Bergvesenet

Postboks 3021, N-7441 Trondheim

Rapportarkivet

Bergvesenet rapport nr	Intern Journal nr	Internt arkiv nr	Rapport lokalisering	Gradering
4690				Åpen
Kommer fra ..arkiv	**Ekstern rapport nr**	**Oversendt fra**	**Fortrolig pga**	**Fortrolig fra dato:**
		Ingolf Rui Prospektering AS		

Tittel
Kjerneboring i Målviken, Brønnøy Bh 1-9 / 1983

Forfatter	Dato År	Bedrift (Oppdragsgiver og/eller oppdragstaker)
Mjelde Øystein Sivertsen, Ronny Kjærsrud Kennet	05.07 1983	Sulfidmalm Prospektering AS

Kommune	Fylke	Bergdistrikt	1: 50 000 kartblad	1: 250 000 kartblad
Brønnøy	Nordland		18251	Mosjøen

Fagområde	Dokument type	Forekomster (forekomst, gruvefelt, undersøkelsesfelt)
Boring		Målviken

Råstoffgruppe	Råstofftype
Malm/metall	W

Sammendrag, innholdsfortegnelse eller innholdsbeskrivelse
Oversendt fra Ingolf Rui, Prospektering AS 13.12.98
Borkjernelogg for hull 5 mangler., Lokalitetskart mangler

BV 4690

A/S SULFIDMALM

DIAMOND DRILL RECORD

LOCATION
LOGGED BY M.E. R.Sl.
CASING
CORE SIZE

BEARING: 250° DIP: 40° HOLE NO: 1 SHEET NO. 1 (3)
STARTED: 5/7 -83 PROPERTY Maalvika
FINISHED: 11/7 -83
TESTS (CORRECTED):

From	To		Description
0	2.50		Overburden
2.50	28.85		Biotite migmatite gneiss - 5.80: 50° (foliation) - 12.70: 65° (foliation) - 17.60 - 18.20 Finegrained quartzdiorite - 18.20: Contact 78° - 24.70: 70° (foliation) - 28.65: 72° (foliation)
28.85	35.50		Finegrained massive biotite gneiss - 30.20 - 30.80: Coarsegrained granodiorite - 32.40: 65° (foliation) - 33.30: Aggregates with sulphides associated with skarn. - 34.80: 65° (foliation) - 35.20: Aggregates with sulphides associated with skarn. - 35.50: 60° (contact)
35.50	45.40		Skarn Mica rich pyr + garn. skarn is dominating. - 35.50 - 35.85: pyr. dominated skarn with lots of sulphides. No planar structure. - 35.85 - 36.60. Light, finegrained granitic rocks. Biotite in aggregates. Planar structure 65°. (36.40-36.60: Green biotite rich granite with planar structure 65°. Contact at 36.40: 65°). - 36.60 - 36.80 Biotite skarn. Lots of sulphides. - 36.80 - 37.10 Granitic rocks which are cutting foliation in skarn. Contain sulphides. No foliation. - 37.10 - 37.60 Biotite skarn, with spots of pyr. lots of sulphides. - 37.60 - 45.40 Garn.+pyr. skarn. Lots of sulphides. 38.20 - 38.60: Crosscutting granitic rocks. Now strongly brecciated. 40.00 - 40.30: Like 38.20 - 38.60 40.30 - 40.65: Mica gneiss with skarn-augen 40.95 - 41.80: Finegrained biotitic rock with fragments (boudins?) of good skarn. 41.80 - 45.40: Pyr.+ garn. skarn. Garnets often in bands, banding 70°. At 42.10 folding of garnet bands.
45.40	51.05		Biotite migmatite gneiss Augen structure near upper contact. Bands of calc-silicates with skarn developed, but no scheelite.

A/S SULFIDMALM

DIAMOND DRILL RECORD

LOCATION
LOGGED BY:
CASING:
CORE SIZE:

BEARING: 250° DIP: 40° HOLE NO: 1 SHEET NO: 2(4)
STARTED: 5/7 -83 PROPERTY: Maalvika
FINISHED: 11/7 -83
TESTS (CORRECTED):

