 2 and 3 dwt; and only two samples returned over 3 dwt; the figures being 3.2 dwt. and 3.5 dwt. of gold per ton over widths of 33 and 30 inches respectively, six samples taken on reefs parallel to the main line returned traces of gold only'.

'At the northern end, two samples taken across two narrow reefs returned respectively 3.7 dwt. over 11 inches, and 22.4 dwt. over 5 inches. Only a small part of these reefs is exposed, and they are not expected to yield much ore'.

(Note: a photostat copy of the complete report on the Crystal Gold Mine by Ryan is appended in the Geology copy of this report.)

OTHER QUARTZ REEFS INSPECTED

North to northwest of the Crystal reef, approximately one mile distant, is a group of five prominent and a number of minor quartz reefs cutting across the NE trending ridge of sandstones and quartz siltstones. Four of the five reefs which varied from 2' to 8' in width were rapidly inspected along their length and were composed entirely of barren white milky quartz with no indications of mineralization.

A large quartz reef is also present in the southern portion of the A.P. but was not visited. Mr. Birchmore stated that he had examined this reef, and two assays from samples taken by him assayed only a trace, and nil gold content.

CONCLUSION

1. Crystal Mine Reef

a) The gold mineralization appears to be restricted to a small ferruginous lenses

CONCLUSION (CONT.)

1. Crystal Mine Reef (Cont.)

b) The reef has been rather rigorously sampled now by two sampling campaigns, both of which indicate that the major portion of the reef is essentially barren.

It is concluded therefore, that while a few small sporadic lenses contain economic gold mineralization they are not of sufficient size or number to attract further interest.

2. Economic Possibilities within the remainder of the A.P. Area.

A preliminary inspection of most of the quartz reefs elsewhere in the area gave no inducement to feel that further exploration is warranted within the A.P. These quartz reefs are well exposed, and close to the Hatches Creek wolfram workings and no doubt were subject to scrutiny during the days of wolfram mining.

SAMPLES TAKEN AT THE
CRYSTAL GOLD PROSPECT.
HATCHES CREEK AREA. N.T.

SAMPLE NUMBER	DESCRIPTION	WIDTH REPRESENTED	PANNING RESULT
V130R	Quartz Chips along Walls of Trench	5'	Au: Not visible, FeS_2: Corner
V131R	Quartz Chips from Dump around Shaft	-	Au: Not visible, FeS_2: Corner
V132R	Quartz Chips from small Leaders in Shallow Pit	Total of Approx. 2'	Au: Visible FeS_2: Good Corner
V133R	Grab Sample of Dark Altered Matter	-	Au: Not visible, FeS_2: Tiny Corner.
V134R	Rock Sample Meta-Sediments	-	Not Panned
V135R	Chips from Quartz Rubble on Surface	Area of 100' x 40'	Au: Not Visible. Doubtful FeS_2: Corner.
V136R	Quartz Chips along Walls of Trench	18'	Au: Trace FeS_2: Corner
V137R	Chips from Quartz Outcrop.	Area of 10' x 15'	Au: Not visible, FeS_2: Good Corner.
V138R	Quartz Chips from Walls of Trench	10'	Au: Not visible, FeS_2: Corner
V139R	Quartz Chips from Outcrop & Surrounding Rubble.	-	Au: Not visible, FeS_2: Corner

SAMPLES TAKEN AT THE

CHYSTAL GOLD PROSPECT.

HATCHES CREEK AREA. N.T.

