061941

GEOLOGICAL REPORT

ON THE

RACKLA PROJECT

U435

for

Chevron Standard Limited
Minerals Staff
901-355 Burrard Street
Vancouver, B. C.

by

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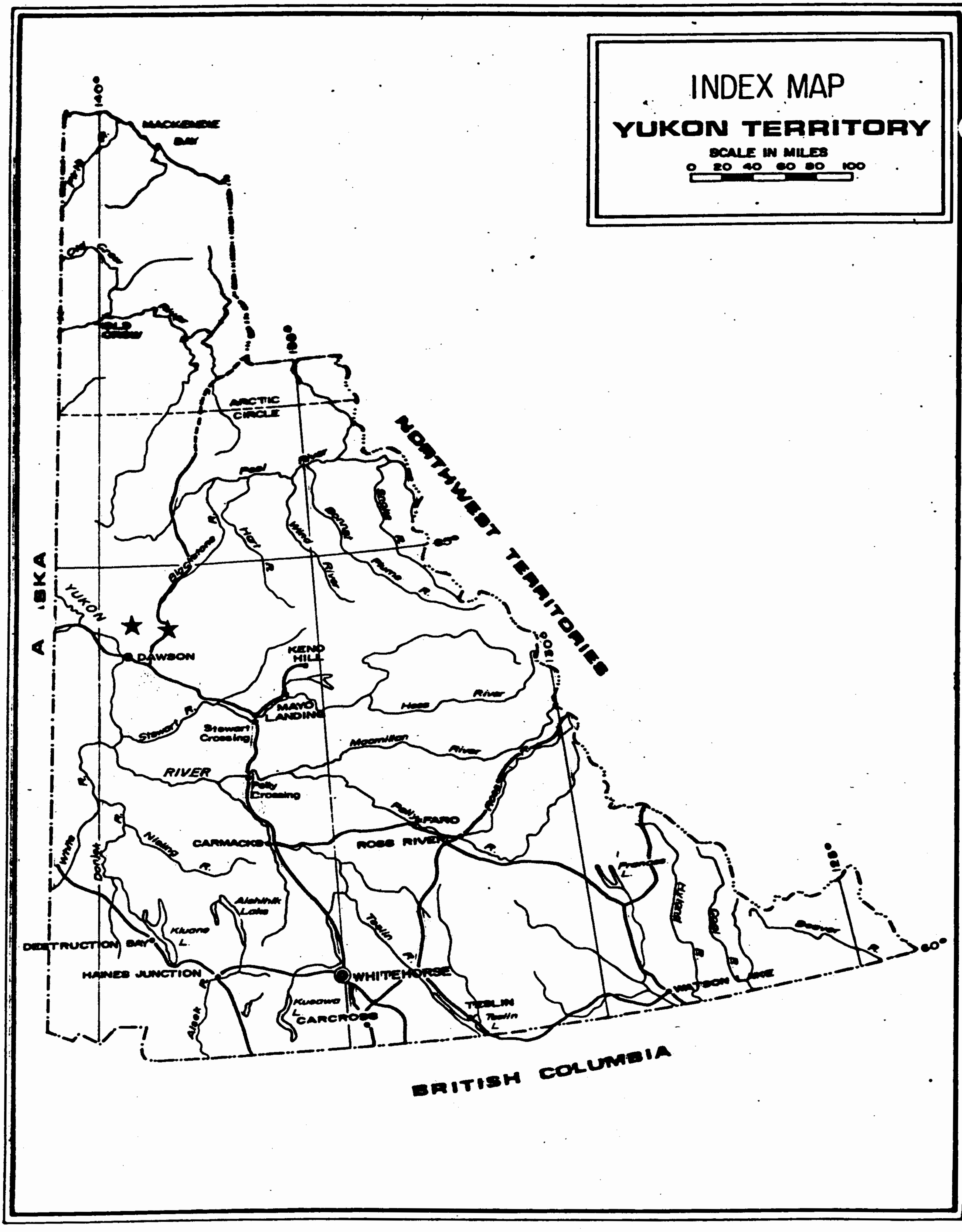
INTRODUCTION

This report discusses the field season on the Rackla project (Fig. 1) that started on 1977-06-20 and finished on 1977-09-15. The objective of the field work was to:

1) examine areas within the two properties that produced anomalous values either in rocks, soil or stream samples, or that could be expected to have mineralization (based on a concept developed during the 1976 field season, in which the mineralization found appeared to be associated with one rock type).
2) once mineralization was located, try to obtain size and grade.

The field crew consisted of two geologists (J. Helton and G. Walton), three assistants (J. Cheung, K.L. Mah and S. Fong), a blaster (J. Kelln) and a cook (A. Walton). This crew was increased to eleven for four weeks by the drill crew from Wink International.

No new claims were added to the properties during the field season. Most of the claims were renewed, although some were allowed to lapse. The Deadman property is composed of the following claims: A (1-16), B (1-4), AB (1-76) and WAD (1-48). The A (1-16), B (1-4), AB (1-60) and WAD (1-16, 26-48) have been renewed and are covered until October 14, 1982. The AB (61-76) and WAD (23-25) will lapse in 1978, while the WAD 17-22 were dropped in 1977. The Antimony property is composed of the C claims (1-69). No assessment work was filed on these claims,


INDEX MAP
YUKON TERRITORY
SCALE IN MILES
0 20 40 60 80 100
MACKENZIE BAY
140°
136°
132°
128°
60°
OLD CROW
ARCTIC CIRCLE
Peel
River
Blackstone R.
Hart R.
Wind River
Bonnet Plume R.
Snake R.
NORTHWEST TERRITORIES
YUKON
DAWSON
KENO HILL
MAYO LANDING
Hess River
Stewart R.
Stewart Crossing
Macmillan River
RIVER
Pelly Crossing
Pelly
FARO
Ross R.
CARMACKS
ROSS RIVER
Nisling R.
White
Donjek
Aishihik Lake
Kluane L.
DESTRUCTION BAY
HAINES JUNCTION
WHITEHORSE
Teslin R.
Kusawa L.
CARCROSS
Alsek
TESLIN
Teslin L.
Frances L.
Coal R.
Beaver R.
WATSON LAKE
BRITISH COLUMBIA
A SKA

and as a result, C15-26 and C29-69 were allowed to lapse, and the C1-14 and C27-28 will lapse in 1978, unless further work is done on them.

SURVEYS

Two types of survey were done - one was radiometric survey and the other was soil sampling. These were both completed on grids. In addition to these surveys, a Scintrex BGS 1SL scintillometer was carried on traverses to monitor radiometric values.

The radiometric surveys were carried out on contour grids, and pace and compass grids. The spacing on each grid varied, depending upon the detail required. All readings were taken at waist level.

Soil sampling was carried out on pace and compass grids and consisted of up to three samples (one from the A, B and C where possible) from one sample location. This was an attempt to establish which horizon would show the best anomaly. Soil sampling was only undertaken in areas where there was mineralization, or where previous soil samples were anomalous.

Once a good prospect was identified by radiometrics and/or soil sampling it became necessary to trench.

TRENCHING

This was the next step in assessing the mineralization located by the surveys. Twenty-four blasted and hand dug trenches were completed during the summer.

The intention of the trenches was to establish the presence and extent, if any, of mineralization below the surface. In many cases, the trenches clarified the association and location of the mineralization. After completion of the trench radiometric cross section, chip samples were taken. Results from the chip sampling and the radiometric cross section showed how spotty the mineralization was within the trenches. In many cases, spectacular grades on surface quickly disappeared, or were shown to be quite local once trenching was completed.

DRILLING

A total of 6 drill holes were completed, giving 741 feet of core. Drill sites selected were based upon the assays from mineralized zones obtained in 1976, prior to the results from the 1977 trenching. The drill holes were designed to hit the target horizon 50 feet below the surface to complete the initial stage of a three dimensional study of any ore bodies.

The drilling was initially designed to be the start of a larger drilling program once the mineralization was identified.

All flow banded syenite in each hole was split and sent in for assaying (see Appendix I). The remaining core is stored at the Geological offices of the Department of Indian Affairs and Northern Development, Whitehorse, Yukon Territory.

GEOLOGY

This section will discuss the geology of the Deadman stock only. A brief summary of the geology of the Antimony Stock can be found in the detailed section in which the Antimony Mountain Stock is discussed.

The more intense mapping this summer indicated that the geological picture is far more complicated (Fig. 2) than was presented at the end of the 1976 field season. The phases are far more accurately mapped and indicate a very complex intrusion or possibly series of intrusions.

The phases mapped in 1976 have remained intact, and appear mappable, except in some circumstances where the black and white syenite can be mistaken for the gray syenite. This normally occurs near the contact of the two phases.

Intrusive contact was observed between the two phases in one locality, clearly indicating the gray syenite is younger than the black and white syenite. Since the two phases have a very similar mineralogy, texture, and can have the same weather characteristics, it is believed that they must be related in some way. This relationship may be

because they are derived from the same magma or that they are the same fractionation product of two separate, but similar, magmas.

Several contacts between the gray syenite and the nepheline monzonite have been observed. They are always very sharp and when observed, there is no explosive appearance. There is a grain size variation in the gray syenite and no mafics at the contact, while in the nepheline monzonite, there is little to no nepheline, although the grain size remains constant. This suggests that the gray syenite is younger than the nepheline monzonite.

The nepheline monzonite and the black and white syenite have never been seen in contact, except in the form of dykes and blocks. The nepheline monzonite dyke was cutting the black and white syenite, while a large block of black and white syenite was found surrounded by nepheline monzonite, meaning the nepheline monzonite is younger than the black and white syenite.

The flow banded syenite is in contact with all the phases within the stock at one point or another. Although the contacts with all the phases are generally very sharp, the flow banded syenite was considered to be a contact phase of the gray syenite. In many cases, the flow banded syenite is associated with the gray syenite and is often between the gray syenite and another phase of the intrusion. However, detailed mapping of the intrusion showed that in several places, the gray syenite was in direct contact with either the black and white or the

the nepheline monzonite. Finally, the flow banded syenite was found cutting the gray syenite and therefore proving that the flow banded syenite is actually a dyke. It appears to have been intruded primarily along the contact of the gray syenite. This zone must have been an area of weakness and during the cooling, the flow banded syenite was squeezed, thereby producing the flow textures.

In many areas, the flow banded syenite was found to be in discontinuous bodies which could be connected at depth, but are definitely unconnected on the surface.

The flow banded syenite was the rock type that was found during core logging that the flow banded syenite could be separated into layers based upon mineralogical changes. (These changes require confirmation by petrographic study, Appendix 2.) The flow banded syenite appears to be composed of the following bands:

Biotite syenite	- fine grained, equigranular, compact, sugary texture, medium grained.
Biotite-hornblende syenite	- small phenocrysts of hornblende (¼"-½")(dk. gray) surrounding fine grained matrix of biotite and feldspar.
Hornblende syenite	- white rock with ½" phenocryst of hornblende, no visible biotite in matrix.

Pseudoleucite syenite	- large phenocrysts (occasionally oval shaped) in a matrix of biotite and feldspar.
Garnet syenite	- brown to black garnets in a fine-grained matrix of feldspar.

The other phases are quite homogeneous, although there are a few variations in nepheline content for the nepheline monzonite and grain size and textures in the gray syenite and the black and white syenite. However, these changes are quite minor and the phases are mainly homogeneous.

The following are descriptions of the phases taken from field descriptions:

Gray syenite:	Medium to coarse grained equigranular, rounded weathering outcrops, feldspar (90-95%) and hornblende (5-10%) are major minerals present. Gray to light gray weathered and fresh colour, minor thorium mineralization in small localities. Feldspar appear quite dirty.
Nepheline Monzonite:	Medium grained equigranular, anhedral crystal. Nepheline 5-20%, feldspar 75-90% with minor biotite 5%. Blocky weathering, pale pink to bluish when fresh but often white in weathered outcrops attracted a greenish lichen.

Black & white syenite: Medium to coarse grained, porphyritic feldspar in anhedral hornblende and feldspar matrix, some black garnets. It weathers occasionally round but normally blocky. The feldspars are clean and white and stand out in contrast with the black hornblende and garnet. The hornblende and garnet vary in quantity and can be up to 50% of the rock by volume. The rock is generally black and white in fresh and weathered colour.

Mapping indicates that the rock types were intruded in the following series:

Black and white syenite - oldest
Gray syenite
Nepheline monzonite
Flow banded syenite - youngest

The structural information has changed only slightly with a better idea of the attitude of the contacts, because of information gained during drilling and detailed mapping. The strike of the contacts obviously varies considerably, however, the dip is fairly consistently between 45^{o} and 80^{o} towards the centre of the intrusion.

The uranium mineralization was found to be associated with the flow banded syenite (first as it was found in 1976). Not a lot of attention was paid to the thorium mineralization found in gray syenite during 1976.

Three types of anomalies were picked up by the scintillometers, and they are as follows:

1) Those associated with abundant biotite and possibly fluorite in the flow banded syenite.
2) Spot highs - some in the flow banded syenite while others are in the gray syenite.
3) Fracture anomalies.

Type 3 anomalies never produced any anomalous rock assays, although the radiometric count was often over 1000 cps on the Scintrex BGS 1SL. The soil near these fractures would occasionally be quite anomalous. However, they were not considered to be very significant.

The Type 2 mineralization that was found in the flow banded syenite was quite small. In all cases, only a few crystals were producing the anomalous values. These crystals upon assay gave anomalous values (see RA-77-290), however, samples taken in a circle six inches in radius away did not produce anomalous results (see RA-77-291). This type of mineralization is therefore not significant when looking for an ore body.

The Type 1 mineralization could be significant if a large enough deposit could be found. This has produced values ranging from .2% to 1.6% U_3O_8. Unfortunately, all mineralization found to date has been quite local. In all cases, the mineralization has completely

disappeared during trenching. The mineralization also appeared to be very localized and drops off very sharply.

The uranium is definitely associated with a high percentage of biotite ± fluorite. No pods of this type were intersected during drilling. Although some biotite syenites were drilled, they did not have the high percentage of biotite as found in these pods.

The pods of uranium rich rock appear to be associated with the contacts of the flow banded syenite and other rock types (black and white, gray syenites or nepheline monzonite). In all cases found to date, the mineralization has been found close to a contact. However, the mineralization is not always present at every contact and does appear to be quite spotty. This may improve at depth, however, since the drill holes did not intersect any mineralization, it appears doubtful.

DETAILED WORK AREAS

The majority of the work was concentrated in eight major areas, which are as follows:

Showing 1, 2, 3 & 4
9.7 Area
The Hump
The Big Valley
Antimony Mountain

The first seven are in the Deadman Stock while the last one covered

the Antimony stock.

The detailed work areas were all selected on the basis of the results from the 1976 field program. However, as work continued, some areas received more intense work, and others less intense work than what was planned. The main reason for changes in the original work intensity was because detailed mapping outlined new areas where the flow banded syenite outcropped, and because the combination of prospecting, trenching and drilling indicated the mineralization was localized within the flow banded syenite. This changed the previous concept based upon field work in 1976, in which it was not thought to be localized in a lithologic position.

The above areas were selected because the field work for 1976 indicated they had the highest priority.

SHOWING 1

This area was the most important location, and consumed a lot of time and money. Eight trenches and 3 drill holes were put into the showing because of the results obtained from a small blast at the end of the 1976 summer program.

The results obtained at the end of the 1976 field season ranged from .2% to 1.5% after blasting 5 feet. This was a dramatic improvement

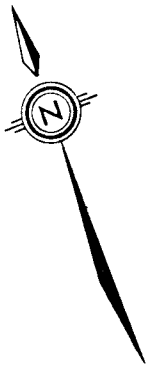
over surface values that produced a high of 1200 ppm. The intention was to continue the blasting and also drill the showing so the ore zone would be intersected at 50 feet, presuming it is stratabound.

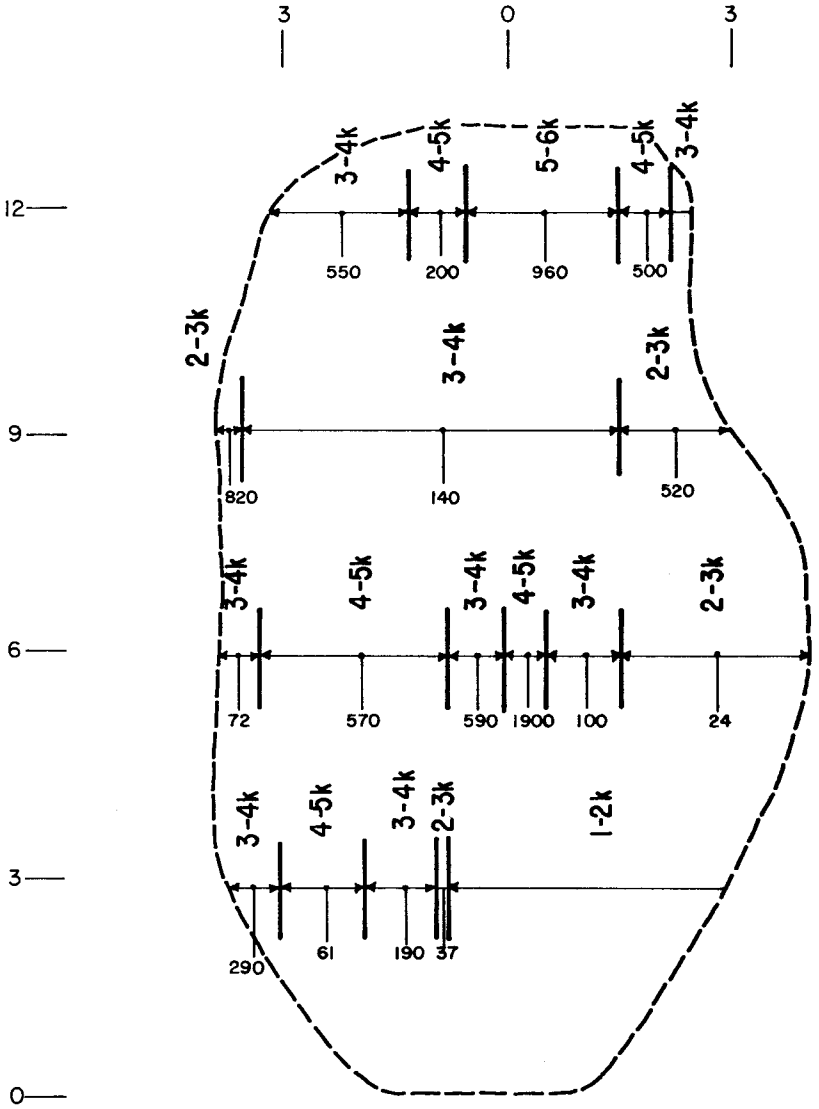
The trenching was the most informative tool in this situation, because we could trench the actual showing and sample different depths, thereby establishing a three dimensional picture of the distribution of the mineralization. A picture quickly appears once assay results returned and showed how spotty the mineralization was and how rapidly it decreased with depth (see Figs. 3, 4, 5, 6). Finally, the assay results from the drill hole completed the picture and showed that at 50 feet the uranium values had returned to the background.

One of the important points that can be seen from Figure 3 is the location of the mineralization with respect to the contact of the flow banded syenite and the gray syenite. This is something that was found time and time again. Although prospecting along this contact did not produce any further mineralization within this area, the two drill holes on either side of the showing did not locate any more mineralization.

SHOWING 2

This showing, when located, was a small vein of pitchblende. After two trenches and a drill hole, the mineralization had been extended, but not by a great deal. Once the blasting had been completed, it was





Blasting to 5' level

LEGEND

200 — Chip sample, value in ppm U

Extent of pit after blasting.

k — Radiometrics in 1000 cps measured with Scintrex BGS-ISL.

FIG. 4

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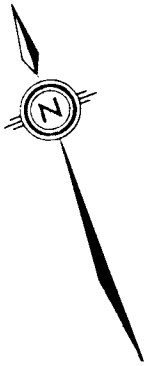
TRENCH DIAGRAM # 1

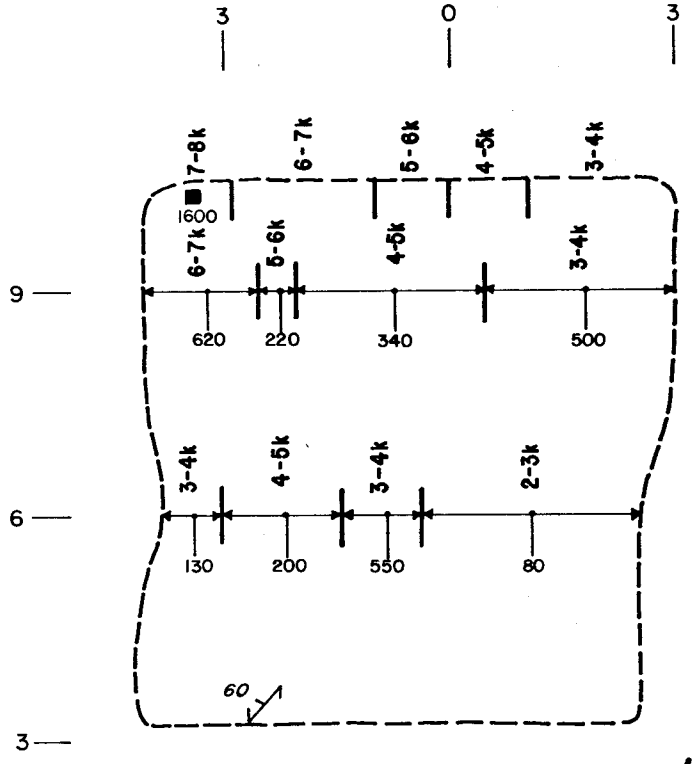
CLAIM NUMBER A10

RACKLA PROJECT U435

SCALE IN FEET

2 0 2 4





Blasting to 10' level

LEGEND

220 — Chip sample, value in ppm U

■ 1600 — Rock sample, value in ppm U

Extent of pit at an average depth of ten feet after blasting

k — Radiometrics in 1000 cps measured with Scintrex BGS - ISL.