From	To		Description
			- 46.00: 70° (foliation) - 46.18 - 46.24: Calc-silicates. Free lime. Foliation 70°. - 46.38 - 46.43: Calc-silicates. Free lime. Foliation 70° - 46.56 - 46.66: Calc-silicates. Free lime. Foliation 70° - 46.90 - 47.02: Calc-silicates. Free lime. Foliation 70° - 49.50: 60° (foliation)
51.60	52.30		Skarn Pyr. dominated, only minor garnet. - 51.60 - 62.00 Visible scheelite in UV-light - 51.30: 55° (foliation)
52.30	59.70		Finegrained massive biotite gneiss - 52.70 - 55.40 Inhomogeneous coarse grained granite - 55.70 - 55.90 Inhomogeneous coarse grained granite - 57.00 - 57.30 Inhomogeneous coarse grained granite - 58.50 - 59.00 Shearing - 59.00 - 59.60 Fine grained granitic rocks (tonalite) - 59.70: 57° (foliation)
59.70	60.70		Biotite migmatite gneiss - 60.10: 62° (foliation)
60.70	67.30		Granite Medium grained type. Biotite foliation. - 62.40 - 62.90 Coarse grained fld.-quartz granite - 61.50: 40° (foliation)
67.30	86.50		Biotite migmatite gneiss. Some pegmatitic veins. - 68.50: 58° (foliation) - 73.20 - 73.70 Granite - 78.90 - 68° (foliation) - 84.20: 65° (foliation)
86.50	89.65		Granite Medium grained. Biotite foliation - 86.50: 80° (contact) - 89.65: 53° (contact)
89.65	92.25		Biotite migmatite gneiss - 91.80: 67° (foliation)
92.25	95.00		Fine grained biotite gneiss - 94.70: 74° (foliation)
95.00	104.30		Biotite migmatite gneiss Horizons of finegrained biotite gneiss. - 102.60: 72° (foliation)
104.30	108.20		Granite Medium grained. Biotite-foliation

A/S SULFIDMALM

DIAMOND DRILL RECORD

LOCATION ..... BEARING: 250° DIP: 40° HOLE NO: 1 SHEET NO 3(4)

LOGGED BY: E.M. STARTED: 5/7 -83 PROPERTY Maalvika

CASING ..... FINISHED: 11/7 -83 .....

CORE SIZE ..... TESTS (CORRECTED): .....

From	To		Description
108.20	128.00		Biotite migmatite gneiss Horizons of fine grained rocks down to 125 m. - 111.50: 75° (foliation) - 117.50: 75° (foliation) - 125.30 - 125.70: Green calc-silicates - 127.00 - 127.90: Quartz.
128.00	129.85		Granite
129.85	177.50		Biotite migmatite gneiss - 130.30: 82° (foliation) - 133.70 - 133.90: Calc-silicates - 134.80 - 134.90: Calc-silicates - 135.35 - 135.70: Skarn - 135.70 - 136.10: Pegmatitic granite - 136.10 - 136.20: Skarn - 137.50: 50° (foliation) - 141.60 - 142.40: Calc-silicates - 143.40 - 143.60: Calc-silicates - 144.00 - 144.30: Calc-silicates - 147.90 - 148.60: Calc-silicates - 153.70: 50° (foliation) - 157.80: 65° (foliation) - 158.30 - 158.60: Granite - 162.70: 78° (foliation) - 167.40 - 167.70: Granite (quartz + fld. pegmatite.) - 171.50 - 172.00: Granite - 175.70: 64° (foliation)

A/s SULFIDMALM

DIAMOND DRILL RECORD

LOCATION ..... BEARING: 250° DIP: 70° HOLE NO: 2 SHEET NO 1

LOGGED BY O.M. STARTED: 12/7 83 PROPERTY Malvika

CASING ..... FINISHED: 14/7 83 .....

CORE SIZE ..... TESTS (CORRECTED): .....

From	To		Description
0	2.25		Overburden
2.25	3.70		Granite
			- 3.30: 45° (foliation)
3.70	32.80		Biotite migmatite gneiss Usually banded. Some finegrained horizons
			- 9.50: 40° (foliation)
			- 14.50: 40° (foliation)
			- 16.50: 50° (foliation)
			- 21.20 - 21.60: Finegrained biotite granite (tonalite) Foliation 45°
			- 21.70 - 21.80: Like 21.20 - 21.60
			- 22.40: 60° (foliation)
			- 25.65 - 25.85: Finegrained biotite gneiss
			- 27.50: 45° (foliation)
			- 31.50: 50° (foliation)
32.80	36.80		Finegrained biotite gneiss Traces of sulphides
			- 35.10: 65° (foliation)
			- 36.80: 50° (contact)
36.80	38.15		Granite Coarse grained. No well developed planar structure
			- 37.35: cut by 2 cm quartz vein
38.15	42.90		Finegrained biotite gneiss Plenty of "yellow" mica in zones
			- 39.20: 40° (foliation)
			- 41.10 - 41.70 Coarse grained granite
42.90	45.60		Granite
			- 42.90 - 44.00 Biotite granite
			- 44.00 - 45.60 Nearly pure quartz "interbedded" with pyroxene rich calc silicate horizons.
45.60	55.60		Skarn Scheelite seen in UV-light
			- 45.70 - 46.35: pyr. is dominating
			- 46.35 - 47.10: Foliated biot.-pyr.skarn with minor skarn, some pyr. Foliation 50°
			- 47.10 - 48.10: Garn.-pyr.skarn
			- 48.10 - 49.40: Like 46.35-47.10. Foliation 50°
			- 49.40 - 51.30: Garn.-pyr. Cut by quartz-veining between 50.35-50.45
			- 51.30 - 51.95: Pyr. skarn
			- 51.95 - 52.30: Green coloured mica gneiss. Some sulphides are seen. Well developed foliation 50°

A/S SULFIDMALM

DIAMOND DRILL RECORD

LOCATION ..... BEARING: 250° DIP: 70° HOLE NO: 2 SHEET NO. 1

LOGGED BY: O.N. STARTED: 12/7 83 PROPERTY: Maalvika

CASING: ..... FINISHED: 14/7 83 .....

