

## DETAILED LOG

Hole Number: ES2005-49

Units: METRIC

Project Name: Norway - Espedalen	Primary Coordinates Grid: UTM84-32N	Destination Coordinates Grid: UTM:	Collar Dip: -70.00
Project Number: 201	North: 6807003.62	North: 61.40	Collar Az: 230.00
Location: Surface	East: 529016.02	East: 9.54	Length: 83.05 (m)
	Elev: 1100.89	Elev: 1100.89	Start Depth: 0.00 (m)
Date Started: Sep 20, 2005	Collar Survey: Y	Plugged: N	Contractor: Arctic Drilling A/S
Date Completed: Sep 23, 2005	Multishot Survey: N	Hole Size: TT46	Core Storage: Strand Fjellstue
Logged By: larsw	Pulse EM Survey: N	Casing: Left in Hole, capped	Final Depth: 83.05 (m)

Comments: Purpose: Hole proposed to test a large conductive plate (500m x 150m), with a conductivity of 175 Siemens, which was defined with the 2003 UTEM survey (Conductor B).

Result: The hole collared in interpreted jotunites to a depth of 35.21m, afterwhich sulphidic sediments were intersected which contained dm scale fine grained pyrrhotite and pyrite (20-30%) from 44.80-45.64m (0.84m) and 55.45-55.78m (0.33m). The hole finished at 83.05m within mafic metavolcanics.

Assays: No significant results returned, all samples <0.05%Ni.

Lithological interpretation: Intersected package of jotunites (Heim's rock suite 1) intermixed with sulphidic sediments (Heim's "hybrid rocks") which likely represent basement rocks of the Espedalen Complex.

## Sample Averages

Detailed Lithology		Assay Data							
From (m)	To (m)	Lithology	Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
0	3.00	C, Casing							

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From (m)	To (m)		Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
3.00	35.21	<p>1, Jotunite</p> <p>Medium to coarse-grained, weakly foliated, gray and white (mottled appearance), non-magnetic rock consisting of quartz, plagioclase and mafic minerals. The rock has a light gneissic texture and is homogeneous. The lower contact is sharp but irregular.</p> <p>This unit is cut by m-scale mafic dykes; see description of minor units for contact relationships.</p> <p>No mineralization was found within this unit.</p> <p>Structure</p> <p>5.74 - 5.75 : S1 First Foliation, 65 Deg to CA  15.45 - 15.46 : S1 First Foliation, 60 Deg to CA  24.42 - 24.43 : S1 First Foliation, 50 Deg to CA  29.58 - 29.59 : S1 First Foliation, 55 Deg to CA</p> <p>RQD</p> <p>3.00 - 6.00 : 25.00 % RQD 100.00 % Core  6.00 - 9.00 : 21.00 % RQD 100.00 % Core  9.00 - 12.00 : 65.00 % RQD 100.00 % Core  12.00 - 15.00 : 72.00 % RQD 100.00 % Core  15.00 - 18.00 : 52.00 % RQD 100.00 % Core  18.00 - 21.00 : 82.00 % RQD 100.00 % Core  21.00 - 24.00 : 51.00 % RQD 100.00 % Core  24.00 - 27.00 : 62.00 % RQD 100.00 % Core  27.00 - 30.00 : 54.00 % RQD 100.00 % Core  30.00 - 33.00 : 10.00 % RQD 100.00 % Core  33.00 - 36.00 : 24.00 % RQD 100.00 % Core</p> <p>MINOR INTERVALS:</p> <p>Minor Interval:  4.34 - 9.08 MD, Mafic Dike</p> <p>Fine to medium-grained, well foliated mafic dike. The upper contact is sharp but irregular, the lower contact is sharp at 60 degrees tca. The rock is finer-grained along the contacts. A jotunite "raft" occurs between 7.64 and 8.15m.</p> <p>Minor Interval:  31.44 - 34.65 MD, Mafic Dike</p> <p>Fine to medium-grained, well foliated mafic dyke. The upper and lower contacts are sharp at 50 and 10 degrees tca, respectively. The rock is finer-grained along the contacts.</p>							