Foliation

FIG. 5

CHEVRON STANDARD LIMITED

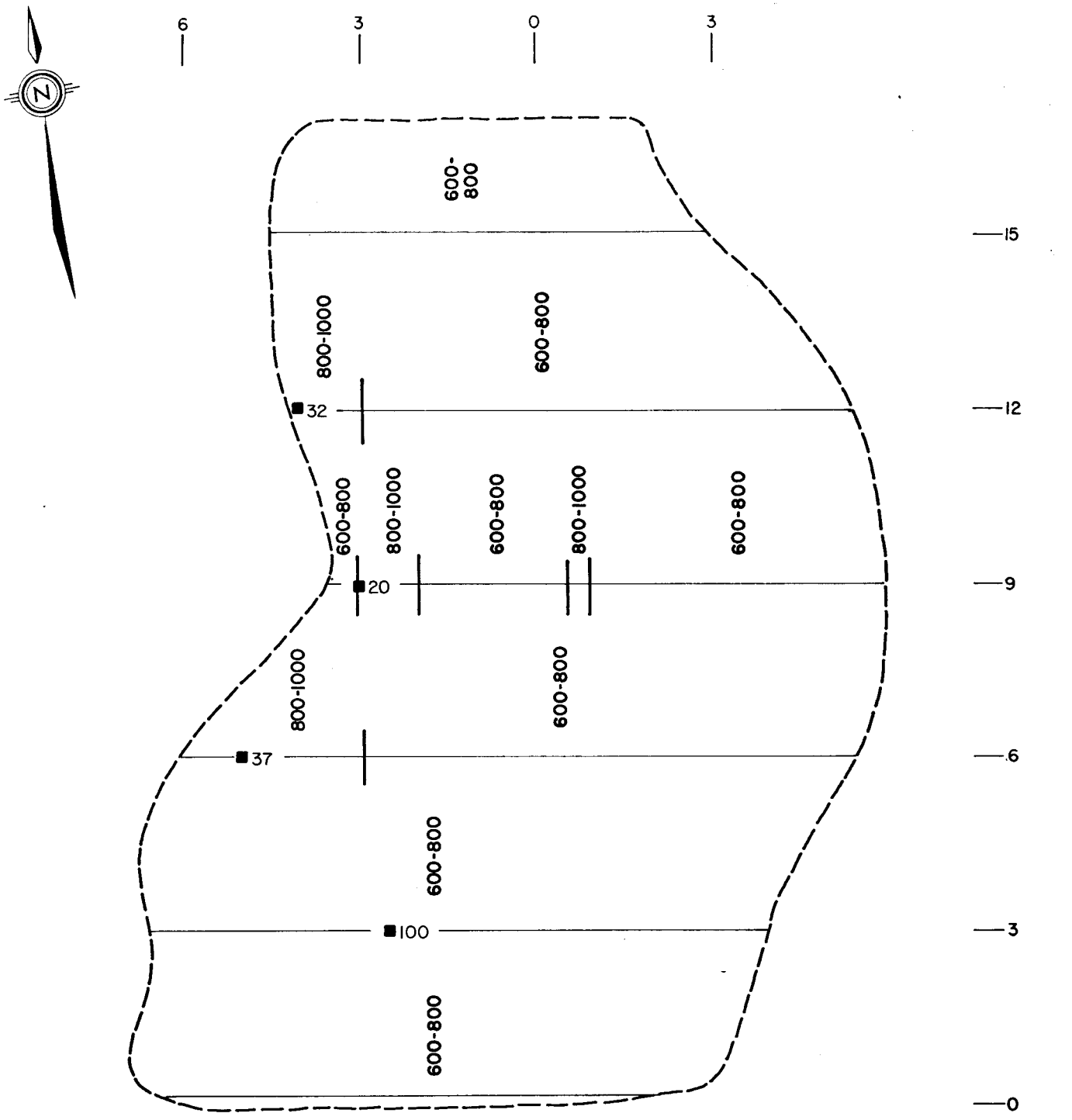
TRENCH DIAGRAM # 1

CLAIM NUMBER A10

RACKLA PROJECT U435

SCALE IN FEET

2 0 2 4



LEGEND

Extent of pit after blasting

600 Radiometrics in cps measured with Scintrex BGS-ISL.

■ 20 Rock sample, value in ppm U

FIG. 6

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TRENCH DIAGRAM # 2

CLAIM NUMBER AI

RACKLA PROJECT U435

SCALE IN FEET

0 3 6

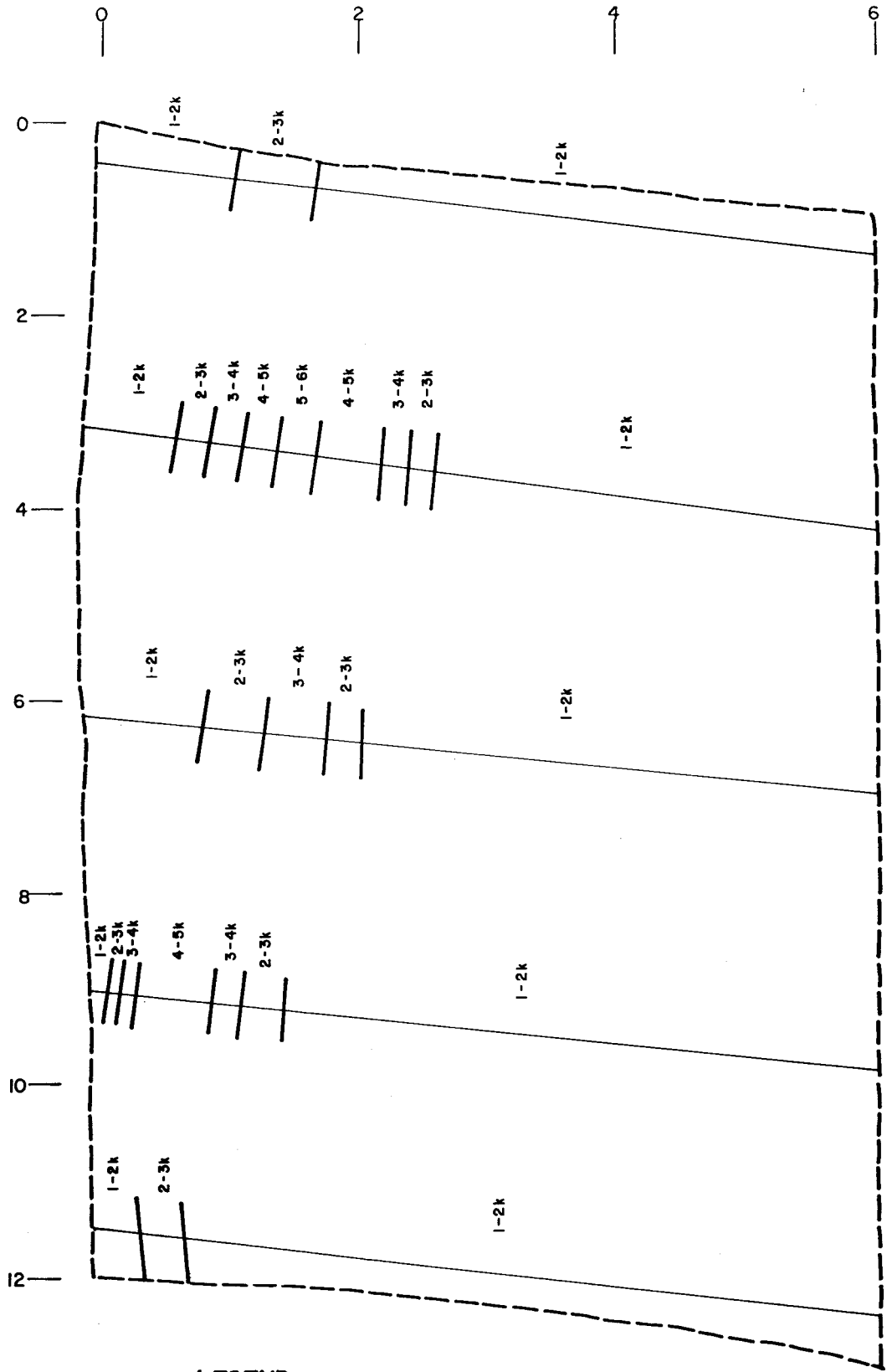
found that small veinlets of pitchblende were associated with the contact area of small blocks of black and white syenite (see Fig. 7, 8). The mineralization was discontinuous and tended to be in small stringers, very closely associated with the contact of these blocks and the flow banded syenite.

The drilling intersected no mineralization at all, and again gave background values throughout the hole (see Appendix 3).

SHOWING 3

This showing never produced good assays in 1976, however, because of the spectacular results from the trenching on No. 1 showing in 1976, it was believed we may have similar results in this showing. With this idea in mind, a large trench that would get below the surface weathering effects and give some fresh rock which would have higher uranium assays was planned. Instead of one trench, three trenches were actually completed. However, the results did not increase with depth.

The large trench was completed to a depth of six feet and the two smaller trenches were completed to four feet (see Fig. 9, 10, 11, 12). One of the small trenches was located over the place where a sample assaying .2% U_3O_8 was picked up, but it produced no more anomalous values.



LEGEND

Extent of pit after blasting

k Radiometrics in 1000 cps measured with Scintrex BGS-ISL.

FIG. 7

CHEVRON STANDARD LIMITED

TRENCH DIAGRAM # 13

RACKLA PROJECT U435

SCALE IN FEET

HORIZONTAL 0 1 2

VERTICAL 0 2 4

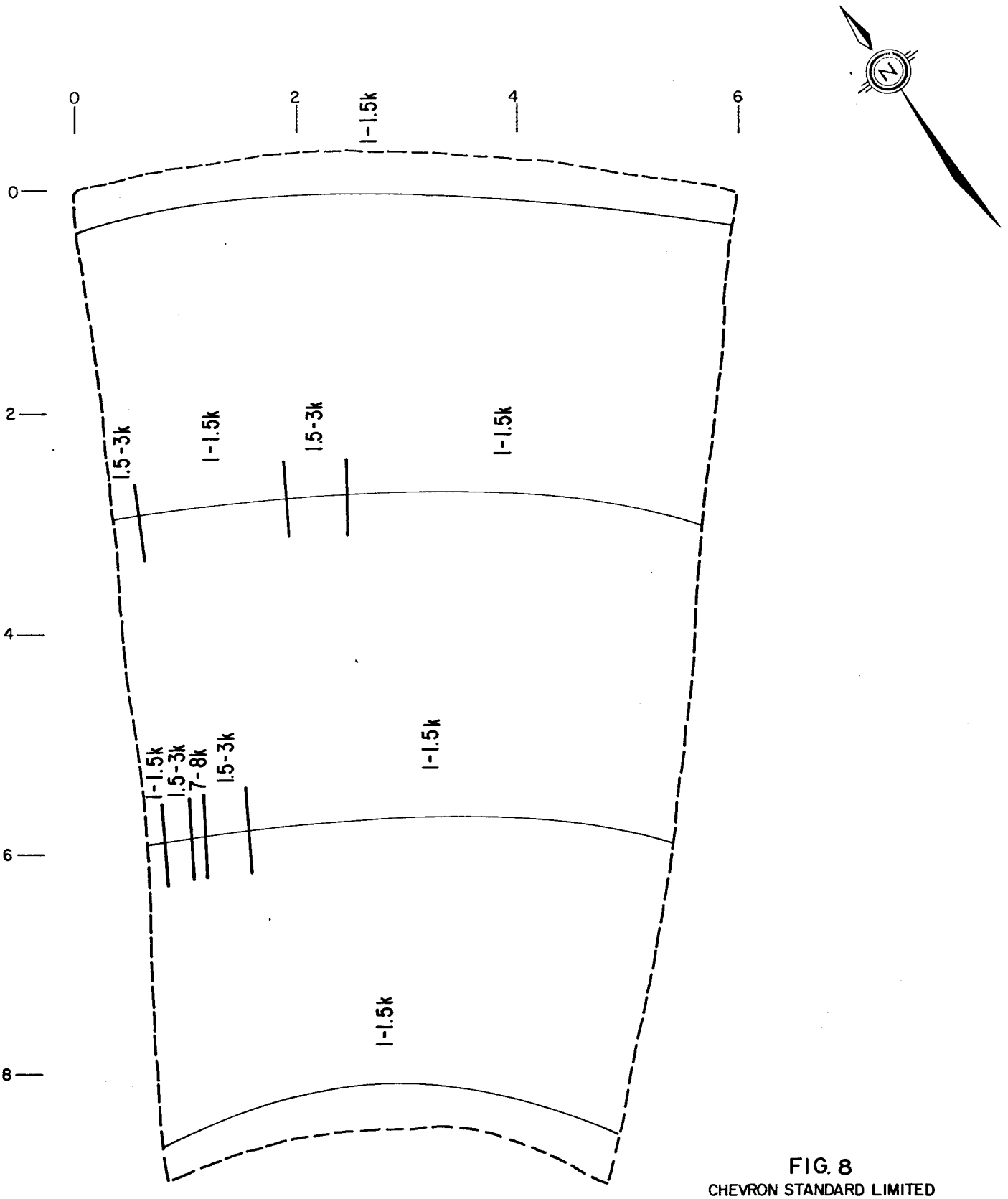


FIG. 8

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TRENCH DIAGRAM # 14

RACKLA PROJECT U435

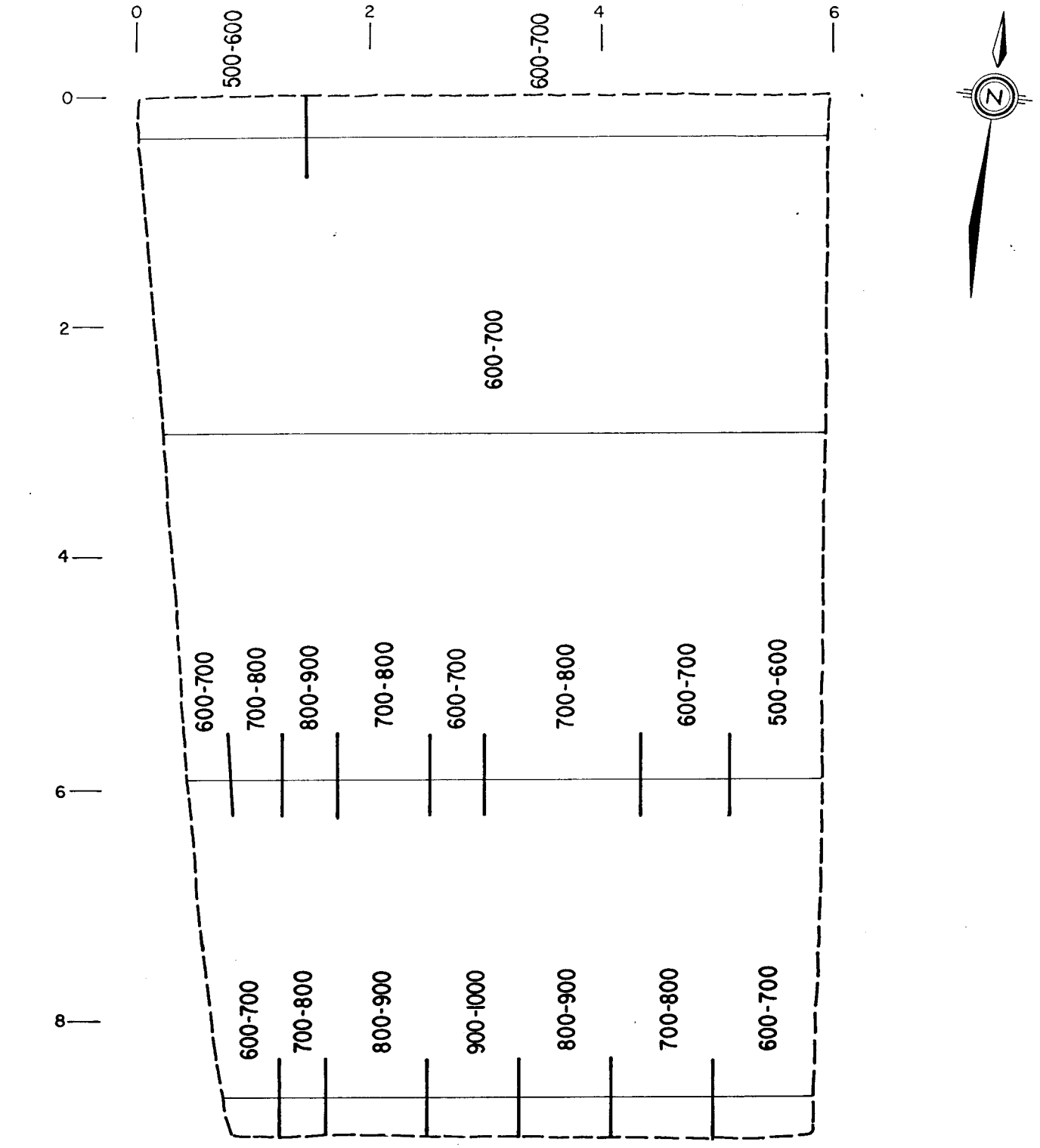
LEGEND

Extent of pit after blasting

k — Radiometrics in 1000 cps measured with Scintrex BGS-ISL.

SCALE IN FEET

0 1 2



LEGEND

Extent of pit after blasting

800 Radiometrics in cps measured with Scintrex BGS-ISL.

FIG. 9

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TRENCH DIAGRAM # 9

RACKLA PROJECT U435

SCALE IN FEET

0 1 2

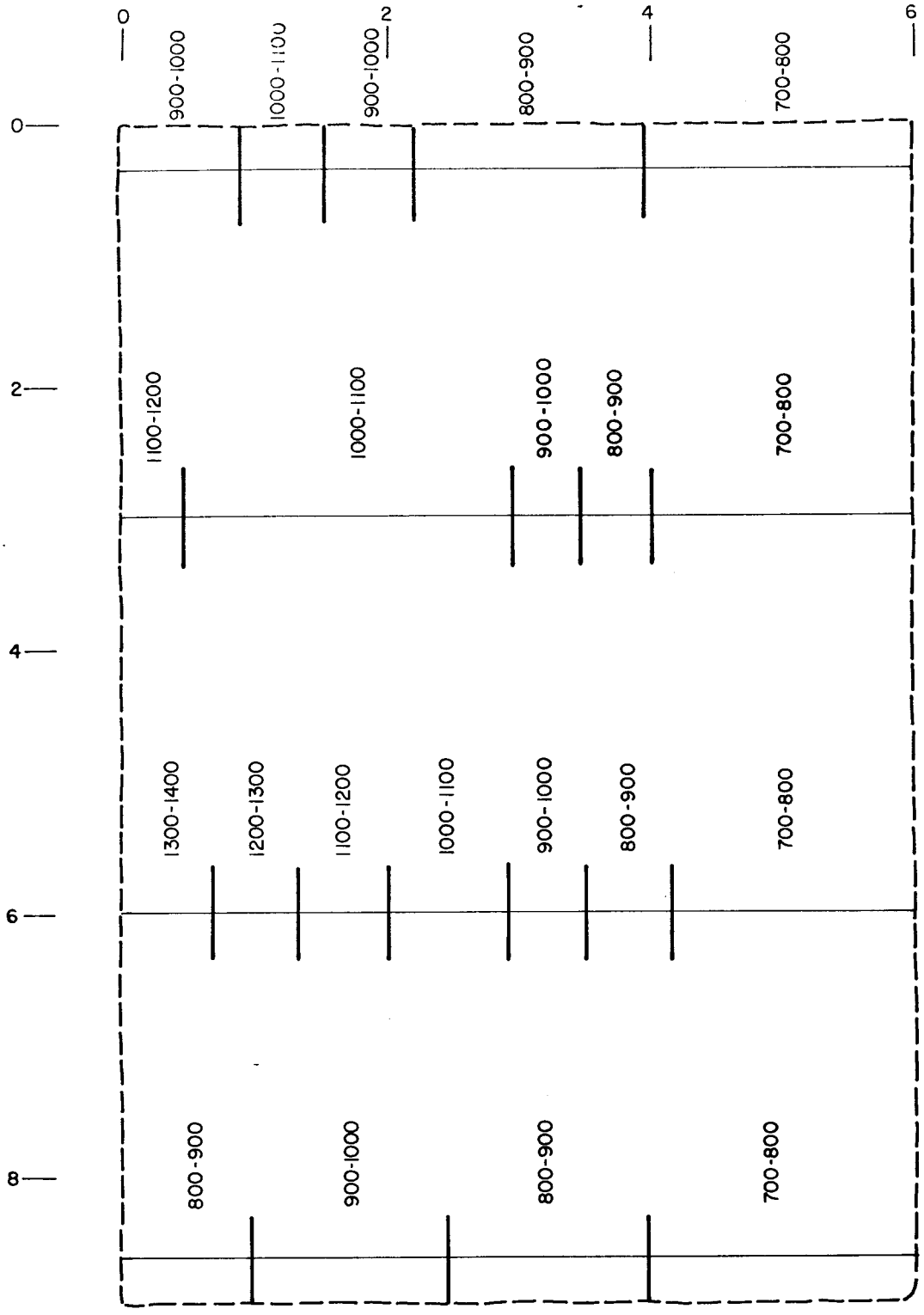

FIG. 10

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TRENCH DIAGRAM # 10

RACKLA PROJECT U435

LEGEND

Extent of pit after blasting

700 Radiometrics in cps measured with Scintrex BGS-ISL

N

SCALE IN FEET

0 2 4

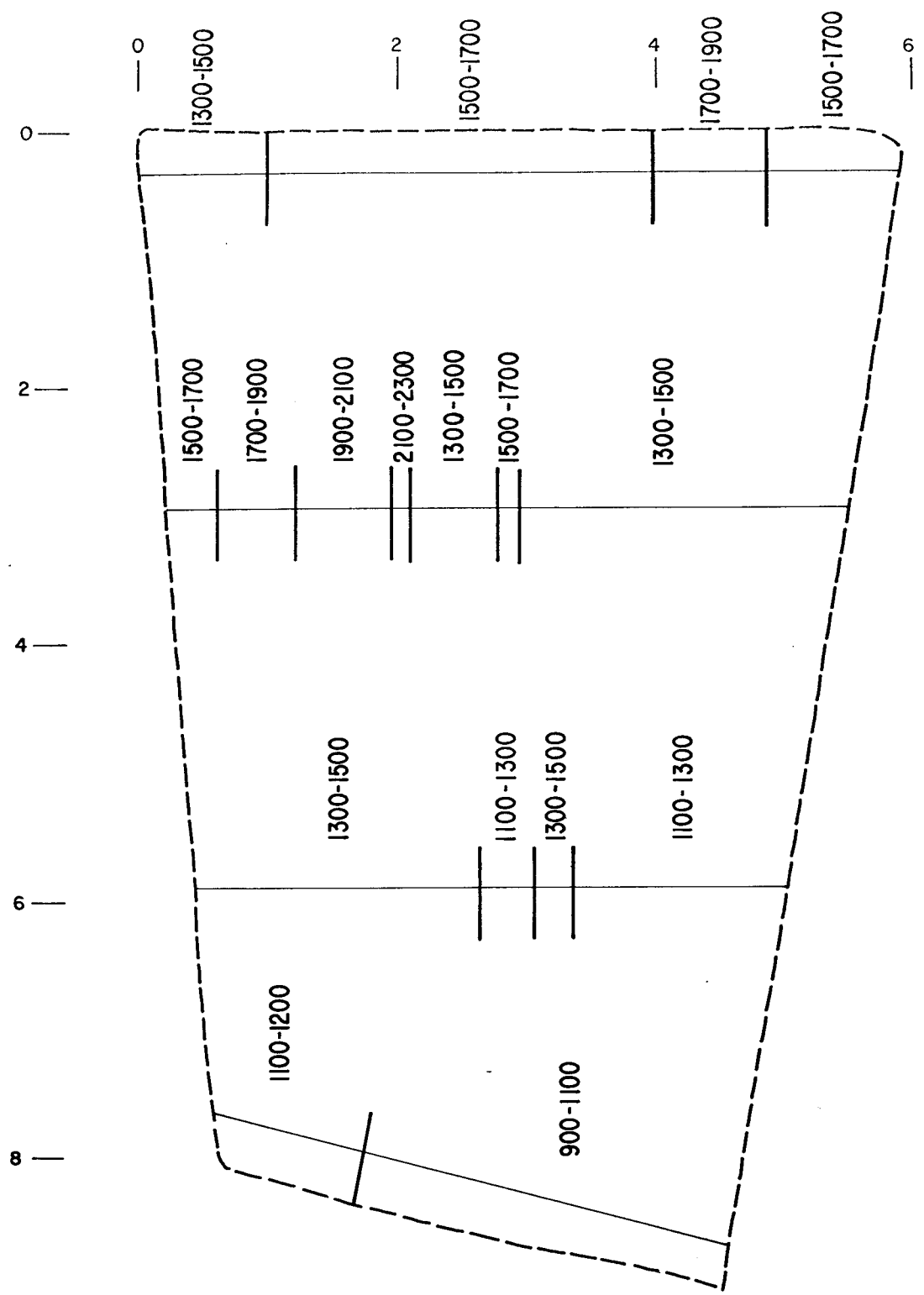

FIG. 11

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TRENCH DIAGRAM #11

RACKLA PROJECT U435

LEGEND

Extent of pit after blasting

900 Radiometrics in cps measured with Scintrex BGS - ISL.

SCALE IN FEET

0 1 2

SHOWING 4

Very little was known about this showing at the end of the 1976 season, except a sketchy geology map and some spectacular grab sample values (.3% to 1.1% U_3O_8). A number of trenches and at least one drill hole were planned, although the exact locations had to be determined after detailed mapping had been completed.

After the detailed mapping was completed, the geological map was altered and the drill sites were selected. In the area above the drill hole, the ground gave a very high radiometric response and so this area was soil sampled (see Fig. 13). The results of the soil sampling returned after the drill hole was completed and they outlined a down slope fan from the uranium mineralization. This fan corresponded exactly with the location of the radiometric high that was picked up during the soil sampling.

The drill results gave background values throughout the hole (Appendix 3). The mapping had produced quite a confusing geological picture and this was made more confusing by the drill core. It appears from trenching completed late in the season that the area is underlain by flow banded syenite with blocks of the other rock type enclosed. The abundant pyrrhotite helped to alter everything to a rusty colour. On the geological map (Fig. 2), the most simple interpretation for this area has been completed, showing two bodies of flow banded syenite with several blocks of black and white syenite. The drill hole intersected several blocks of

fine to medium grained black and white syenite (Fig. 14).

