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Rapportarkivet

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Kommer fra ..arkiv Falconbridge	Ekstern rapport nr Sul 197-72-1	Oversendt fra Sulfidmalm a.s.	Fortrolig pga	Fortrolig fra dato:
Tittel Preliminary Report on 1972 Diamond Drilling, Njullas Area, Finnmark, Norway.				
Forfatter Ray B Band		Dato 1972	Bedrift Sulfidmalm A/S	
Kommune Kautokeino	Fylke Finnmark	Bergdistrikt Troms og Finnmark	1: 50 000 kartblad 20323	1: 250 000 kartblad Inari
Fagområde Boring	Dokument type Rapport	Forekomster Njullas		
Råstofftype Malm/metall	Emneord Cu Ni			
Sammendrag Inneholder borlogger for hullene: Borhull hull 1, Njullas target no 1, ca 34m. Borhull 2, Njullas target T, ca 38m. Borhull 3, Njullas target no 2, ca 47m.				

FOR FALCONBRIDGE NIKKELVERK A/S

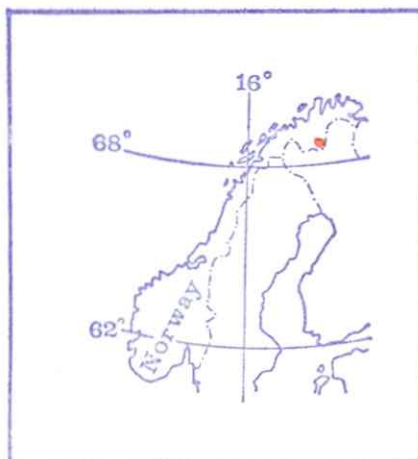
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PROJECT 905-1

PRELIMINARY REPORT ON 1972 DIAMOND
DRILLING, NJULLAS AREA, FINNMARK,
NORWAY.

by

RAY B. BAND



197/22/1

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INTER-OFFICE MEMORANDUM

Date: 14th December, 1972

To: Falconbridge Nikkelverk A/S ✓

cc: A. M. Clarke, D. R. Lochhead,
R. B. Band

From: J. B. Gammon

Subject:

905-1, Njullas area, Finnmark (Report No. 197/72/1).

Please find attached Band's summary of the initial part of the Njullas drilling programme, which will be completed in 1973. Nothing of economic interest was intersected.

J. B. Gammon

MOTTATT 18. 12 72		BESV.	ARK.
ADM. DIR.	<i>WJ</i>	FORSKN./UTV.	
TEKNISK DIR.		EL. LYSEAVD.	
PERSONALDIR.		M.L. AVD.	
ADM. SJEF		R. & SM. AVD.	
INNKJ. AVD.		EL. TEKN. AVD.	
REGNSK. AVD.		TRSTR. AVD.	
SKIFN. AVD.		MEK. AVD.	
SJEFMET.		VEKST. AVD.	
SATSUT. RB. <i>Nixon</i>			SVAR DATO

Two diamond drill holes were completed (no. 1 and no. 3). Hole no. 2 was temporarily stopped due to a break in the casing string. It will be completed in 1973. Drill hole statistics are summarized in Table 1, and drill logs are given as an appendix.

<u>TABLE 1:</u>	<u>DDH No. 1</u>	<u>DDH No. 2</u>	<u>DDH No. 3</u>
LOCATION	GRID No. 1 250N/350W	GRID T 1100S/135E	GRID NO. 2 265N/355W
ANGLE	45°	50°	60°
DEPTH	33.75 m	37.45 m	46.78 m
OVERBURDEN	6.75 m	16.00 m	8.30 m
CASED TO	22.35 m	20.45 m	35.90 m

Hole no. 1.

This hole was drilled to test a low-order magnetic anomaly in the "Target no.1" area. The magnetic anomaly was considered the most probable source of the 1000 ppm Ni till geochemistry anomaly obtained in 1971 overburden sampling program. The hole was drilled to a depth of 33.75 m. It intersected acid gneiss and amphibolite, both unmineralized. The magnetic anomaly is due to magnetite in the amphibolite.

Hole no. 2.

This hole was drilled to test a weak electromagnetic anomaly in the "Target T grid". Results for the hole to date are summarized in Table 3, and assay data are presented in Table 5. This hole intersected 13 m of amphibole-chlorite gneiss with an estimated 10% combined pyrite and pyrrhotite, and very minor chalcopyrite. Maximum assays over 1.0 m sections were 0.3% Ni, 0.35% Cu. The talcose ultrabasics intersected have minor pyrite with pyrrhotite. Maximum assays were 0.37% Ni and <0.05% Cu.

