

Hole Number: ES2004-07

Units: METRIC

Project Name: Norway - Espedalen	Primary Coordinates Grid: UTM84-32N	Destination Coordinates Grid: UTM:	Collar Dip: -75.00
Project Number: 201	North: 6805141.94	North: 61.38	Collar Az: 231.00
Location: Surface	East: 533804.38	East: 9.63	Length: 72.40 (m)
	Elev: 731.74	Elev: 731.74	Start Depth: 0.00 (m)
Date Started: Aug 20, 2004	Collar Survey: Y	Plugged: N	Contractor: Geo Drilling A/S
Date Completed: Aug 22, 2004	Multishot Survey: N	Hole Size: TT46	Core Storage: Strand Fjellstue
Logged By: Yannick Beaudoin	Pulse EM Survey: Y	Casing: Left in Hole, capped	Final Depth: 72.40 (m)

Comments: Purpose: Follow up on mineralization intersected in ES2004-05 and further test UTEM conductor ESP_15_15.

Result: Intersected mineralized pyroxenite between 18.30-39.40m containing 5-15% sulphides as disseminations, blebs and stringers. Ultramafic is bounded uphole and downhole by anorthosite/anorthositic gabbro.

Assays: 0.19% Ni, 0.16% Cu, 0.01% Co / 1.0m (20.00-21.00m) (best)

Borehole UTEM: off-hole response centered @ 40m, situated approximately 20m away from hole.

Lithological interpretation: Anorthositic rocks intruded by a mineralized pyroxenite.

Sample Averages

Detailed Lithology		Assay Data							
From (m)	To (m)	Lithology	Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
0	16.20	C, Casing							
16.20	18.30	4, Anorthosite / Anorthosite Gabbro Anorthosite to anorthositic gabbro (mainly anorthositic gabbro). Medium-coarse to medium grained, mottled texture. Locally sheared/tectonized and sausseritized. Unit is cross cut by epidote-chlorite veins. Minor chlorite and epidote can be seen locally in the matrix. No mineralization is present. Unit is not magnetic. Interpretation: Unit classification based on observation and correlation with similar units from other drill holes (e.g. ES2004-08, 09). RQD 16.20 - 19.00 : 20.00 % RQD 98.00 % Core	PG00197	17.80	18.30	0.50	0.0250	0.0250	0.0100

Hole Number: ES2004-07

Units: METRIC

Detailed Lithology		Lithology	Assay Data						
From (m)	To (m)		Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
18.30	39.40	PYXT, Pyroxenite	PG00198	18.30	20.00	1.70	0.1700	0.1200	0.0100
		<p>Medium to locally fine grained pyroxenite. Moderately magnetic to locally highly magnetic patches. Pervasive talc/serpentinite alteration gives bands of the unit a melano-noritic appearance. No visible oikocrysts (in reference to decription for ES2004-05 and ES2004-06).</p> <p>Mineralization is variable with 5-10% sulphides from 18.2m to 34.30m and 10-15% from 34.30m to 39.00m. Mineralization is generally disseminated with blebs and stringers. Pyrrhotite is the main sulphide with bright flecks of pentlandite visible. Minor chalcopyrite is also visible in association with the pyrrhotite.</p> <p>Cm scale talc/serpentinite veins cross cut the entire unit.</p> <p>Fragments of anorthosite are observed in the ultramafic in proximity to the upper contact.</p> <p>Upper contact is at 65 degrees to the core axis.</p> <p>Lower contact is near 90 degrees to core axis angle.</p> <p>Interpretation: Consistent with Heim's Rock Suite 2b (Peridotite - Pyroxenite).</p> <p>Mineralization 18.30 - 34.30 : Po Pyrrhotite, D Disseminated, 8% local stringers and blebs; minor cpy and pentlandite (?) 34.30 - 39.00 : Po Pyrrhotite, D Disseminated, 11% local stringers and blebs; minor cpy and pentlandite (?)</p> <p>Alteration 18.30 - 39.40 :TL Talc, V Vein, M Moderate talc/serpentine 18.30 - 39.40 :TL Talc, P Pervasive, M Moderate talc/serpentine</p> <p>Structure 18.30 - 18.30 : UC Upper Contact, 65 Deg to CA 39.40 - 39.40 : LC Lower Contact, 90 Deg to CA</p> <p>RQD 19.00 - 22.00 : 30.00 % RQD 100.00 % Core 22.00 - 25.00 : 48.00 % RQD 100.00 % Core 25.00 - 28.00 : 50.00 % RQD 100.00 % Core 28.00 - 31.00 : 58.00 % RQD 100.00 % Core 31.00 - 34.00 : 68.00 % RQD 100.00 % Core 34.00 - 37.00 : 47.00 % RQD 100.00 % Core 37.00 - 40.00 : 66.00 % RQD 100.00 % Core</p>	PG00199	20.00	21.00	1.00	0.1900	0.1600	0.0100
			PG00201	21.00	22.00	1.00	0.1100	0.0700	0.0100
			PG00202	22.00	23.00	1.00	0.1100	0.0900	0.0100
			PG00203	23.00	24.00	1.00	0.0900	0.0800	0.0100
			PG00204	24.00	25.00	1.00	0.0800	0.0250	0.0100
			PG00206	25.00	26.00	1.00	0.0800	0.0700	0.0100
			PG00207	26.00	27.00	1.00	0.0600	0.0250	0.0100
			PG00208	27.00	28.00	1.00	0.0600	0.0250	0.0100
			PG00209	28.00	29.00	1.00	0.0700	0.0250	0.0100
			PG00210	29.00	30.00	1.00	0.0700	0.0500	0.0100
			PG00211	30.00	31.00	1.00	0.1400	0.0500	0.0100
			PG00212	31.00	32.00	1.00	0.1600	0.0700	0.0300
			PG00213	32.00	33.00	1.00	0.1100	0.0600	0.0200
			PG00214	33.00	34.00	1.00	0.1500	0.0250	0.0100
			PG00215	34.00	35.00	1.00	0.1900	0.0600	0.0100
			PG00216	35.00	36.00	1.00	0.1600	0.0900	0.0100
			PG00217	36.00	37.00	1.00	0.1700	0.1100	0.0100
			PG00218	37.00	38.00	1.00	0.1600	0.1100	0.0200
			PG00219	38.00	39.40	1.40	0.1800	0.0700	0.0100

