

1982 ASSESSMENT REPORT
Geochemistry and Geophysics
on the
RO CLAIMS

RO 15, 16, 17, 18 (Record Nos. 51144-47)
and RO 29, 31 and 32 (Record Nos. 51555, 51557-58)

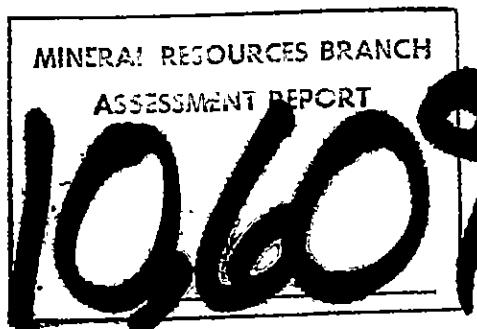
KAMLOOPS MINING DIVISION
Latitude: 51°35' N
Longitude: 120°28' W
NTS 92-P/9W

Owner: Anaconda Canada Exploration Ltd.
1600-1500 W. Georgia St.
Vancouver, B.C. V6G 2Z6
(FMC 227191)

Operator: SMD Mining Co. Ltd.
330-1130 W. Pender St.
Vancouver, B.C. V6E 4A4

by C.M. Rebagliati, P.Eng.

August 1982



INTRODUCTION

General

This work describes fieldwork undertaken on the RO claims in July and August 1982 to explore for bulk silver-lead deposits.

Work included: linecutting, geological mapping, geochemical soil sampling, ground magnetometer and VLF surveying.

Location and Access

The RO claims are located at latitude 51°35'N; longitude 120°28'W, 26 km northwest of Little Fort, B.C. (Fig. 1).

Access to the claims is via Highway 24 west from Little Fort for 17.6 km, then north on the Balco Logging Co. road for about 16 km and continuing for another 9 km along an old drill access road to Friendly Lake. In wet weather a four-wheel drive vehicle is necessary.

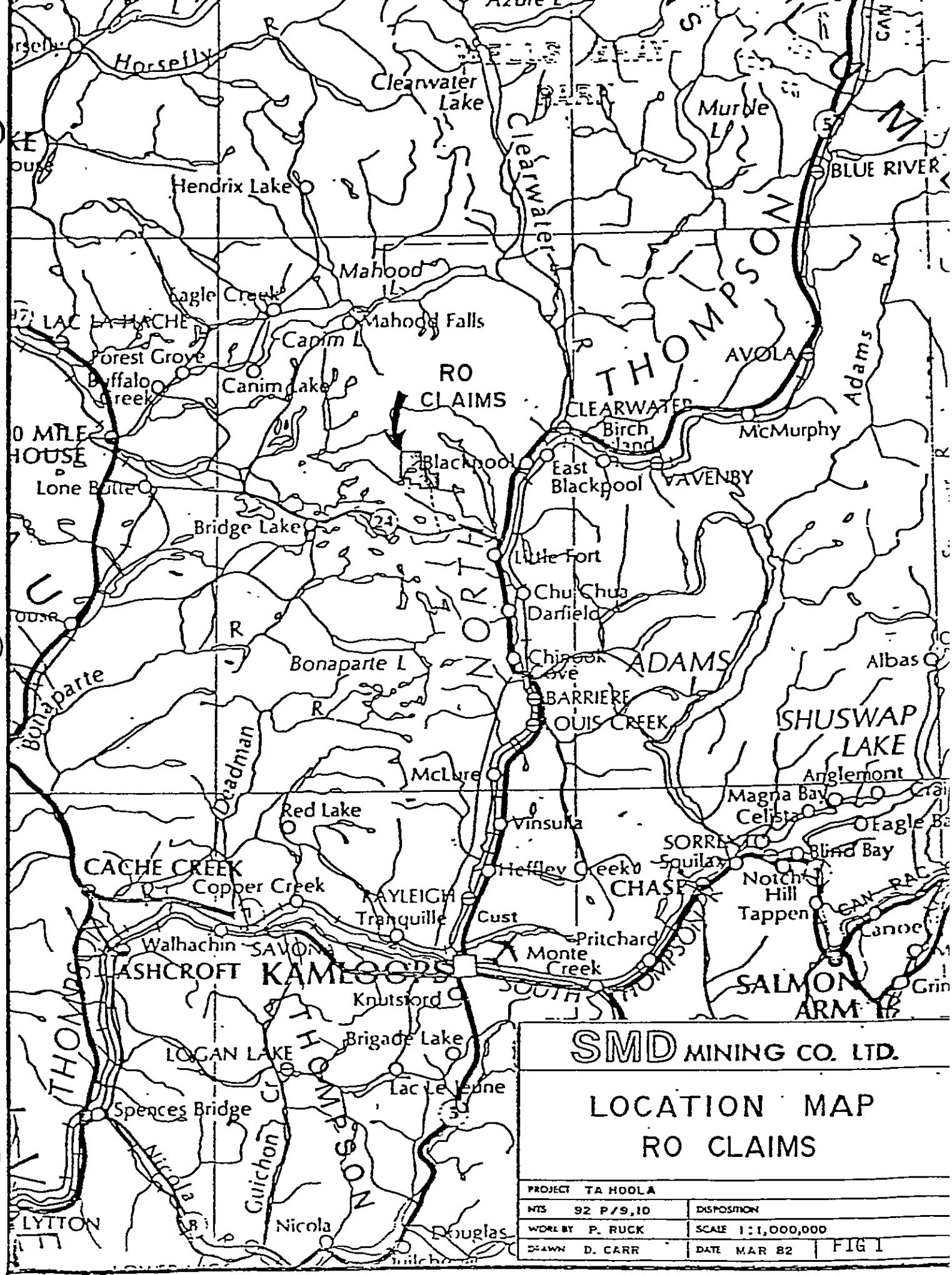
Claims

The property comprises the following seven 2-post mineral claims (Fig. 2).

Name	Record No.	Date of Recording
RO 15	51144	August 16, 1965
RO 16	51145	August 16, 1965
RO 17	51146	August 16, 1965
RO 18	51147	August 16, 1965
RO 29	51555	September 8, 1965
RO 31	51557	September 8, 1965
RO 32	51558	September 8, 1965

Ownership

The seven RO claims are owned by Anaconda Canada Exploration Ltd. and are held under option by SMD Mining Co. Ltd.



MAP OF MINERAL DISPOSITIONS

(for reference only)

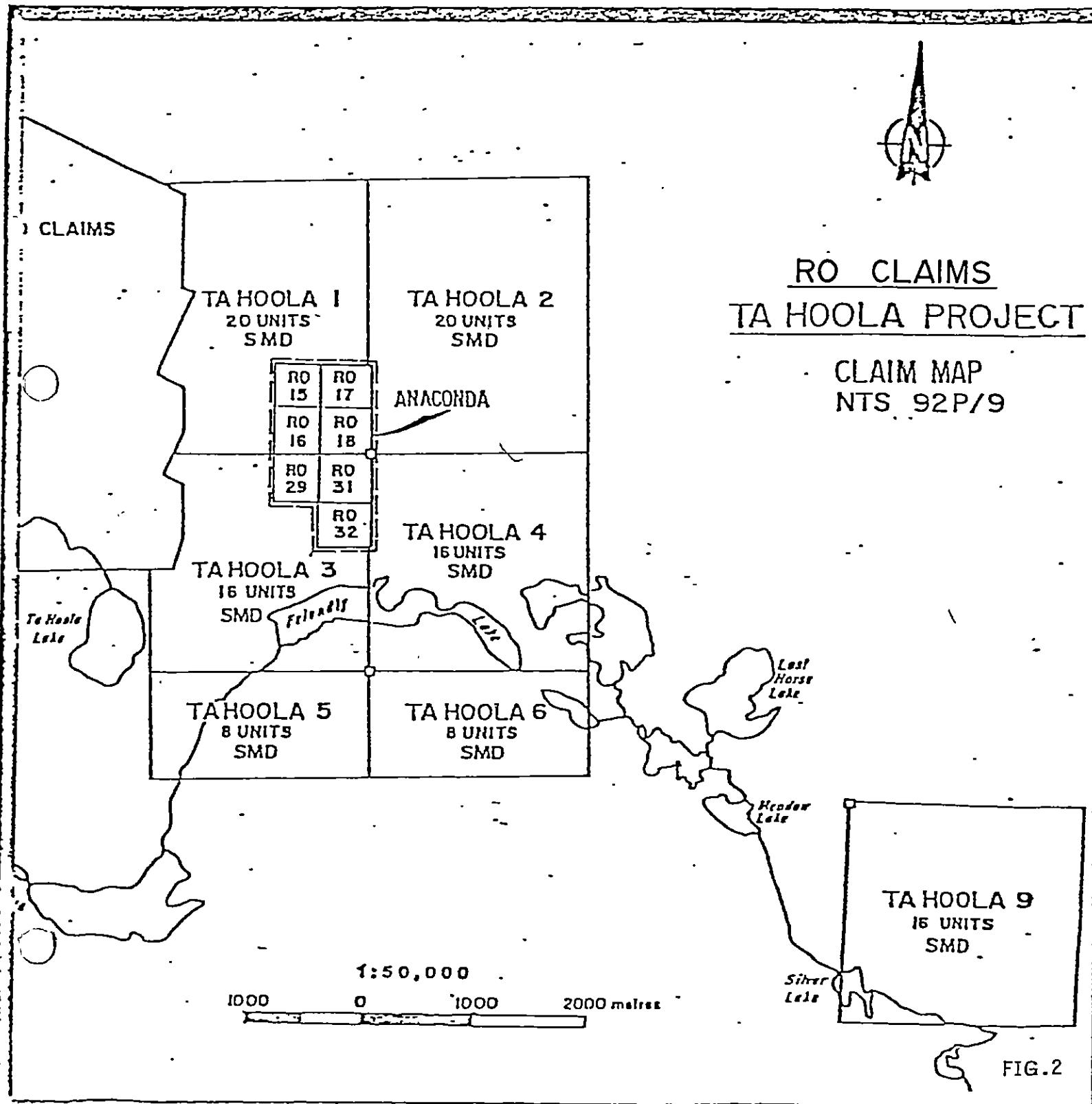
RO CLAIMSTA HOOLA PROJECTCLAIM MAP
NTS 92P/9

FIG.2

Previous Work

Previous exploration by Anaconda American Brass Ltd. (1965-68) comprised geological mapping, silt, soil and rock geochemistry, geophysical surveys and diamond drilling.

The region was mapped by the G.S.C. in 1963-65 and the B.C. Department of Mines in 1970.

Physiography, Climate and Vegetation

The claims lie within the Thompson Plateau, a subdivision of the Interior Plateau. The region is characterized by rounded hills, rolling uplands and numerous small lakes. The Thompson Plateau, in the claim area is underlain by folded and block faulted Mesozoic volcanic, sedimentary and intrusive rocks. The differing resistance to erosion of these rocks has resulted in a moderately dissected, irregular surface between 1067 and 1525 m elevation. Local elevation can be as much as 1830 m above sea level.

A layer of glacial overburden from 0.5 to 5 m thick obscures much of the bedrock.

Climate is typical of the B.C. central interior. Winter temperatures range between -40° and 0°C; summer temperatures range between 2° and 38°C. Precipitation averages 45 cm at Little Fort, with about twice that amount in the property area. Accumulated snow fall can range from 2 to 4 m.

Vegetation consists mainly of spruce, fir, balsam and jack pine, with some poplar. Underbrush is moderate to thick and consists of tag alder, willow and small conifers.

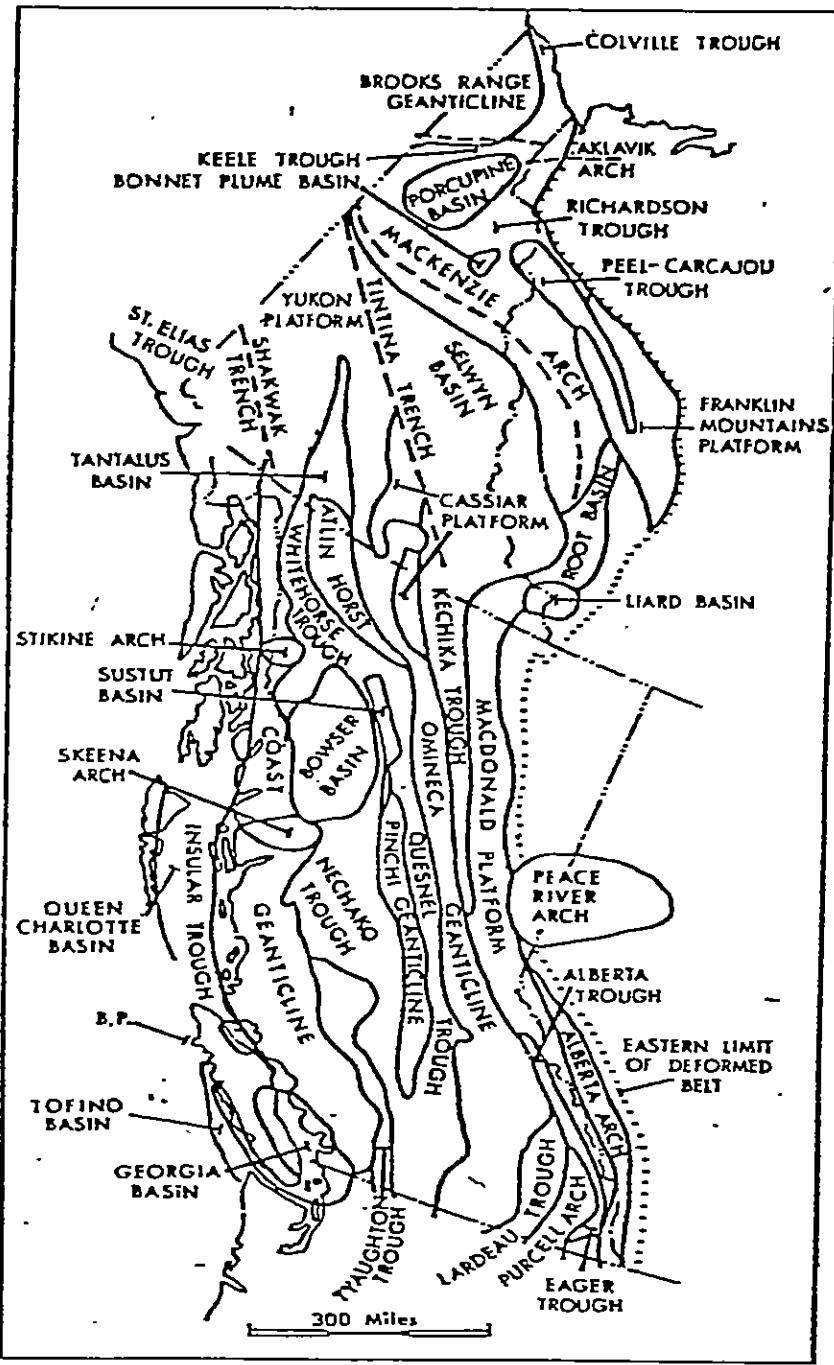


Figure 3: Tectonic Framework of the Canadian Cordillera.
(after Wheeler et al., 1972)

GEOLOGY

Regional Setting

The RO claims are located within the Quesnel Trough, a 2000 km long, elongate, north-trending belt of predominantly early Mesozoic volcanic and derived sedimentary rocks situated between the Proterozoic and Paleozoic strata of the Omineca Geanticline to the east and the Pinchi Geanticline to the west (Fig. 3) (Campbell and Tipper, 1971). The Quesnel Trough in Late Triassic time was the site of widespread volcanism, accompanied by the emplacement of granodiorite to diorite plutons. A brief period of quiescence at the end of the Triassic was followed by renewed volcanism and sedimentation in the Early Jurassic.