Hole 3.

This hole was drilled to test a weak electromagnetic anomaly marginal to a magnetic feature in the Target no. 2 grid. Results of the hole are summarized in Table 4 and assay data presented in Table 5. From a depth of 8.3 m, this hole intersected 3.4 m of mineralized serpentinite with an estimated 10-15% pyrrhotite. Maximum assays were only 0.32% Ni and 0.10% Cu, over 1.0 m sections. Sulphur contents range from 4.2%-5.5% S. For the remainder of its length hole no.3 intersected a distinctive rock type with large tremolite crystals in a dense, dark grey matrix. This rock type was also intersected in the hole drilled at the Kirksaether's Ravine locality in 1969.

TABLE 2: Summary of results for DDH no. 1 (dip 45°).

DEPTH	ROCK TYPE	MINERALIZATION
0-6.8	Overburden	
6.8-16.3	Acid hornblende gneiss	
16.3-33.8	Amphibolite with bands of acid hornblende gneiss.	Rare specks of pyrite.

TABLE 3: Summary of results for DDH no. 2 (dip 45°).

DEPTH	ROCK TYPE	MINERALIZATION
0-16 m	Overburden	-
16-22.5 m	Talc-rich altered ultramafite.	1% pyrrhotite + pyrite.
22.5-35.5 m	Amphibole gneiss	av.10% pyrrhotite + pyrite uniformly distributed through intersection. Very minor chalcopyrite, irregularly distributed.
35.5-37.5 m	Talc-rich ultramafite.	2% pyrite cubes.

DEPTH	Ni %	Cu %	S %
0-16 m	-	-	-
16-22.5 m	0.24-0.37%	<0.05-0.05%	0.8-3.0%
22.5-35.5 m	0.16-0.30%	<0.05-0.35%	1.8-4.3%
35.5-37.5 m	0.23-0.30%	< 0.05%	0.1-0.6%

TABLE 4: Summary of results for DDH no. 3 (dip 60°).

DEPTH	ROCK TYPE	MINERALIZATION
0-8.3 m	Overburden	-
8.3-11.7 m	Serpentinite	Average 15% pyrrhotite uniformly distributed through intersection. Up to 30% pyrrhotite in short sections.
11.7-12.3 m	No core	-
12.3-46.8 m	Coarse-grained ultramafite.	Unmineralized.

	Ni %	Cu %	S %
0-8.3 m	-	-	-
8.3-11.7 m	0.16-0.32%	<0.05-0.10%	4.2-5.5%
11.7-12.3 m	-	-	-
12.3-46.8 m	-	-	-

Analys- konto		Ni	Co	Cu	Fe	S		REMARKS:
	Njullas DDH $\approx$ 3 8.30 - 9.30	0.32		0.10	18.0	5.5		Serpentinite with estimated
	" " " 9.35 - 10.30	0.23		<0.05	13.9	5.1		10-15% pyrrhotite by volume.
	" " " 10.30 - 11.30	0.23		<0.05	16.3	5.5		Evenly distributed. "Net"
	" " " 11.30 - 11.65	0.16		<0.05	13.9	4.2		texture.
	Njullas DDM $\approx$ 2 16.55 - 16.75 *	0.24		<0.05	3.8	0.80		Talcose ultrabasic, 1% disseminated ^{pyrrhotite} + ^{pyrite}
	17.15 - 17.50 *	0.21		<0.05	13.9	3.0		Biotite schist, 5% pyrrhotite, 1% pyrite.
	21.45 - 21.65 *	0.37		0.05	3.8	0.80		Talcose ultrabasic, disseminated pyrite
	22.50 - 23.50	0.18		<0.05	8.4	2.1		minor pyrrhotite on joints. Total sulphide = 1%.
	23.50 - 24.50	0.18		<0.05	7.2	2.7		
	24.50 - 25.50	0.17		<0.05	8.3	2.1		Amphibole-biotite gneiss with
	25.50 - 26.50	0.18		0.07	9.1	3.3		5-10% combined pyrrhotite +
	26.50 - 27.50	0.17		0.06	10.7	4.3		pyrite evenly distributed
	27.50 - 28.50	0.17		0.07	9.9	3.6		through intersection. Very
	28.50 - 29.50	0.16		0.05	8.3	2.3		minor chalcopyrite irregularly
	29.50 - 30.50	0.16		<0.05	9.1	2.6		distributed.
	30.50 - 31.50	0.21		<0.05	8.3	2.7		
	31.50 - 32.50	0.26		0.14	9.6	3.9		
	32.50 - 33.50	0.16		<0.05	8.2	2.9		
	33.50 - 34.50	0.30		0.35	7.7	2.4		
	34.50 - 35.50	0.22		0.10	6.7	1.8		
	35.50 - 36.50	0.30		<0.05	3.9	0.62		Talcose ultrabasic with scat-
	36.50 - 37.45	0.23		<0.05	3.1	0.12		tered coarse pyrite crystals.
	* "Representative" 20 cm samples.							FA.

