MAP NO.:	**ASSESSMENT REPORT**	X	**DOCUMENT NO:** 092812
	PROSPECTUS		**MINING DISTRICT:** Whitehorse
	CONFIDENTIAL	X	**TYPE OF WORK:** Geological
105 K 2	**OPEN FILE**		

REPORT FILED UNDER: Curragh Resources Inc.

DATE PERFORMED: 6,7,11 August 1989 **DATE FILED:** 7 February, 1990

LOCATION: **LAT.:** 62°13'N **AREA:** Swim Lake

LONG.: 132°56'W **VALUE $:** 3 400.00

CLAIM NAME & NO.: TREAD 1-19 (YB21922-40)

WORK DONE BY: J. Bradford

WORK DONE FOR: Curragh Resources Inc.

DATE TO GOOD STANDING:

REMARKS: #25 SWIM
Detailed 1:5 000 scale mapping suggests that the TREAD claims lie within a downfaultesd block, separated from the SWIM deposit by one or more extensional faults. The favourable Mt Mye-Vangorda contact lies at a depth of 750-800 m beneath the claims. The south part of the TREAD claims may cover the northeast extension of the SB deposit at a depth of 250 m.

RECEIVED
FEB - 7 1990
MINING
RECORDERS OFFICE
WHITEHORSE, Y.T.

OFFICE OF THE REGIONAL MANAGER
MINERAL RIGHTS
FEB07 1990
WHITEHORSE
YUKON TERRITORY

REPORT ON GEOLOGICAL MAPPING OF THE TREAD CLAIMS

Whitehorse Mining District

Yukon Territory

NTS 105K/2

Latitude: 62° 13'N

Longitude: 132° 56'W

Submitted by:

John Bradford

for

Curragh Resources Inc.

November, 1989

Field work completed August 6-11, 1989

092812

This report has been examined by the Geological Evaluation Unit under Section 53 (4) Yukon Quartz Mining Act and is allowed as representation work in the amount of $3,400.00.

Regional Manager, Exploration and Geological Services for Commissioner of Yukon Territory.

TABLE OF CONTENTS

		Page
1.	Location and Access	2
2.	Topography and Outcrop	2
3.	Geology	4
4.	Interpretation	8
5.	Recommendations	9
6.	Selected References	10
7.	Statement of Qualifications	11
8.	Project Costs	12

LIST OF FIGURES

		Page
1)	Location Map	3
2)	Stratigraphic Column for Anvil District	5
3)	Geology Map for Tread Claims	Pocket

LIST OF TABLES

		Page
1)	List of Claims	1
2)	Detailed Lithostratigraphic Code for Anvil District	6
3)	Project Costs	12

Table 1

LIST OF CLAIMS

Claim	Grant Number	Anniversary Date
Tread 1	YB21922	September 28
Tread 2	YB21923	September 28
Tread 3	YB21924	September 28
Tread 4	YB21925	September 28
Tread 5	YB21926	September 28
Tread 6	YB21927	September 28
Tread 7	YB21928	September 28
Tread 8	YB21929	September 28
Tread 9	YB21930	September 28
Tread 10	YB21931	September 28
Tread 11	YB21932	September 28
Tread 12	YB21933	September 28
Tread 13	YB21934	September 28
Tread 14	YB21935	September 28
Tread 15	YB21936	September 28
Tread 16	YB21937	September 28
Tread 17	YB21938	September 28
Tread 18	YB29139	September 28
Tread 19	YB21940	September 28

1. Location and Access

The Tread claims are located about one kilometre north of Swim Lake, northeast of the Pelly River in the Whitehorse Mining District, Yukon Territory (NTS 105K/2) (Figure 1). The claims are centred near latitude 62° 13'N, longitude 132° 56'W. Four wheel drive road access is maintained from the town of Faro to the former Kerr-Addison camp on Swim Lake, via the Blind Creek and Swim Lake roads. From the campsite, cat roads and cut lines lead to the Tread claims.

Three days (August 6,7 and 11, 1989) were spent by the writer on the Tread claims and in the area between the claim boundary and Swim Lake. Helicopter access to the property was provided by Trans North Helicopters out of Ross River.

