

13V 2705



PROSPEKTERING

GAMLE RINGERIKS VEI 14 POSTB 83 - 1321 STABEKK
HELEID AV AKTIESELSKABET SYDVARANGER

Tlf. (02) 12 05 18
(02) 53 08 34

Telex 72 987 aspro n

INTERN RAPPORT.

DATO: 11.12.84

RAPPORT NR: 1540

KARTBLAD 1833 IV

Antall sider
— " — bilag

SAKSBEARBEIDER RAGNAR HAGEN

A/3 BIDJOVAGGE GRUBER

RAPPORT VEDRØRENDE:

DIAMOND DRILLING AREA 43, KAUTOKEINO,
A PRELIMINARY REPORT. JOINT VENTURE
GULF/SYDVARANGER.

FORDELING

OSLO:

KIRKENES:

ANDRE:

RESYMÉ:

In 1984 follow up area no. 43 of the 1982 Dighem Survey was tested with 466.85 m of diamond drilling. Several zones of copper mineralization with some gold were intersected. The best intersection is 8 m of 1.63 % Cu and 0.75 ppm Au. A detailed drilling programme is required to outline the mineralization.

KOMMENTAR:

INTRODUCTION.

Follow up area no. 43 is situated about 11 km to the east of the Bidjovagge Mine (Fig. 1). The area is situated in the eastern part of the Caskias Group, at the contact between mafic volcanics and argillites. A complex EM conductor from the 1982 Dighem airborne geophysical survey (report no. 1413) was selected for follow up work because of its geological position and the presence of a gold anomaly in regional stream sediments about 1.5 km to the north of the area.

GROUND SURVEYS.

The ground geophysical survey (report no. 1414) showed two EM conductors separated by a magnetic high (Fig. 2). The western conductor has a strike length of about 200 m, while the eastern conductor can be followed through the whole survey area. The Dighem survey indicates a strike length of a little less than 2 km for the eastern conductor.

The detailed geological mapping of the area did not reveal any outcrops in the grid (report no. 1507). However, just to the east of the grid, there are outcrops of tuffite and meta diabase (Fig. 2). Boulders of albite felsite and carbonate breccia were found within the survey area.

DIAMOND DRILLING.

The EM anomalies of area 43 occur in an interesting environment both with respect to geology and regional geochemistry. The presence of the short western conductor makes the area an attractive target when comparing with the Bidjovagge and Suovrarappat mineralizations. It was therefore decided to test area 43 by diamond drilling. In October 1984 three holes with a total length of 466.85 m were drilled. The location of the holes is shown in Fig. 2. Diamond drillhole 43-2 was drilled to test the eastern conductor. Hole 43-1 was drilled to test the western conductor. The original geophysical interpretation was that the two conductors were forming a syncline with a high magnetic core. Drilling results proved the syncline theory to be wrong, hole 43-1 intersected the foliation at a low angle and hole 43-3 had to be drilled to get a good intersection.

Core log reports and preliminary analytical results are presented in Encl. 1. Drill hole sections are presented in Fig. 3. The holes were not drilled in one single section (see Fig. 2) and hole 43-2 has been projected into the section in Fig. 3.

The eastern conductor is explained by the intersection of 23 m of graphite felsite in hole 43-2. The graphite felsite is associated with albite felsite and albitization and carbonatization is common in the greenstone, but no mineralization was found in hole 43-2.

Diamond drill hole 43-1 intersected four zones of chalcopyrite mineralization. Two of the zones are a vein-type mineralization in albite felsite at the contact against graphite felsite. The third is a vein-type mineralization in graphite felsite. The fourth is a disseminated mineralization in albite carbonate rock. The results from hole 43-1 indicated a steep westerly dip and several fold structures. Diamond drill hole 43-3 was drilled to get a good intersection and a better understanding of the structures. Two mineralized zones were found in hole 43-3. The first zone is disseminated mineralization in albite carbonate rock combined with a vein-type mineralization in red albite felsite. The second zone is a vein type mineralization in albite felsite and graphite felsite.

DISCUSSION.

The mineralization of holes 43-1 and 43-3 is clearly of Bidjovagge type. The results from the two holes cannot easily be correlated. This indicates complex structures and that the directions of the holes probably have got a lateral deviation.

