

GEOLOGICAL, GEOCHEMICAL AND
GEOPHYSICAL ASSESSMENT REPORT

on the

NI CLAIM GROUPS
HARRISON LAKE AREA
(49° 121° N. W.)

by

N. W. BERG, B.Sc. (Physics)

endorsed by

W. E. CLARKE, B.Sc., P. Eng.

for

GIANT EXPLORATIONS LTD. (N. P. L.)

1131 Melville Street

Vancouver 5, B. C.

June 9, 1971

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. 3155 MAP

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INTRODUCTION

Giant Explorations Limited (N. P. L.) is carrying out a comprehensive exploration program in an area lying between Harrison Lake and Stulkawhits Creek. In the summer of 1969, 242 mineral claims were staked. During 1970, an additional 322 claims were added to bring the total held by Giant Explorations to 564.

As a result of work carried out in 1970, several target areas were chosen for detailed investigation in the 1971 season. Surveyed grids were established and this was followed by geological mapping together with geochemical and geophysical surveys.

Diamond drilling which commenced at the beginning of June is not applicable to this report.

This report describes that portion of the 1971 detailed work program completed as of June 9, 1971 and relates to six claim groups on Talc and Cogburn Creeks, as shown on Drwgs. 1 to 1A. The following work has been completed:

Area No. 2

Line cutting

32 line miles
See map No. 2

Area No. 3

Line cutting	20 line miles See map No. 3
Geological mapping	See map No. 3A
Geochemical sampling	See maps Nos. 3B, 3C, 3D
Geophysical surveying	See maps Nos. 3E, 3F, 3G

Area No. 4

Geological mapping	See map No. 4, 4A
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Area No. 5

Line cutting	12 line miles See map No. 5
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PROPERTY (on which work is being filed)

Ni 1 Group

Ni 1 - 16 inclusive	Record Nos. 21771 - 21786 inclusive
Ni 19 - 38 "	" " 21787 - 21806 "

Ni 39 Group

Ni 39 - 56 inclusive	Record Nos. 21807 - 21824 inclusive
Ni 61 - 82 "	" " 21825 - 21846 "

Ni 83 Group

Ni 83 - 88 inclusive	Record Nos. 21847 - 21852 inclusive
Ni 91 - 96 "	" " 21853 - 21858 "

Ni 229 Group

Ni 229 - 234 inclusive	Record Nos. 22267 - 22272 inclusive
Ni 287 - 292 "	" " 22298 - 22303 "
Ni 308 - 311 "	" " 24537 - 24540 "
Ni 320 - 327 "	" " 24461 - 24468 "
Ni 370 - 375 "	" " 24541 - 24546 "

<u>Ni 337 Group</u>				
Ni 300 - 315		Record Nos.	24095 - 24110	inclusive
Ni 700		" "	24998	
Ni 706 - 707		" "	25004 - 25005	inclusive
Ni 337		" "	24564	
Ni 350 - 351		" "	24577 - 24578	"
 <u>Ni 428 Group</u>				
Ni 428 - 439		Record Nos.	24696 - 24707	inclusive
Ni 440 - 447		" "	24505 - 24512	"
 <u>Ni 448 Group</u>				
Ni 448 - 451		" "	24728 - 24731	"
Ni 458 - 461		" "	24630 - 24633	"

These mineral claims are located in an area of extremely rugged topography with dense forest growth. Elevations range from 100 ft. to 7,000 ft. above sea level. Some logging has been done in the lower elevations.

MAP AND GRID COORDINATE SYSTEMS

The coordinate system used on the maps which accompany this report are north and west extrapolations of the Giant Nickel Mine coordinates. The figures on the map represent the distance in feet north and west of the zero point established at the mine site.

The surveyed line grids use a 5 digit computer format for each station location. The first digit represents the grid area number, the second two digits represent the line number, and the last two digits represent the station number. For example, 3-04-05 represents station No. 5 on line 4 in grid area No. 3.

LINE CUTTING

A surveyed grid was established in the following manner: An initial base station point was chosen which could be located accurately on air photos and government topographic maps. From this base station, base lines were surveyed using a compass transit with tripod and a survey chain. The base lines were cut with axe and chain saw and cross lines established at 400 ft. horizontal intervals. Each cross line was run from the base line using compass, chain and clinometer for slope corrections. The cross lines were blazed and flagged, and undergrowth cut where necessary, with stations every 100 feet. Individual stations were picketed, flagged with colour coded ribbon and given a station number. Elevations were taken at each station using Thommen altimeters in order that a topographic map could be generated for each grid area. Claim posts adjacent to grid lines were tied on with the grid survey.

MAGNETOMETER SURVEY

The magnetometer surveys of the grid areas were carried out using a MacPhar M700 magnetometer as a field instrument and a "Sharpe" Model A2 vertical force magnetometer as a base station control instrument. The base station instrument was located at the base camp well away from any metallic objects and variable power sources. This instrument was read hourly. A reading was taken

at each 100 ft. station on the grid lines with the field instrument. The time was noted for each reading in the field book. At the end of each survey day the field readings were corrected using the graph plotted from the base station data.

GEOCHEMICAL SURVEY

Geochemical soil samples were taken at 200 ft. intervals along the grid line. In addition, silt samples were taken at streams which crossed grid lines. The B soil horizon was sampled using a mattock for trenching. The samples were placed in Kraft wet strength envelopes using a trowel. All sample locations were flagged and marked with a colour coded ribbon and numbered according to the grid coordinate system.

Fraser Laboratories Limited, 1175 West 15th Street, North Vancouver assayed the samples according to the following procedure. One half gram of the -80 mesh fraction was digested with nitric and perchloric acid. The samples was heated until the perchloric acid was consumed. This was followed by bulking the sample to standard volume. Values for nickel and copper were then obtained with an atomic absorption Spectrometer.

GEOLOGY

Geological mapping in area 3 and area 4 was carried out by Mr. R. Gonzalez, M.Sc. (Geology) and Mr. R. Wehr, B.A. (Geology).

A summary of their findings follows:

(a) Area 3

Area 3 is underlain by sedimentary and igneous rocks which have been subjected to regional metamorphism and later intruded by diorites and ultramafics. Approximately 60 per cent of this area is covered by talus or glacial drift, but there are sufficient windows in the talus material to permit a reasonable evaluation of the underlying geology. Outcrops are generally restricted to areas above the 2,500 ft. level except for some outcrops on roads and stream beds.

The oldest rocks in the area consist of slates, phyllites and altered basic rocks. The meta sedimentary slates and phyllites are very fine grained and dark grey to brownish grey in colour. They appear to be composed of quartz, plagioclase, biotite and sericite and locally may contain euhedral garnets. They are generally confined to the lower slopes of area 3 as seen on Dwg. 3A.

The altered basic rock is very fine grained, greyish-green, massive and typically structureless, although there are areas in which lineation parallel to the regional schistosity is visible. This unit may correlate with the greenstones of the late Paleozoic Chilliwack Group or may be late Mesozoic in age.

Granitic rocks intrude the meta sedimentary and altered basic units and form the ridges and cliffs in the upper regions of area 3. They are generally grey medium grained equigranular hornblende diorites composed of 45 - 75% plagioclase, 20 - 50% hornblende less than 5% quartz and a trace of K-feldspar. Biotite is rarely seen.

Small isolated ultramafic bodies of uncertain age occur in the area. Pyroxenite is the most predominate ultrabasic rock type with only minor peridotite and norite. Some serpentinization of the peridotite is evident. The pyroxenite is a medium to coarse-grained, grey-green to black rock composed of orthopyroxene (bronzite), minor augite, and varying amounts of hornblende and olivine. The outcrops are generally highly fractured and serpentinite is developed along fractures.

(b) Area 4

Reconnaissance geological mapping in the vicinity of a logging road in area 4 shows the area to be underlain by diorite, norite and gabbro together with ultrabasics. Ultrabasics represent about 60% of the area mapped (See maps 4 and 4A).

Pyroxenite is the predominant rock type. It is very similar to the pyroxenite in area 3 and is a blackish-brown medium to coarse grained bronzitic rock. Finely disseminated sulphides consisting of pyrrhotite and minor chalcopyrite are found locally in this rock type.

There is a hornblendic phase of the pyroxenite in area 4 which has not been found to date in area 3. This hornblendic pyroxenite is a massive black rock in which coarse hornblende occurs in a fine grained pyroxene matrix. Sulphides occur usually in the form of blebs or clusters as distinct from the more predominately disseminated form found in the pyroxenite.

The norites are medium grained and appear to be composed of bronzitic pyroxene, with plagioclase roughly in the same proportion as in the diorites. These diorites are very similar to those found in area 3. Some foliation may be seen however in the area 4 diorites. The gabbroic rocks are a finer grained more mafic phase of the diorites and there is no sharp contact between them.

INTERPRETATION AND SUMMARY

(a) Magnetics

The magnetic survey of area 3 shows a relatively featureless plateau in the centre of the grid. This feature is in the 1200 to 1400 gamma range and is generally underlain by

diorites and altered basics.

Along lines 3 and 4 to the south east and lines 59 and 60 to the north west a general decrease in intensity from 1100 to 900 gammas may be seen. This roughly parallels the meta-sediment contact and indicates the lower susceptibility of the metasediments. The increase in intensity over the meta-sediments in the southern area of the grid is probably a regional effect resulting from a large positive magnetic anomaly south of the grid. It may also represent a relatively shallow layer of metasediments covering the ultramafics.

Over the ultramafics the survey shows slight increase in the intensity which is probably not representative as these bodies lie largely outside the grid area. Previous magnetic data indicates that these ultramafic bodies give a strong magnetic response.

A number of major faults mapped in the area appear to have magnetic lows directly over the fault planes. This may indicate some alteration along the fault.

(b) Geochemistry

Anomalous geochemical values were obtained in three general areas:

- (1) High copper values in the central portion of the grid where extensive outcropping of diorite occurs. This diorite has been intruded by small bodies of ultrabasics.
- (2) High copper values in the northwesterly half of the grid where diorite is similarly intruded by ultrabasic bodies.
- (3) High nickel values further to the north west than the high copper values of (2) above.

Where there are high nickel values but low copper values, this might indicate a low sulphide content in the source rock, with the nickel occurring largely in the silicate form. The anomaly might then be the result of a concentration of nickel silicates along the fault which passes through the anomaly, or might relate to a higher than normal concentration of weathered ultrabasic rock particles in the soil.