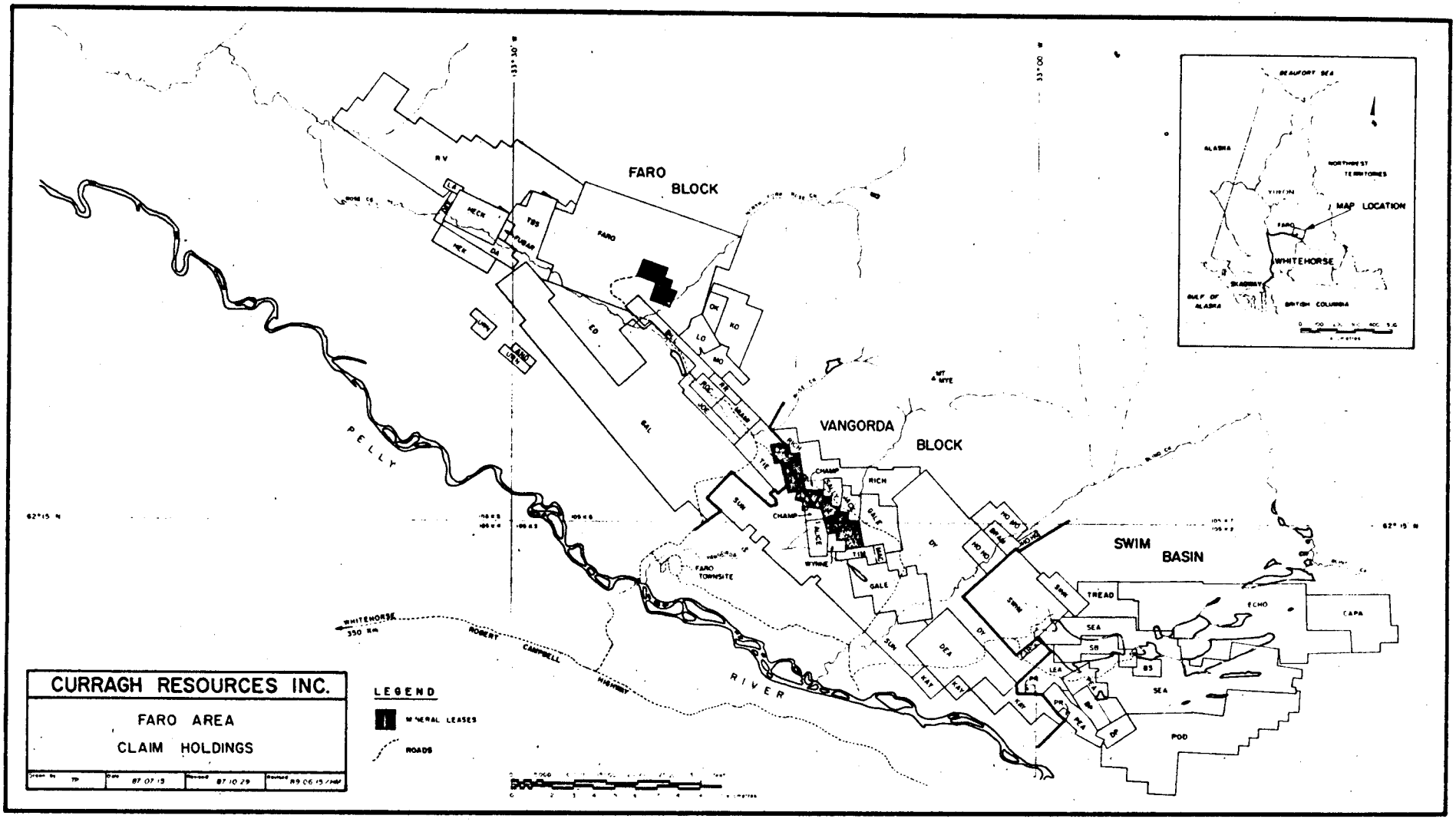
2. Topography and Outcrop

Relief on the Tread claims is very gentle, with elevations ranging from 1025-1225 metres. No stream incisions occur within the claim boundary, but a northwesterly flowing creek begins just north of the claim block. A series of 30 north trending cat lines spaced 100-130 metres apart covers the southern two-thirds of the claim block. These lines were walked and used for access and location control. The lines are now densely overgrown in places by willows and alders.

