

Hole Number: ES07-97

Units: METRIC

Project Name: Norway - Espedalen	Primary Coordinates Grid: UTM84-32N	Destination Coordinates Grid: UTM:	Collar Dip: -50.00
Project Number: 201	North: 6809830.00	North: 61.42	Collar Az: 180.00
Location: Surface	East: 530550.00	East: 9.57	Length: 112.31 (m)
	Elev: 1182.00	Elev: 1182.00	Start Depth: 0.00 (m)
Date Started: Sep 24, 2007	Collar Survey: N	Plugged: N	Contractor: Geo Drilling A/S
Date Completed: Sep 26, 2007	Multishot Survey: N	Hole Size: TT46	Core Storage: Tyrstrand
Logged By: J. Grant	Pulse EM Survey: N	Casing: Left in Hole	Final Depth: 112.31 (m)

Comments: Stanggruva. Testing 50 m down-dip from the workings.

## Sample Averages

Detailed Lithology		Assay Data							
From (m)	To (m)	Lithology	Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
0	3.00	O/B, Overburden CASING/OVERBURDEN							
3.00	63.20	GAB, Gabbro GABBRO  Light green, non-magnetic gabbro, with 50% pale green, 1 mm, equant, chloritised pyroxene and 5%, 1-2 mm biotite in a groundmass of fine-grained plagioclase. The biotite content is quite variable, ranging up to 80 of the rock in 0.5 to 3.0 m intervals. This, and the pervasive chloritisation of the pyroxene, suggest the rock is strongly altered.  A foliation is only barely visible in the biotite-poor gabbro, but becomes progressively more apparent with increasing biotite content. The rock appears almost gneissic in the most strongly biotitised sections. The foliation is quite variable in at the top of the hole and tight fold axes are locally visible with axes at 75 to 85 DCA. Below about 30 m, however, the foliation settles down to a consistent 80-90 degree core angle.  The core is blocky throughout, with breaks every 5-20 cm at various angles to the core axis. The drillers reported short runs in this unit.  9.60: 1 cm patch of garnet.  45.35-46.25: Distinctive aphanitic, black, non-magnetic diabase at 40 DCA. Mineralization 62.90 - 63.20 : PO Pyrrhotite, DIS Disseminated, 0.01%	PG07964	62.90	63.20	0.30	0.0960	0.0950	0.0090

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Detailed Lithology		Lithology	Assay Data						
From (m)	To (m)		Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
63.20	64.80	GAB, Gabbro MINERALISED PORPHYRITIC GABBRO  The interval consists of 10-50 cm intervals of pegmatitic gabbro within finer gabbro similar to that higher in the hole. Both gabbro types contain about 1% fine, disseminated pyrrhotite and there are a few pyrrhotite wisps in the finer gabbro.  The core becomes increasingly broken 64.60-64.80, from 2 cm blocks down to 2 mm chips, entering the lost core section below.  Mineralization 63.20 - 64.80 : PO Pyrrhotite, PAT Patchy, 1%	PG07965	63.20	64.00	0.80	0.0880	0.0690	0.0100
			PG07966	64.00	64.80	0.80	0.1870	0.1170	0.0130
64.80	65.50	LC, Lost Core LOST CORE							
65.50	72.75	GAB, Gabbro MINERALISED PORPHYRITIC GABBRO  50% 8 by 16 mm pyroxene in a groundmass of 1-4 mm white plagioclase. The porphyritic gabbro contain 5% disseminated, 1-2 mm pyrrhotite which locally increases to up to 15%. The higher pyrrhotite intervals are 10-15 cm long and also contain up to 2% chalcopyrite, and have a net-textured appearance.  68.20-69.05: Fine gabbro similar to that above the mineralised zone, but with 3% disseminated, fine pyrrhotite. 71.50-71.80: Two 10 cm bands of very fine gabbro bear 5% fine, disseminated pyrrhotite. The second bands has two 2-4 mm bands of massive pyrrhotite. 72.45-72.75: Two 10 cm bands of very fine gabbro bear 5% fine, disseminated pyrrhotite.  Mineralization 65.50 - 66.25 : PO Pyrrhotite, PAT Patchy, 1% 66.25 - 68.20 : PO Pyrrhotite, Net Net Textured, 5% 68.20 - 69.05 : PO Pyrrhotite, DIS Disseminated, 3% 69.05 - 71.50 : CP Chalcopyrite, Net Net Textured, 0.5% 69.05 - 71.50 : PO Pyrrhotite, Net Net Textured, 7% 71.50 - 71.80 : PO Pyrrhotite, DIS Disseminated, 4% 71.50 - 71.80 : PO Pyrrhotite, STR Stringers, 1% 71.80 - 72.45 : PO Pyrrhotite, Net Net Textured, 5% 72.45 - 72.75 : PO Pyrrhotite, DIS Disseminated, 5%	PG07967	65.50	66.25	0.75	0.1800	0.1140	0.0140
			PG07968	66.25	66.75	0.50	0.1720	0.1050	0.0140
			PG07969	66.75	67.20	0.45	0.2640	0.1560	0.0190
			PG07970	67.20	67.70	0.50	0.2640	0.1920	0.0180
			PG07971	67.70	68.20	0.50	0.3180	0.3100	0.0230
			PG07972	68.20	69.05	0.85	0.1490	0.1980	0.0120
			PG07973	69.05	69.50	0.45	0.4450	0.4660	0.0280
			PG07974	69.50	70.00	0.50	0.4130	0.2870	0.0250
			PG07975	70.00	70.50	0.50	0.5880	0.1110	0.0360
			PG07976	70.50	71.00	0.50	0.5050	0.3820	0.0310
			PG07977	71.00	71.50	0.50	0.3570	0.2230	0.0220
			PG07978	71.50	71.80	0.30	0.4010	0.1820	0.0230
			PG07979	71.80	72.10	0.30	0.5510	0.3200	0.0340
			PG07981	72.45	72.75	0.30	0.3290	0.1700	0.0220

