JAN 1 2 1983
Office of the Regional ... Yukon Territory

ELDORADO NUCLEAR LIMITED
Saskatoon District Exploration Office
Project 546 (Haystack)
Geological and Geochemical Report
HAY 1 to 97 Claims
NTS 115 O/11 (63°38' N, 139°10' W)
Yukon Territory
Field Work Performed Between June 9
and July 19, 1982
By: R.D. Cruickshank 091406

RECEIVED
JAN 7 1983
MINING RECORDER
DAWSON, Y.T.
LA. & N.D.

November, 1982

R.D. CRUICKSHANK

This report h[illegible] examined by
the [illegible]
u[illegible] Quartz
Mi[illegible]
re[illegible] amount
of [illegible] 38,800 -

P Watson

for R[illegible]
Geo[illegible] Services for Commissioner
of Yukon Territory.

INDIAN and NORTHERN AFFAIRS

TRANSMITTAL FORM

M.R. File No. ____________

S.M.R. File No. ____________

Date Fwd. 22 Feb 82

FROM: Mining Recorder at ... Dawson ....

TO: Supervising Mining Recorder at Whitehorse, Y.T.

FEB 25 1983 WHITEHORSE Yukon Territory

To Joanne go w/ report Pat

FOR ACTION ARE:

☐ NEW APPL'N for PLACER LEASE to PROSPECT: Name:

☐ RENEWAL APPL'N PLACER LEASE to PROSPECT: Name: Lease No. ....

☐ AFFIDAVIT of EXPENDITURE on PLACER LEASE. Name: Lease No. ....

☐ ASSIGNMENT of PLACER LEASE No. ....
From: To:

☐ GROUPING APPL'N UNDER SEC. 52(2) PLACER MINING ACT.
Owner:

☐ DIAMOND DRILL LOGS:
Claims: Claim sheet no:

☑ QUARTZ ASSESSMENT REPORT:
Claims: Claim sheet no.

Type of report: Submitted by:

Cls. work performed on: $ Req. for ren. application

statement of costs ✓

Signature

REPLY ACTION: Date Ret.

____
Signature

ELDOR RESOURCES LIMITED

502 - 45th Street West, Saskatoon, Canada S7L 6H2, (306) 665-6166

February 9, 1983

B.J. Proudfoot
Mining Recorder
Dawson Mining District
Box 249
Dawson City, Yukon

Dear Mr. Proudfoot:

In response to your letter of January 27 requesting a statement of costs on our Hay mineral claims, I trust the following will be sufficient for your requirements.

1982 Expenditures   Hay Claims   #1-97 inclusive
Grant #YA64807-YA64903 inclusive

<u>Logistic Support</u>

Salaries	$2,090
Burden on salaries	274
Office costs	873
Shipping charges	3,162
Contractor	1,342
Field supplies	3,874
Field transporation	5,372
Rents & Maintenance	91

<u>Soil Geochemistry</u>

Salaries	6,300
Burden on salaries	719
Shipping charges	50
Lab analysis	3,830
Field supplies	92

. . ./2

Hydro Geochemistry

Salaries	$ 424
Burden on salaries	48
Lab analysis	1,344
Field supplies	10

Drafting and Clerical

Salaries	814
Burden on salaries	122
Office costs	957

Reporting

Salaries	1,635
Burden on salaries	229
Shipping charges	19

Geological

Salaries	5,060
Burden on salaries	684
Shipping charges	24
Lab analysis	542
Rents and Maintenance	3,622
TOTAL	$43,603

RECEIVED FEB 21 1983 MINING RECORDER DAWSON, Y.T. I.A. & N.D.

Yours truly,

JOHN S. RICHARDSON
Senior Expediter

JSR:clf

cc: R.D. Cruickshank
L.A. Homeniuk
546-70 Disp.

ASSESSMENT REPORTS

MAP No. **TYPE OF WORK:**

REPORT FILED UNDER	
DATE PERFORMED	DATE FILED:
LOCATION — LAT.	
LONG.	
CLAIM Nos.	
WORK DONE BY	
WORK DONE FOR	
REMARKS	

091406

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Saskatoon District Exploration Office
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TABLE OF CONTENTS

APPENDIX

LIST OF TABLES

LIST OF FIGURES

I. SUMMARY

Eldorado Nuclear Limited is the sole participant in Project 546. Reconnaissance uranium stream geochemistry was conducted in the summer of 1981, leading to staking of the 97 claim HAY group in November of that year. The objective of this project is to locate a basal-type uranium deposit. Some exploration for epithermal precious metals has also been undertaken on the property.

The HAY group is underlain by Tertiary rhyolites, andesites, and related clastic sediments, which unconformably overlie an older metamorphic basement complex. Sedimentary rocks at the base of the Tertiary succession are regarded as possible hosts for uranium mineralization, deposited from ground-waters emanating from underlying fault zones. Despite difficulties imposed by a nearly complete absence of outcrop, geological mapping has inferred the presence of a number of high-angle (probably normal) faults. The claims were staked to cover two water/sediment uranium anomalies discovered in 1981.

The 1982 program consisted of detailed stream water and sediment sampling, reconnaissance soil sampling, and geological mapping. The known uranium anomalies were confirmed, and one was extended. Both are accompanied by elevated uranium in soil values; a number of other less significant uranium in soil anomalies were also discovered. One of the two important uranium occurrences is probably related to an intrusive volcanic breccia; and the other to egress of uraniferous groundwaters from fault zones. The ultimate source of the metal has not been identified. No evidence of precious metals mineralization was encountered.

Proposed work for subsequent field seasons includes more detailed soil sampling and geological mapping, magnetometer and VLF-EM surveys, and possible trenching. Drilling would ultimately be required to properly test the basal deposit theory.

II. INTRODUCTION

Eldorado Nuclear Limited is the sole owner and participant in Project 546. This is called the "Haystack" Project, after Haystack Mountain, a prominent geographical feacture located just north of the claim group. Work in 1982 consisted of a preliminary evaluation of the 97 claims belonging to the HAY group, which were acquired in November of 1981. The location of this claim group is indicated on Figure 1.

The objective of the Haystack Project is to locate a "Sherwood-Type" basal uranium deposit. The characteristics of this model, and possible applications to the Haystack area, are discussed in Cruickshank (1981) and have recently been described by Boyle (1982). Tertiary sedimentary rocks at Haystack Mountain have been explored for fossil placer gold, and for coal, at intermittent periods since the early years of this century; this topic is also discussed more fully in the 1981 report.

Work on this project commenced in the summer of 1981, involving the regional evaluation of an area of Tertiary sedimentary and volcanic rocks, in the Haystack Mountain-Henderson Dome area, 30 to 70 km south of Dawson. This work consisted of regional and semi-detailed stream geochemistry, prospecting and geological mapping. Ninety-seven claims were staked to cover two uranium geochemical anomalies (Cruickshank, 1981).

The 1982 program consisted of reconnaissance soil sampling and geological mapping over the entire claim group, and of more detailed stream geochemical surveys. A two to three man crew was present on the claim group from June 9 to July 19, 1982.

III. LOCATION AND ACCESS

The project area is situated 50 km south south-east of Dawson (Fig. 1). The best access in summer is by helicopter. The nearest all-weather roads are at the mouth of Quartz Creek (14 km north), and on the south side of Montana Creek (6 km southeast). A tractor road on Bismark Creek approaches to within 1 km of the claim group, while another on Stowe Creek reaches the HAY boundary. Natural helicopter landing sites are almost non-existant,due to forest cover, but a number of pads have been prepared by Eldorado field crews.

Good campsites are not available, as the only level areas are on the ridge-tops, where there is no water.

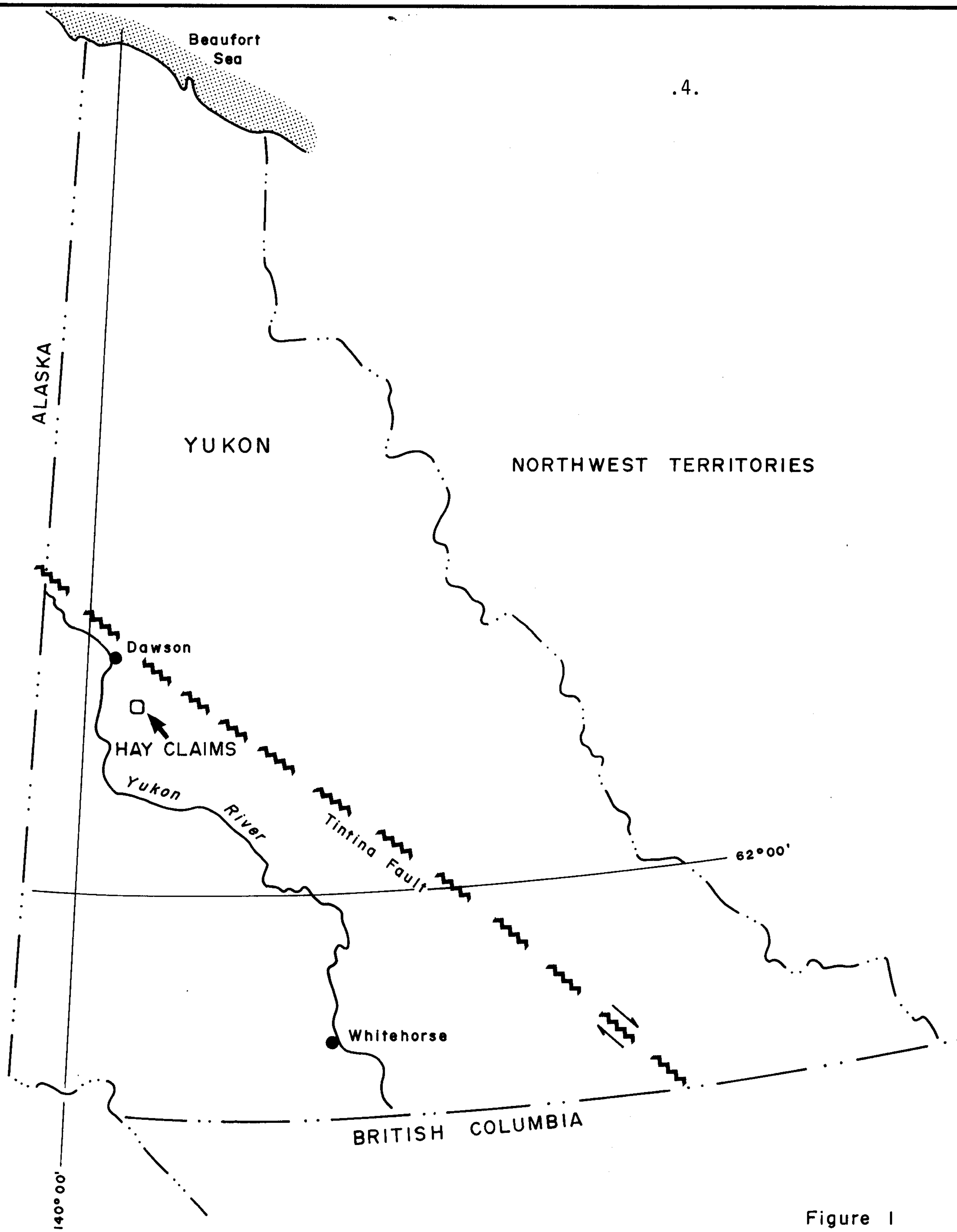


Figure 1

ELDORADO NUCLEAR LIMITED
EXPLORATION DIVISION SASKATOON

PROJECT 546

YUKON TERRITORY

TITLE

LOCATION MAP

DATE: SEPT. 28, 1981
DRAWN: D.W.
NTS
COMPILED BY: R.D.C.

SCALE
1 : 5,000,000

IV. PROPERTY

The HAY claims were staked in the fall of 1981 and recorded on November 13 of that year. The claims HAY 1 to HAY 97 have grant numbers ranging consecutively from YA64807 to YA64903. Tags were affixed to the posts during the 1982 field season. The claims are 100% owned by Eldorado Nuclear Limited, who also performed the work.

Actual work was carried out on each of the 97 claims. Expenses were sufficient to cover four year's assessment requirements (over $400 per claim). Application has been made to the mining recorder in Dawson for certificates of work to cover this period. The claims should be in good standing until November, 1985, if the certificates are granted.

In planning of future work on these claims, it should be noted that activities such as geological investigations may only be applied against assessment during the first three years after record (in this case, the period November 1981 to November 1984).

Figure 21 (in pocket) indicates the layout of the HAY claims and the corresponding grant numbers.

V. PERSONNEL

Table I indicates the personnel present on the claim group in 1982. In addition to the work periods listed on the table, 10 man-days were spent travelling to and from the property. Cruickshank and Hanning also spent considerable time in the Saskatoon District Office of Eldorado Nuclear Limited, working on planning, data compilation, and reporting related to the field project.

Table I - Personnel

Name	Address	Position	Present on Claims
N. Hanning	Eldorado Nuclear Limited 502-45 St. West Saskatoon, Sask.	Exploration Technician	June 9 - July 19 1982
P. Smith	227 Scarborough Ave. S.W. Calgary, Alta.	Student Assistant	June 9 - July 19 1982
R.D. Cruickshank	Eldorado Nuclear Limited 502-45 St. West Saskatoon, Sask.	Project Geologist	June 9 - 15 July 1 - 7, 1982

VI. PHYSIOGRAPHY

A good summary of the development of physiography in southern Yukon is presented by Tempelman-Kluit (1980a). A discussion of that paper, with applications to the Haystack Mountain region, is contained in Cruickshank (1981). This report will deal exclusively with the physiography of the claim group proper.

The HAY claims occur within the Klondike Plateau physiographic region. The area is an uplifted, dissected plateau, consisting of ridges with rounded tops, steep V-shaped valleys, and a dendritic drainage pattern. The region was not subjected to continental glaciation. Maximum relief on the claims themselves is about 300 m; Haystack Mountain, just outside of the claim group, has a relief of 450 m.

North-facing slopes, such as those on Haystack Creek (Figure 2) and Stowe Creek (Figure 3) tend to be very steep, and are characterized by near-surface permafrost, deep moss, and stunted black spruce forest. Ridge-tops and all other slopes are well-forested with white spruce, poplar, and birch. The entire claim group lies below timberline.

Very few bedrock exposures are present, with overburden consisting of residual soils, colluvium, or alluvium. Some fairly extensive patches of frost-shattered bedrock occur as felsenmeer, or as talus on the hillsides (see the geology maps, figures 2 and 3).

VII. GEOLOGY

A. Introduction

A reconnaissance geology map of the Hay Claim group is presented as Figures 2 and 3. The base map, at a scale of 1:5,000, was prepared from a blow-up of the 1:50,000 topographic map (NTS 115 0/11). The geology was mapped in the field by pacing along claim lines, and by fill-in pace and compass traverses. Only four small undisturbed bedrock outcrops are known to occur in or near the claims. Some extensive fields of felsenmeer or talus are present, and are marked on the maps. However, most mapping was based on more scattered float occurrences, lithology of rock chips in the soil, and soil or stream sediment mineralogy. For example, the occurrences of irregular chunks of bull quartz, or abundant mica flakes in soils were used to identify areas probably underlain by metamorphic rocks. Stream sediments in areas of metamorphic bedrock have a high mica content. Because only the above criteria were available, contacts could only be approximated, and many structural relationships are vague or indeterminate.