CORE SIZE: ..... TESTS (CORRECTED): .....

From	To		Description
			- 52.12 - 52.40 Granitic vein - 53.00 - 53.20 Granitic vein - 52.30 - 55.60 Pyr. dominated skarn with biotite gneisses
55.60	61.25		Dark banded biot.hornbl. gneiss with Augen textures. Some calc-silicate bands. (pyr.+garn. and no scheelite) - 57.40 - 58.10 calc-silicates + skarn - 58.50: 55° (foliation - 58.60 - 58.90 calc-silicates - 58.95 - 59.00 granite
61.25	62.95		Skarn Pyr. dominated. Only traces of garnet (visible scheelite 61.80)
62.95	71.85		Finegrained biotite gneisses - 66.50: 45° (foliation) - 68.05 - 68.20 Granite - 68.30 - 68.40 Granite - 69.25 - 69.35 Granite - 69.55 - 69.90 Granite
71.85	81.00		Granite Finegrained/medium grained granodiorite - 75.60 - 76.40 pegmatitic - 77.50: 50° (foliation)
81.00	98.80		Biotite migmatite gneiss Varying leucocratic/mafic ratio. Cut by some thin granitic veins. - 85.55: 55° (foliation) - 90.00 - 90.50 Granite - 95.50: 50° (foliation)
		98.80	End of hole

A/s SULFIDMALM

DIAMOND DRILL RECORD

LOCATION ..... BEARING: ..... DIP: 90° HOLE NO: 3 SHEET NO. 1(2)

LOGGED BY: O.M ..... STARTED: 14/7 83 PROPERTY Målvika

CASING: ..... FINISHED: 15/7 83

CORE SIZE: ..... TESTS (CORRECTED): .....

From	To		Description
0	3.00		Overburden
3.00	48.60		Biotite migmatite gneiss - 4.50: 38° (foliation) - 10.50: 34° (foliation) - 15.30: 33° (foliation) - 20.20 - 20.40: shear zone - 29.20 - 29.90: finegrained (tonalite) granite. Contacts parallel foliation - 31.30: 27° (foliation) - 37.80: 27° (foliation) - 41.50: 40° (foliation) - 47.90 - 48.60: granite - 45.30 - 45.50: granite
48.60	61.10		Finegrained biotite rocks - 49.70: 30° (foliation) - 51.60: 20° (foliation) - 53.00 - 54.00: varying granites - 56.70: 26° (foliation) - 59.20 - 59.30: calc-silicates parallel foliation
61.10	65.10		Skarn Pyr.dominated with varying content of mica. - 61.40 - 61.60: garnet - 63.30 - 63.60: garnet - 63.60 - 63.75: quartz - 64.00 - 64.60: pure marble
65.10	66.05		Finegrained biotite gneiss - 66.50: 40° (foliation)
66.05	68.00		Granite Medium grained. Flow foliation. Pegmatite around 67.50.
68.00	69.20		Finegrained biotite gneiss
69.20	71.60		Skarn Pyr. dominated. Garnet around 70.00 - 71.00. - 70.40 - 70.70 quartz
71.60	85.50		Banded biotite gneiss with garnets - 71.60 - 75.50 plenty of calc-silicates - 78.20: 35° (foliation)
85.50	90.20		Finegrained, massive biotite gneiss - 83.60 - 84.00: coarsegrained granite - 86.40: 20° (foliation)

A/S SULFIDMALM

DIAMOND DRILL RECORD

LOCATION
LOGGED BY: OM
CASING
CORE SIZE

BEARING: DIP: 90° HOLE NO: 3 SHEET NO 2(2)
STARTED: 14/7 83 PROPERTY Maalvika
FINISHED: 15/7 83
TESTS (CORRECTED)

From	To		Description
			- 89.40 - 89.60: coarsegrained, foliated granite - 90.00 - 90.20: granite - 91.60 - 92.00: granite - 94.80 - 94.95: granite - 95.50: 35° (foliation) - 97.10: 35° (foliation)
96.20	101.70		Biotite migmatite gneiss - 97.10: 35° (foliation) - 101.10 - 101.40: finegrained (tonalite) granite.
		101.70	End of hole