Where there are high copper values but low nickel values, this may be due to either a lack of nickel in the source rock or because the more mobile copper ion has become separated from the nickel and is deposited at a greater distance. Mineralization has been noted up slope from the grid area and final assessment of the significance of these anomalies will have to await detailed work at higher elevations.

PERSONNEL

The author was Party Chief and carried out the program under the general supervision of W.E. Clarke, P.Eng. The geological mapping was carried out by R. Gonzalez, B.Sc., M.Sc. (Geology) and R. Wehr, B.Sc. (Geology). The geophysical survey was carried out by C. Brown, M.Sc. (Eng. Physics).

Personnel employed together with wages paid which are applicable to this report are summarized as follows:

<u>Name & Address</u>	<u>Date Employed</u>	<u>Days worked & Wage Rates</u>	<u>Amount paid</u>
L. Barteski 22267 - 122nd Ave., Haney, B.C.	May 3 - June 9	24 @ 20.00/day	\$ 480.00
N. Berg, 5359 - 202 Street, Langley, B.C.	Apr. 23 - June 9	34 @ 35.00/day	1,190.00
C. Brown, #110, 2131 W. 3rd, Vancouver, B.C.	Apr. 23 - June 9	34 @ 25.00/day	850.00
H. Bruce, 4474 West 5th Ave., Vancouver, B.C.	Apr. 26 - June 9	34 @ 20.00/day	680.00
F. Cannon, 1180 West 57th Ave., Vancouver, B.C.	Apr. 26 - June 9	34 @ 25.00/day	850.00
G. Clarke, 8090 Sussex Ave., Burnaby, B.C.	May 10 - June 9	22 @ 20.00/day	440.00
D. Culver 333 Wellington St., North Vancouver, B.C.	May 10 - June 9	22 @ 20.00/day	440.00

<u>Name & Address</u>	<u>Date Employed</u>	<u>Days worked & Wage Rates</u>	<u>Amount paid</u>
R. Duff, 1975 Pendrell St., Vancouver, B.C.	May 31 - June 9	9 @ 20.00/day	180.00
R. Gonzalez, 1621 St. Georges St., North Vancouver, B.C.	May 12 - June 9	24 @ 35.00/day	840.00
J. Libal, 1460 Barclay St., Vancouver, B.C.	June 2 - June 9	7 @ 27.00/day	189.00
N. LaTurner, 1636 Haro St., Vancouver, B.C.	May 12 - June 9	20 @ 27.00/day	540.00
D. Sharp, Ganges, B.C.	Apr. 26 - June 9	34 @ 25.00/day	850.00
D. Stevens, 2885 King Edward St., Vancouver, B.C.	May 3 - June 9	24 @ 20.00/day	480.00
J. Ward, 795 Lawson Ave., Kelowna, B.C.	May 3 - June 9	24 @ 25.00/day	600.00
S. Meth, 73 East Hastings St., Vancouver, B.C.	May 1 - June 9	30 @ 30.00/day	900.00
J. Wong, 73 East Hastings, Vancouver, B.C.	May 1 - June 9	30 @ 30.00/day	900.00
R. Wehr, 81405 - 8th Ave., Federal Way, Washington, U.S.A.	May 12 - June 9	22 @ 32.00/day	704.00
S. White, 5312 - Edward St., Burnaby, B.C.	Apr. 26 - June 9	34 @ 20.00/day	680.00
TOTAL AMOUNT PAID			<u>\$ 11,793.00</u>

EXPENDITURES

April 23 to June 9, 1971:

Labour (see personnel summary)	\$ 11,793.00
Camp operation and accommodation	3,400.00
Assaying (600 geochemical and rock samples at \$1.00/sample)	600.00
Engineering supplies	2,700.00
Vehicle operation	910.00
TOTAL EXPENDITURES	\$ 19,403.00

Percentage applicable to each claim group:

Ni 1 Group	- 30%	\$ 5,821.00
Ni 39 "	30%	5,821.00
Ni 83 "	10%	1,940.00
Ni 229 "	15%	2,911.00
Ni 337 "	5%	970.00
Ni 428 "	4%	800.00
Ni 448 "	6%	1,140.00
	<u>100%</u>	
TOTAL EXPENDITURE		\$ 19,403.00

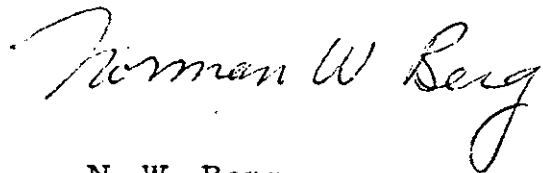
Declared before me at the City
of Vancouver, in the
Province of British Columbia, this 15
day of July 1971, A.D.



Jan Turner
A Commissioner for taking Affidavits within British Columbia or
A Notary Public in and for the Province of British Columbia
- 13 - Sub-mining Recorder

Submitted on behalf of

GIANT EXPLORATIONS LIMITED (N. P. L.)

A handwritten signature in cursive script that reads "Norman W. Berg".

N. W. Berg,
Project Manager

Endorsed by

A handwritten signature in cursive script that reads "W. E. Clarke".

W. E. Clarke, B.Sc., P. Eng.

HARRISON LAKE

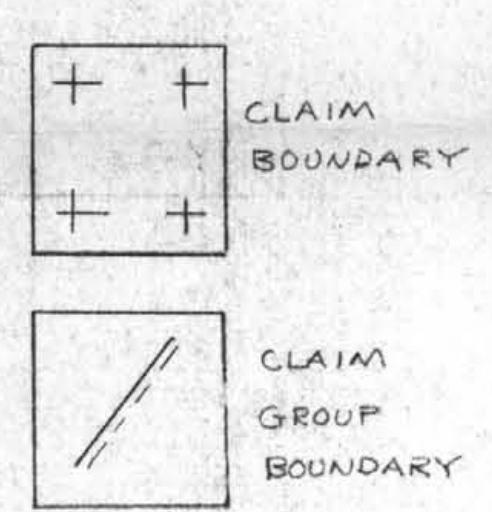
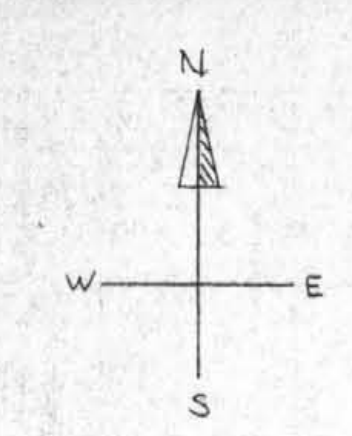
Coqburn Cr.
Talc Cr.

Settler Cr.

OLD SETTLER

Emory Cr.

Bear Cr.