A total of twenty rock samples were collected. Each of these was analyzed geochemically for U, Au, Ag, Sb, As, and Hg, and thin sections of all but one were prepared. Nomenclature used in the mapping is based on field observations, modified where necessary by information obtained from thin sections. The names applied to volcanic units are approximate, since no whole-rock major oxide chemical analyses were undertaken.

Work in 1981 included interpretation of airphotos, ERTS images, and aeromagnetic maps; as well as field mapping at a scale of 1:50,000. This material is presented in Cruickshank (1981). Implications of this work with direct application to the HAY claims will be discussed in the next section of this report.

The only published geological map of the area is presented by Bostock (1942), at a scale of 1:253,440. This map is obsolete in the light of recent ideas on Yukon tectonics. While reliable in terms of gross rock distribution, it contains no structural information, and no structural interpretation was attempted.

The results of this year's mapping are presented as Figures 2 and 3 accompanying this report, while Table II is a table of formations.

B. Regional Tectonic and Geologic Setting

This topic has been extensively discussed in the 1981 report (Cruickshank, 1981), and will be only briefly reviewed here. The project area is located within the Yukon Cataclastic Terrane of Tempelman-Kluit (1979), which in general consists of sheared oceanic and island arc rocks, which were thrust over the North American craton in Middle Jurassic to Early Cretaceous time. This interpretation is based on studies in south-central Yukon, and the exact relationships of rock units in the Haystack area to the scenario are uncertain. Occurrences of ultramafic rocks and amphibolites in the Haystack area may correlate with rocks of the Anvil Allocthon. Some unusual garnet-quartz-magnetite amphibolites located in the region may be retrogressed eclogite, and if so, would prove the above assumption. In addition, siliceous metasedimentary rocks in the basement complex resemble descriptions of Nisutlin Allocthon lithologies and may be more or less correlative with it. An almost complete lack of exposure precludes solution of these relationships.

Continental sedimentary and volcanic rocks (Carmacks Group) were deposited on this older basement in Eocene or Miocene time. Tempelman-Kluit (1980b) considers these volcanics as a whole to be a sheet deposit that was extruded from "relatively few centres". Last year's mapping (Cruickshank, 1981) demonstrated that these Tertiary rocks in the project area occupy a graben setting, bounded on the west by a prominent fault along Ruby Creek. To the north, toward Indian River, the base of the succession is not exposed. On the HAY claims, the base is located part way up the ridges and the preserved succession is thinner. Basal

Table II

Table of Formations

Quaternary	
Qal	alluvium
Tertiary	
Tva	andesite
-	rhyolite breccia
Tvr	rhyolite
Tvt	tuff
Tss	sandstone
Tse	conglomerate
Paleozoic or Mesozoic	
Pm	metamorphic rocks, undifferentiated
Pqbf	quartz-biotite-feldspar gneiss
-	quartzite
Psm	micaceous schist
Pa	amphibolite

sedimentary rocks are apparently thicker and more widespread in the northern part of the basin. Andesite is the predominant volcanic lithology, over much of the area, but to the south, in the vicinity of the HAY claims, rhyolite occurs. The contact between rhyolite and andesite is fault-controlled over at least part of its length (all these relationships are indicated on Figure 20 of Cruickshank, 1981). Sedimentary rocks (mainly sandstone and conglomerate in this area) are most common near the base of the section. A number of normal faults have been identified or inferred by the 1981 mapping, and more were located during the 1982 program.

Interpretation of aeromagnetic maps in 1981 showed that the project area straddles a major west-northwest-trending magnetic discontinuity, that can be traced for about 100 km. This is interpreted to be a major structural feature in the basement rocks. Other magnetic discontinuities are also present (see Figure 13 of Cruickshank, 1981).

Sedimentary rocks in the project area are interpreted to have been deposited in braided river, and rarely, lacustrine environments. Most are near the base of the Tertiary succession and have been derived from the metamorphic basement rocks. Tuff beds and tuffaceous horizons are fairly common regionally, but appear to be scarce on the HAY claim group. The andesites and rhyolites result mainly from lava flows, with volcaniclastic material being relatively minor.

C. Description of Maps Units(refer to the geology maps, Figures 2 and 3)

1. Amphibolite (Pa) is the only basement lithology identified in the southeastern corner of the property, and also occurs in small patches in the northwest (Figures 2 and 3). Only float occurrences are known. These are well-foliated, medium to coarsely crystalline, greenish rocks, that consist of hornblende ± plagioclase ± orthopyroxene.

In thin section, sample 82-546-22-7 is seen to consist of amphibole and feldspar. Hornblende (60% of the rock) is subhedral, unaltered, and pleochroic in pale yellow and green. The feldspars consist of calcic plagioclase (about An_{60}), and some untwinned, probably alkali feldspars; they are absolutely fresh and unaltered. No opaque minerals are present. The orientation of hornblende crystals defines a strong foliation. Hornblende crystals range from 0.3 to 1.5 mm long, with feldspars from less than 0.1 mm to 0.3 mm. No cataclastic texture is present, although the rock could have recrystalized subsequent to cataclasis.

A thin section of sample 82-546-22-19, taken from the slope south of Haystack Creek (Figure 2), is a pyroxenitic amphibolite. Only two minerals are present - hornblende (70% of the rock) defining the foliation, and interstitial orthopyroxene; it is probably a metamorphosed ultramafic rock. This assemblage, if in equilibrium, suggests granulite facies metamorphism; whether regional or thermal is not known with certainty.

Radiometric background in areas of amphibolite float is low - being around 40 to 50 cps on the Urtec instrument.

2. Micaceous schist (Psm) is the predominent metamorphic lithology in the extreme southwestern corner of the claim group. It is also a widespread, but minor, component in other parts of the basement complex. No outcrops of this unit are known, and the descriptions rely entirely on float occurrences. These are micaceous schistose rocks with high proportions of either muscovite or biotite; the two micas rarely occur together. Most of these rocks contain abundant quartz, and are apparently often interlayered with micaceous quartzite. Large boulders of nearly pure muscovite schist are present in one area. Feldspar has been recognized in some hand specimens.

3. Quartzite, although not mapped separately, is a common minor component of the basement complex, and is especially abundant in the area mapped as Psm (Figure 2). Again, only float occurrences are known. Most examples were described as either biotite or muscovite quartzites. Feldspar is occasionally present. One float occurrence was described as being fine-grained, well foliated, and appeared mylonitic. Another, larger piece of float demonstrated interlayering of quartzite and schist; it is suspected that this sort of interlayering is common in the bedrock in this area.

4. Quartz-biotite-feldspar gneiss (Pqbf) is by far the most common metamorphic lithology; it forms the bulk of the rocks mapped as metamorphic rocks, undifferentiated (Pm). These are well-foliated, fine to medium crystalline rocks. Fine-crystalline rocks (crystals smaller than 0.5 mm) predominate; this may indicate that they are recrystallized cataclastic rocks. Fresh surface colour is generally pale grey or grey-white. The mineral assemblages consist of quartz + biotite + plagioclase $\pm$ muscovite $\pm$ garnet. The rocks in general are very fresh and unaltered.

A thin section of sample no. 82-546-22-9 shows a rock consisting of quartz (65%), plagioclase (20%), biotite (10%), muscovite (5%), garnet (less than 1%), and apatite (trace). Some of the micas have been partly replaced by quartz . Most crystals are 0.1 to 0.3 mm in dimension, with some quartz porphyroblasts 1.5 mm long. Cataclastic texture is not evident, but the rock may be recrystallized. The micas and feldspars are absolutely fresh and unaltered.

A thin section indicates that sample 82-546-22-13 consists of 80% quartz, 10% biotite, 10% plagioclase (albite), and traces of muscovite. A good foliation is defined by biotite flakes, but partially corroded plagioclase and muscovite porphyroblasts often cross-cut the biotite orientation. This does not, therefore, appear to be an equilibrium assemblage. No alteration is evident.

Radiometric background in area of Pqbf float is generally around 80 to 100 cps on the Urtec instrument.

5. Metamorphic Rocks, Undifferentiated (Pm) was used to designate areas where metamorphic bedrock was inferred, and can encompass any of the foregoing lithologic units. Quartz-biotite-feldspar gneisses are by far the most common lithology in these areas. In most places, the presence of metamorphic bedrock could only be inferred from the presence of such things as irregular pieces of bull quartz at surface, and abundant mica flakes in soils or stream sediments. Apparently basement gneisses and schists readily break down into sandy, micaceous soils.

A number of other metamorphic lithologies have been recognized from float occurrences: quartz-garnet-biotite gneiss, feldspar-biotite-quartz gneiss, quartz-hornblende-garnet gneiss, biotite-hornblende-quartz-feldspar gneiss, and plagioclase-muscovite-quartz schist. A thin section of sample 82-546-22-5 shows it to be a quartz-muscovite-biotite-garnet gneiss; garnets have been flattened and elongated parallel to foliation.

6. Conglomerate (Tsc) is exposed in a trench on Stowe Creek (Figure 3) and in a few small outcrops along Haystack Creek (Figure 2). At both locations it appears to be overlain by sandstone, with andesite higher in the section. However, at Stowe Creek it is at the base of the Tertiary rocks, whereas at Haystack Creek it is probably underlain by Tertiary rhyolite. Conglomerate float is also common on the saddle south of Stowe Creek. The conglomerate is part of the Tertiary Carmacks Group, is unmetamorphosed, and only moderately deformed.

These are predominantly white quartz granule or pebble conglomerates, poorly cemented by detrital quartz sand with or without hematite. The outcrop demonstrates crude sorting into beds of granule and pebble conglomerate about 5 to 20 cm thick, with thin sandstone interbeds. This lithology is generally very friable, and float typically consists of rounded white quartz pebbles in the soil, sometimes with pieces of sandy matrix attached. The rock is typically massive, displaying few sedimentary structures.

A thin section of sample 82-557-22-6 shows a rock composed of very poorly sorted detrital material, with no chemical cement. Clast sizes range from 0.05 mm to 10 mm in the thin section, and up to 100 mm in other rocks from the same trench. Quartz, in mono - or poly-crystalline grains, constitutes nearly the entire rock. Some fresh detrital muscovite flakes, and one clast of finely crystalline quartz-muscovite schist were also noted. Most clasts are sub-angular. The rock is somewhat enigmatic, since it is texturally very immature, but mineralogically mature - it may be derived from a nearby quartzite terrane.

Urtec scintillometer readings on conglomerate bedrock are generally around 50 cps.

7. Sandstone (Tss) underlies most of Sandstone Hill (Figure 2), and occurs with conglomerate on the saddle south of Stowe Creek (Figure 3).

It is known from outcrop only as thin interbeds in the conglomerate outcrops on Haystack Creek. Sandstone float is sometimes present in predominantly rhyolite felsenmeers, and is presumably interbedded with that volcanic lithology. Limonite or hematite cement is common, but not ubiquitous. Quartz is by far the most abundant detrital mineral, but muscovite and rarely, feldspar, are also present. Clasts are generally rounded, well-sorted, and range from less than 1 to 2 mm in size. Since only float is available for study, observations on such things as bedding characteristics and sedimentary structures are impossible. Even those pieces that have survived as rock fragments are quite friable, so it may be assumed that most sandstones are very poorly cemented. The high proportion of limonite-cemented float may not represent the proportion in bedrock, as only these moderately cemented examples my survive surface decomposition. Most of these sandstones appear to have been derived from the underlying metamorphic rocks.

A thin section of sample 82-546-22-4 shows a hematite-cemented quartz sandstone. About 90% of the clasts are composed of mono - or poly - crystalline quartz. One microcline grain and scattered flakes of detrital muscovite are present. Rock fragments include finely crystalline quartz-muscovite schist and biotitic quartzite. The rock is clast-supported, with the amount of hematite cement being relatively minor. Most clasts are sub-angular. The rock has laminations 3 to 6 mm thick, of contrasting mean grain sizes (from 0.4 to 1.5 mm). This rock was derived from a nearby, metamorphic terrane; no volcanic component is present.

Sample 82-546-22-12 was taken from a sandstone interbed in the conglomerate outcrop on Haystack Creek (Figure 2). A thin section shows a rock consisting of 90% quartz, 5% muscovite, and 5% lithic clasts (quartz-muscovite schist). The rock is well-sorted (size range 0.2 to 0.6 mm), but most clasts are sub-angular. There has been a lot of compaction, with detrital muscovites bent and wrapped around quartz grains. The rock appears to be derived from a nearby, metamorphic source.

A thin section of sample 82-546-22-15 shows it to have an unusually high feldspar content (40%, along with 50% quartz, 5% rock fragments (metamorphic), 5% hematite cement, and traces of muscovite). These feldspars may be derived from underlying rhyolite, but they are very altered, and provenance is uncertain.

Radiometric background in areas of sandstone float varies from 70 to 100 cps on the Urtec instrument.

8. Tuff (Tvt) is present as one shattered outcrop beside Haystack Creek. Although relatively common regionally, this is the only significant occurrence near the HAY claims. The rock was described in the field as a "feldspar porphyry, possible crystal tuff", consisting of phenocrysts (or clasts) of quartz, white feldspar, and a limonitized mineral, in all sizes ranging up to 8 mm. The groundmass is white and aphanitic. Quartz crystals are irregular, rather than the typical euhedral form common in nearby rhyolites. Radiometric background is 130 cps.

A thin section of rock from this occurrence (sample 82-546-22-20) shows that the rock is extensively altered to carbonates and to iron oxides. These minerals frequently appear as pseudomorphs after pre-existing blocky crystals. The quartz is irregular, displays a spherulitic-type extinction pattern, and may be secondary. The rock was originally about 60% crystals, that ranged in size from less than 0.1 mm to greater than 3.5 mm. The alteration is much more intense than is normal for this area.

This lithology occurs in a single outcrop, about 15 m high, separated by only a few metres from a cliffy conglomerate occurrence. The contact may be faulted, but it is equally possible that this unit is a tuffaceous dike.

9. Rhyolite (or Quartz-Feldspar Porphyry) (Tvr) is widespread in the project area. Rhyolite Hill, is a circular, dome-shaped feature representing (based on topographic relief) about a 300 m thickness of this unit. Elsewhere, the rhyolite section is thinner, and some occurrences are thought to be dikes. No true outcrops of the unit are known, although large felsenmeers and talus piles are present. In hand specimen and thin section, the rock displays textures typical of flow rocks. Surprisingly, tuffs have not been recognized. Only one occurrence of breccia is known (this is in the vicinity of the uranium anomaly on HAY 17).

Lack of outcrop precludes determination of whether or not Rhyolite Hill is a dome comprised of viscous rhyolite flows, or whether it is intrusive. One may argue that the textures observed could indicate that this unit is a high-level igneous intrusion; however the felsenmeers frequently contain pieces of sandstone aswell as of rhyolite, implying that the two are interbedded. Some isolated float occurrences south of the main rhyolite body may represent dikes.

The rhyolites are invariably leucocratic,appearing in pale shades of grey, purple, pink, buff, and yellow; a few are nearly white. Phenocrysts visible in hand specimen include two or more of quartz (or tridymite), biotite, and white feldspar. Phenocrysts are often euhedral. Most phenocrysts are less than 1 mm in size, but they range up to 4 mm. One of the suspected dike rocks has feldspar megacrysts 8 mm long. The matrix is invariably massive and aphanitic; at times it appears hard, tough, and flinty. Siliceous-appearing rhyolites are suggestive of ignimbrites, but examination of thin sections has failed to reveal clastic textures.