A/S SULFIDMALM

DIAMOND DRILL RECORD

LOCATION
LOGGED BY: R.S K.K.
CASING
CORE SIZE

BEARING: 280° DIP: 30° HOLE NO: 4 SHEET NO. 1
STARTED: 2/8 PROPERTY: Maalvika
FINISHED: 4/8
TESTS (CORRECTED)

From	To	Description
0	4.50	Overburden
4.50	30.30	Migmatitic Gneiss
		14.70 - 14.95 / 19.15 - 19.60 Granites
		28.00 - 28.40 Small sulphide concentrations (pyrrhotite)
		5.30 65° Foliation 8.90 70° - " - 11.40 60° - " - 17.70 60° - " - 19.60 60° Granite/gneiss 22.40 65° Foliation 26.80 70° - " -
30.30	36.50	Mica Gneiss Occasionally cut by coarse irregular granitic veins (not exceeding 10 cm in width)
		30.60 60° Foliation 34.80 70° - " -
36.50	37.00	Quartz-rich vein, with feldspar and fragments of the mica rich gneiss.
37.0	40.40	Skarn, mainly a pyroxene dominated skarn
		37.55 - 37.65 Quartz-vein
		38.30 - 38.45 / 38.55 - 38.65 Strong garnet-concentrations
		37.20 / 37.70 Sulphide concentrations, mainly pyrrhotite
40.40	43.00	Strongly deformed sequence containing both migmatitic gneiss narrow skarn-zones, micaceous gneiss and sheared granitic veins.
		40.30 70° Foliation
43.00	44.00	Mica gneiss 43.80 70° - " -
44.00	45.00	Skarn, extremely discontinuous due to the presence of coarse, irregular quartz-veins.
45.00	45.60	Quartz-rich granitic material, possibly an alteration zone syn-skarn development.
45.60	45.90	Calc-silicate band with scattered sulphides
45.90	49.20	Mica gneiss 46.90 60° 49.10 60°
49.20	58.40	Migmatitic gneiss
		51.20 - 51.50 Aplitic granite 51.20 55° Granite/gneiss 53.40 60° Foliation 58.10 65° - " -

A/S SULFIDMALM

DIAMOND DRILL RECORD

LOCATION | BEARING: 280° | DIP: 30° | HOLE NO 4 | SHEET NO 2

LOGGED BY K.S. K.K. | STARTED: 2/8 | PROPERTY Maalvika

CASING | FINISHED: 4/8

CORE SIZE | TESTS (CORRECTED)

From	To		Description
58.40	62.90		Migmatitic gneiss
			64.05 - 64.30 69.90 - 70.30 70.70 - 71.25 76.00 - 76.20 76.60 - 77.00 80.20 - 80.60 — Granitic veins 67.40 - 65° Foliation 69.80 - 65° - " - 73.80 - 60° - " - 78.50 - 65° - " -
81.45	85.40		Granite, with mica foliation 82.50 - 70° Foliation
85.40	92.70		Migmatitic gneiss Fold structure 86.60 - 65° Foliation 88.20 - 30° - " - 88.70 - 35° - " -
92.70	100.50		"Fine grained" massive gneiss, with occasional bands of migmatitic gneiss. 95.80 - 65° - " - 99.80 - 65° - " -
100.50	107.30		Migmatitic gneiss 107.10 - 60° - " -
107.30	110.65		Granite
			110.65 End of hole

A/S SULFIDMALM

DIAMOND DRILL RECORD

LOCATION ..... BEARING: ..... DIP: ..... HOLE NO: 6 SHEET NO 1

LOGGED BY ..... STARTED: ..... PROPERTY Mäivika

CASING: ..... FINISHED: .....

CORE SIZE ..... TESTS (CORRECTED): .....

