

Hole Number: ES2005-39

Units: METRIC

Project Name: Norway - Espedalen	Primary Coordinates Grid: UTM84-32N	Destination Coordinates Grid: UTM:	Collar Dip: -56.00
Project Number: 201	North: 6807747.87	North: 61.40	Collar Az: 230.00
Location: Surface	East: 533785.98	East: 9.63	Length: 115.65 (m)
	Elev: 1255.43	Elev: 1255.43	Start Depth: 0.00 (m)
Date Started: Aug 01, 2005	Collar Survey: Y	Plugged: N	Contractor: Arctic Drilling A/S
Date Completed: Aug 04, 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: 115.65 (m)

Comments: Purpose: Test UTEM conductor ESP\_08\_05, within the centre of interpreted plate (Conductivity = 300 Siemens).

Result: Intersected oikcrystic pyroxenite apophyses within a thick package of mineralized (5-15% pyrrhotite) gabbronoritic rocks.

Assays: All assays <= 0.11% Ni.

Borehole UTEM: Survey to be conducted in November 2005.

Lithological interpretation: An oikocrystic pyroxenite (Heim's rock suite 2b) intruded fine grained gabbronoritic rocks (Heim's rock suite 3).

## Sample Averages

Detailed Lithology		Assay Data							
From (m)	To (m)	Lithology	Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
0	4.50	C, Casing							

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%
4.50	58.60	6c, Oikocrystic Pyroxenite	PG01356	32.00	33.00	1.00	0.0700	0.0500	0.0100
		Dark grey, strongly magnetic, massive to weakly foliated olivine pyroxenite composed of 95% pyroxenes (as fine grained black groundmass, medium grained brown bronzite crystals and as cm scale light grey porphyroblasts), and 5% black serpentine veinlets. Veinlets exhibit a preferred orientation of between 55 to 75 degrees to the ca, giving the rock a striped appearance. Porphyroblastic pyroxenes are generally poorly developed, function of retrogression? Magnetite is present throughout the unit as fine grained disseminations as well as infill to tension gashes (at approximately 40m inhole).  This unit contains rare trace disseminated pyrrhotite.  The lower contact of this unit is weakly sheared. Structure 46.25 - 46.26 : S1 First Foliation, 30 Deg to CA RQD 4.50 - 6.00 : 21.00 % RQD 100.00 % Core 6.00 - 9.00 : 41.00 % RQD 100.00 % Core 9.00 - 12.00 : 78.00 % RQD 100.00 % Core 12.00 - 15.00 : 69.00 % RQD 100.00 % Core 15.00 - 18.00 : 71.00 % RQD 100.00 % Core 18.00 - 21.00 : 73.00 % RQD 100.00 % Core 21.00 - 24.00 : 94.00 % RQD 100.00 % Core 24.00 - 27.00 : 79.00 % RQD 100.00 % Core 27.00 - 30.00 : 59.00 % RQD 100.00 % Core 30.00 - 33.00 : 80.00 % RQD 100.00 % Core 33.00 - 36.00 : 46.00 % RQD 100.00 % Core 36.00 - 39.00 : 57.00 % RQD 100.00 % Core 39.00 - 42.00 : 90.00 % RQD 100.00 % Core 42.00 - 45.00 : 66.00 % RQD 100.00 % Core 45.00 - 48.00 : 87.00 % RQD 100.00 % Core 48.00 - 51.00 : 75.00 % RQD 100.00 % Core 51.00 - 54.00 : 95.00 % RQD 100.00 % Core 54.00 - 57.00 : 62.00 % RQD 100.00 % Core 57.00 - 60.00 : 58.00 % RQD 100.00 % Core	PG01357	33.00	34.00	1.00	0.0700	0.0250	0.0200
			PG01358	34.00	35.00	1.00	0.1100	0.0250	0.0300
			PG01359	35.00	36.00	1.00	0.0800	0.0250	0.0100
			PG01360	46.00	47.00	1.00	0.0700	0.0250	0.0100
			PG01361	47.00	48.00	1.00	0.0700	0.0250	0.0300
			PG01362	48.00	49.00	1.00	0.1100	0.0250	0.0300
			PG01363	49.00	50.00	1.00	0.1700	0.0250	0.0100
			PG01364	50.00	51.00	1.00	0.1000	0.0250	0.0400
			PG01365	57.60	58.60	1.00	0.0250	0.0250	0.0100