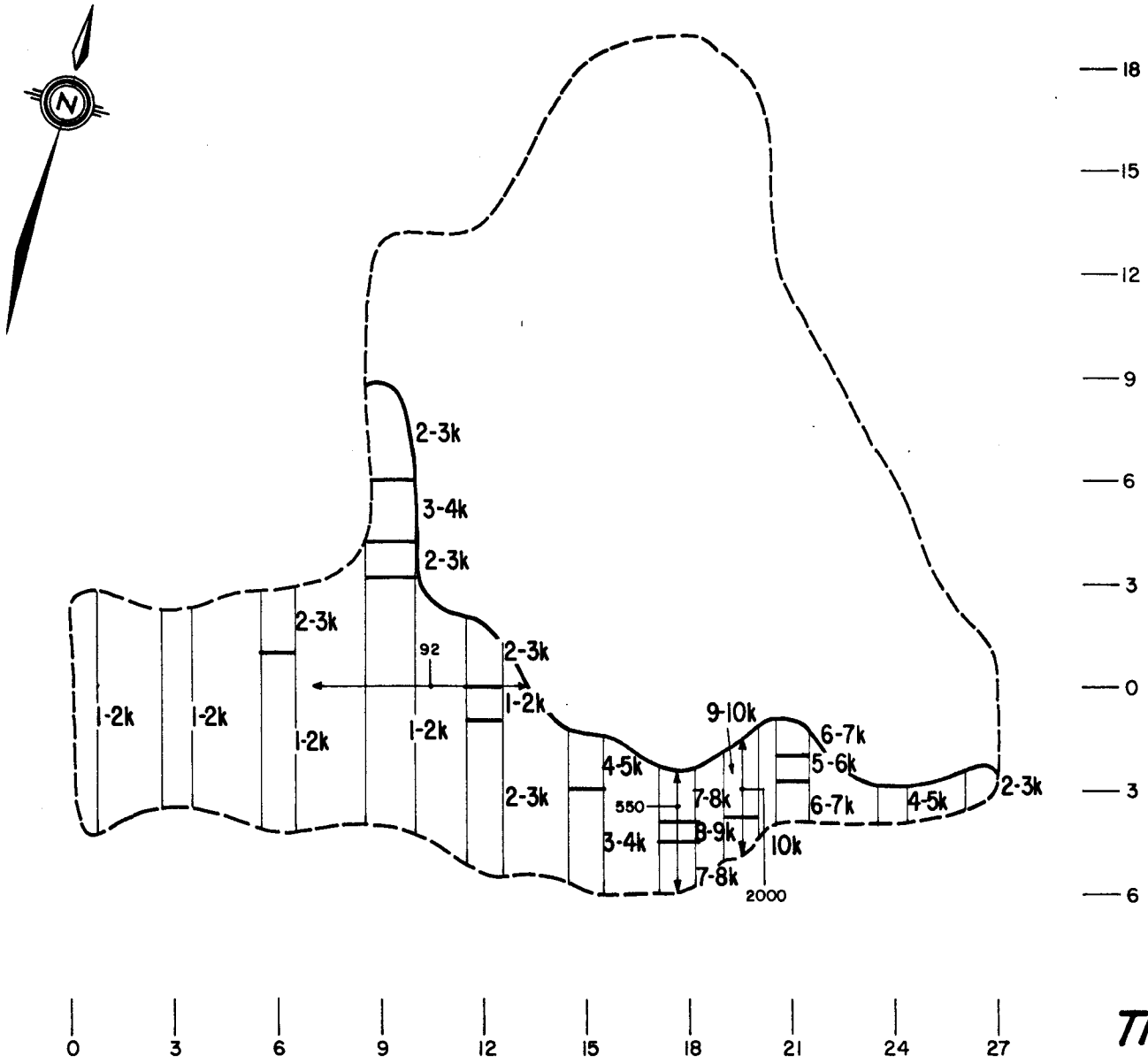
Trenching, at the head of the major down slope dispersion fan, picked up a lense of highly radioactive material. Unfortunately, it was only 15 centimeters thick and 1.2 to 2 meters long. The lense quickly disappeared as trenching proceeded. No further mineralization was found and it was concluded that this small lense had been the cause of the dispersion fan and the radiometric high.

In the same general area, but close to the gray syenite and flow banded syenite contact, there was a region of high background within the flow banded syenite. This region had some outcrops that were often partially covered in soil and weathered portions of the rock. There are spot highs in the outcrops that produce good anomalous values but when rock samples were taken around the high, only background values were obtained. The soil, on the other hand, produced very anomalous values. It seems the only explanation for the high radiometric background is this anomalous soil.

In summary, the area had many anomalous samples. However, once mineralization in the outcrop was located, it was always small in size but gave good grades. This area shows how a small amount of mineralization can have a large halo or fan around it.

9.7 AREA

This is the large area in which the outcrop that produced the float



LEGEND

200 — Chip sample, value in ppm U

Extent of pit after blasting.

k — Radiometrics in 1000 cps measured with Scintrex BGS-1S L.

FIG. 14

CHEVRON STANDARD LIMITED

TRENCH DIAGRAM #23

CLAIM NUMBER WAD 44

RACKLA PROJECT U435

SCALE IN FEET

3 0 3 6 9

sample (9.7%) was expected to be. Although the area was contour gridded (Fig. 15) every 50 feet and readings were taken every 40 feet, no significant mineralization was found. Many small spot highs were located and sampled, but in all cases, the mineralization was very limited in extent.

Several traverses straight up and down the mountain were made, but again, nothing was located.

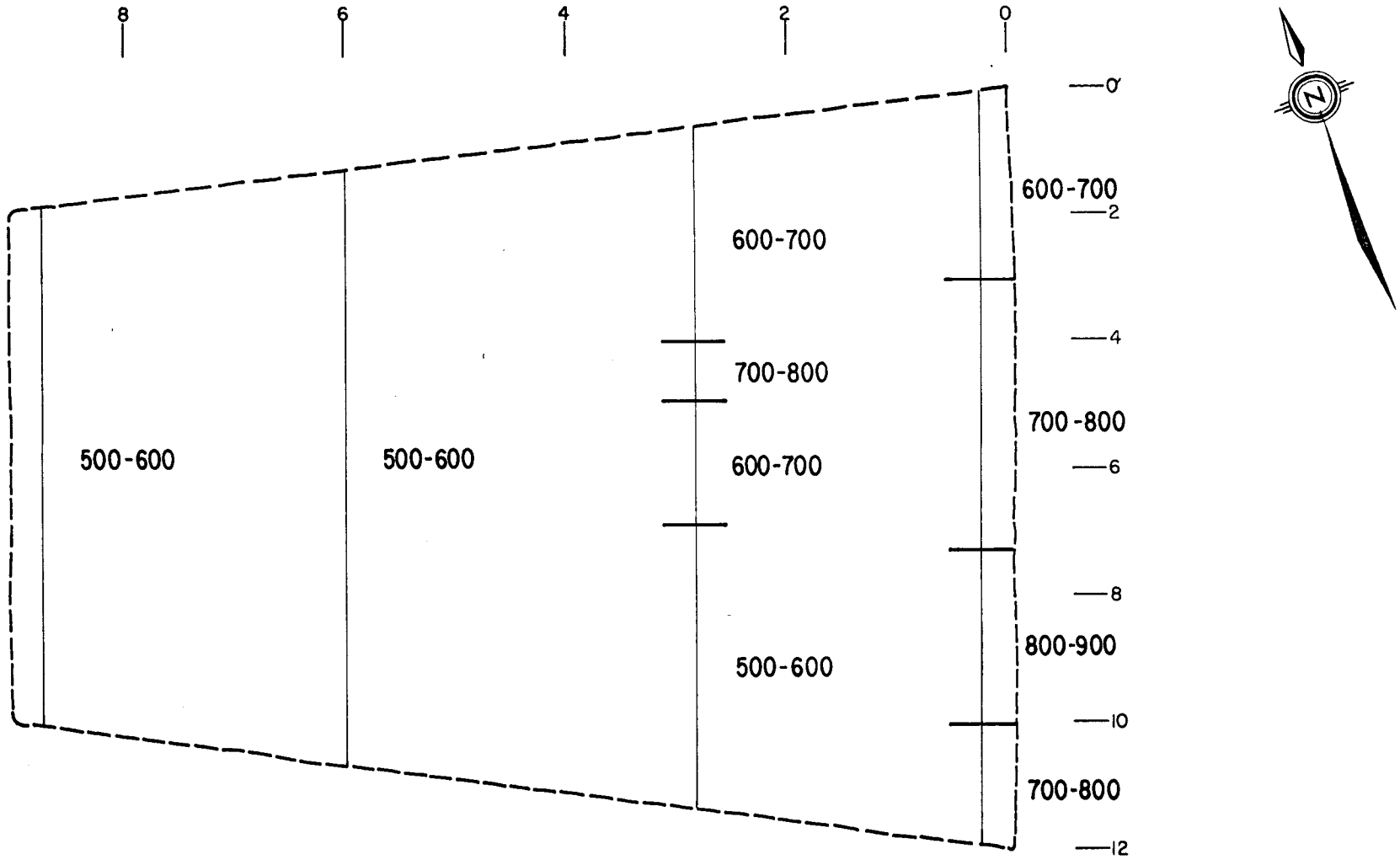
During the contour survey, it was noted that the flow banded syenite had a higher background than the surrounding rocks, and in places the higher background could be used as a mapping tool!

To conclude the work on this slope, a trench was blasted in an attempt to retrieve fresh samples. Even though the trench was blasted to 6 feet, no anomalous rock samples were found, and the radiometric values increased only slightly.

The initial sample (9.7% U_3O_8) probably came from a small zone of high grade that has now been eroded away. The zone may have been something similar to the zones at Showing 4.

THE HUMP

This area has always been very interesting, because it is very easily picked up on airborne instruments, but little has been found on the ground. During the 1976 field season, two samples were found that gave promising results (.2% to .3% U_3O_8). These samples made it necessary



LEGEND

Extent of pit after blasting

600 Radiometrics in cps measured with Scintrex BGS - ISL.

FIG. 16

CHEVRON STANDARD LIMITED

TRENCH DIAGRAM #15

RACKLA PROJECT U435

SCALE IN FEET

VERTICAL

2 0 2

HORIZONTAL

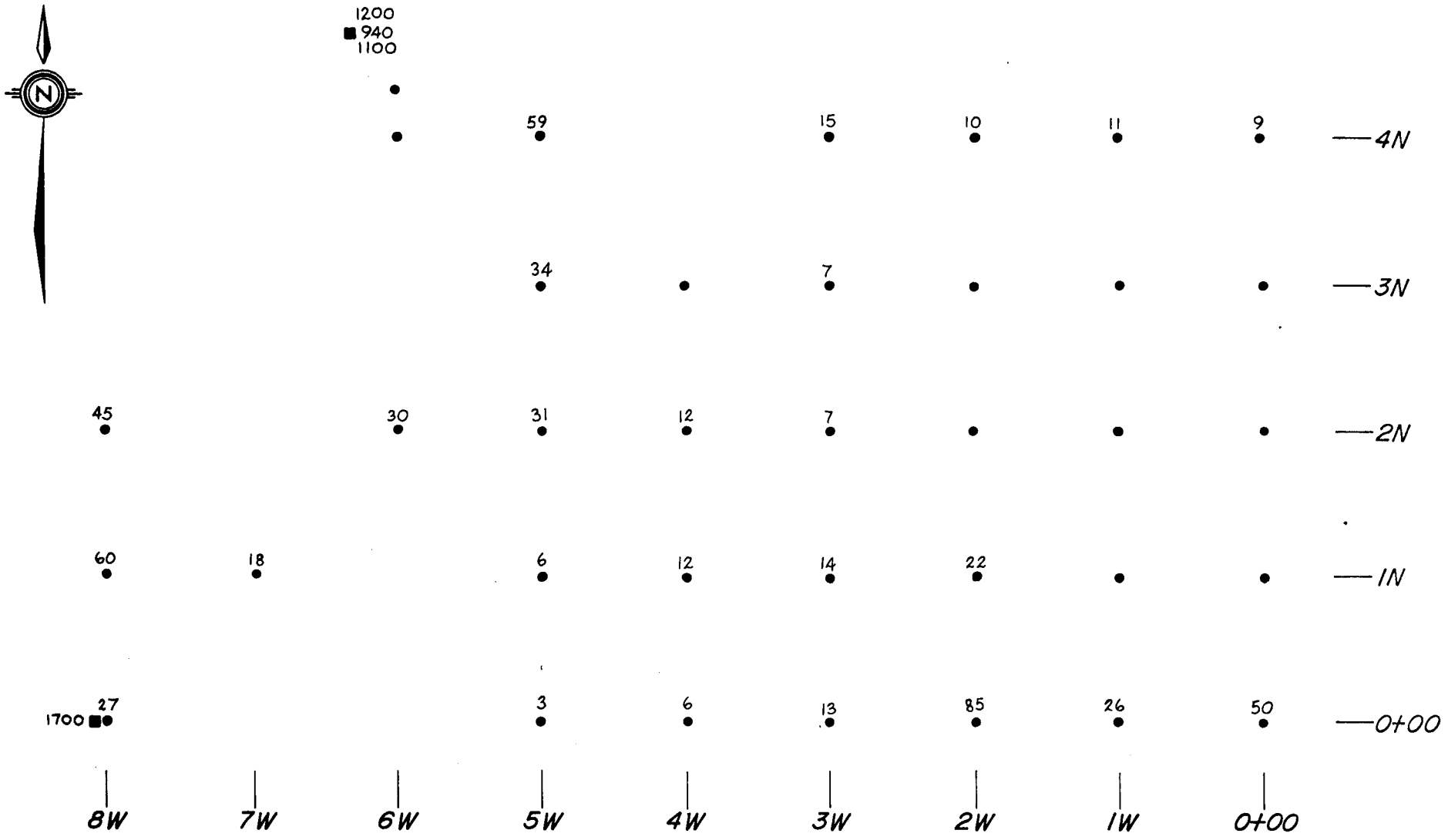
2 0 2

to spend a little time checking the area during 1977.

Initially, a contour grid was established at every 50 feet and stations were taken every 50 feet (Fig. 17). From this, several anomalous values were found. During the follow-up work, a float train was found that was highly anomalous and measured 200 feet by 30 feet over a change in elevation of 75 feet. Two detailed radiometric and soil grids covered the anomalous area with line spacing every 10 feet and radiometric readings or soil samples taken every 5 feet (Figs. 18, 19). Up to 3 soil samples were taken per station, depending upon how many soil horizons could be found (Fig. 20 a, b, c).

A trench (Fig. 21) was started near the top of this zone in an area that appeared to be a result of frost heave. This trench went down to outcrop and once again, the outcrop appeared to have spotty mineralization. The high values collected in float appear to have come from the outcrop, because the rock type is similar. A trench (Fig. 22) was then started above the first one in an attempt to find any extensions. Unfortunately, nothing could be found. Later, once the geology had been unravelled, it was realized the second trench had probably been located in the wrong place. However, detailed prospecting, plus a drill hole, only outlined a little more mineralization. Further trenching to the north of trench 3 would probably help in understanding the mineralization.

A few spot highs were found in outcrops, and the drill hole intersected two fractures (½" (64mm) that were mineralized. It was only after



LEGEND

● 24 Soil location with value in ppm U

■ 1700 Rock location with value in ppm U

FIG. 20a

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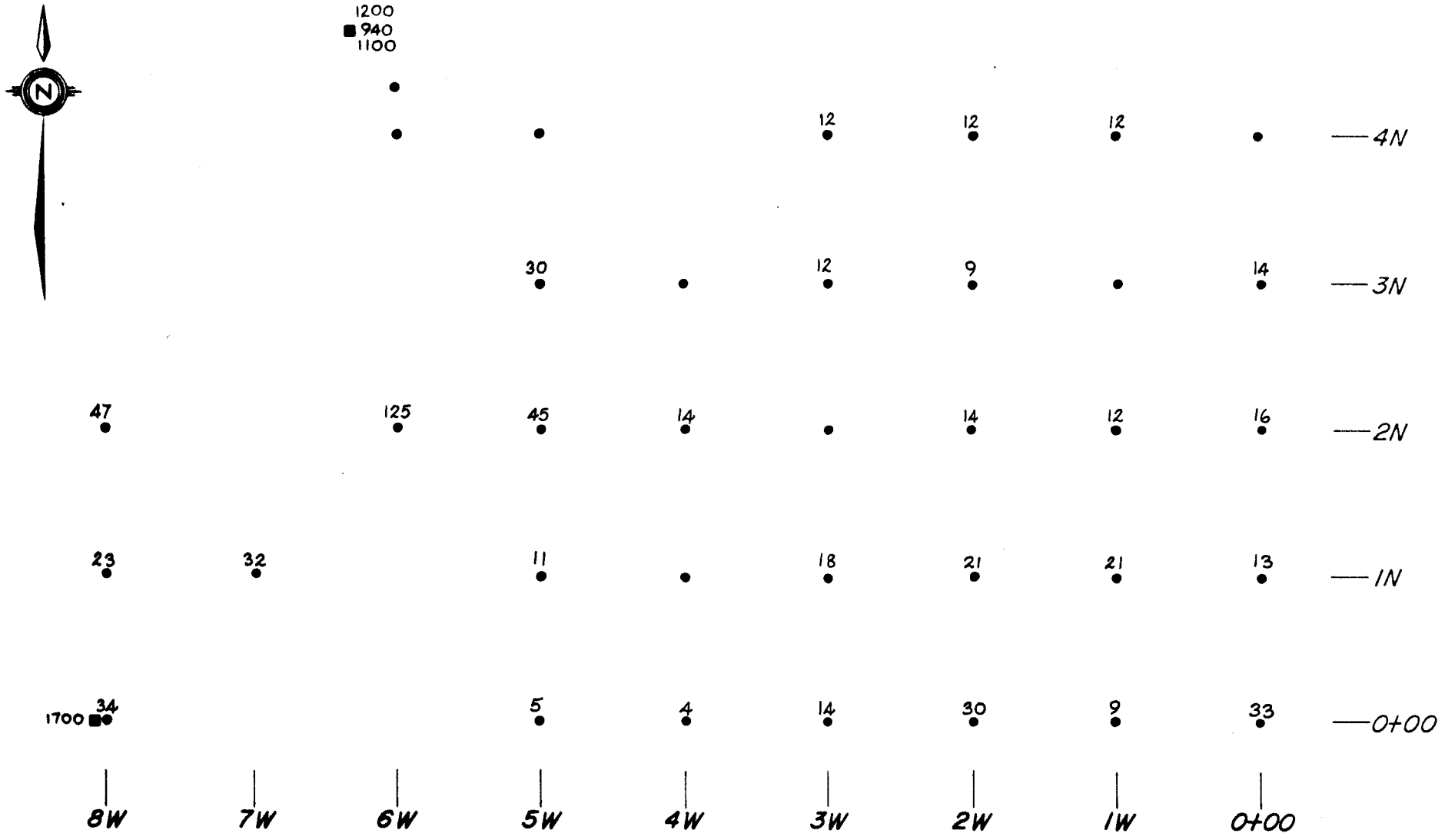
'A' SOIL HORIZON