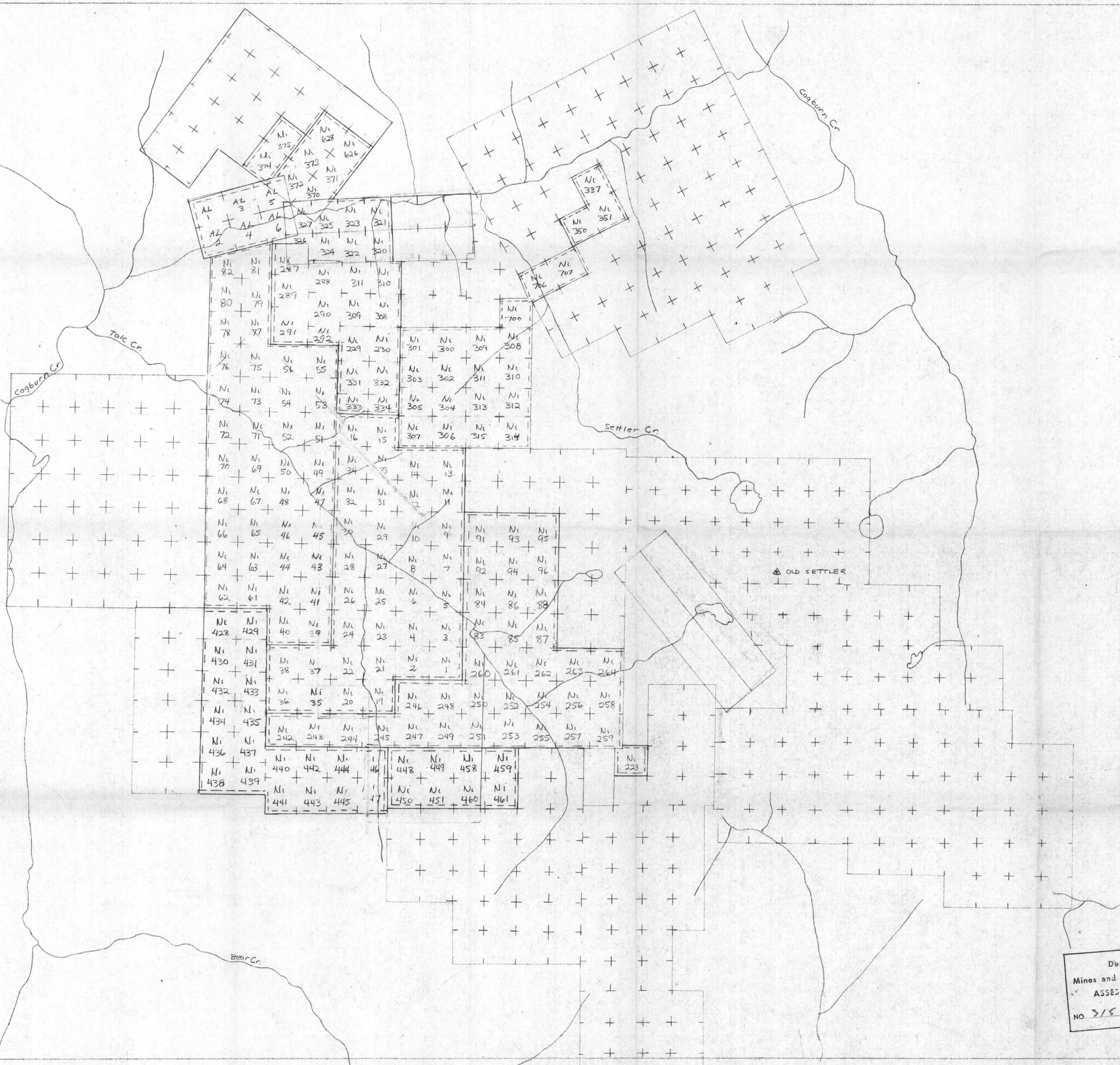


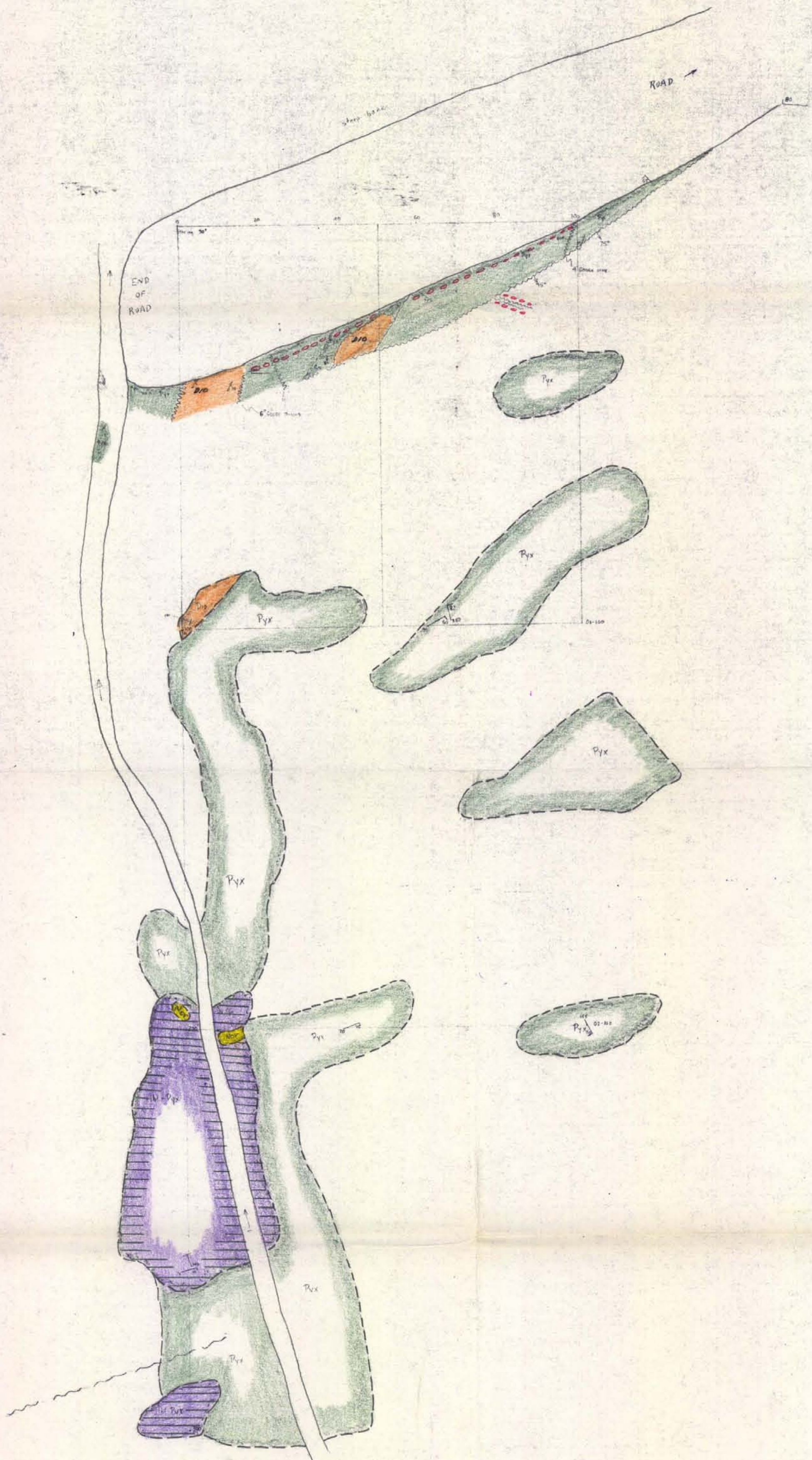
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3155 MAP 41

To accompany assessment report by N. Berg, B.Sc. (Physics) on the Ni claim group Harrison Lk.

NICKEL SYNDICATE
CLAIM GROUP BOUNDARY

SCALE 1"=2000' DWG No. 1
DRAWN NWB
DATE JUNE, 71
Walter L. Blakely





To accompany assessment report by N. Berg B.Sc. (physics) on the Ni claim group Harrison Lk.

LEGEND	
ROCK TYPES	
	PYROXENE
	HORISLENITIC PYROXENE
	DIORITE
	NORITE
	SULFIDES
SYMBOLS	
	JOINT
	CONTACT
	FAULT
	GOUGE ZONE
	STREAM

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3155 MAP #14

NICKEL SYNDICATE
AREA 4
MINERAL SHOW

SCALE 1" = 20'
DRAWN N.J.L.
CHECKED *Walter E. Clarke*
DATE
DWG. No. 4A
Plans 1971



Cogburn Cr.




Ni 338 F.P.
Ni 339 F.P.

Ni 336 F.P. I.P. Ni 338
Ni 337 F.P. I.P. Ni 339

See map no. 4A for detail

To accompany assessment report by N. Berg B.Sc. (Physics) on the Ni claim group Harrison LK.

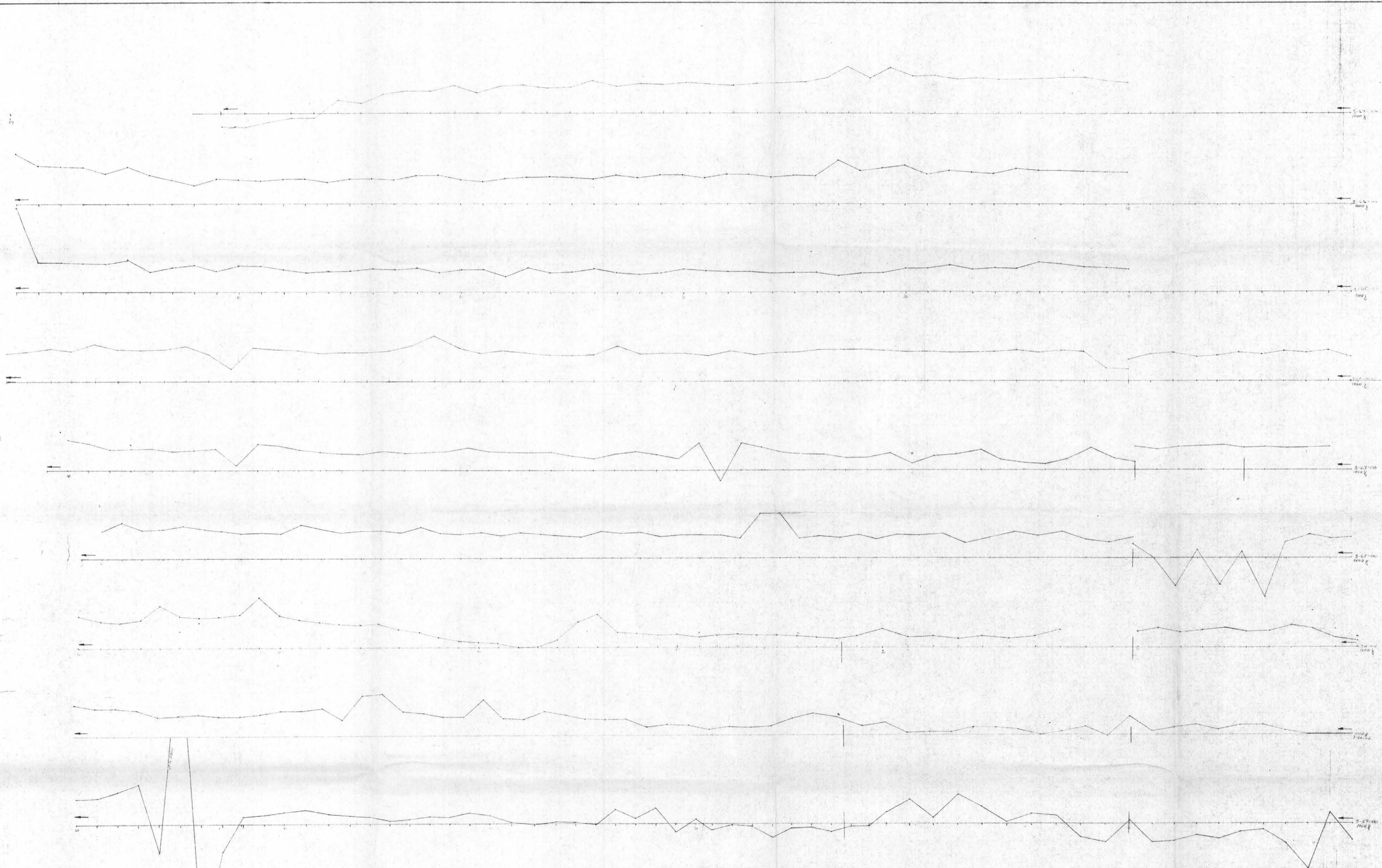
LEGEND

- ROCK TYPES
-  PYROXENITE
 -  DIORITE
 -  GABBRO
 -  SULFIDES
- SYMBOLS
-  JOINT
 -  CONTACT
 -  FAULT
 -  GROUND ZONE
 -  DIRT
 -  STREAM
 -  CLAIM BOUNDARY

