

Hole Number: ES08-136

Units: METRIC

Project Name: Norway - Espedalen	Primary Coordinates Grid: UTM84-32N	Destination Coordinates Grid: UTM:	Collar Dip: -75.00
Project Number: 201	North: 6804588.00	North: 61.37	Collar Az: 50.00
Location: Surface	East: 534528.00	East: 9.65	Length: 122.81 (m)
	Elev: 727.00	Elev: 727.00	Start Depth: 0.00 (m)
Date Started: Feb 22, 2008	Collar Survey: N	Plugged: N	Contractor: Arctic Drilling A/S
Date Completed: Feb 23, 2008	Multishot Survey: N	Hole Size: BQ	Core Storage: tyristrand
Logged By: awnor	Pulse EM Survey: N	Casing: Left in Hole	Final Depth: 122.81 (m)

Comments: This hole is designed to test the geophysical plate p_167.

Results:

anorthosite with sporadic and scarce mineralized ultramafic dykes from 49.85-50.60m and 54.15-55.80m that are mineralized with ~10-20% fg disseminated and stringer Po and minor Cpy. No Pn visible. Cpy is more abundant in the remobilized stringer veinlets. Although ultramafic dykes are present. None correlate with geophysical plate p_167.

Sample Averages

Detailed Lithology		Assay Data							
From (m)	To (m)	Lithology	Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
0	10.85	O/B, Overburden							
10.85	13.30	MD, Mafic Dike Light green, fg, homogenous. Strongly foliated with highly irregular and crenulated fabric. Gradational sheared lower contact to anorthosite. Not mineralized or magnetic.							
13.30	21.40	ANOR, Anorthosite White-Light grey/green. Fg. homogenous. Typical anorthosite except unit is strongly deformed with intensely crenulated and microfolded. Bands are mm to sub-mm scale are easily distinguishable by thin bands of chlorite and fuchsite. Sharp contact with mineralized UM below. Not mineralized or magnetic Strongly faulted and broken core over 0.5m throughout the entire unit. Structure 16.40 - 16.50 fault gauge MINOR INTERVALS: Minor Interval: 14.4 - 14.82 MD, Mafic Dike Green. Fg. homogenous. Strongly foliated ~45-50 dtca. Not mineralized or magnetic. Sharp low angle upper and lower contacts. Minor Interval: 16.52 - 16.9 MD, Mafic Dike As above. Strongly broken core. with fault gauge at upper contact to anorthosite Minor Interval: 18.15 - 18.56 MD, Mafic Dike Similar to above. Weak silicification overprinting leaving dark grey colour as well. Sharp upper and lower contacts @65 tca.							

DETAILED LOG

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Detailed Lithology		Lithology	Assay Data						
From (m)	To (m)		Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
21.40	25.30	MD, Mafic Dike Green. Dark green. Fg. Homogenous. Strongly foliated @50 dtca. Mineralized with 0.5-1% vfg to fg Po locally. 24.80-25.30m: 3-7% vfg to fg Po mineralized within sheared and fractured section of MD. Mineralization is constrained to fractures only.	PG05907	23.80	24.30	0.50	0.0270	0.0100	0.0040
			PG05908	24.30	24.80	0.50	0.0260	0.0120	0.0030
			PG05909	24.80	25.30	0.50	0.2390	0.1090	0.0150
25.30	28.20	ANOR, Anorthosite White-light green. Fg. homogenous. Typical anorthosite except unit is strongly deformed with intensely crenulated and microfolded. Bands are mm to sub-mm scale are are easily distinguishable by this bands of chlorite and fuchsite. Sharp broken contact with mineralized Mafic Dyke below. Not mineralized or magnetic	PG05910	25.30	26.10	0.80	0.0060	0.0025	0.0010
			PG05911	26.10	27.00	0.90	0.0040	0.0025	0.0010
			PG05912	27.00	28.20	1.20	0.0040	0.0025	0.0010
28.20	30.45	MD, Mafic Dike Mineralized Mafic Dyke: Dark grey green. Fg. relatively homogenous and strongly deformed. Unit is moderately magnetic only when Po is present. Sharp upper contact with Anor and sheared lower contact with separate MD. Mineralized from 28.2-30.45 with Approx 7% vfg to fg Po and Cpy contained within 1-5mm wide remobilized sulphide stringer veins. Po/Cpy is roughly 90/10. Mineralization 28.20 - 30.45 : POPNCP Pyrrhotite/Pentlandite/Chalcopyrite, STR Stringers, 5% 5-7% mm wide remobilized stringers of Po and minor Cpy	PG05913	28.20	28.90	0.70	0.2230	0.0780	0.0150
			PG05914	28.90	29.43	0.53	0.2140	0.1080	0.0140
			PG05915	29.43	30.45	1.02	0.2370	0.0830	0.0160
30.45	39.90	MD, Mafic Dike Typical MD Green to drak green. Fg to mg towards centre. Homogenous. Semi-massive with weak foliation locally. Sharp, quenched lower contact with anorthosite.	PG05916	30.45	30.95	0.50	0.0030	0.0070	0.0030
			PG05917	30.95	31.40	0.45	0.0020	0.0060	0.0020