Preliminary chemical results are presented in Enc. 1. and in Fig. 3. So far only the copper mineralized zones have been analysed and not all gold values of hole 43-1 have been checked. Supplementary analyses from outside the copper zones will be presented later. The intersections of hole 43-1 does in general not represent ore quality, although a few scattered high values are present. The gold content of hole 43-1 is low. In hole 43-3 the most encouraging mineralization is the vein type in red albite felsite. Average grade is 1.63 % copper and 0.75 ppm gold over 8 m.

The electromagnetic ground survey indicates a strike length of about 200 m of the western graphite felsite unit. This limits the potential of area 43, but it should be kept in mind that at Bidjovagge not all mineralization is closely associated with graphite felsite ("B" ore body).

Area 43 is a new occurrence of Bidjovagge type mineralization. Copper and gold values are encouraging and the extent of the mineralization is still quite open. A detailed drilling program is required to outline the mineralization. Area 43 represents Bidjovagge type mineralization in a new stratigraphic position in the eastern part of the Caskias Group.

A report including complete analytical results, a microscopic study of the mineralization and a programme for future work will be presented later.

Stabekk, 11.12.1984

Ragnar Hagen

RH/bs

Kjerneobservasjoner.

Borhull nr. 43 - 1
 Koordinator: Y 100 N Profil X 100 W
 Påsatt i høyde 540 m.
 « i retning 283^g
 « med helning 50^o
 Borhullets lengde 178,65

Boret meter	Bergart	Kjerne- mangel	Skifrihet	Bergart prøve
0- 2.30	Jordboring			
2.30-50.80	Metadiabas, massiv, middelsk. Høyt mt innh. Lokalt mt i slirer. Soner med ofittisk tekstur. Qtz albitt (karb) årer er vanlige. I soner er b.a. fullstendig albittisert til grå fink. albittfels. Omv. soner har noe minere mt enn b.a. Årer med epidot finnes. Spor cp i qtz-alb-årer.			
50.80-53.15	Albittfels, grå massiv. Innh. skarpt grønt mineral, glimmer? Lav mag. Noe cp fra 52.50.			
53.15-54.65	Grafittfels. Lavt C-innhold. Lav mag. Spor cp i albitt-gtz-årer. Lokalt finnes kink-folder.		53.90: 39 ^o	
54.65-60.80	Albittfels, grå, massiv. Lokalt med qtz-alb i stockwork Litt py. Lav mag.			
60.80-114.50	Grafittfels. Noen soner med albittfels de første 2 m, senere tildels høyt C-innh. Lav mag. Alb-qtz hyppig som årer og stikk. Foldeomb. v/ 62.40 m. Økende py og spor cp fra 64.00 m. Cp-min 76 84. Cp alene, gjerne i slirer i grafittfels. Spor po. 112.40-113.00: Albittfels-sone.		86.25: 21 ^o 97.50: 36 ^o	
114.50-135.50	Albittfels, grå med qtz-alb årer i stockwork. Lav mag. Noe cp v/ 115.60 og 116.20. Py min. fra 117.20. Tildels soner med massive py slirer. Brun fels med mindre py fra 121 m.			

Boret meter	Bergart	Kjerne- mangel	Skifrihet	Bergart prøve
135.50-153.30	Albitt b.a., massiv - tildels diffus fol. middelsk. grå. Lav mag. Inneh. py i impr. og noe cp fra 136.50-149 m. 150 - 153: Rikelig py.			
153.30-157.60	Albittfels, brunlig med hyppige qtz-alb årer. Inneh. litt py. Lav mag. 155.50-157.60. Rusten og vitret b.a.			
157.60-162.70	Albitt b.a. Middelsk. massiv. diffus fol. Inneh. skarpt grønt min. Rusten og vitret 157.60-162.70 med mørke spetter (sjelden) cc ?		161.10: 45° 162.50: 38°	
162.70-175.70	Albittfels, brunlig. Gjennomsatt av alb.-qtz årer. Lav mag. Noe py, spor cp. Argillittiske bånd og slirer ? Foldeomb. v/ 167 m.	170.35- 171.		
175.70-178.65	Argilitt. Brun, fink. tildels laminert. Lav mag.		175.90: 58°	
	Hullet avsluttet v/ 178.65 m.			
	20. november 1984			
	Ragnar Hagen			

Kjerneobservasjoner.

