

Hole Number: ES2006-55

Units: METRIC

Project Name: Norway - Espedalen	Primary Coordinates Grid: UTM84-32N	Destination Coordinates Grid: UTM:	Collar Dip: -80.00
Project Number: 201	North: 6800850.00	North: 61.34	Collar Az: 230.00
Location: Surface	East: 535917.40	East: 9.67	Length: 218.91 (m)
	Elev: 957.43	Elev: 957.43	Start Depth: 0.00 (m)
Date Started: Mar 28, 2006	Collar Survey: N	Plugged: N	Contractor: Arctic Drilling A/S
Date Completed: Apr 01, 2006	Multishot Survey: N	Hole Size: TT46	Core Storage: Strand Fjellstue
Logged By: larsw	Pulse EM Survey: N	Casing: Left in Hole, capped	Final Depth: 218.91 (m)

Comments:

Sample Averages

Average Type	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
WEIGHTED	55.57	56.35	0.78	2.2427	0.9150	0.0523

Detailed Lithology		Assay Data							
From (m)	To (m)	Lithology	Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
0	11.90	C, Casing RQD 11.60 - 15.00 : 56.00 % RQD 100.00 % Core							

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Detailed Lithology		Lithology	Assay Data						
From (m)	To (m)		Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
11.90	36.90	<p>4s, Sausseritized/Tectonized Anorthosite</p> <p>This white to light gray unit is non-magnetic, homogenous on a meter scale, locally well-foliated and fine to medium-grained. Plagioclase is the most abundant mineral; alteration minerals (chlorite, fuchsite, and epidote) are common. Locally, the unit has been recrystallized; here, the foliation has been destroyed.</p> <p>This unit is cut by m-scale mafic dikes/sills.</p> <p>This unit is not mineralized.</p> <p>Alteration 18.00 - 21.50 :HM Hematite, F Fracture Controlled, W Weak</p> <p>Structure 30.92 - 30.93 : S1 First Foliation, 80 Deg to CA</p> <p>RQD 15.00 - 18.00 : 55.00 % RQD 100.00 % Core 18.00 - 21.00 : 80.00 % RQD 100.00 % Core 21.00 - 24.00 : 53.00 % RQD 100.00 % Core 24.00 - 27.00 : 75.00 % RQD 100.00 % Core 27.00 - 30.00 : 86.00 % RQD 100.00 % Core 30.00 - 33.00 : 92.00 % RQD 100.00 % Core 33.00 - 36.00 : 91.00 % RQD 100.00 % Core 36.00 - 39.00 : 45.00 % RQD 100.00 % Core</p> <p>MINOR INTERVALS: Minor Interval: 14.6 - 16 MD, Mafic Dike Dark gray to greenish gray, fine-grained, non magnetic, well foliated, homogenous mafic rock. Locally, the unit contains plagioclase augen. The upper and lower contacts are sharp at 75 and 70 degrees tca, respectively.</p> <p>This unit is not mineralized. Minor Interval: 30.81 - 33.62 MD, Mafic Dike Dark gray to greenish gray, fine-grained, non magnetic, well foliated, homogenous mafic rock. The upper contact is irregular, the lower contact is broken.</p> <p>This unit is not mineralized</p>							