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Detailed Lithology		Lithology	Assay Data						
From (m)	To (m)		Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
58.60	64.85	GAB, Gabbro Is grey brown, fine grained moderately magnetic, homogeneous and massive. 10-15% sulphides, pyrrhotite is disseminated and wispy to blebby. Fragments up to 13cm in size are of felsic composition and partially digested along their margins.  The lower contact is weakly sheared. Mineralization 58.60 - 64.85 : Po Pyrrhotite, FG Fine Grained, 12% RQD 60.00 - 63.00 : 64.00 % RQD 100.00 % Core 63.00 - 66.00 : 74.00 % RQD 100.00 % Core	PG01366	58.60	59.00	0.40	0.0250	0.0250	0.0100
			PG01367	59.00	60.50	1.50	0.0600	0.0250	0.0100
			PG01368	60.50	62.00	1.50	0.0600	0.0250	0.0100
			PG01369	62.00	63.50	1.50	0.0700	0.0600	0.0100
			PG01370	63.50	64.85	1.35	0.0700	0.0250	0.0100
64.85	75.15	6c, Oikocrystic Pyroxenite Dark grey to black, strongly magnetic, heterogeneous varying from no pyroxenes, to pyroxene porphyroblast to 90% pyroxene. The pyroxenes are a lighter brown then the dark serpentine/magnetite matrix that also is on the foliation planes.  10% blebby po (65.90-66.90m) 1% disseminated po (66.90-74.00m) 3-5% disseminated po (74.00-74.62m)  Bottom contact between 74.61 and 75.15m is cm scale broken core. Structure 71.30 - 71.31 : S1 First Foliation, 30 Deg to CA RQD 66.00 - 69.00 : 65.00 % RQD 100.00 % Core 69.00 - 72.00 : 87.00 % RQD 100.00 % Core 72.00 - 75.00 : 60.00 % RQD 100.00 % Core 75.00 - 78.00 : 62.00 % RQD 100.00 % Core	PG01371	64.85	66.50	1.65	0.0250	0.0250	0.0100
			PG01372	66.50	68.00	1.50	0.0250	0.0250	0.0100
			PG01373	68.00	69.50	1.50	0.0500	0.0250	0.0100
			PG01374	69.50	71.00	1.50	0.0600	0.0250	0.0100
			PG01375	71.00	72.50	1.50	0.0600	0.0250	0.0100
			PG01376	72.50	74.00	1.50	0.0500	0.0250	0.0100
			PG01377	74.00	75.15	1.15	0.0600	0.0700	0.0100

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Detailed Lithology		Lithology	Assay Data						
From (m)	To (m)		Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
75.15	83.97	GAB, Gabbro	PG01378	75.15	76.50	1.35	0.0250	0.0250	0.0100
		Grey/brown, moderately magnetic, homogeneous matrix that is medium to fine grained.	PG01379	76.50	78.00	1.50	0.0600	0.0900	0.0100
		Fragment rich, up to 50cm anorthosite fragment at base of unit. Generally fragments are 2-10cm brecciated and partially assimilated containing garnet. (Seds??)	PG01380	78.00	79.15	1.15	0.0250	0.0600	0.0100
		At 80.70m, healed fracture with pyrite and carbonate?	PG01381	79.15	80.25	1.10	0.0900	0.0700	0.0100
		5-10% po disseminated to patchy. No sulphides in fragments.	PG01382	80.25	81.35	1.10	0.0800	0.0700	0.0100
		Conductivity up to 590 Siemens.	PG01383	81.35	82.80	1.45	0.0250	0.0250	0.0100
		Mineralization	PG01384	82.80	83.97	1.17	0.0600	0.0700	0.0100
		79.15 - 81.25 : Po Pyrrhotite, FG Fine Grained, 17%							
		RQD							
		78.00 - 81.00 : 66.00 % RQD 100.00 % Core							
		81.00 - 84.00 : 83.00 % RQD 100.00 % Core							