Borhull nr. 43 - 2 Profil _____
 Koordinator: Y 100 N X 50 V
 Påsatt i høyde 547 m.
 « i retning 80^g
 « med helning 50^o
 Borhullets lengde 101,50 m

Boret meter	Bergart	Kjerne- mangel	Skiffrighet	Bergart prøve
0- 3.42	Jordboring			
3.42- 56.95	Grønnstein, massiv, middelsfink. Basalt ? Middels- høy mag. Inneh. hyppige alb-karb årer og omfattende alb. omv. Alle overg. fra frisk b.a. til ren albittfels. Omv. soner har lavere mag (middels mag.) Spredte py-korn og spor cp.		58.30:53 ^o 59.30:36 ^o 63.50:34 ^o 67.70:35 ^o 71.60:58 ^o	
56.95- 71.70	Albittfels. Varierende uts. Ofte bundet med grønne tufittiske soner. Lokalt tynne karb. årer.		84.10:49 ^o 89.20:13 ^o 93.80:32 ^o	Foldeomb
71.70- 95.05	Grafittfels. Oppsprukket. Inneh. årer og stikk av alb. karb. Litt py. Lav mag.			
95.05- 96.10	Albittfels, grå, lav mag. Spredte karb. h. soner. Gradvis overgang til:			
96.10-101.50	Tuff. Grønn, fink. Lav mag. Diffust båndet.		97.80:50 ^o	
	Hullet avsluttet v/ 101.50.			
	Ragnar Hagen			

Kjerneobservasjoner.

Borhull nr. 43 - 3
 Koordinator : Y 47 N Profil X 293 W
 Påsatt i høyde 527 m.
 « i retning 83^g
 « med helning 45^o
 Borhullets lengde 186,70 m

Boret meter	Bergart	Kjerne- mangel	Skiffrighet	Bergart prøve
0-19.00	Jordboring			
19.00-26.75	Tuffitt. Lys grønn, fink. Oppknust de første 2.5 m. Alb. karb. finfordelt og som diskordante og konkord. bånd. Noen rustne soner (ankeritt og sulfider). Middels mag (lokalt høy mag).		20.60:45 ^o 22.50:70 ^o 24.70:58 ^o	
26.75-33.30	Argillitt, fink. Lys grå, båndet. Middels - høy mag.		29.30:61 ^o 32.60:67 ^o	
33.30-40.10	Tuffitt, fink. grønn. Svakt grafittholdig 35-36 m. Tildels massiv, men også finlaminert. Alb. karb. i bånd og årer og slirer. Lav mag.		37.80:73 ^o	
40.10-41.40	Argilitt som 26.75-33.30. Diffus bånding. Høy mag.		40.55:61 ^o	
41.40-54.00	Tuffitt som 33.30-40.10. Varierende mag., vanligvis lav. Siste 3 m omv. b.a. med overg. til albitt- fels. Middels mag.		43.80:59 ^o 47.80:67 ^o	
54.00-59.90	Albittfels, brun, diffust lagret. Karbonatholdig. Alb-karb. i tynne stikk. Noe py. Py i slirer v/ 57 m. Siste m: lys karb-rik.			
59.90-72.20	Argilitt, fink., grå-grønn farge. Tildels kraftig oppknust. Intense foldestr. synlig. Finlam. Middels mag. Inneh. spredte karb. årer.			
72.20-97.10	Tuffitt, fink., grønn. Diffust lagret. Alb. karb i årer og slirer. Lokalt som finford. 1-2 mm store korn. Middels mag. Inneh. inn- leiringer av argillitt og sandig matr. Foldeombøyninger observert.			