NICKEL SYNDICATE
AREA 4
ROAD TRAVERSE MAP
MINERAL SHOW

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3155 MAP #13

SCALE 1"=100'
DRAWN NTL
CHECKED
DATE
DWG. NO. 4
Walter L. Clark
7 Jan 1971



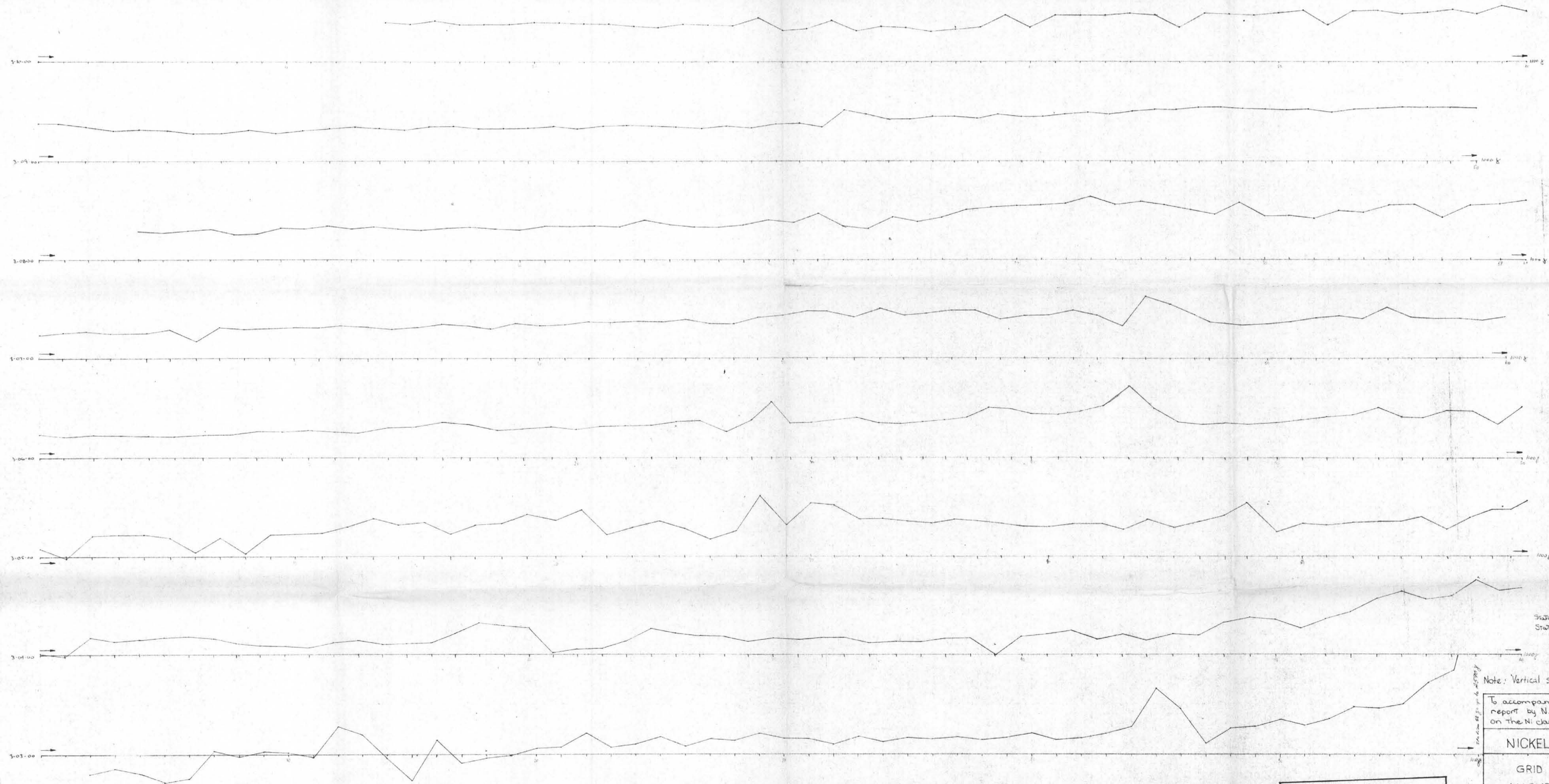
Note: Vertical scale 1" = 500g

To accompany assessment report by N. Berg B.Sc. (physics) on the Ni claim group Harrison IX

NICKEL SYNDICATE
GRID AREA No. 3
MAGNETIC PROFILE

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
3155 MAP #12

Scale: 1" = 200'
DWG. No 3G
Drawn: *Walter E. Clarke*
Date: 7 June 1971



Station 59 go up to 3510
 Station 60 go up to 3510
 Scale 1:200

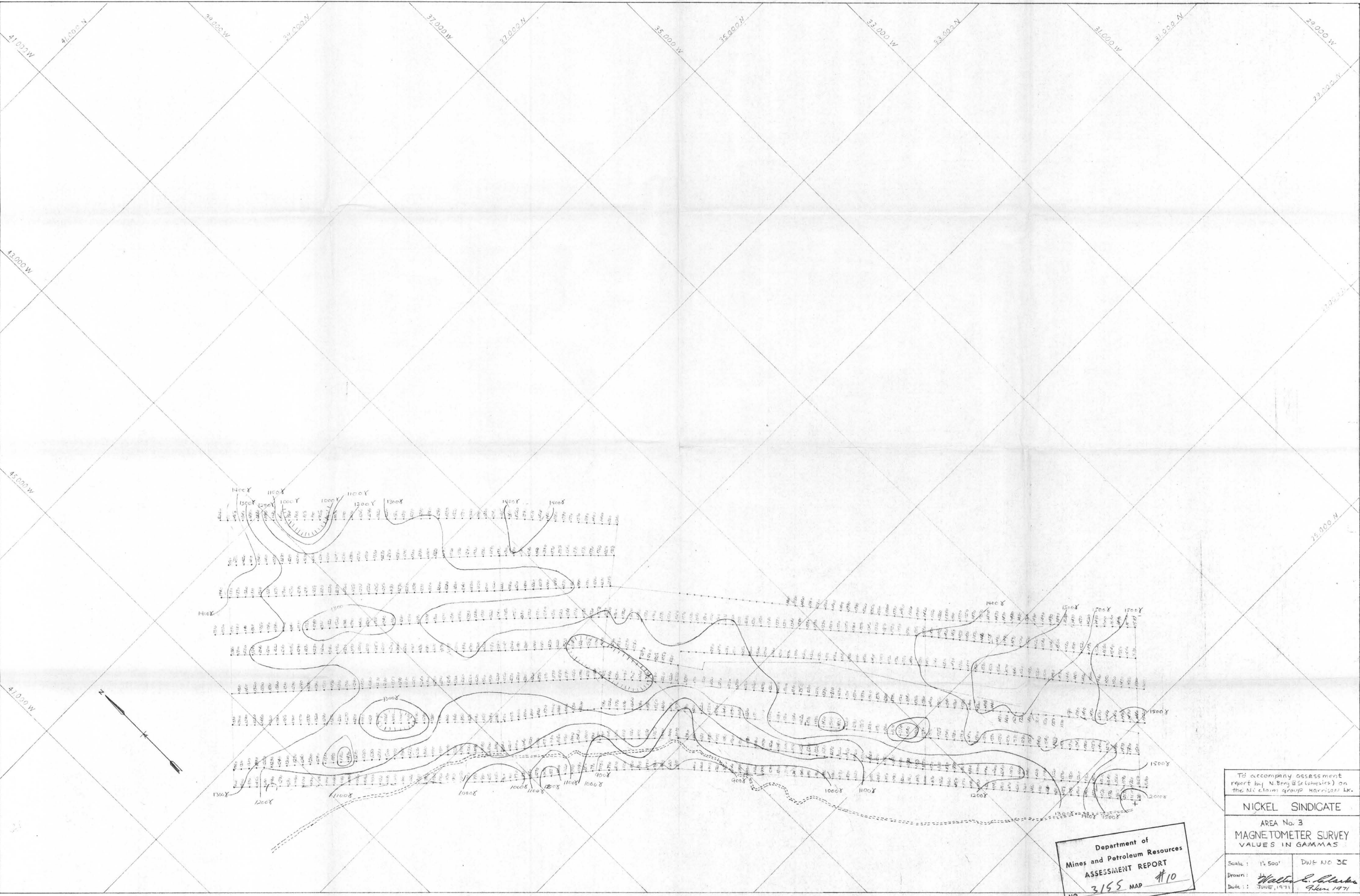
Note: Vertical scale 1" = 500'

To accompany assessment report by N. Berg B.Sc. (physics) on the Ni claim group Harrison LK.