Following the culmination of the Columbian orogeny in the Middle Jurassic, the Quesnel Trough became a positive feature which has subsequently been eroded.

Two later periods of volcanism generated extensive volcanic cover over much of the western and central parts of the Quesnel Trough. Felsic volcanic rocks of the Skull Hill Formation characterized the Late Cretaceous-Early Tertiary period, whereas extrusion of olivine plateau basalts typified the Late Tertiary (Campbell and Tipper, 1971).

Reconnaissance mapping by the Geological Survey of Canada during 1963-65 (Campbell and Tipper, 1971) indicated that the property area is underlain by Upper Triassic volcanic and sedimentary rocks of the Nicola Group (Dawson, 1879). In a subsequent, more detailed study of the area, Preto (1970) recognized the presence of considerable quantities of intrusive rocks of probable Upper Triassic-Lower Jurassic age. These rocks vary compositionally between diorite to syenite.

The volcanic lithofacies consist of alkaline and calc-alkaline basalts and andesites erupted from subaqueous fissures associated with regional block faulting.

Epiclastic and pyroclastic rocks with plutonic fragments, intrusive breccias and small plutons or stocks of diorite, monzonite and syenite

mark the development of volcanic centres during the waning stages of volcanism. The plutons, in part, intrude their own volcanic material. A late fumarolic or hydrothermal stage, related to the intrusion of the pluton introduced volatiles and various metals into the vent areas and extensively altered and mineralized large volumes of shattered volcanic rocks.

The Copper Mountain, Cariboo Bell, Afton copper deposits and many other porphyry occurrences and subvolcanic stockwork or disseminated sulphide deposits are directly associated with this late fumarolic activity.

Local Geology

An extensive sequence of andesitic pyroclastic rocks and interbedded flows, epiclastic sediments, and intrusive rocks is indicated by geological mapping in the vicinity of the RO claims. Locally, block faulting is common. The sedimentary rocks appear to have been tightly folded along northwest-trending axes.

Outcrop exposure on the RO claims is poor and unevenly distributed, providing a corresponding uncertainty in interpretation.

Glacial Geology

Approximately 90% of the claim area is covered by glacial overburden ranging between 1 to 10 m in thickness. The direction of the last ice movement was from north-northwest to south-southeast. This was deduced from the glacial striae that were found in scattered outcrops on the claims.

The glacial overburden consists of a thin discontinuous layer of lodgement till overlain by outwash deposits. Glacial erratics are common.

MINERALIZATION

Target Definition

The exploration targets are bulk-tonnage base and precious metal deposits.

- 1) Bulk-tonnage silver and lead ± copper deposit
- 2) Gold-rich porphyry copper deposit
- 3) Porphyry copper-molybdenum deposit.

Sulphide Mineralization

Sulphide mineralization on the R0 claims consists of galena, chalcopyrite, molybdenite, pyrrhotite and pyrite occurring as fine to coarse-grained disseminations, thin fracture fillings or accompanying quartz-carbonate veinlets.

Crackle Breccia

The andesite tuffs in the southern part of the R0 claims exhibit a distinctive crackled or brecciated appearance. The crackle breccia is characterized by its angular fragments, 5 to 50 mm in size, and their lack of apparent rotation.

The crackle breccia is frequently altered and hosts significant silver-lead mineralization and minor amounts of copper and molybdenum.

The crackle breccia occurs in irregular zones throughout a broad area but a lack of outcrops prevents interpretation of its distribution.

LINE CUTTING

Bema Industries Ltd. cut 3.4 km of new picket lines under contract, and SMD Mining crews re-cut 3.4 km of overgrown old lines. Stations were established at 25 m intervals.

GEOCHEMISTRY

Two sets of soil samples were collected on the R0 claims. All samples, weighing approximately 450 g, were collected in numbered wet-strength Kraft paper bags from the "B" horizon. Notes pertaining to the sample locations and drainage direction were made at each sample site. The samples were air dried prior to shipment to Acme Analytical Laboratories in Vancouver. The sample pulps have been retained for possible future use. The analyses were supervised by Mr. D. Toye, B.Sc., Certified B.C. Assayer. The 61 samples analyzed for gold were collected on a reconnaissance spacing of approximately 100 m x 200 m. They were screened in the lab to minus 80 mesh. All of the minus 80 mesh fraction was pulverized to minus 200 mesh. A 10 g sample was split and analyzed by atomic absorption spectrometry. The 114 samples analyzed for copper, molybdenum, lead, zinc and silver were screened in the lab to minus 80 mesh (Fig. 4). A 5 g sample was split and analyzed by induced couple plasma spectrometry.

Results

Neither gold nor molybdenum display any definitive anomalies although both have a few scattered one-sample highs (Fig 5 & 6). None are considered significant.

Centred at the common corner of R0 29, 31 and 32 and trending in a northwest-southeast direction are coincident copper, lead and silver anomalies. (Fig 7, 8 & 9). Zinc shows a vague and tenuous correlation at the north and south ends of this anomaly (Fig. 10). Diamond drill holes 1967-6 and 1967-7 intersected low-grade intervals of weak pyrite-galena mineralization associated with quartz-carbonate veinlets in brecciated andesitic pyroclastics which were biotite hornfelsed and subsequently superimposed with a pyrite, carbonate, chalcedony, chlorite and a blue fibrous amphibole (?) alteration assemblage. These holes were drilled into the lead-silver anomalies but to the north of the copper zone, thus the core of the anomaly remains untested.

A second zone anomalous in lead, silver and possibly zinc lies approximately 250 m to the east but shows less correlation. This zone was partially tested by holes 1966-2, 1967-4 and 1968-3. Again, low-grade, similarly altered and mineralized intervals were intersected.

GEOPHYSICS

An in-house crew carried out magnetic and VLF surveys on the RO claims.

Magnetics

The magnetic survey employed a Geometrics G-816 proton precession magnetometer. Readings were taken at 25 m intervals along grid lines spaced approximately 100 m apart. Readings were corrected for diurnal drift using a Canadian Mining Geophysics built MR-10 base station recorder. Instrument drift was checked by running the magnetometer traverse in closed loops. To simplify plotting, 57,000 gammas were subtracted from each reading, (Fig. 11), and the data was contoured at 100 gamma intervals.

The northwest trend of the 1100 gamma contour conforms to the regional geological trend and probably marks a lithologic boundary.

VLF

A Geonics EM-16 unit was used for the VLF survey, and the same 25 m stations were used. The VLF profiles and Fraser-filtered data for the two transmitter stations, Seattle, Wash. and Cutler, Maine were plotted (Fig 12, 13, 14 and 15). The conductor axes have been picked using the VLF profiles. The interpreted conductor axes for the two VLF stations are plotted on a geophysical compilation map (Fig. 16).

The complex pattern of VLF responses is caused by a number of things, such as: surficial effects (eg. swamps and streams), topographic features, conductive faults and sulphide bodies. The interpretation of the cause of the conductors and the projection of the conductors from one line to another is a matter of considerable conjecture. The sulphide-

caused conductors are most likely those which coincide with induced polarization anomalies or in areas free of swamps and streams lacking in pronounced topographic features.

Induced Polarization Survey

An Induced Polarization and Resistivity Survey was conducted under contract by Phoenix Geophysics Limited. The survey was planned in order to detect any metallic mineralization not outlined by previous work, and to further evaluate the source of the geochemical anomalies.

A Phoenix Model IPV-1 IP and Resistivity Receiver unit in conjunction with a Phoenix Model IPT-1 IP and Resistivity Transmitter unit was used, recording the polarizability and percent frequency effect (P.F.E.) between frequencies of 4.0 Hertz and 0.25 Hertz. Apparent resistivity measurements are normalized in units of ohm-meters, while metal factor values are calculated according to the formula:

$$M.F. = (P.F.E. \times 1000) / \text{Resistivity}$$

Dipole-dipole array was used exclusively, with a basic inter-electrode distance of 50 metres. Four dipole separations were recorded.

The Induced Polarization and Resistivity results are shown on the following plots in the manner described in the notes attached to this report.

Since the Induced Polarization measurement is essentially an averaging process, as are all potential methods, it is frequently difficult to exactly pinpoint the source of an anomaly. Certainly, no anomaly can be located with more accuracy than the electrode interval length; i.e., when using 50 m electrode intervals the position of a narrow sulphide body can only be determined to lie between two stations 50 m apart. In order to definitely locate, and fully evaluate a narrow, shallow source, it is necessary to use shorter electrode intervals. In order to locate sources at some depth, larger electrode intervals must be used, with a corresponding increase in the uncertainties of location. Therefore, while the centre of the indicated anomaly probably corresponds

fairly well with source, the length of the indicated anomaly along the line should not be taken to represent the exact edges of the anomalous material.

The location of the strong, medium and weak anomalies are plotted on the geophysical compilation map (Fig. 16).

STATEMENT OF EXPENDITURES

The following exploration activities were undertaken during the period July 8 to August 6, 1982:

Line Cutting

Bema Industries Contract #337	
3.4 km @ \$310	1054.00
SMD Crew - 3.4 km.	
Rodger May 3 days @ \$101	303.00
John Graham 3 days @ \$75	225.00
Chain saw rental 6 days @ \$12.50	75.00

IP-Resistivity Survey

Phoenix Geophysics Ltd. Contract #339	
6.81 km @ \$490	3336.90

VLF-EM 16 Survey

SMD Crew 6.15 km	
Goetz Aust 3 days @ \$126	378.00
EM 16 rental 3 days @ \$10.30	30.90

Magnetometer Survey

SMD Crew 6.85 km	
Goetz Aust 2 days @ \$126	252.00
G816 Proton magnetometer rental 2 days @ \$10.90	21.80
MR-10 Base magnetometer rental 2 days @ \$11.40	22.80

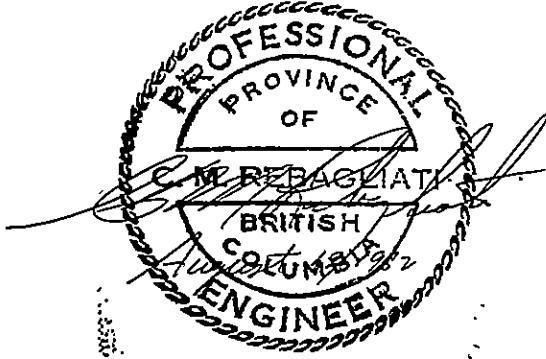
Soil Sampling

SMD Crew	
Nancy Lowe 2 days @ \$75	150.00
John Graham 2 days @ \$75	150.00
114 samples by ICP @ \$4.50	513.00
61 samples by AA for gold @ \$5.00	305.00

Project Supervision and Management and Support

SMD Staff

Paul Ruck - Project Geologist 10 days @ \$177	1770.00
C.M. Rebagliati P.Eng., Geological Engineer 3 days @ \$313	939.00
Sylvia Davies - Cook 16 days @ \$88	1408.00
Selywn Gokool - Draftsman 31 hrs @ \$15	465.00
P. Wilson - Typing, report preparation 14 hrs. @ \$10.51	147.14
Food and camp costs 62 days @ \$35	2170.00
4 x 4 truck rental including operating costs 16 days @ \$47	752.00
TOTAL EXPENDITURES	\$ 14,468.54



STATEMENT OF QUALIFICATIONS

C. M. Rebagliati

- P.Eng. (B.C.)
- B.Sc (1969) Michigan Technological University - Geological Engineering

P. Ruck

- B.Sc (1978) University of Ottawa - Geology
- M.Sc (1981) McGill University - Mineral Exploration

S.M.D.C.