From	To		Description
0	1.00		Overburden
1.00	1.80		Partly pegmatitic granite 175 m - 50° Fol.
1.80	4.25		Granitic gneiss
4.25	14.15		Migmatitic gneiss, which differs from the granitic gneiss in the degree of lithologic variations 4.75 m - 55° Fol. 8.70 m - 40° " 11.60 m - 45° "
14.15	14.85		Qtz-vein w/scattered amph. crystals 5 mm
14.85	15.55		Magmatitic gneiss 14.90 m - 60° Fol.
15.55	17.80		Medium to fine-grained qtz-fsp gneiss with a well developed micaceous foliation 17.70 m - 40° Fol.
17.80	20.55		Migmatitic gneiss
20.55	21.20		Coarse grained granite 21.20 m - 35° Boundary
21.20	21.50		Biotite gneiss
21.50	21.90		Coarse grained granite. pegmatitic in places
21.90	34.75		Migmatitic gneiss
			25.15 - 24.25 Shear zone, extensively crushed 26.50 m - 55° Fol.
			27.80 - 28.20 Granite vein 29.30 m - 55° "
			33.10 - 33.30 Pegmatite (qtz-fsp-mica)
34.75	36.85		Pegmatite, coarse with qtz-fsp-mica 31.85 m - 65° Fol.
			35.55 - 35.70 Migmatitic gneiss 34.50 m - 45° "
			36.30 - 36.60 Green micaceous gneiss 36.60 m - 35° Boundary
36.85	46.00		Greyish green lithology with a basic to ultrabasic composition. Talc is a very common mineral on small shears (slickensides), and the rock has obviously suffered from strong alteration 38.20 m - 40° Fol. 40.35 m - 45° Qtz-fsp. vein 44.20 m - 50° Fol.
46.00	52.70		Acid intrusive, granitic to dioritic in composition. The rock becomes increasingly pegmatitic around 50 - 51 m with a decrease in grain size again towards the gneiss boundary. 46.50 m - 55° Fol. 51.95 m - 35° "
52.70	58.10		Dark, mica-chlorite gneiss 53.40 m - 50° Fol. 56.60 m - 35° "
58.10	58.80		Granite

A/S SULFIDMALM

DIAMOND DRILL RECORD

LOCATION: ..... BEARING: ..... DIP: ..... HOLE NO. 6 SHEET NO. 2

LOGGED BY: ..... STARTED: ..... PROPERTY Mávika

CASING: ..... FINISHED: .....

CORE SIZE: ..... TESTS (CORRECTED): .....

From	To		Description	
58.80	59.30		Dark, mica-chl. gneiss	59.10 m – 40° Fol.
59.30	66.80		Grey granite, turning pink in association with fractures (both K-fsp and zeolites)	61.80 m – 55° Fol. 66.90 m – 60° "
66.80	69.60		Migmatitic gneiss, occasional narrow granitic veins or zones	68.40 m – 50° Fol.

A/S SULFIDMALM

DIAMOND DRILL RECORD

LOCATION ..... BEARING: ..... DIP: 30° HOLE NO: 7 SHEET NO 1

LOGGED BY UK TT ..... STARTED: ..... PROPERTY Målvika

CASING: ..... FINISHED: .....

CORE SIZE ..... TESTS (CORRECTED) .....

From	To		Description
0	15.50		Biotite migmatite gneiss Cut by thin pegm. veins near 15.50.
			0.85 - 1.00 Loss of core
			1.60 - 1.90 Loss of core
			2.60 55° (foliation)
			5.50 60° (foliation)
			8.50 60° (foliation)
			10.70 75° (foliation)
			13.50 80° (foliation)
15.50	49.50		Quartz-feldspar gneiss Sometimes granitic.
			18.60 85° (foliation)
			21.80 45° (foliation)
			26.60 60° (foliation)
			30.80 - 31.00 Fine grained biotite-chlorite rich rocks
			32.80 65° (foliation)
			34.50 75° (foliation)
			36.50 90° (foliation)
			41.80 70° (foliation)
			44.75 75° (foliation)
			46.40 - 46.70 Dark biotite-chlorite rocks with zeolite mineralization.
49.50	54.65		Biotite migmatite gneiss From 53.65 more quartz-feldspar and zeolitization.
			52.90 80° (foliation)
			54.65 80° (contact)
54.65	63.75		Fine grained biotite-chlorite gneiss Cut by granitic & pegm. veins
			59.50 80° (foliation)
			60.10 - 60.45 Granite
			60.50 80° (contact)
			60.50 - 60.60 Granite
			61.20 - 61.35 Pegmatite
			62.25 - 62.45 Pegmatite
			63.20 - 63.30 Granite

A/S SULFIDMALM

DIAMOND DRILL RECORD

LOCATION: ..... BEARING: ..... DIP: -30° HOLE NO: 7 SHEET NO: .....

LOGGED BY: OM TT STARTED: ..... PROPERTY: Målvika

CASING: ..... FINISHED: .....

CORE SIZE: ..... TESTS (CORRECTED): .....

From	To		Description
63.75	64.30		Skarn Diopside, dominated, only traces of garnets
64.30	66.85		Biotite-chlorite gneiss with varying mineral size
			64.50 85° (foliation)
			67.50 70° (foliation)
66.85	67.30		Skarn Like 63.75 - 64.30
67.30	76.70		Calc-silicate gneisses Green colour. Some minor quartz-bands,
			71.40 40° (foliation)
			71.40 75° (contact)
			71.40 - 72.05 Granite
			72.35 - 73.25 Migmatitic gneiss
			75.00 - 75.15 Granite
			76.00 - 76.70 Quartz-fld-pegmatite
76.70	81.20		Migmatitic gneiss with thin calc-silicate bands
			76.70 - 76.75 Calc silicates
			76.85 - 76.90 - " - " -
			76.95 - 77.10 - " - " -
			77.80 65° (foliation)
			77.90 - 78.00 Calc silicates
			78.20 - 78.30 - " - " -
81.20	82.90		Skarn/calc silicates
			81.25 85°
			82.45 - 82.65 Pure marble
82.90	83.70		Granite
83.70	86.20		Biotite gneiss with horizons of chlorite & quartz
			84.30 60° (foliation)
86.20	98.70		Biotite migmatite gneiss with migmatite veining
			87.20 - 87.45 Pegmatite
			88.40 80° (foliation)
			88.50 - 88.70 Marble and skarn
			88.70 - 89.35 Pegmatite

