

Hole Number: ES2005-38

Units: METRIC

Project Name: Norway - Espedalen	Primary Coordinates Grid: UTM84-32N	Destination Coordinates Grid: UTM:	Collar Dip: -55.00
Project Number: 201	North: 6807851.04	North: 61.40	Collar Az: 230.00
Location: Surface	East: 533292.98	East: 9.62	Length: 90.40 (m)
	Elev: 1186.65	Elev: 1186.65	Start Depth: 0.00 (m)
Date Started: Jul 31, 2005	Collar Survey: Y	Plugged: N	Contractor: Arctic Drilling A/S
Date Completed: Aug 01, 2005	Multishot Survey: N	Hole Size: TT46	Core Storage: Strand Fjellstue
Logged By: Rob Jones, blairt	Pulse EM Survey: N	Casing: Left in Hole, capped	Final Depth: 90.40 (m)

Comments: Purpose: Test UTEM conductor ESP\_08\_06, within the centre of interpreted plate (Conductivity = 400 Siemens).

Result: Intersected peridotite (35m thickness) which contained 3-5% disseminated pyrrhotite (with local concentrations up to 10%). This peridotite was bounded up- and downhole by a differentiated intrusive body (norite).

Assays: 0.74% Ni, 0.16% Cu, 0.05% Co / 1.90m (52.60-54.50m)

Borehole UTEM: Survey to be conducted in November 2005.

Lithological interpretation: Intersected sulphide-bearing ultramafic body (Heim's rock suite 2b).

### Sample Averages

Average Type	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
WEIGHTED	20.70	72.75	52.05	0.2557	0.0984	0.0183
WEIGHTED	49.07	72.75	23.68	0.3947	0.1557	0.0268
WEIGHTED	50.50	54.50	4.00	0.6020	0.1395	0.0448
WEIGHTED	65.00	72.75	7.75	0.4106	0.1558	0.0319

Detailed Lithology		Assay Data							
From (m)	To (m)	Lithology	Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
0	1.50	C, Casing							

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Detailed Lithology		Lithology	Assay Data						
From (m)	To (m)		Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
1.50	49.07	6f, Norite	PG03976	20.70	22.00	1.30	0.2500	0.0600	0.0100
		Norite, medium to fine grained, dark, 90% pyroxene and 10% plagioclase plus minor quartz, locally magnetic, heterogenous and massive. Overall contains 1% sulphides (po with trace cpy) that are disseminated and patchy, locally sulphides can get up to 5%.	PG03977	22.00	23.50	1.50	0.3300	0.0600	0.0200
		Locally dm to m scale leucocratic bands are foliated made up of 70% plagioclase and 30% pyroxenes and or amphibole, are not as mineralized as the surrounding norite (trace disseminated pyrrhotite). These are found at 18.2-19.9m, 32.60-32.80m, 43.21-44.16m, 44.90-45.64m and 46.22-49.00m.	PG03978	23.50	25.00	1.50	0.4000	0.2000	0.0300
		The lower contact of this unit is sharp with downhole ultramafic at 70 degrees to the ca, minor shearing present.	PG03979	25.00	26.50	1.50	0.2700	0.0600	0.0400
		Mineralization	PG03980	26.50	28.00	1.50	0.2900	0.0800	0.0200
		22.00 - 33.00 : Po Pyrrhotite, D Disseminated, 2.5% tr-5%, locally 8%	PG03981	28.00	29.50	1.50	0.4300	0.2100	0.0300
		Alteration	PG03982	29.50	31.00	1.50	0.2500	0.1600	0.0300
		1.50 - 9.35 :WEA Weathering, F Fracture Controlled, W Weak	PG03983	31.00	32.00	1.00	0.2300	0.0600	0.0100
		Iron oxide	PG03984	32.00	33.00	1.00	0.2800	0.0250	0.0300
		Structure	PG03985	33.00	33.50	0.50	0.2400	0.0800	0.0100
		19.35 - 19.36 : S1 First Foliation, 60 Deg to CA	PG03986	48.50	49.07	0.57	0.0900	0.1300	0.0100
		30.30 - 30.31 : S1 First Foliation, 60 Deg to CA							
		36.30 - 36.31 : S1 First Foliation, 55 Deg to CA							
		RQD							
		1.50 - 3.00 : 55.00 % RQD 100.00 % Core							
		3.00 - 6.00 : 44.00 % RQD 100.00 % Core							
		6.00 - 9.00 : 63.00 % RQD 100.00 % Core							
		9.00 - 12.00 : 100.00 % RQD 100.00 % Core							
		12.00 - 15.00 : 66.00 % RQD 100.00 % Core							
		15.00 - 18.00 : 80.00 % RQD 100.00 % Core							
		18.00 - 21.00 : 94.00 % RQD 100.00 % Core							
		21.00 - 24.00 : 55.00 % RQD 100.00 % Core							
		24.00 - 27.00 : 83.00 % RQD 100.00 % Core							
		27.00 - 30.00 : 77.00 % RQD 100.00 % Core							
		30.00 - 33.00 : 72.00 % RQD 100.00 % Core							
		33.00 - 36.00 : 80.00 % RQD 100.00 % Core							
		36.00 - 39.00 : 61.00 % RQD 100.00 % Core							
		39.00 - 42.00 : 83.00 % RQD 100.00 % Core							
		42.00 - 45.00 : 77.00 % RQD 100.00 % Core							
		45.00 - 48.00 : 98.00 % RQD 100.00 % Core							
		48.00 - 51.00 : 87.00 % RQD 100.00 % Core							