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%
36.90	45.38	MD, Mafic Dike This unit consists of a homogeneous, dark gray-green, well-foliated, fine-grained, non-magnetic mafic rock. It contains pyroxene, talc and chlorite. Dm-scale partly resorbed 4s "rafts" are abundant. The lower contact of this unit is sharp at 70 degrees tca. This unit contains trace sulfide. Structure 38.24 - 38.25 : S1 First Foliation, 70 Deg to CA RQD 39.00 - 42.00 : 54.00 % RQD 100.00 % Core 42.00 - 45.00 : 56.00 % RQD 100.00 % Core 45.00 - 48.00 : 88.00 % 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%
45.38	176.00	4s, Sausseritized/Tectonized Anorthosite	PG00496	54.00	55.57	1.57	0.0250	0.0250	0.0100
		<p>This unit consists of a thick package of white to light gray anorthosite. The unit is homogenous on a meter scale, non-magnetic, and variably foliated. Fine-grained intervals with good foliation alternate with medium-grained recrystallized sections where the foliation has been destroyed.</p> <p>The main mineral is plagioclase; alteration minerals like chlorite, fuchsite, and epidote are common throughout.</p> <p>This unit is cut by several mafic and ultramafic dikes/sills.</p> <p>Between 109.75 and 110.10m the unit contains a partly digested unit of 10f, which contains trace amounts of py (cubic, up to 3mm in diameter).</p> <p>The lower contact of this unit sharp but irregular.</p> <p>This unit contains semi-massive remobilized sulfides no more than 30cm in thickness. The conductance of the mineralization is up to 2900 on uncut core.</p> <p>Mineralization</p> <p>55.57 - 55.90 : Cpy Chalcopyrite, BB Blebby, 3% associated with remobed po</p> <p>55.57 - 55.90 : Pn Pentlandite, FG Fine Grained, 2% in sub-mm scale flecks as exsolution in po</p> <p>55.57 - 55.90 : Po Pyrrhotite, SM Semi-Massive, 55% remobilized</p> <p>168.83 - 168.84 : Po Pyrrhotite, STR Stringers, 50% remobed, possibly with minor amount of UM</p> <p>168.83 - 168.84 : Py Pyrite, STR Stringers, 10% associated with po</p> <p>169.23 - 169.24 : Po Pyrrhotite, STR Stringers, 50% remobed</p> <p>169.23 - 169.24 : Py Pyrite, STR Stringers, 10% associated with po</p> <p>169.40 - 169.41 : Po Pyrrhotite, STR Stringers, 20%</p> <p>Structure</p> <p>46.89 - 46.90 : S1 First Foliation, 60 Deg to CA</p> <p>55.45 - 55.46 : S1 First Foliation, 65 Deg to CA</p> <p>63.58 - 63.59 : S1 First Foliation, 70 Deg to CA</p> <p>69.59 - 69.70 : S1 First Foliation, 80 Deg to CA</p> <p>82.15 - 82.16 : S1 First Foliation, 80 Deg to CA</p> <p>99.31 - 99.32 : S1 First Foliation, 85 Deg to CA</p> <p>109.50 - 109.51 : S1 First Foliation, 70 Deg to CA</p> <p>148.93 - 148.94 : S1 First Foliation, 80 Deg to CA</p> <p>158.43 - 158.44 : S1 First Foliation, 80 Deg to CA</p> <p>172.80 - 172.81 : S1 First Foliation, 80 Deg to CA</p> <p>RQD</p> <p>48.00 - 51.00 : 91.00 % RQD 100.00 % Core</p> <p>51.00 - 54.00 : 97.00 % RQD 100.00 % Core</p> <p>54.00 - 57.00 : 87.00 % RQD 100.00 % Core</p>	PG00497	55.57	55.90	0.33	4.3600	1.4400	0.1100
			PG00498	55.90	56.35	0.45	0.6900	0.5300	0.0100
			PG00499	56.35	57.42	1.07	0.0250	0.0250	0.0100
			PG04001	167.50	168.59	1.09	0.0250	0.0250	0.0100
			PG04002	168.59	168.89	0.30	0.0500	0.0250	0.0200
			PG04003	168.89	169.19	0.30	0.0250	0.0250	0.0100
			PG04004	169.19	169.49	0.30	0.0250	0.0250	0.0200
			PG04005	169.49	170.56	1.07	0.0250	0.0250	0.0100