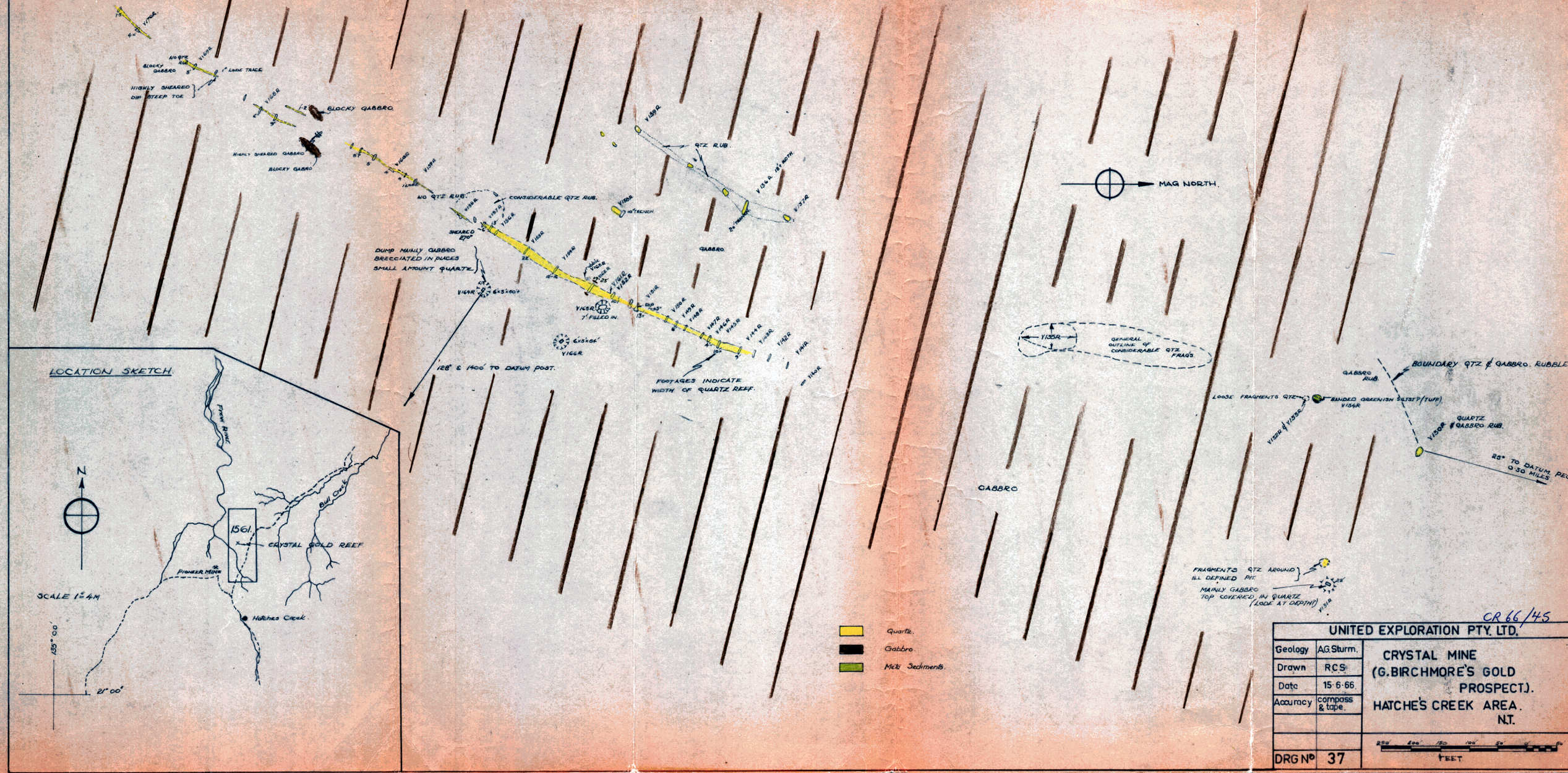
SAMPLE NUMBER	DESCRIPTION	WIDTH REPRESENTED	PANNING RESULT	AS DV
V140R	Quartz Chips from Dump surrounding Trench	5' Approx.	Au: Not visible, FeS_2: Good Corner.	
V141R	Quartz Chips from Dump surrounding Trench	6' Approx.	Au: Not visible, FeS_2: Corner	
V142R	Quartz Chips from Dump surrounding Trench	6' Approx.	Au: Not visible, FeS_2: Corner	
V143R	Quartz Chips from Dump surrounding Trench	5' Approx.	Au: 1 colour noted FeS_2: Fair Corner	
V144R	Quartz Chips from Walls of Trench	9'	Au: Visible, FeS_2: Corner	
V145R	Quartz Chips from Walls of Trench	10'	Au: Not visible, FeS_2: Corner	
V146R	Quartz Chips from Walls of Trench	4'	Au: Slightest Trace FeS_2: Small Corner	
V147R	Quartz Chips from Dump around Trench	5' Approx.	Au: Colours of Gold noted FeS_2: Corner	
V148R	Quartz Chips from Dump around Trench (Some Chips Ferruginous)	6' Approx.	Au: Visible, but fine Large Corner of Fe_2O_3	
V149R	Quartz Chips from Walls of Trench	8'	Au: Not visible, FeS_2: Corner	
V150R	Quartz Chips from Walls of Trench	7' Approx.	Au: Not visible, FeS_2: Corner	

SAMPLES TAKEN AT THE
CRYSTAL GOLD PROSPECT.
HATCHES CREEK AREA. N.T.