Boret meter	Bergart	Kjerne- mangel	Skifrihet	Bergart prøve
97.10-110.70	Albittfels, fink., grå, tildels massiv, Lokalt diffust båndet. Lav mag. Inneh. foldeomb. Også brune - rosa soner. Tildels karb. holdig. Spredte qtz- alb årer.			
101.70-113.30	Tuffitt, grå-grønn, fink., diffust lagret. Inneh. omv., lyse soner. Middels mag.		112.80:60°	
113.30-153.30	Albittfels som 97.10-110.70. Noe mer bastant lagning. 121-125: Tett brun fels ved qtz-alb i stock- work. Svakt grafittholdige soner v/ 127.40-127.70 og 128.20-128.70. Noe py. Økende py fra 141 m. Nesten massiv py 144.00-144.30. Grafittfelsfragm. i breksjert b.a. fra 147 m. Fra 149 m stockwork med py og noe cp. Delvis grov- middelsk. alb.-karb. b.a. med felsfragm.		114.60:54° 131.80:60° 136.30:56°	
153.30-160.05	Albittfels, tett mørk rødbrun. Alb- qtz- årer i stockwork. Lokalt god cp. min. Lav mag.			
160.05-168.90	Albitt b.a. lys, massiv, fin- middelsk. Lav mag. Noe cp. og disseminert cc 160.05-162. Klorittisert b.a. 163.40-163.80. Fra 166.60: Økende innh. av mørke silikater. Ofte i slirer - danner en uklar lagning. Noe cp 168.00-168.90.		167.80:57°	
168.90-169.30	Grafittfels. Breksjert med albæ karb. årer. Cp på kontaktene mot albittfels. Lav mag.			
169.30-170.15	Albittfels, rødgrå, tett. Lav mag. Noe cp.			
170.15-170.75	Grafittfels. Høy C. Oppsprukket og breksjert med alb-karb. og cp v/ 170.75. Lav mag.			
170.75-171.95	Albittfels, rødgrå, breksjert med alb. qtz- karb. og noe cp. Lav mag.			

Boret meter	Bergart	Kjerne- mangel	Skifrihet	Bergart prøve
171.95-186.70	<p>Albitt b.a. Massiv, middelsk. grå. Diffus lagning? 45°. Varierende uts. fra lys grå til lys grønn. Omv. basalt? Lav mag. Skarpt grønt min. 176.40-176.60.</p> <p>Hullet avsluttet v/ 186.70.</p> <p>agnar Hagen</p>			

F-5.1

LEGEND :

Allochthonous rocks

Nalgamas and Tiertá Nagges (Late Precambrian)

Autochthonous rocks

Dividal Group (Late Precambrian)