A/S SULFIDMALM

DIAMOND DRILL RECORD

LOCATION ..... BEARING: ..... DIP: 30° HOLE NO. 7 SHEET NO. 3

LOGGED BY ØM TT ..... STARTED: ..... PROPERTY Malvik

CASING: ..... FINISHED: .....

CORE SIZE ..... TESTS (CORRECTED): .....

From	To		Description
			89.35 - 89.45 Chlorite-rich pegmatite
			89.45 - 90.00 Pegmatite
			90.00 - 90.40 Chlorite-rich pegmatite
			90.40 - 91.50 Pegmatite
			91.30 80° (foliation)
			92.05 - 92.20 Pegmatite
			92.90 - 93.90 - " -
			94.05 - 94.15 - " -
			94.50 - 94.90 - " -
			95.10 80° (foliation)
			97.25 - 97.40 Pegmatite
			98.15 85° (foliation)
98.70	103.50		Granite Red altered feldspar
103.50	170.00		Biotite migmatite gneiss with bands of granite and pegmatite.
			100.55 85° (foliation)
			104.25 - 104.55 Granite
			104.80 80° (foliation)
			106.40 - 106.50 Granite
			107.90 - 108.05 - " -
			108.05 - 108.85 - " -
			108.85 - 109.10 Pegmatite
			109.30 75° (foliation)
			109.80 - 109.95 Pegmatite
			111.70 - 112.00 - " -
			112.50 - 113.40 - " -
			113.60 75° (foliation)
			114.10 - 114.60 Pegmatite
			114.95 - 115.60 Granite
			116.40 - 116.60 Pegmatite
			117.15 - 117.75 - " -
			117.70 80° (foliation)
			122.50 70° (foliation)

A/S SULFIDMALM

DIAMOND DRILL RECORD

LOCATION ..... BEARING: ..... DIP: 30° HOLE NO: 7 SHEET NO. 4

LOGGED BY: OM TT STARTED: ..... PROPERTY Målvika

CASING: ..... FINISHED: .....

CORE SIZE ..... TESTS (CORRECTED): .....

From	To		Description
			124.40 - 124.65 Granite
			124.75 - 126.55 Granite
			126.30 ≯ 90° (foliation)
			133.30 - 134.50 Fine grained chlorite-mica gneiss
			134.80 - 135.30 - " - - " - - " -
			135.95 - 136.10 - " - - " - - " -
			138.20 75° (foliation)
			138.70 - 140.85 Granite
			141.60 75° (foliation)
			144.50 - 146.10 Granite
			146.40 80° (foliation)
			148.35 - 148.75 Quartzrich pegmatite
			150.80 80° (foliation)
			151.20 - 152.30 Granite
			157.70 80° (foliation)
			160.50 ≯ 90° (foliation)
			168.70 ≯ 90° (foliation)
		170.00	End of hole

A/S SULFIDMALM

DIAMOND DRILL RECORD

LOCATION ..... BEARING: 246 E DIP: 30° HOLE NO: 8 SHEET NO. 1

LOGGED BY: OM ..... STARTED: ..... PROPERTY Målvika

CASING: ..... FINISHED: .....

CORE SIZE ..... TESTS (CORRECTED): .....

From	To		Description
0	40.10		Migmatitic gneiss
			0.50 60° foliation
			6.50 70° - " -
			11.50 80° - " -
			17.50 80° - " -
			22.00 80° - " -
			28.30 60° - " -
			30.20 - 30.40 Granite. Contacts parallel foliation
			31.20 75° foliation
			36.00 - 36.60 Granite. contacts irregular but cut foliation.
			38.50 80° foliation
40.10	48.00		Granite Medium grained with biotite foliation. From ab. 40.40 biotite in aggegates.
			41.50 80° foliation
48.00	51.50		Migmatitic gneiss
			48.80 80° foliation
			51.20 70° - " -
51.50	54.80		Biotite-chlorite gneiss with garnets. Near 54.80 some migmatitic bands.
54.80	55.50		Skarn Diopside is dominating. Scheelite seen in 1 cm band near 55.40.
55.50	56.00		Marble
56.00	57.40		Biotite-chlorite gneiss
			56.50 80° foliation
57.40	63.80		Granite Medium grained with biotite foliation
			58.50 80° foliation
			61.50 80° foliation
63.80	68.80		Migmatitic gneiss From 63.80 till 65.10 quartz-fld rich. From 65.10 more biotite and bands of chlorite.