FIGURE 1

LOCATION MAP FOR TREAD CLAIMS

Anvil District (Swim Basin)



Outcrop is extremely sparse, covering perhaps 1-2% of the property. A large area of flat, partly swampy ground occurs in the northern third of the property. Extensive areas are covered by poorly sorted boulder till. A hill of 1192 metres elevation, centred between lines 13 and 14 contains the only real outcrop on the claim block. Elsewhere, just northwest of this hill, some of the lines have scattered subcrop and float chips of probable local derivation. Scattered outcrops occur between the southern claim boundary and Swim Lake.

3. Geology

Based on very limited exposures, the Tread claims are underlain by lower greenschist facies Vangorda Formation (Figure 2), of probable Cambro-Ordovician age (Jennings and Jilson, 1986). Typical lithologies include: foliated and nonfoliated intrusive metabasite (unit 5C), laminated green and white chloritic calcareous phyllite (5B7), grey calcareous muscovite - chlorite phyllite (5B0), dark grey, noncalcareous carbonaceous phyllite (5B2) and grey limestone (5E) (see Table 2).

The 1192 metre elevation hill containing the main outcrop on the property is underlain by medium to coarse grained metabasite. Two weak to moderate deformation fabrics (S_1 and S_2) can be seen, both of which dip to the northeast, with S_1 apparently steeper than S_2. Northwest of this body is an area of noncalcareous and calcareous phyllite subcrop and float. The contact between the more

