

Hole Number: ES2005-25

Units: METRIC

Project Name: Norway - Espedalen	Primary Coordinates Grid: UTM84-32N	Destination Coordinates Grid: UTM:	Collar Dip: -64.24
Project Number: 201	North: 6801114.30	North: 61.34	Collar Az: 230.70
Location: Surface	East: 535532.90	East: 9.66	Length: 138.40 (m)
	Elev: 962.44	Elev: 962.44	Start Depth: 0.00 (m)
Date Started: Apr 02, 2005	Collar Survey: Y	Plugged: N	Contractor: Arctic Drilling A/S
Date Completed: Apr 05, 2005	Multishot Survey: Y	Hole Size: TT46	Core Storage: Strand Fjellstue
Logged By: Trevor Blair	Pulse EM Survey: Y	Casing: Left in Hole, capped	Final Depth: 138.40 (m)

Comments: Purpose: Test UTEM conductor on L11800E, within centre of interpreted plate (conductance = 2000 Siemens).

Result: Intersected cm to dm scale remobilized massive sulphide (po-pn-cpy) veinlets within a mafic dyke as well as within anorthositic country rocks, from 106.45-109.85m (3.40m).

Assays: 1.12%Ni, 0.22%Cu, 0.04%Co / 3.40m (106.45-109.85m)

Borehole UTEM: In-hole response centered @ 110m. Correlates with intersected mineralization.

Sample Averages

Average Type	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
WEIGHTED	106.45	110.60	4.15	0.9713	0.2453	0.0343

Survey Data

Depth (m)	Azimuth Decimal	Dip Decimal	Test Type	Flag	Comments	Depth (m)	Azimuth Decimal	Dip Decimal	Test Type	Flag	Comments
0.00	230.70	-64.24	MShot	OK		5.00	230.70	-64.82	MShot	OK	
10.00	230.70	-64.81	MShot	OK		15.00	230.70	-64.74	MShot	OK	
20.00	230.72	-64.69	MShot	OK		25.00	230.37	-64.88	MShot	OK	
30.00	230.41	-64.77	MShot	OK		35.00	230.45	-64.66	MShot	OK	
40.00	230.01	-64.44	MShot	OK		45.00	229.92	-64.51	MShot	OK	
50.00	229.62	-64.65	MShot	OK		55.00	229.09	-64.85	MShot	OK	
60.00	228.75	-65.05	MShot	OK		65.00	227.98	-65.38	MShot	OK	
70.00	227.49	-65.23	MShot	OK		75.00	227.19	-65.11	MShot	OK	
80.00	226.79	-65.03	MShot	OK		85.00	226.76	-64.95	MShot	OK	
90.00	226.42	-64.72	MShot	OK		95.00	225.42	-64.72	MShot	OK	
100.00	225.13	-64.77	MShot	OK		105.00	225.05	-65.07	MShot	OK	
110.00	224.76	-65.22	MShot	OK		115.00	224.26	-65.28	MShot	OK	
120.00	222.64	-65.45	MShot	OK		125.00	222.23	-65.58	MShot	OK	
130.00	220.67	-65.63	MShot	OK		135.00	220.80	-65.60	MShot	OK	

Detailed Lithology		Assay Data							
From (m)	To (m)	Lithology	Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
0	13.55	C, Casing							