Date: July 1982

TAHOOLA B.C.

operator: S. HENSHALL

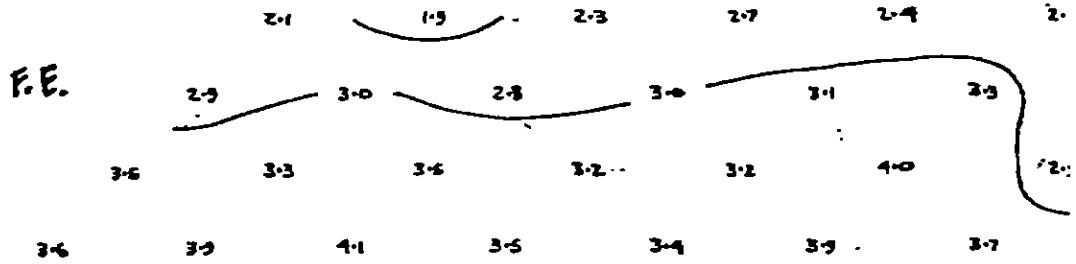
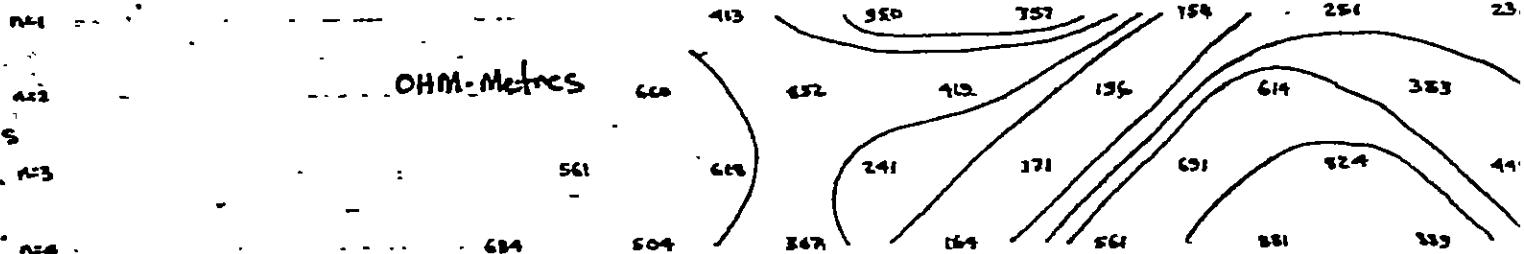
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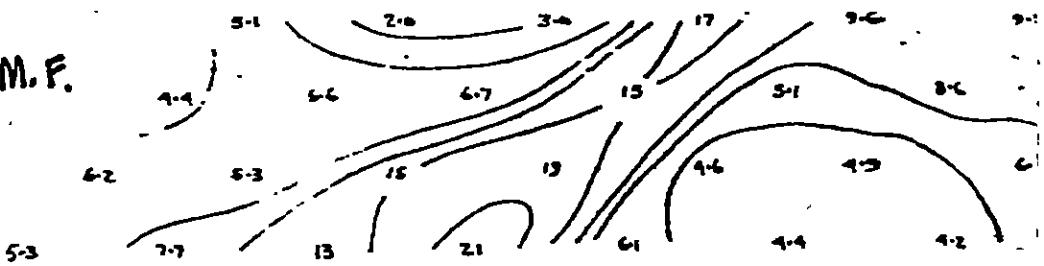
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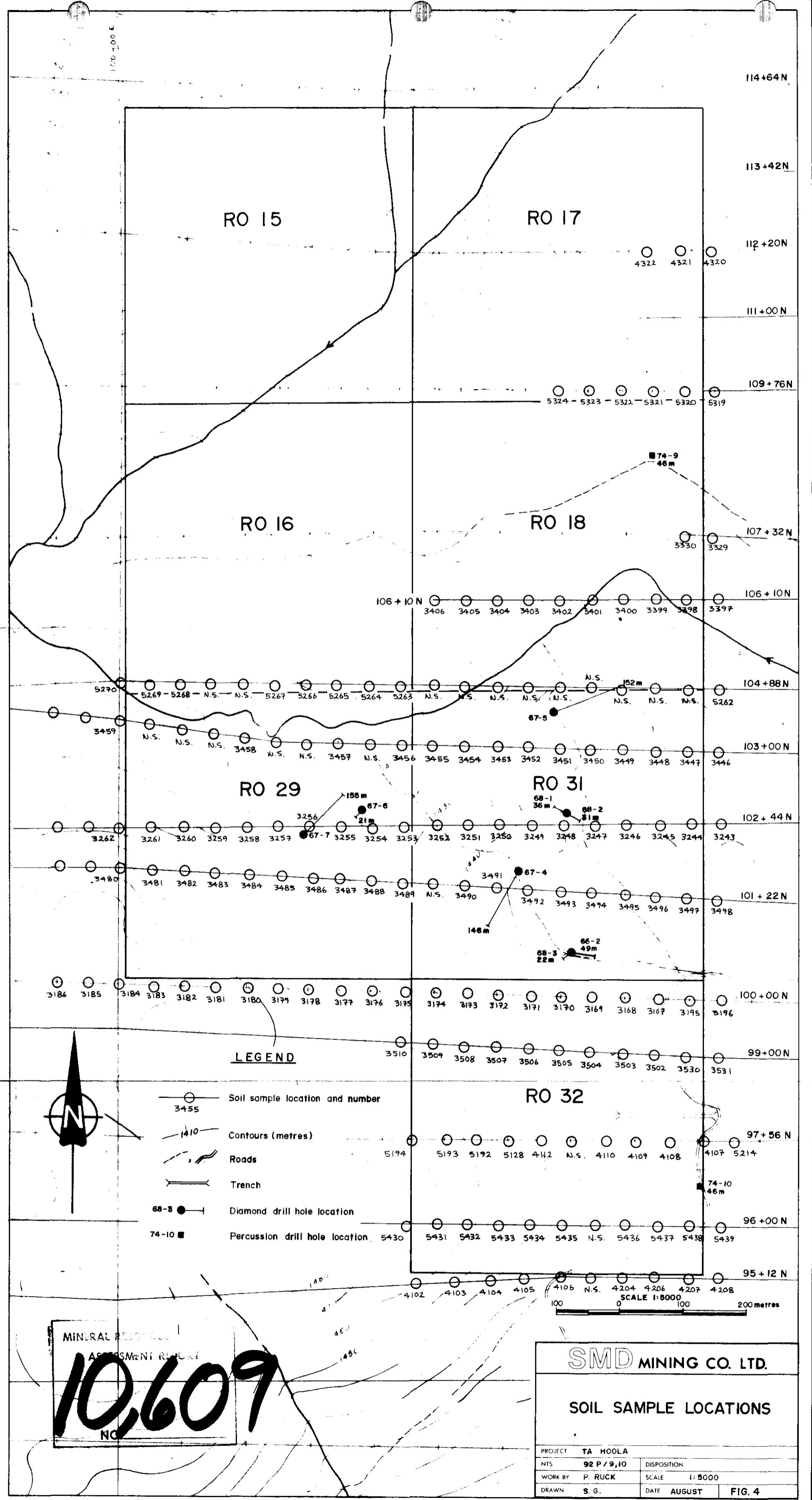
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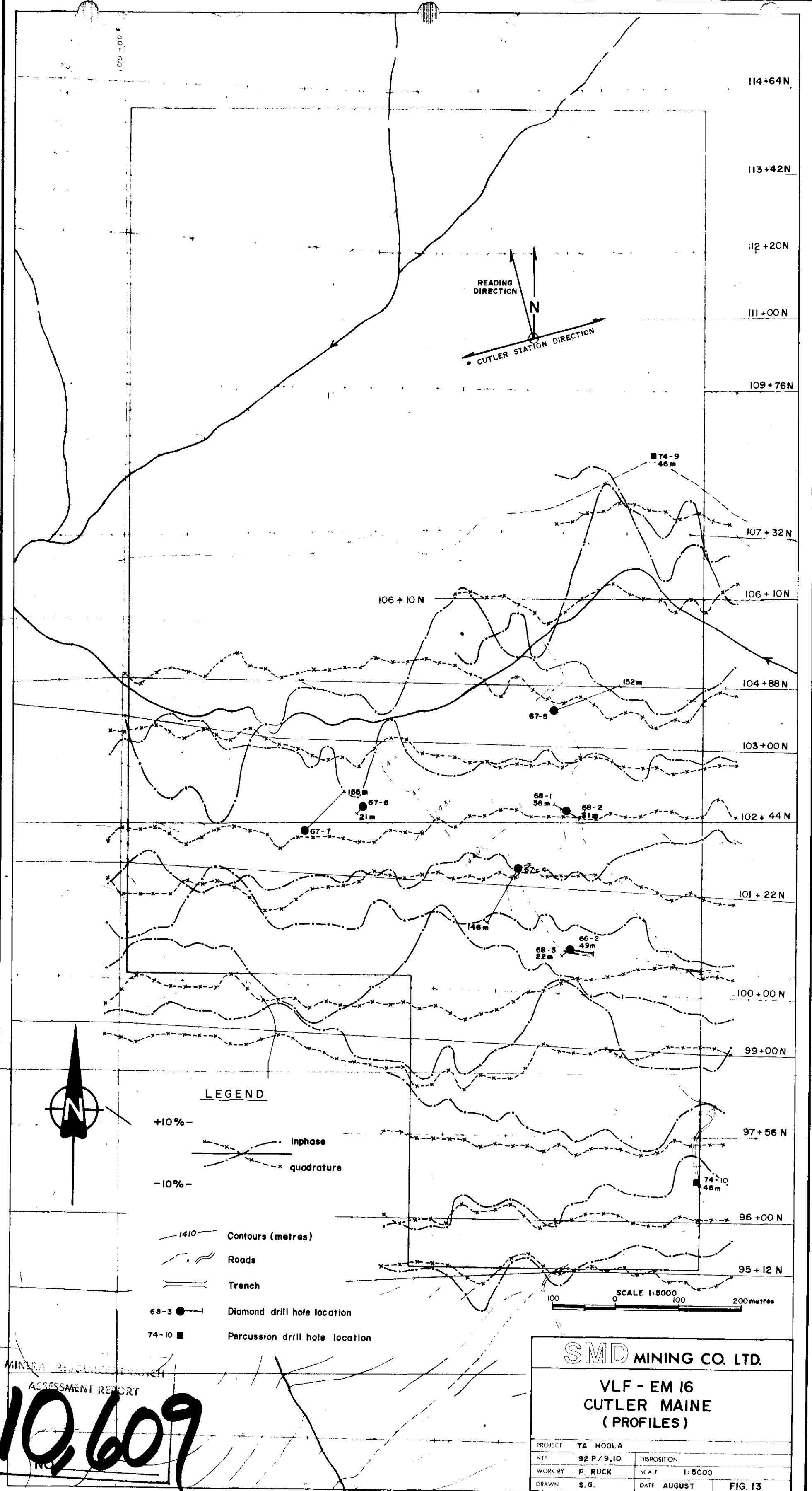
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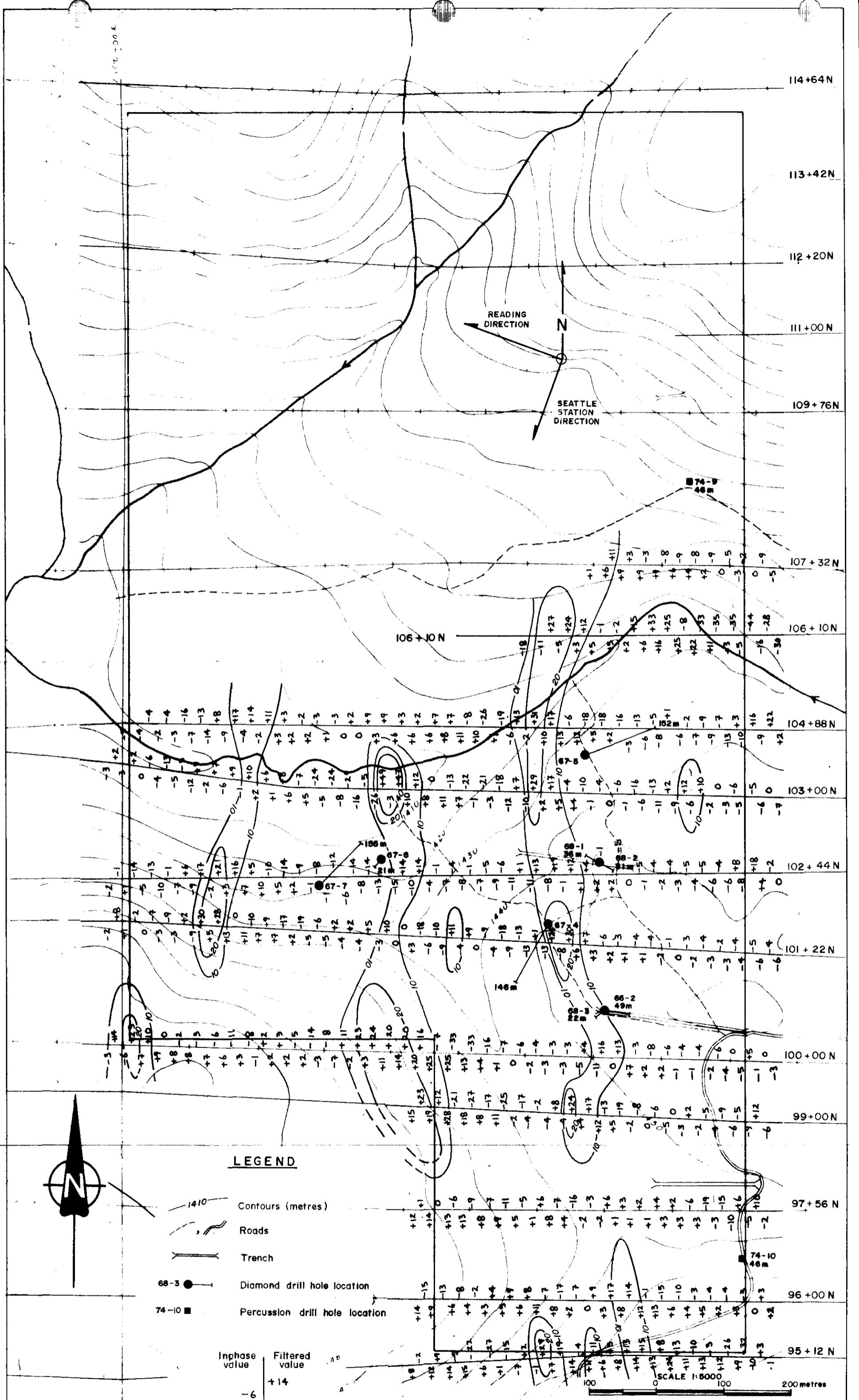


M.F.









SMD MINING CO. LTD.