Several thin sections have been examined (samples 82-546-22-1, 2, 8, 10, 14, 16, and 18). Frequently, both plagioclase (probably high albite) and sanidine phenocrysts are present. Biotite is almost always present as well. Large, pyramidal quartz crystals are common, but not ubiquitous - quartz is more common as irregular microphenocrysts. Tridymite phenocrysts have been identified in two thin sections. Large phenocrysts range from 0.5 to 2.0 mm in size, with smaller "microphenocrysts", of quartz or plagioclase being 0.1 to 0.5 mm. In all cases, the matrix is very finely crystalline, but not glassy. These rocks are often remarkably fresh, with only slight incipient alteration of feldspars. Blocky goethite pseudomorphs after feldspar or pyrite are sometimes present. Colour laminations, caused by precipitation of goethite, are a common weathering phenomenon in the western part of the property.

Radiometric background is generally 100 to 170 cps (Urtec) in areas of rhyolite float.

10. Rhyolite breccia is only known as float from the vicinity of a uranium in water anomaly discovered last year (sample 82-546-22-17, Figure 2). Unbrecciated rhyolite is present at the same location, so this unit is not mapped separately. In hand specimen, the breccia is seen to consist of angular fragments of rhyolite, all sizes up to several centimetres, in a dark hematitic matrix.

In thin section, fine clasts in the matrix are seen to be of markedly different character from the large clasts. The rock is therefore not a rock which was brecciated in place. The matrix contains small fragments of rock that are of apparent metamorphic origin - foliated muscovitic and quartzitic lithologies; as well as muscovite flakes, which in this area only occur in metamorphic rocks. The matrix is cemented by hematite. The large volcanic clasts consist of an extremely finely crystalline matrix with scattered euhedral plagioclase phenocrysts about 1 mm in size. Some smaller volcanic fragments occur in the matrix as well. The breccia is matrix supported. This is most probably an intrusive volcanic breccia.

An unusual grey clay soil that accompanies the breccia float was determined (by XRD) to be nearly pure kaolinite. This material may have resulted from hydrothermal alteration along the breccia conduit.

11. Andesite (Tva; symbol on the 1981 maps was Tvh), although of extensive distribution around Haystack Mountain, only occurs along the northern edge of the HAY claim group. It is in presumed fault contact with the rhyolites along Stowe Creek (Figure 3). The western end of the andesite - rhyolite contact is not well understood. Regionally, this unit seems to always overlie sedimentary rocks (Figure 20 of Cruickshank, 1981).

This is a very distinctive lithology in hand specimen, displaying prominent hornblende and white plagioclase phenocrysts in a grey aphanitic matrix. Biotite phenocrysts and small gneissic inclusions are occasionally discernable. Albite twinning on the plagioclase crystals is often visible with a hand lens. The phenocrysts comprise up to 50% of the rock, and are usually 3 to 4 mm long. These rocks display radiometric background from 100 to 200 cps (Urtec).

A thin section of sample 82-546-22-3 shows that about 55% of the phenocrysts are fresh basaltic hornblende, strongly pleochroic in brown and green. Forty percent of the megacrysts are subhedral plagioclase, about An 55, which sometimes clump together in aggregates. Five percent of the larger crystals are dark brown biotites, about 1mm in size. The matrix is a finely crystalline mesh of tiny plagioclase laths and biotite flakes. Again, the rock is very fresh, with only a little incipient alteration of plagioclase along fracture surfaces.

12. Alluvium (Qal) occurs as silt deposits along some of the modern creek beds. Along Haystack and Stowe Creeks, these occur as narrow, but relatively thick accumulations that are currently being cut through and eroded. The deposit is up to 4 m thick on Haystack Creek, and 6 m thick on Stowe Creek. Deposits in the southeast corner of the claims, and along Nobottom Creek are arealy more extensive, but possibly thinner. Where not exposed in creek cuts, these areas can only be identified on the basis of an absence of rock fragments in the soil. Some of the contacts are therefore quite approximate.

D. Lithogeochemistry

Nineteen rock samples were submitted for multi-element geochemical analysis. The locations of these samples are given on Figures 2 and 3, and the results appear in Table III.

Table III - Rock Analyses*

No.	Lithology	Au(ppb)	Ag(ppm)	Hg(ppb)	Sb(ppm)	As(ppm)	U(ppm)
1	rhyolite	l.t. 2	0.2	600	l.t. 1	2	0.8
2	rhyolite	l.t. 2	0.2	1400	l.t. 1	7	0.7
3	andesite	3	0.2	40	l.t. 1	7	0.6
4	sandstone	l.t. 2	l.t. 0.2	20	1	15	1.0
5	quartz-mica gneiss	l.t. 2	l.t. 0.2	120	l.t. 1	l.t. 1	0.5
6	conglomerate	100	l.t. 0.2	10	l.t. 1	1	l.t. 0.2
7	amphibolite	l.t. 2	l.t. 0.2	10	l.t. 1	1	0.2
8	rhyolite	l.t. 2	l.t. 0.2	30	1	11	0.8
9	gneiss	l.t. 2	l.t. 0.2	l.t. 10	l.t. 1	4	0.7
10	rhyolite	l.t. 2	l.t. 0.2	10	l.t. 1	l.t. 1	1.9
11	rhyolite	l.t. 5	l.t. 0.2	10	1	1	60
12	sandstone	l.t. 5	l.t. 0.2	l.t. 10	l.t. 1	6	0.3
13	gneiss	l.t. 5	l.t. 0.2	10	l.t. 1	1	0.3
14	rhyolite	l.t. 5	l.t. 0.2	20	l.t. 1	l.t. 1	0.3
15	sandstone	l.t. 5	l.t. 0.2	20	l.t. 1	3	0.7
16	rhyolite	l.t. 5	l.t. 0.2	20	l.t 1	2	0.7
17	rhyolite breccia	l.t. 5	l.t. 0.2	30	l.t. 1	22	2.3
18	rhyolite	l.t. 5	l.t. 0.2	10	l.t. 1	2	0.8
20	tuff	l.t. 5	l.t. 0.2	20	l.t. 1	3	3.5

*l.t. = "less than"
Sample prefix in all cases is 82-546-22-

Analyses for Au, Ag, Hg, Sb, and As were undertaken in order to check the area for possible epithermal gold or silver mineralization. These analyses were run by TSL Laboratories in Saskatoon. Gold and silver were analyzed by fire assay/atomic absorption, mercury by cold vapour generation and flameless atomic absorption, arsenic and antimony by hydride generation and atomic absorption, and uranium by fluorimetry.

As can be seen on Table III, content of these metals is generally quite low. There are no silver or antimony anomalies. One sample of conglomerate contained 100 ppm gold; two rhyolites have unusually high mercury content (600 and 1400 ppb), another gave a result of 60 ppm U, and the rhyolite breccia has a slight enrichment in arsenic (22 ppm). The conglomerates in this area have been thoroughly prospected for gold, over a period of several decades, and it is unlikely that an ecomomic deposit exists in that unit. The elevated mercury values are definitely interesting, but difficult to interpret in the absence of other high metal contents.

The rhyolite that returned an analysis of 60 ppm U was a grab sample of float from the top of Rhyolite Hill (Fig. 3). Sample No. 10, collected nearby, contained only 1.9 ppm U.

E. Structural Geology

The near absence of outcrop on the HAY property renders structural interpretation very difficult. Some conclusions can be drawn from somewhat better-exposed parts of the Tertiary basin; these are discussed in Cruickshank (1981). The general distribution of bedrock lithologies, as mapped from float occurrences, can be used to imply the presence of faults. The location and attitude of such faults can only be generalized.

The best known fault is the one occupied by Critter Creek (Figure 3). It is marked by a topographic lineament and changes in float lithology. Map patterns in several other areas can best be explained by fault contacts between units. Good examples are faults marked along Haystack Creek (Figure 2), along Stowe Creek, and on the saddle to the south of Stowe Creek (Fgiure 3). Some of the others shown on the maps are more speculative. Based on observations elsewhere in the region, and on the general tectonic characteristics of this type of basin, it is expected that these are high-angle, normal faults.

Where measurable, dips elsewhere in this Tertiary basin generally range from 5^{0} to 20^{0}. Some exposures along Indian River show tight, small scale folds (Cruickshank, 1981).

It is assumed that Tertiary rocks on the HAY claims have been affected by gentle concentric folding, but evidence for this is lacking. The overall map pattern suggests that the base of the succession is more or less horizontal. The degree of contribution by folding to some of the more enigmatic mapped relationships is unknown.

The Haystack Mountain area shows considerable effects of an extensional tectonic regime. Even given the near total absence of outcrop, numerous high-angle (probably normal) faults have been identified. Tertiary volcanic rocks are preserved in a graben setting. The occurrence of texturally immature conglomerates near the base of the Tertiary succession, suggests that such faulting was active during the period of vulcanism. Many faults also have affected, and clearly post-date, the rhyolites and andesites at this location.

F. Alteration

The volcanic rocks on the HAY property are not conspicuously altered, based on the available float occurrences. In most cases, feldspars and ferromagnesian minerals appear fresh. Some rhyolites appear flinty and siliceous, and two provided unusually high mercury analyses, but extensive silicification and open space filling are not evident. Some of the observed blocky goethite pseudomorphs are probably altered pyrite; but if secondary pyrite was introduced into the rhyolites, then it was of fairly limited areal extent. Kaolinite soil accompanying the occurrence of intrusive breccia float, may have resulted from hydrothermal alteration, and the "tuff" outcrop shows evidence for carbonate, silica, and hematite replacement. This "tuff" is also possibly of intrusive origin. The general freshness of the volcanic rocks here is discouraging with respect to possible epithermal mineralization. It must be emphasized, however, that this conclusion is based entirely upon examination of float occurrences.

VIII. GEOCHEMISTRY

A. Introduction

A regional geochemical survey in 1981 led directly to the acquisition of the HAY claims. Work in that year consisted of collection of stream sediment and water samples, with subsequent analysis for uranium. Two significant anomalies were located in the current project area. The first of these, situated on claim HAY 17 (Figure 2) was initially recognized by its elevated radiometric background; further investigation revealed a small seep that yielded high uranium in waters (340-630 ppb U), and in soils (20-86 ppm U). A creek in the Rhyolite Hill area was also anomalous, and follow-up investigations traced the source of the uranium to a large spring, located on what is now claim HAY 78 (Figure 3). Anomalous water values at this location ranged from 14 to 32 ppb U, with anomalous silts between 16 and 114 ppm. Further details are available in Cruickshank (1981), and these areas will be discussed in more detail below.

The 1982 geochemical program consisted of reconnaissance soil sampling, and detailed stream sediment and water sampling for uranium. A few pan concentrate and silt samples were analysed for U, Au, Ag, Sb, As, and Hg, in order to evaluate the claims for possible precious metal mineralization, as well as for uranium. Water samples from the spring on HAY 78 were analysed for tritium content, in an attempt to evaluate the possible source of its contained uranium. Figures 6 and 7 indicate the locations of all geochemical (except rock) samples collected in 1982.

B. Soil Sampling

Samples of B-horizon soils were collected at 100 metre intervals, along lines that approximated claim boundaries. Control was by compass and topo-fil. Samples collected from depths of 10 to 15 cm were taken and shipped to Bondar-Clegg and Co., in Whitehorse. The material was sieved to obtain the -80 mesh fraction, which was subsequently analyzed fluorimetrically for uranium. Results have been plotted on Figures 8 and 9. Figure 12 shows a statistical treatment of the data, with all samples included, while ppm U in SOILS, Project 546

	ARITH STATS	LOG10 TRANS STATS	NORM LOG-T STATS
MEAN	1.63	-.315	0.000
STD DEV	13.17	.55	1.000
NO OF SAMPLES	936	936	936
SKEWNESS	22.57	.12	.12
REL STD DEV	8.07	-1.76	
MIN VAL	.05	-1.30	
MAX VAL	350.00	2.54	

FIGURE 12

Soil Sample Statistics (all samples)

ARITHMETIC HISTOGRAM

(all values included)

NO.OF SAMPS	CUM PCT	UPPER LIMIT %	UPPER LIMIT NORM.	0 50 100 150 200 250 (NUMBER OF SAMPLES)
0	.0	-37.89	-3.00	
0	.0	-33.49	-2.67	
0	.0	-29.10	-2.33	
0	.0	-24.71	-2.00	
0	.0	-20.32	-1.67	
0	.0	-15.93	-1.33	
0	.0	-11.54	-1.00	
0	.0	-7.15	-.67	
0	.0	-2.76	-.33	
813	86.9	1.63	-.00	***
109	98.5	6.02	.33	*********************
5	99.0	10.41	.67	*
0	99.0	14.80	1.00	
2	99.3	19.19	1.33	
2	99.5	23.59	1.67	
0	99.5	27.98	2.00	
0	99.5	32.37	2.33	
1	99.6	36.76	2.67	
0	99.6	41.15	3.00	
0	99.6	45.54	3.33	
1	99.7	49.93	3.67	
0	99.7	54.32	4.00	
1	99.8	58.71	4.33	
0	99.8	63.10	4.67	
0	99.8	67.49	5.00	
0	99.8	71.88	5.33	
0	99.8	76.28	5.67	
2	100.0	+INF	+INF	

NUMBER OF SAMPLES

LOGNORMAL HISTOGRAM

NO.OF SAMPS	CUM PCT	UPPER LIMIT %	UPPER LIMIT NORM.	0 50 100 150 200 250 (NUMBER OF SAMPLES)
0	.0	.01	-3.00	
0	.0	.02	-2.67	
0	.0	.02	-2.33	
0	.0	.04	-2.00	
96	10.3	.06	-1.67	*******************
0	10.3	.09	-1.33	
93	20.2	.13	-1.00	******************
77	28.4	.21	-.67	***************
54	34.2	.32	-.33	**********
79	42.6	.48	-.00	***************
143	57.9	.74	.33	****************************
154	74.4	1.13	.67	******************************
127	87.9	1.73	1.00	*************************
64	94.8	2.65	1.33	************
25	97.4	4.06	1.67	*****
11	98.6	6.22	2.00	**
3	98.9	9.52	2.33	
1	99.0	14.57	2.67	
4	99.5	22.30	3.00	
5	100.0	+INF	+INF	*

NUMBER OF SAMPLES

*NOTE: A VALUE OF <0.1 IS TAKEN AS 0.05 FOR USE IN ABOVE STATS ppm U in SOILS, Project 546

FIGURE 13

Soil Sample Statistics
(excluding highest values)

	ARITH STATS	LOG10 TRANS STATS	NORM LOG-T STATS
MEAN	.84	-.334	0.000
STD DEV	.99	.52	1.000
NO OF SAMPLES	927	927	927
SKEWNESS	3.32	-.36	-.36
REL STD DEV	1.17	-1.56	
MIN VAL	.05	-1.30	
MAX VAL	9.80	.99	