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Detailed Lithology		Assay Data							
From (m)	To (m)	Lithology	Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
13.55	56.20	<p>4s, Sausseritized/Tectonized Anorthosite</p> <p>Medium to fine grained, heterogenous, white to green, non-magnetic, moderately to highly foliated anorthosite.</p> <p>This unit contains patchy to pervasive (banded) sausseritization, hematization, epidotization and possibly sericitization. The unit contains 65-80% plagioclase (variably altered) and 20-35% alteration minerals (chlorite, hematite, sericite?, fuchsite?)</p> <p>This unit contains dm to m scale mafic dykes/sills which are generally well foliated, fine grained, light to dark green, homogenous units that locally contain trace disseminated pyrrhotite. See minor units for intervals as well as contact relationships.</p> <p>The anorthosite is unmineralized.</p> <p>The lower contact of this unit is sharp along an ultramafic dyke/sill at approximately 70 degrees to the ca.</p> <p>Structure</p> <p>43.50 - 43.51 : S1 First Foliation, 50 Deg to CA</p> <p>RQD</p> <p>13.55 - 18.00 : 49.00 % RQD 100.00 % Core</p> <p>18.00 - 21.00 : 62.00 % RQD 100.00 % Core</p> <p>21.00 - 24.00 : 32.00 % RQD 100.00 % Core</p> <p>24.00 - 27.00 : 27.00 % RQD 100.00 % Core</p> <p>27.00 - 30.00 : 37.00 % RQD 100.00 % Core</p> <p>30.00 - 33.00 : 43.00 % RQD 100.00 % Core</p> <p>33.00 - 36.00 : 84.00 % RQD 100.00 % Core</p> <p>36.00 - 39.00 : 69.00 % RQD 100.00 % Core</p> <p>39.00 - 42.00 : 97.00 % RQD 100.00 % Core</p> <p>42.00 - 45.00 : 100.00 % RQD 100.00 % Core</p> <p>45.00 - 48.00 : 85.00 % RQD 100.00 % Core</p> <p>48.00 - 51.00 : 95.00 % RQD 100.00 % Core</p> <p>51.00 - 54.00 : 87.00 % RQD 100.00 % Core</p> <p>54.00 - 57.00 : 81.00 % RQD 100.00 % Core</p> <p>MINOR INTERVALS:</p> <p>Minor Interval:</p> <p>19.4 - 20.75 MD, Mafic Dike</p> <p>The upper and lower contacts of this unit are sharp at 80 and 70 degrees to the ca, respectively.</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:</p> <p>Minor Interval: 22.95 - 29 MD, Mafic Dike The upper approximate 4m of this unit is highly broken core with hematite staining prevalent.</p> <p>The upper contact of this unit is faulted (gouge - 2cm wide) at approximately 85 degrees to the ca, and the lower contact of this unit is sharp at 85 degrees to the ca.</p> <p>Alteration 22.95 - 29.00 :HM Hematite, ST Staining, S Strong</p> <p>Structure 24.80 - 24.81 : S1 First Foliation, 90 Deg to CA</p> <p>Minor Interval: 30.45 - 31.95 MD, Mafic Dike The upper contact of this unit is sharp at 85 degrees to the ca, and the lower contact of this unit is located within broken core.</p> <p>Structure 31.50 - 31.51 : S1 First Foliation, 75 Deg to CA</p> <p>Minor Interval: 48.95 - 52 MD, Mafic Dike The upper and lower contacts of this unit are sharp at 70 and 80 degrees to the ca, respectively.</p> <p>Structure 50.50 - 50.51 : S1 First Foliation, 70 Deg to CA</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%
56.20	66.30	MD, Mafic Dike	PG03828	59.00	60.50	1.50	0.0250	0.0250	0.0100
		Fine grained, well foliated, dark green, non- to weakly magnetic, homogenous mafic dyke/sill composed of pyroxenes (tremolite?), plagioclase, chlorite and biotite. Pyroxenes along the cut drill surface are white in colour, thus appearing as plagioclase but upon closer inspection, tremolite is likely the mineral.	PG03829	60.50	62.00	1.50	0.0250	0.0250	0.0100
		This unit contains trace fine grained disseminated pyrrhotite-pyrite?							
		The upper and lower contacts of this unit are both quite sharp at 70 degrees to the ca, with relatively undisturbed contacts with the anorthosite on either side (a happy rock!).							
		Mineralization							
		56.20 - 66.30 : Po Pyrrhotite, TR Trace, 0.5% +/- pyrite							
		Structure							
		63.50 - 63.51 : S1 First Foliation, 60 Deg to CA							
		RQD							
		57.00 - 60.00 : 71.00 % RQD 100.00 % Core							
		60.00 - 63.00 : 78.00 % RQD 100.00 % Core							
		63.00 - 66.00 : 84.00 % RQD 100.00 % Core							
		66.00 - 69.00 : 93.00 % 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%