NICKEL SYNDICATE
 GRID AREA No 3
 MAGNETIC PROFILE

Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. 3155 MAP #11

Scale: 1" = 200'
 Drawn: *J.H.*
 Date: *Sept 11 1971*
 DWG. No 3F



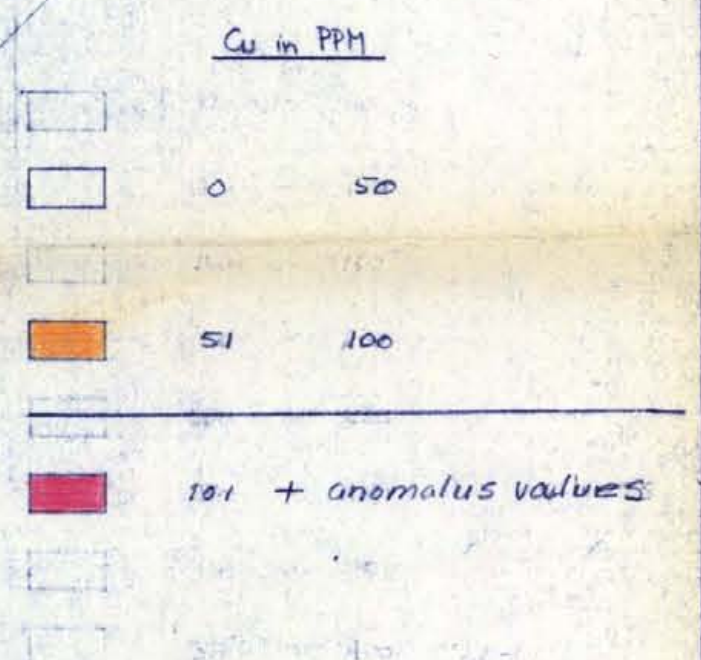
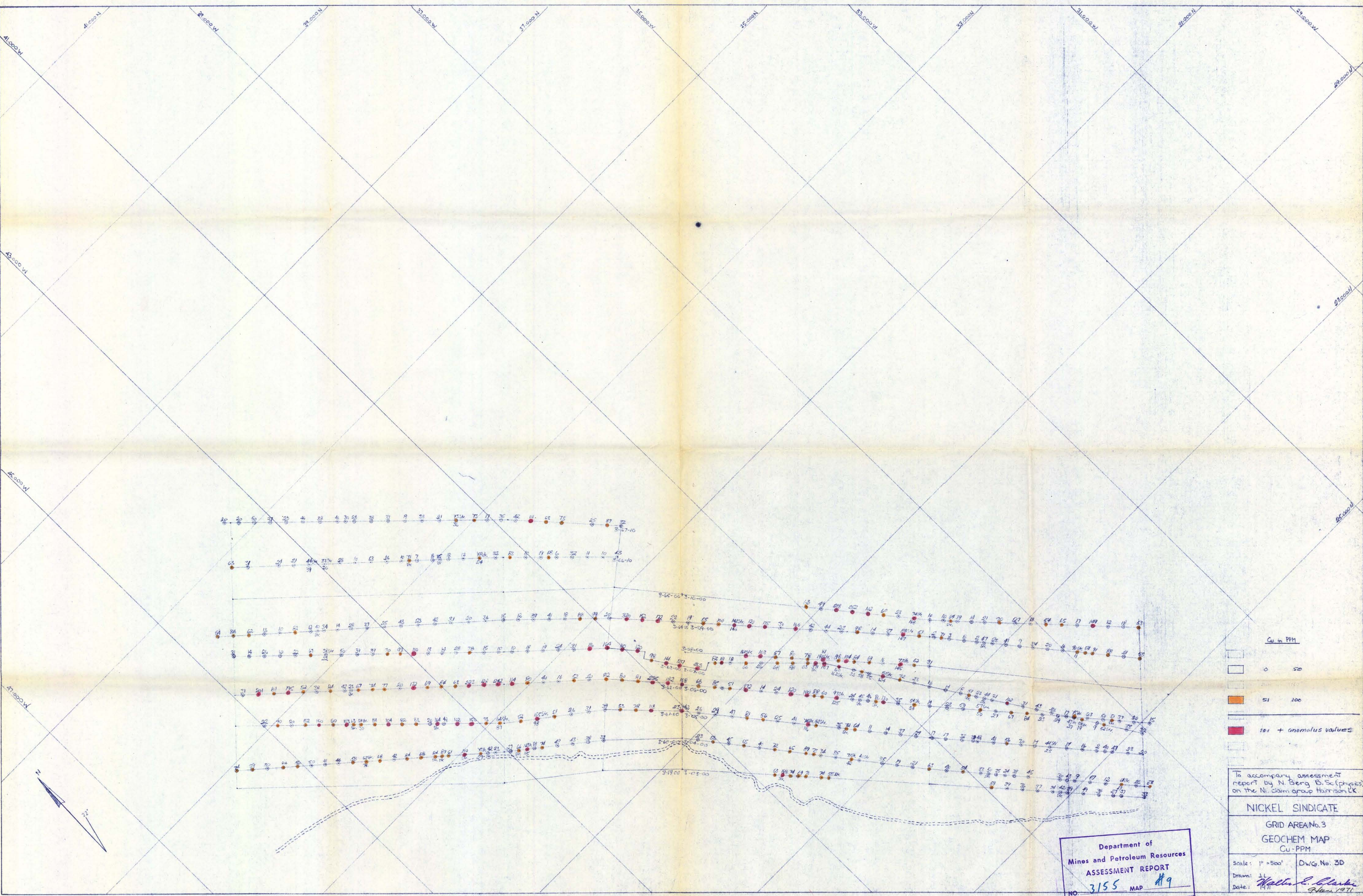
To accompany assessment report by N. Berg (Solutions) on the Ni claim group Harrison Lk.

NICKEL SYNDICATE

AREA No. 3
MAGNETOMETER SURVEY
 VALUES IN GAMMAS

Scale: 1" = 500' DWG NO 3E
 Drawn: *Walter E. Clarke*
 Date: JUNE, 1971 9 June 1971

Department of
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ASSESSMENT REPORT
 3155 MAP #10



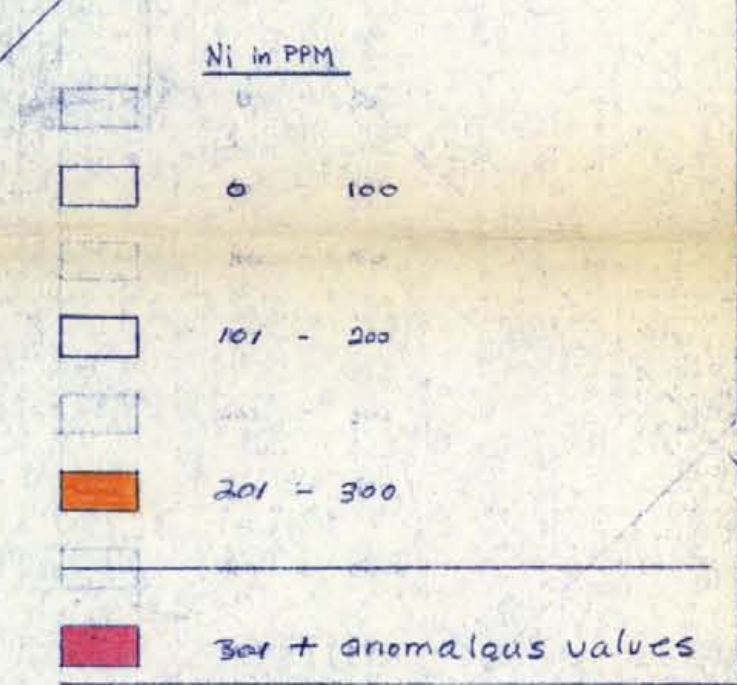
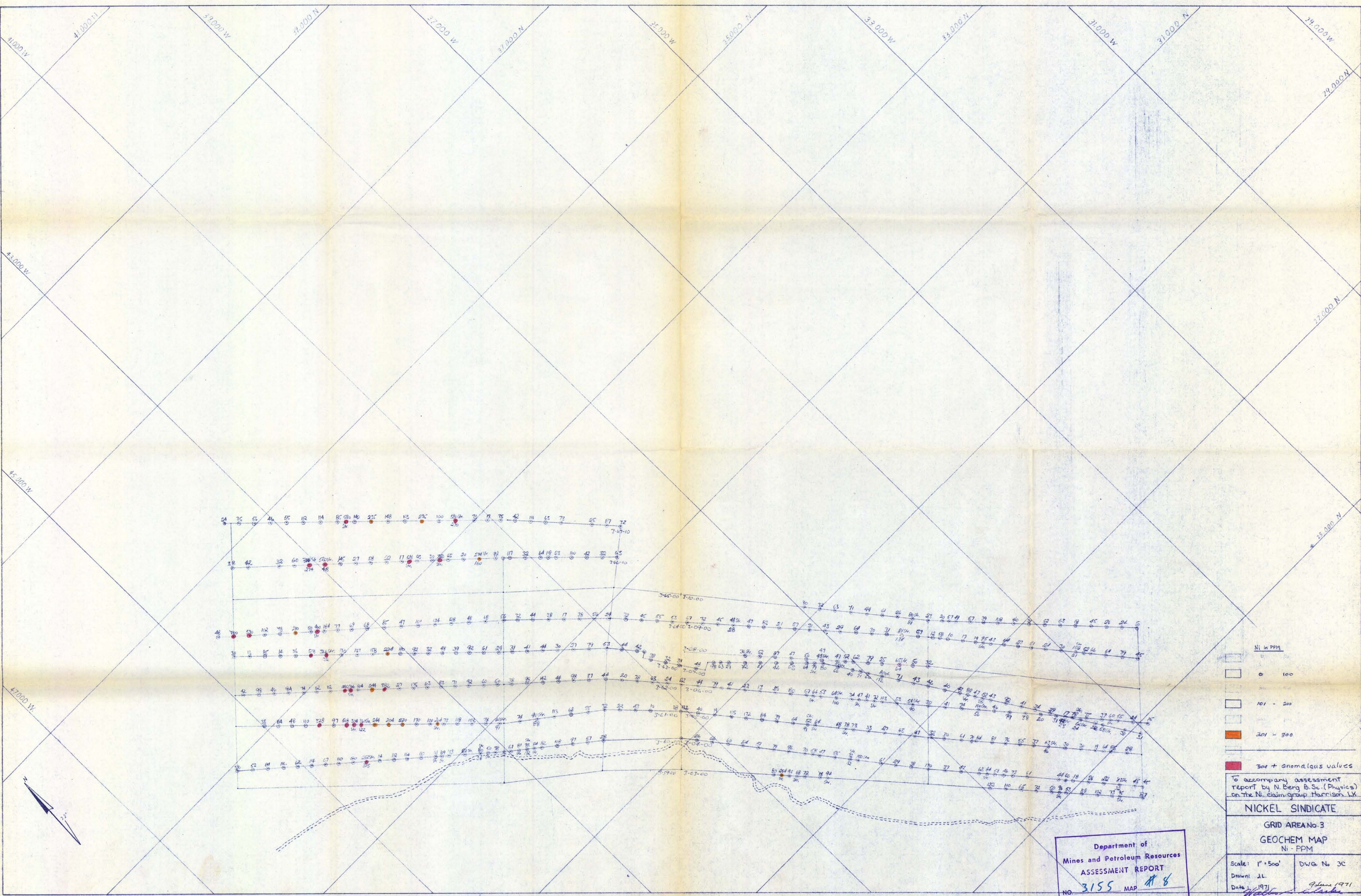
To accompany assessment report by N. Berg B.Sc (physics) on the Ni. claim group Harrison LK.