NO.OF SAMPS	CUM PCT	UPPER LIMIT %	UPPER LIMIT NORM.	0 50 100 150 200 250
0	.0	-2.12	-3.00	I
0	.0	-1.79	-2.67	I
0	.0	-1.46	-2.33	I
0	.0	-1.13	-2.00	I
0	.0	-.80	-1.67	I
0	.0	-.48	-1.33	I
0	.0	-.15	-1.00	I
189	20.4	.18	-.67	I**************************************
262	48.7	.51	-.33	I***
159	65.8	.84	-.00	I*******************************
86	75.1	1.17	.33	I*****************
101	86.0	1.50	.67	I********************
42	90.5	1.83	1.00	I********
21	92.8	2.16	1.33	I****
23	95.3	2.49	1.67	I****
10	96.3	2.82	2.00	I**
7	97.1	3.15	2.33	I*
4	97.5	3.48	2.67	I
3	97.8	3.81	3.00	I
5	98.4	4.14	3.33	I*
2	98.6	4.47	3.67	I
1	98.7	4.79	4.00	I
2	98.9	5.12	4.33	I
2	99.1	5.45	4.67	I
2	99.4	5.78	5.00	I
2	99.6	6.11	5.33	I
0	99.6	6.44	5.67	I
4	100.0	+INF	+INF	I

ARITHMETIC HISTOGRAM

(anomalous values not included)

NUMBER OF SAMPLES

NO.OF SAMPS	CUM PCT	UPPER LIMIT %	UPPER LIMIT NORM.	0 50 100 150 200 250
0	.0	.01	-3.00	I
0	.0	.02	-2.67	I
0	.0	.03	-2.33	I
0	.0	.04	-2.00	I
96	10.4	.06	-1.67	I*******************
0	10.4	.09	-1.33	I
93	20.4	.14	-1.00	I******************
77	28.7	.21	-.67	I***************
54	34.5	.31	-.33	I**********
79	43.0	.46	-.00	I***************
106	54.5	.69	.33	I*********************
171	72.9	1.03	.67	I**********************************
121	86.0	1.53	1.00	I************************
68	93.3	2.29	1.33	I*************
39	97.5	3.41	1.67	I*******
12	98.8	5.08	2.00	I**
8	99.7	7.57	2.33	I*
3	100.0	11.28	2.67	I
0	100.0	16.82	3.00	I
0	100.0	+INF	+INF	I

LOGNORMAL HISTOGRAM

NUMBER OF SAMPLES

*NOTE: A VALUE OF <0.1 IS TAKEN AS 0.05 FOR USE IN ABOVE STATS

FIGURE 14

Arithmetic Probability - Plot of Soil Results

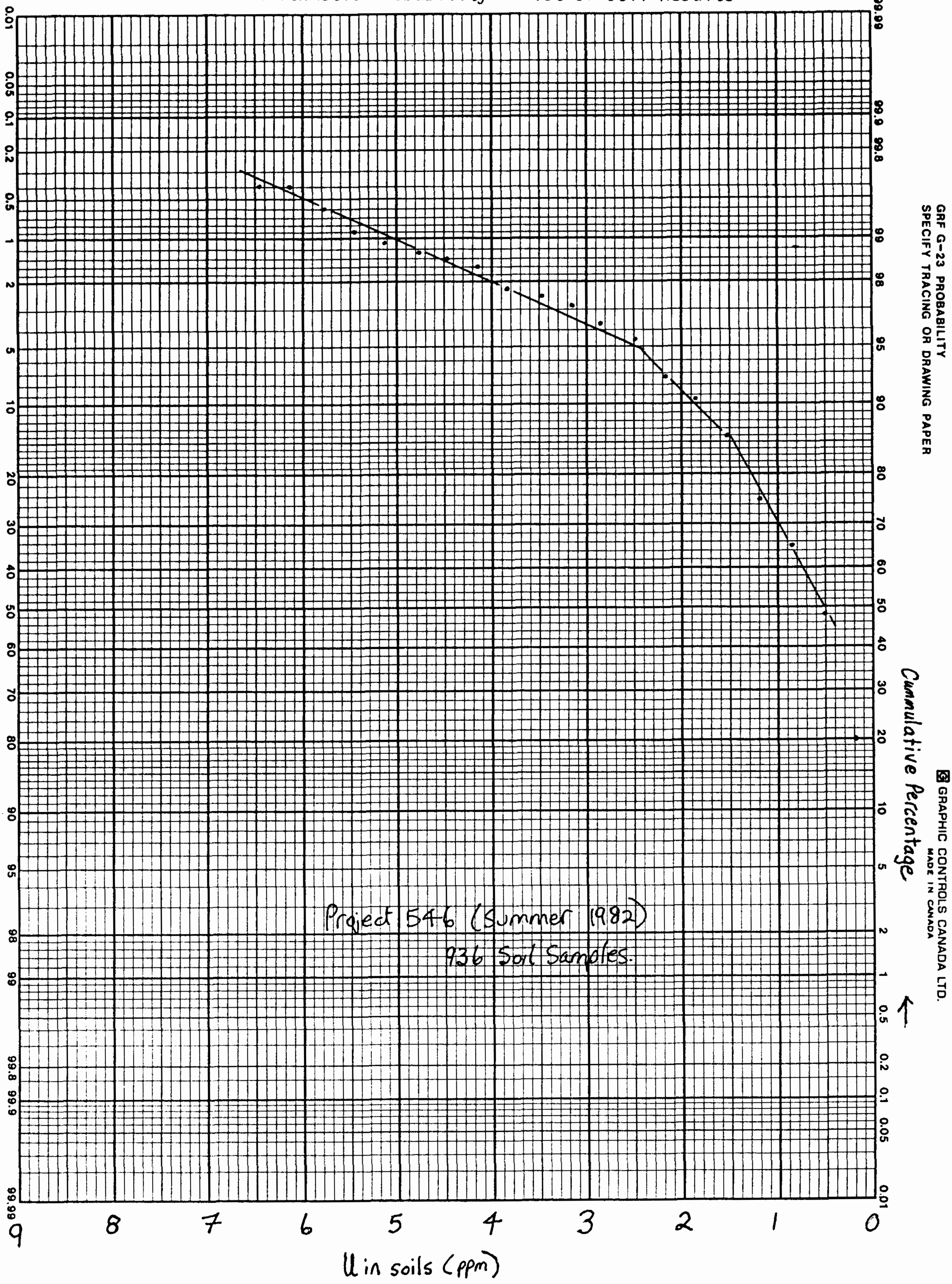


Figure 13 details statistical parameters, with high values removed. Figure 14 is an arithmetic probability plot of the results.

Appraisal of the histograms (Figures 12 and 13), indicates that the distribution of results may be more nearly lognormal than normal. The probability plot (Figure 14) shows distinct breaks in slope at 1.5 ppm (86th percentile) and at 2.5 ppm (95th percentile). Anything in excess of 2.5 ppm probably belongs to an anomalous population. The 90th percentile (about 1.9 ppm) appears to be a reasonable boundary between background and potentially anomalous values. Consequently, all results of 2.0 ppm or greater have been emphasized on Figures 8 and 9. Certain groups of anomalous smaples have been numerically keyed to the descriptions given below.

Soil anomaly No. 1 occurs near the western edge of the claim group (Fig. 8). It consists of four rather scattered values ranging from 4.7 to 49.0 ppb U, in an area of generally low background. These samples are on a steep west-facing slope, downhill from the basal Tertiary contact.

Anomaly 2 is a single value of 4.0 ppm U, collected directly downhill from last year's anomalous seep. This is the only soil anomaly in the area, and is probably due to deposition of hydromorphically transported uranium derived from the anomalous seep. The volume of water draining the seep is very small, so would not be expected to produce a large soil anomaly.

Anomalous area No. 3 consists of 8 samples ranging from 2.0 to 6.5 ppm, and occurs along Haystack Creek (Fig. 8), in an area underlain by Tertiary sediments (Fig. 2). A higher uranium background at this location is indicated.

High values at location 4 range from 2.1 to 5.5 ppm (4 samples) in an area believed to be underlain by rhyolite (Fig. 8). Five samples at anomaly 5 range from 2.1 to 5.3 ppm U, and occur near the basal contact of the Tertiary sediments, in the western portion of the property. Anomaly 6 (Fig. 8) is a group of four relatively low values occurring on a south-facing slope in the north-central part of the property; the area is underlain by both andesite and rhyolite.

Area 7 (Fig. 9) contains spotty high analyses of from 4.0 to 21.0 ppm U, in an area of generally low background. Most of the area is underlain by a Quaternary silt deposit, rendering interpretation difficult in this case. The basal Tertiary unconformity, and a major fault are thought to occur in this vicinity (cf Fig. 3).

A scattering of low-order anomalies occurs around Rhyolite Hill at about the break in slope (Fig. 9). Although no springs were identified in most of the areas, this is about where ground waters from the hill would be expected to emerge at surface. These soil anomalies may therefore be caused by hydromorphically-transported uranium. They are generally very low order, however, and therefore (except for certain important areas detailed below) probably not significant.

Soil Anomaly No. 8 (Fig. 9) is the most areally extensive on the HAY claims, and also contains by far the highest analyses (up to 350 ppm U). The two largest values occur beside Critter Creek, downstream from the known uraniferous spring, and probably result from deposition of hydromorphically transported uranium. Since some of the other samples in this group occur in drainages of other creeks, one may assume that other, undiscovered uraniferous springs may also exist. A number of faults have been postulated to occur in this area, and these could provide channelways for debouchment of ground waters. A source of uranium probably exists under the southeast portion of Rhyolite Hill.

Anomaly 9 is an isolated value of 22.0 ppm U, collected from an area of sandstone bedrock. It occurs on a topographic high, and is probably not due to deposition from debouching ground waters. Its origin is therefore more enigmatic.

A few other, low-order (2-3 ppm) analyses are indicated on the maps, but are not considered significant.

C. <u>Water Sampling Program</u>

Water samples were collected at intervals of from 100 to 200m along all creeks on the HAY claims, except for Stowe Creek and Critter Creek, which were extensively sampled in 1981 (for results, see Cruickshank, 1981). A silt sample was generally collected at each water sample site.

The pH and specific conductivity of each water sample was determined in the field, usually in the evening of the day of collection. The waters were shipped to Bondar-Clegg and Co. in Whitehorse for fluorimetric uranium analysis.

Figure 15 presents histograms and statistics of the distribution of results. Both log-transformed and arithmetic statistics were calculated with the aid of Eldorado's in-house computer. The arithmetic probability plot of the results (Fig. 16) has a distinct break in slope at 0.3 ppb (76th percentile); the 90th percentile falls at 0.5 ppb. In last year's study, anomalies were defined as any values in excess of 1.0 ppb. For purposes of this report, and this year's distribution of values, all analyses in excess of 0.5 ppb will be considered anomalous.

The observed range of pH was from 3.9 to 7.4; most were between 5.0 and 7.0. Specific conductivities varied from 19 to 180 micromhos/cm, with the majority being less than 100 micromhos/cm.

Using a criterion of 0.5 ppb, only two anomalous areas are present on the HAY claims; these occur in the general vicinities of the original 1981 anomalies.

Eight water samples were collected from a creek in the southeast corner of the claims group (Fig. 11). The topographically lowest five of these are all anomalous in uranium content (0.52 to 1.16 ppb), while the upper three range between 0.08 and 0.12 ppb U. There is a marked contrast in water chemistry between these two groups as well; pH is in the 4.0 to 5.4 range for the non-anomalous group, and from 7.1 to 7.6 for the anomalous samples. Observed specific conductivities were 25-28 micromhos/cm (non-anomalous) and 150-180 micromhos/cm (anomalous). The volume of water in the stream increases greatly in the interval between these two groups of samples. It is apparent that all these changes are due to an infusion of groundwater, which debouches at about the 2200 foot elevation. On the basis of geological evidence, a fault has been postulated to underlie this watercourse. The situation here, then, is analogous to that determined for the original anomaly on Critter Creek, which occupies a parallel fault zone, about 1 km to the west. The largest and most significant soil anomaly occurs in the area between

Project 546 - ppb U in waters

	ARITH STATS	LOG10 TRANS STATS	NORM LOG-T STATS
MEAN	.24	-.789	0.000
STD DEV	.21	.43	1.000
NO OF SAMPLES	72	72	72
SKEWNESS	1.93	-.87	-.87
REL STD DEV	.87	-.55	
MIN VAL	.01	-2.00	
MAX VAL	1.16	.06	

FIGURE 15

Water Sample Statistics

ARITHMETIC HISTOGRAM

NO.OF SAMPS	CUM PCT	UPPER LIMIT ppb	UPPER LIMIT NORM.	0 10 20 30 40 50
0	.0	-.39	-3.00	
0	.0	-.32	-2.67	
0	.0	-.25	-2.33	
0	.0	-.18	-2.00	
0	.0	-.11	-1.67	
0	.0	-.04	-1.33	
5	6.9	.03	-1.00	*****
12	23.6	.10	-.67	************
14	43.1	.17	-.33	**************
13	61.1	.24	-.00	*************
11	76.4	.31	.33	***********
5	83.3	.38	.67	*****
3	87.5	.45	1.00	***
2	90.3	.52	1.33	**
2	93.1	.58	1.67	**
2	95.8	.65	2.00	**
1	97.2	.72	2.33	*
0	97.2	.79	2.67	
0	97.2	.86	3.00	
1	98.6	.93	3.33	*
0	98.6	1.00	3.67	
0	98.6	1.07	4.00	
0	98.6	1.14	4.33	
1	100.0	1.21	4.67	*
0	100.0	1.28	5.00	
0	100.0	1.35	5.33	
0	100.0	1.42	5.67	
0	100.0	+INF	+INF	