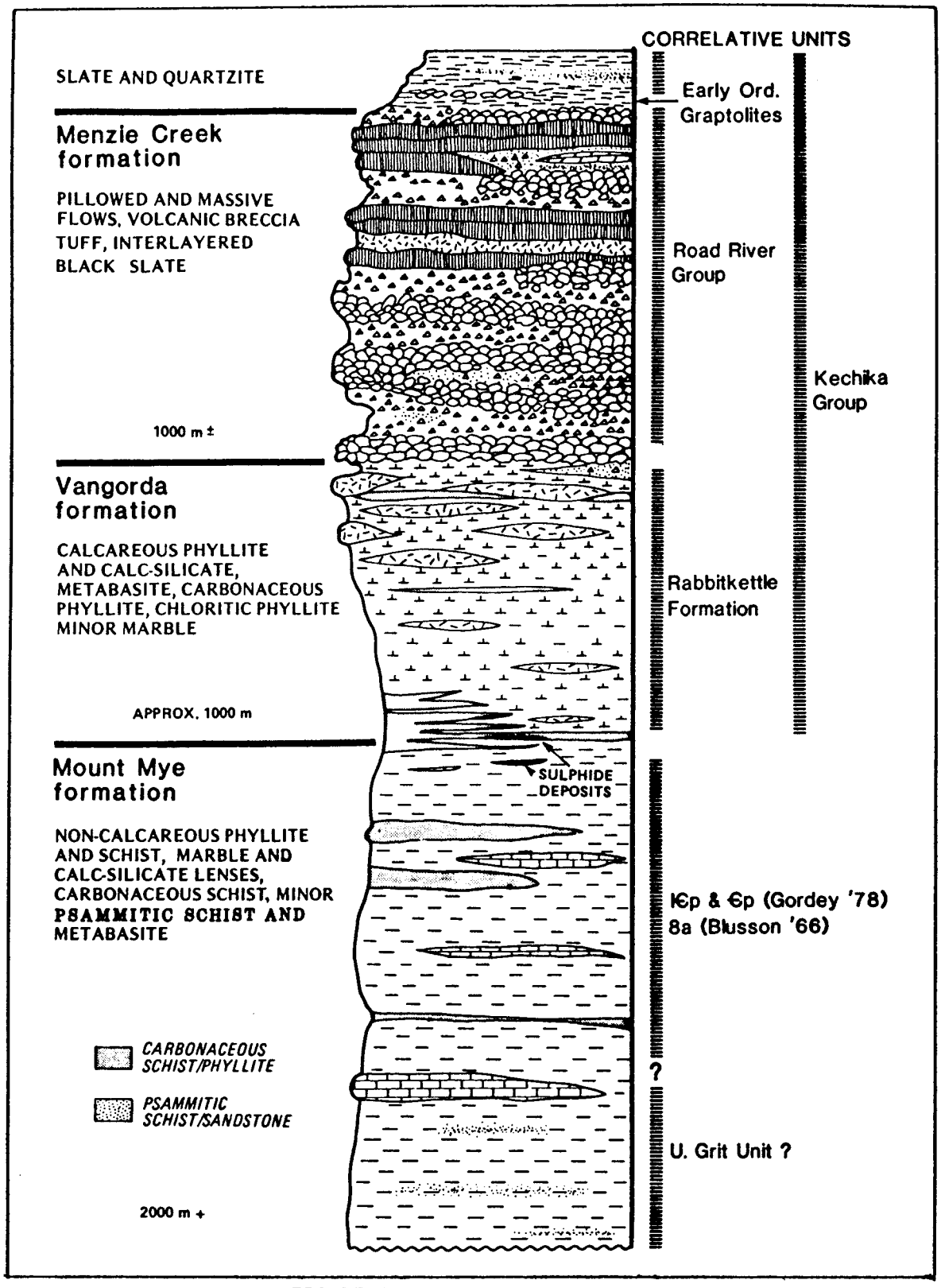


FIGURE 2

STRATIGRAPHIC COLUMN FOR LOWER PALEOZOIC UNITS, ANVIL DISTRICT

TABLE 2
DETAILED LITHOSTRATIGRAPHIC CODE FOR ANVIL DISTRICT

MAIN DEPOSIT AREA

LITHOSTRATIGRAPHIC CODE

Intrusive Rocks

Unit 10	928	10-A	Granodiorite (kspar>plag, quartz>10%)
	929	B	Adamellite (qtz monzonite)
	939	C	Pegmatite
	956	D	Quartz diorite (kspar<<plag, qtz>10%)
	934	E	Diorite (kspar<<plag, qtz<10)
	925	F	Monzonite (kspar>plag, qtz<10.)
	932	G	Pyroxenite
	937	H	Granite (kspar>plag, qtz>10%)
	930	I	Syenite (kspar>plag, qtz<10%)
	938	Q	Bull qtz veins/pods

1 Foliated/lineated
2 Porphyritic
3 Aphanitic
4 Smokey qtz-bearing
5 Muscovite-bearing
6 Kspar-bearing
7 Biotite-bearing
8 Amphibole-bearing
9 Altered (kaolinite, montmorillonite)
0 Normal (equigranular)

Vangorda Formation — Intrusive Contact

Unit 5	936	5-A	Variably calcareous, graphitic phyllite (hosts Unit 4; ± 1E, hosts Unit 2)
	920	B	Calcareous muscovite-chlorite±biotite phyllite (greenschist equivalent of 3D)
	908	C	Metabasite
	910	D	Chloritic phyllite
	904	E	Phyllitic marble and silicated marble
	910	F	Laminarly banded, variably calcareous, chloritic phyllite (associated with 5C)
	949	G	Variably calcareous, graphitic phyllite.

1 Siliceous
2 Carbonaceous
3 Calcareous
4 Altered, pyritic (white mica envelope)
5 Banded/laminated
6 Non-calcareous
7 Chlorite laminations
8 Chloritic
9 Sulfide-bearing
0 Normal
* Carbonate-bearing

Faro, Grum, Vangorda, DY Deposits — Conformable Contact

Unit 2/4	922	2/4-A	Sulfide-bearing, ribbon-banded, graphitic quartzite
	915	B	Pyrite-free quartzite (may contain base metal sulfides)
	916	C	Base metal-poor, pyritic quartzite
	942	D	Base metal-bearing, pyritic quartzite
	918	E	Massive pyritic sulfides
	923	F	Buckshot facies, massive sulfides
	928	G	Baritic facies, massive sulfides/sulfates (>10%:$BaSO_4$)
	924	H	Pyrrhotitic facies, massive sulfides
	949	J	Non-pyritic, massive sulfides/oxides
	921	K	Carbonate-bearing, massive pyritic sulfides
	914	L	