NICKEL SINDICATE
 GRID AREA No. 3
 GEOCHEM MAP
 Cu - PPM

Scale: 1" = 500'
 Drawn: *H. J. Clark*
 Date: *1971*

Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. 3155 MAP #9

DWG. No. 3D

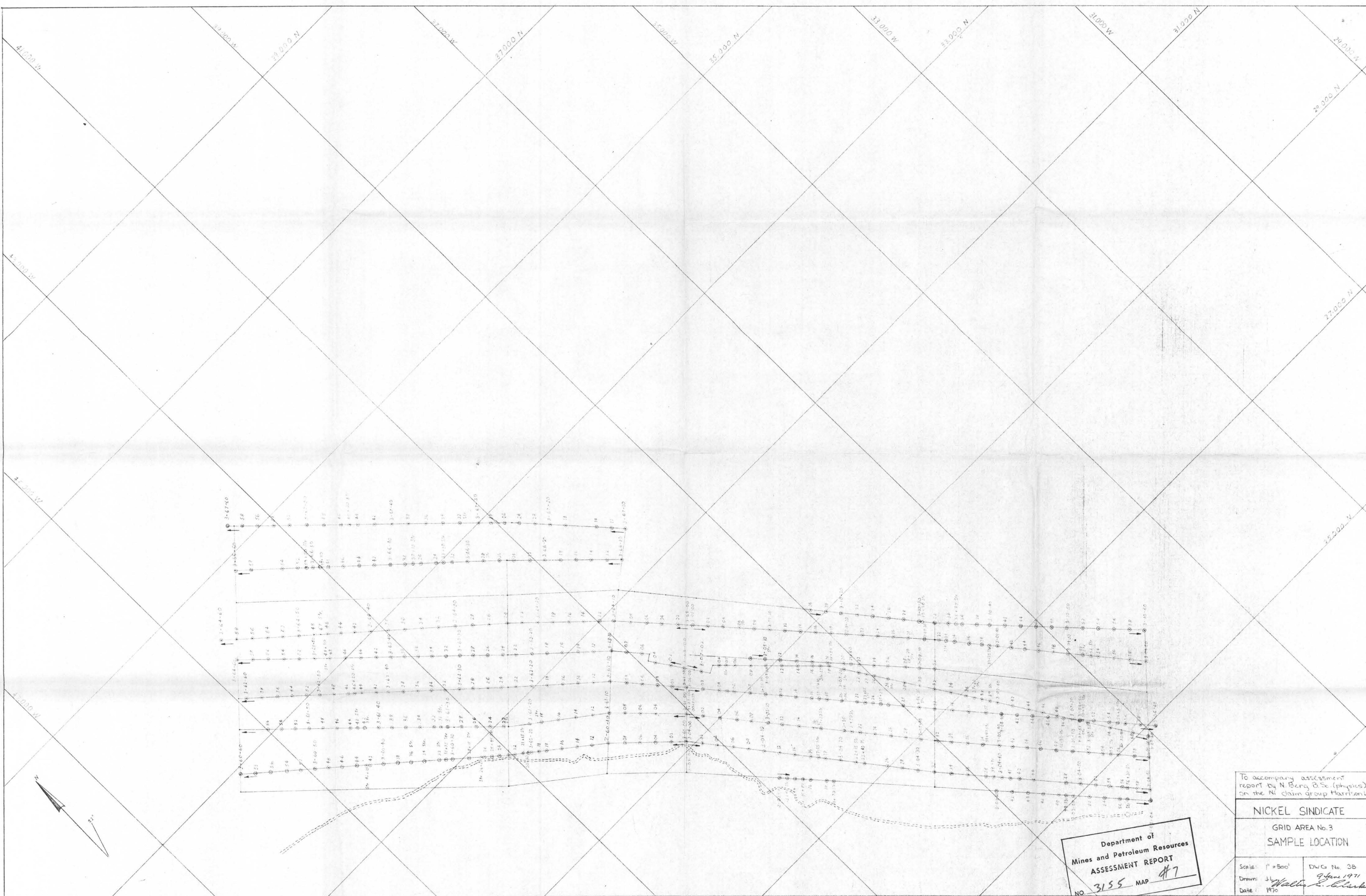


To accompany assessment report by N. Berg B.Sc. (Physics) on the Ni claim group Harrison, L.K.

NICKEL SYNDICATE
 GRID AREA No. 3
GEOCHEM MAP
 Ni - PPM

Department of
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 ASSESSMENT REPORT
 NO. 3155 MAP A 8

Scale: 1" = 500' DWG. No. 3C
 Drawn: J.L.
 Date: 1971
 9 June 1971



To accompany assessment report by N. Berg B.Sc. (physics) on the Ni claim group Harrison

NICKEL SINDICATE

GRID AREA No. 3

SAMPLE LOCATION

Scale: 1" = 500'

DWG. No. 3B

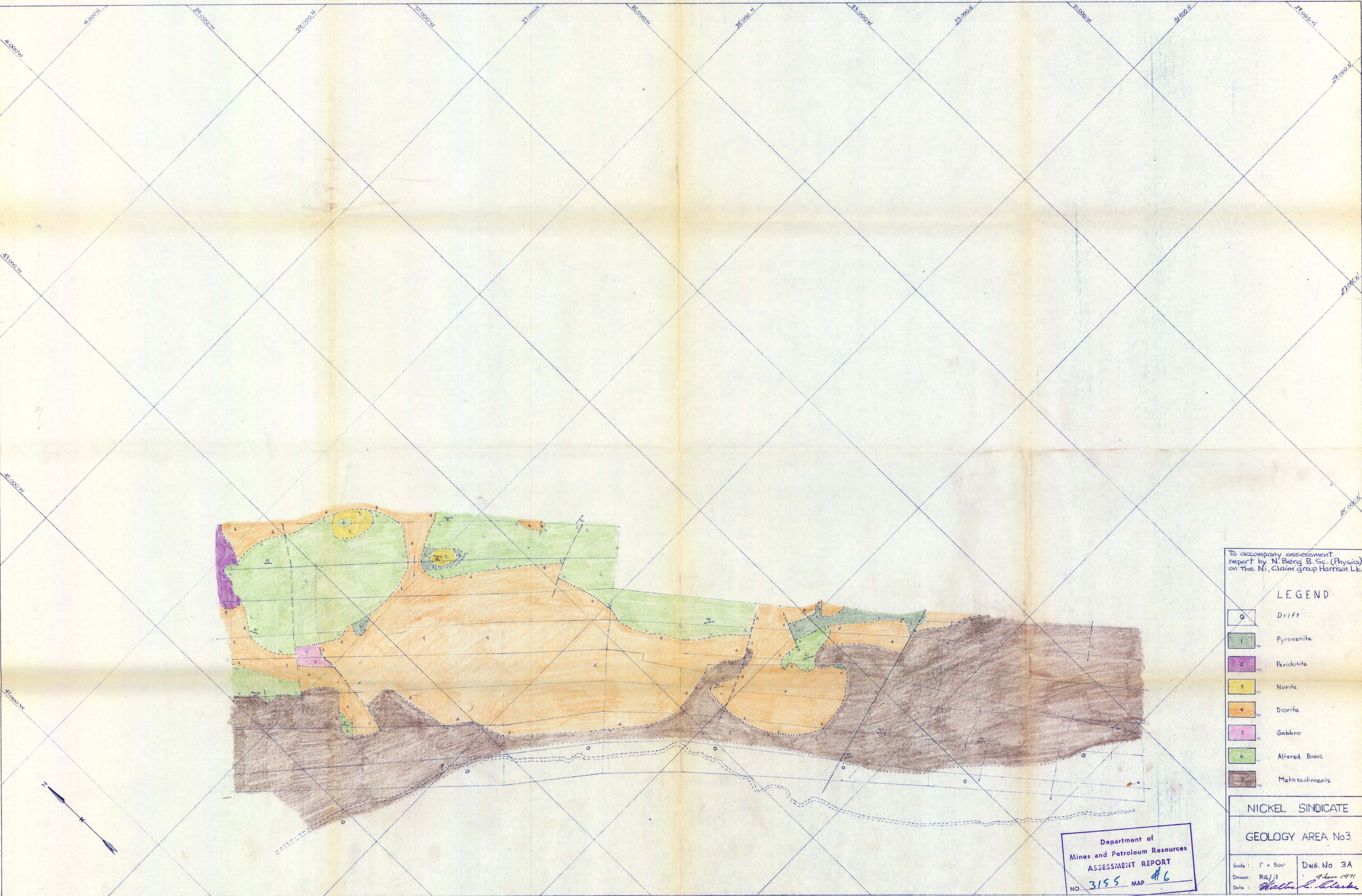
Drawn: J.L. Waller

Date: 1970

Department of Mines and Petroleum Resources

ASSESSMENT REPORT

NO. 3155 MAP #7



To accompany assessment report by N. Berg B. Sc. (Physics) on the Ni. claim group Harrison Lk.

LEGEND

- 0 Drift
- 1 Pyroxenite
- 2 Peridotite
- 3 Norite
- 4 Diorite
- 5 Gabbro
- 6 Altered Basic
- 7 Metasediments

NICKEL SINDICATE

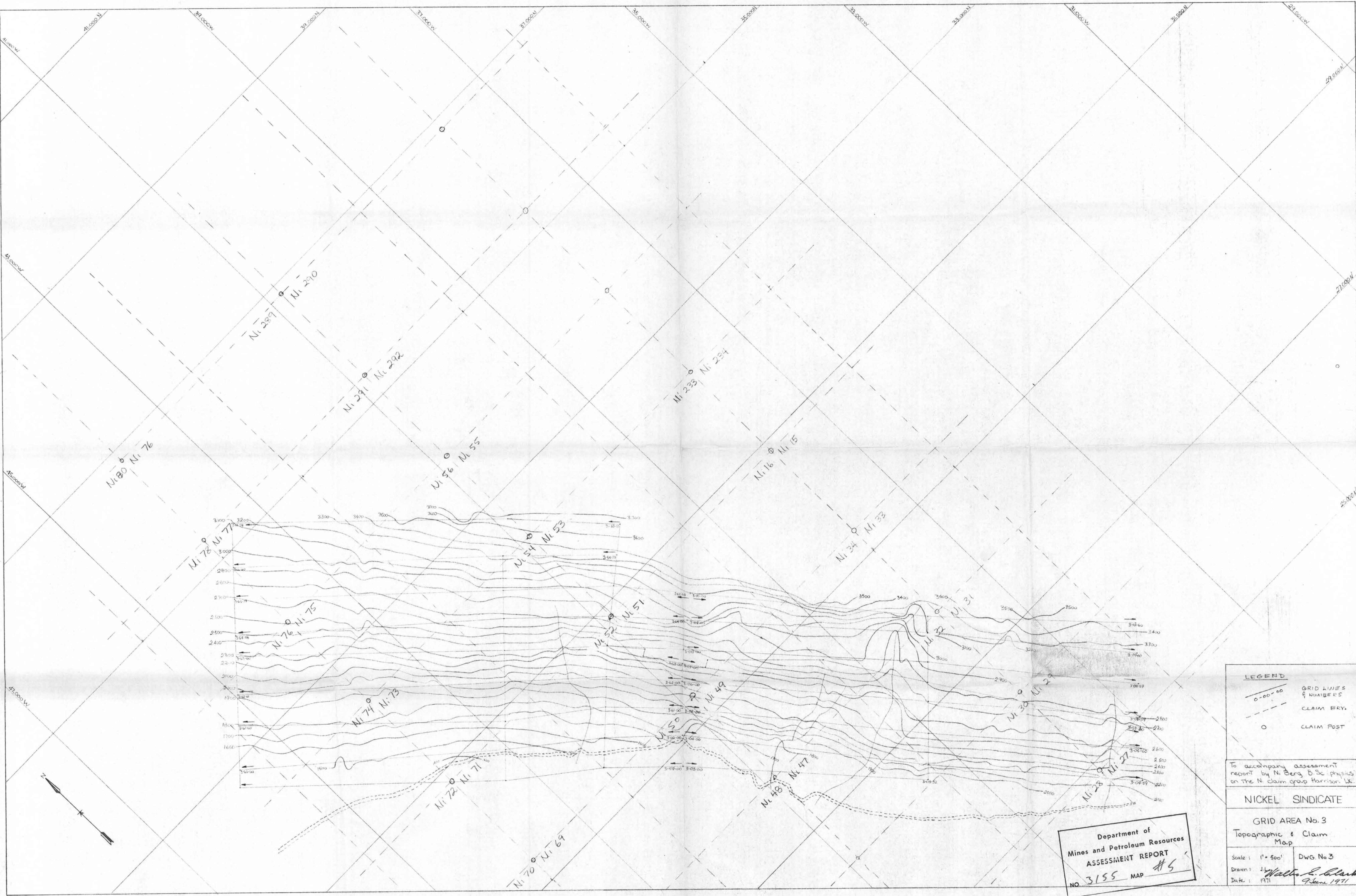
GEOLOGY AREA No3.