NUMBER OF SAMPLES

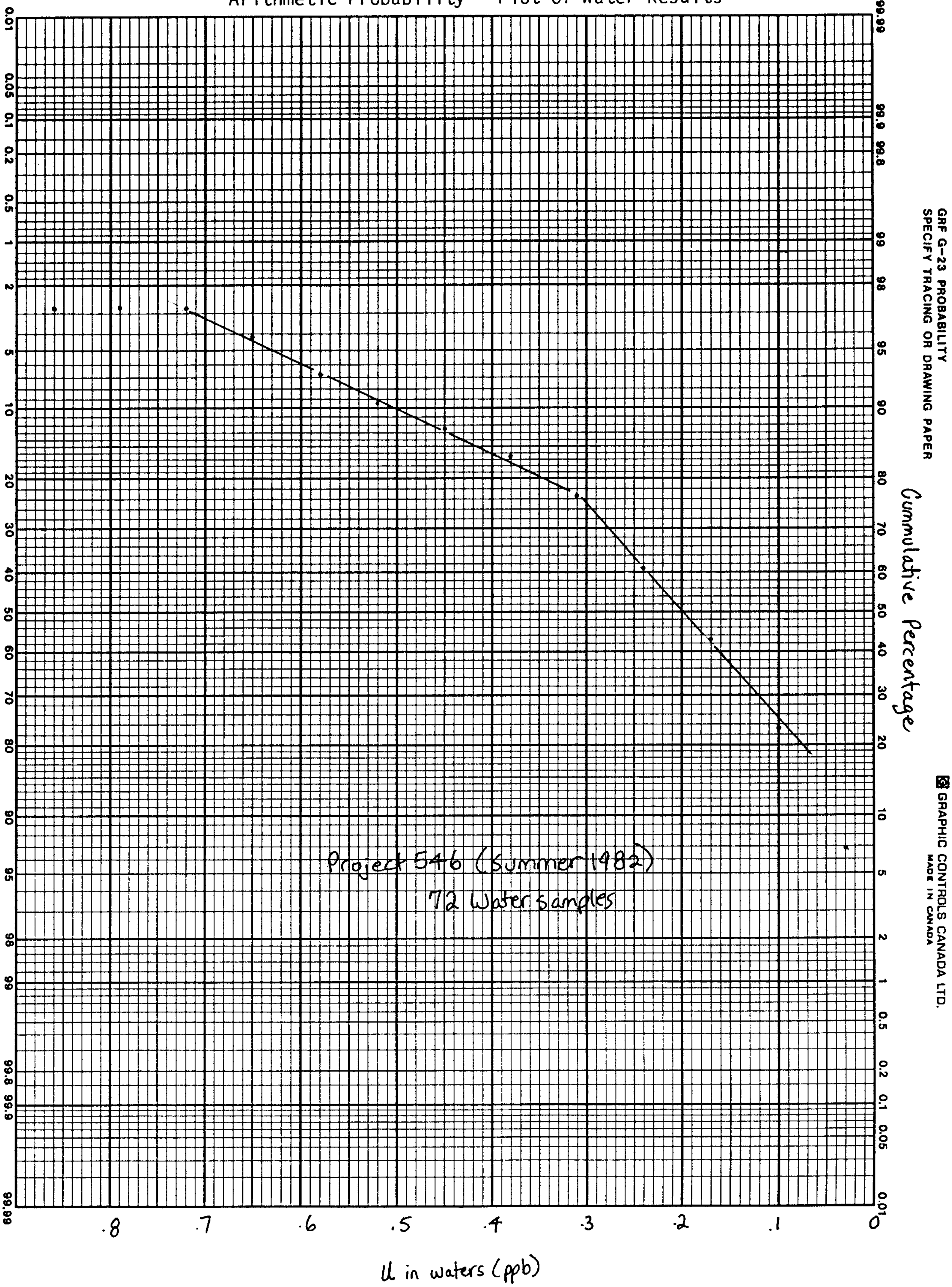
LOGNORMAL HISTOGRAM

NO.OF SAMPS	CUM PCT	UPPER LIMIT ppb	UPPER LIMIT NORM.	0 10 20 30 40 50
0	.0	.01	-3.00	
3	4.2	.01	-2.67	***
0	4.2	.02	-2.33	
2	6.9	.02	-2.00	**
0	6.9	.03	-1.67	
0	6.9	.04	-1.33	
5	13.9	.06	-1.00	*****
6	22.2	.08	-.67	******
4	27.8	.12	-.33	****
11	43.1	.16	-.00	***********
12	59.7	.23	.33	************
12	76.4	.31	.67	************
6	84.7	.44	1.00	******
7	94.4	.61	1.33	*******
2	97.2	.85	1.67	**
2	100.0	1.18	2.00	**
0	100.0	1.65	2.33	
0	100.0	2.29	2.67	
0	100.0	3.19	3.00	
0	100.0	+INF	+INF	

NUMBER OF SAMPLES

FIGURE 16

Arithmetic Probability - Plot of Water Results



these creeks.

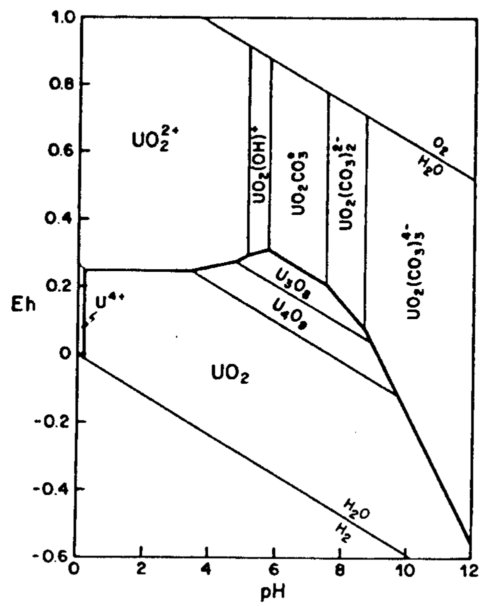
The high values for pH and specific conductivity in the above five anomalous waters suggest an unusually high proportion of dissolved carbonate. Figure 17, reproduced from Levinson (1980), shows that the observed pH range (7.1 to 7.6) is exactly within the range of stability of uranyl carbonate complexes. Such waters can be expected to carry more uranium than the surface waters. A higher content of dissolved solids (as evidenced by higher specific conductivities) is also typical for groundwaters. A possible source of carbonate is marble, which is known to be present in the basement complex in this area (Fig. 20 of Cruickshank, 1981).

Three other elevated values are present near the second 1981 anomaly, in the northwest part of the claim group (Fig. 10). The two topographically highest samples from the creek immediately below the 1981 find are both anomalous (.58 and .70 ppb); uranium in water values decrease downstream, presumably through dilution. In this case, pH (5.85, 6.20), and specific conductivity (24 and 35 micromhos/cm) are not unusual. These elevated uranium contents are therefore probably derived from excess uranium in the near-surface environment, most likely in the vicinity of the 1981 anomaly. The observed decrease in uranium content in the downstream direction supports this conclusion.

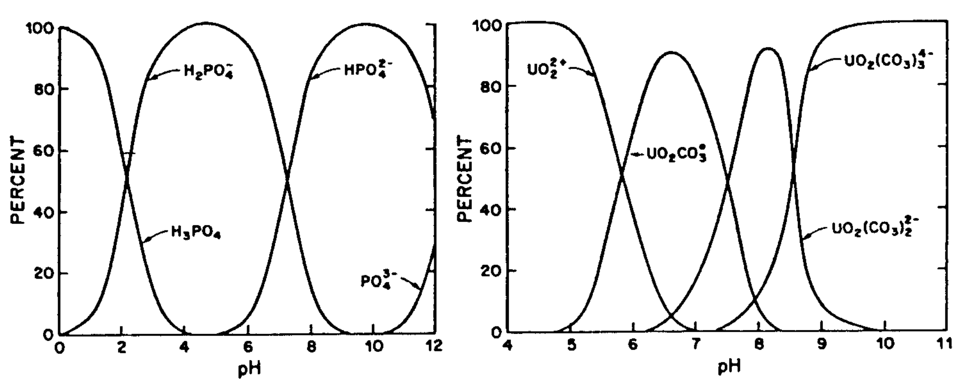
The only other result in excess of .5 ppb is a .51 ppb sample from a creek about 350m southeast of the pair mentioned above. None of the other samples from this fork in the creek is anomalous.

Somewhat elevated waters occur in Haystack Creek (Fig. 10), immediately downstream from soil anomaly No. 3. Four consecutive analyses of .32, .46, .44, and .36 ppb U were obtained. pH values here are fairly high (6.55-6.95), but specific conductivities are normal (45-65 micromhos/cm). This weak water anomaly, and the weak soil anomaly, are probably related.

A large south-flowing creek with two forks occurs in the central part of the property (southeastern quarter of Fig. 10). Waters from the west fork have low uranium contents (mostly between .02 and 0.2 ppb), while those from the east fork contain more of that element (mostly between 0.2 and 0.4 ppb). Water chemistry in the two forks is quite different in terms of pH (west 6.55-6.75; east 5.90-6.45) and specific conductivity of the east fork tends to be lower (28-90 vs. 60-90 micromhos/cm).



Eh-pH diagram for the system U-O-H-CO_2 showing the mobility of the uranyl complexes, and the stability fields of three solid uranium oxides (uraninite or varieties), at 25°C. U = 1 ppm; $P_{CO_2} = 10^{-3.5}$. After Langmuir (1978 a, b) and Romberger (1979).



Distribution of aqueous phosphate species (left), and carbonate species (right), as a function of pH at 25°C. PO_4 = 0.1 ppm; $P_{CO_2} = 10^{-2}$ atm.; U = 10^{-8}M (2.4 ppb). After Langmuir (1978 a, b) and Romberger (1979).

FIGURE 17

Stability Fields of Uranyl Complexes in Solution (reproduced from Levinson, 1980)

D. Uranium in Silt Program

Silt samples for uranium analysis were collected at the same stations as the water samples. Kraft paper sample envelopes were filled with silt/clay sized material from low-energy portions of the stream sediment. After field drying, these samples were shipped to Bondar-Clegg and Co. in Whitehorse, where the -80 mesh fraction was recovered and analyzed fluorimetrically for uranium. Results are presented on Figs. 10 and 11. Figure 18 is a presentation of statistical parameters and histograms, while Fig. 19 is an arithmetic probability plot of the resulting distribution.

The histograms indicate a fairly normal spread of results, with no extremely high values, and the probability plot has only one slight inflection (at 1.2 ppm). It is possible that this is a nearly normal distribution, with no true anomalies. The 90th percentile of the distribution occurs at 1.7 ppm. Taking into account the slight inflection at 1.2 ppm (77th percentile), a compromise value of 1.5 ppm has been chosen as a limit for potentially anomalous analyses (9 individual samples).

A result of 1.8 ppm U was returned from a sample collected just downhill from the 1981 anomaly on HAY 17 (Fig. 10); the corresponding water sample was also anomalous. Four scattered elevated uranium in silt values occur along Haystack Creek, where weak soil and water anomalies were also detected.

The east fork of the large creek in the central part of the property (Nobottom Creek) had elevated uranium in water content, and also produced four scattered (but weak) uranium in silt anomalies. This branch of the creek drains the western side of Rhyolite Hill, and is underlain by a Quaternary silt deposit. The place of origin of this silt is unknown, rendering interpretation somewhat difficult. The fact that the waters have elevated analyses suggests that the uranium in the silt has been deposited from the creek waters in its present location.

Strangely, there is only one uranium in silt anomaly (2.3 ppm) from the creek in the southeastern corner that had five water anomalies. This creek is in the vicinity of a large soil anomaly (No. 8), from which uranium in soil values of up to 350 ppm have been obtained. Field sheets indicate that the silts from this creek had a high content of organic material (estimated 30 to 65%), in which uranium should be fixed quite

Project 546 - ppm U in SILTS

FIGURE 18

Silt Sample Statistics

	ARITH STATS	LOG10 TRANS STATS	NORM LOG-T STATS
MEAN	.80	-.239	0.000
STD DEV	.56	.40	1.000
NO OF SAMPLES	72	72	72
SKEWNESS	.68	-.69	-.69
REL STD DEV	.70	-1.66	
MIN VAL	.10	-1.00	
MAX VAL	2.30	.36	

ARITHMETIC HISTOGRAM

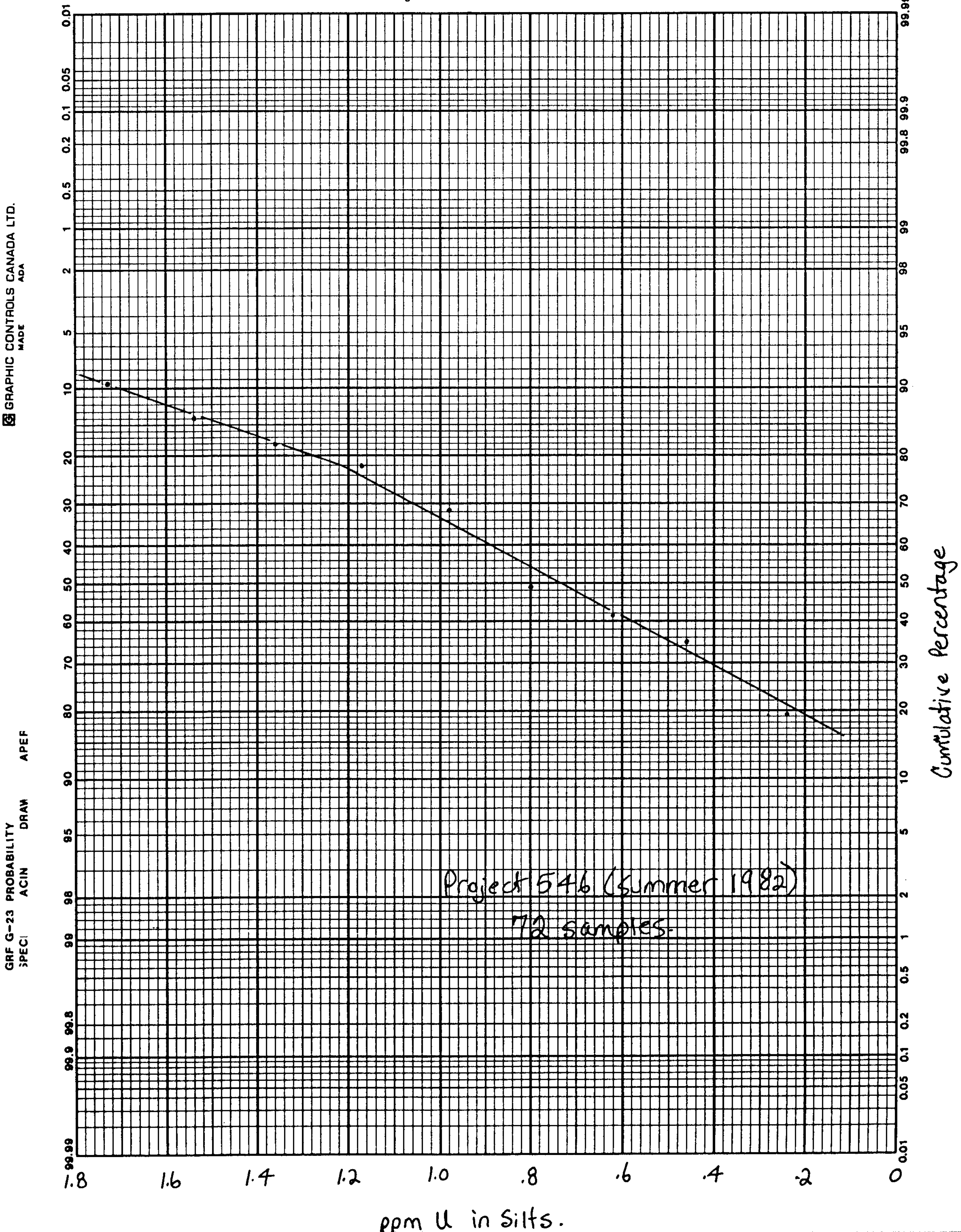
NO.OF SAMPS	CUM PCT	UPPER LIMIT ppm	UPPER LIMIT NORM.	NUMBER OF SAMPLES (0 10 20 30 40 50)
0	.0	-.87	-3.00	
0	.0	-.69	-2.67	
0	.0	-.50	-2.33	
0	.0	-.32	-2.00	
0	.0	-.13	-1.67	
0	.0	.06	-1.33	
14	19.4	.24	-1.00	**************
11	34.7	.43	-.67	***********
5	41.7	.61	-.33	*****
5	48.6	.80	-.00	*****
14	68.1	.98	.33	**************
7	77.8	1.17	.67	*******
3	81.9	1.36	1.00	***
3	86.1	1.54	1.33	***
3	90.3	1.73	1.67	***
5	97.2	1.91	2.00	*****
0	97.2	2.10	2.33	
1	98.6	2.29	2.67	*
1	100.0	2.47	3.00	*
0	100.0	2.66	3.33	
0	100.0	2.84	3.67	
0	100.0	3.03	4.00	
0	100.0	3.21	4.33	
0	100.0	3.40	4.67	
0	100.0	3.59	5.00	
0	100.0	3.77	5.33	
0	100.0	3.96	5.67	
0	100.0	+INF	+INF	

LOGNORMAL HISTOGRAM

NO.OF SAMPS	CUM PCT	UPPER LIMIT ppm	UPPER LIMIT NORM.	NUMBER OF SAMPLES (0 10 20 30 40 50)
0	.0	.04	-3.00	
0	.0	.05	-2.67	
0	.0	.07	-2.33	
0	.0	.09	-2.00	
10	13.9	.13	-1.67	**********
0	13.9	.17	-1.33	
4	19.4	.23	-1.00	****
3	23.6	.31	-.67	***
8	34.7	.42	-.33	********
1	36.1	.58	-.00	*
9	48.6	.78	.33	*********
19	75.0	1.06	.67	*******************
6	83.3	1.44	1.00	******
10	97.2	1.96	1.33	**********
2	100.0	2.66	1.67	**
0	100.0	3.60	2.00	
0	100.0	4.89	2.33	
0	100.0	6.64	2.67	
0	100.0	9.01	3.00	
0	100.0	+INF	+INF	

FIGURE 19

Arithmetic Probability Plot of Silt Results



easily. Also, Critter Creek, 1 km to the west, and geochemically similar in many respects, has numerous silt anomalies. The relative lack of anomalies in the present creek is therefore unexplained.