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Detailed Lithology		Assay Data							
From (m)	To (m)	Lithology	Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
83.97	111.28	<p>DIOR, Diorite</p> <p>Medium grained, green and white, fragment rich, locally magnetic, locally foliated, matrix fairly homogeneous and non-mineralized.</p> <p>Moderately magnetic from 99m to end of unit. Magnetic susceptibility up to 42x10<sup>-3</sup> SI.</p> <p>Large fragments of felsic rocks often with garnets between 87.58-88.70m, 96.54-96.98m, 92.87-93.03m and 102.46-102.91m. Fragments have wispy partially digested margins that are sometimes sheared.</p> <p>Pseudo Tacholite found at 93.60m, 93.91m and 96.45m, dark black, fine grain, sharp contacts, and contain small fragments.</p> <p>Alteration of an unknown type found following fractures with dendritic growths, light pink/grey abundant at 89.5m.</p> <p>Fractures generally contain chlorite.</p> <p>Strong shearing between 101.01 and 101.66m at 40 degrees to CA.</p> <p>Pyrrhotite flooding at 109.70-109.72m.</p> <p>Lower contact sharp at 45 to CA</p> <p>RQD</p> <p>84.00 - 87.00 : 43.00 % RQD 100.00 % Core</p> <p>87.00 - 90.00 : 73.00 % RQD 100.00 % Core</p> <p>90.00 - 93.00 : 62.00 % RQD 100.00 % Core</p> <p>93.00 - 96.00 : 59.00 % RQD 100.00 % Core</p> <p>96.00 - 99.00 : 89.00 % RQD 100.00 % Core</p> <p>99.00 - 102.00 : 75.00 % RQD 100.00 % Core</p> <p>102.00 - 105.00 : 66.00 % RQD 100.00 % Core</p> <p>105.00 - 108.00 : 73.00 % RQD 100.00 % Core</p> <p>108.00 - 111.00 : 96.00 % RQD 100.00 % Core</p> <p>111.00 - 114.00 : 92.00 % RQD 100.00 % Core</p>	PG01385	83.97	85.00	1.03	0.0250	0.0250	0.0100

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Detailed Lithology		Lithology	Assay Data						
From (m)	To (m)		Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
111.28	115.65	4, Anorthosite / Anorthosite Gabbro Medium to coarse grained, white and light green, non magnetic, homogeneous foliated anorthosite.  Chlorite alteration on fractures.  Foliated at 50 degrees to CA  Small dyke of Dolerite cutting at 113.12-113.21m with sharp contacts, moderately magnetic.  RQD 114.00 - 115.65 : 46.00 % RQD 100.00 % Core							

## Samples

Sample Number	From (m)	To (m)	Ni%	Cu%	Co%
Sample Type	ASSAY				
PG01356	32.00	33.00	0.0700	0.0500	0.0100
PG01357	33.00	34.00	0.0700	0.0250	0.0200
PG01358	34.00	35.00	0.1100	0.0250	0.0300
PG01359	35.00	36.00	0.0800	0.0250	0.0100
PG01360	46.00	47.00	0.0700	0.0250	0.0100
PG01361	47.00	48.00	0.0700	0.0250	0.0300
PG01362	48.00	49.00	0.1100	0.0250	0.0300
PG01363	49.00	50.00	0.1700	0.0250	0.0100
PG01364	50.00	51.00	0.1000	0.0250	0.0400
PG01365	57.60	58.60	0.0250	0.0250	0.0100
PG01366	58.60	59.00	0.0250	0.0250	0.0100
PG01367	59.00	60.50	0.0600	0.0250	0.0100
PG01368	60.50	62.00	0.0600	0.0250	0.0100
PG01369	62.00	63.50	0.0700	0.0600	0.0100
PG01370	63.50	64.85	0.0700	0.0250	0.0100
PG01371	64.85	66.50	0.0250	0.0250	0.0100
PG01372	66.50	68.00	0.0250	0.0250	0.0100
PG01373	68.00	69.50	0.0500	0.0250	0.0100
PG01374	69.50	71.00	0.0600	0.0250	0.0100
PG01375	71.00	72.50	0.0600	0.0250	0.0100
PG01376	72.50	74.00	0.0500	0.0250	0.0100
PG01377	74.00	75.15	0.0600	0.0700	0.0100
PG01378	75.15	76.50	0.0250	0.0250	0.0100
PG01379	76.50	78.00	0.0600	0.0900	0.0100

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## Samples

Sample Number	From (m)	To (m)	Ni%	Cu%	Co%
Sample Type	ASSAY				
PG01380	78.00	79.15	0.0250	0.0600	0.0100
PG01381	79.15	80.25	0.0900	0.0700	0.0100
PG01382	80.25	81.35	0.0800	0.0700	0.0100
PG01383	81.35	82.80	0.0250	0.0250	0.0100
PG01384	82.80	83.97	0.0600	0.0700	0.0100
PG01385	83.97	85.00	0.0250	0.0250	0.0100