SAMPLE NUMBER	DESCRIPTION	WIDTH REPRESENTED	PANNING RESULT	ASSA DWT/
V151R	Quartz Chips from Walls of Trench	13'	Au: Visible, but little F_ES_2: Corner	0.
V152R	Quartz Chips from Walls of Trench Contains thin seams and blebs of Iron material and Malachite.	10'	Au: Visible. Corner of F_ES_2, Malachite and Cuprite.	2.
V153R	Quartz Chips from Walls of Trench	19'	Au: Not visible, F_ES_2: Corner	
V154R	Quartz Chips from Walls of Trench	12'	Au: Not visible, F_ES_2: Corner	
V155R	Quartz Chips from Walls of Trench	20' Approx.	Au: 1 tiny colour noted F_ES_2: Corner	
V156R	Quartz Chips from Walls of Trench	15'	Au: Not visible, F_ES_2: Corner	
V157R	Quartz Chips from Walls of Trench & from Dump surrounding Trench.	6'	Au: 1 tiny colour. Est. TR. F_ES_2: Corner	T
V158R	Chips of Quartz Rubble.	Area of 6' x 6'	Au: 1 tiny colour noted F_ES_2: Small Corner	
V159R	Quartz Chips of Walls of Trench	1'	Au: 2 Flat Colours noted F_ES_2: Fairly Good Corner.	T
V160R	Quartz Chips along length of Hanging Wall Contact.	Length 10'	Au: Not visible, F_ES_2: Corner	
V161R	Grab Samples of Ferruginous Quartz fragments with Malachite & Hematite Blebs.		Au: Good Corner Large Corner, Fe_2O_3	1

SAMPLES TAKEN AT THE CRYSTAL GOLD PROSPECT. HATCHES CREEK AREA. N. T.

SAMPLE NUMBER	DESCRIPTION	WIDTH REPRESENTED	PANNING RESULT	AS DI
V162R	Chips from hard, very tough dark red brown Ferruginous Quartz lens approx. 1'x1'x1'6" along Gabbro-Milky Quartz Contact.		Au: Large Corner Fe_2O_3 Large Corner.	5
V163R	Rock Sample. Malachite Stained Quartz Speck $CuFeS_2$		Not Panned.	
V164R	Quartz Chips from Shaft Dump (probably from main reef intersection)		Au: 1 tiny colour FeS_2: Small Corner.	
V165R	Quartz Chips from Shaft Dump (probably from main reef intersection)		Au: Tiny Corner FeS_2: Small Corner.	
V166R	Quartz Chips from Shaft Dump (probably from main reef intersection)		Au: Small Corner FeS_2: Small Corner	
V167R	Quartz Chips from Walls of Trench	1'	Au: Not visible, FeS_2: Small Corner	
V168R	Quartz Chips from Walls of Trench	6"	Au: Not visible, FeS_2: Small corner.	
V169R	Quartz Chips from Walls of Trench	3'	Au: Tiny Colour FeS_2: Corner	
V170R	Quartz Chips from Walls of Trench	4'	Au: Not visible. Est. Nil FeS_2: Corner	T
V171R	Rock Sample. "Pedlar" Gabbro.		Not Panned.	


BLOCKY GABBRO
HIGHLY SHEARED DIP STEEP TOE
1" LODE TRACE
HIGHLY SHEARED GABBRO
BLOCKY GABBRO
NO QTZ RUB.
CONSIDERABLE QTZ RUB.
QTZ RUB.
10' TRENCH
SHEARED E70°
DUMP MAINLY GABBRO BRECCIATED IN PLACES SMALL AMOUNT QUARTZ
GABBRO
7' FILLED IN.
128° & 1400' TO DATUM POST.
FOOTAGES INDICATE WIDTH OF QUARTZ REEF.
MAG NORTH.
GENERAL OUTLINE OF CONSIDERABLE QTZ FRAGS
GABBRO
GABBRO RUB.
BOUNDARY QTZ & GABBRO. RUBBLE
LOOSE FRAGMENTS QTZ
BANDED GREENISH SILTST? (TUFF)
QUARTZ & GABBRO RUB.
25° TO DATUM PEG. 0.30 MILES.
FRAGMENTS QTZ AROUND ILL DEFINED PIT.
MAINLY GABBRO TOP COVERED IN QUARTZ (LODE AT DEPTH)
LOCATION SKETCH
FINKE RIVER
Bull Creek
1561
CRYSTAL GOLD REEF
PIONEER MINE
Hatches Creek
N
SCALE 1" = 4 M
135° 00'
21° 00'
Quartz.
Gabbro
Meta Sediments.
CR 66/45
UNITED EXPLORATION PTY. LTD.
Geology AG. Sturm.
Drawn RCS.
Date 15·6·66.
Accuracy compass & tape.
CRYSTAL MINE (G. BIRCHMORE'S GOLD PROSPECT.).
HATCHE'S CREEK AREA. N.T.
DRG No 37
FEET