E. Mult-Element Stream Sediment Program

A few pan concentrate and silt samples were collected and analyzed for 6 elements: U, Au, Ag, Sb, As, Hg. The purpose of this survey was to evaluate the potential for precious metal deposits, as well as uranium. It was felt that the occurrence of Tertiary rhyolites could be favourable for epigenetic gold or silver mineralizaton.

In the collection of pan concentrates, two gold pans full of -8mm material were panned down to about a 1.5 kg sample. This sample was dried in the field and then shipped to TSL Laboratories in Saskatoon. The heavy minerals were separated in tetrabromoethane (S.G. 1.96), crushed, and analyzed. Uranium was determined by fluorimetry, and the remaining elements by atomic absorption (combined fire assay -AA for Au and Ag). The corresponding silt samples were sieved to -80 mesh prior to analysis. A total of 11 pan concentrates and 13 silts were collected in this manner. Results are presented on Figs. 10 and 11. Given the small sample population, no statistics have been calculated.

Except for uranium in silts, no unusual or anomalous results were obtained. The ranges of analyses are presented in Table IV:

TABLE IV

Ranges of Results in Multi-element Stream Sediment Program*

Element	Pan Concentrates	Silts
Au (ppb)	l.t.5 - 50	l.t.5 - 5
Ag (ppm)	all l.t.0.2	l.t.0.2 - 0.2
Sb (ppm)	l.t.1 - 2	l.t.1 - 1
As (ppm)	l.t.1 - 30	l.t.1 - 6
Hg (ppb)	l.t.10 - 40	l.t.10 - 30
U (ppm)	0.2-6.3	0.6-72

* l.t. = less than

The 72 ppm uranium in silt was from a sample of clay collected at the site of the HAY 17 anomaly (Fig. 10); this sample also yielded the highest mercury in silt result, 30 ppb. The range of values for uranium in silt is much higher than for the samples submitted to Bondar-Clegg. It is assumed that this difference is attributable to processing in different laboratories.

F. Tritium Analyses

Six water samples from the Critter Creek area were collected and sent to the University of Waterloo for tritium analysis. Three samples were taken from the uraniferous spring, and three from Critter Creek, uphill from the spring (locations are indicated on Fig. 7). A comparison could therefore be made between groundwater and surface runoff, in order to determine the underground residence time of the spring water. The three samples of surface runoff returned results of 39, 53, and 64 Tritium Units (T.U.), for a mean of 52 T.U. Results of 18, 26, and 29 T.U. were obtained for the spring waters (mean of 24 T.U.). All analyses are correct to within 8 T.U.

One tritium unit (T.U.) = one tritium atom per 10^{18} hydrogen atoms, and the half life of tritium is 12.262 years (Boyle, 1982). The tritium in surface waters is a combination of hydrogen bomb and cosmic-derived material. A comparison of the tritium content of spring waters with local surface waters should give a direct indication of the underground residence time of the spring waters. Since the tritium content of the measured spring water is roughly half that of the surface waters, one may estimate that its residence time was approximately equal to the half-life of tritium, or about 12 years. This figure is subject to analytical error, and to the assumption that the sample media are either pure surface waters, or pure groundwaters. By comparison, Boyle (1982) found that spring waters draining major fault zones in southern British Columbia, had been underground for at least 25 years.

G. Discussion

A number of geochemical situations, anomalous in uranium, have been identified on the HAY property. An attempt to evaluate the precious metal potential of the claims group yielded only negative results, however.

Stream sediment and water anomalies are invariably associated with soil uranium anomalies, but the reverse is not always true. For this reason, the following integration of geochemical information is based upon the numbered soil anomalies (Figs. 8 and 9):

1. Soil Anomaly No. 2

This anomaly was discovered in 1981. Radiometric background is 350-400 cps (UG 130), which is about four times normal. This is a very small area, only a few metres square, characterized by an unusual grey clay soil, containing fragments of rhyolite and of volcanic breccia. The geological map shows that rhyolite here occupies a northwest-trending strip about 100m wide, that separates Tertiary sedimentary rocks on the southeast, from metamorphic basement rocks to the northwest. The rhyolite-basement contact is interpreted to be faulted. These geological relationships are by no means definite, as no outcrop is present, and the mapping depends entirely on float occurrences.

The anomalous area occurs at the uphill end of an intermittent watercourse that becomes a permanent creek further downhill. Because this stream is parallel to the rhyolite-basement contact, it is thought to possibly flow along a subsidiary fault or fracture zone.

A thin section of volcanic breccia float, collected from the immediate area of the anomaly, has been examined. The larger clasts are volcanic in origin, but the matrix of the breccia contains minerals and rock fragments that have clearly been derived from the metamorphic basement rocks. This is therefore not a rock that was brecciated in situ, but was rather intruded from deeper levels. It is most likely a diatreme type rock, but of unknown geometry. Float of this lithology is only present in the same limited area as the radiometric anomaly, so its areal extent at surface must be very small. A sample of the strange grey clay soil was submitted to the Saskatchewan Research Council for XRD determination, and was found to be nearly pure kaolinite. This material is probably hydrothermal in origin, related to the same fluids involved in the breccia intrusion.

Two small pits, about 30 cm deep, were excavated here in 1981.

Both filled with water containing a great deal of suspended clay. Water analyses obtained in 1981 returned values of 1.14, 340, 450, and 630 ppb U; the last three of these are very anomalous, but results may be due in part to contamination from suspended clays. Samples of this clay soil contain 20 to 90 ppm U, which is certainly anomalous. One sample checked for Au, Ag, Sb, As, and Hg revealed low levels of everything but mercury, which was very weakly anomalous at 30 ppb. Samples taken at the upper end of the small creek, just downhill from this location, were anomalous in waters (0.58 and 0.70 ppb U), and sediment (1.8 ppm U); these values decrease downstream. The stream sediments and waters probably obtained this uranium from the known surface occurrence. One soil anomaly of 4.0 ppm is also present in the downhill direction, and is probably due to redeposition of hydromorphically-transported uranium. Very little water is seeping from the ground at this point, explaining the rather limited dispersal of uranium in the various sample media.

A piece of breccia float was analyzed and found to contain 2.3 ppm U, and 22 ppm As, both of which are only slightly anomalous (refer to Table 2). The uranium at surface, therefore, is either absorbed or contained in the more altered, kaolinitic parts of the bedrock, or else is purcolating upwards through fractures or porosity which occur at this point. It is possible that the breccia is mineralized at depth. It is also possible that the breccia provides a channelway for deep-seated uraniferous groundwaters, similar to those identified in fault zones in the southeastern part of the property. The two anomalies are fundamentally different in character, however, in areal extent, and in the fact that one increases, and the other decreases, in the downhill direction. This difference in character could be attributable to the fact that one occurs on a north and the other a south-facing slope. Permafrost conditions on the north-facing slope at soil anomaly 2 may not permit egress of large quantities of groundwater.

2. Soil Anomaly No. 3

This anomaly occurs in an area thought to be underlain by Tertiary sediments, on the northern boundary of the property. None of the absolute values of the analyses received is outstanding, but the occurrence of elevated uranium content in soils, silts, and waters, indicates a higher background content of that element in the area. This sedimentary area was visited several times in 1981 and in 1982, and some detailed prospecting was conducted there last year. No surface radiometric highs have been located. These sedimentary beds outcrop at the base of the steep southwest slope of Haystack Mountain, and it is possible that groundwaters are discharging through these porous rocks. The fact that groundwaters are enriched in uranium relative to surface waters, coupled with the above hypothesis, may explain this anomaly. The tuff (?) outcrop in this area shows obvious signs of hydrothermal alteration, but is downhill from the soil anomaly; the presence of other such rocks in this poorly exposed area cannot be discounted, however. The widespread, but fairly weak uranium values here tend to support the groundwater theory.

3. Soil Anomaly No. 7

The valley occupied by Nobottom Creek (Figs. 10 and 11) is characterized by scattered soil, silt, and water uranium anomalies, in marked contrast to the west fork of the same stream that is barren. Much of this valley is underlain by a Quaternary silt deposit, which renders interpretation difficult. The underlying bedrock is believed to be metamorphic, which is in fault contact to the east with the Rhyolite Hill felsic volcanics (Fig. 3). The presence of abundant rhyolite float at surface explains the radiometric anomaly (Fig. 5) uphill from three of the anomalous soil locations. The source of the uranium in this area is unknown, but may be due to deposition from spring water; this zone is on the opposite side of Rhyolite Hill from the better-known groundwater-related anomalies of area No. 8.

4. Soil Anomaly No. 8

This is the largest and most significant anomaly on the property (Fig. 9). As discussed earlier in this chapter, two creeks in this area originate from springs, and carry unusual quantities of uranium. An areally large soil anomaly is present on the hillside below the level of the springs, and is thought to be due to deposition of uranium from groundwaters.

The key question here is that of the origin of the uranium in these subsurface waters. There are at least three possible explanations:

- The elevated uranium may not be derived from buried mineralization, but instead be leached from country rocks by groundwaters of long residence time in the subsurface.
- The uranium could be leaking from a buried Blizzard-type ore deposit.
- The uranium could be derived from buried intrusive breccias similar to the one thought to occur at anomaly No. 2.

It is not easy to choose among these three possibilities; only the second one would be of economic interest.

Groundwaters are known to be enriched in uranium, especially where they have circulated in deep fault zones for significant periods. It is known that, at least in the case of Critter Creek, the HAY waters are emerging from faults, and they have resided in the subsurface long enough for their titium content to differ significantly from that of nearby surface waters. However, it is exactly this type of water that is thought to provide the source of uranium for basal-type deposits. Boyle and Ballantyne (1980) have provided data on the chemistry of spring waters from mineralized and non-mineralized areas in B.C. Their data, and data from the HAY groundwaters, are presented in Table V:

TABLE V
Comparison of HAY spring waters with values reported by Boyle and Ballantyne (1980)

Spring Water Source	U in water (ppb)	pH	Conductivity (micromhos/cm)
Blizzard U Deposit	0.2-18.0	6.0-7.6	29-148
Fault Zones, B.C.	4.0-125.0	7.7-8.2	143-284
HAY Claims	14-32*	6.9-7.6	150-180

* 1981 results, Critter Creek area

Examination of the table indicates that it is difficult to distinguish between the two possibilities based on these criteria.

As mentioned previously, Boyle (1982) determined that waters debouching from fault zones in southern B.C. had been underground for at least 25 years. Tritium analyses from HAY suggest a residence time of about 12 years for uraniferous groundwaters. The possible significance of this difference lies in the suggestion that groundwaters at HAY had less time to leach uranium, and therefore must have obtained it from a higher-grade source. However, there are too many unknown variables to confidently reach such a conclusion.

Certain geological criteria at HAY argue against the basal deposit hypothesis. Firstly, favourable basement rocks, such as quartz monzonite or granodiorite plutons, are absent. Secondly the fault zones have been active since deposition of the volcanic rocks. Thirdly, according to the interpretation on Fig. 3, the rhyolites have not been observed to stratigraphically overlie sedimentary rocks; the one known contact is thought to be a high-angle fault. However, post-depositional faulting is present in the Sherwood Mine in Washington, and the geological interpretation presented here is subject to some uncertainty largely as a result of poor outcrop conditions.

The third possible source of uranium, mineralized intrusive breccias, must be given some credence, since this situation is thought to occur elsewhere on the claims. Subsurface breccias of this type could provide metals to groundwaters circulating in adjacent fault zones.

5. Other Anomalies

A number of other soil anomalies are shown on Figs. 8 and 9, and have been discussed previously in this report. None of them has associated water or sediment anomalies.

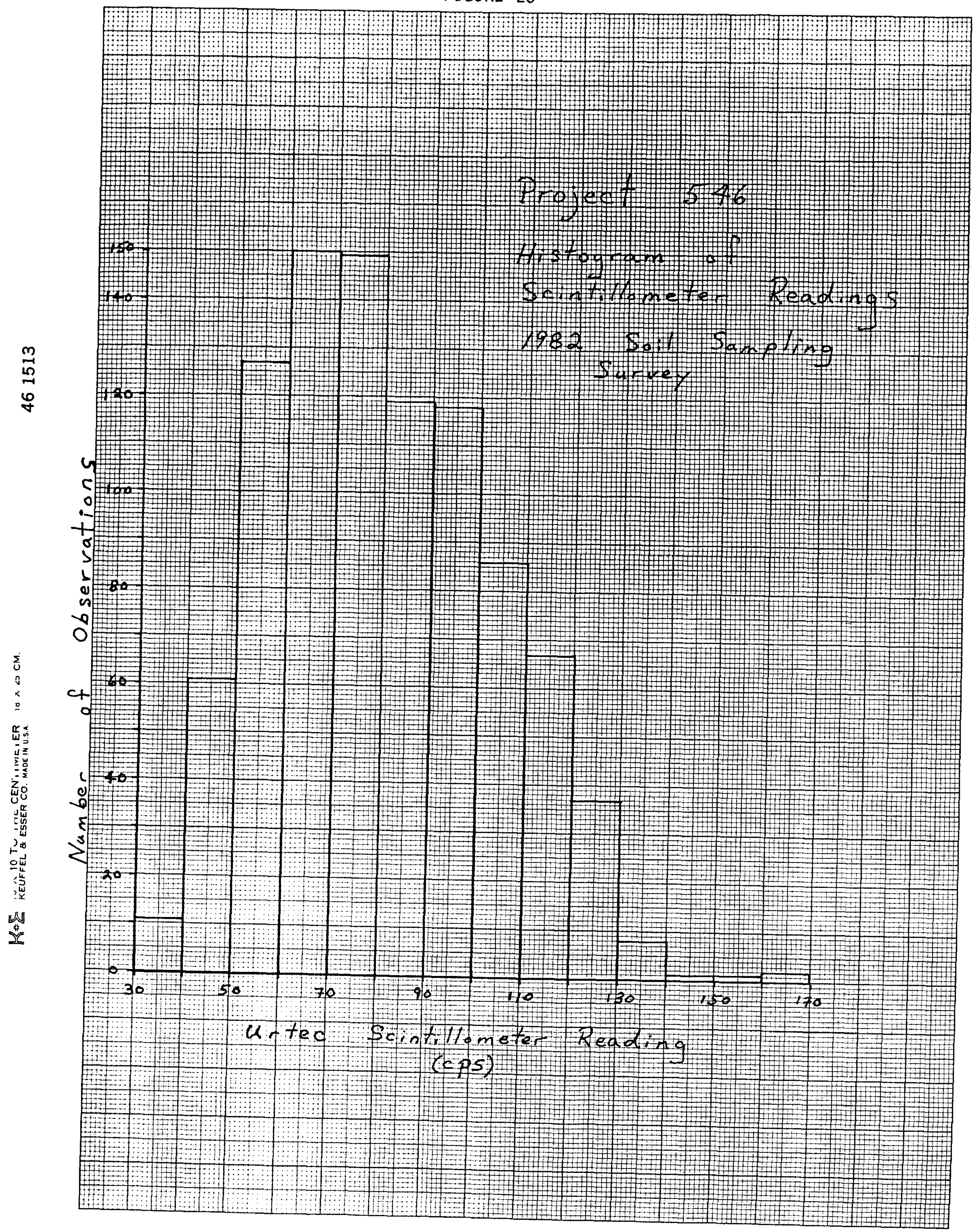
IX. RADIOMETRIC SURVEY

A scintillometer survey was conducted in conjunction with the soil sampling program. Readings were recorded at each soil sample locality; these were at 100 metre intervals along lines that approximately coincided with the claim boundaries. Readings were taken with an Urtec UG 130 scintillometer, held at waist level. The same instrument was used for the entire survey. Results are presented on Figures 4 and 5, while Fig. 20 is a histogram of the readings.