RACKLA PROJECT U435

feet 10 0 10 20 feet



LEGEND

● 24 Soil location with value in ppm U

■ 1700 Rock location with value in ppm U

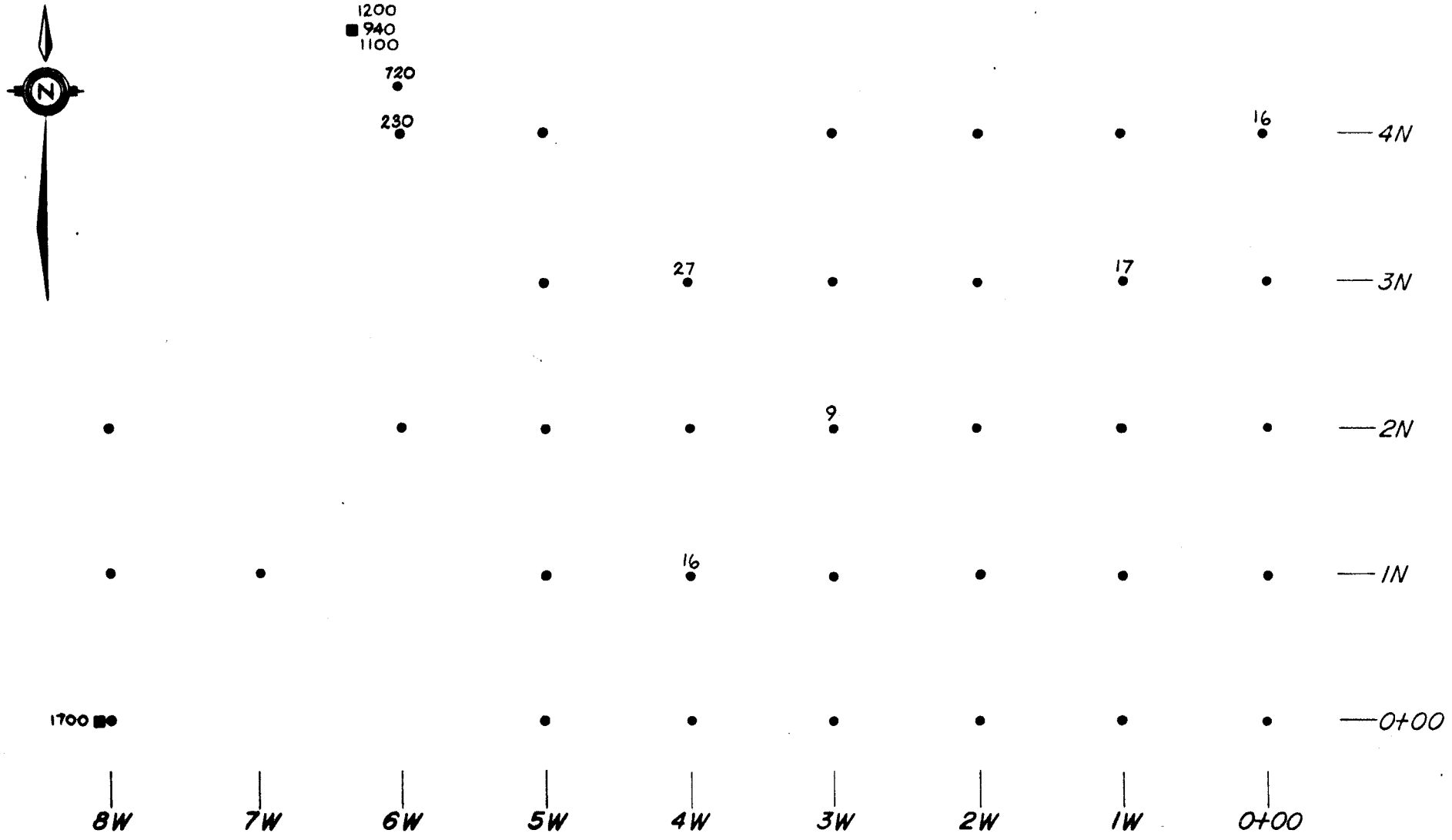
FIG. 20b

CHEVRON STANDARD LIMITED

'B' SOIL HORIZON

RACKLA PROJECT U435

feet 10 0 10 20 feet



LEGEND

● 24 Soil location with value in ppm U

■ 1700 Rock location with value in ppm U

FIG. 20c

CHEVRON STANDARD LIMITED

'C' SOIL HORIZON

RACKLA PROJECT U435

feet 10 0 10

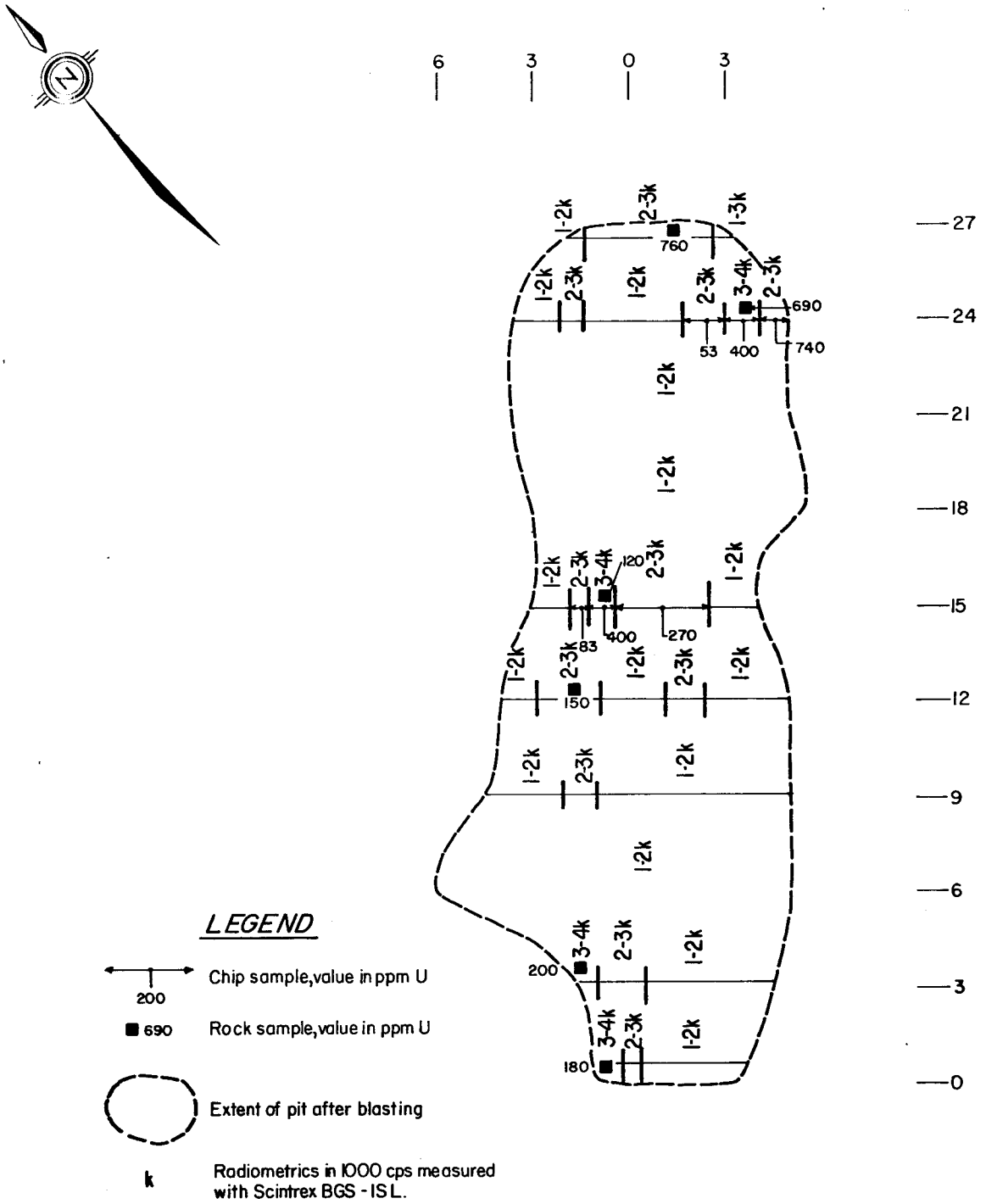


FIG. 21

CHEVRON STANDARD LIMITED

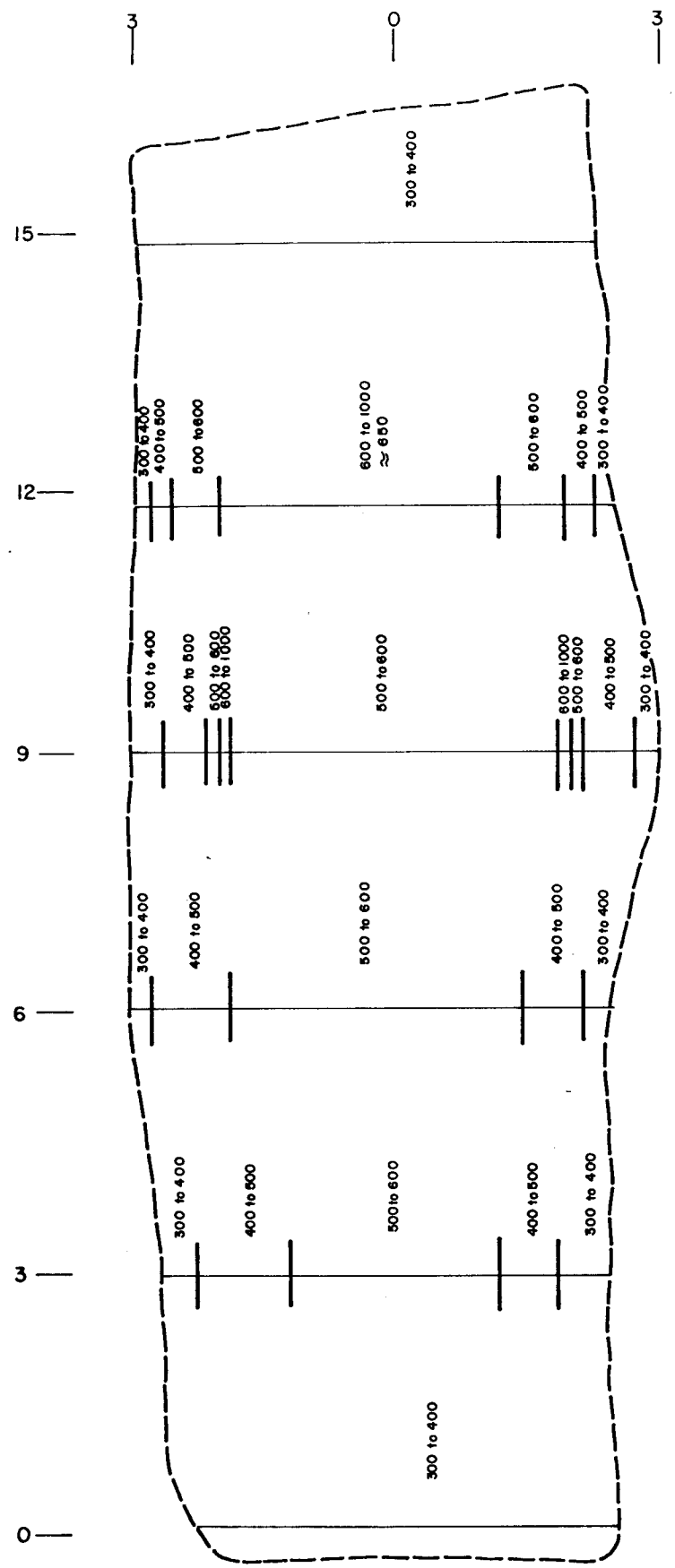
TRENCH DIAGRAM #3

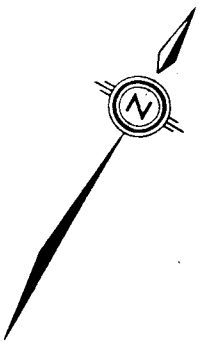
CLAIM NUMBER A1

RACKLA PROJECT U435

SCALE IN FEET

2 0 2 4





LEGEND

Extent of pit after blasting

500 Radiometrics in cps measured with Scintrex BGS- ISL

FIG. 22

CHEVRON STANDARD LIMITED

TRENCH DIAGRAM # 5

CLAIM NUMBER A1

RACKLA PROJECT U435

SCALE IN FEET

0 1 2 3 4

the work had been completed that the assays on the float samples were returned (Fig. 23) and all of the twenty to thirty samples were very anomalous (.2% - .5% U_3O_8).

In conclusion, although there were numerous good rock samples taken, the majority were float and link to the outcrop that was uncovered at the bottom of the first trench. This outcrop showed that the mineralization was quite spotty, although it may have been in small lenses that were broken up by frost action. No conclusion could be made as to which was the best soil horizon to sample, since all were anomalous, but one was not consistently higher than another.

THE BIG VALLEY

The work proposed for this area was based upon the mapping of the flow banded syenite which gave no radiometric response above its surrounding rocks. Continuation of the mapping did not locate any further flow banded syenite and therefore reduced the work to trenching the small flow banded syenite originally located. A small trench to a depth of 4 feet was blasted to establish any increase in radiometrics. No increase at all was found, and so, no further work was done (Fig. 24).

ANTIMONY MOUNTAIN

The program on this claim group was designed to check the anomalous soil and silt samples that were collected in 1976.

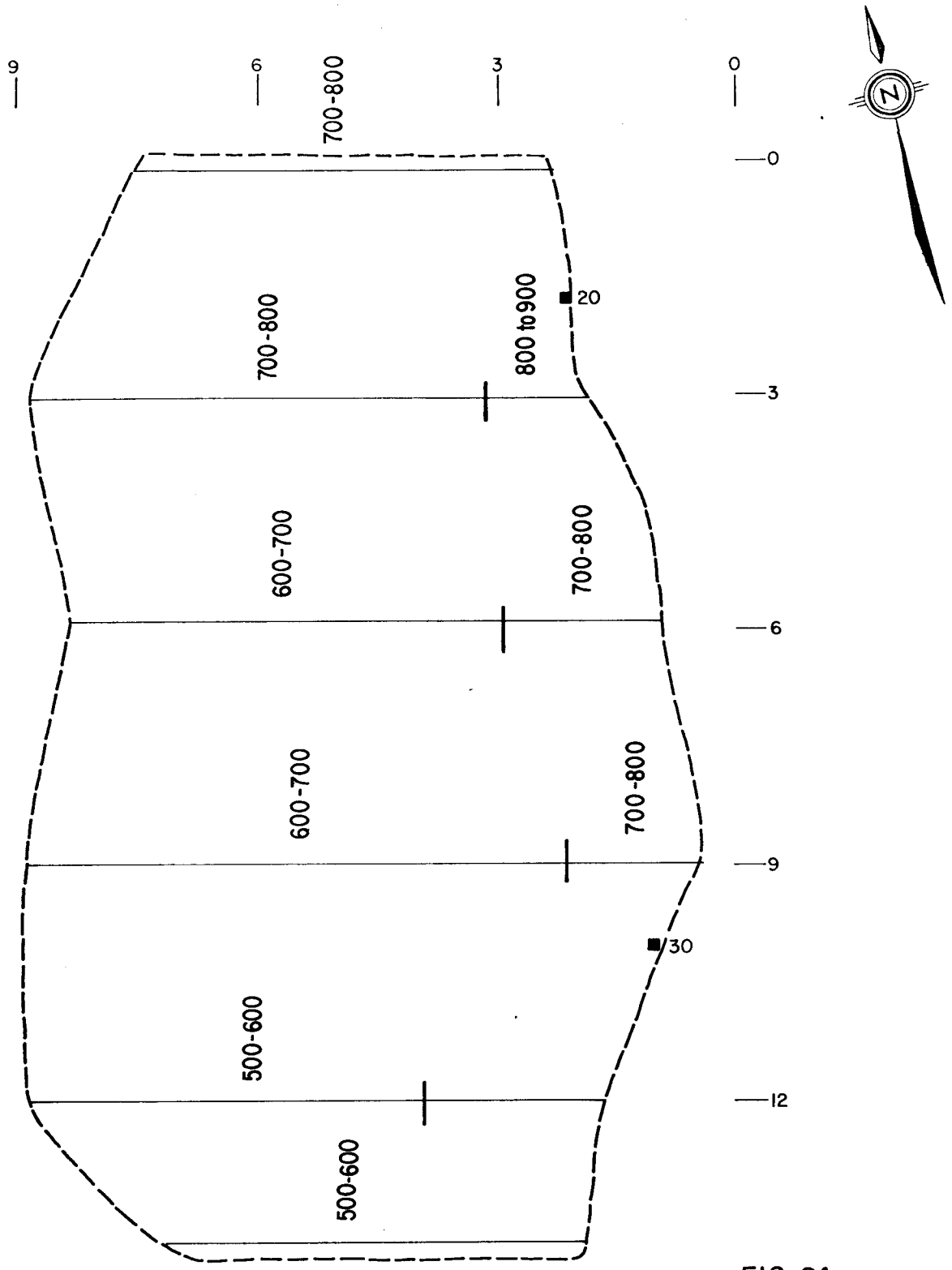


FIG. 24

CHEVRON STANDARD LIMITED

TRENCH DIAGRAM #12

CLAIM NUMBER 15

RACKLA PROJECT U435

LEGEND

Extent of pit after blasting

500 Radiometrics in cps measured with Scintrex BGS-ISL

■ 20 Rock sample, value in ppm U

SCALE IN FEET

0 1 2 3 4

The geology remains the same as in 1976 with the major intrusive rock type as monzonite, which is surrounded by contact metamorphosed sediments. A few rock samples were collected above the soil grid, but the assays from these rocks were only average background values for this intrusion.

Again, all of the silt samples were anomalous, but the values do not appear to follow a pattern, with some very high, while the next sample may be a lot lower (Fig. 25 a, b, c). This probably indicates that the extraction method is not just picking up the mobile uranium, but also some of the primary uranium. This may also be true of the soils, and may help to explain why no soil horizon appears to be consistently higher.

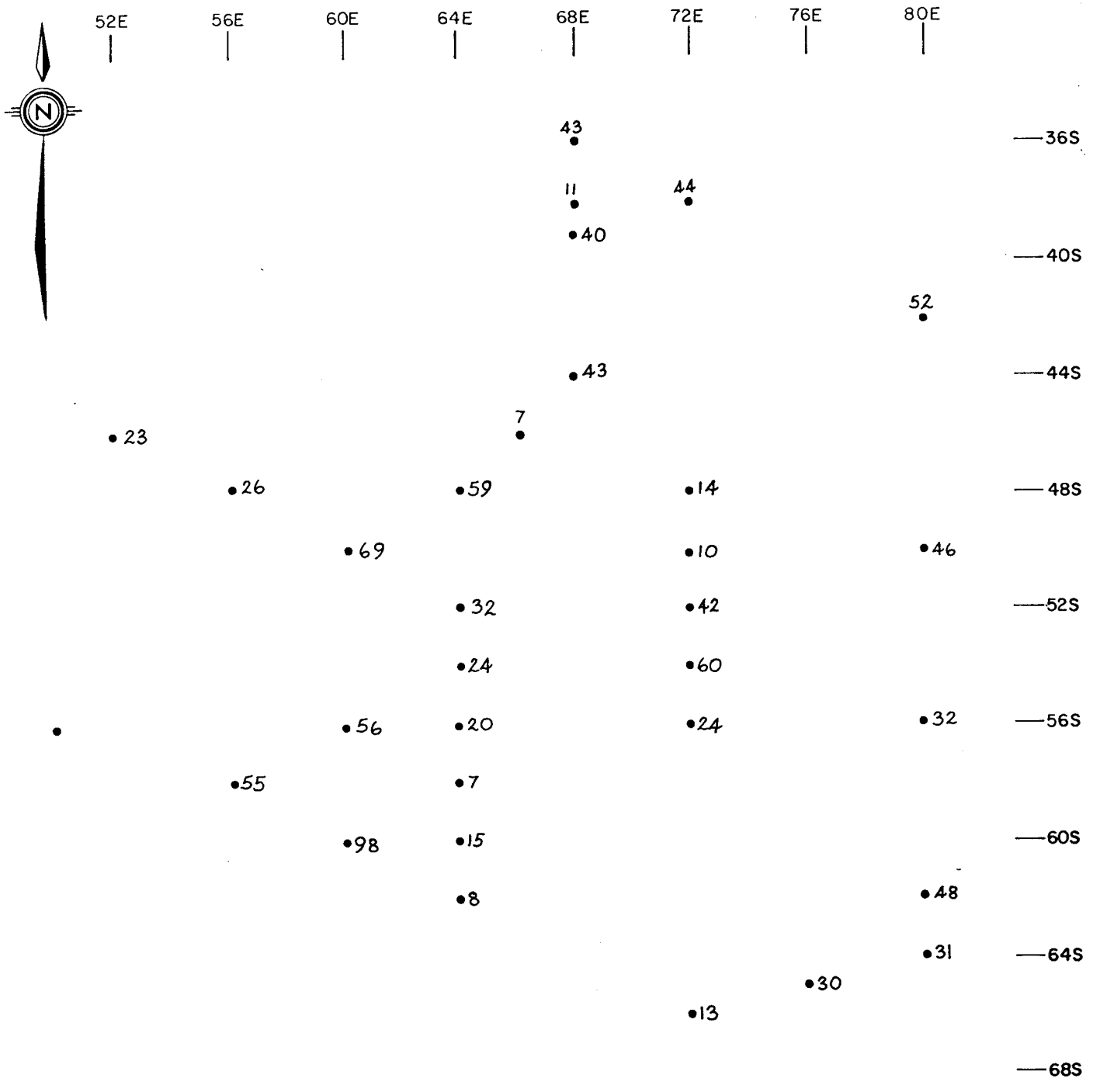
A week was spent checking the Grid C-3 and area for any anomalous radiometric values. However, none were found.

Since nothing was found, the majority of the 'C' claims were allowed to lapse.

CONCLUSIONS

The following are the important points that have been made in the report:

1) The flow banded syenite is a dyke, because of its cross cutting nature.



LEGEND

• 24 Soil location with value in ppm U

FIG 25a

CHEVRON STANDARD LIMITED

'A' SOIL HORIZON

ANTIMONY MOUNTAIN

RACKLA PROJECT U435

feet 400 0 400 800 feet

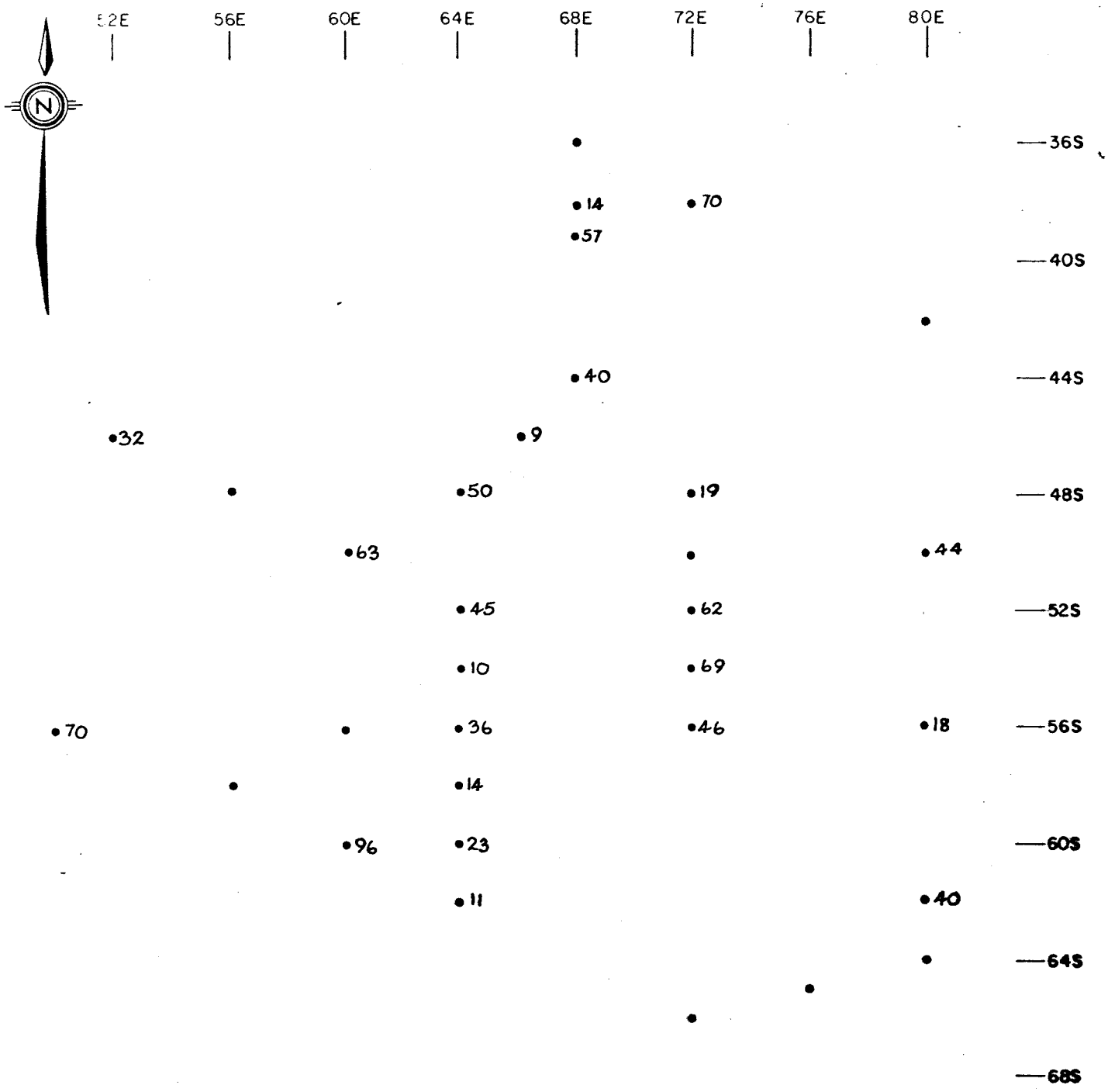


FIG 25b

CHEVRON STANDARD LIMITED

'B' SOIL HORIZON

ANTIMONY MOUNTAIN

RACKLA PROJECT U435

feet 400 0 400 800 feet

LEGEND

• 24 Soil location with value in ppm U

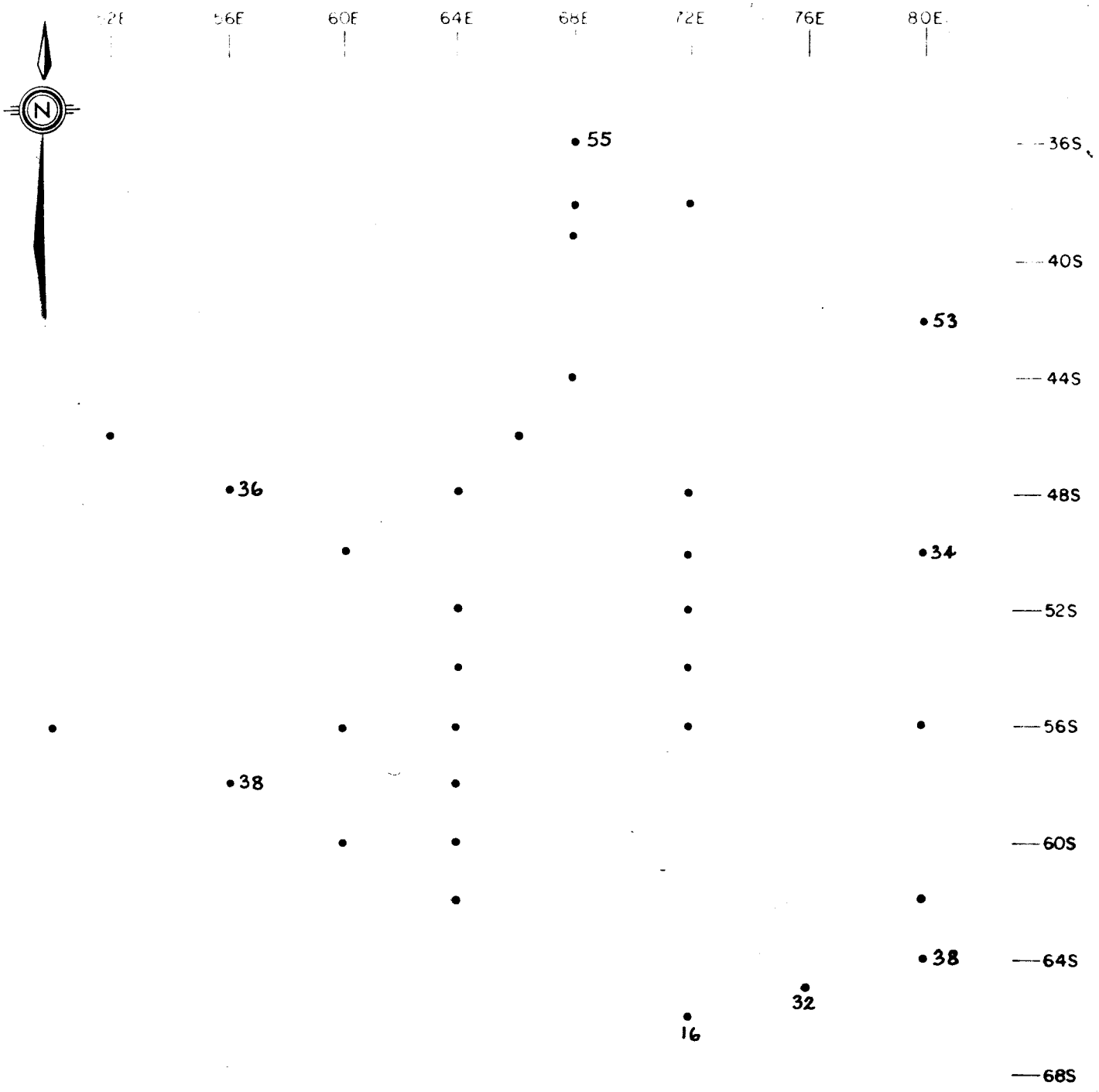


FIG 25c

CHEVRON STANDARD LIMITED

'C' SOIL HORIZON

ANTIMONY MOUNTAIN

RACKLA PROJECT U435

LEGEND

● 24 Soil location with value in ppm U

feet 400 0 400 800 feet

2) The order of intrusion appears to be as follows:

Youngest	-	Flow banded syenite
	-	Gray syenite
	-	Nepheline monzonite
Oldest	-	Black and white syenite

3) The contacts are all dipping inwardly. This is based upon structural measurements and drill hole logs.