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DIAMOND DRILL RECORD

LOCATION: 250N/300W BEARING: 285° DIP: 45° HOLE No: 1 SHEET No: 1
 LOGGED BY: E. Kreivi STARTED: 31.8.72 PROPERTY: Njullas
 CASING: 22.35 m FINISHED: 4.9.72 Target no. 1
 CORE SIZE: 32 mm TESTS (CORRECTED):

FROM	TO	DESCRIPTION
0.	6.75	Overburden
6.75	7.25	Pink biotite gneiss, medium grained. Widely spaced amphibole-rich bands 1.0 cm wide, parallel to foliation. 7.00 m core angle 72°.
7.25	8.00	Broken carbonate-bearing gneiss.
8.10	14.20	Acid hornblende gneiss ca. 50% feldspar, 20% quartz, 20% hornblende, 10% biotite. Medium-grained, light-grey colour. 9.40 m core angle 62°. 9.40-11.75 feldspar porphyro blasts. < 0.5 cm across. 9.70-11.75 biotite and feldspar porphyroblast content of gneisses increases. 11.55-11.75 concentration of amphibole-rich veins. 11.75-12.25 No core . 12.70-13.85 No core. 13.85-14.20 coarse-grained and 30% amphibole content.
14.20	14.30	Amphibolite with minor biotite cut by narrow feldspar veins. 14.25 m core angle 76°.
14.30	15.60	No core.
15.60	16.25	Hornblende gneiss.
16.25	20.10	Amphibolite. Dark grey, medium-grained, with narrow biotite-feldspar veins and rare specks of pyrite. 16.30-16.95 No core 18.20-18.65 No core. 19.10-19.55 No core. 19.60-20.10 No core.

A/S SULFIDMALM

DIAMOND DRILL RECORD

LOCATION: 250N/300W	BEARING: 285°	DIP: 45°	HOLE No: 1	SHEET No: 2
LOGGED BY: E. Kreivi	STARTED: 31.8.72	PROPERTY: Njullas		
CASING: 22.35 m	FINISHED: 4.9.72	Target 1		
CORE SIZE: 32 mm	TESTS (CORRECTED):			

FROM	TO	DESCRIPTION
20.10	22.35	Hornblende-biotite gneiss, ca. 50% feldspar, 20% quartz. 22.10-22.35 No core.
22.35	23.60	Alternating hornblende-biotite gneiss and amphibolite bands. Amphibolite dominant.
23.60	27.05	Hornblende-biotite gneiss. 25.55 m core angle 77°. 25.55-25.80 No core.
27.05	33.75	Amphibolite: medium-grained, sharply banded with alternating amphibole-and feldspar-rich layers (bands < 3 cm wide). Rare epidote veinlets (<3 mm wide) occasional magnetite grains and rare pyrite specks. Core angles 27.10 m 70°. 31.00 m 58°. 33.70 m 50°. 31.45-31.95 feldspar-rich section with epidote veins. 27.50-27.70 No core 29.00-29.45 No core.
33.75		End of hole.

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DIAMOND DRILL RECORD

LOCATION: 1100S/135E BEARING: 285°T DIP: 50° HOLE No: 2 SHEET No: 1
 LOGGED BY: R. B. Band STARTED: 6.9.72 PROPERTY: Niullas
 CASING: 20.45 m FINISHED: Target T
 CORE SIZE: 32 mm TESTS (CORRECTED):