66.30	138.40	4s, Sausseritized/Tectonized Anorthosite	PG03830	105.50	106.45	0.95	0.0250	0.0250	0.0100
		Medium to fine grained, heterogenous, white to green, non-magnetic, moderately to highly foliated anorthosite.	PG03831	106.45	106.80	0.35	3.3200	1.3300	0.0600
		This unit contains patchy to pervasive (banded) sausseritization, hematization, epidotization and possibly sericitization. The unit contains 65-80% plagioclase (variably altered) and 20-35% alteration minerals (chlorite, hematite, sericite?, fuchsite?)	PG03832	106.80	108.35	1.55	0.0250	0.0500	0.0100
			PG03833	108.35	108.70	0.35	2.3800	0.2000	0.0700
			PG03834	108.70	109.05	0.35	0.1100	0.0250	0.0100
			PG03835	109.05	109.60	0.55	0.0250	0.0250	0.0100
		This unit contains dm to m scale mafic to ultramafic dykes/sills which are generally well foliated, fine grained, light to dark green, homogenous units that locally contain trace disseminated pyrrhotite. See minor units for intervals as well as contact relationships.	PG03836	109.60	109.85	0.25	6.6400	0.3300	0.2000
			PG03837	109.85	110.60	0.75	0.3800	0.4000	0.0300
		The anorthosite itself is unmineralized although one massive sulphide veinlet was intersected from 109.60-109.85m (see mineralization tab for sulphide percentages).	PG03838	110.60	111.50	0.90	0.0600	0.0600	0.0100
		The lower contact of this unit is sharp along an ultramafic dyke/sill at approximately 70 degrees to the ca.							
		Mineralization							
		109.60 - 109.85 : Cpy Chalcopyrite, TR Trace, 0.5%							
		109.60 - 109.85 : Pn Pentlandite, EY Eyes, 3%							
		109.60 - 109.85 : Po Pyrrhotite, FG Fine Grained, 75%							
		109.60 - 109.85 : Py Pyrite, CG Coarse Grained, 5%							
		Structure							
		66.50 - 66.51 : S1 First Foliation, 65 Deg to CA							
		81.20 - 81.21 : S1 First Foliation, 70 Deg to CA							
		92.20 - 92.21 : S1 First Foliation, 80 Deg to CA							
		102.00 - 102.01 : S1 First Foliation, 65 Deg to CA							
		114.00 - 114.01 : S1 First Foliation, 80 Deg to CA							
		116.70 - 116.71 : S1 First Foliation, 70 Deg to CA							
		125.00 - 125.01 : S1 First Foliation, 60 Deg to CA							
		136.50 - 136.51 : S1 First Foliation, 70 Deg to CA							
		RQD							
		69.00 - 72.00 : 81.00 % RQD 100.00 % Core							
		72.00 - 75.00 : 93.00 % RQD 100.00 % Core							
		75.00 - 78.00 : 90.00 % RQD 100.00 % Core							
		78.00 - 81.00 : 58.00 % RQD 100.00 % Core							
		81.00 - 84.00 : 59.00 % RQD 100.00 % Core							
		84.00 - 87.00 : 28.00 % RQD 100.00 % Core							
		87.00 - 90.00 : 67.00 % RQD 100.00 % Core							
		90.00 - 93.00 : 81.00 % RQD 100.00 % Core							
		93.00 - 96.00 : 70.00 % RQD 100.00 % Core							
		96.00 - 99.00 : 91.00 % 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%
		RQD							
		99.00 - 102.00 : 69.00 % RQD 100.00 % Core							
		102.00 - 105.00 : 72.00 % RQD 100.00 % Core							
		105.00 - 108.00 : 52.00 % RQD 100.00 % Core							
		108.00 - 111.00 : 56.00 % RQD 100.00 % Core							
		111.00 - 114.00 : 66.00 % RQD 100.00 % Core							
		114.00 - 117.00 : 81.00 % RQD 100.00 % Core							
		117.00 - 120.00 : 55.00 % RQD 100.00 % Core							
		120.00 - 123.00 : 78.00 % RQD 100.00 % Core							
		123.00 - 126.00 : 58.00 % RQD 100.00 % Core							
		126.00 - 129.00 : 39.00 % RQD 100.00 % Core							
		129.00 - 132.00 : 63.00 % RQD 100.00 % Core							
		132.00 - 135.00 : 84.00 % RQD 100.00 % Core							
		135.00 - 138.40 : 83.00 % RQD 100.00 % Core							
		MINOR INTERVALS:							
		Minor Interval:							
		76.5 - 78.85 MD, Mafic Dike							
		The upper contact of this unit is sharp but irregular with the lower contact sharp at 80 degrees to the ca.							
		Structure							
		77.60 - 77.61 : S1 First Foliation, 70 Deg to CA							
		Minor Interval:							
		93.85 - 94.35 MD, Mafic Dike							
		The upper and lower contacts of this unit are sharp at 75 and 80 degrees to the ca, respectively.							
		Minor Interval:							
		95.55 - 98.1 MD, Mafic Dike							
		The upper and lower contacts of this unit are both sharp at 80 degrees to the ca.							
		Structure							
		97.50 - 97.51 : S1 First Foliation, 70 Deg to CA							