4) The main anomalies that were found were all associated with a lot of biotite and some fluorite in the flow banded syenite. They tended to have limited lensoid shapes.

5) Spatially, the mineralization in the flow banded syenite was associated with the contact of the flow banded syenite, and the other major rock types.

6) The trenching indicated the mineralization was very spotty.

7) Although the mineralization was always quite small, there was good downslope dispersion within the soil.

8) In some localities, the soil may have been producing the major radiometric responses because of numerous radioactive crystals that were broken down upon analysis. It may be advisable to use a milder leaching agent.

9) The drill holes did not intersect any mineralized section. However, it was presumed that the mineralization would be stratabound. If this is not the case, then deeper holes would be required.

RECOMMENDATIONS

Since the property is in good standing until 1982, I suggest that we wait for a year or two to study the results obtained from other joint ventures that are examining similarly mineralized intrusives, to see what they find out. A better decision as to whether to walk away from this intrusive or to continue with a partner could be made once we see other results. It is encouraging that the intrusive has mineralization.

APPENDIX I

ASSAY RESULTS OF ROCK SAMPLES

SAMPLE NO.	URANIUM VALUE	LOCATION
RA-77-1	2000	Surface sample of showing #2 (Fig. 2)
2	10	Flow banded syenite above showing #2(Fig.2)
3	N A	" " " " " "
4	370	Farther uphill above showing #2(Fig.2)
5	4	Above Boom Boom Lake on east side(Fig.2)
6	13	" " " " " " "
7	N A	" " " " " " "
8	N A	Flow banded syenite above 4 Seasons east (Fig.2)
9	84	Gray syenite in cirque south of 4 Seasons Lake(Fig.2)
10	18	Flow banded syenite - Peaceful Lake (Fig.2)
11	17	" " " " " "
12	6	" " " " " "
13	2000	" " " " " "
14	32	" " " " " "
15	2000	" " " " " (Drill Platform 6)(Fig.2)
16	15	Nepheline monzonite west of Peaceful Lake (Fig.2)
17	10	Gray syenite west of Peaceful Lake (Fig.2)
18	N A	Monzonite, Antimony Mountain (Fig.27)
19	N A	" " " "
20	N A	" " " "
21	180	Flow banded syenite, Trench 3 (Fig. 23)
22	200	" " " " " "
23	150	" " " " " "
24	120	" " " " " "
25	690	" " " " " "
26	760	" " " " " "

SAMPLE NO.	URANIUM VALUE	LOCATION
RA-77-27	100	Flow banded syenite, Trench 2 (Fig.6)
28	37	" " " " "
29	20	" " " " "
30	32	" " " " "
31	42	Flow banded syenite, west of 4 seasons (Fig.2)
32	14	" " " " " " "
33	12	Black and white syenite (high radiomatric reading) (Fig.2)
34	740	Chip samples, Trench 3 (Fig.23)
35	400	" " " " "
36	53	" " " " "
37	83	" " " " "
38	400	" " " " "
39	270	" " " " "
40	550	Chip samples, Trench 1, depth 4' (Fig.4)
41	200	" " " " " "
42	960	" " " " " "
43	500	" " " " " "
44	820	" " " " " "
45	140	" " " " " "
46	520	" " " " " "
47	72	" " " " " "
48	570	" " " " " "
49	590	" " " " " "
50	1900	" " " " " "
51	100	" " " " " "
52	24	" " " " " "
53	290	" " " " " "
54	61	" " " " " "
55	190	" " " " " "
56	37	" " " " " "
57	130	Chip samples, Trench 1, depth 8' (Fig.5)
58	200	" " " " " "

SAMPLE NO.	URANIUM VALUE	LOCATION
RA-77-59	550	Chip samples, Trench 1, depth 8' (Fig.5)
60	80	" " " " " "
61	620	" " " " " "
62	220	" " " " " "
63	340	" " " " " "
64	500	" " " " " "
65	1600	Rock sample of hot spot Trench 1, depth 8'(Fig.5)
66	40	Drill Hole 6, 2' - 6' (Appendix 3)
67	20	" " " 6' - 11' "
68	20	" " " 11' - 16' "
69	40	" " " 16' - 19' "
70	40	" " " 19' - 20' "
71	70	" " " 20' - 25' "
72	40	" " " 25' - 26' "
73	30	" " " 43' - 48' "
74	40	" " " 48' - 51' "
75	30	" " " 53' - 56' "
76	30	" " " 56' - 61' "
77	30	" " " 61' - 66' "
78	30	" " " 66' - 71' "
79	30	" " " 71' - 76' "
80	20	" " " 76' - 79' "
81	20	" " " 79' - 79½' "
82	30	" " " 79½'- 80½' "
83	30	" " " 80½'- 81 "
84	30	" " " 81' - 86' "
85	30	" " " 86' - 91' "
86	20	" " " 91' - 96' "
87	20	" " " 96' - 101' "
88	10	" " " 101' - 106' "
89	30	" " " 106' - 110' "
90	20	" " " 110' - 111' "

SAMPLE NO.	URANIUM VALUE	LOCATION	
RA-77-91	20	Drill Hole 6, 111' - 114'	(Appendix 3)
92	50	" " " 114' - 115'	"
93	80	" " " 115' - 117'	"
94	10	" " " 117' - 118'	"
95	30	" " " 118' - 121'	"
96	20	" " " 121' - 123'	"
97	50	" " " 123' - 124'	"
98	20	" " " 124' - 125'	"
99	40	" " " 125' - 130'	"
100	20	" " " 130' - 135'	"
101	30	" " " 135' - 140'	"
102	10	" " " 140' - 145'	"
103	10	" " " 145' - 150'	"
104	110	Drill Hole 5, 3' - 7'	"
105	30	" " " 7' - 12'	"
106	60	" " " 12' - 14½'	"
107	4000	" " " 14½'- 15'	"
108	260	" " " 15' - 16'	"
109	1000	" " " 16' - 16½'	"
110	40	" " " 16½'- 21'	"
111	30	" " " 21' - 23'	"
112	50	" " " 23' - 23½'	"
113	30	" " " 23½'- 28'	"
114	30	" " " 28' - 33'	"
115	30	" " " 33' - 33½'	"
116	20	" " " 33½'- 38'	"
117	20	" " " 38' - 43'	"
118	30	" " " 43' - 47'	"
119	20	" " " 47' - 48'	"
120	30	" " " 48' - 51'	"

SAMPLE NO.	URANIUM VALUE	LOCATION		
RA-77-121	20	Drill Hole 5,	51' - 56'	(Appendix 3)
122	50	" " "	56' - 57'	"
123	20	" " "	56' - 61'	"
124	20	" " "	61' - 66'	"
125	20	" " "	66' - 71'	"
126	20	" " "	71' - 76'	"
127	40	" " "	76' - 81'	"
128	30	" " "	81' - 86'	"
129	20	" " "	86' - 71'	"
130	30	" " "	91' - 96'	"
131	30	" " "	96' - 101'	"
132	20	Drill Hole 4,	2' - 9'	"
133	10	" " "	9' - 32'	"
134	20	" " "	32' - 55'	"
135	20	" " "	55' - 64'	"
136	50	" " "	64' - 64½'	"
137	30	" " "	64½' - 84'	"
138	80	" " "	84' - 105'	"
139	10	Drill Hole 1,	55' - 70'	"
140	30	Drill Hole 3,	79' - 95'	"
141	20	" " "	95' - 105'	"
142	20	" " "	105' - 125'	"
143	30	" " "	125' - 135'	"
144	20	Drill Hole 2	3' - 8'	"
145	20	" " "	8' - 13'	"
146	40	" " "	13' - 18'	"
147	20	" " "	18' - 19'	"
148	30	" " "	100' - 105'	"
149	20	" " "	107' - 110'	"
150	30	" " "	110' - 115'	"
151	30	" " "	115' - 120'	"

SAMPLE NO.	URANIUM VALUE	LOCATION
RA-77-152	20	Drill Hole 2, 120' - 125' (Appendix 3)
153	10	" " " 125' - 130' "
154	20	" " " 130' - 135' "
155	20	" " " 135' - 137' "
156	20	" " " 137' - 140' "
157	N A	Dyke in large valley (Fig.2)
158	N A	Dyke - margin "
159	N A	Dyke - centre "
160	20	Flow banded syenite, Trench 12 (Fig.26)
161	30	" " " " " "
162	N A	Flow banded syenite, west of 4 Seasons (Fig.2)
163	N A	Contact area for gray syenite and monzonite in cirque south of showing 2 (Fig.2)
164	N A	Nepheline monzonite, west of 4 Seasons (Fig. 2)
165	490	Flow banded, Trench 23 (Fig. 14)
166	5500(.55%)	" " " " "
167	92	Chip sample, Trench 23 (Fig. 14)
168	2200(.22%)	" " " " "
169	550	" " " " "
170	10	Drill Hole 2, 18' - 23' (Appendix 3)
171	6	" " " 23' - 28' "
172	8	" " " 28' - 35' "
173	11	" " " 65' - 70' "
174	8	" " " 70' - 75' "
175	18	" " " 75' - 80' "
176	18	" " " 80' - 85' "
177	28	" " " 85' - 90' "
178	50	" " " 90' - 95' "
179	8	" " " 95' - 100' "
180	8	Drill Hole 3, 30' - 35' "
181	16	" " " 35' - 40' "
182	25	" " " 40' - 45' "

SAMPLE NO.	URANIUM VALUE	LOCATION
RA-77-183	17	Drill Hole 3, 45' - 50' (Appendix 3)
184	12	" " " 50' - 55' "
185	25	" " " 55' - 60' "
186	25	" " " 60' - 65' "
187	24	" " " 65' - 70' "
188	18	" " " 70' - 75' "
200	16	Hot spot in a pegmatite pod, west of Boom Boom (Fig.2)
201	7	Flow banded syenite, southwest of Showing 2 (Fig.2)
202	14	West of Boom Boom, gray syenite (Fig.2)
203	2600(.21%)	South of Showing 3, "Hot' rock (Fig.2)
204	N A	" " " " " "
205	N A	" " " " " "
206	N A	" " " " " "
207	N A	" " " " " "
208	250	Hot spot in talus southwest of 4 seasons (Fig.15)
209	380	" " " " " "
210	15	" " " " " "
211	60	" " " " " "
212	35	" " " " " "
213	150	" " " " " "
214	200	" " " " " "
215	125	" " " " " "
216	86	" " " " " "
217	120	" " " " " "
218	62	" " " " " "
219	60	" " " " " "
220	22	" " " " " "
221	16	" " " " " "
222	2800(.28%)	Hot spots in talus north of 4 seasons (Fig.18)
223	58	" " " " " "

SAMPLE NO.	URANIUM VALUE	LOCATION
RA-77-224	3800(.38%)	Talus rocks, north of 4 Seasons (Fig. 18)
225	4000(.4%)	" " " " "
226	4200(.42%)	" " " " "
227A	4200(.42%)	" " " " "
B	3400(.34%)	" " " " "
228	1600(.16%)	" " " " "
229	3000(.3%)	" " " " "
230	580	" " " " "
231	1100(.11%)	" " " " "
232	220	" " " " "
233	2000(.2%)	" " " " "
234	2100(.21%)	" " " " "
235	1700	" " " " "
236	1700(.17%)	" " " " "
237	2400(.24%)	" " " " "
238	26	" " " " "
239	38	" " " " "
240	1900(.19%)	" " " " "
241	N A	" " " " "
242	3400(.34%)	" " " " "
243	3700(.37%)	" " " " "
244	N A	" " " " "
245	N A	" " " " "
246	2800(.28%)	" " " " "
247	1400(.14%)	" " " " "
248	2000(.2%)	" " " " "
249	235	" " " " "
250	3800(.38%)	Trench 3 during trenching(Fig.18)
251	4100(.41%)	" " " " "
252	5100(.51%)	" " " " "

SAMPLE NO.	URANIUM VALUE	LOCATION
RA-77-253	70	Trench 3 during trenching (Fig. 18)
254	3400(.34%)	" " " " "
255	5700(.57%)	" " " " "
256	4400(.44%)	" " " " "
257	5500(.55%)	" " " " "
258	5500(.55%)	" " " " "
259	2000(.20%)	" " " " "
260	1700	Near Trench 3 (Fig. 20)
261	1200	" " " "
262	940	" " " "
263	1100	" " " "
264	N A	
265	N A	Drill Hole 1 - 21' - petrographic study (Appendix 2 & 3)
266	N A	" " " - 67' " " "
267	N A	" " " - 50' " " "
268	"	Drill Hole 2 - 35' " " "
269	"	" " " - 99' " " "
270	"	" " " - 110' " " "
271	"	" " " - 30' " " "
272	"	" " " - 3' " " "
273	"	Drill Hole 3 - 20' " " "
274	"	" " " 40' " " "
275	"	" " " - 88' " " "
276	"	Drill Hole 4 - 25' " " "
277	"	" " " - 65' " " "
278	"	" " " - 74' " " "
279	"	" " " - 83' " " "
280	"	" " " - 92' " " "
281	"	Drill Hole 5 - 10' " " "
282	"	" " " - 11½' " " "

SAMPLE NO.	URANIUM VALUE	LOCATION
RA-77-283	N A	Drill Hole 5 - 18' - petrographic study (Appendix 2 & 3)
284	"	" " " - 12' " " "
285	"	Drill Hole 6 - 12' " " "
286	"	" " " 26½' " " "
287	"	" " " 49' " " "
288	"	" " " 62' " " "
289	"	West of Peaceful Lake (Fig. 2)
290	260	" " " "
291	20	" " " "
292	11	" " " "

APPENDIX 2

PETROGRAPHIC STUDY

SAMPLE NO.	MINERALOGY	DESCRIPTION	PERCENTAGE
RA-77-157	Scapolite	- relief, 2nd order birefringence	10-20%
	Feldspar-Plagioclase	- clear	15-20%
	-K-feldspar	- stained yellow	50-60%
	Hornblende	- anhedral crystal	10%
	Epidote	- small aggregates	1%
	Texture: The grains are anhedral but appear to be in textural and chemical equilibrium.		
RA-77-158	Feldspar-Plagioclase	- anhedral crystal	5-10%
	-K-feldspar	- anhedral equigranular crystals	70%
	Apatite	- high relief, low pleochroic colour, uniaxial (-ve)	10%
	Garnet	- small euhedral crystals, high positive relief	5%
	Zircon	-	
	Diopside	- slightly pleochroic green - high 2nd birefringence	5-10%
	Texture: The crystals are generally anhedral and equigranular. The garnets generally are more of an aggregate of small and euhedral crystals.		
RA-77-159A	Feldspar-Plagioclase	-	10%
	-K-feldspar	- intergrowths	60-70%
	Biotite	- small flakes associated with garnet	10%
	Garnet	- anhedral masses - browns (plane light)	10%
	Epidote	- small aggregates	<1%
	Texture: The rock is medium grained and equigranular. The biotite and garnet are clearly associated and are often intertwinned. The K-feldspar are clear and unaltered while the plagioclase is starting to be altered.		

SAMPLE NO.	MINERALOGY	DESCRIPTION	PERCENTAGE
RA-77-159B	K-feldspar	- large phenocrysts	60-70%
	Biotite	- medium size crystals	10%
	Garnet	- medium to large euhedral crystals	10-15%
	Hornblende	- large subhedral crystals	5-10%
	Fluorite	- small anhedral clear crystals	1%
	Textures:	Phenocrysts of K-feldspar in a matrix of hornblende, garnet and biotite with minor amounts of fluorite. There is no sign of radioactivity.	
RA-77-163	Feldspar-Plagioclase	-	10-15%
	-K-feldspar		55-65%
	Antiperthite		20%
	Hornblende		5-10%
	Sphene		1%
	Textures:	The large crystals of K-feldspar are surrounded by a medium grained matrix of plagioclase, hornblende and sphene. The K-feldspar are partially reabsorbed and corroded, while the plagioclase crystals are euhedral.	
RA-77-164	Quartz	- matrix around feldspar	10%
	Feldspar-Plagioclase	- partially recrystallized	20%
	-K-feldspar	- medium grain (plagioclase exsolution)	60%
	Hornblende	- very dark green	5-10%
	Garnet	- aggregates of anhedral crystals	5- 7%
	Sphene	- small euhedral crystal, high birefringence	1- 2%
	Textures:	The K-feldspar crystals are surrounded by plagioclase and quartz. There is some recrystallization of plagioclase and K-feldspar crystals. They could be an albite rich plagioclase.	

SAMPLE NO.	MINERALOGY	DESCRIPTION	PERCENTAGE
RA-77-265	Feldspar-K-feldspar	- large crystals-stained	60-70%
	-Plagioclase	- matrix around K-feldspar	5-10%
	Scapolite	- matrix	5-7%
	Garnet	- anhedral - subhedral crystals	10-15%
	Biotite	- small to medium flakes	10%
	Apatite	- occurring primarily in isotropic basal sections	<1%
	Texture: The large K-feldspar crystals are well twinned (Carlsbad type) surrounded by a matrix of plagioclase and scapolite. The scapolite appears to be the last mineral to be crystallized, and indicates a very high crystallization temperature for the stock.		
RA-77-266	K-feldspar	- large phenocrysts	80%
	Biotite	- medium grained, euhedral grains	5-10%
	Garnet	- medium grained, anhedral grains	5-10%
	Hornblende	- medium grained, deep green grains	5-10%
	Texture: The K-feldspar are in a matrix of hornblende, biotite and garnet. Little to no alteration of the feldspar.		
RA-77-267	Feldspar-K-feldspar	-	70-80%
	-Plagioclase	- completely altered to sericite	5-10%
	Garnet	- anhedral to subhedral crystals	10%
	Biotite	- partially altered & well cleaved	5%
	Texture: The rock is predominantly composed of K-feldspar. The K-feldspar is partially altered to clays but not as highly altered as the plagioclase.		
RA-77-268	Feldspar-Plagioclase	- quite fresh, euhedral crystals	40-45%
	-K-feldspar	- parts are highly altered while others are fresh	40-45%
	Hornblende	- poilkioblastic crystals	5-10%
	Garnet	- poilkioblastic crystals	5-10%
	Quartz	- occurs as a vein - highly strained	
	Texture: The rock is highly altered. The K-feldspars are partially altered. The quartz veins show definite signs of strain.		
RA-77-269	Feldspar-K-feldspar	- fine to medium grains, altered	55-65%
	-Plagioclase	- not altered	10%
	Hornblende	-	10-15%
	Quartz	- clear crystals	5-10%
	Fluorite	- found as inclusions within the K-feldspar, clear	1-2%
	Garnet	- brown, isotropic aggregates	10%
	Texture: The rock is fine grained and equigranular. The fluorite is occasionally purple and appears to occur around small inclusions within the fluorite. These inclusions may be very small crystals of uraninite.		

SAMPLE NO.	MINERALOGY	DESCRIPTION	PERCENTAGE
RA-77-270	Feldspar-K-feldspar	- large crystals, stained	70-80%
	-Plagioclase	- medium crystals & altered.	
	Biotite	- small flakes	1-5%
	Hornblende	- anhedral crystals	5-10%
	Fluorite	- small anhedral crystals	1-2%
	Garnet	- large phenocrysts, well zoned	10-15%
	Texture: The rock is coarse grained. The garnets are euhedral but highly zoned. The hornblende and biotite occurs as small anhedral crystals or flakes.		
RA-77-271	Feldspar-K-feldspar	- large euhedral crystals	80-85%
	-Plagioclase	- small anhedral aggregates	10-15%
	Scapolite	- occurs as fillings	1-3%
	Texture: A coarse grained feldspar rich rock. The plagioclase occurs as a matrix for the K-feldspar.		
RA-77-272	Feldspar-K-feldspar	- medium grained, equigranular	70-80%
	-Plagioclase	- small altered grains	10%
	Muscovite	- small to medium flakes	5%
	Biotite	- small flakes	5%
	Texture: The rock is medium grained and equigranular. It appears to have reached equilibrium. Some recrystallization has occurred, in which the abundant small grains are reappearing on grain boundaries.		
RA-77-273	Feldspar-K-feldspar	- large euhedral crystal	70-75%
	-Plagioclase	- small anhedral and equigranular crystals	10-15%
	Scapolite	- infillings	5%
	Garnet	- euhedral crystals	10%
	Texture: The rock is primarily composed of K-feldspar.		
RA-77-274	Feldspar-K-feldspar	- stained, equigranular crystals	60-75%
	-Plagioclase	- equigranular - possibly albite rich?	20-30%
	Biotite	- small flakes	5%
	Hornblende	- small anhedral crystals	5%
	Scapolite	- minute grains	1%
	Texture: The rock is fine to medium grained, equigranular with little to no mafics. The K-feldspar is slightly altered to clays. The mafics are partially concentrated in bands.		
RA-77-275	Feldspar-Plagioclase	-	20%
	-K-feldspar	-	65-75%
	Fluorite	-	1%
	Hornblende	-	5%
	Garnet	-	5%
	Biotite	-	2-5%
	Texture: The rock is equigranular and fine to medium grained.		

SAMPLE NO.	MINERALOGY	DESCRIPTION	PERCENTAGE
RA-77-276	Feldspar-K-feldspar	- medium sized grains, subhedral	70-80%
	-Plagioclase	-	2-5%
	Nepheline	- anhedral grains, fresh to high altered	8-10%
	Scapolite	- anhedral	2-5%
	Biotite	- flakes associated with the garnet	5-10%
	Garnet	- anhedral aggregates	5-10%
	Fluorite	- small anhedral grains, some are purple	<1%

Texture: The rock is medium grained and equigranular. There is no sign of any foliation. The only sign of radioactivity is the purple fluorite.

RA-77-277	Feldspar-K-feldspar	- medium anhedral grains, equigranular	60-70%
	-Plagioclase	-	2-5%
	Scapolite	- anhedral crystals	5%
	Calcite	- anhedral grains, twinned	1-2%
	Hornblende	- green pleochroism, some good cleavages	5-10%
	Garnet	- small anhedral grains	5-10%
	Nepheline	- medium anhedral grains, altered	10%

Texture: The rock is medium grained, equigranular and massive.

RA-77-278	Feldspar-K-feldspar	- medium to coarse, anhedral crystals	50-60%
	-Plagioclase	- medium anhedral crystals	10-15%
	Scapolite	- small anhedral crystals	5%
	Fluorite	- anhedral crystals	<1%
	Hornblende	- filled with inclusions	10%
	Garnet	- anhedral crystals	8-10%
	Biotite	- small flakes	3-5%

Texture: The rock is medium grained, equigranular and massive. The small amounts of fluorite are not purple. The rock is generally fresh.

RA-77-279	Feldspar-K-feldspar	- equigranular grains	50-60%
	-Plagioclase	- small clear veins	10%
	Scapolite	- clearly associated with vein material	10-15%
	Garnet	- occasionally associated with fluorite	10%
	Hornblende	- green to very dark green in plane light	10%
	Fluorite	- some of it is purple, especially along veins	3-5%
	Highly altered material in veins	- possibly a clay & chlorite mixture	2-5%

Texture: The rock is medium grained, equigranular and massive. The clay chlorite mixture appears to be in veins, but what the mineral was is not clear since it is all altered.

SAMPLE NO.	MINERALOGY	DESCRIPTION	PERCENTAGE
RA-77-280	Feldspar-K-feldspar	- phenocrysts with medium grains matrix	70%
	-Plagioclase	-	5-8%
	Scapolite	- anhedral aggregates	5%
	Hornblende	- anhedral aggregates	5%
	Garnet	- euhedral crystals	10%
	Fluorite	- anhedral crystals	5-8%
	Calcite	- anhedral crystals	2%
	Texture: The rock is composed of phenocrysts of K-feldspar in a matrix of garnet, plagioclase, scapolite, fluorite, K-feldspar and hornblende. Numerous small pinpricks of intense purple within the fluorite suggest the presence of small grains of radioactive materials.		
RA-77-281	Feldspar-Plagioclase	- anhedral crystal	10-15%
	-K-feldspar	- subhedral, equigranular crystals	70-80%
	Fluorite	- anhedral aggregates	10%
	Biotite	- small anhedral flakes	5-10%
	Texture: The rock is medium grained, equigranular and massive.		
RA-77-282	Feldspar-K-feldspar	- subhedral crystals, equigranular	65-75%
	-Plagioclase	- anhedral crystals	10%
	Biotite	- anhedral flakes	5-10%
	Fluorite	- anhedral crystals	5-10%
	Scapolite	- anhedral crystals	2-3%
	Texture: The rock is medium grained, equigranular and massive. There is a lot of fluorite, but little of it is purple.		
RA-77-283 RA-77-284	Examined by N.B. Research and Productivity Council under microprobe.		
RA-77-285	Feldspar-K-feldspar	- phenocrysts and smaller crystals	65-70%
	-Plagioclase	- small crystals	5-10%
	Garnet	- euhedral crystals	10%
	Biotite	- medium sized subhedral flakes	10%
	Scapolite	- anhedral crystals	5%
	Calcite	- anhedral crystals	<1%
	Texture: The rock is medium grained with some remnant phenocrysts of K-feldspar. The ragged edges of the K-feldspar crystals suggest these crystals are recrystallizing.		
RA-77-286	Feldspar-K-feldspar	- large subhedral to euhedral crystals	70-80%
	-Plagioclase	-	10%
	Hornblende	- anhedral crystals associated with garnet	5-10%
	Garnet	- euhedral crystals, highly zoned	5%
	Biotite	- anhedral crystals, associated with garnet	5%
	Fluorite	- small anhedral grains	<1%

Continued .