Precambrian rocks

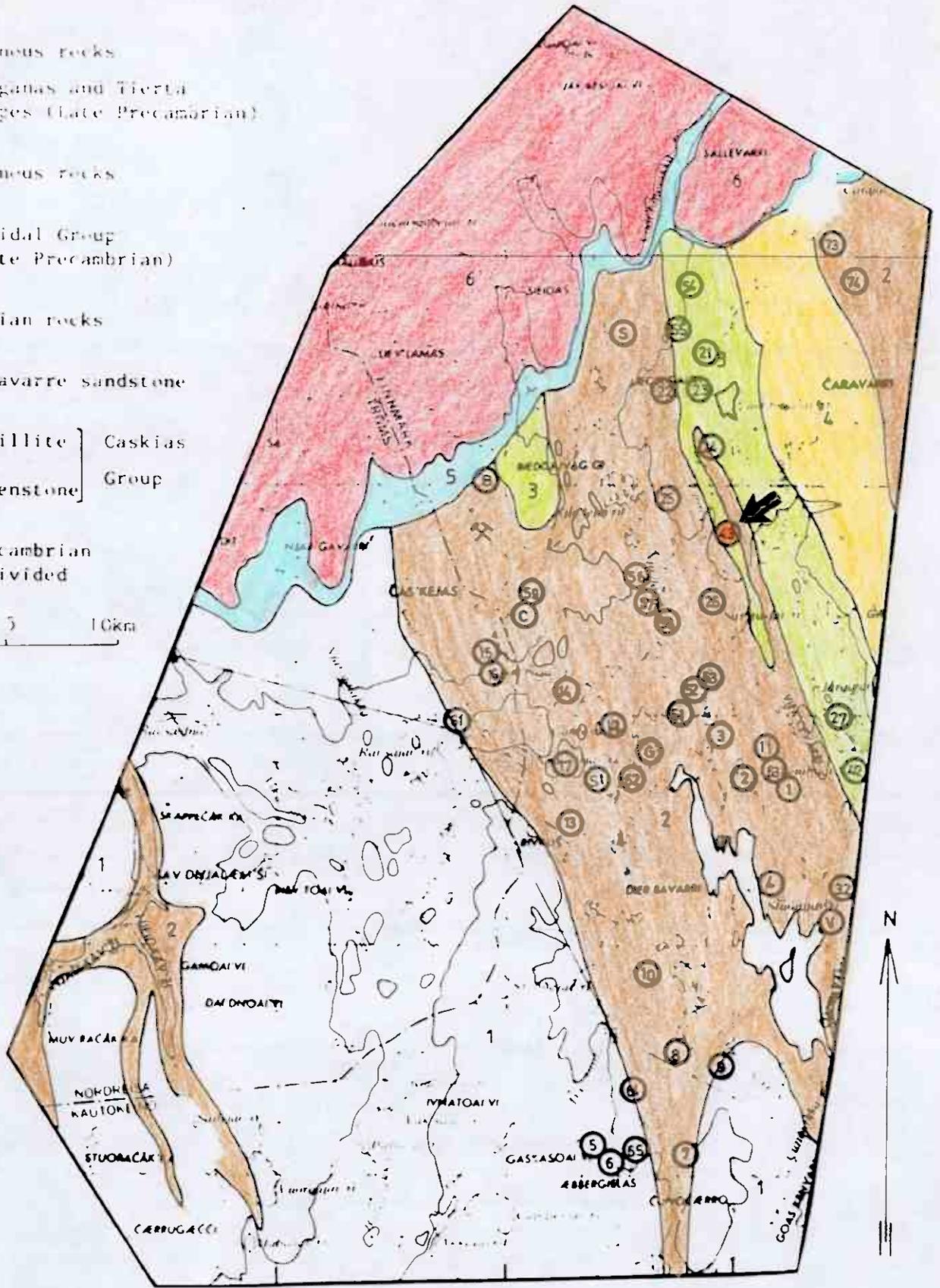
Caravarre sandstone

Argillite

Greenstone

Precambrian undivided

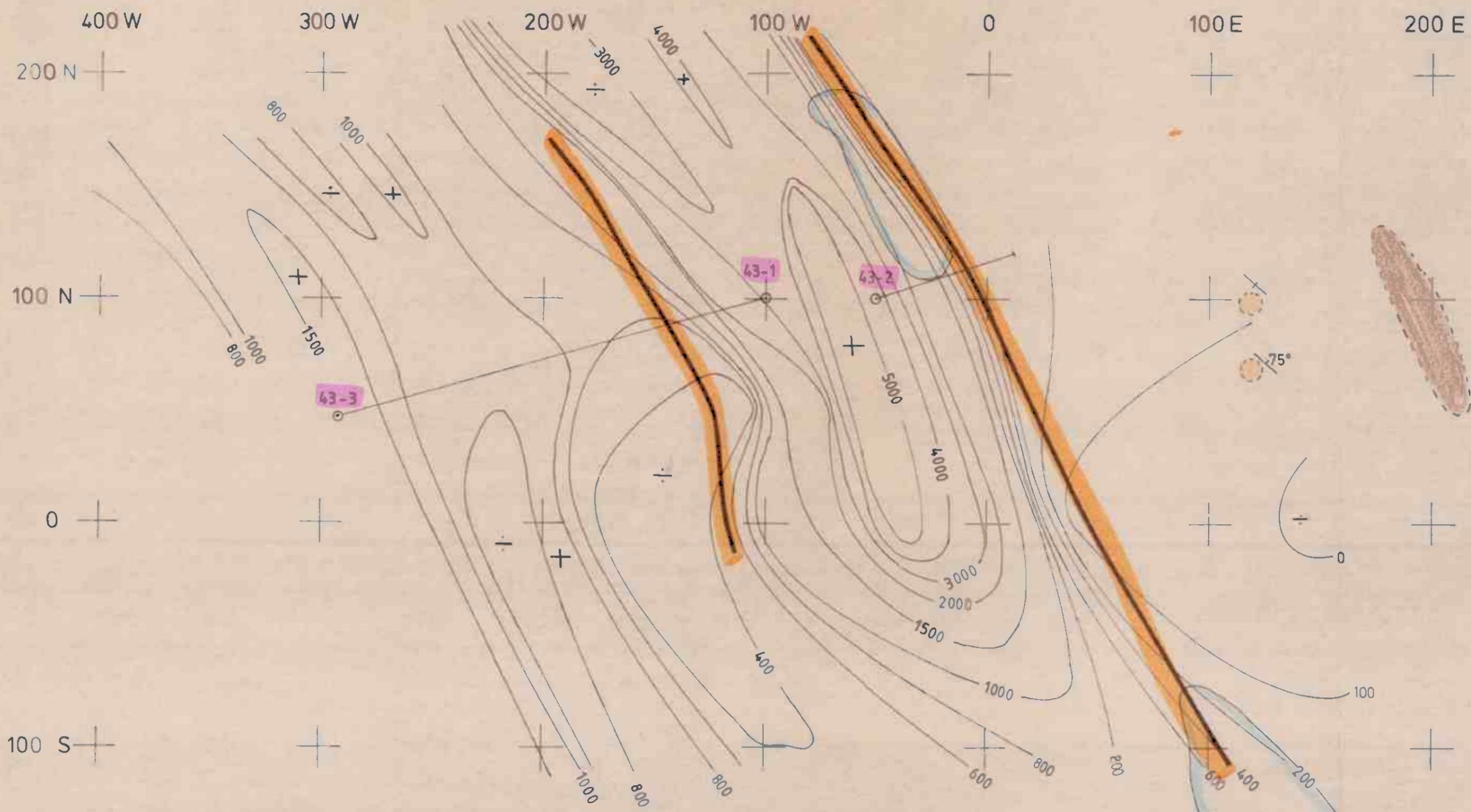
0 5 10 km



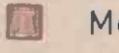
① Follow-up area.

Joint venture Norwegian Gulf - A/S Sydvaranger	Scale 1:250 000
	Trace
PROSPEKTERING A/S	Fig 1.