# DETAILED LOG

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Detailed Lithology		Assay Data							
From (m)	To (m)	Lithology	Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
		<p>MINOR INTERVALS:                      Minor Interval:                      40.5 - 41.22 PYXT, Pyroxenite                      Fine grained, massive, magnetic, homogenous, dark green pyroxenite dyke composed of 95+% pyroxenes.</p> <p>There are no sulphides present.</p> <p>The upper and lower contacts are at 45 degrees and marked by the presence of leucoxenes.</p>							

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Detailed Lithology		Assay Data							
From (m)	To (m)	Lithology	Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
49.07	84.15	PRDT, Peridotite	PG03987	49.07	50.50	1.43	0.3300	0.1900	0.0300
		<p>Massive to weakly foliated (proximal to lower contact), medium grained, dark grey to black, strongly magnetic, homogenous peridotite composed of 90% pyroxenes (locally 5mm to cm scale - dusty green) and 10% serpentine (+ magnetite).</p> <p>This unit contains 1-10% fine grained to locally cm scale patchy sulphides (pyrrhotite with mm scale pyritic horizons (cubic cleavage), trace chalcopyrite as wisps and rims). More mineralized horizons exist within this unit (namely from the upper contact (49.07m) to 72.75m. Where sulphide concentrations approach 10%, sulphides appears as heavily disseminated to weakly net-textured. See mineralization tab for intervals.</p> <p>Downhole of 72.75m, the unit contains trace sulphides within a more foliated (sheared) rock. Foliation planes are marked by mm scale dark green serpentine veinlets at approximately 60-70 degrees to the ca, primarily from 80.50m to the lower contact (84.15m).</p> <p>49.07-52.60m and 78.70-80.00m: mm to cm scale, white, semi-angular to semi-rounded, plagioclase-rich fragments (partially digested anorthosite xenoliths?). Proximity to upper and lower contacts.</p> <p>The lower contact of this unit is gradational over 50cm with the downhole norite and the contact was based on the increased presence of plagioclase as well as the magnetic susceptibility.</p> <p>Mineralization</p> <p>49.07 - 52.60 : Po Pyrrhotite, FG Fine Grained, 4%</p> <p>52.60 - 54.50 : Po Pyrrhotite, FG Fine Grained, 10%</p> <p>54.50 - 72.75 : Po Pyrrhotite, FG Fine Grained, 3%</p> <p>RQD</p> <p>51.00 - 54.00 : 92.00 % RQD 100.00 % Core</p> <p>54.00 - 57.00 : 84.00 % RQD 100.00 % Core</p> <p>57.00 - 60.00 : 92.00 % RQD 100.00 % Core</p> <p>60.00 - 63.00 : 94.00 % RQD 100.00 % Core</p> <p>63.00 - 66.00 : 96.00 % RQD 100.00 % Core</p> <p>66.00 - 69.00 : 94.00 % RQD 100.00 % Core</p> <p>69.00 - 72.00 : 91.00 % RQD 100.00 % Core</p> <p>72.00 - 75.00 : 94.00 % RQD 100.00 % Core</p> <p>75.00 - 78.00 : 94.00 % RQD 100.00 % Core</p> <p>78.00 - 81.00 : 96.00 % RQD 100.00 % Core</p> <p>81.00 - 84.00 : 89.00 % RQD 100.00 % Core</p> <p>84.00 - 87.00 : 86.00 % RQD 100.00 % Core</p>	PG03988	50.50	51.50	1.00	0.4500	0.1100	0.0400
			PG03989	51.50	52.60	1.10	0.5100	0.1300	0.0400
			PG03990	52.60	53.50	0.90	0.8300	0.1500	0.0500
			PG03991	53.50	54.50	1.00	0.6500	0.1700	0.0500
			PG03992	54.50	56.00	1.50	0.3800	0.2900	0.0300
			PG03993	56.00	57.50	1.50	0.3900	0.2000	0.0200
			PG03994	57.50	59.00	1.50	0.3100	0.2500	0.0100
			PG03995	59.00	60.50	1.50	0.2800	0.1300	0.0100
			PG03996	60.50	62.00	1.50	0.2800	0.1000	0.0100
			PG03997	62.00	63.50	1.50	0.2800	0.0700	0.0200
			PG03998	63.50	65.00	1.50	0.2700	0.0600	0.0100
			PG03999	65.00	66.50	1.50	0.4400	0.1400	0.0400
			PG01351	66.50	68.00	1.50	0.3200	0.1300	0.0100
			PG01352	68.00	69.50	1.50	0.3500	0.1700	0.0300
			PG01353	69.50	71.00	1.50	0.5800	0.1900	0.0500
			PG01354	71.00	72.75	1.75	0.3700	0.1500	0.0300
			PG01355	72.75	74.00	1.25	0.1200	0.0250	0.0300