DETAILED LOG

Hole Number: ES2004-07

Units: METRIC

Detailed Lithology		Assay Data							
From (m)	To (m)	Lithology	Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
39.40	72.40	4, Anorthosite / Anorthosite Gabbro	PG00220	39.40	40.00	0.60	0.0250	0.0250	0.0100
		Anorthosite to anorthositic gabbro (mainly anorthositic gabbro). Medium-coarse to medium grained, mottled texture. Locally sheared/tectonized and sausseritized.	PG00221	42.60	43.10	0.50	0.0250	0.0250	0.0100
		Intruded by mineralized ultramafic (pyroxenite) dykes as well as mafic dykes (see Minor Unit for descriptions).	PG00222	43.10	43.90	0.80	0.1800	0.0800	0.0100
		56.6-56.85m: narrow peridotitic UM with 2% sulphides (not sampled).	PG00223	43.90	44.40	0.50	0.0250	0.0250	0.0100
		Upper contact at near 90 degrees to core axis angle.							
		Interpretation: Unit classification based on observation and correlation with similar units from other drill holes (e.g. ES2004-08, 09).							
		RQD							
		40.00 - 43.00 : 61.00 % RQD 100.00 % Core							
		43.00 - 46.00 : 50.00 % RQD 100.00 % Core							
		46.00 - 49.00 : 44.00 % RQD 100.00 % Core							
		49.00 - 52.00 : 70.00 % RQD 100.00 % Core							
		52.00 - 55.00 : 75.00 % RQD 100.00 % Core							
		55.00 - 58.00 : 43.00 % RQD 100.00 % Core							
		58.00 - 61.00 : 77.00 % RQD 100.00 % Core							
		61.00 - 64.00 : 65.00 % RQD 98.00 % Core							
		64.00 - 67.00 : 56.00 % RQD 100.00 % Core							
		67.00 - 70.00 : 45.00 % RQD 100.00 % Core							
		70.00 - 72.40 : 46.00 % RQD 100.00 % Core							
		72.4m End of Hole							