VLF - EM 16

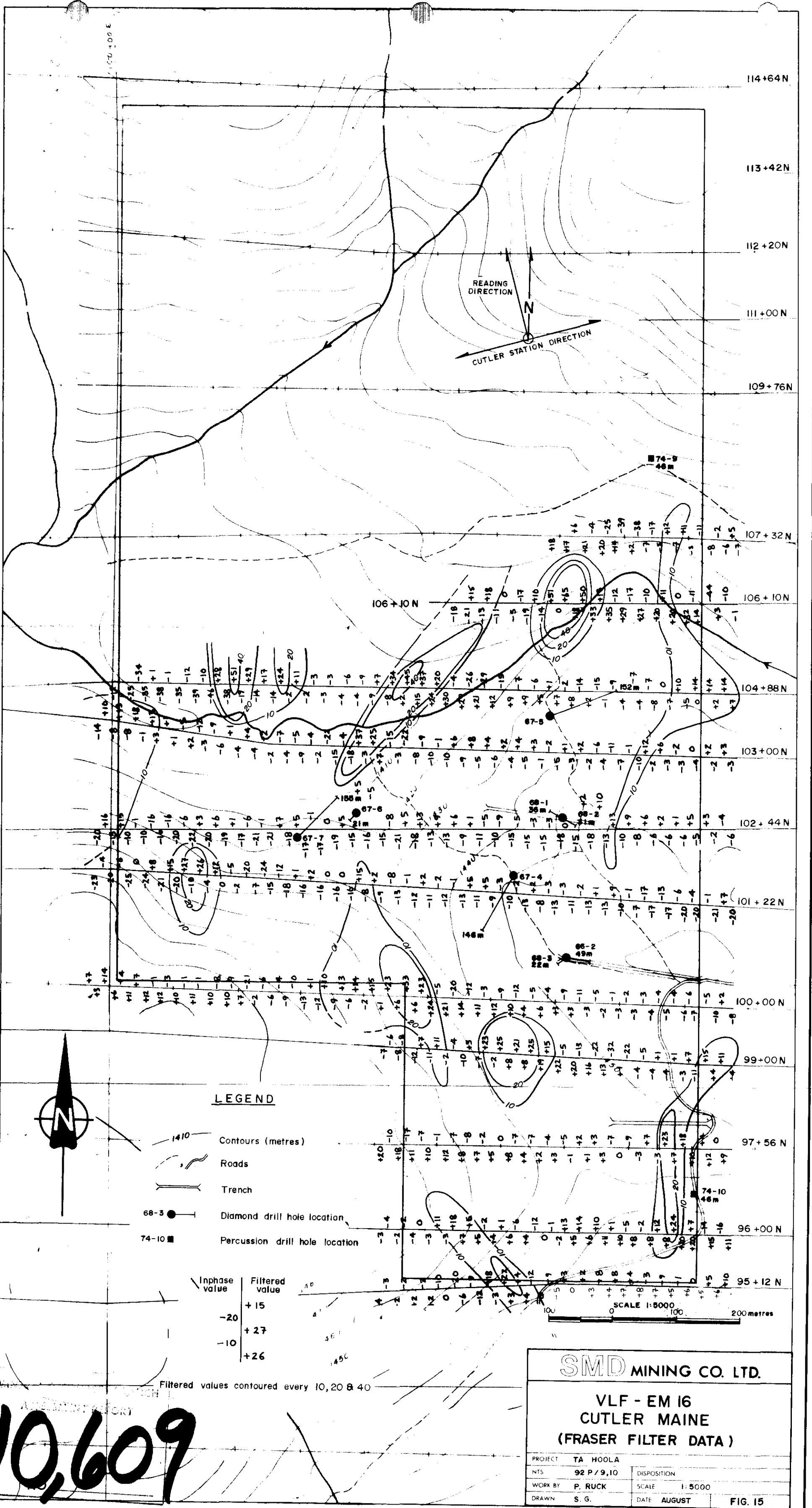
SEATTLE

(FRASER FILTER DATA)

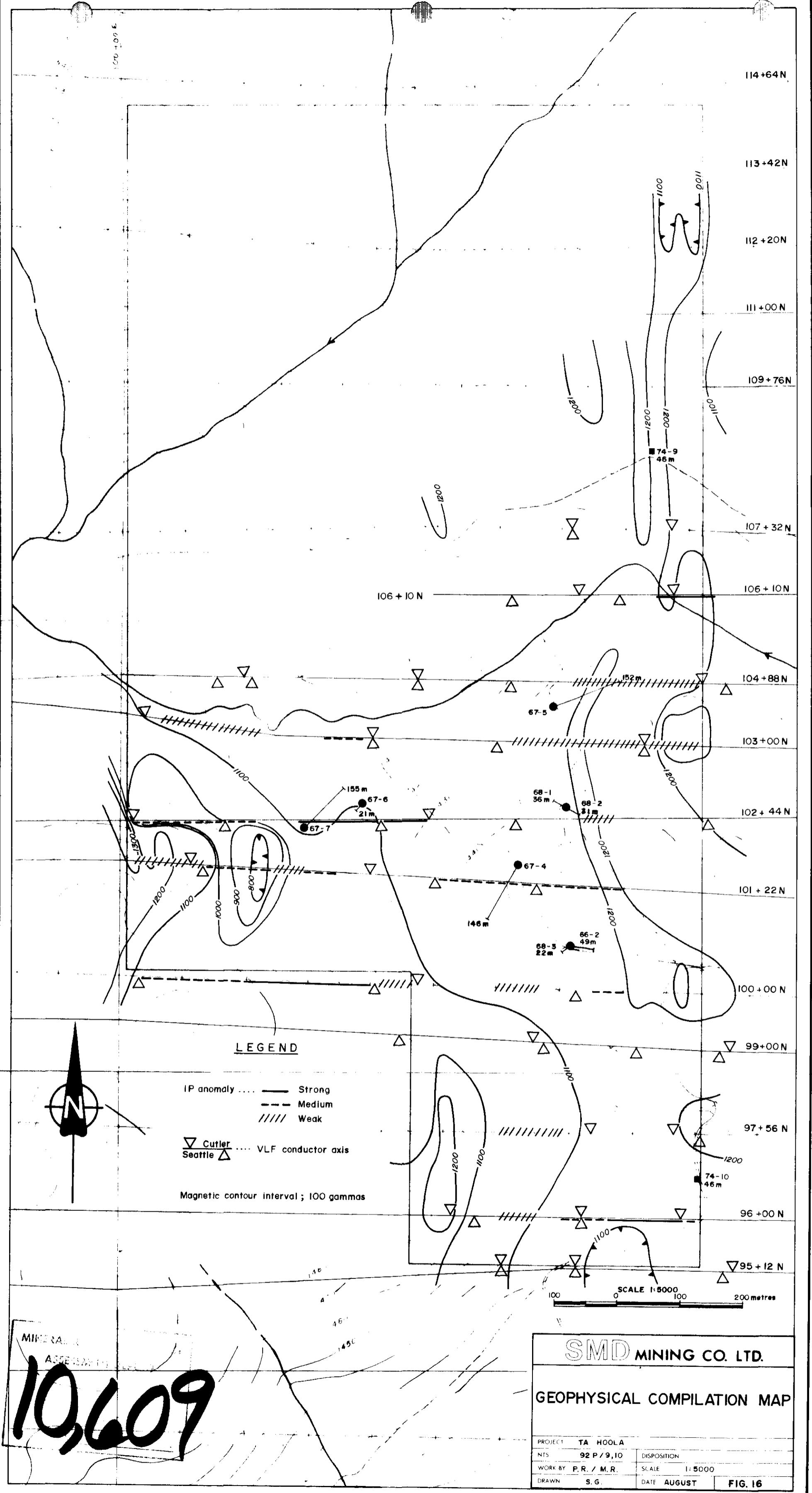
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WORK BY	P. RUCK	SCALE 1:5000
DRAWN	S. G.	DATE AUGUST

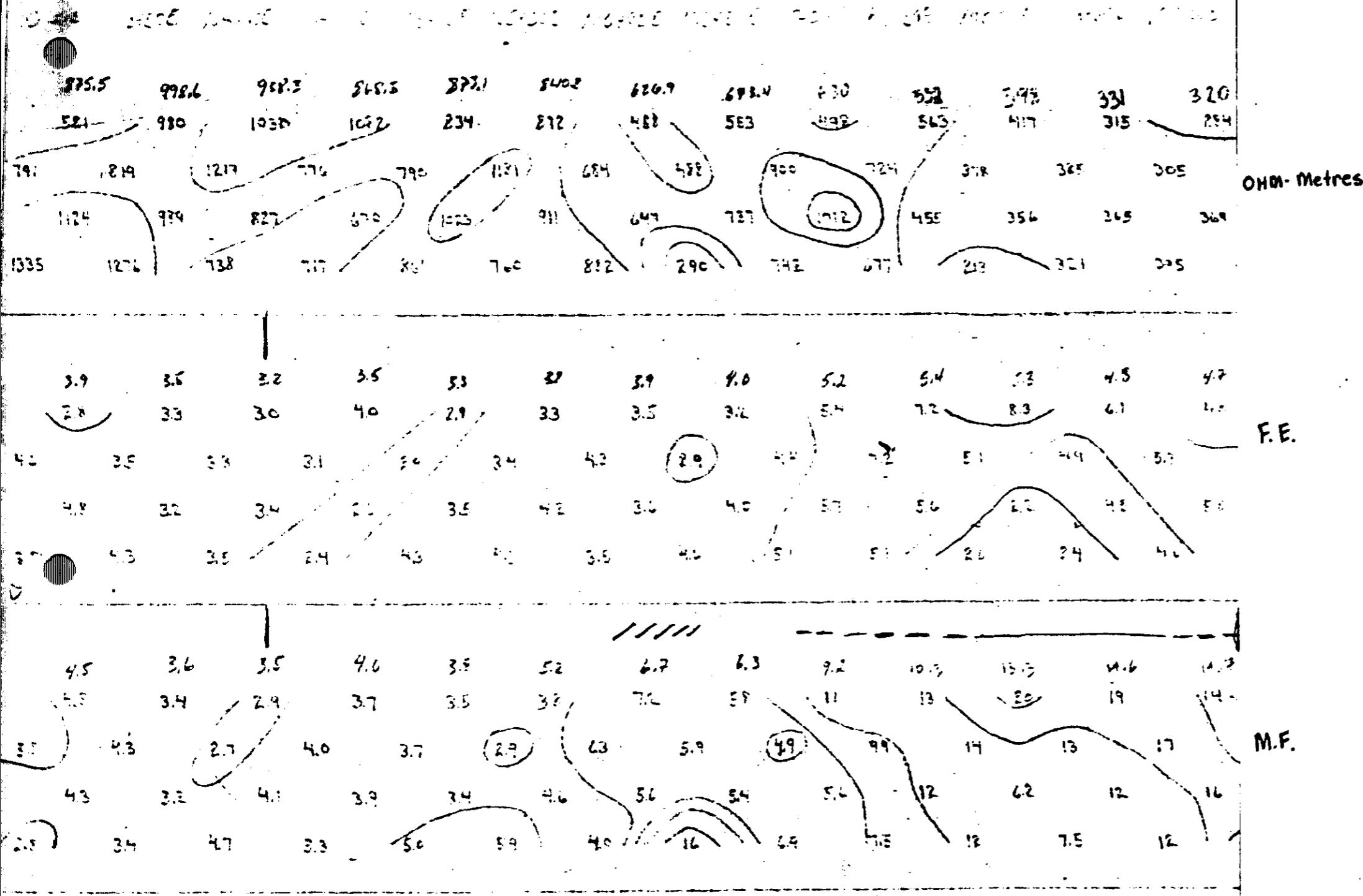
FIG. 14

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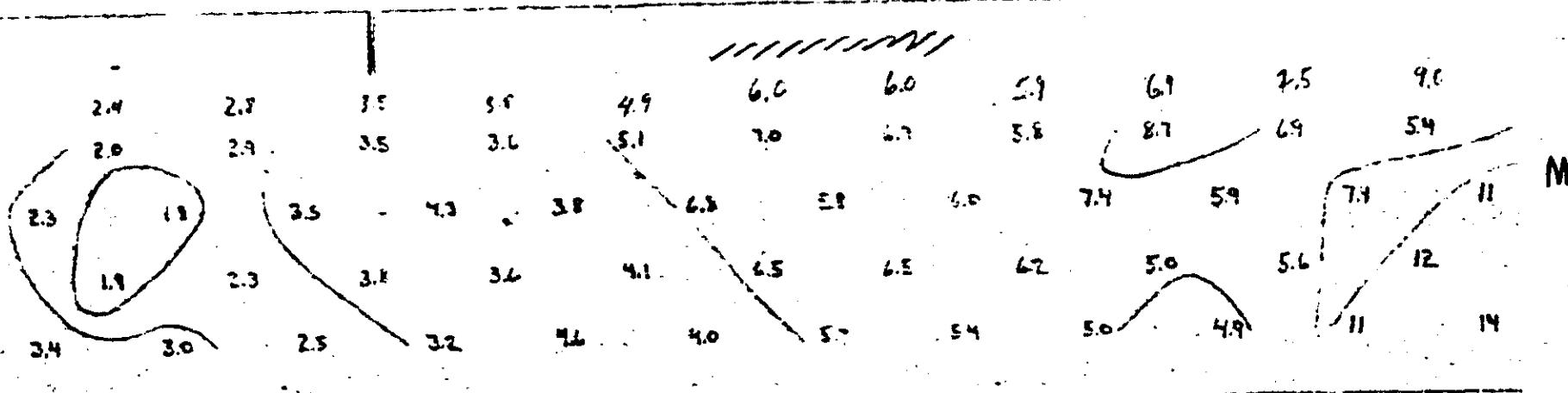
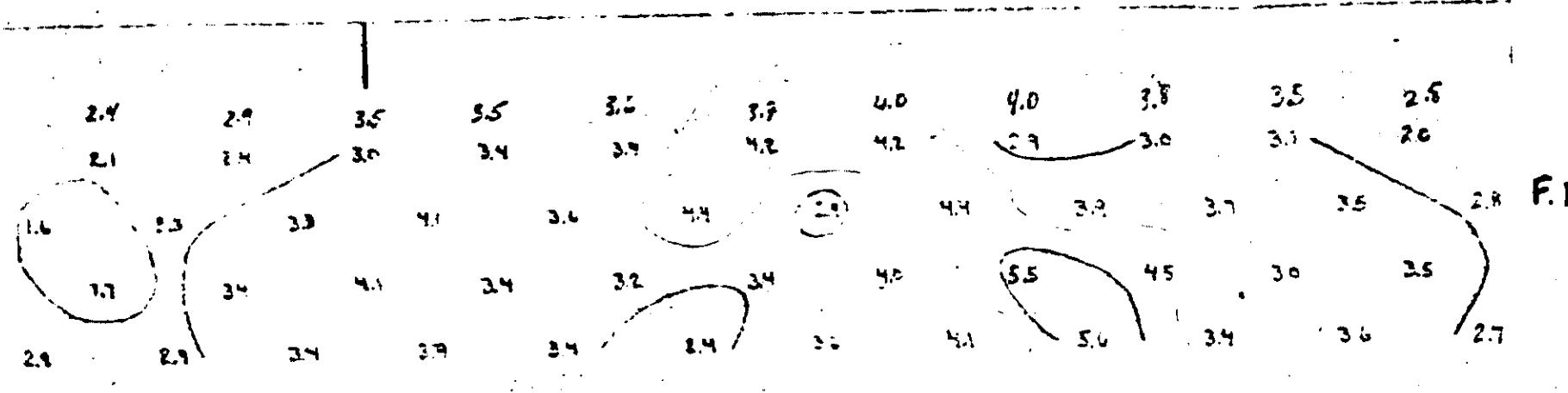
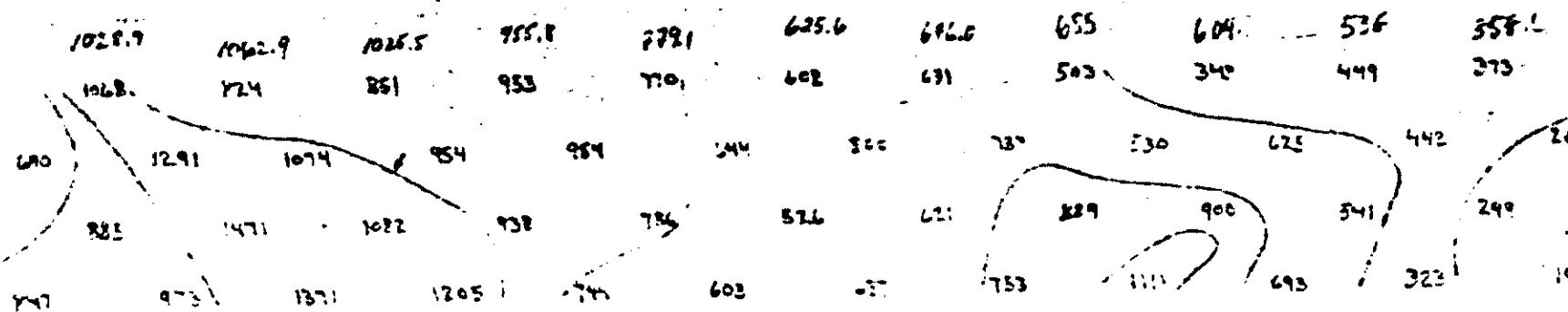
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104+90C 104+90C 104+90C 104+90C 104+90C 104+90C 104+90C 104+90C