The raw data on Figs. 4 and 5 have been contoured at 75 cps (about the 45th percentile) and at 115 cps (90th percentile). Comparison with the geology maps (Figs. 2 and 3) indicates that areas with radiometric backgrounds over 115 cps are underlain by volcanic bedrock, especially at topographically higher areas where soil cover is thinnest. The rhyolite felsenmeers on Rhyolite Hill and along Haystack Creek are prominent.

Areas with radiometric backgrounds below 75 cps are generally underlain by thick permafrost, Quaternary silts, or metamorphic bedrock. Areas of Tertiary sedimentary bedrock generally fall between the 75 cps and 115 cps contours.

FIGURE 20


Project 546
Histogram of
Scintillometer Readings
1982 Soil Sampling
Survey
Number of Observations
0
20
40
60
80
100
120
140
150
30
50
70
90
110
130
150
170
Urtec Scintillometer Reading
(cps)
46 1513
KEUFFEL & ESSER CO. MADE IN U.S.A.

X. CONCLUSIONS

The uranium anomalies discovered in 1981 have been confirmed and extended. Limited exploration for precious metal mineralization produced no encouraging results.

A radiometric/geochemical anomaly in the northwestern part of the claims group (claim HAY 17) is thought to be related to an intrusive volcanic breccia. Fragments of this lithology are included in a kaolinite soil at the site in question. The intrusive nature of this breccia is indicated by the presence of foreign, metamorphic clasts in its matrix. Country rocks in the area are rhyolites, near a presumed fault contact with metamorphic basement rocks. The zone containing breccia float is very small, only a few metres square. The amount of groundwater leaking to the surface here is minimal, and related soil, silt, and water anomalies are very small in area.

Anomalies in the southeastern part of the claims group are caused by large volumes of uraniferous groundwater that are emerging from the hillside. Anomalous concentrations of uranium appear in stream waters, silts, and soils. The spring waters are debouching from a series of northeasterly-trending faults.

There are three possible sources for the uranium at the locations mentioned above:

(a) Deep seated groundwaters that have acquired uranium through general leaching of non-mineralized country rocks, and have debouced at surface though permeable fault or breccia zones.
(b) Buried basal-type uranium deposits.
(c) Breccia pipes, fault zones, or similar features carrying uranium mineralization.

It is not possible to choose among these three possibilities on the basis of available information. Only the basal-type deposit is of potential economic interest.

An area along Haystack Creek, on the northern boundary of the claims, contains elevated, but not strongly anomalous, quantities of uranium in soils, stream silts, and waters. This may be due to groundwater discharge through a permeable sedimentary horizon.

A few other uranium in soil anomalies occur on the claims group.

Tertiary volcanic rocks at HAY appear to have a low potential for epithermal precious metals mineralization. These units are not extensively altered, and reconnaissance stream geochemistry yielded only discouraging results.

XI. RECOMMENDATIONS

Any further work should be directed to determining the source of the uranium that is present in the various sample media on the HAY claims. In the case of the large anomaly in the southeast corner of the property, this would ultimately require drilling. However, in order to maximize the efficiency of such a program, more surface information is required.

In particular, the orientations and locations of faults in the Rhyolite Hill area need to be more clearly defined. This could be accomplished through trenching or geophysics, or perhaps a combination of the two. The geology in that area is thought to consist of rhyolite overlying amphibolite; there should be a marked contrast in magnetic susceptibility between these two lithologies. It is therefore proposed that a combined magnetic/VLF survey be undertaken over the southeastern anomalous area. Another, more limited survey could be conducted over the smaller, northwest "breccia" anomaly.

Trenching could be employed to expose fault zones, in order to confirm the geological interpretation. Trenching could also be used to obtain more geological information at the "breccia" anomaly. Summer placer exploration, involving bulldozers, has been conducted right to the HAY boundary on Stowe Creek, and to within a couple of kilometers on Bismark Creek. Moving such a machine to HAY could therefore be effected with minimal additional environmental damage, over existing tracks. Trenching, however, may not be cost effective. Further consideration should weigh possible benefits against costs.

The purpose of an initial drill program would be to determine whether sediments underlie the rhyolite, and if so, whether they contain uranium mineralization. Knowledge of fault locations would enable holes to be collared where the basal unconformity is closest to surface, and hence reduce drilling costs. It would also permit a couple of angle holes to check the faults themselves, should this become necessary.

Some of the soil uranium anomalies, particularly numbers 1, 3, 7, and 8 (Figs. 8 and 9) are worthy of more careful detailing over cut grids. This should improve our knowledge of these areas at minimal cost. More detailed geological mapping could also be performed on these grids.

The next season spent on this property should involve more detailed soil sampling, geological mapping, magnetometer and VLF surveys, and possibly trenching. Drilling should be contingent upon the results of these other activities, and could be postposed to a different season.

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XIII. STATEMENT OF QUALIFICATIONS

I, Roy Douglas Cruickshank, certify that:

1. I received a B.Sc.(hons.) in geology from the University of Calgary in 1969, and an M.Sc. in geology (metamorphic petrology) from the same institution in 1976.
2. I have been engaged in field geology or mineral exploration intermittently since 1969, and continuously since 1976.
3. I have been employed as a minerals exploration geologist with Eldorado Nuclear Limited since 1976.
4. I am a fellow of the Geological Association of Canada.

R Douglas Cruickshank

R. DOUGLAS CRUICKSHANK
Project Geologist

Appendix I

A P P E N D I X I

Geochemical Data Sheets

Bondar-Clegg & Company Ltd.
136 Industrial Road
Whitehorse, Yukon Territory Y1A 2V1
Phone (403) 667-6523
Telex 036-8-460

BONDAR-CLEGG

Geochemical Lab Report

CLIENT: ELDORADO
GEOLOGIST: HENNING, N AGEOLOGIST: ,
NUMBER OF SAMPLES: 418 PRIORITY: P
REPORT NUMBER: G42-224
PROJECT: 546
DATE: AUGUST 11, 1982
SEE APPENDIX FOR EXPLANATION OF DIGESTION, ANALYSIS, SAMPLE TYPE, AND SIEVE SIZE CODES.

REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0001	82-546-40B-001 S 1	1.3
0002	82-546-40B-002 S 1	0.3
0003	82-546-40B-003 S 1	22.0
0004	82-546-40B-004 S 1	1.0
0005	82-546-40B-005 S 1	0.3
0006	82-546-40B-006 S 1	0.5
0007	82-546-40B-007 S 1	0.9
0008	82-546-40B-008 S 1	0.7
0009	82-546-40B-009 S 1	0.2
0010	82-546-40B-010 S 1	0.9
0011	82-546-40B-011 S 1	1.3
0012	82-546-40B-012 S 1	0.3
0013	82-546-40B-013 S 1	2.8
0014	82-546-40B-014 S 1	2.6
0015	82-546-40B-015 S 1	1.8
0016	82-546-40B-016 S 1	0.8
0017	82-546-40B-017 S 1	0.6
0018	82-546-40B-018 S 1	1.1
0019	82-546-40B-019 S 1	0.3
0020	82-546-40B-020 S 1	0.8
0021	82-546-40B-021 S 1	1.3
0022	82-546-40B-022 S 1	1.1
0023	82-546-40B-023 S 1	1.3
0024	82-546-40B-024 S 1	0.8
0025	82-546-40B-025 S 1	1.1
0026	82-546-40B-026 S 1	1.2
0027	82-546-40B-027 S 1	0.4
0028	82-546-40B-028 S 1	0.3
0029	82-546-40B-029 S 1	0.9
0030	82-546-40B-030 S 1	1.2
0031	82-546-40B-031 S 1	1.5
0032	82-546-40B-032 S 1	3.1
0033	82-546-40B-033 S 1	1.8
0034	82-546-40B-034 S 1	0.8
0035	82-546-40B-035 S 1	0.2

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CLIENT: ELDORADO
GEOLOGIST: HENNING, N AGEOLOGIST: ,
NUMBER OF SAMPLES: 418 PRIORITY: P
SEE APPENDIX FOR EXPLANATION OF DIGESTION, ANALYSIS, SAMPLE TYPE, AND SIEVE SIZE CODES.

REPORT NUMBER: 642-224
PROJECT: 546
DATE: AUGUST 11, 1982

REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0036	82-546-40B-036 S 1	1.3
0037	82-546-40B-037 S 1	0.5
0038	82-546-40B-038 S 1	0.6
0039	82-546-40B-039 S 1	1.3
0040	82-546-40B-040 S 1	1.4
0041	82-546-40B-041 S 1	15.0
0042	82-546-40B-042 S 1	35.0
0043	82-546-40B-043 S 1	3.3
0044	82-546-40B-044 S 1	56.0
0045	82-546-40B-045 S 1	0.5
0046	82-546-40B-046 S 1	3.3
0047	82-546-40B-047 S 1	4.4
0048	82-546-40B-048 S 1	2.3
0049	82-546-40B-049 S 1	1.4
0050	82-546-40B-050 S 1	0.5
0051	82-546-40B-051 S 1	2.7
0052	82-546-40B-052 S 1	0.1
0053	82-546-40B-053 S 1	0.8
0054	82-546-40B-054 S 1	0.9
0055	82-546-40B-055 S 1	1.5
0056	82-546-40B-056 S 1	0.3
0057	82-546-40B-057 S 1	0.1
0058	82-546-40B-058 S 1	0.3
0059	82-546-40B-059 S 1	0.1
0060	82-546-40B-060 S 1	0.1
0061	82-546-40B-061 S 1	0.5
0062	82-546-40B-062 S 1	0.1
0063	82-546-40B-063 S 1	1.1
0064	82-546-40B-064 S 1	L 0.1
0065	82-546-40B-065 S 1	0.1
0066	82-546-40B-066 S 1	0.4
0067	82-546-40B-067 S 1	0.3
0068	82-546-40B-068 S 1	0.2
0069	82-546-40B-069 S 1	0.6
0070	82-546-40B-070 S 1	0.6

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Geochemical Lab Report

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NUMBER OF SAMPLES: 418 PRIORITY: P
REPORT NUMBER: G42-224
PROJECT: 546
DATE: AUGUST 11, 1982
SEE APPENDIX FOR EXPLANATION OF DIGESTION, ANALYSIS, SAMPLE TYPE, AND SIEVE SIZE CODES.

REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0071	82-546-40B-071 S 1	0.6
0072	82-546-40B-072 S 1	0.9
0073	82-546-40B-073 S 1	2.6
0074	82-546-40B-074 S 1	1.6
0075	82-546-40B-075 S 1	0.9
0076	82-546-40B-076 S 1	1.4
0077	82-546-40B-077 S 1	0.8
0078	82-546-40B-078 S 1	1.1
0079	82-546-40B-079 S 1	0.6
0080	82-546-40B-080 S 1	0.5
0081	82-546-40B-081 S 1	0.8
0082	82-546-40B-082 S 1	1.2
0083	82-546-40B-083 S 1	1.2
0084	82-546-40B-084 S 1	0.7
0085	82-546-40B-085 S 1	0.8
0086	82-546-40B-086 S 1	0.3
0087	82-546-40B-087 S 1	L 0.1
0088	82-546-40B-088 S 1	L 0.1
0089	82-546-40B-089 S 1	0.9
0090	82-546-40B-090 S 1	0.5
0091	82-546-40B-091 S 1	0.8
0092	82-546-40B-092 S 1	2.2
0093	82-546-40B-093 S 1	1.2
0094	82-546-40B-094 S 1	3.9
0095	82-546-40B-095 S 1	2.3
0096	82-546-40B-096 S 1	0.2
0097	82-546-40B-097 S 1	L 0.1
0098	82-546-40B-098 S 1	0.2
0099	82-546-40B-099 S 1	0.4
0100	82-546-40B-100 S 1	0.1
0101	82-546-40B-101 S 1	1.3
0102	82-546-40B-102 S 1	L 0.1
0103	82-546-40B-103 S 1	0.6
0104	82-546-40B-104 S 1	0.1
0105	82-546-40B-105 S 1	0.5

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PROJECT: 546
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REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0106	82-546-40B-106 S 1	0.8
0107	82-546-40B-107 S 1	0.3
0108	82-546-40B-108 S 1	0.2
0109	82-546-40B-109 S 1	0.1
0110	82-546-40B-110 S 1	L 0.1
0111	82-546-40B-111 S 1	L 0.1
0112	82-546-40B-112 S 1	0.1
0113	82-546-40B-113 S 1	0.2
0114	82-546-40B-114 S 1	L 0.1
0115	82-546-40B-115 S 1	L 0.1
0116	82-546-40B-116 S 1	0.1
0117	82-546-40B-117 S 1	0.1
0118	82-546-40B-118 S 1	0.1
0119	82-546-40B-119 S 1	0.1
0120	82-546-40B-120 S 1	1.2
0121	82-546-40B-121 S 1	0.8
0122	82-546-40B-122 S 1	0.3
0123	82-546-40B-123 S 1	2.3
0124	82-546-40B-124 S 1	1.3
0125	82-546-40B-125 S 1	0.5
0126	82-546-40B-126 S 1	2.1
0127	82-546-40B-127 S 1	1.2
0128	82-546-40B-128 S 1	0.5
0129	82-546-40B-129 S 1	1.7
0130	82-546-40B-130 S 1	0.4
0131	82-546-40B-131 S 1	3.5
0132	82-546-40B-132 S 1	3.4
0133	82-546-40B-133 S 1	1.2
0134	82-546-40B-134 S 1	0.1
0135	82-546-40B-135 S 1	0.7
0136	82-546-40B-136 S 1	0.5
0137	82-546-40B-137 S 1	2.3
0138	82-546-40B-138 S 1	3.4
0139	82-546-40B-139 S 1	1.7
0140	82-546-40B-140 S 1	1.9