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Detailed Lithology		Assay Data							
From (m)	To (m)	Lithology	Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
		RQD							
57.00	60.00	67.00 % RQD 100.00 % Core							
60.00	63.00	71.00 % RQD 100.00 % Core							
63.00	66.00	86.00 % RQD 100.00 % Core							
66.00	69.00	71.00 % RQD 100.00 % Core							
69.00	72.00	70.00 % RQD 100.00 % Core							
72.00	75.00	85.00 % RQD 100.00 % Core							
75.00	78.00	45.00 % RQD 100.00 % Core							
78.00	81.00	61.00 % RQD 100.00 % Core							
81.00	84.00	50.00 % RQD 100.00 % Core							
84.00	87.00	73.00 % RQD 100.00 % Core							
87.00	90.00	48.00 % RQD 100.00 % Core							
90.00	93.00	92.00 % RQD 100.00 % Core							
93.00	96.00	85.00 % RQD 100.00 % Core							
96.00	99.00	72.00 % RQD 100.00 % Core							
99.00	102.00	95.00 % RQD 100.00 % Core							
102.00	105.00	78.00 % RQD 100.00 % Core							
105.00	108.00	98.00 % RQD 100.00 % Core							
108.00	111.00	67.00 % RQD 100.00 % Core							
111.00	114.00	79.00 % RQD 100.00 % Core							
114.00	117.00	70.00 % RQD 100.00 % Core							
117.00	120.00	30.00 % RQD 100.00 % Core							
120.00	123.00	21.00 % RQD 100.00 % Core							
123.00	126.00	33.00 % RQD 100.00 % Core							
126.00	129.00	47.00 % RQD 100.00 % Core							
129.00	132.00	60.00 % RQD 100.00 % Core							
132.00	135.00	58.00 % RQD 100.00 % Core							
135.00	138.00	56.00 % RQD 100.00 % Core							
138.00	141.00	87.00 % RQD 100.00 % Core							
141.00	144.00	66.00 % RQD 100.00 % Core							
144.00	147.00	32.00 % RQD 100.00 % Core							
147.00	150.00	58.00 % RQD 100.00 % Core							
150.00	153.00	92.00 % RQD 100.00 % Core							
153.00	156.00	76.00 % RQD 100.00 % Core							
156.00	159.00	75.00 % RQD 100.00 % Core							
159.00	162.00	86.00 % RQD 100.00 % Core							
162.00	165.00	99.00 % RQD 100.00 % Core							
165.00	168.00	100.00 % RQD 100.00 % Core							

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From (m)	To (m)	Lithology	Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
		<p>RQD 168.00 - 171.00 : 94.00 % RQD 100.00 % Core 171.00 - 174.00 : 95.00 % RQD 100.00 % Core 174.00 - 177.00 : 85.00 % RQD 100.00 % Core</p> <p>MINOR INTERVALS: Minor Interval: 48.05 - 50.01 MD, Mafic Dike Dark gray to greenish gray, fine-grained, non magnetic, well foliated, homogenous mafic rock. The unit contains very minor amounts of 6d between 48.30 - 48.43m The upper and lower contacts are sharp at 60 and 70 degrees tca, respectively.</p> <p>This unit is not mineralized. Minor Interval: 98.91 - 102.97 MD, Mafic Dike Dark gray to greenish gray, fine-grained, non magnetic, well foliated, homogenous mafic rock. Locally, the unit contains plagioclase augen. The upper and lower contacts are sharp at 75 and 90 degrees tca, respectively.</p> <p>This unit is not mineralized. Minor Interval: 107.45 - 108.21 MD, Mafic Dike Dark gray to greenish gray, fine-grained, non magnetic, well foliated, homogenous mafic rock. Locally, the unit contains plagioclase augen. The upper and lower contacts are sharp at 85 and 90 degrees tca, respectively.</p> <p>This unit is not mineralized. Minor Interval: 122.3 - 123.18 MD, Mafic Dike Dark gray to greenish gray, fine-grained, non magnetic, well foliated, homogenous mafic rock. The upper contact is at 70 and 70 degrees tca, the lower contact is broken.</p> <p>This unit is not mineralized. Minor Interval: 133.09 - 133.62 MD, Mafic Dike Dark gray to greenish gray, fine-grained, non magnetic, well foliated, homogenous mafic rock. The upper and lower contacts are sharp, the upper one at 90, the lower one is irregular. This unit is coarser-grained in the top half; the grain size difference to the lower half sharp and distinct. It is likely that this unit was formed from two pulses of magma.</p> <p>This unit is not mineralized.</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%
		<p>MINOR INTERVALS: Minor Interval: 144.68 - 148.68 PYXT, Pyroxenite Dark gray to black , pyroxene-bearing rock. Magnetic, non-mineralized. Mm-scale biotite clots. abundant talc. Very broken core. Mag sus 12 - 43 Minor Interval: 148.68 - 154.37 MD, Mafic Dike Dark gray to greenish gray, fine-grained, non magnetic, well foliated, homogenous mafic rock. The upper contact is at gradational, the lower one is sharp at 70 degrees tca. This unit is not mineralized.</p>							
176.00	196.39	<p>MD, Mafic Dike Dark gray to greenish-gray, fine to medium-grained, well foliated, homogenous mafic intrusive rock. It contains plagioclase and amphiboles/pyroxenes as well as abundant alteration minerals (chlorite, epidote). This unit contains 2 4s minor units. Due to the relation to the underlying unit it could be that this unit is acutally part of it; however, since it contains the aforementioned 4s units it is believed that it is part of the Espedalen complex. The lower contact of this unit is sharp at 75 degrees tca. This unit is not mineralized. RQD 177.00 - 180.00 : 90.00 % RQD 100.00 % Core 180.00 - 183.00 : 91.00 % RQD 100.00 % Core 183.00 - 186.00 : 100.00 % RQD 100.00 % Core 186.00 - 189.00 : 98.00 % RQD 100.00 % Core 189.00 - 192.00 : 95.00 % RQD 100.00 % Core 192.00 - 195.00 : 99.00 % RQD 100.00 % Core 195.00 - 198.00 : 97.00 % RQD 100.00 % Core MINOR INTERVALS: Minor Interval: 190.47 - 192.42 4s, Sausseritized/Tectonized Anorthosite Plagioclase-rich, well-foliated, contains dm-scale 10f, fine to medium-grained. The upper and lower contacts are sharp at 75 and 80 degrees tca. Minor Interval: 195.78 - 196.39 4s, Sausseritized/Tectonized Anorthosite Plagioclase-rich unit, well-foliated, medium-grained. The unit contains about 50% mafic minerals; it is likely that some mafic material has been resorbed into this unit. This unit is not mineralized.</p>							