Department of
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ASSESSMENT REPORT
NO. 3155 MAP #6

Scale: 1" = 500'
Drawn: R.G./JL
Date: *Walter E. Clarke*

DWG. No 3A

9 June 1971

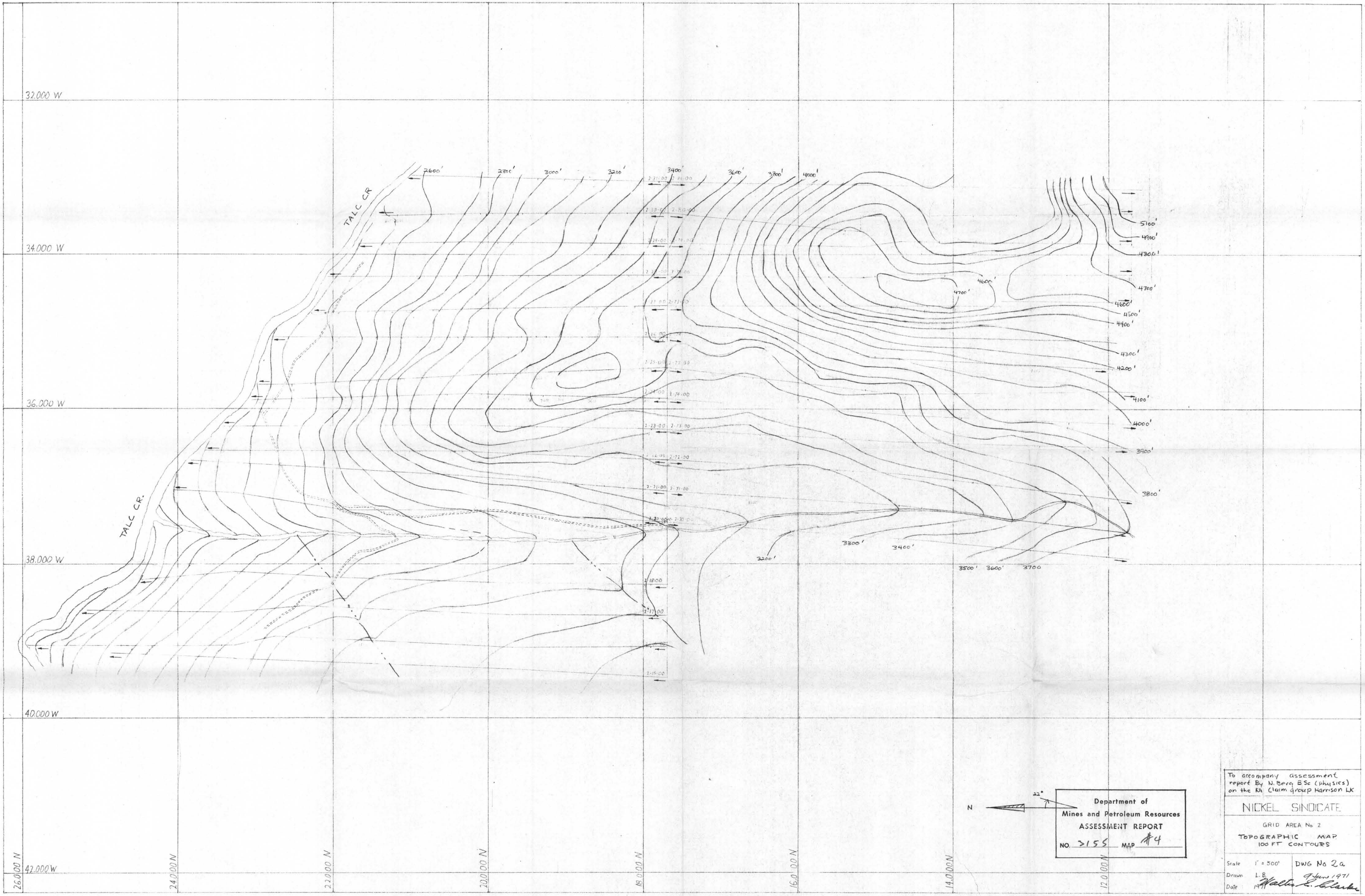


LEGEND	
	GRID LINES & NUMBERS
	CLAIM BRY.
	CLAIM POST

To accompany assessment report by N. Berg B.Sc. physicist on the Ni claim group Harrison L.S.

NICKEL SINDICATE
 GRID AREA No. 3
 Topographic & Claim Map
 Scale: 1" = 500'
 Drawn: *Walter E. Clark*
 Date: 1971
 9 June 1971

Department of
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ASSESSMENT REPORT
 NO. 3155 MAP #5

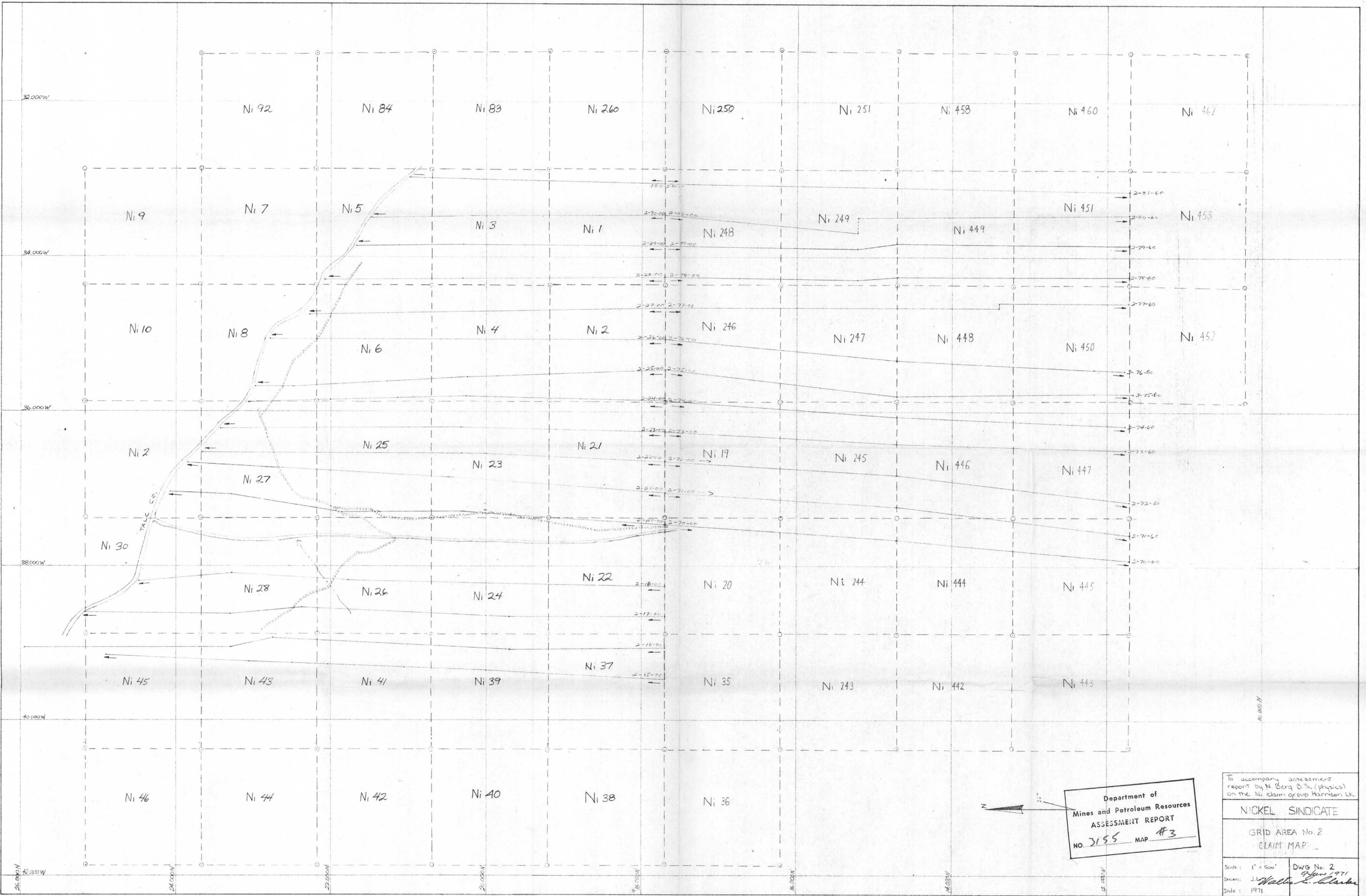


Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2155 MAP #4

To accompany assessment
report by N. Bevan B.Sc. (physics)
on the Mt. Claim group Harrison LK