A/S SULFIDMALM

DIAMOND DRILL RECORD

LOCATION ..... BEARING: 246° E DIP: 30° HOLE NO: 8 SHEET NO. 2

LOGGED BY: ØM STARTED: ..... PROPERTY Målvika

CASING. ..... FINISHED: .....

CORE SIZE ..... TESTS (CORRECTED): .....

From	To		Description
68.80	81.50		Biotite gneiss Some migmatic and skarn zones.
			71.20 - 72.50 Migmatite
			72.50 - 72.55 Skarn with scheelite
			75.00 80° foliation
			77.30 - 77.60 Migmatite with zeolite alteration
			78.00 - 78.30 - " - - " - - " - - " -
81.50	163.05		Migmatitic gneiss
			82.50 60° foliation

A/S SULFIDMALM

DIAMOND DRILL RECORD

LOCATION ØM

BEARING 240°E DIP 30° HOLE NO. 8 SHEET NO. 2(2)

STARTED PROPERTY MAALVIKA

FINISHED

TESTS (CORRECTED)

From	To		Description
			86.40 - 87.00 : Strongly zeolite alteration
			89.10 - 91.00 : Granite
			92.10 : 80° foliation
			94.50 : 80° -"-
			102.00 : 90° -"-
			109.60 : 85° -"-
			110.95 - 111.36 : Granite. Contacts 30°
			113.40 - 114.90 : Granite. Contacts parallel foliation
			118.50 : 85° foliation
			122.00 : 80° -"-
			128.00 : 75° -"-
			132.00 : 75° -"-
			138.00 : 75° -"-
			142.00 : 70° -"-
			148.00 : 80° -"-
			150.60 - 152.60 : Granite. Contacts: 150.60 = 80°, 152.60 = 90°
			153.00 : 85° foliation
			153.60 - 154.70 : Granite. Contacts: 153.60 • 75°, 154.70 • 75°
			157.75 - 158.75 : Red zeolite alteration
			159.50 : 80° foliation
162.05	178.50		Biotite gneiss with some chlorite zones and minor zeolite alteration
			163.50 : 55° foliation
			168.00 : 80° -"-
			172.00 : 70° -"-
			174.15 - 174.60 : Granite
			178.00 : 80° foliation
178.50	189.40		Migmatitic gneiss with strongly varying leucocratic - mafic ratio
			183.00 - 184.00 : Medium grained granite
			187.60 - 188.80 : Strong red alteration of flds.
			189.00 : 70° foliation
189.40	195.10		Granite. Varying biotite content
195.10	199.85		Migmatitic gneiss
			197.50 : 75° foliation
		199.85	End of hole.

A/S SULFIDMALM

DIAMOND DRILL RECORD

LOCATION
LOGGED BY ØM, KK
CASING
CORE SIZE

BEARING 206° E DIP 30° HOLE NO. 9 SHEET NO. 1(2)
STARTED PROPERTY MAALVIKA
FINISHED
TESTS (CORRECTED)

From	To		Description
0	1.75		Granite Medium grained with biotite foliation
			0.15 : 35° foliation
1.75	26.30		Biotite-chlorite gneiss
			3.00 - 3.20 : Granite
			3.40 - 3.85 : Granite. 3.85 : Contact • 40°
			4.50 - 4.70 : Granite
			6.50 : 50° foliation
			9.50 . 65° - " -
			14.50 - 15.70 Granite 14.50 : Contact • 40°
			17.85 - 18.10 : - " - . 18.10 : Contact • 45°
			18.40 - 18.55 : - " -
			12.40 : 45° foliation
			22.90 : 45° - " -
			24.60 - 24.80 . Granite
			25.10 : 35° foliation
26.30	41.86		Migmatitic gneiss
			29.40 : 55° foliation
			30.00 - 31.00 : Biotite gneiss
			31.80 : 55° foliation
			38.50 : 65° - " -
41.85	50.50		Biotite gneiss with horizons of migmatitic gneiss and
			skarn/calc-silicates
			42.10 : 45° foliation
			42.20 - 42.70 : migmatite
			44.00 - 44.50 : - " -
			44.86 - 45.20 : Granite
			45.20 - 45.60 : Skarn Epidot is dominating
			45.80 - 46.10 : - " - " - " - " -
			48.50 : 65° foliation
50.50	130.65		Migmatitic gneiss
			52.80 : 65° foliation
			55.40 : 60° - " -
			59.80 : 45° - " -
			64.20 : 65° - " -
			69.20 : 60° - " -
			65.60 - 66.10 : Granite
			72.45 - 72.60 : Granite. Contacts out foliation.