1 Siliceous
2 Coarse, porphyroblastic pyrite-bearing
3 Fine pyrite/marcasite-bearing
4 Sphalerite and/or galena-bearing
5 Carbonaceous
6 Barite-bearing
7 Pyrrhotite-bearing
8 Magnetite-bearing
9 Chalcopyrite-bearing
0 Normal
* Carbonate-bearing

2/4L	Muscovite>qtz-chl-bio-phyllite (generally sulfide-bearing)

1 Siliceous
2 Pyrite-bearing
3 Talc/kaolinite-bearing
4 ZnS and/or PbS-bearing
5 Carbonate-bearing
6 Chl+bio>qtz-musc phyllite
7 Pyrrhotite-bearing
8 Magnetite-bearing
9 Chalcopyrite-bearing
0 Normal

Mt. Mye Formation — Conformable Contact

Unit 3	916	3-I	Graphitic quartzite in non-calcareous phyllite/schist
	913	H	Tuffaceous calc-silicate phyllite/schist (assoc. with 3D; identical to 5F)
	941	G	Non-calcareous muscovite-chlorite±biotite phyllite/schist (± 1C, 1D)
	906	F	Marble and silicated marble (± 1G)
	963	E	Graphitic phyllite/schist (# 5A)
	913	D	Calc-silicate phyllite/schist (v. greenschist to amphibolite facies equiv. of 5B)
	908	C	Metabasite
	946	B	Chloritic phyllite/schist (c.f. 5D)
	912	3-A	Transition zone with unit 1 (interbanded chloritic phyllite, graphitic phyllite and pelites of Vangorda and Mt. Mye Fms.)

1 Siliceous
2 Non-calcareous
3 Calcareous
4 Altered, pyritic (wme)*
5 Banded/laminated
6 Sulfide-bearing
7 Chlorite laminations
8 Chloritic
9 Carbonaceous
0 Normal

	902	1-B	Tactite and silicated marble (# 3F)
	943	C	Quartzo-feldspathic, biotite-muscovite gneiss/schist (± 3G)
	947	D	Carbonaceous biotite-muscovite-andalusite schist (± 3G)
	967	E	Graphitic schist (± 5A)
	908	F	Metabasite (± 3C)
	901	G	Marble and silicated marble (± 3F)
Unit 1	910	1-H	Chloritic schist (c.f. 5D)

1 Siliceous
2 Carbonaceous
3 Calcareous
4 Altered, pyritic (wme)*
5 Banded
6 Clotted
7 Staurolitic
8 Chloritic
9 Sulfide-bearing
0 Normal

*(wme) White mica envelope

resistant metabasite and recessive phyllite is inferred to lie along a gulley on the northwest side of the hill.

South of the claim boundary at lower elevations are scattered outcrops of Vangorda Formation metabasite and calcareous phyllite. In at least two locations (stations 89-854 and 89-855) metabasite bodies are associated with conspicuously laminated, decarbonized green and white calcareous chloritic phyllite. This association is typical of Vangorda Formation. Along the margins of the metabasite dykes in adjacent laminated phyllite are 0.3-1.0 metre scale, shallowly plunging, tight to isoclinal, recumbent phase 2 folds of earlier, Phase 1 cleavage and compositional layering. These earlier fabrics are also deformed by centimetre scale Phase 2 crenulations. Phase 2 minor folds at one location exhibit southwesterly vergence; elsewhere fold asymmetry was indeterminate. Penetrative S_2 cleavage dips gently to the northeast where observed, with earlier fabrics dipping variably to the north and south, generally steeper than S_2. Phase 2 folds are doubly plunging to the northwest and southeast at less than 15°.