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Detailed Lithology		Lithology	Assay Data						
From (m)	To (m)		Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
196.39	218.91	<p>10d, Volcaniclastics</p> <p>Fine to medium-grained, gray, non-magnetic unit. The grain size is variable and changes rapidly. Plagioclase is abundant as are alteration minerals (chlorite, epidote); quartz is rare but not absent. The unit is well-foliated but not mineralized.</p> <p>The lower contact of this unit is unknown since the hole was shut down</p> <p>This unit is interpreted to lie outside of the Espedalen complex; representing a sequence of mafic and intermediate tuffs and other volcanic extrusives.</p> <p>RQD</p> <p>198.00 - 201.00 : 94.00 % RQD 100.00 % Core 201.00 - 204.00 : 96.00 % RQD 100.00 % Core 204.00 - 207.00 : 98.00 % RQD 100.00 % Core 207.00 - 210.00 : 93.00 % RQD 100.00 % Core 210.00 - 213.00 : 99.00 % RQD 100.00 % Core 213.00 - 216.00 : 99.00 % RQD 100.00 % Core 216.00 - 218.91 : 98.00 % RQD 100.00 % Core</p>							
218.91	218.91	EOH, End of Hole							

Samples

Sample Number	From (m)	To (m)	Ni%	Cu%	Co%
Sample Type	ASSAY				
PG00496	54.00	55.57	0.0250	0.0250	0.0100
PG00497	55.57	55.90	4.3600	1.4400	0.1100
PG00498	55.90	56.35	0.6900	0.5300	0.0100
PG00499	56.35	57.42	0.0250	0.0250	0.0100
PG04001	167.50	168.59	0.0250	0.0250	0.0100
PG04002	168.59	168.89	0.0500	0.0250	0.0200
PG04003	168.89	169.19	0.0250	0.0250	0.0100
PG04004	169.19	169.49	0.0250	0.0250	0.0200
PG04005	169.49	170.56	0.0250	0.0250	0.0100