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From (m)	To (m)		Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
84.15	90.40	<p>6f, Norite</p> <p>Moderately foliated, fine to medium grained, dull grey to pale green, non-magnetic, homogenous leuconorite composed of 30-40% pale green to brown pyroxenes (mm scale) and 60-70% plagioclase (translucent pink-grey, locally creamy white). This unit is as described from (1.50-49.07m).</p> <p>This unit contains rare trace pyrrhotite.</p> <p>The lower contact of this unit is unknown as the hole was shutdown. There is a 10cm wide sheared anorthosite at end of hole, which may indeed represent a lithological change (see minor unit).</p> <p>Structure 86.40 - 86.41 : S1 First Foliation, 70 Deg to CA RQD 87.00 - 90.40 : 69.00 % RQD 100.00 % Core</p> <p>MINOR INTERVALS: Minor Interval: 90.3 - 90.4 4, Anorthosite / Anorthosite Gabbro 10cm wide, dull green to orange, well foliated (65-70 degrees to the ca), non-magnetic, unmineralized unit. This may represent a moderately sheared, altered (saussuritized?) contact between ultramafic intrusive rocks with surrounding country rocks?</p>							

## Samples

Sample Number	From (m)	To (m)	Ni%	Cu%	Co%
Sample Type	ASSAY				
PG03976	20.70	22.00	0.2500	0.0600	0.0100
PG03977	22.00	23.50	0.3300	0.0600	0.0200
PG03978	23.50	25.00	0.4000	0.2000	0.0300
PG03979	25.00	26.50	0.2700	0.0600	0.0400
PG03980	26.50	28.00	0.2900	0.0800	0.0200
PG03981	28.00	29.50	0.4300	0.2100	0.0300
PG03982	29.50	31.00	0.2500	0.1600	0.0300
PG03983	31.00	32.00	0.2300	0.0600	0.0100
PG03984	32.00	33.00	0.2800	0.0250	0.0300
PG03985	33.00	33.50	0.2400	0.0800	0.0100
PG03986	48.50	49.07	0.0900	0.1300	0.0100
PG03987	49.07	50.50	0.3300	0.1900	0.0300
PG03988	50.50	51.50	0.4500	0.1100	0.0400
PG03989	51.50	52.60	0.5100	0.1300	0.0400
PG03990	52.60	53.50	0.8300	0.1500	0.0500

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## Samples

Sample Number	From (m)	To (m)	Ni%	Cu%	Co%
Sample Type	ASSAY				
PG03991	53.50	54.50	0.6500	0.1700	0.0500
PG03992	54.50	56.00	0.3800	0.2900	0.0300
PG03993	56.00	57.50	0.3900	0.2000	0.0200
PG03994	57.50	59.00	0.3100	0.2500	0.0100
PG03995	59.00	60.50	0.2800	0.1300	0.0100
PG03996	60.50	62.00	0.2800	0.1000	0.0100
PG03997	62.00	63.50	0.2800	0.0700	0.0200
PG03998	63.50	65.00	0.2700	0.0600	0.0100
PG03999	65.00	66.50	0.4400	0.1400	0.0400
PG01351	66.50	68.00	0.3200	0.1300	0.0100
PG01352	68.00	69.50	0.3500	0.1700	0.0300
PG01353	69.50	71.00	0.5800	0.1900	0.0500
PG01354	71.00	72.75	0.3700	0.1500	0.0300
PG01355	72.75	74.00	0.1200	0.0250	0.0300