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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:</p> <p>Minor Interval: 106.45 - 109.05 MD, Mafic Dike</p> <p>Fine grained, grey-green, non magnetic, well foliated , homogenous mafic dyke/sill containing cm scale highly tectonized, locally recrystallized anorthosite.</p> <p>This unit is locally intruded by cm to dm scale massive sulphide veinlets at variable degrees to the ca. Sulphides appear as fine grained pyrrhotite with mm scale pentlandite eyes and wispy chalcopyrite. Within massive sulphide veinlets, mm scale rounded mafic clasts? occur as well as larger cm scale mafic breccia fragments (angular). See mineralization tab for intervals and mineralization percentages.</p> <p>The upper and lower contacts of this unit are both sharp at 65 degrees to the ca.</p> <p>Mineralization 106.45 - 106.80 : Cpy Chalcopyrite, STR Stringers, 1% 106.45 - 106.80 : Pn Pentlandite, EY Eyes, 2% 106.45 - 106.80 : Po Pyrrhotite, FG Fine Grained, 20% 108.45 - 108.60 : Cpy Chalcopyrite, TR Trace, 0.5% 108.45 - 108.60 : Pn Pentlandite, EY Eyes, 3% 108.45 - 108.60 : Po Pyrrhotite, FG Fine Grained, 62%</p> <p>Structure 107.95 - 107.96 : S1 First Foliation, 70 Deg to CA</p> <p>Minor Interval: 129.65 - 130 MD, Mafic Dike</p> <p>The upper contact of this unit is sharp at 70 degrees to the ca, with the lower faulted (1cm gouge) contact at 60 degrees to the ca.</p>							

Samples

Sample Number	From (m)	To (m)	Ni%	Cu%	Co%
Sample Type	ASSAY				
PG03828	59.00	60.50	0.0250	0.0250	0.0100
PG03829	60.50	62.00	0.0250	0.0250	0.0100
PG03830	105.50	106.45	0.0250	0.0250	0.0100
PG03831	106.45	106.80	3.3200	1.3300	0.0600
PG03832	106.80	108.35	0.0250	0.0500	0.0100
PG03833	108.35	108.70	2.3800	0.2000	0.0700
PG03834	108.70	109.05	0.1100	0.0250	0.0100
PG03835	109.05	109.60	0.0250	0.0250	0.0100
PG03836	109.60	109.85	6.6400	0.3300	0.2000
PG03837	109.85	110.60	0.3800	0.4000	0.0300

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Samples

Sample Number	From (m)	To (m)	Ni%	Cu%	Co%
Sample Type ASSAY PG03838	110.60	111.50	0.0600	0.0600	0.0100