S.M. D.C.

TAHOOLA B.C.

OHM-metres GRID TA 1 to 6

IPV

SCALE : 2 cm = 50 metres

OPERATOR : S. HENSHALL

DATE : June 1982

LINE : 97+56 N

10609

S.M.D.C.

TAHOCLA B.C.

GRID TA 1406

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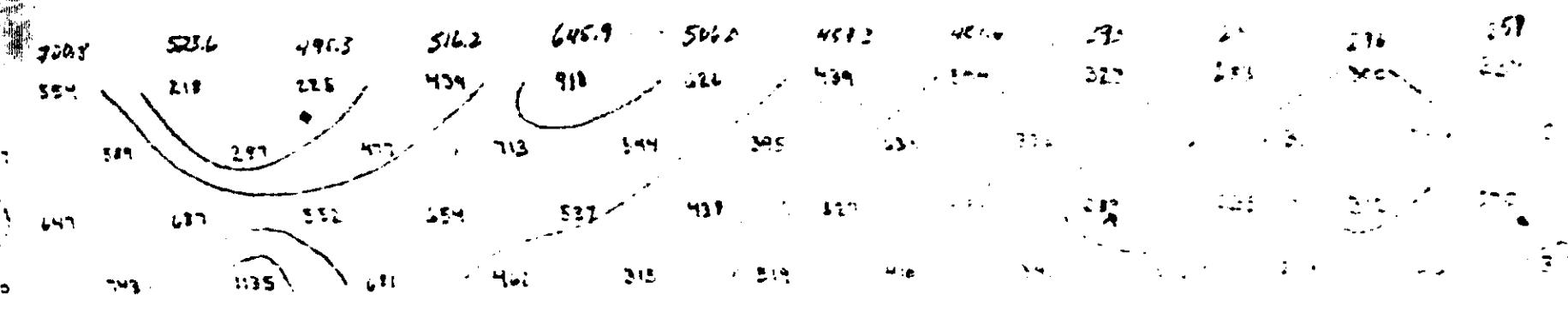
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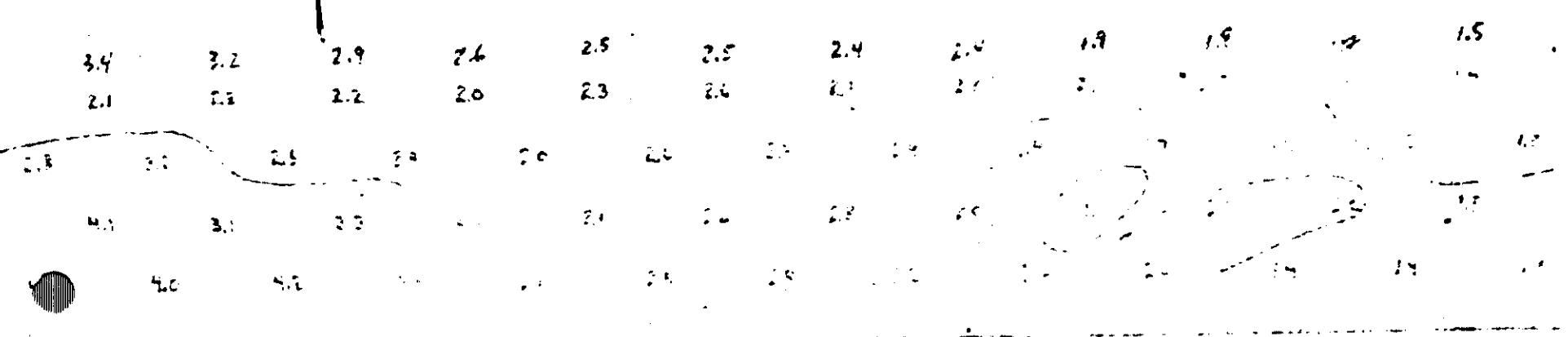
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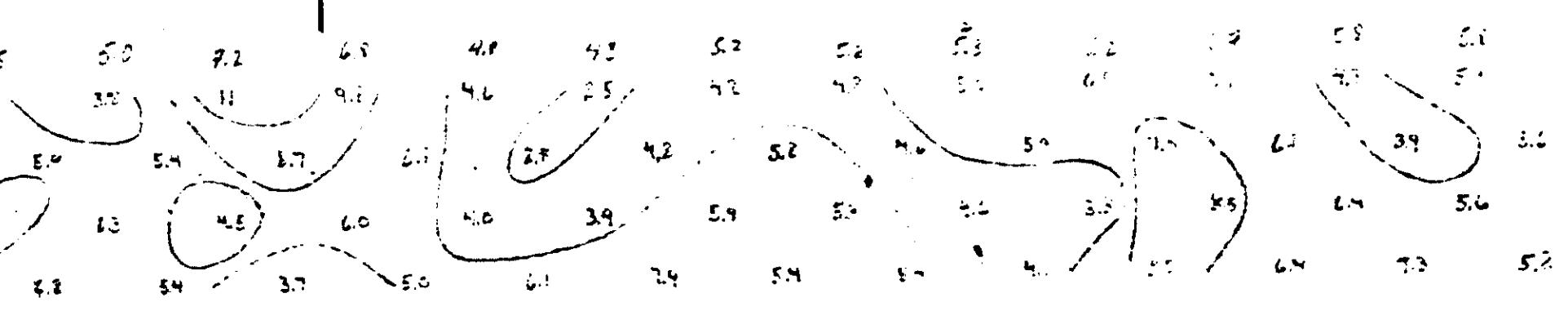
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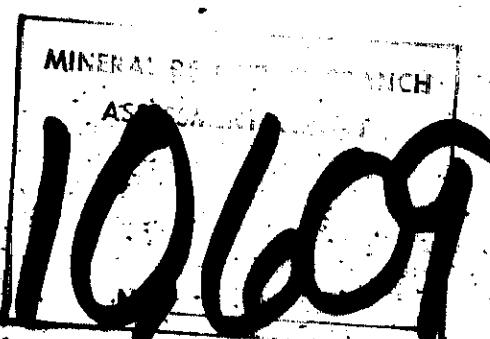
OHM. Metres



F.E.



M.F.



S.M.D.C.

TAHOCLA B.C.

GRID TA 1 to 6

IPU

SCALE : 2 cm = 50 metres

OPERATOR : M. TENSHALL

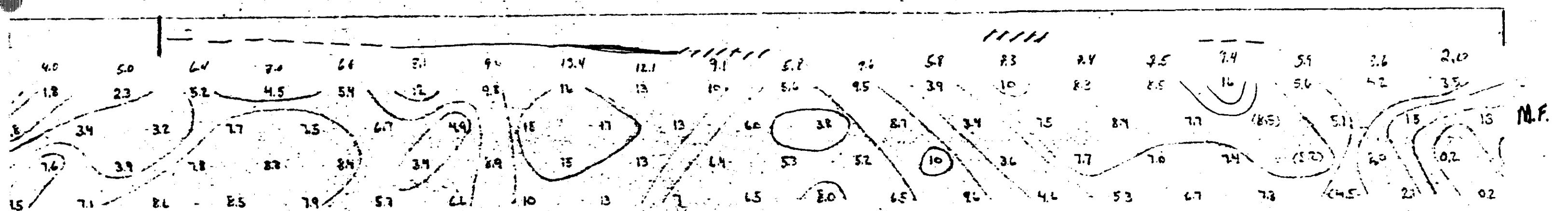
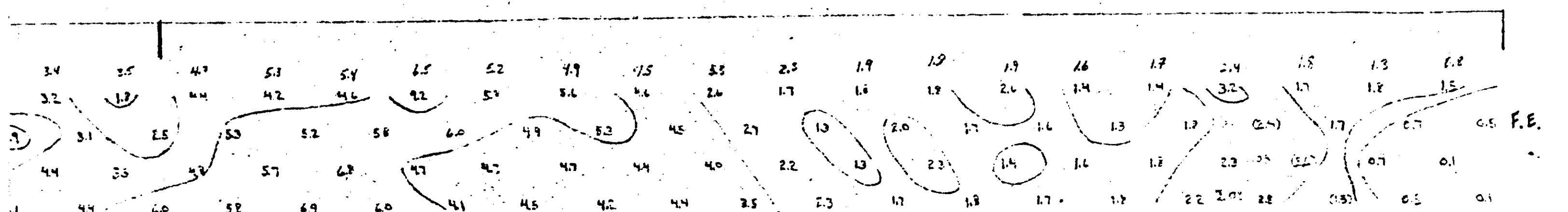
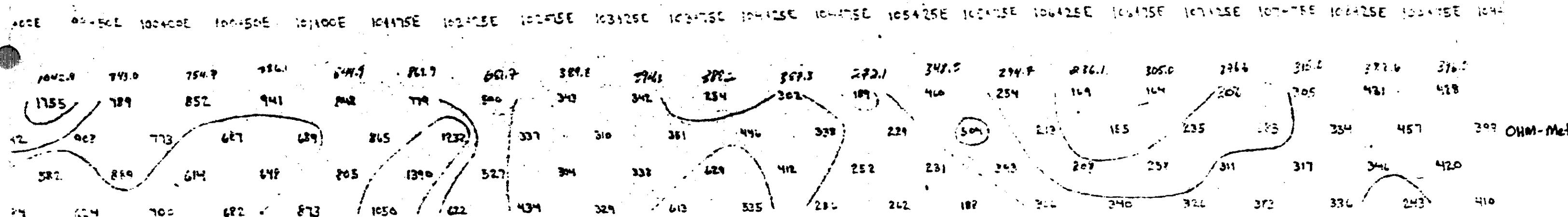
DATE : June

LINE : 100+00 N

C) Noisy reading

$T_2 = T_{\text{co}} + \Delta$

1982



CHAIN ERR

$$101 + 75E \approx 101 + 50E$$

MINERAL RESOURCE ASSESSMENT

ASSESSMENT
10/6/09

S.Y.D.C.

TAHOOLA B.C.