Hole Number: ES2004-07

Units: METRIC

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:</p> <p>43.1 - 43.9 PYXT, Pyroxenite</p> <p>Medium grained, non oikocrystic pyroxenite. Relatively unaltered (with respect to talc/serpentinite alteration in major unit 6d from 18.30m to 39.40m).</p> <p>Moderately developed fabric at ~65 degrees to core axis angle.</p> <p>Mineralization consists of 10-15% disseminated to locally stringer sulphides. Pyrrhotite is the main sulphide with visible bright flecks of pentlandite. Minor chalcopyrite is seen in association with the pyrrhotite.</p> <p>Upper contact is 85 degrees to core axis angle.</p> <p>Lower contact is at 75 degrees to core axis angle...marked by a cm scale talc/serpentinite vein.</p> <p>Interpretation: Consistent with Heim's Rock Suite 2b (Peridotite - Pyroxenite).</p> <p>Mineralization</p> <p>43.10 - 43.90 : Po Pyrrhotite, D Disseminated, 12% local stringers and blebs; minor ccp and pentlandite</p> <p>Alteration</p> <p>43.10 - 43.90 :TL Talc, V Vein, M Moderate</p> <p>43.10 - 43.90 :TL Talc, PT Patchy, W Weak</p> <p>Minor Interval:</p> <p>63.2 - 64.35 MD, Mafic Dike</p> <p>Fine grained mafic volcanic/dyke. Chloritized. Non magnetic and non mineralized.</p> <p>Upper contact at ~10 degrees from core axis angle. Intruded anorthosites are altered for about 0.5m ahead of contact.</p> <p>Lower contact at ~45 degrees to core axis angle. Intruded anorthosites are altered for about 0.20m below contact</p> <p>Alteration</p> <p>63.20 - 64.35 :CH Chlorite, P Pervasive, S Strong</p>							

Hole Number: ES2004-07

Units: METRIC

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: 64.7 - 65.7 MD, Mafic Dike Fine grained mafic volcanic/dyke. Chloritized. Non magnetic and non mineralized.</p> <p>Upper contact at -45 degrees from core axis angle. Intruded anorthosites are altered for about 0.2m ahead of contact.</p> <p>Lower contact at -70 degrees tro core axis angle. Intruded anorthosites are altered for about 1.6m below contact</p> <p>Alteration 64.70 - 65.70 :CH Chlorite, P Pervasive, S Strong</p> <p>Minor Interval: 67.3 - 68.5 MD, Mafic Dike Fine grained mafic volcanic/dyke. Chloritized. Non magnetic and non mineralized.</p> <p>Upper contact at -45 degrees from core axis angle. Intruded anorthosites are altered for about 1.6m ahead of contact.</p> <p>Lower contact near parallel to core axis angle. Intruded anorthosites are altered for about 1.5m below contact</p> <p>Alteration 67.30 - 68.50 :CH Chlorite, P Pervasive, S Strong</p>							

Samples

Sample Number	From (m)	To (m)	Ni%	Cu%	Co%
Sample Type	ASSAY				
PG00197	17.80	18.30	0.0250	0.0250	0.0100
PG00198	18.30	20.00	0.1700	0.1200	0.0100
PG00199	20.00	21.00	0.1900	0.1600	0.0100
PG00201	21.00	22.00	0.1100	0.0700	0.0100
PG00202	22.00	23.00	0.1100	0.0900	0.0100
PG00203	23.00	24.00	0.0900	0.0800	0.0100
PG00204	24.00	25.00	0.0800	0.0250	0.0100
PG00206	25.00	26.00	0.0800	0.0700	0.0100
PG00207	26.00	27.00	0.0600	0.0250	0.0100
PG00208	27.00	28.00	0.0600	0.0250	0.0100

Hole Number: ES2004-07

Units: METRIC

Samples

Sample Number	From (m)	To (m)	Ni%	Cu%	Co%
Sample Type	ASSAY				
PG00209	28.00	29.00	0.0700	0.0250	0.0100
PG00210	29.00	30.00	0.0700	0.0500	0.0100
PG00211	30.00	31.00	0.1400	0.0500	0.0100
PG00212	31.00	32.00	0.1600	0.0700	0.0300
PG00213	32.00	33.00	0.1100	0.0600	0.0200
PG00214	33.00	34.00	0.1500	0.0250	0.0100
PG00215	34.00	35.00	0.1900	0.0600	0.0100
PG00216	35.00	36.00	0.1600	0.0900	0.0100
PG00217	36.00	37.00	0.1700	0.1100	0.0100
PG00218	37.00	38.00	0.1600	0.1100	0.0200
PG00219	38.00	39.40	0.1800	0.0700	0.0100
PG00220	39.40	40.00	0.0250	0.0250	0.0100
PG00221	42.60	43.10	0.0250	0.0250	0.0100
PG00222	43.10	43.90	0.1800	0.0800	0.0100
PG00223	43.90	44.40	0.0250	0.0250	0.0100