NICKEL SYNDICATE
GRID AREA No 2
TOPOGRAPHIC MAP
100 FT CONTOURS

Scale 1" = 500'
Drawn L.B.
Date 1971
DWG No 2a
Hector S. Clarke



Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. 3155 MAP #3

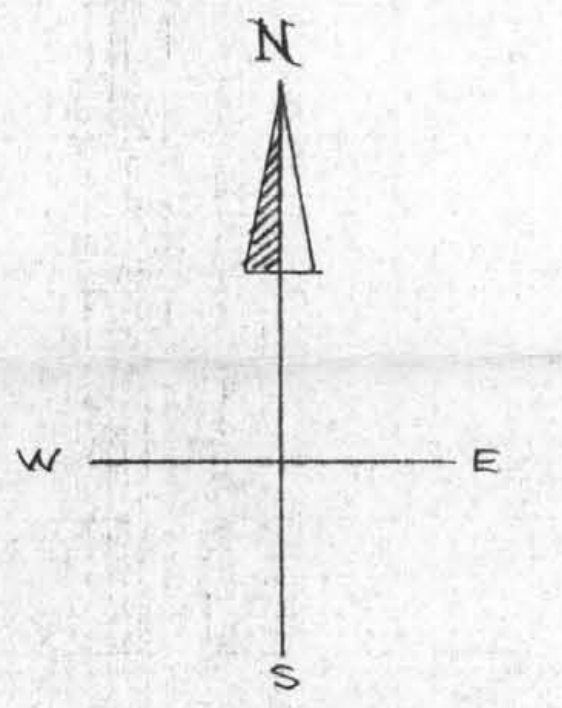
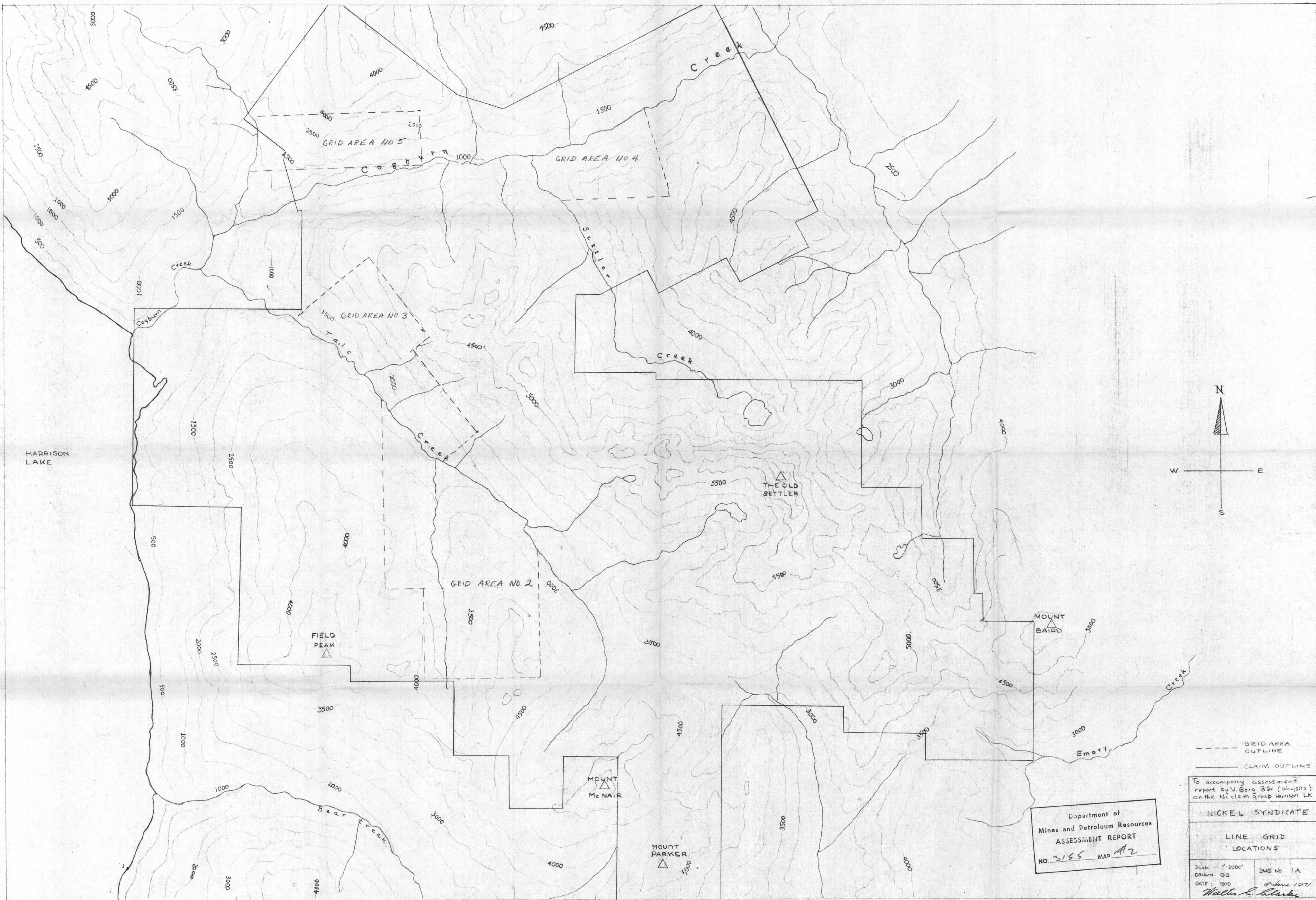
To accompany assessment
 report by N. Berg B.S. (physics)
 on the Ni claim group Harrison LK.

NICKEL SINDICATE

GRID AREA No. 2
 CLAIM MAP

Scale: 1" = 500'
 Drawn: J.L. *Walter L. Blaker*
 Date: 1971

DWG No. 2
 9/20/71



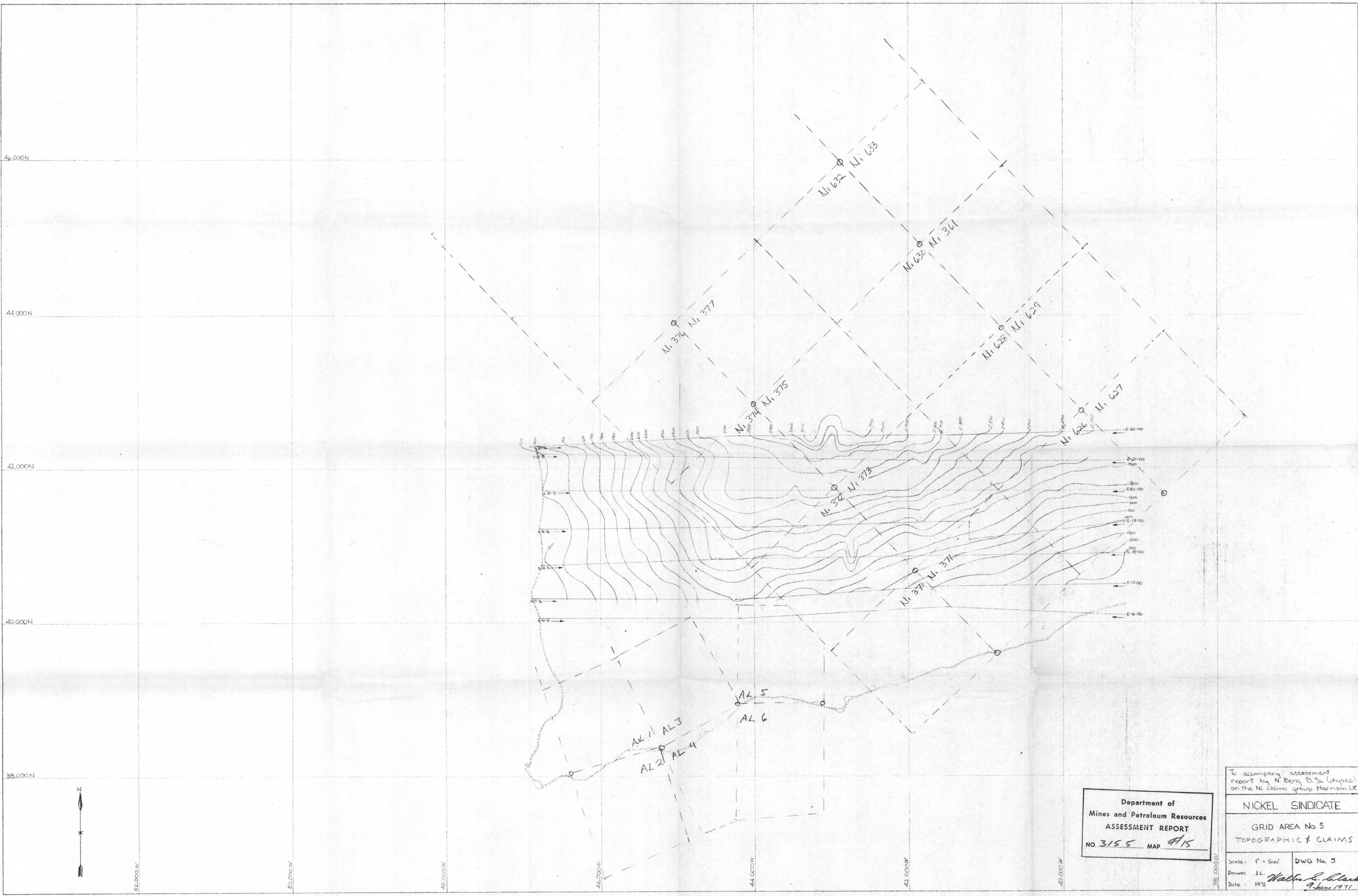
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3155 MAP A2

--- GRID AREA OUTLINE
— CLAIM OUTLINE

To accompany assessment report by N. Berg B.Sc. (physics) on the Ni claim group Harrison, L.K.

NICKEL SYNDICATE
LINE GRID LOCATIONS

Scale: 1"=2000'
DRAWN: GG
DATE: 1970
DWS No. 1A
June 1971
Walter E. Clarke



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3155 MAP #15

To accompany assessment report by N Berg B.Sc (Physics) on the Ni claims group Harrison LK

NICKEL SINDICATE
GRID AREA No. 5
TOPOGRAPHIC & CLAIMS

Scale: 1" = 500'
Drawn: J.L.
Date: 1971

DWG No. 5
Walter E. Clark
9 June 1971