GRID TA 1 to 6

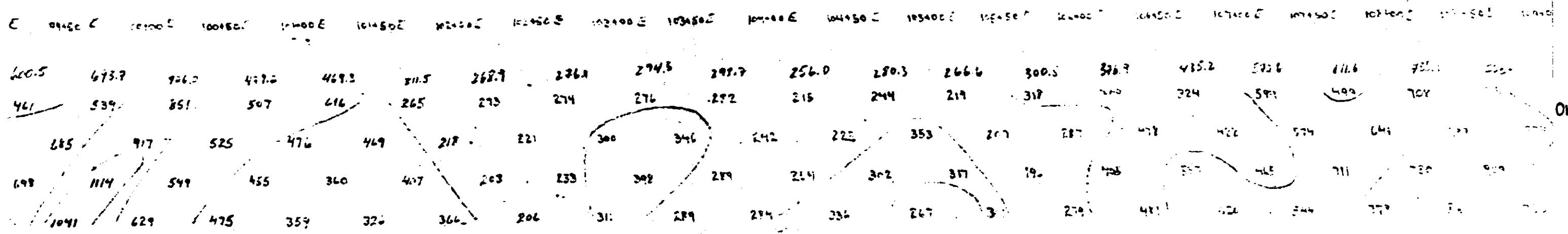
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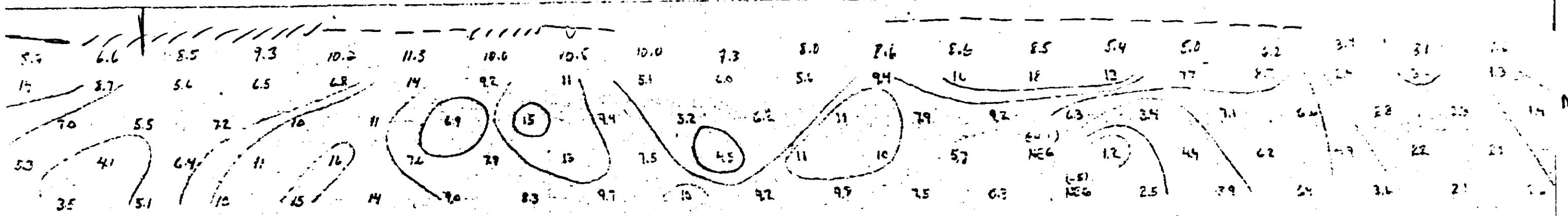
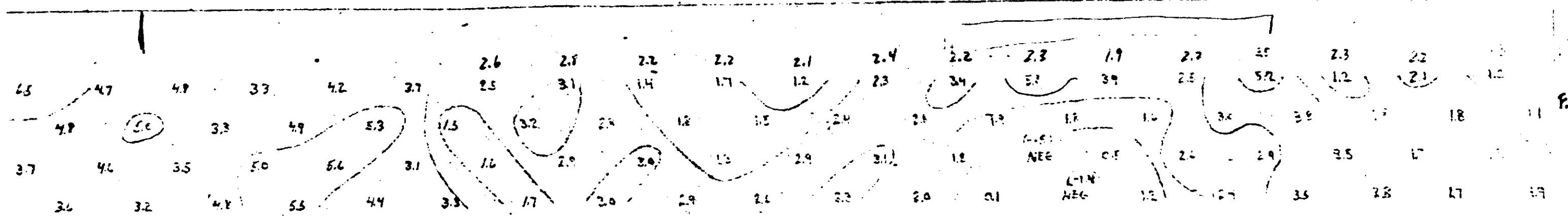
OPERATOR : S. HENSHALL

DATE : June 24 1982

LINE : 101 + 22 N



OHM-METRES



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BRANCH REPORT
10609

S. M. D.C

TAHOOLA BC.

GRID TA 1 to 6

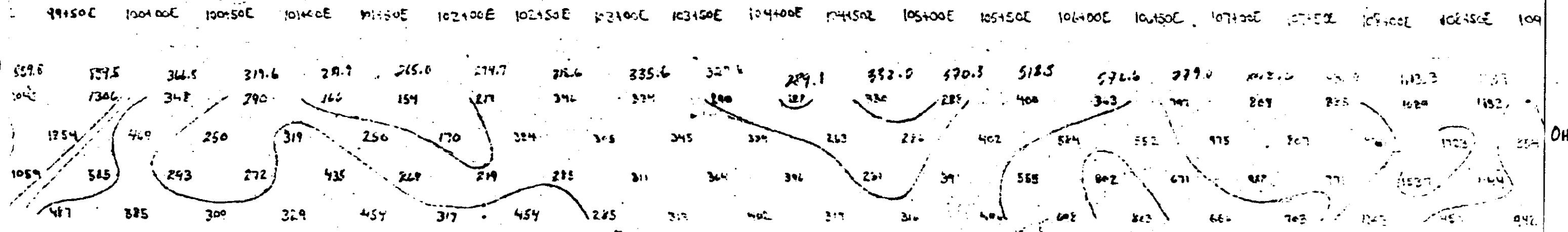
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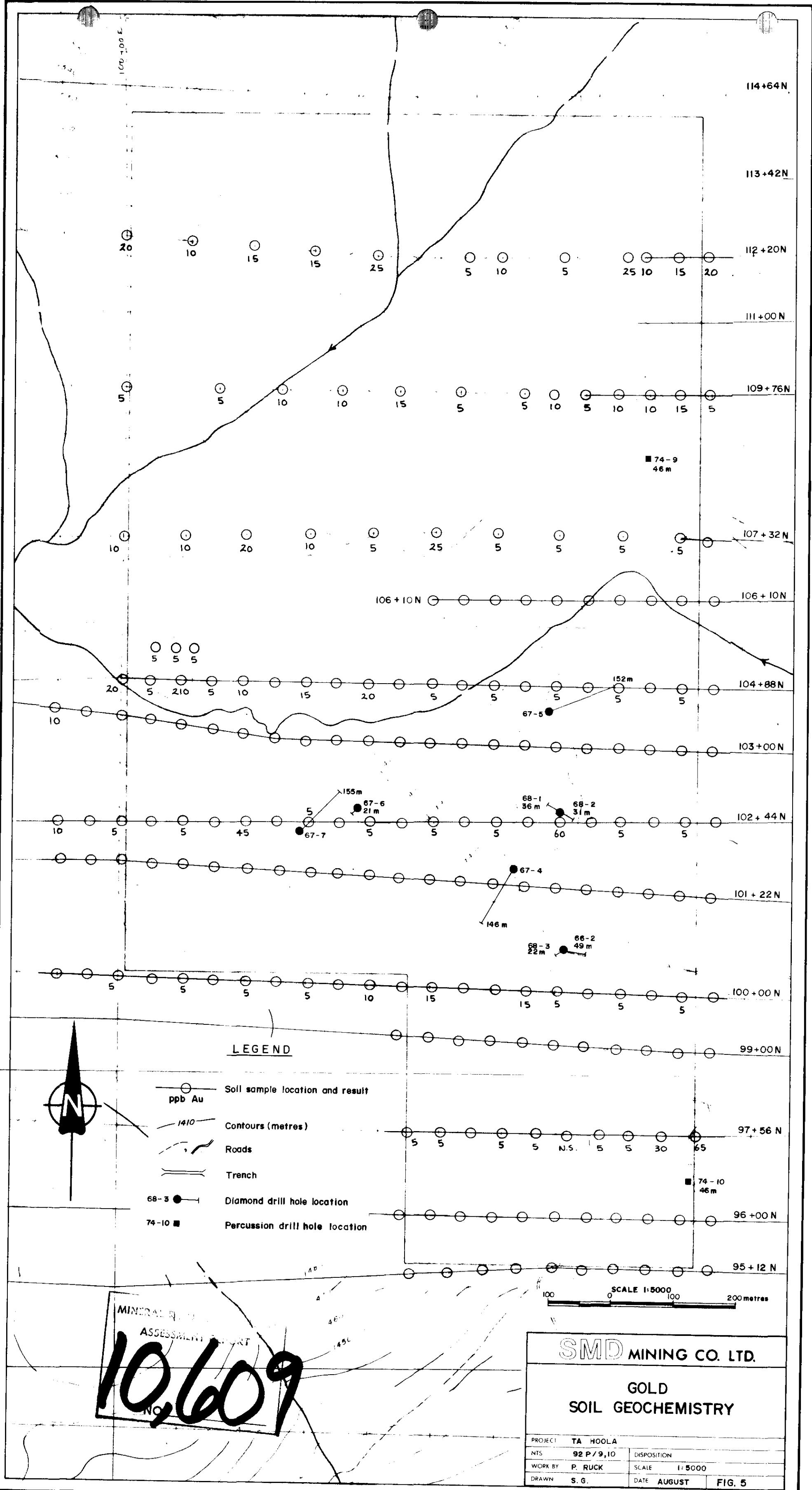
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OPERATOR : M PARENT - S. HENFALL

DATE: June 23 1982

LINE: 102 + 44 N





S. M. D. C.

TAHOOLA B.C.

GR 10 - 17 + 6

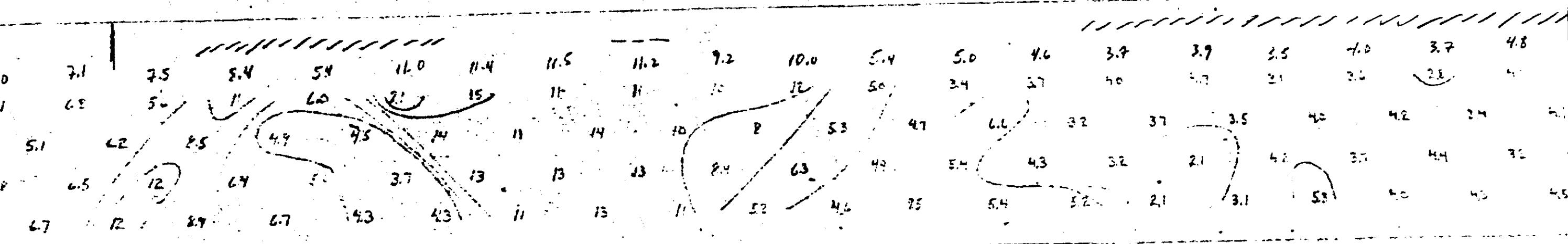
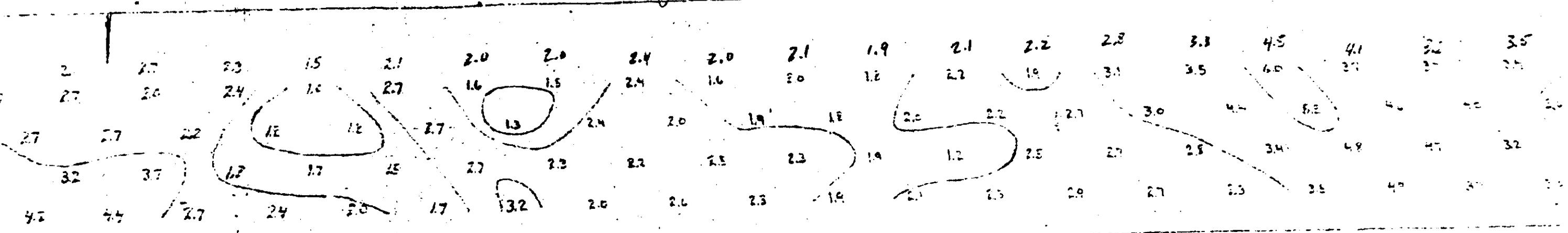
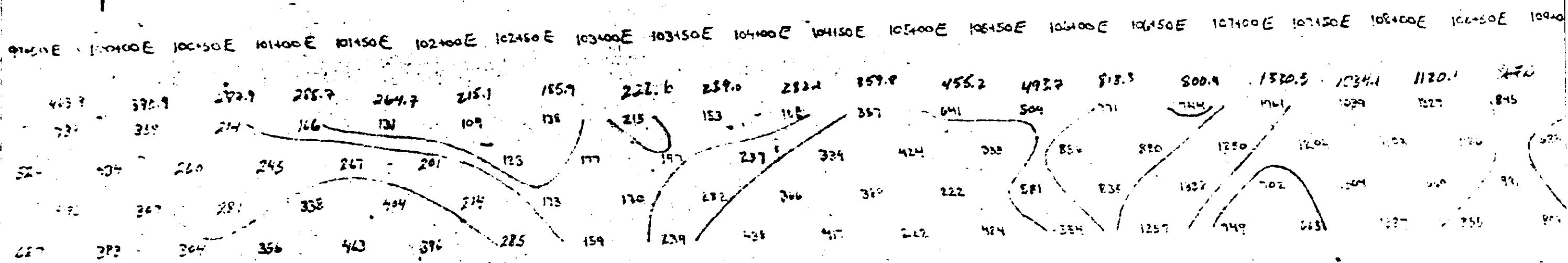
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SCALE : 2 cm. = 10 miles

OPERATOR : M. PARENT

DATE : JUNE 24

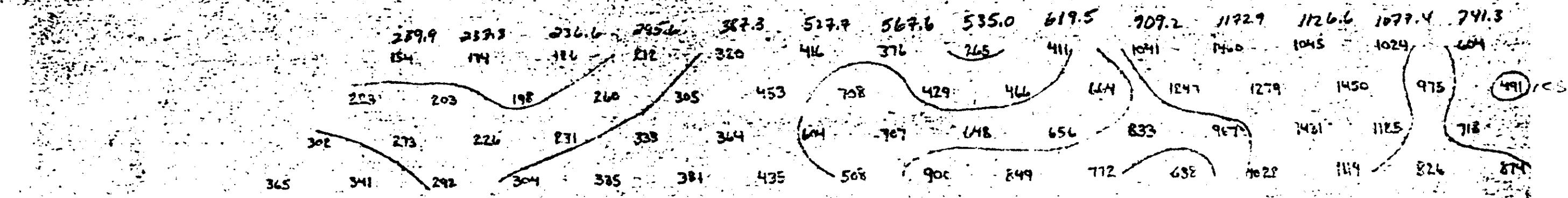
LINE : 103 + CC N



Swamp 104.5° E - 95°

10,609

10150E 10150E



TAHOOLA B.C.

GRID TA 1 to 6

IPV,

SCALE : 2cm = 50 metres

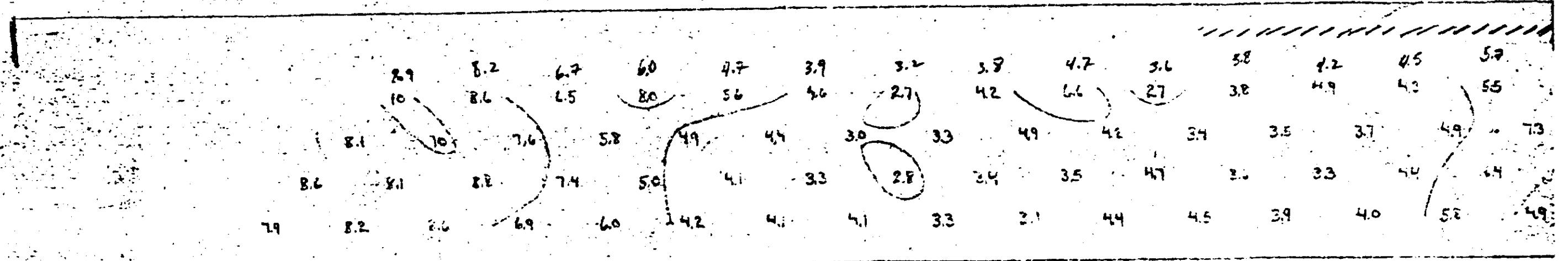
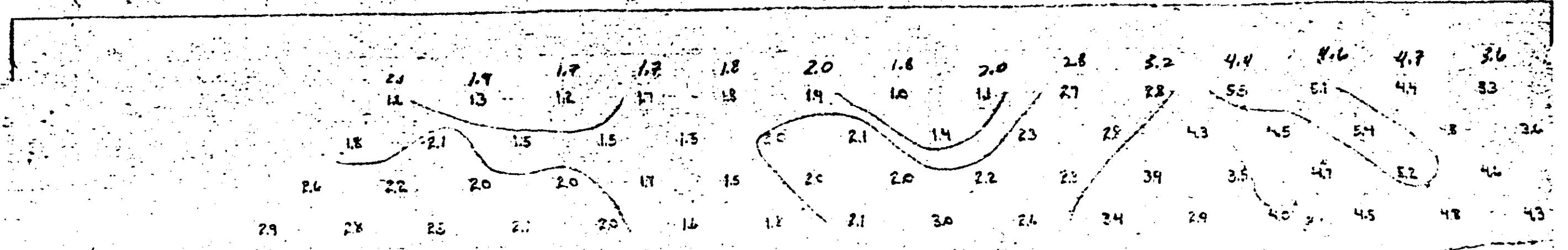
OPERATOR: S. HENSHALL

DATE: June 4 July 1982

LINE 104+88N

F.E.