FIG.
2

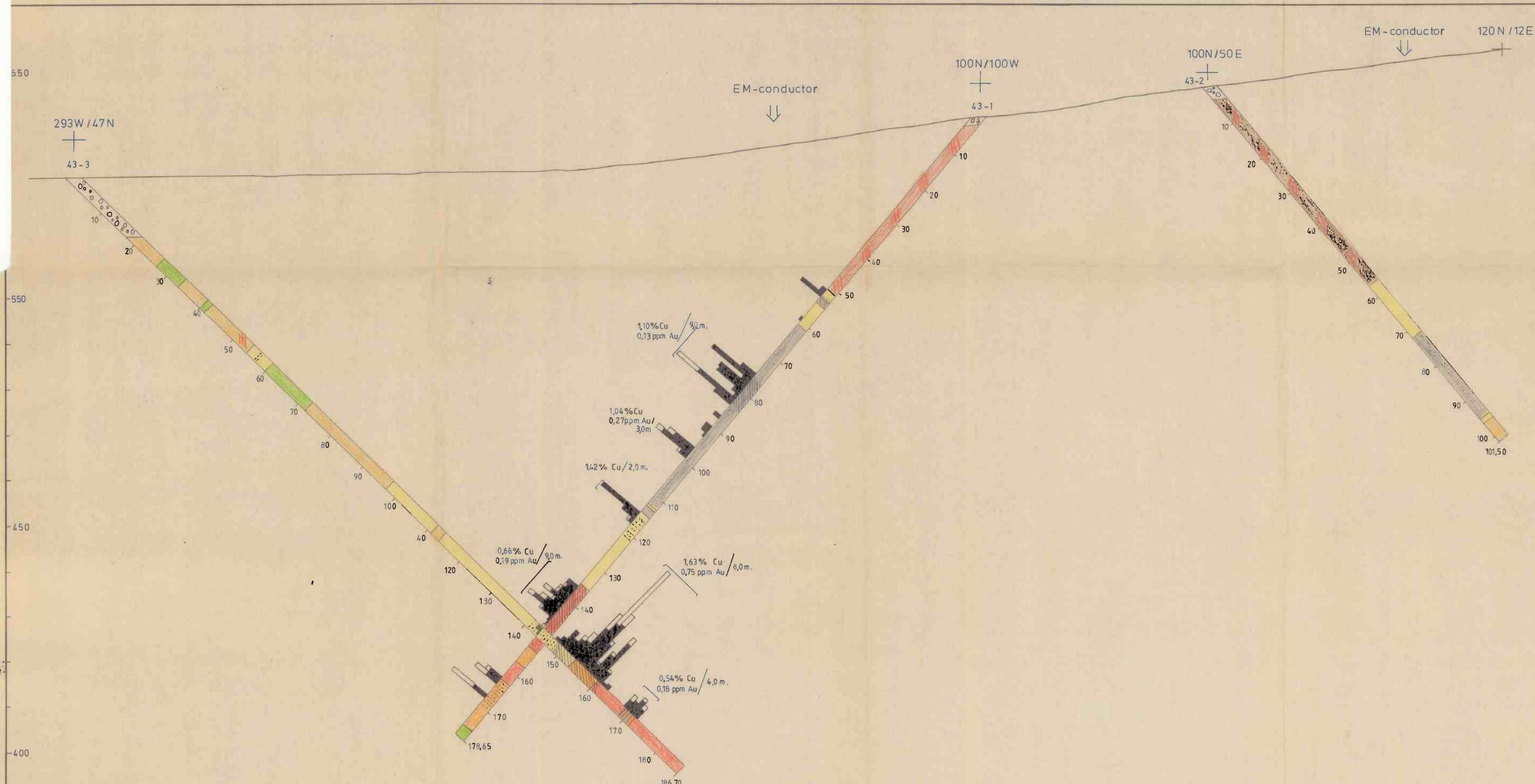


LEGEND:

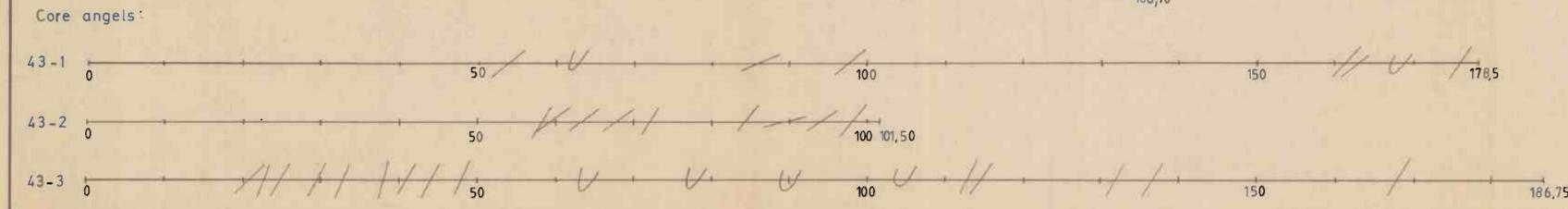
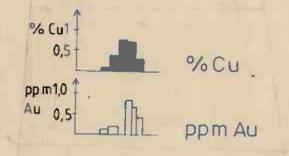
-  Isomagnetic line
-  Magnetic high
-  "—" depression
-  EM conductor
-  Outcrop
-  Meta diabase
-  Tuffite
-  43-1 Diamond drill hole

Area 43 Outcrops Ground geophysics Diamond drill holes	Scale 1:2000
	Draw RH 11/84 Trace: HB 11/84
PROSPEKTERING A/S	Fig. 2

W-5-M



- LEGEND:
- Overburden
 - Argillite
 - Tuffite
 - Red Albite felsite
 - Albite carbonate rock
 - Graphite felsite
 - Albite felsite
 - Diabase
 - Basalt
 - Cp-mineralization
 - Py- " "
 - Albite alteration



Area 43 Pseudo section Ddhs. 43-1, 43-2, 43-3	Scale 1: 500
	Obs RH 11/84
	Draw RH 11/84
	Trace HB 11/84
PROSPEKTERING A/S	Fig 3.