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From (m)	To (m)		Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
35.21	58.39	FGN, Felsic Gneiss	PG00414	43.65	44.80	1.15	0.0250	0.0250	0.0100
		This unit consists of a fine to medium-grained, light gray, moderately to well-foliated, siliceous, plagioclase-rich metasediment. Locally, garnets are abundant as is epidote. The unit is fairly homogeneous on a meter scale but shows variations on a smaller scale (bedding?). Abundant sulfides (pyrrhotite and pyrite) occur as seemingly remobilized veinlets and patchy to blebby concentrations. Where pyrrhotite is abundant the magnetic susceptibility is high, elsewhere the unit is non-magnetic.  Mineralization 44.80 - 45.64 : Cpy Chalcopyrite, PAT Patchy, 1% 44.80 - 45.64 : Po Pyrrhotite, PAT Patchy, 20% 44.80 - 45.64 : Py Pyrite, PAT Patchy, 4% 48.45 - 48.55 : Po Pyrrhotite, STR Stringers, 15% remobilized 48.45 - 48.55 : Py Pyrite, STR Stringers, 5% remobilized 55.45 - 55.78 : Po Pyrrhotite, D Disseminated, 8% 55.45 - 55.78 : Py Pyrite, D Disseminated, 2% 56.70 - 58.39 : Po Pyrrhotite, STR Stringers, 12% remobilized 56.70 - 58.39 : Py Pyrite, STR Stringers, 3% remobilized  Structure 41.01 - 41.02 : S1 First Foliation, 55 Deg to CA 48.16 - 48.17 : S1 First Foliation, 60 Deg to CA 56.55 - 56.56 : S1 First Foliation, 65 Deg to CA  RQD 36.00 - 39.00 : 35.00 % RQD 100.00 % Core 39.00 - 42.00 : 54.00 % RQD 100.00 % Core 42.00 - 45.00 : 46.00 % RQD 100.00 % Core 45.00 - 48.00 : 65.00 % RQD 100.00 % Core 48.00 - 51.00 : 88.00 % RQD 100.00 % Core 51.00 - 54.00 : 52.00 % RQD 100.00 % Core 54.00 - 57.00 : 54.00 % RQD 100.00 % Core 57.00 - 60.00 : 47.00 % RQD 100.00 % Core	PG00415	44.80	45.64	0.84	0.0250	0.0250	0.0100
			PG00416	45.64	46.81	1.17	0.0250	0.0250	0.0100
			PG00417	54.50	55.45	0.95	0.0250	0.0250	0.0100
			PG00418	55.45	55.78	0.33	0.0250	0.0600	0.0100
			PG00419	55.78	56.70	0.92	0.0250	0.0250	0.0100
			PG00420	56.70	57.82	1.12	0.0250	0.0600	0.0100
			PG00421	57.82	58.39	0.57	0.0250	0.0250	0.0100

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From (m)	To (m)		Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
58.39	83.05	MV, Mafic Volcanic	PG00422	58.39	59.50	1.11	0.0250	0.0250	0.0100
		This unit consists of a dark gray and white, inhomogeneous, non-magnetic, plagioclase, chlorite and mafic mineral-bearing, locally well-foliated mafic rock. Locally, clots of biotite are abundant. The inhomogeneity is characterized by anatexic and durchbewegungs textures. Locally, white plagioclase constitutes up to ~80% of the rock.	PG00423	59.50	60.50	1.00	0.0250	0.0250	0.0100
		The upper ~10m contain mm-scale pyrrhotite-rich sulfide veinlets, which likely originated in the overlying mineralized metasediments.							
		The lower contact of this unit was not found as the hole was shut down.							
		Structure							
		66.65 - 66.66 : S1 First Foliation, 65 Deg to CA							
		75.33 - 75.34 : S1 First Foliation, 70 Deg to CA							
		81.15 - 81.16 : S1 First Foliation, 70 Deg to CA							
		RQD							
		60.00 - 63.00 : 68.00 % RQD 100.00 % Core							
		63.00 - 66.00 : 85.00 % RQD 100.00 % Core							
		66.00 - 69.00 : 46.00 % RQD 100.00 % Core							
		69.00 - 72.00 : 67.00 % RQD 100.00 % Core							
		72.00 - 75.00 : 91.00 % RQD 100.00 % Core							
		75.00 - 78.00 : 71.00 % RQD 100.00 % Core							
		78.00 - 81.00 : 80.00 % RQD 100.00 % Core							
		81.00 - 83.05 : 52.00 % RQD 100.00 % Core							

## Samples

Sample Number	From (m)	To (m)	Ni%	Cu%	Co%
Sample Type	ASSAY				
PG00414	43.65	44.80	0.0250	0.0250	0.0100
PG00415	44.80	45.64	0.0250	0.0250	0.0100
PG00416	45.64	46.81	0.0250	0.0250	0.0100
PG00417	54.50	55.45	0.0250	0.0250	0.0100
PG00418	55.45	55.78	0.0250	0.0600	0.0100
PG00419	55.78	56.70	0.0250	0.0250	0.0100
PG00420	56.70	57.82	0.0250	0.0600	0.0100
PG00421	57.82	58.39	0.0250	0.0250	0.0100
PG00422	58.39	59.50	0.0250	0.0250	0.0100
PG00423	59.50	60.50	0.0250	0.0250	0.0100