M.F.

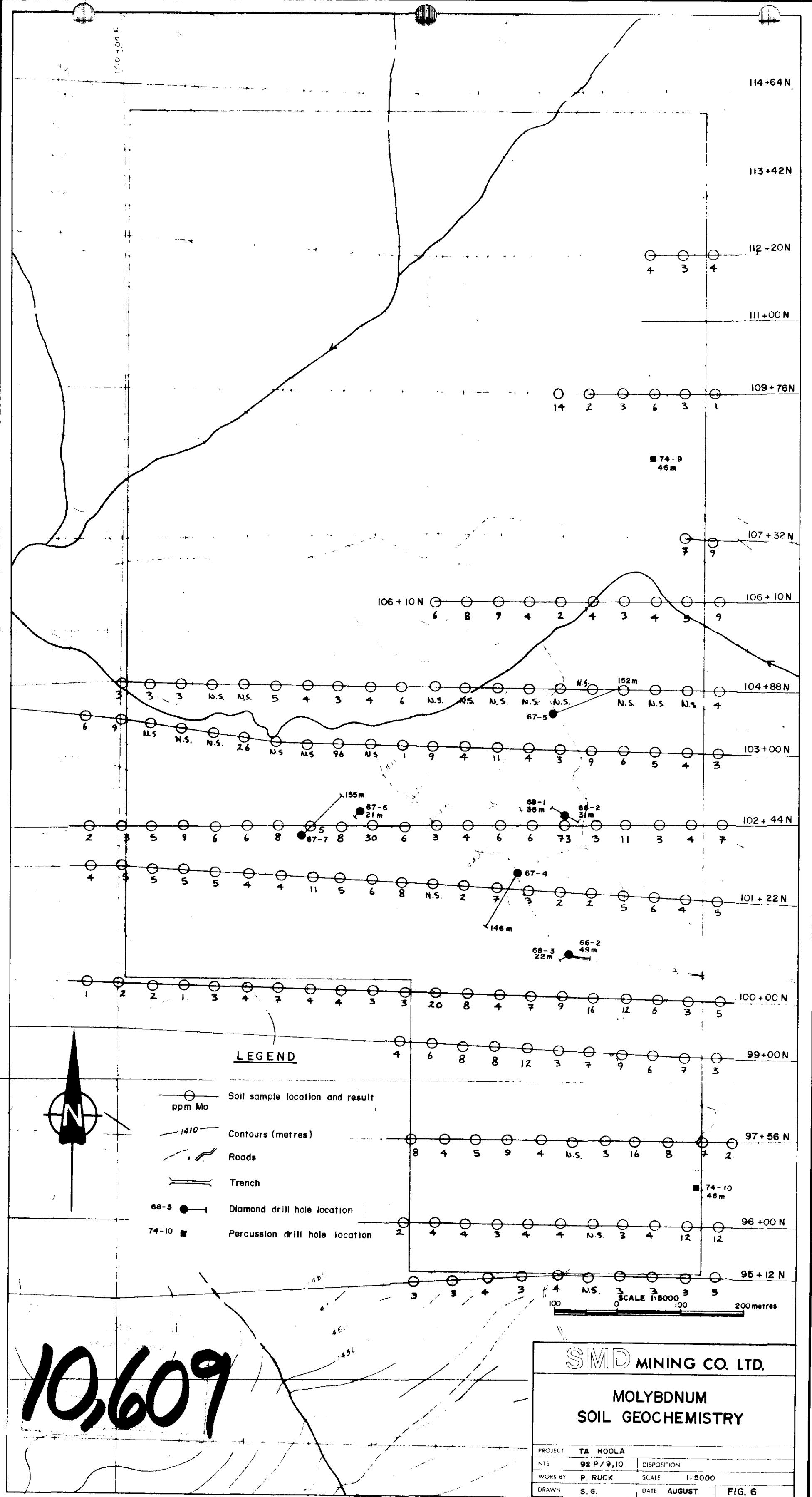


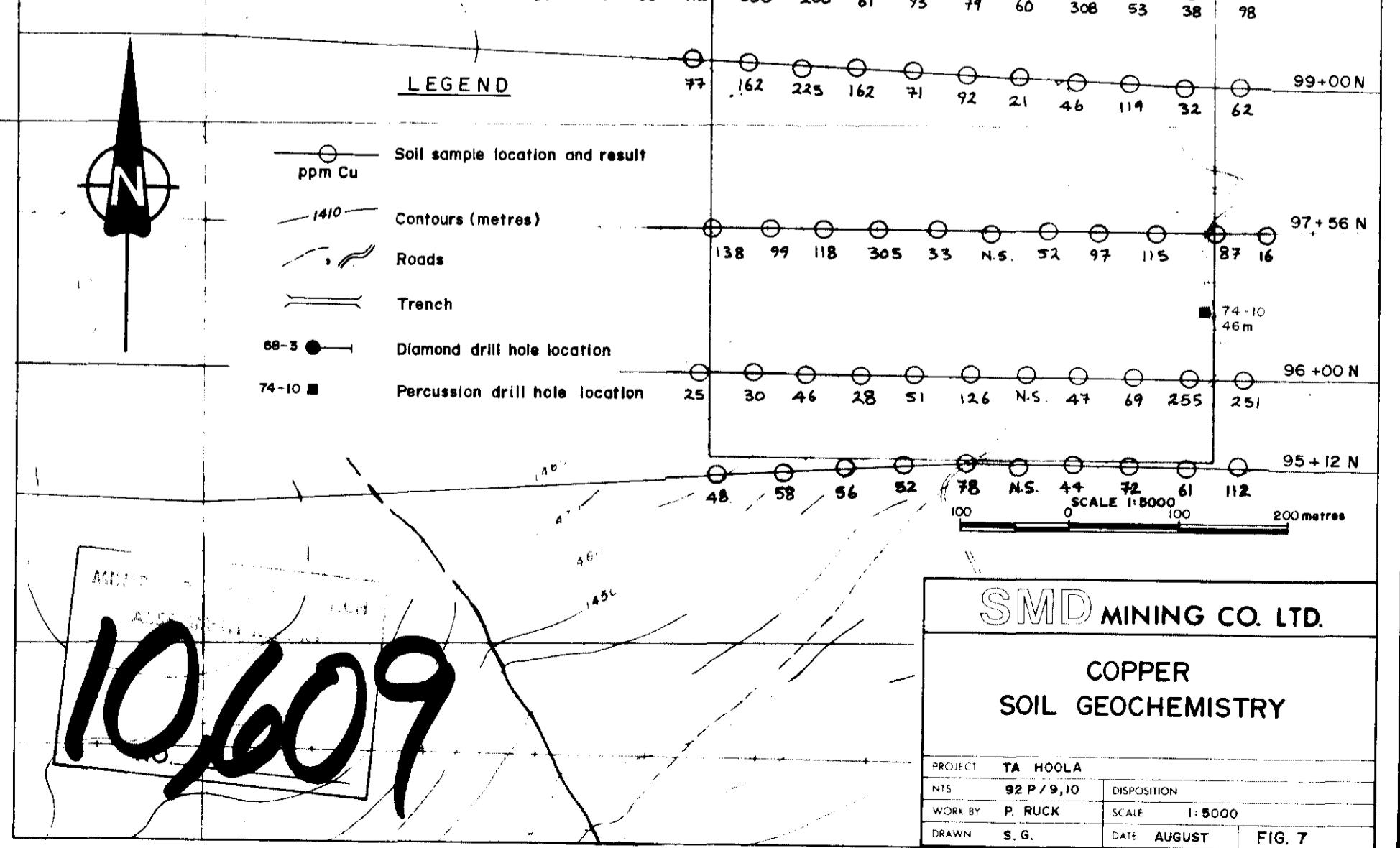
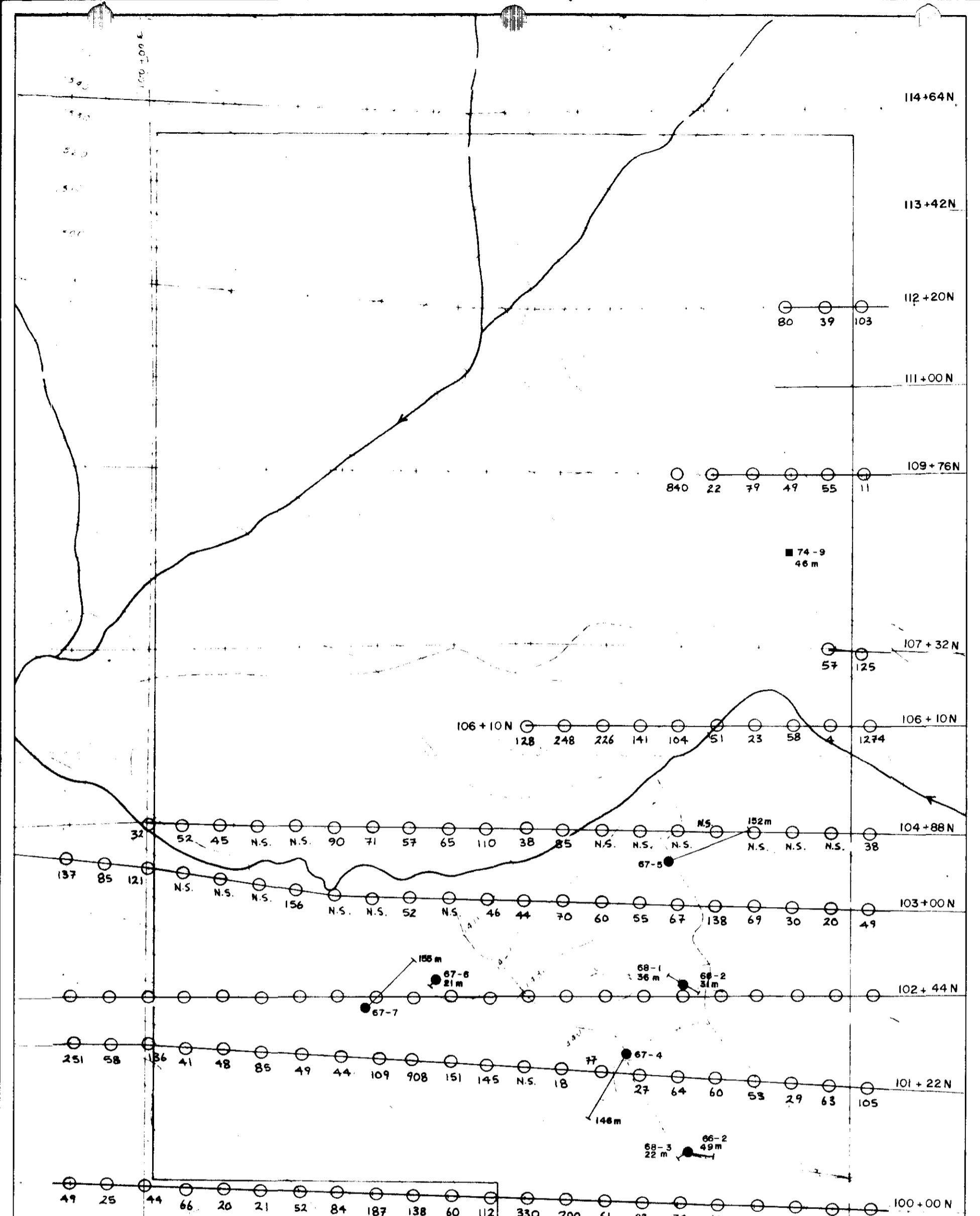
NO. 15 DIVISIONS B.C. LTD.
MENT REPORT