SAMPLE NO.	MINERALOGY	DESCRIPTION	PERCENTAGE

RA-77-286 - Continued

Texture: The rock is composed of large crystals of K-feldspar and a few euhedral crystals of garnet and anhedral crystals of hornblende and biotite. It is very coarse grained.

RA-77-287	Feldspar-K-feldspar	- primarily small anhedral crystal with some phenocrysts	75-85%
	-Plagioclase	- small anhedral crystals	5-10%
	Garnet	- anhedral crystals	5-10%
	Fluorite	- anhedral crystals	1%
	Limonite	- fracture fillings	1-2%
	Augite	- anhedral crystal, filled with inclusions	1%

Texture: The rock is primarily composed of medium grained, equigranular crystals. However, there are a few remnant K-feldspar phenocrysts. The phenocrysts are highly corroded. The mafic minerals are primarily concentrated in a small band.

RA-77-288	Feldspar-K-feldspar	- small anhedral crystals equigranular	70%
	-Plagioclase	- small anhedral grains	5%
	Garnet	- anhedral aggregates	10%
	Biotite	- anhedral flakes	7-10%
	Scapolite	- anhedral crystals	5-10%

Texture: The rock is medium grained, equigranular and massive. The scapolite and plagioclase appear to be closely associated. There is no sign of radioactive minerals.

INTRODUCTION

Sixteen samples made up variously of thin sections, slabs, and rock fragments, were submitted for microscopy, autoradiography and microprobe examination in order to identify the radioactive minerals present.

INVESTIGATION

Autoradiograph exposures of the rock slabs from 18-72 hours showed signs of radiation exposure in almost all cases (Plates 1, 2, and 3). Both vein and fracture fillings (secondary?) and granular distributions (primary?) in the rock matrix were evident.

Examination of the thin sections, which closely corresponded to the slabs exposed to film, showed those areas responsible for the radiation. Observations on the autoradiographs and thin sections are presented in Table 1.

Since identification of the radioactive minerals could not be made adequately from the slabs or thin sections, mineral concentrations were made by heavy liquid. These were mounted in polished section, and after autoradiography to demonstrate the concentration of radioactive constituents (Plates 4, 5 and 6), microprobe analyses were carried out on each of the samples. The results are listed below.

With the exception of samples HW62, 2437, 2438, 15512A and 15512B the radioactive minerals proved to be fine grained (mostly less than 10 microns) and were enclosed in the associated silicate minerals. Secondary alteration to uranium silicate of what appeared to be primary uraninite is common but the analyses were limited both by the fine grain size and by the small scale inhomogeneity of the radioactive areas.

All of the elements likely to be present in the radioactive minerals were checked including Cu, Zn, Ni, V, Al, P, Zr, Mg, but other than for the thorite compositions with rare earths, the uranium minerals were compositionally simple with uranium (+thorium) only or uranium and silicon. Oxygen could not be analysed but it is certain that the phases are built up of the oxides. The relative ease with which the minerals tended to change physically beneath the electron beam (with the exception of uraninite and the pure thorite) is characteristic of hydrated phases.

RA 76.01

A thin section and slab were submitted of this sample and both were required to be returned. Weak radiation exposure was noted on the autoradiograph with some concentration of radiation from a few isolated grains. No sample was available for microprobe analysis.

RA 76.06

Weak radioactivity is indicated on a long exposure autoradiograph and no significant levels on an autoradiograph of a heavy concentrate.

One mineral grain rich in thorium was encountered, 250 x 200 microns in size and liberated. Compositionally the mineral is made up of thorium, silicon, calcium, phosphorus, cerium and lanthanum with no concentrations of any other metals. Only a minor amount of uranium was present.

The thorium content of the mineral is about 40% ThO_2 and it is almost certainly thorite showing considerable substitution by the other elements detected.

RA 76.27

There was no significant radiation visible on a long exposure of the rock slab to film, but there were moderate levels of radiation noted on the autoradiograph of the mineral concentrate.

Electron probe analyses of the section showed numerous very fine grains of a uranium rich mineral enclosed mostly in the silicates. The very fine size precluded accurate analysis but where there was relative freedom from interference the only element consistently present is uranium (up to 80% UO_2), hence the mineral is assumed to be uraninite. Thorium is present in amounts near 7% (the small grain size and absence of a reliable standard make the analysis of thorium only semiquantitative).

A second uranium bearing mineral much rarer than the uraninite contains niobium and titanium with the uranium up to about 15-20% UO_2. The mineral appears to be related to the pyrochlore group. In common with all of these fine grained inclusions, interference from the associated enclosing minerals makes an accurate compositional determination almost impossible.

RA 76.31

The description of this sample matches very closely that of 76.27, both uraninite and rarer, possible pyrochlore, were noted and as before the grain size, mostly less than 10 microns limits the analytical determinations.

RA 77.283

On the autoradiographs no significant levels of radiation were noted but examination of the mineral concentrate by microprobe encountered regions of radioactivity. These, in common with previously examined sections appear to be uraninite grains, less than 10-20 microns in size and included in silicate. Other elements: silicon, calcium etc. are a result of interference. Some grains containing niobium were noted but uranium was not consistently associated with them. Thorium could not be reliably analysed on the grains seen. In common with most of these samples, fluorite is of frequent occurrence. In this case some radiation damage is evident (Plate 7).

RA 77.284

This sample is similar to 283 containing both possible uraninite and a niobium mineral with and without uranium. Small grain sizes and element interferences from the closely associated minerals made accurate definition impossible.

RA 77.300

Radioactivity was not noted on a long exposure of the rock slice and only low levels on a mineral concentrate autoradiograph.

Microprobe examination encountered mineral grains of possible uraninite UO_2 which are always very small, <10 microns, and always included in silicate. Thorium could not be analysed because of the small grain size.

HW 4

No radiation exposure was seen on the autoradiograph of the rock slice, but low levels were indicated in the exposure of the mineral concentrate.

Two uranium bearing minerals were noted; possible uraninite and a uranium silicate. Both minerals were in very small grains, included in silicates and the analyses suffered from interference from the associated minerals. Accurate identification was not possible.

HW 61

Very strong radiation was encountered from both the rock slice and the mineral concentrate.

Uraninite (UO_2) in small grains is fairly common. Thorium up to about 5-7% ThO_2 is present in the uraninite. The grains are always intimately associated with silicates and there is the formation of secondary uranium silicate with minor calcium. The uranium silicate may reach sizes of up to 100 microns across but always contains a large quantity of quartz granules. The behaviour of the mineral under the microprobe beam is typical of a hydrated phase and the mineral is probably uranophane. Thorium was not detected.

HW 62

Strong radiation was noted from both the rock slab and the mineral concentrate.

Thorium rather than uranium is responsible for the radioactivity. Two related compositions were noted:-a thorium silicate containing no calcium, no phosphate, no rare earths - i.e. a fairly pure thorite, and a hydrated thorium silicate with calcium, cerium, lanthanum and neodymium and nothing else (a variety of thorite). The thorite is readily visible in the thin section. It appears to be metamict with lesser relief and is less deeply coloured than the associated garnet. Expansion disruption of the surrounding silicates is readily apparent (Plate 8).

HW 99 (labelled 68)

No radiation exposure was noted on the autoradiograph of the rock slice but a low level was seen on the mineral concentrate exposure.

The only uranium bearing mineral encountered by probe is a uranium silicate in grains from less than 10 microns up to 30 microns with one of 100 microns. The composition is remarkably inhomogeneous and shows extensive interference from the associated silicates. Good compositional data could not be obtained but the mineral appears to be a secondary uranium silicate possibly close to uranophane $(Ca(UO_2)_2(SiO_3)_2(OH)_2\ 5H_2O$.

Table 1

Radioactive Minerals

	Autoradiograph Exposures		Radioactive Minerals
	Sample	Concentrate	Identified by probe
RA 76.01	weak	-	not determined
.06	weak	weak	thorite
.27	weak	moderate	uraninite, pyrochlore?
.31	"	"	" "
RA 77.283	weak	weak	"
.284	"	"	"
.300	none	weak	"
HW 4	none	weak	" u silicate
61	strong	strong	" uranophane
62	strong	strong	thorite
99	none	weak	uranophane
2437	moderate	moderate	coffinite, uraninite?
8	strong	strong	" " ?
15512A	"	"	" " ?
B	none	weak	"
15505	weak	weak	"

rpc

APPENDIX III

DRILL LOGS AND CROSS SECTIONS

DIAMOND DRILL RECORD

PROPERTY A CLAIMS HOLE No. 1

DIP TEST		
	Angle	
Footage	Reading	Corrected

Hole No. 1 Sheet No. 1 Lat.
Section Dep.
Date Begun JULY 16 Bearing 117°
Date Finished JULY 24 Elev. Collar

Total Depth 103'
Logged By G. WALTON
Claim A 2
Core Size IAX

DEPTH	DESCRIPTION	SAMPLE No.	WIDTH OF SAMPLE	RADIO-ACTIVITY	PETRO-GRAPHIC SAMPLE		
0-18'	no core recovered						
18-56'	GRAY SYENITE - medium to coarse grained, massive. The rock is composed of K-feldspar, plagioclase and hornblende with minor amounts of biotite. There are numerous fracture fillings of K-feldspar and some are definite pegmatite veins. At 52' the feldspars are pink and appear to be highly altered. The hornblende content varies from 5% to 10%. Biotite appears sporadically throughout the section, and shows most abundantly in the pink altered interval.			22,000cpm to 24,000cpm	RA77265 RA77267		
56-59'	FLOW BANDED SYENITE - fine to medium grained; poor foliation present; no plagioclase was seen. This appears to be a good example of the contact phase of the gray syenite.	RA-77139	15'	22,000cpm			
59-66'	GRAY SYENITE - medium to coarse grained, massive. Feldspar is mainly fresh, but some shows pink alteration. Staining indicates mainly K-feldspar. The mafics are composed of garnet and hornblende.			24,000cpm			

DIAMOND DRILL RECORD

PROPERTY A CLAIMS HOLE No. 1

DIP TEST		
	Angle	
Footage	Reading	Corrected

Hole No. 1 Sheet No. 2
Section
Date Begun JULY 16
Date Finished JULY 24

Lat.
Dep.
Bearing 117°
Elev. Collar

Total Depth 103'
Logged By G. WALTON
Claim A2
Core Size IAX

DEPTH	DESCRIPTION	SAMPLE No.	WIDTH OF SAMPLE	RADIO-ACTIVITY	PETRO-GRAPHIC SAMPLE		
66-70'	FLOW BANDED SYENITE - fine to medium grained, poorly foliated, well fractured, abundant K-feldspar and biotite.			23,000cpm	RA77266		
70-103'	GRAY SYENITE - medium to coarse grained, massive. As the depth increases, the feldspars show greater alteration to clays. There are numerous fracture fillings which appear to be composed of feldspar. Staining indicates 70 to 80% K-feldspar, 15 to 20% plagioclase, and 5 to 10% hornblende.			22,000cpm to 24,000cpm			

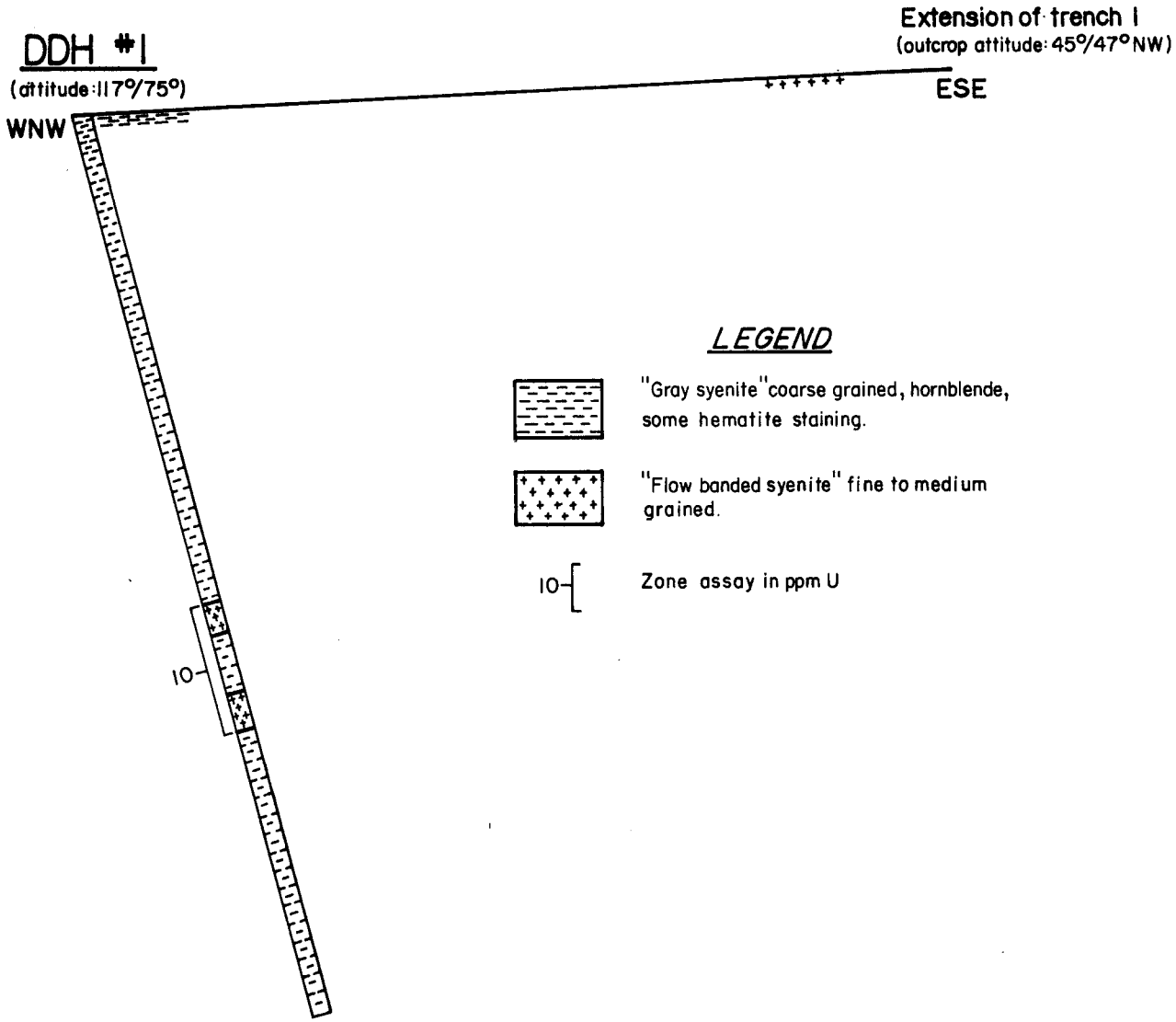


FIG. 27

CHEVRON STANDARD LIMITED

DDH 1

RACKLA PROJECT U435

SCALE IN FEET

20 0 20 40

DIAMOND DRILL RECORD

PROPERTY A CLAIMS HOLE No. 2

DIP TEST		
	Angle	
Footage	Reading	Corrected

Hole No. 2 Sheet No. 1 Lat.
Section Dep.
Date Begun JULY 26 Bearing 130°
Date Finished JULY 27 Elev. Collar 4550'

Total Depth 140'
Logged By G. WALTON
Claim A2
Core Size IAX

DEPTH	DESCRIPTION	SAMPLE No.	WIDTH OF SAMPLE	RADIO-ACTIVITY	PETRO-GRAPHIC SAMPLE		
0-2'	no core recovered						
2-35'	FLOW BANDED SYENITE - fine grained; well foliated;	RA77144	5'	26,000 cpm	RA77272		
	phenocrysts of pseudoleucite - some elongated, others	RA77145	5'	to			
	euhedral. At 15' the pseudoleucite crystals disappear,	RA77146	5'	24,000 cpm			
	and biotite knots appear. Here, the feldspar crystals	RA77147	1'				
	are quite large.						
	The rock loses its foliation at 18', but retains						
	the fine grained nature. The feldspars have a pink						
	tinge, due to hematite staining. As the pink colour				RA77271		
	decreases, the rock shows better foliation.				RA77268		
35-39'	TRANSITION ZONE - the rock becomes more and						
	more recognizeable as the gray syenite. Changes						
	from medium grained to coarse grained with in-						
	creasing depth. There are some pegmatite pods						
	and lenses in the section.						
39-58'	GRAY SYENITE - coarse grained, massive. The feldspar						
	crystals are mainly K-feldspar, and are euhedral						
	to lensoid in shape. There are numerous pegmatitic						

DIAMOND DRILL RECORD

PROPERTY A CLAIMS HOLE No. 2

DIP TEST		
	Angle	
Footage	Reading	Corrected

Hole No. 2 Sheet No. 2 Lat.
Section Dep.
Date Begun JULY 26 Bearing 130°
Date Finished JULY 27 Elev. Collar 4550'

Total Depth 140'
Logged By G. WALTON
Claim A 2
Core Size IAX

DEPTH	DESCRIPTION	SAMPLE No.	WIDTH OF SAMPLE	RADIO-ACTIVITY	PETRO-GRAPHIC SAMPLE		
	pods throughout the section.						
58-65'	TRANSITION ZONE Gradual change from gray syenite to flow banded syenite. The rock is medium to fine grained, with biotite increasing in concentration with increasing depth. The foliation also increasses with depth.						
65-96'	FLOW BANDED SYENITE - fine grained, with lensoid phenocrysts of pseudoleucite and K-feldspar. Biotite is found primarily in the groundmass. There are minor amounts of garnet in the section. At 75' there is a small quartz monzonite dyke, a few inches in thickness. This could also be a block of nepheline monzonite.			28,000 cpm to 32,000 cpm 35,000 cpm			
96-100'	APLITE DYKE - fine grained; white; equigranular. Some biotite present.			35,000 cpm	RA77269		
100-140'	FLOW BANDED SYENITE fine grained, well foliated.	RA77148	5'	26,000 cpm	RA77270		

DIAMOND DRILL RECORD

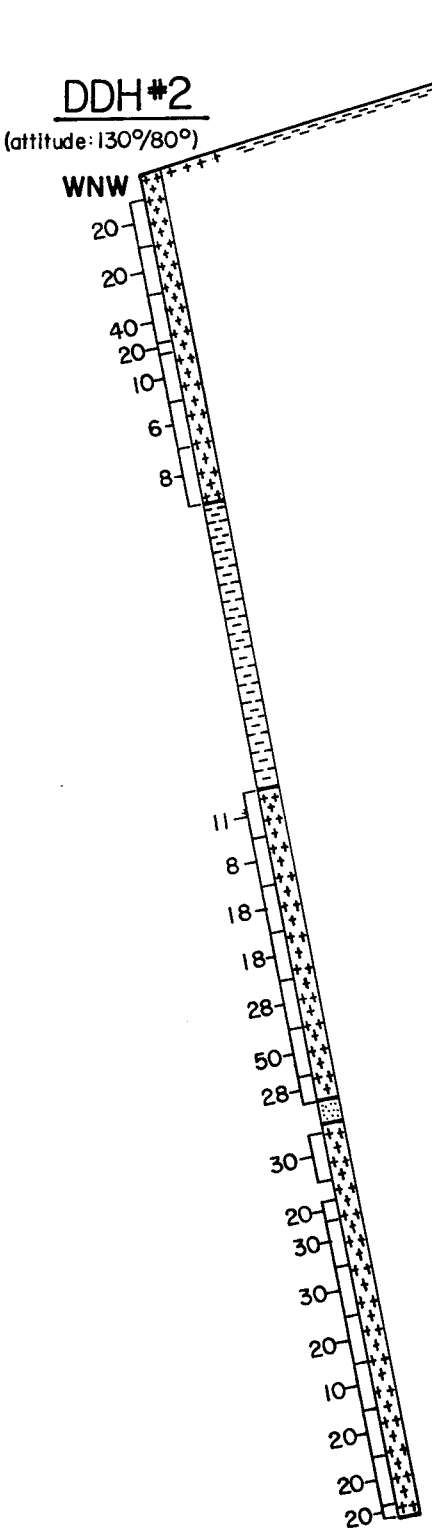
PROPERTY A CLAIMS HOLE No. 2

DIP TEST		
	Angle	
Footage	Reading	Corrected

Hole No. 2 Sheet No. 3 Lat.
Section Dep.
Date Begun JULY 26 Bearing 130°
Date Finished JULY 27 Elev. Collar 4550'

Total Depth 140'
Logged By G. WALTON
Claim A2
Core Size IAX

DEPTH	DESCRIPTION	SAMPLE No.	WIDTH OF SAMPLE	RADIO-ACTIVITY	PETRO-GRAPHIC SAMPLE		
	There are numerous bands of garnet-bearing, pseudoleucite-bearing and biotite-bearing syenite. These bands vary in thickness, but are generally six inches wide.	RA77149	2'	to			
		RA77150	5'	28,000 cpm			
		RA77151	5'				
		RA77152	5'				
		RA77153	5'				
		RA77154	5'				
		RA77155	5'				
		RA77156	1.25'				



LEGEND

"Flow banded syenite" fine grained pseudoleucite, biotite, garnet and hornblende phases

"Gray syenite" coarse grained hornblende 5%

"Aplite dyke" fine grained, equigranular monzonite composition

20 Zone assay in ppm U

FIG. 28

CHEVRON STANDARD LIMITED

DDH 2

RACKLA PROJECT U435

SCALE IN FEET

20 0 20 40

DIAMOND DRILL RECORD

PROPERTY A CLAIMS HOLE No. 3

DIP TEST		
	Angle	
Footage	Reading	Corrected

Hole No. 3 Sheet No. 1 Lat.
Section Dep.
Date Begun JULY 27 Bearing 130°
Date Finished JULY 28 Elev. Collar

Total Depth 135'
Logged By G. WALTON
Claim A2
Core Size IAX

DEPTH	DESCRIPTION	SAMPLE No.	WIDTH OF SAMPLE	RADIO-ACTIVITY	PETRO-GRAPHIC SAMPLE		
0-3'	no core recovered						
3-30'	GRAY SYENITE - coarse grained, massive. Hornblende is the predominant mafic mineral, however there are numerous crystals of biotite. Some garnet is also present. Hornblende decreases, while biotite increases with increasing depth.			22,000cpm	RA77273		
30-36'	TRANSITIONAL ZONE - syenite - fine to medium grained, slightly pinkish, massive at the top, but becomes foliated with depth. The feldspar nodules become more stretched out, so that individual feldspar crystals are not discernable.			22,000cpm			
36-77'	FLOW BANDED SYENITE - fine grained matrix, with stretched nodules of feldspar. The foliation is due to the elongated feldspars, and the matrix having flowed around the feldspar nodules.			22,000cpm	RA77274		
77-79'	DYKE - possibly a fine grained version of the gray syenite. Contains up to 20% biotite in			22,000cpm			

DIAMOND DRILL RECORD

PROPERTY A CLAIMS HOLE No. 3

DIP TEST		
	Angle	
Footage	Reading	Corrected

Hole No. 3 Sheet No. 2 Lat.
Section Dep.
Date Begun JULY 27 Bearing 130°
Date Finished JULY 28 Elev. Collar

Total Depth 135'
Logged By G. WALTON
Claim A2
Core Size IAX

DEPTH	DESCRIPTION	SAMPLE No.	WIDTH OF SAMPLE	RADIO-ACTIVITY	PETRO-GRAPHIC SAMPLE		
	the matrix						
79-98'	FLOW BANDED SYENITE - fine grained, well foliated and banded. some lenses of gray syenite are found within the core. The mafics consist of hornblende and biotite.	RA77140	16.5'	26,000cpm	RA77275		
		RA77141	10'				50
98-135'	FLOW BANDED SYENITE - fine grained, well foliated, compact. There are some pegmatite lenses which contain pyrrhotite.			26,000cpm			'
		RA77142	20'				
		RA77143	10'				