Regionally, Vangorda Formation is underlain by noncalcareous metapelite, marble and metabasite of Hadrynian(?) - Cambrian age, informally known as Mount Mye Formation (Jennings and Jilson, 1986). The Vangorda - Mount Mye contact is the favourable horizon for Faro-type stratiform massive sulphides throughout the Anvil lead-zinc district. Depth to underlying Mount Mye Formation on the

Tread claims is constrained by two diamond drill holes known to the writer. On the Sea 9 claim, south of the west end of the Tread claims, a vertical BQ diamond drill hole (Cyprus Anvil DDH 78-S-01) intersected Mount Mye Formation noncalcareous phyllite at 242.9 metres (about 738 metres elevation). Two sulphide horizons within the Vangorda Formation occur at 221.6-224.6 and 240.5-242.9 metres (Cyprus Anvil Summary Log).

Just north of the Tread claims on the Rachel 4 claim, a vertical NQ hole (Getty Canadian Metals Ltd. 82VR-1) intersected Mount Mye Formation noncalcareous phyllite at 265 metres (approximately 860 metres elevation). A "major fault zone" is described at the base of the Vangorda Formation, and no sulphide intersections were encountered (Assessment Report 091449). A 0.2 inch thick "lamina" of sulphide at 90.7 metres is not within the favourable horizon for massive sulphides.

4. Interpretation

Based on the limited information just outlined, and on mapping by the writer in the vicinity of the Swim lead-zinc deposit (3 kilometres to the west), the Tread claims lie within a downfaulted block, separated from the block hosting the Swim deposit by one or more extensional faults. The favourable Mount Mye - Vangorda contact, which is at surface (overburden covered) at the Swim deposit (elevation about 1000 metres) lies at an elevation between

750-850 metres beneath the Tread claims. The contact here is probably not stratigraphic, but is a gently south dipping fault. It may cut up-section to the north, thereby explaining why no sulphide intersection are encountered in the Rachel 4 drill hole.

Potential for buried massive sulphide bodies at depths of around 250 metres exists in the southern part of the Tread claims. This would represent the northeastern extension of the SB deposit, a subeconomic massive sulphide deposit underlying Swim Lake (Jennings and Jilson, 1986) and intersected in DDH 78-S-01. Diamond drilling would be required to test the hypothesis that the Vangorda - Mount Mye contact beneath the Tread claims is a fault, and to ascertain where it begins to cut out the favourable horizon.

5. Recommendations

Diamond drilling is required to test the hypothesis that the Vangorda - Mount Mye contact beneath the Tread claims is a fault, and to ascertain where it begins to cut out the favourable horizon. Any drilling should be preceded by compilation of available drill information in the area, including drilling on the SB deposit, and by selective relogging of drill holes. Surface mapping could be extended north and northwest of the Tread claims to an area of higher elevation, and along the stream just north of the claim block.

6. Selected References

Jennings, D.S. and Jilson, G.A. (1986): Geology and sulphide deposits of Anvil Range, Yukon, in J.A. Morin, ed., Mineral Deposits of Northern Cordillera, Canadian Institute of Mining and Metallurgy, Proceedings of the Mineral Deposits of the Northern Cordillera Symposium, 1983, 319-361. Special Paper 37.

STATEMENT OF QUALIFICATIONS

I, John Bradford, of Vancouver, British Columbia, do hereby certify that:

1) I am a graduate of the University of British Columbia with a B.Sc. degree in Geological Sciences in 1985;

2) I am a graduate of the University of British Columbia with a M.Sc. degree in Geological Sciences in 1988;

3) I have been engaged in mineral exploration and development as a professional geologist since 1987; and

4) I am the author of this report describing fieldwork completed by myself in 1989.

John Bradford

John A. Bradford
Contract Geologist
Curragh Resources Inc.

Table 3
PROJECT COSTS

Geologist (3 days)	600.00
Field Assistant (3 days)	300.00
Room and Board (6 man-days)	240.00
Helicopter (2.7 hours)	1,817.10
Report Preparation	300.00
Drafting	150.00
TOTAL	**$3,407.10**

Canada

WHITEHORSE 25 DECEMBER 1986

133° 00'

62° 15'