FROM	TO	DESCRIPTION
0.00	16.00	Overburden.
16.00	17.15	Talcose ultrabasic. Variegated light-grey to light green with about 1% disseminated pyrrhotite + pyrite.
17.15	17.50	Biotite schist with 5% pyrrhotite evenly distributed, 1% pyrite as veinlets. Very minor chalcopyrite accompanies pyrite. This may be an alteration phase of the ultrabasic.
17.50	17.90	Vughy quartz vein with small biotite lenses.
17.90	18.05	Talcose ultrabasic.
18.05	19.30	Core lost. 4 cm long section of pegmatite only.
19.30	22.50	Alternating massive and schistose talc-rich ultrabasic. Pyrite disseminated as cubes, pyrrhotite concentrated on widely-spaced, slickensided joint surfaces. Total sulphide content 1%.
		21.35 m 3 cm wide chlorite schist.
22.50	35.45	Amphibole-chlorite gneiss with 5-10% combined pyrite + pyrrhotite regularly distributed through intersection. Rare specks of chalcopyrite very irregularly distributed. Slight concentrations of chalcopyrite (ca. 0.5% over 1-2 cms only) noted at: 27.00-27.05 m, 28.25 m, 28.45 m, 30.35 m, 33.25 m. 22.50-23.00 : Biotite-rich phase marginal to ultrabasic. 25.00-25.10: Concentration of 0.5 cm pyrrhotite veinlets. 24.50-29.40: More massive section with only very weak foliation apparent. Transition is gradational. Feldspar-hornblende-biotite pegmatites with ca. 5% combined pyrrhotite + pyrite blebs occur at:- 22.65-22.75 28.10-28.15 29.10-29.25 32.45-33.00

A/S SULFIDMALM

DIAMOND DRILL RECORD

LOCATION: 1100S/135E BEARING: 285°T DIP: 50° HOLE No: 2 SHEET No: 2
LOGGED BY: R. B. Band STARTED: 6.9.72 PROPERTY: Njullas
CASING: 20.45 m FINISHED: Target T
CORE SIZE: 32 mm TESTS (CORRECTED):

FROM	TO	DESCRIPTION
		33.60 - 33.80
		34.55 - 34.85
		35.10 - 35.45
35.45	37.45	Light-grey massive talcose ultrabasic with widely spaced pyrite crystals up to 1 cm.
		36.80 - 37.20 Pegmatite
		The casing string broke at a depth of approximately 3 m. When the hole had been drilled to a depth of 37.45 m. As the necessary equipment to recover the casing and resume drilling was not available, the hole was plugged and will be completed in 1973.
		Core angles:-
		17.00 m 60°
		17.50 m 75°
		21.50 m 45°
		23.00 m 35°
		24.00 m 35°
		25.00 m 45°
		29.50 m 80°

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DIAMOND DRILL RECORD

LOCATION: 265N/355W BEARING: 285° DIP: 60° HOLE No: 3 SHEET No: 1
LOGGED BY: R. B. Band STARTED: 18.9.72 PROPERTY: Nullas
CASING: 35.90 m FINISHED: 21.9.72 Target no. 2
CORE SIZE: 32 mm TESTS (CORRECTED):

[illegible]

A/S SULFIDMALM

DIAMOND DRILL RECORD

LOCATION: 265N/355W BEARING: 285° DIP: 60° HOLE No: 3 SHEET No: 2
LOGGED BY: R. B. Band STARTED: 18.9.72 PROPERTY: Niullas
CASING: 35.90 m FINISHED: 21.9.72 Target no. 2
CORE SIZE: 32 mm TESTS (CORRECTED):

FROM	TO	DESCRIPTION
24.50	24.70	Tremolite-serpentinite cut by pegmatite vein. Thin veneco of pyrrhotite on joint surfaces adjacent to pegmatite.
24.70	25.10	No core.
25.10	27.10	Tremolite-serpentinite with rare specks of pyrrhotite.
27.10	28.30	No core.
82.30	29.10	Tremolite-serpentinite with tremolite aggregates largely replaced by chlorite. Minor pyrrhotite (0.3%).
29.10	31.10	No core.
31.30	31.50	Chloritised tremolite-serpentinite.
31.50	31.70	no core.
31.70	31.83	Chloritised tremolite-serpentinite.
31.83	32.50	no core.
32.50	39.60	Chloritised tremolite-serpentinite.
		From 33.45 m : brecciated, with large tremolite crystal aggregated fragmented, giving more homogeneous appearance.
		38.80- 2 cm wide chlorite-rich shear.
39.60	39.70	Light-green chlorite-tremolite shear. Tremolite fragments in adjacent serpentinite are streaked out giving a distinct banding. Core angle 40°.
39.70	40.60	No core.
40.60	41.30	Chlorite-talc shear zone. No sulphides.
41.30	46.78	Tremolite-rich serpentinite with ca. 50% tremolite crystal aggregates. Rare pyrrhotite specks. Brecciated with weak foliation for 20 cm from shear.
		42.60 2 mm magnetite vein bordered by fibrous serpentinite.
		46.60 - 40.70 Feldspar vein. Joint planes adjacent to vein have pyrrhotite veneco.
46.78		End of hole.