A/s SULFIDMALM

DIAMOND DRILL RECORD

LOCATION
LOGGED BY ØM, KK
CASING
CORE SIZE

BEARING 206°E DIP 30° HOLE NO. 9 SHEET NO 2(2)
STARTED PROPERTY MAALVIKA
FINISHED
TESTS (CORRECTED)

From	To		Description
			73.00 - 73.30 : Granite. Contacts cut foliation
			74.10 : 35° foliation
			76.40 - 76.65 : Granite
			78.00 : 65° foliation
			84.00 : 55° -"-
			84.40 - 85.00 : Granite
			89.40 : 65° foliation
			89.60 - 90.00 : Granite
			91.30 - 92.50 : Granite. Biotite foliation : 55°
			95.10 : 55° foliation
			99.20 : 45° -"-
			102.00 : 55° -"-
			107.20 : 50° -"-
			111.10 : 30° -"-
			116.00 - 116.40 : Granite
			119.00 : 75° foliation
			120.60 - 121.80 : Biotitegneiss with green calc-silicate banding
			123.00 : 50° foliation
			127.50 - 128.20 : Biotitegneiss with green calc-silicate banding
			127.30 : 70° foliation
			132.80 : 55° -"-
			139.60 : 50° -"-
			142.50 : 60° -"-
			146.00 - 148.60 : Granite
			149.80 : 60° foliation
			149.95 - 150.65 : Granite
		150.65	End of hole

CHEMEX LABS LTD.

212 BROOKSBANK AVE
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE (604) 984-0221
TELEX 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ASSAY

: A/S SULFIDMALM

4601 KRISTIANSAND S.
NORWAY
POSTBOKS 457

CERT. # : A8313925-001-A
INVOICE # : I8313925
DATE : 12-SEP-83
P.O. # : NONE
MAALVIKA

Sample description	Prep code	WC3 %	Au FA g/tonne	S % (Leco)			
DH 1 35-36	207	<0.01	<0.1	0.96	--	--	--
DH 1 36-37	207	<0.01	<0.1	0.32	--	--	--
DH 1 37-38	207	<0.01	<0.1	1.11	--	--	--
DH 1 38-39	207	<0.01	<0.1	1.17	--	--	--
DH 1 39-40	207	<0.01	<0.1	1.54	--	--	--
DH 1 40-41	207	<0.01	0.1	0.53	--	--	--
DH 1 41-42	207	<0.01	<0.1	2.02	--	--	--
DH 1 42-43	207	<0.01	<0.1	1.33	--	--	--
DH 1 43-44	207	<0.01	<0.1	1.27	--	--	--
DH 1 44-45	207	<0.01	0.1	0.27	--	--	--
DH 1 45-46	207	<0.01	<0.1	0.05	--	--	--
DH 1 51-52	207	<0.01	<0.1	0.11	--	--	--
DH 1 52-53	207	0.01	<0.1	<0.05	--	--	--
DH 2 45-46	207	<0.01	<0.1	0.11	--	--	--
DH 2 46-47	207	<0.01	<0.1	0.74	--	--	--
DH 2 47-48	207	0.01	0.1	0.11	--	--	--
DH 2 48-49	207	<0.01	<0.1	1.00	--	--	--
DH 2 49-50	207	0.07	0.3	0.27	--	--	--
DH 2 50-51	207	<0.01	0.2	<0.05	--	--	--
DH 2 51-52	207	<0.01	<0.1	0.11	--	--	--
DH 2 52-53	207	<0.01	<0.1	1.00	--	--	--
DH 2 53-54	207	<0.01	0.1	0.11	--	--	--
DH 2 54-55	207	<0.01	<0.1	0.05	--	--	--
DH 2 55-56	207	<0.01	<0.1	0.11	--	--	--
DH 2 61-62	207	<0.01	0.2	0.11	--	--	--
DH 2 62-63	207	0.07	0.2	<0.05	--	--	--
DH 3 61-62	207	<0.01	0.1	0.11	--	--	--
DH 3 62-63	207	<0.01	<0.1	0.32	--	--	--
DH 3 63-64	207	0.11	<0.1	<0.05	--	--	--
DH 3 64-65	207	0.07	0.1	0.05	--	--	--
DH 3 69-70	207	<0.01	<0.1	0.32	--	--	--
DH 3 70-71	207	<0.01	<0.1	<0.05	--	--	--
DH 3 71-72	207	<0.01	0.1	0.11	--	--	--
DH 4 37-38	207	<0.01	0.2	0.21	--	--	--
DH 4 38-39	207	<0.01	0.1	<0.05	--	--	--
DH 4 39-40	207	<0.01	<0.1	<0.05	--	--	--
DH 4 40-41	207	<0.01	0.1	0.16	--	--	--

Registered Assayer, Province of British Columbia