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From (m)	To (m)		Sample Number	From (m)	To (m)	Length (m)	Ni%	Cu%	Co%
72.75	74.30	GAB, Gabbro GABBRO	PG07982	72.75	73.05	0.30	0.0230	0.0570	0.0050
			PG07983	73.05	74.00	0.95	0.0070	0.0090	0.0050
		From 72.75-81.65, unmineralised gabbro alternates with anorthosite. A weak foliation at about 75 DCA occurs in both rock types, but the contacts between them are at varying and locally opposing angles, suggesting folding or complicated intrusive contacts. Mineralization 72.75 - 74.30 : PO Pyrrhotite, DIS Disseminated, 0.01%							
74.30	75.30	ANOR, Anorthosite ANORTHOSITE							
75.30	79.30	GAB, Gabbro GABBRO							
79.30	80.50	ANOR, Anorthosite ANORTHOSITE							
80.50	81.65	GAB, Gabbro MIXED GABBRO AND ANORTHOSITE							
81.65	112.30	ANOR, Anorthosite ANORTHOSITE							
		Streaky white and light grey, foliated anorthosite. Mafics are absent to near-absent and the rock is not magnetic. Fine-grained, locally biotite-rich gabbro bands are commonly 10-50 cm wide, although the hole ends in 1.2 m of gabbro.  The foliation varies widely above 95.0 m, from 60 DCA to perpendicular to the core axis. Below 95 m it is fairly consistent at 75-80 DCA.  The core is generally broken above 106 m, but is fairly competent below.							
112.30	112.31	EOH, End of Hole END OF HOLE							
		Blocky ground at about 100 m produced gravel which jammed and destroyed the bit. Hole stoppd.							

## Samples

Sample Number	From (m)	To (m)	Ni%	Cu%	Co%
Sample Type	ASSAY				
PG07964	62.90	63.20	0.0960	0.0950	0.0090
PG07965	63.20	64.00	0.0880	0.0690	0.0100
PG07966	64.00	64.80	0.1870	0.1170	0.0130
PG07967	65.50	66.25	0.1800	0.1140	0.0140
PG07968	66.25	66.75	0.1720	0.1050	0.0140

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Sample Type	ASSAY				
PG07969	66.75	67.20	0.2640	0.1560	0.0190
PG07970	67.20	67.70	0.2640	0.1920	0.0180
PG07971	67.70	68.20	0.3180	0.3100	0.0230
PG07972	68.20	69.05	0.1490	0.1980	0.0120
PG07973	69.05	69.50	0.4450	0.4660	0.0280
PG07974	69.50	70.00	0.4130	0.2870	0.0250
PG07975	70.00	70.50	0.5880	0.1110	0.0360
PG07976	70.50	71.00	0.5050	0.3820	0.0310
PG07977	71.00	71.50	0.3570	0.2230	0.0220
PG07978	71.50	71.80	0.4010	0.1820	0.0230
PG07979	71.80	72.10	0.5510	0.3200	0.0340
PG07981	72.45	72.75	0.3290	0.1700	0.0220
PG07982	72.75	73.05	0.0230	0.0570	0.0050
PG07983	73.05	74.00	0.0070	0.0090	0.0050