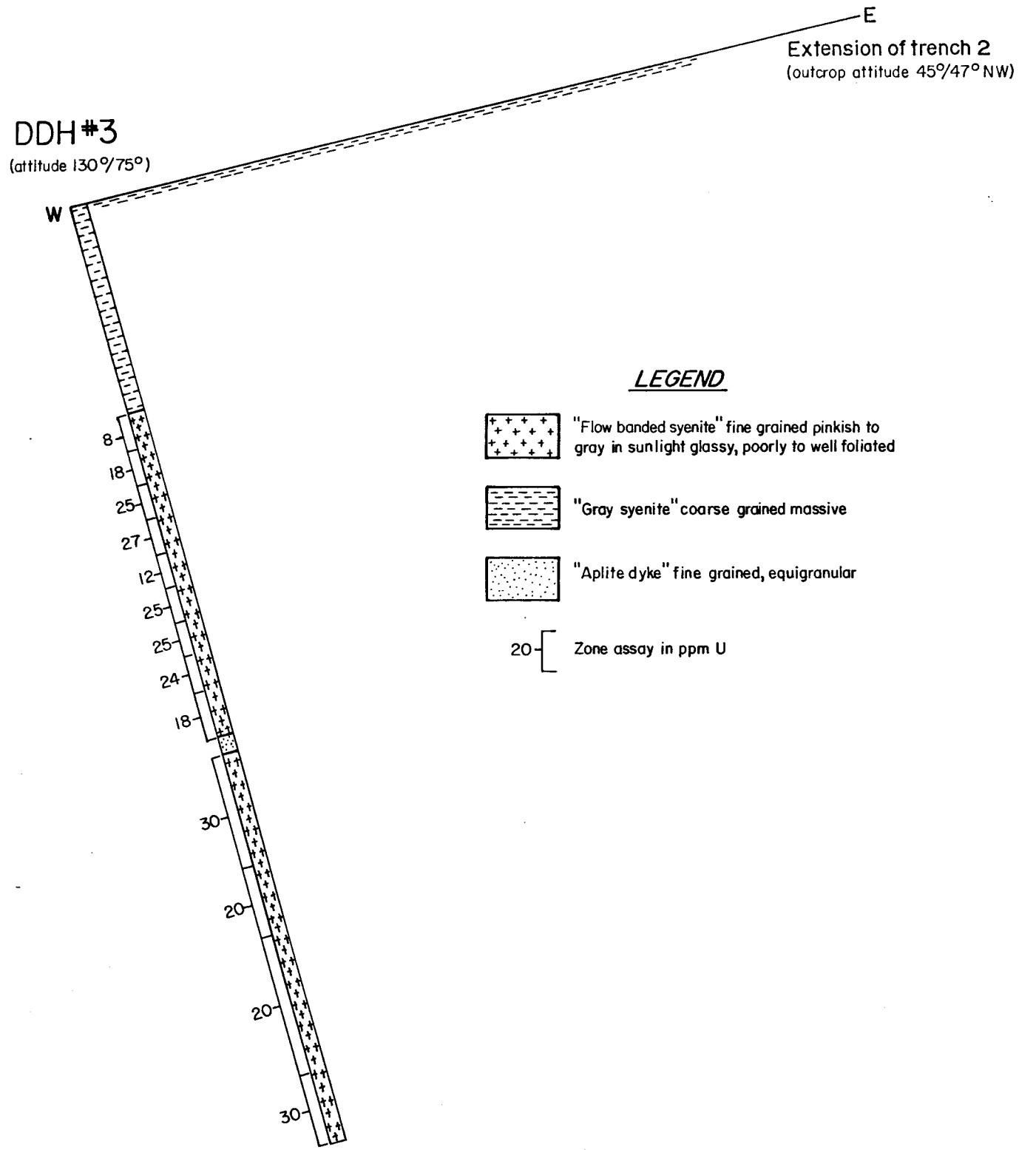


FIG. 29

CHEVRON STANDARD LIMITED

DDH 3

RACKLA PROJECT U435

SCALE IN FEET

20 0 20 40

DIAMOND DRILL RECORD

PROPERTY A CLAIMS HOLE No. 4

DIP TEST		
	Angle	
Footage	Reading	Corrected

Hole No. 4 Sheet No. 1 Lat. Total Depth 105'
Section Dep. Logged By G. WALTON
Date Begun JULY 30 Bearing 110° Claim A 9
Date Finished AUGUST 4 Elev. Collar 4800' Core Size IAX

DEPTH	DESCRIPTION	SAMPLE No.	WIDTH OF SAMPLE	RADIO-ACTIVITY	PETRO-GRAPHIC SAMPLE		
0-3'	no core recovered						
3-105'	FLOW BANDED SYENITE - fine to medium grained. The bands described below differ primarily in texture and biotite content :	RA77132	13'	24,000cpm			
	14-19' pegmatite vein with quartz and feldspar showing abundant iron staining	RA77133	19'	24,000cpm			- 51 -
	19-27' phase of the flow banded syenite that contains hornblende knots and fine grained disseminated biotite in the matrix. Looks very much like a fine grained version of the gray syenite			24,000cpm	RA77276		
	30-31' and 32-33' pegmatite veins which have a very high porosity.			24,000cpm			
	33-72' phase of the flow banded syenite containing abundant hornblende. These hornblende crystals are subhedral to euhedral, and produce a slight foliation. No biotite present.	RA77134	23'	24,000cpm	RA77277		
		RA77135	9'	at 56; up to 24,000cpm			
		RA77136	.5'				
	72-76' phase of flow banded syenite which contains abundant biotite, but no hornblende.			22,000cpm	RA77278		

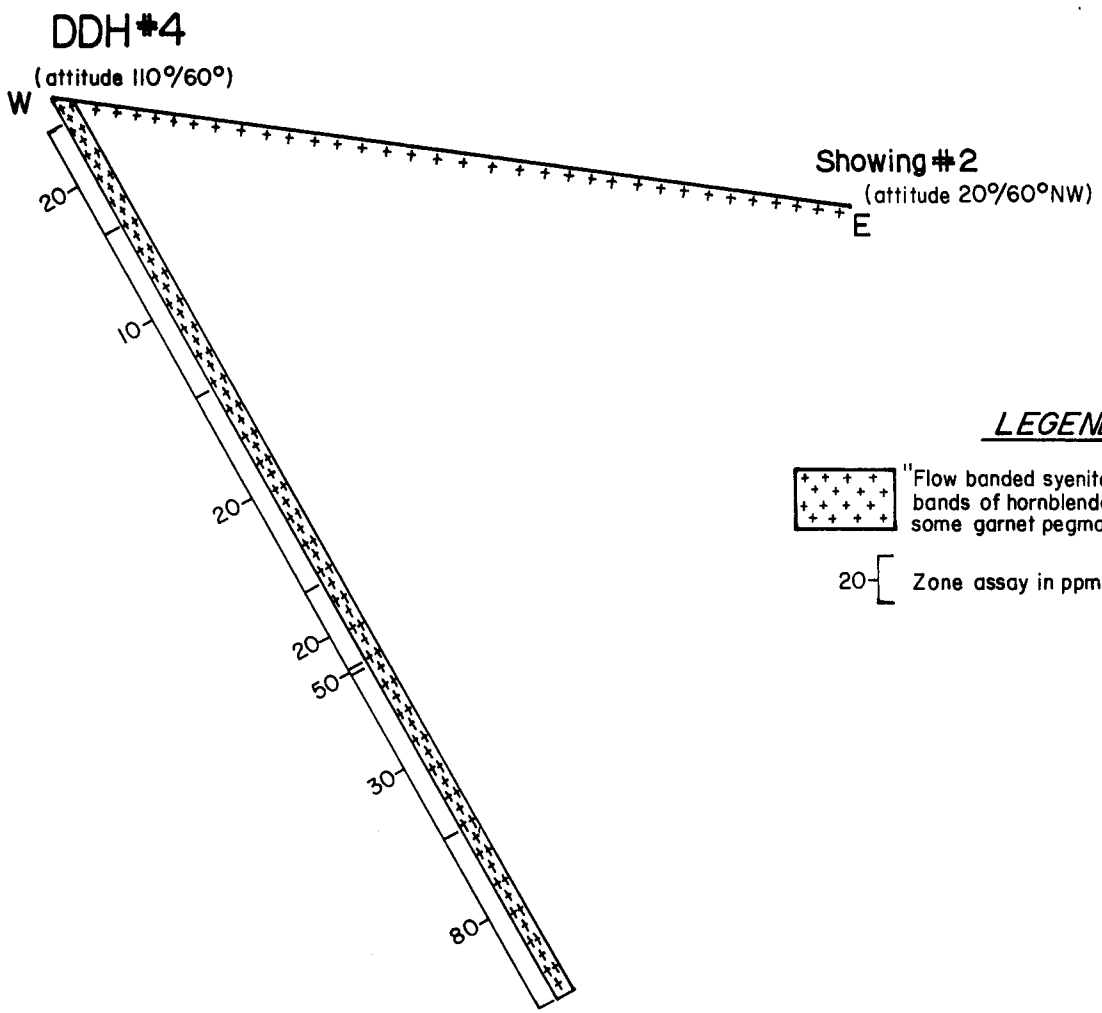
DIAMOND DRILL RECORD

PROPERTY A CLAIMS HOLE No. 4

DIP TEST		
	Angle	
Footage	Reading	Corrected

Hole No. 4 Sheet No. 2 Lat. Total Depth 105'
Section Dep. Logged By G. WALTON
Date Begun JULY 30 Bearing 110° Claim A 9
Date Finished AUGUST 4 Elev. Collar 4800' Core Size IAX

DEPTH	DESCRIPTION	SAMPLE No.	WIDTH OF SAMPLE	RADIO-ACTIVITY	PETRO-GRAPHIC SAMPLE
	fine grained, equigranular and compact.				
	76-81' phase of the flow banded syenite			22000cpm	
	which contains hornblende knots and				
	disseminated biotite.	RA77137	19.5'		
	81-85' phase of the flow banded syenite			22,000cpm	RA77279
	which contains abundant disseminated				
	biotite, but no hornblende				
	85-87' phase of the flow banded syenite which			22,000cpm	
	contains abundant garnet. The garnet is				
	unusually coarse grained for the flow banded				
	rock.				
	87-105' phase of the flow banded syenite	RA77138	20'	22,000cpm	
	which contains abundant biotite and is				RA77280
	fine grained, compact and equigranular.				
	It is well foliated and contains minor			at 100' 40,000cpm	
	amounts of garnet and pyrrhotite.				



LEGEND

"Flow banded syenite" fine to medium grained bands of hornblende and biotite-rich phases. some garnet pegmatitic phases.

20 Zone assay in ppm U

FIG. 30

CHEVRON STANDARD LIMITED

DDH 4

RACKLA PROJECT U435

SCALE IN FEET

20 0 20 40

DIAMOND DRILL RECORD

PROPERTY A CLAIMS HOLE No. 5

DIP TEST		
	Angle	
Footage	Reading	Corrected

Hole No. 5 Sheet No. 1 Lat. Total Depth 101'
Section Dep. Logged By G. WALTON
Date Begun AUGUST 5 Bearing 120° Claim A 2
Date Finished AUGUST 7 Elev. Collar 4820' Core Size IAX

DEPTH	DESCRIPTION	SAMPLE No.	WIDTH OF SAMPLE	RADIO-ACTIVITY	PETRO-GRAPHIC SAMPLE
0-3'	no core recovered				
3-101'	FLOW BANDED SYENITE fine to medium grained, gray to black in colour. Two veins of high radio-activity were located at 16' and 18'. The flow banded can be separated into the following units, based on textures and grain size:			22,000cpm to 26,000cpm	
	4-10' garnet syenite. garnet phenocrysts surrounded by a fine-grained matrix of feldspar. The unit is massive, but is dissected by numerous veinlets and fractures.	RA77104	3.5'	23,000cpm	RA77281
	10-11' fine grained biotite syenite with abundant purple fluorite, but no phenocrysts.	RA77105	5'	24,000cpm	
	11-14' nodular syenite, fine grained matrix which encloses the rounded and elongate feldspar crystals. This unit is generally medium to light gray.	RA77106	3'	22,000cpm	RA77282
	14'-19' biotite syenite, fine grained, light to medium gray, cut by a pegmatite dyke at 16'. Two veins of high radioactivity were picked up.	RA77107	.5'	60,000cpm	
		RA77108	1'	70,000cpm	
		RA77109	.5'		RA77283
					RA77284

DIAMOND DRILL RECORD

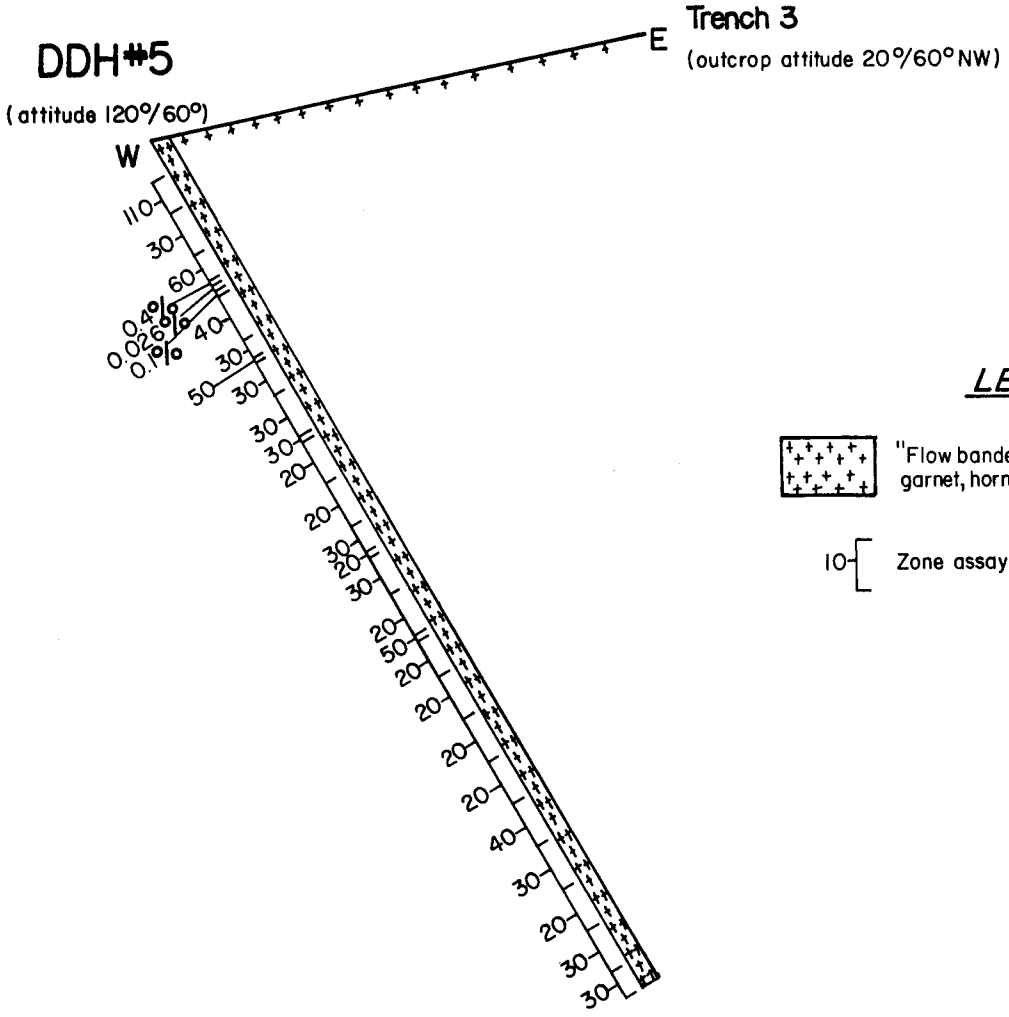
PROPERTY A CLAIMS HOLE No. 5

DIP TEST		
	Angle	
Footage	Reading	Corrected

Hole No. 5 Sheet No. 2 Lat.
Section Dep.
Date Begun August 5 Bearing 120°
Date Finished August 7 Elev. Collar 4820'

Total Depth 101'
Logged By G. WALTON
Claim A 2
Core Size EAX

DEPTH	DESCRIPTION	SAMPLE No.	WIDTH OF SAMPLE	RADIO-ACTIVITY	PETRO-GRAPHIC SAMPLE		
	19-24' nodular garnet syenite interlayered with fine grained biotite syenite. The bands vary from 2 to 6 inches.	RA77110	5'	24,000cpm			
		RA77111	2'				
	24-24.5' medium grained diabasic dyke	RA77112	.5'	22,000cpm			
	24.5-31' biotite syenite. fine grained, no phenocrysts, equigranular. Biotite crystals have produced a slight foliation.	RA77113	4'	24,000cpm			
		RA77114	4.5'				
	31-45' Hornblende syenite - medium grained. This could be a fine grained version of the black and white syenite. The mafic content is 20%.	RA77115	.5	25,000cpm			
		RA77116	5.5'				
		RA77117	5'				
		RA77118	3.5'				
	45-101' Biotite syenite. fine grained, gray to pink in colour. Some lenses showing hematite staining. Minor amounts of garnet. The foliation appears to increase with depth and biotite content.	RA77119	.5'	26,000cpm			
		RA77120	4'				
		RA77121	5'	24,000cpm			
		RA77122	.5'				
		RA77123	4.5'				
		RA77124	5'				
		RA77125	5'				
		RA77126	5'				
		RA77127	5'				
		RA77128	5'				
		RA77129	5'				
		RA77130	5'				
		RA77131	4'				



LEGEND

"Flow banded syenite" fine grained pseudoleucite, garnet, hornblende, syenite phases

10 Zone assay in ppm U

FIG. 31

CHEVRON STANDARD LIMITED

DDH 5

RACKLA PROJECT U435

SCALE IN FEET

20 0 20 40

DIAMOND D' 'LL RECORD

PROPERTY A CLAIMS HOLE No. 6

DIP TEST		
	Angle	
Footage	Reading	Corrected

Hole No. 6 Sheet No. 1 Lat. Total Depth 150'
Section Dep. Logged By G.WALTON
Date Begun AUGUST 9 Bearing 240° Claim WAD 44
Date Finished AUGUST 10 Elev. Collar 4900' Core Size IAX

DEPTH	DESCRIPTION	SAMPLE No.	WIDTH OF SAMPLE	RADIO-ACTIVITY	PETRO-GRAPHIC SAMPLE
0-2'	no core recovered				
		RA7766	5'		
2-27'	FLOW BANDED SYENITE - biotite content is very	RA7767	5.5'	26,000cpm	
	high, ~20%. The core is fine grained, porphyritic,	RA7768	5'		RA77285
	and contains euhedral feldspar crystals. Pyrrhotite	RA7769	3.5'		
	occurs as veins and is disseminated. Fluorite is	RA7770	.5'		
	present, and varies from purple to clear.	RA7771	4.5'		
		RA7772	1'		
27-43'	BLACK AND WHITE SYENITE - medium grained.			24,000cpm	RA77286
	Euhedral feldspar crystals are up to ½ inch				
	in length. Hornblende content is 10 to 15%.				
43-55'	FLOW BANDED SYENITE - fine grained, well foliated.	RA7773	5'	26,000cpm	RA77287
	Pseudoleucite crystals are found at 43', but	RA7774	3'		
	these are limited to a narrow band.	RA7775	3.5'		
55-57'	BLACK AND WHITE SYENITE - medium grained.			22,000cpm	
	Hornblende crystals are euhedral to sub-				
	hedral. This is probably a block of black and	RA7776	5'		
	white syenite which was engulfed in the				
	flow banded syenite. The contact between				

DIAMOND D' LL RECORD

PROPERTY A CLAIMS HOLE No. 6

DIP TEST		
	Angle	
Footage	Reading	Corrected

Hole No. 6 Sheet No. 2 Lat.
Section Dep.
Date Begun AUGUST 9 Bearing 240°
Date Finished AUGUST 10 Elev. Collar 4900'

Total Depth 150'
Logged By G. WALTON
Claim WAD 44
Core Size IAX

DEPTH	DESCRIPTION	SAMPLE No.	WIDTH OF SAMPLE	RADIO-ACTIVITY	PETRO-GRAPHIC SAMPLE		
	these two rock types is very sharp.						
57-150'	FLOW BANDED SYENITE Fine grained. Euhedral to subhedral feldspars are found in the matrix and as phenocrysts. This phase is biotite-rich. There are some pegmatitic pods which could be small pockets of gray syenite. These pods are only 2 inches in width.	RA7777	5'	24000cpm	RA77288		
		RA7778	5'				
		RA7779	5'				
		RA7780	.3'				
		RA7781	.5'				56
		RA7782	1'				
		RA7783	.5'				
		RA7784	5'				
		RA7785	5'				
		RA7786	5'				
		RA7787	5'				
		RA7788	5'				
		RA7789	4'				
		RA7790	.5'				
		RA7791	4'				
		RA7792	.5'				
		RA7793	2'				
		RA7794	.5'				
		RA7795	3.5'				
		RA7796	2.5'				
		RA7797	.5'				
		RA7798	1'				
		RA7799	5'				
		RA77100	5'				
		RA77101	5'				
		RA77102	5.5'				
		RA77103	4.5'				

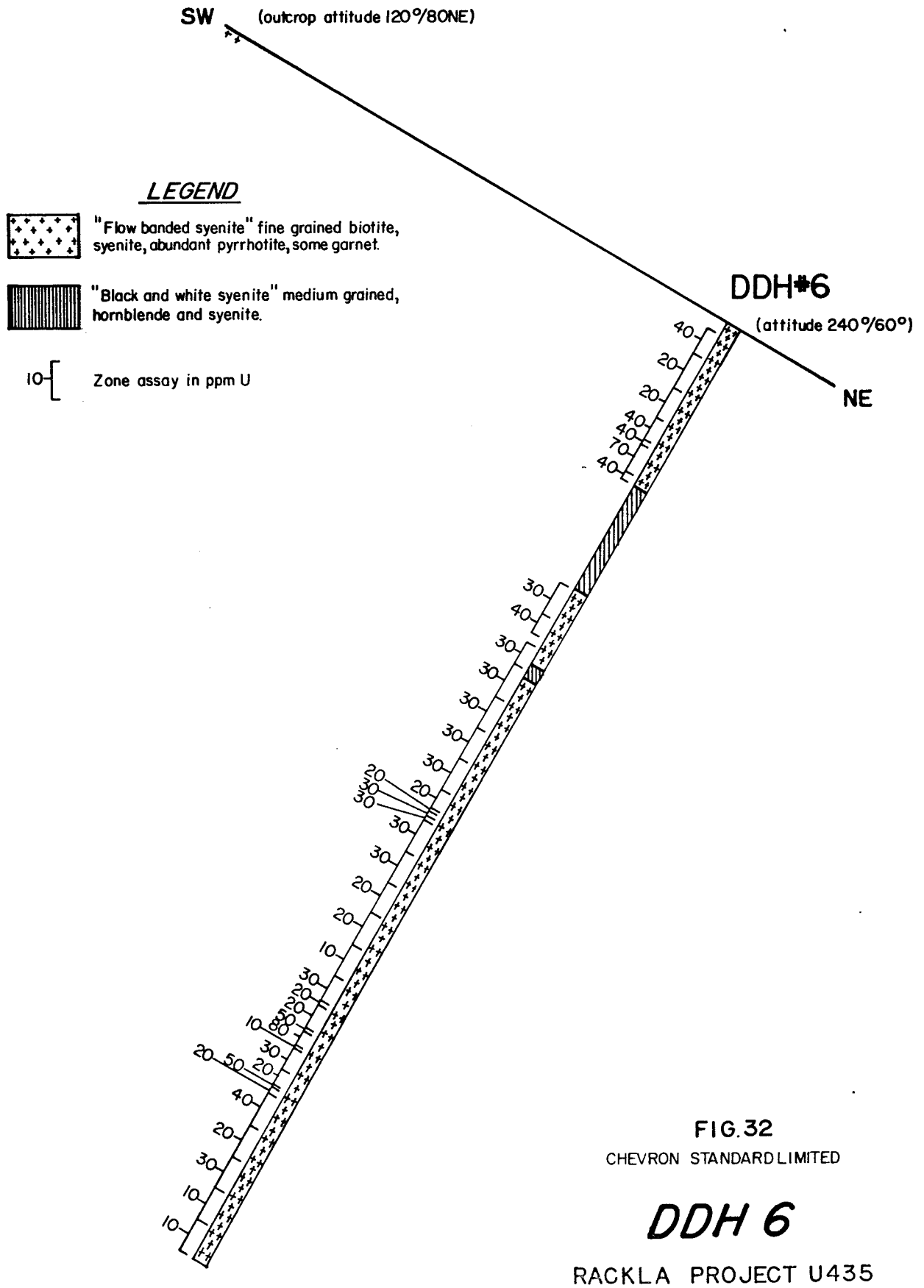


FIG. 32

CHEVRON STANDARD LIMITED

DDH 6

RACKLA PROJECT U435

SCALE IN FEET

20 0 20 40

SHOWING 1

SHOWING 2

SHOWING 3

SHOWING 4

See FIG. 11

See FIG. 12

See FIG. 15

Boom Boom Lake

Four Seasons Lake

Peaceful Lake

Deadmans Gulch

139°10'

139°05'

139°00'

64°30'

6558

6116

LEGEND

- GRAY SYENITE
- BLACK AND WHITE SYENITE
- NEPHELINE MONZONITE
- FLOW BANDED SYENITE
- VOLCANICS AND SEDIMENTS
- ⊙DDH 6 DIAMOND DRILL HOLE
- ■ 20 ROCK LOCATION, VALUES IN PPM U
- □ CLAIM POST
- FOLIATION, INCLINED
- ▲T1 TRENCH
- GEOLOGICAL CONTACT-Defined, Approximate.