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Detailed Lithology		Lithology	Assay Data						
From (m)	To (m)		Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
39.90	62.20	ANOR, Anorthosite White/grey. Fg to mg. Massive with weak foliation @ 60 dtca. Local dark grey to black sections that are highly magnetic and contains locally remobilized sulphides. See sub-unit/mineralization. Mineralization 44.25 - 44.50 : PO Pyrrhotite, DIS Disseminated, 5% associated with thin fault 51.25 - 51.85 : POPNCP Pyrrhotite/Pentlandite/Chalcopyrite, DIS Disseminated, 5% 3-5% fg Po and minor Cpy disseminated in thin portion of anorthosite 53.80 - 54.15 : PO Pyrrhotite, DIS Disseminated, 3% 2-3% fg diss Po in footwall to UM dyke below in Anorthosite 56.80 - 57.20 : Cpy Chalcopyrite, STR Stringers, 5% ~5% Cpy in mm sized string with lesser amount of Po. Structure 44.25 - 44.50 : FLT Fault, 50 Deg to CA gaugy and mineralized with 7% fg sulphides. MINOR INTERVALS: Minor Interval: 49.85 - 50.6 UM, Ultramafic Dark grey to black. Fg. Homogenous. Thin ultramafic dyke? Sharp upper and lower, low angle contact. Mineralized with 15-20% fg Po/Pn (~15%) and Cpy (3-5%) as fg disseminations and mm sized stringers. Mineralized strongest at contacts. Minor Interval: 54.15 - 55.8 UM, Ultramafic Black-dark grey. Fg. Homogenous. Semi-massive. Relatively sharp upper and lower contact to anorthosite. Moderately magnetic. Mineralized with ~20% fg diss and stronger Po/Pn as well as 1-3% fg Cpy. Mineralized occasionally occurs in 5mm sized blebs where Cpy is often present. Otherwise Cpy contrained to strings. Mineralization has been remobilized to host anorthosite for ~0.30m on above and below.	PG05918	43.20	44.20	1.00	0.0050	0.0025	0.0005
			PG05919	44.20	44.50	0.30	0.1870	0.0550	0.0170
			PG05921	44.50	45.50	1.00	0.0350	0.0260	0.0030
			PG05922	45.50	46.50	1.00	0.0140	0.0025	0.0010
			PG05923	46.50	47.50	1.00	0.0030	0.0025	0.0005
			PG05924	47.50	48.50	1.00	0.0050	0.0025	0.0010
62.20	83.64	GAB, Gabbro Gabbro/Wide mafic dyke Green. Mg and Fg. Homogenous. Massive. Sharp upper and lower contact to Anorthosite. 1% fg disseminated Py and Po. Very locally 2%. 2-3% mm sized white veinlets. Sporadic rafts of anorthosite: 81.47-82.00 82.20-82.40							
83.64	87.08	ANOR, Anorthosite White-light green. Fg. homogenous. Typical anorthosite. Predominantly plagioclase with minor altered coarse grained amphiboles. Not mineralized or magnetic. Crosscut by several mafic dykes. (see sub-litho)							

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Detailed Lithology		Lithology	Assay Data						
From (m)	To (m)		Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
87.08	99.65	MD, Mafic Dike Green. fg with local mg intervals. Homogenous. Weak foliation ~65 dtca in sections but otherwise massive. Cotnains rafts of anorthosite. Sharp upper contact @ 70 dtca and intercalated lower contact with anor over 1.0m. Not mineralized or magnetic. Anorthosite inclusions. 93.10-94.90m 97.30-97.75m							
99.65	122.80	ANOR, Anorthosite White-light green. Fg. homogenous. Typical anorthosite. Predominantly plagioclase with minor altered coarse grained amphiboles. Not mineralized or magnetic. Crosscut by several mafic dykes. (see sub-litho) MINOR INTERVALS: Minor Interval: 112.75 - 117.15 MD, Mafic Dike Green. Fg and mg very locally. Massive. Homogenous. Crosscut with 2-5% thin epidote veinlets. Not mineralized or magnetic. Sharp irregular upper contact and sharp, irregular lower contact ~50 dtca.							
122.80	122.81	EOH, End of Hole							

Samples

Sample Number	From (m)	To (m)	Ni%	Cu%	Co%
Sample Type	ASSAY				
PG05907	23.80	24.30	0.0270	0.0100	0.0040
PG05908	24.30	24.80	0.0260	0.0120	0.0030
PG05909	24.80	25.30	0.2390	0.1090	0.0150
PG05910	25.30	26.10	0.0060	0.0025	0.0010
PG05911	26.10	27.00	0.0040	0.0025	0.0010
PG05912	27.00	28.20	0.0040	0.0025	0.0010
PG05913	28.20	28.90	0.2230	0.0780	0.0150
PG05914	28.90	29.43	0.2140	0.1080	0.0140
PG05915	29.43	30.45	0.2370	0.0830	0.0160
PG05916	30.45	30.95	0.0030	0.0070	0.0030
PG05917	30.95	31.40	0.0020	0.0060	0.0020
PG05918	43.20	44.20	0.0050	0.0025	0.0005
PG05919	44.20	44.50	0.1870	0.0550	0.0170
PG05921	44.50	45.50	0.0350	0.0260	0.0030
PG05922	45.50	46.50	0.0140	0.0025	0.0010
PG05923	46.50	47.50	0.0030	0.0025	0.0005
PG05924	47.50	48.50	0.0050	0.0025	0.0010