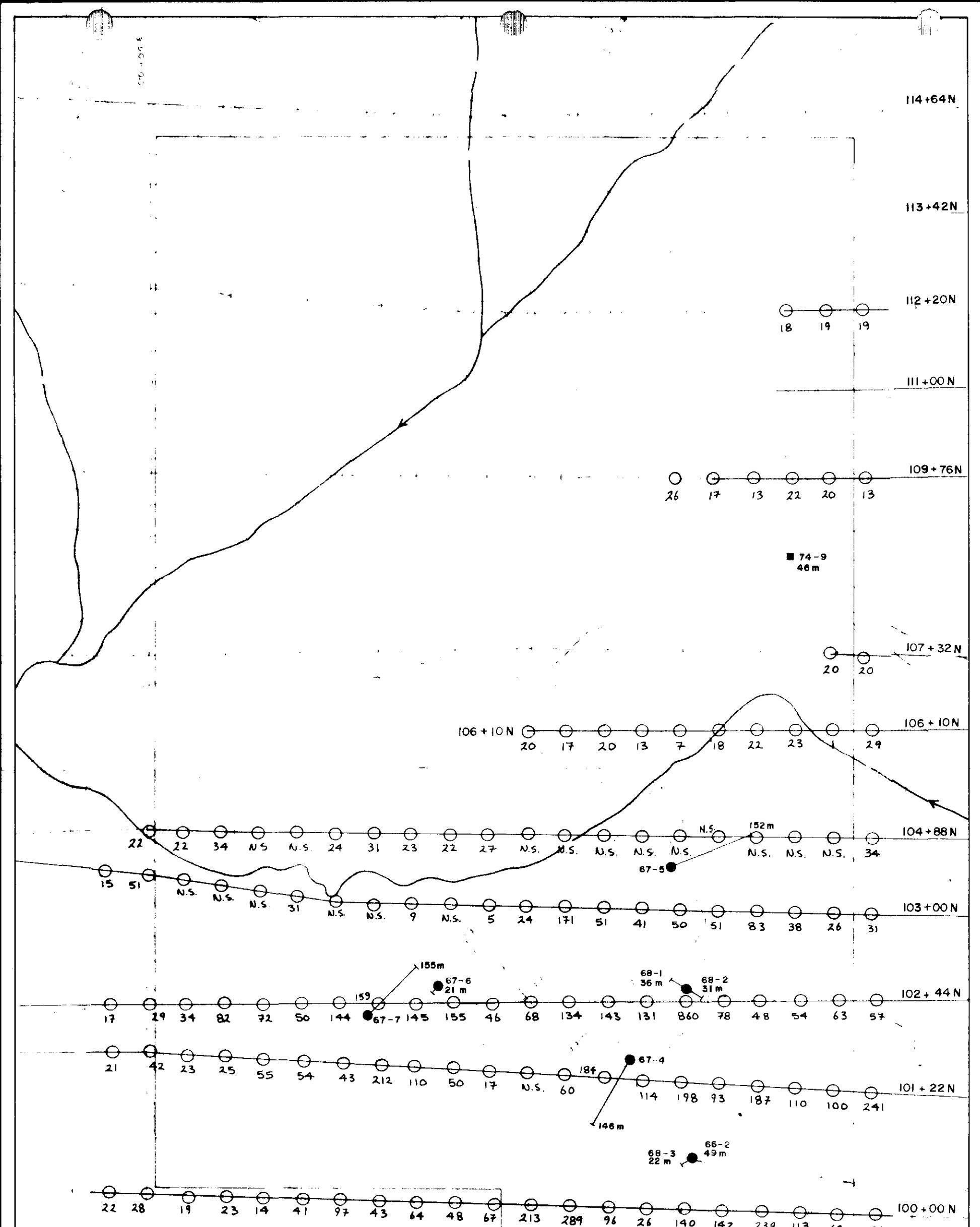
10,609

Swamp 101+50E - 101+75E

+Greek 105+40E







LEGEND

- Soil sample location and result
- 1410 Contours (metres)
- Roads
- Trench
- 68-3 Diamond drill hole location
- 74-10 Percussion drill hole location

MINERAL SURVEY

ASSESSMENT REPORT

10609

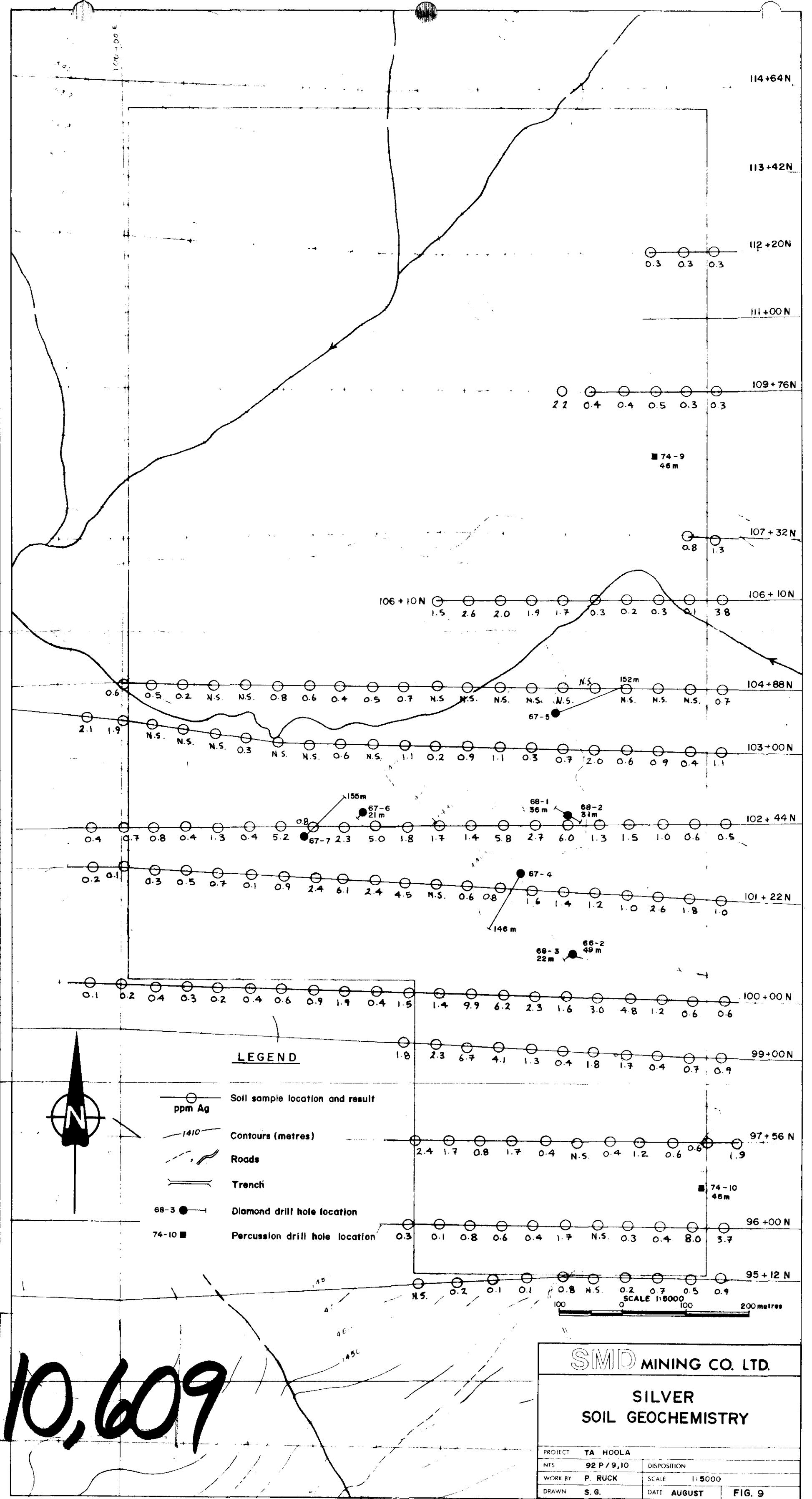
SMD MINING CO. LTD.
LEAD
SOIL GEOCHEMISTRY

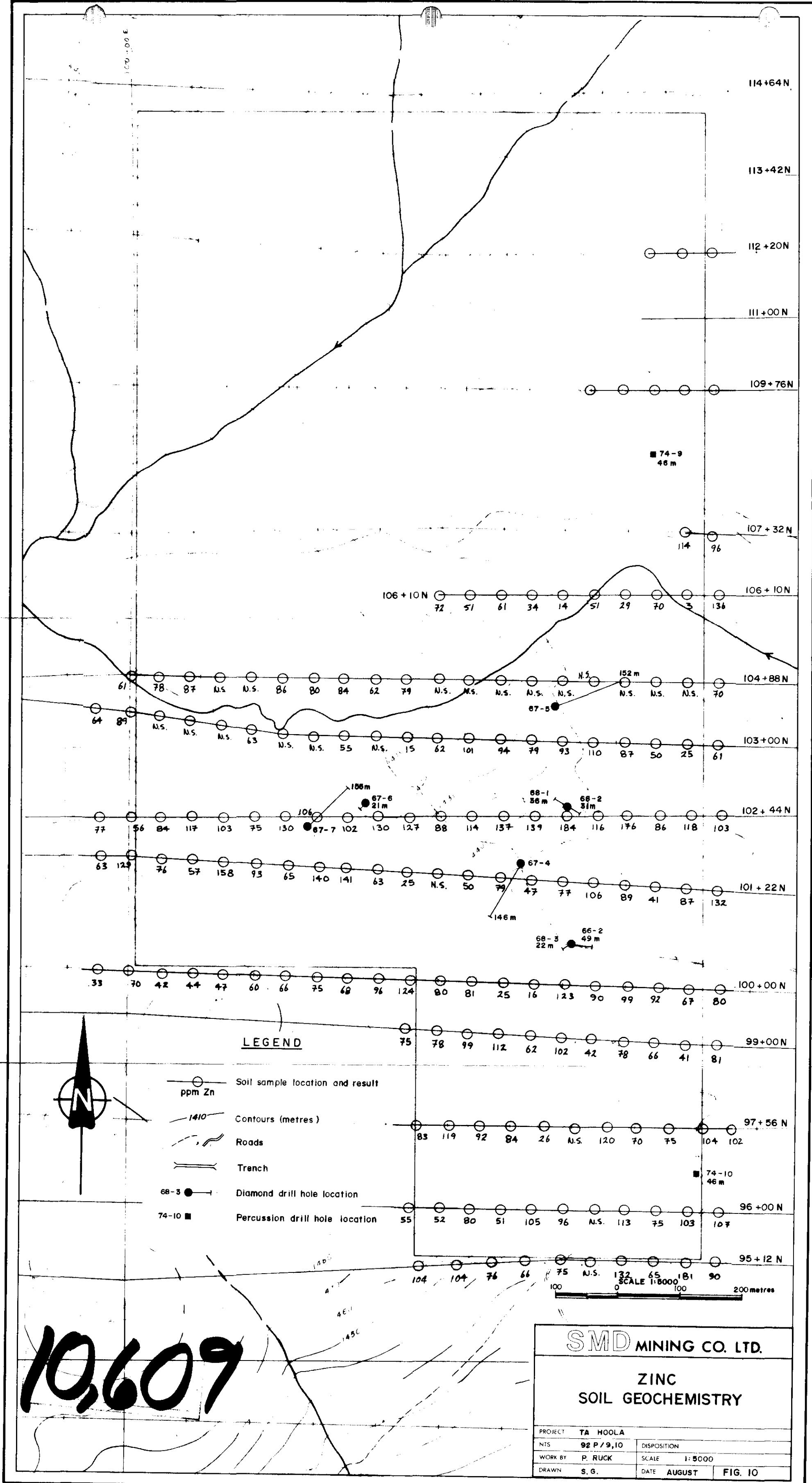
PROJECT	TA HOOLA
NTS	92 P / 9,10
WORK BY	P. RUCK
DRAWN	S. G.

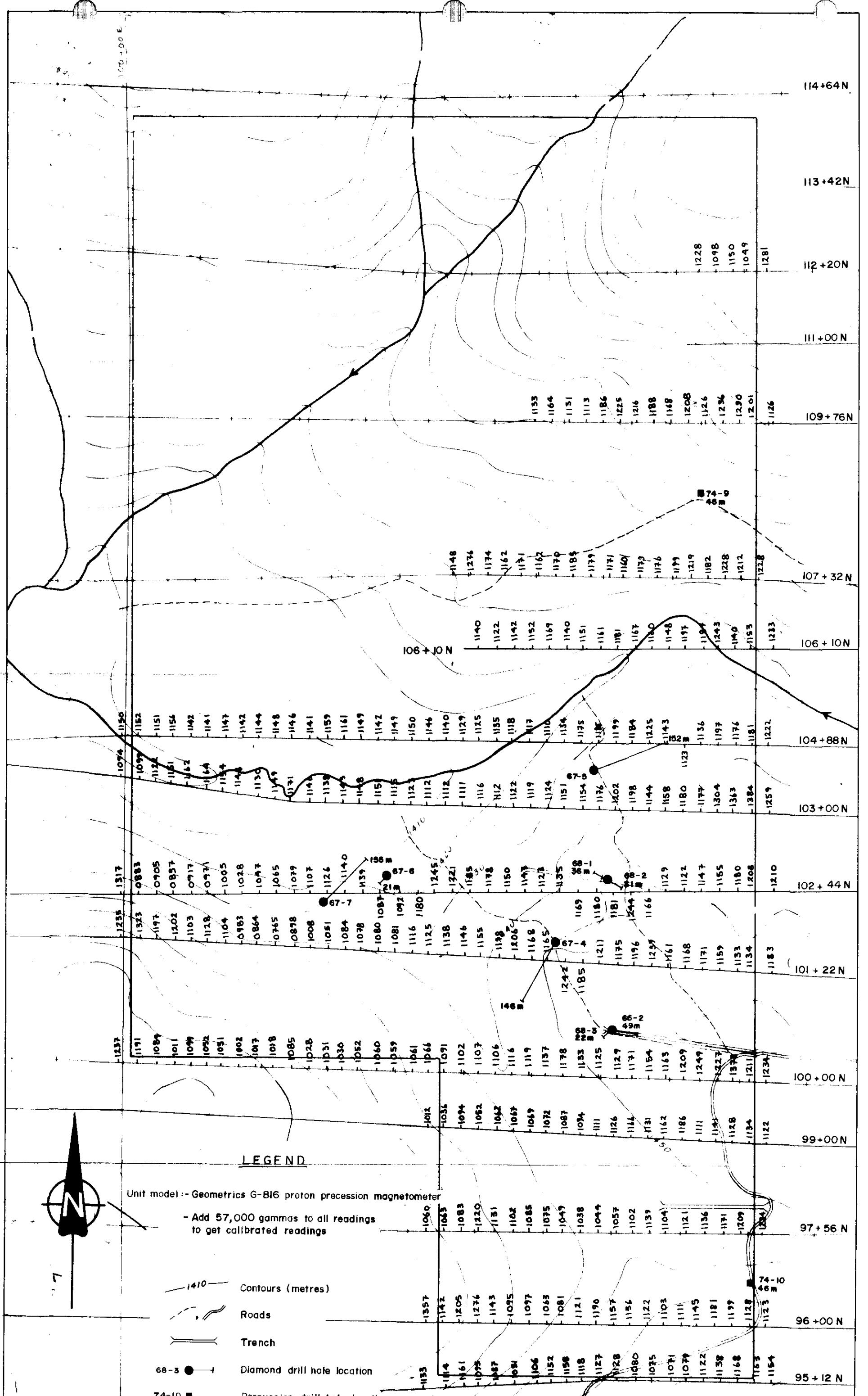
DISPOSITION SCALE 1:5000

DATE AUGUST FIG. 8

SCALE 1:5000
0 100 200 metres







SMD MINING CO. LTD.			
MAGNETIC SURVEY			
PROJECT	TA HOOLA		
NTS	92 P / 9,10	DISPOSITION	
WORK BY	P. RUCK	SCALE	1:5000
DRAWN	S. G.	DATE	AUGUST
FIG. II			