R-11
PC1988-1694

092812

RACHEL

SINK

SWIM

TREAD

SEA

ECHO

MN

Swim

608 500 mE
6 902 500 mN
609 000 mE
6 902 000 mN
609 500 mE
610 000 mE
6 901 500 mN
610 500 mE
608 000 mE
6 902 500 mN
607 500 mE
6 902 000 mN
607 000 mE
6 901 500 mN
606 500 mE
6 901 000 mN
606 000 mE
6 900 500 mN
605 500 mE
6 900 000 mN
6 899 500 mN
6 899 000 mN
6 898 500 mN
6 898 000 mN
6 897 500 mN
N= 609 000 mE
N= 609 500 mE
N= 610 000 mE
N= 610 500 mE
N= 609 000 mN
N= 609 500 mN
N= 610 000 mN
N= 610 500 mN

LIMIT OF MAPPING

5B
5C
DDH
89-822
89-823
89-824
89-825
89-826
89-827
89-828
89-854
89-855
89-817
89-818
89-820
89-821
79-S-01
SWIM LAKE
W.L. 906.0

092812

Orthophoto map compiled from aerial photography taken in August, 1979 by North West Survey Corporation International Ltd.
Coordinates shown are U.T.M. coordinates based on Clarkes Spheroid of 1866 and are computed for Zone 8.
Elevations shown are Geodetic elevations based on the North American Datum, 1927.
Horizontal and vertical control survey was performed by Hosford, Impey, Welter & Associates Ltd. and North West Survey Corporation (Yukon) Ltd. in the summer of 1979 for Cyprus Anvil Mining Corporation and is included in a report of the same date.
Any conflict between contour numbers and planimetric detail is due to planimetric detail being added at a later date.

Sheet No. G-6-6 (W 1/2)

CURRAGH RESOURCES INC.

ANVIL AREA

Scale 1 : 5000

Contour Interval 5 Metres

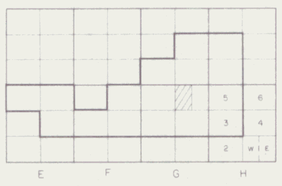
feet 0 100 500 1 000 1 500 2 000 feet
metres 0 100 200 300 400 500 600 metres

GEOLOGY MAP
TREAD CLAIMS

FIGURE No. : 3 DATE : AUG. 89
DESIGNED BY : JOHN BRADFORD
DRAWN BY : J.S.F.
DRAWING No. : AN-TR-89-003

NORTH WEST SURVEY CORPORATION INTERNATIONAL LTD.

SHEET INDEX



355
105 K 2

80-302

OTHER FEATURES

Geological contact
definite, approximate, inferred

Fault
definite, approximate, inferred
(ball on downthrown side)

Lineament

Thrust fault
definite, approximate, inferred
(teeth on overthrust panel)

Limit of mapping

Outcrop, subcrop, spot

Bedding (S_0), compositional layering (strike/dip)
upright, overturned, vertical

Foliation/Cleavage (strike/dip)
phase 1, phase 2, phase 3, unknown

Fold axis (azimuth/plunge)
phase indicated by number of arrows

2 — phase
vergence sense looking down plunge

Lineation (azimuth/plunge)
phase indicated by number of arrows

lineation type — S → phase

elongation/stretching	S
mineral	M
prismatic phenocrysts	P
boudin axes	B
intersection of planes	X
crenulations	C

Fold axial surface trace, with phase indicated
plunge direction indicated by arrow, if known

upright, overturned

Stratigraphic younging

younger — older

Shear - shear zone (azimuth/dip)

sense of movement — slickensides or crystal fibres

Fracture/Joint
inclined, vertical

Glacial striae

Vein

Mineral isograd (marks on high grade side)

Diamond drill hole
location approximate
location defined in field
(overburden depth, total length - in metres)

○
○(30,250)

Rotary drill hole
location approximate
location defined in field
(overburden depth, total depth - in metres)

□
⊡(30,250)

Trench

ROCK UNITS

Vangorda Formation

5 B Calcarceous phyllite

5 C Metabasite

092812

CURRAGH RESOURCES INC.
ANVIL DISTRICT LEGEND
TREAD CLAIMS (354)
105K2

FIGURE No. : _____ DATE : DEC. 89
DESIGNED BY : LEE PIGAGE
DRAWN BY : HM
DRAWING No. : AN-TR-89-001