FIG. 2

CHEVRON STANDARD LIMITED
MINERALS STAFF

GEOLOGICAL MAP

CLAIM GROUPS A, B, AB & WAD

DEADMAN STOCK

PROJECT U435

SCALE 1:12,500

FEET 1000 500 0 1000 2000 FEET

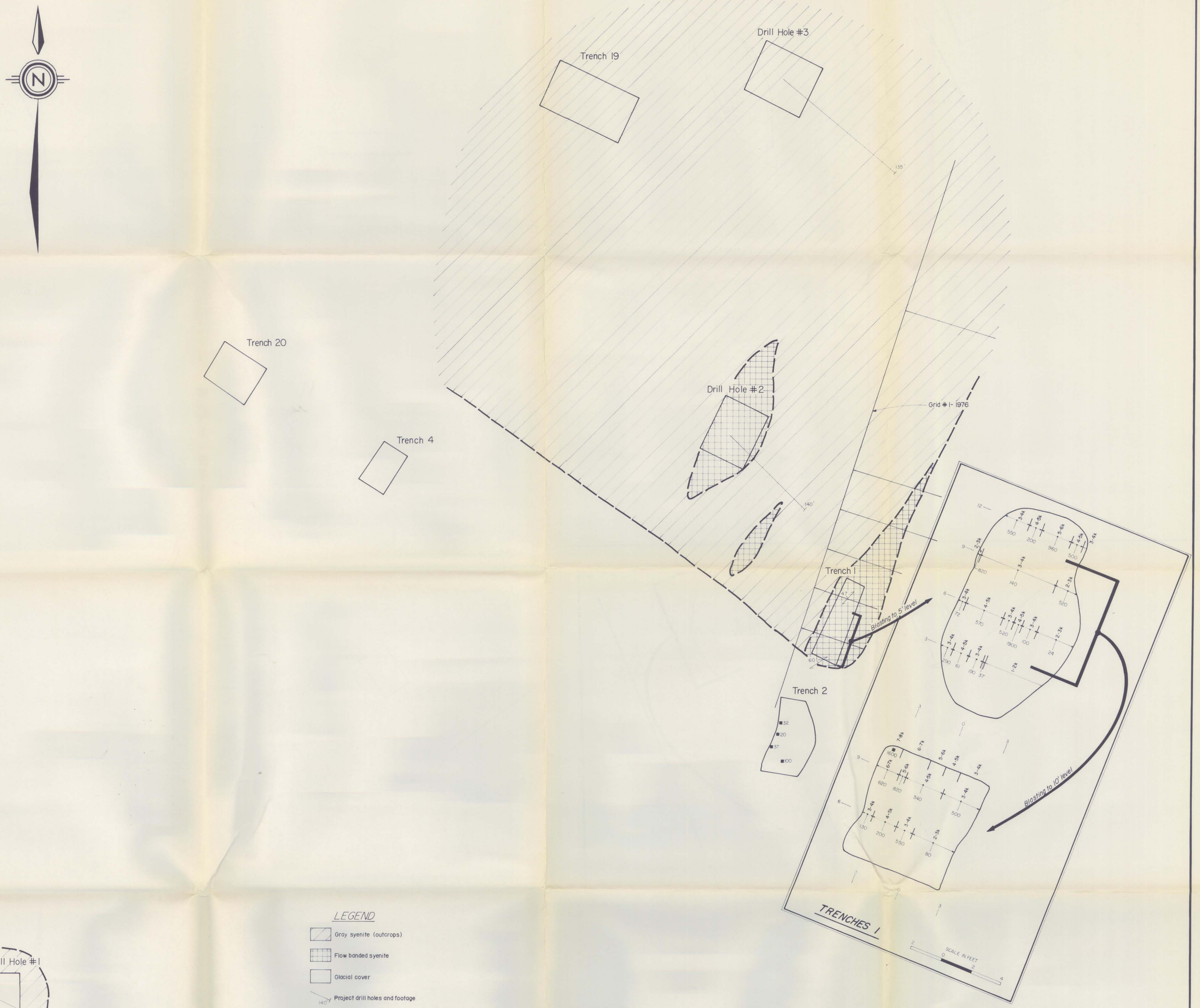


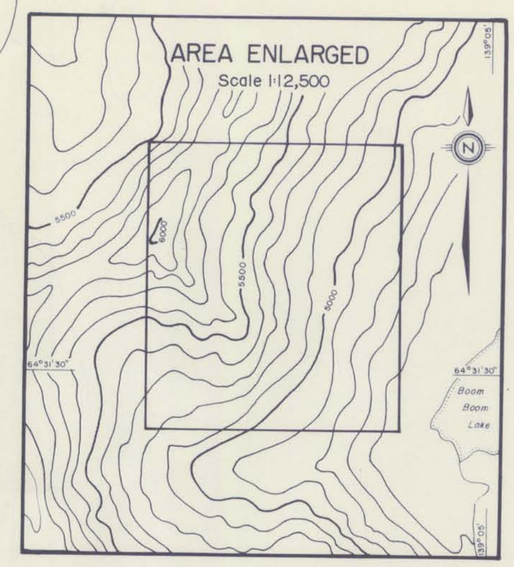
FIG. 3

CHEVRON STANDARD LIMITED

DETAILED MAP OF SHOWING No. 1

RACKLA PROJECT U435

SCALE IN FEET



LEGEND

•340 Radiometric station and reading in cps measured with a Scintrex BGS-1SL at waist level

FIG. 12

CHEVRON STANDARD LIMITED

RADIOMETRIC CONTOUR GRID 77-4

RACKLA PROJECT U435

SCALE IN FEET

104 0 104 208

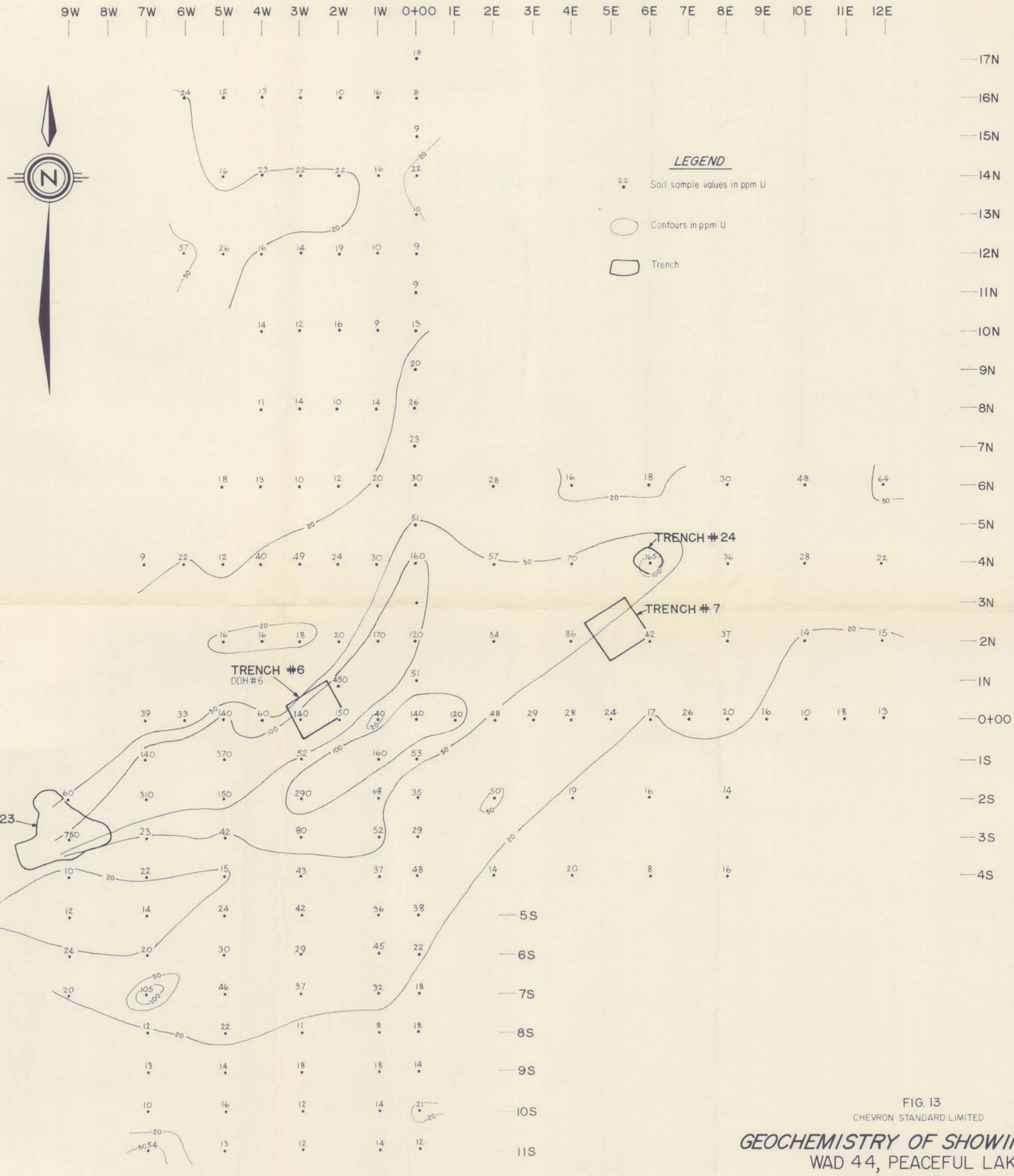


FIG. 13

CHEVRON STANDARD LIMITED

GEOCHEMISTRY OF SHOWING No. 4

WAD 44, PEACEFUL LAKE

RACKLA PROJECT U435

SCALE IN FEET

20 0 20 40 60

ELEV.

5950 — 300 280 460 480 580 500 400 470 460 380 380 400 460 520 440 440 420 420 740 580 660 620 700 580 460 460 460

5900 — 400 330 600 560 510 530 470 450 430 415 470 470 550 530 600 600 600 560 500

5850 — 400 320 410 800 440 540 480 630 480 360 480 400 440 420 470 440 630 430 700 700 520 500 460 530 560

5800 —

5750 — 380 380 320 360 400 480 520 360 340 640 740 880 520 1200 740 820 560 900 460 660 480 460 520 440 460 420 680 170 480 520 560

5700 — 450 570 590 500 485 1500 415 350 415 365 485 1350 430 415 430 450 450 500 400 670 510 470 550 570

250-380

5650 — 1600 400 480 520 380 360 400 580 650 740 700 520 400 390 480 380 330 360 540 500 410 420 420 580 600 400 440 460 500 480 500

120

5600 — 340 360 400 400 380 360 380 420 400 400 470 500 400 360 400 440 350 400 410 420 460 440 460 500 560 560 700 500 550 1200 400 600 440 560 470 500 500 580 640 530 500 480 600 530 540

5550 — 400 400 430 430 430 400 400 430 430 560 470 500 430 400 380 400 430 430 400 400 400 485 400 500 450 550 530 570 570 470 500 485 510 550 485 530 510 500 500 600 530 530 510 470 485

5500 — 400 420 400 380 400 380 400 420 380 380 400 420 400 380 400 400 420 500 440 460 500 520 420 420 520 400 540 640 440 520 500 700 500 520 320 480 500 540 520 500 500 460 520 600 500 460 520 420 480 300 320 420

5450 — 400 390 400 380 400 400 330 390 390 400 460 400 1100 410 420 410 400 500 560 480 500 470 400 620 420 460 500 370 530 530 600 420 380 350 380 400 750 440 420 400 420 500 480 430 440 390 400 900 330 370 300

5400 — 400 430 380 415 430 500 400 365 470 400 400 415 430 470 470 470 400 500 500 670 710 365 470 430 415 400 365 470 430 330 350 365 1000 590 365 400 350 365 365 350 330 350 365 415

5350 — 360 420 380 400 380 400 380 420 400 360 360 400 380 400 430 500 400 520 460 440 600 800 520 500 500 440 560 420 420 400 440 400 400 600 380 500 1500 400 380 460 420 380 380 400 400 420 340 340 400 360 320

5300 — 380 420 400 420 380 360 400 420 400 420 400 400 380 380 480 500 530 600 560 500 460 540 500 620 600 420 460 420 500 460 440 360 400 380 400 400 420 550 400 440 350 360 380 380 360 380 380 570 580 800 1550 380

5250 — 380 360 330 320 390 350 320 320 340 350 380 330 320 360 380 400 1400 490 400 500 600 480 420 480 420 400 540 440 460 800 420 380 300 380 380 1200 400 360 380 360 300 350 320 380 370 1300 430 380 370 340 330 330 360 300 420

86

5200 — 380 415 400 415 380 365 380 365 470 400 365 415 430 430 500 430 330 330 430 430 400 400 450 400 330 330 300 330 470 330 330 415 365 500 470 365 430 430 400 470 400 400 365 415 470

5150 — 360 400 380 400 350 380 380 420 360 360 400 400 430 400 500 480 440 520 520 480 400 380 360 420 420 380 400 500 500 940 480 440 580 460 460 400 480 560 420

5100 — 340 340 320 340 350 320 380 330 320 380 320 340 350 400 380 360 380 400 400 420 440 400 440 900 410 320 390 400 400 380 3200 840 370 360 380 360 340 390 400 760 370 340 360 440 680 1500 370 360 360 350 330 500 480

150-200-125 35

5050 —

5000 — 360 340 330 360 370 400 360 360 360 300 380 380 340 480 420 420 600 580 600 540 520 500 500 520 460 400 470 440 420 410 400 500 530 480 480 760 480 460 480 520 480 440 380 400 420 440

620

4950 — 300 310 340 380 330 330 330 360 300 380 420 460 600 430 460 440 400 370 1100 360 450 420 430 360 330 380 340 340 620 480 430 390 380 370 380 420 360 370 1700 380 400 400 400 300 330 380

60

4900 —

4850 — 360 380 380 400 380 430 460 420 400 510 600 530 440 550 400 410 480 510 420 540 500 460 420 480 420 380 700 460 460 440 490 480 540 440 410 520 550 560 420 380

640

4800 — 330 360 380 420 370 830 500 1000 420 450 490 340 330 360 420 400 380 830 520 400 440 420 360 360 380 390 440 400 520 400 400 380 460 400 400 360 015

1350

LEGEND

•500 Radiometric readings along contour line measured in CPS with Scintrex at waist level

□60 Rock sample value in ppm U

FIG. 15

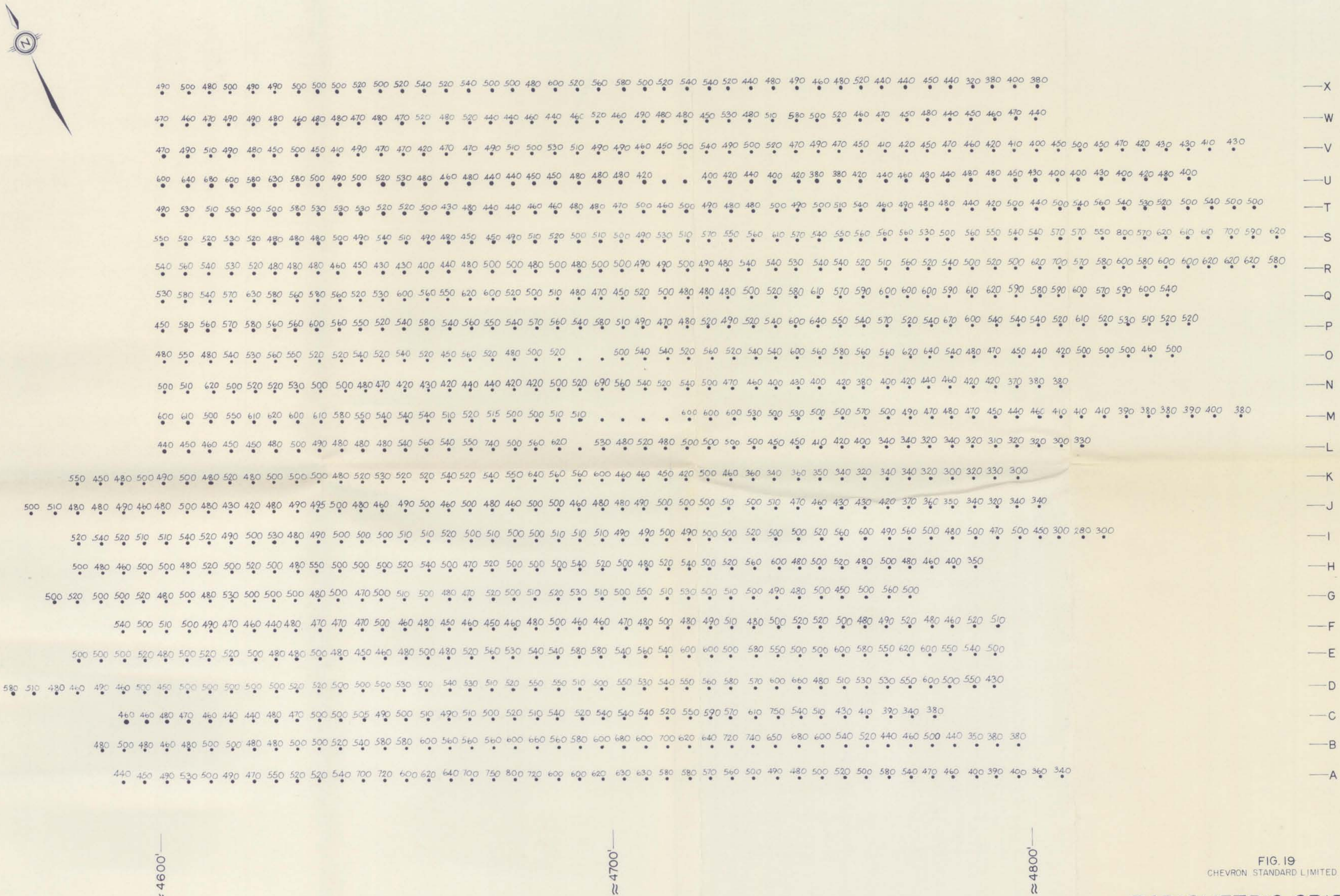
CHEVRON STANDARD LIMITED

RADIOMETRIC CONTOUR GRID 77-1

RACKLA PROJECT U435

SCALE IN FEET

0 12 24



LEGEND

A,B... Grid lines taken at 25' interval

•500 Grid station taken at 10' interval Radiometric measured in CPS with Scintrex at waist level

FIG. 19
CHEVRON STANDARD LIMITED

RADIOMETRIC GRID 77-5

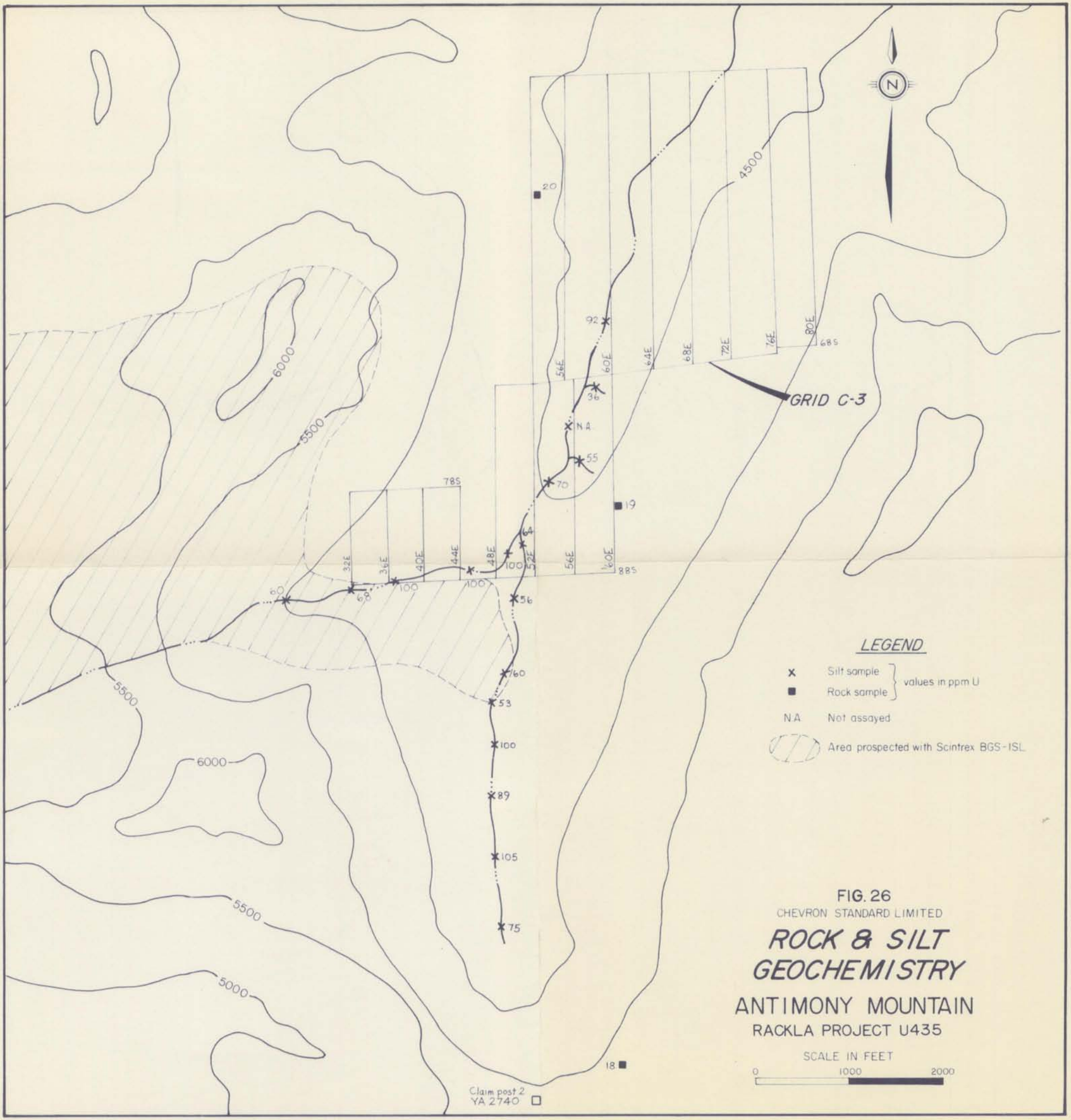
RACKLA U435

HORIZONTAL

feet 33 0 33 66 feet

VERTICAL

feet 63 0 63 126 feet


N
4500
5500
6000
5500
6000
5500
5000
GRID C-3
20
19
18
92
36
N.A
55
70
64
100
56
60
53
100
89
105
75
78S
68S
88S
32E
36E
40E
44E
48E
52E
56E
60E
64E
68E
72E
76E
80E
50
100
100
50
68
56
Claim post 2
YA 2740
LEGEND
Silt sample
Rock sample
values in ppm U
N.A Not assayed
Area prospected with Scintrex BGS-ISL
FIG. 26
CHEVRON STANDARD LIMITED
ROCK & SILT GEOCHEMISTRY
ANTIMONY MOUNTAIN
RACKLA PROJECT U435
SCALE IN FEET
0
1000
2000