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REPORT NUMBER: G42-224
PROJECT: 546
DATE: AUGUST 11, 1982

REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0141	82-546-40B-141 S 1	1.5
0142	82-546-40B-142 S 1	2.3
0143	82-546-40B-143 S 1	1.6
0144	82-546-40B-144 S 1	1.2
0145	82-546-40B-145 S 1	1.3
0146	82-546-40B-146 S 1	0.8
0147	82-546-40B-147 S 1	1.6
0148	82-546-40B-148 S 1	0.8
0149	82-546-40B-149 S 1	1.6
0150	82-546-40B-150 S 1	2.0
0151	82-546-40B-151 S 1	0.8
0152	82-546-40B-152 S 1	1.2
0153	82-546-40B-153 S 1	1.6
0154	82-546-40B-154 S 1	1.1
0155	82-546-40B-155 S 1	0.8
0156	82-546-40B-156 S 1	0.5
0157	82-546-40B-157 S 1	0.1
0158	82-546-40B-158 S 1	0.3
0159	82-546-40B-159 S 1	0.4
0160	82-546-40B-160 S 1	0.9
0161	82-546-40B-186 S 1	0.4
0162	82-546-40B-187 S 1	0.4
0163	82-546-40B-188 S 1	0.1
0164	82-546-40B-189 S 1	0.1
0165	82-546-40B-190 S 1	0.2
0166	82-546-40B-191 S 1	1.7
0167	82-546-40B-192 S 1	2.0
0168	82-546-40B-193 S 1	0.8
0169	82-546-40B-194 S 1	0.8
0170	82-546-40B-[illegible] S 1	0.3
0171	82-546-40B-196 S 1	0.2
0172	82-546-40B-197 S 1	2.9
0173	82-546-40B-198 S 1	0.4
0174	82-546-40B-732 S 1	0.7
0175	82-546-40B-733 S 1	0.6

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REPORT NUMBER: G42-224
PROJECT: 546
DATE: AUGUST 11, 1982

REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0176	82-546-40B-734 S 1	5.3
0177	82-546-40B-735 S 1	1.0
0178	82-546-40B-736 S 1	1.4
0179	82-546-40B-737 S 1	0.4
0180	82-546-40B-738 S 1	1.6
0181	82-546-40B-739 S 1	0.7
0182	82-546-40B-740 S 1	0.1
0183	82-546-40B-741 S 1	0.8
0184	82-546-40B-742 S 1	0.1
0185	82-546-40B-743 S 1	1.0
0186	82-546-40B-744 S 1	0.2
0187	82-546-40B-745 S 1	0.8
0188	82-546-40B-746 S 1	0.4
0189	82-546-40B-747 S 1	0.7
0190	82-546-40B-748 S 1	1.0
0191	82-546-40B-749 S 1	0.5
0192	82-546-40B-750 S 1	0.4
0193	82-546-40B-751 S 1	0.4
0194	82-546-40B-752 S 1	0.4
0195	82-546-40B-753 S 1	1.1
0196	82-546-40B-754 S 1	1.4
0197	82-546-40B-755 S 1	0.5
0198	82-546-40B-756 S 1	2.2
0199	82-546-40B-757 S 1	0.8
0200	82-546-40B-758 S 1	0.3
0201	82-546-40B-759 S 1	1.3
0202	82-546-40B-760 S 1	0.8
0203	82-546-40B-761 S 1	0.3
0204	82-546-40B-762 S 1	4.3
0205	82-546-40B-763 S 1	0.3
0206	82-546-40B-764 S 1	0.1
0207	82-546-40B-765 S 1	0.3
0208	82-546-40B-766 S 1	0.6
0209	82-546-40B-767 S 1	0.2
0210	82-546-40B-768 S 1	0.6

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CLIENT: ELDORADO
GEOLOGIST: HENNING, N AGEOLOGIST: ,
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SEE APPENDIX FOR EXPLANATION OF DIGESTION, ANALYSIS, SAMPLE TYPE, AND SIEVE SIZE CODES.

REPORT NUMBER: G42-224
PROJECT: 546
DATE: AUGUST 11, 1982

REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0211	82-546-40B-769 S 1	0.9
0212	82-546-40B-770 S 1	0.5
0213	82-546-40B-771 S 1	0.8
0214	82-546-40B-772 S 1	0.1
0215	82-546-40B-773 S 1	0.7
0216	82-546-40B-774 S 1	0.6
0217	82-546-40B-775 S 1	0.9
0218	82-546-40B-776 S 1	1.6
0219	82-546-40B-777 S 1	0.7
0220	82-546-40B-778 S 1	1.9
0221	82-546-40B-779 S 1	0.6
0222	82-546-40B-780 S 1	1.4
0223	82-546-40B-781 S 1	1.1
0224	82-546-40B-782 S 1	1.0
0225	82-546-40B-783 S 1	1.6
0226	82-546-40B-784 S 1	0.7
0227	82-546-40B-785 S 1	0.5
0228	82-546-40B-786 S 1	0.9
0229	82-546-40B-787 S 1	1.6
0230	82-546-40B-788 S 1	0.6
0231	82-546-40B-789 S 1	0.7
0232	82-546-40B-790 S 1	0.4
0233	82-546-40B-791 S 1	1.5
0234	82-546-40B-792 S 1	0.8
0235	82-546-40B-793 S 1	0.8
0236	82-546-40B-794 S 1	0.9
0237	82-546-40B-795 S 1	0.6
0238	82-546-40B-796 S 1	0.4
0239	82-546-40B-797 S 1	0.1
0240	82-546-40B-798 S 1	0.9
0241	82-546-40B-799 S 1	0.1
0242	82-546-40B-800 S 1	0.3
0243	82-546-40B-801 S 1	0.1
0244	82-546-40B-802 S 1	0.3
0245	82-546-40B-803 S 1	0.2

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REPORT NUMBER: G42-224
PROJECT: 546
DATE: AUGUST 11, 1982

REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0246	82-546-40B-804 S 1	0.5
0247	82-546-40B-805 S 1	0.6
0248	82-546-40B-806 S 1	0.3
0249	82-546-40B-807 S 1	0.4
0250	82-546-40B-808 S 1	0.6
0251	82-546-40B-809 S 1	0.9
0252	82-546-40B-810 S 1	0.1
0253	82-546-40B-811 S 1	0.1
0254	82-546-40B-812 S 1	0.4
0255	82-546-40B-813 S 1	0.3
0256	82-546-40B-814 S 1	L 0.1
0257	82-546-40B-815 S 1	L 0.1
0258	82-546-40B-816 S 1	L 0.1
0259	82-546-40B-817 S 1	0.7
0260	82-546-40B-818 S 1	L 0.1
0261	82-546-40B-819 S 1	0.4
0262	82-546-40B-820 S 1	0.2
0263	82-546-40B-821 S 1	0.3
0264	82-546-40B-822 S 1	0.5
0265	82-546-40B-823 S 1	0.2
0266	82-546-40B-824 S 1	1.6
0267	82-546-40B-825 S 1	0.2
0268	82-546-40B-826 S 1	L 0.1
0269	82-546-40B-827 S 1	L 0.1
0270	82-546-40B-828 S 1	0.1
0271	82-546-40B-829 S 1	L 0.1
0272	82-546-40B-830 S 1	0.7
0273	82-546-40B-831 S 1	0.2
0274	82-546-40B-832 S 1	0.1
0275	82-546-40B-833 S 1	0.5
0276	82-546-40B-834 S 1	1.3
0277	82-546-40B-835 S 1	0.7
0278	82-546-40B-836 S 1	0.1
0279	82-546-40B-837 S 1	0.4
0280	82-546-40B-838 S 1	0.5

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136 Industrial Road
Whitehorse, Yukon Territory Y1A 2V1
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NUMBER OF SAMPLES: 418 PRIORITY: P
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REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0281	82-546-40B-839 S 1	0.1
0282	82-546-40B-840 S 1	0.1
0283	82-546-40B-841 S 1	0.8
0284	82-546-40B-842 S 1	0.2
0285	82-546-40B-843 S 1	0.1
0286	82-546-40B-844 S 1	0.1
0287	82-546-40B-845 S 1	L 0.1
0288	82-546-40B-846 S 1	0.1
0289	82-546-40B-847 S 1	L 0.1
0290	82-546-40B-848 S 1	0.1
0291	82-546-40B-849 S 1	0.1
0292	82-546-40B-850 S 1	4.8
0293	82-546-40B-851 S 1	1.2
0294	82-546-40B-852 S 1	0.5
0295	82-546-40B-853 S 1	0.4
0296	82-546-40B-854 S 1	0.5
0297	82-546-40B-855 S 1	1.1
0298	82-546-40B-856 S 1	0.8
0299	82-546-40B-857 S 1	4.0
0300	82-546-40B-858 S 1	1.8
0301	82-546-40B-859 S 1	0.8
0302	82-546-40B-860 S 1	1.4
0303	82-546-40B-861 S 1	0.6
0304	82-546-40B-862 S 1	0.7
0305	82-546-40B-863 S 1	1.7
0306	82-546-40B-864 S 1	0.5
0307	82-546-40B-865 S 1	0.4
0308	82-546-40B-866 S 1	0.1
0309	82-546-40B-867 S 1	0.2
0310	82-546-40B-868 S 1	0.1
0311	82-546-40B-869 S 1	0.7
0312	82-546-40B-870 S 1	0.6
0313	82-546-40B-871 S 1	2.1
0314	82-546-40B-872 S 1	0.3
0315	82-546-40B-873 S 1	0.1

---CONTINUED NEXT PAGE---

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Telex 036-8-460

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REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0316	82-546-40B-874 S 1	0.6
0317	82-546-40B-875 S 1	0.1
0318	82-546-40B-876 S 1	0.1
0319	82-546-40B-877 S 1	0.1
0320	82-546-40B-878 S 1	0.3
0321	82-546-40B-879 S 1	0.6
0322	82-546-40B-880 S 1	1.4
0323	82-546-40B-881 S 1	0.5
0324	82-546-40B-882 S 1	0.4
0325	82-546-40B-883 S 1	0.7
0326	82-546-40B-884 S 1	1.0
0327	82-546-40B-885 S 1	1.1
0328	82-546-40B-886 S 1	0.8
0329	82-546-40B-887 S 1	0.6
0330	82-546-40B-888 S 1	1.2
0331	82-546-40B-889 S 1	0.5
0332	82-546-40B-890 S 1	L 0.1
0333	82-546-40B-891 S 1	1.2
0334	82-546-40B-892 S 1	L 0.1
0335	82-546-40B-893 S 1	0.9
0336	82-546-40B-894 S 1	0.6
0337	82-546-40B-895 S 1	0.1
0338	82-546-40B-896 S 1	L 0.1
0339	82-546-40B-897 S 1	0.1
0340	82-546-40B-898 S 1	0.1
0341	82-546-40B-899 S 1	0.5
0342	82-546-40B-900 S 1	0.5
0343	82-546-40B-901 S 1	1.3
0344	82-546-40B-902 S 1	3.0
0345	82-546-40B-903 S 1	0.9
0346	82-546-40B-904 S 1	0.5
0347	82-546-40B-905 S 1	1.2
0348	82-546-40B-906 S 1	0.7
0349	82-546-40B-907 S 1	1.3
0350	82-546-40B-908 S 1	1.3

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136 Industrial Road
Whitehorse, Yukon Territory Y1A 2V1
Phone (403) 667-6523
Telex 036-8-460

BONDAR-CLEGG

Geochemic
Lab Repo

CLIENT: ELDORADO
GEOLOGIST: HENNING, N   AGEOLOGIST: ,
NUMBER OF SAMPLES: 418   PRIORITY: P
REPORT NUMBER: G42-224
PROJECT: 546
DATE: AUGUST 11, 1982
SEE APPENDIX FOR EXPLANATION OF DIGESTION, ANALYSIS, SAMPLE TYPE, AND SIEVE SIZE CODES.

REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0351	82-546-40B-909 S 1	2.1
0352	82-546-40B-910 S 1	1.0
0353	82-546-40B-911 S 1	1.2
0354	82-546-40B-912 S 1	1.3
0355	82-546-40B-913 S 1	2.1
0356	82-546-40B-914 S 1	1.0
0357	82-546-40B-915 S 1	1.0
0358	82-546-40B-916 S 1	0.4
0359	82-546-40B-917 S 1	0.1
0360	82-546-40B-918 S 1	0.2
0361	82-546-40B-919 S 1	0.1
0362	82-546-40B-920 S 1	0.2
0363	82-546-40B-921 S 1	0.2
0364	82-546-40B-922 S 1	L 0.1
0365	82-546-40B-923 S 1	L 0.1
0366	82-546-40B-924 S 1	L 0.1
0367	82-546-40B-925 S 1	L 0.1
0368	82-546-40B-926 S 1	L 0.1
0369	82-546-40B-927 S 1	0.8
0370	82-546-40B-928 S 1	1.3
0371	82-546-40B-929 S 1	L 0.1
0372	82-546-40B-930 S 1	49.0
0373	82-546-40B-931 S 1	0.3
0374	82-546-40B-932 S 1	1.2
0375	82-546-40B-933 S 1	1.0
0376	82-546-40B-934 S 1	L 0.1
0377	82-546-40B-935 S 1	0.7
0378	82-546-40B-936 S 1	1.0
0379	82-546-40B-937 S 1	0.1
0380	82-546-425-048 S 1	0.1
0381	82-546-425-049 S 1	0.1
0382	82-546-425-050 S 1	0.5
0383	82-546-425-051 S 1	0.1
0384	82-546-425-052 S 1	0.4
0385	82-546-425-053 S 1	0.1

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BONDAR-CLEGG

Geochemical
Lab Report

CLIENT: ELDORADO
GEOLOGIST: HENNING, N AGEOLOGIST: ,
NUMBER OF SAMPLES: 418 PRIORITY: P
REPORT NUMBER: G42-224
PROJECT: 546
DATE: AUGUST 11, 1982
SEE APPENDIX FOR EXPLANATION OF DIGESTION, ANALYSIS, SAMPLE TYPE, AND SIEVE SIZE CODES.

REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0386	82-546-425-054 S 1	0.4
0387	82-546-425-055 S 1	0.9
0388	82-546-425-056 S 1	0.2
0389	82-546-425-057 S 1	2.1
0390	82-546-425-058 S 1	0.4
0391	82-546-425-059 S 1	0.8
0392	82-546-425-060 S 1	1.9
0393	82-546-425-061 S 1	0.8
0394	82-546-425-062 S 1	1.6
0395	82-546-425-063 S 1	1.5
0396	82-546-425-064 S 1	1.3
0397	82-546-425-065 S 1	0.8
0398	82-546-425-066 S 1	0.6
0399	82-546-425-067 S 1	0.6
0400	82-546-425-068 S 1	1.0
0401	82-546-425-069 S 1	0.8
0402	82-546-425-070 S 1	0.7
0403	82-546-425-071 S 1	0.3
0404	82-546-425-072 S 1	1.1
0405	82-546-425-073 S 1	0.8
0406	82-546-425-074 S 1	1.2
0407	82-546-425-075 S 1	0.7
0408	82-546-425-076 S 1	1.0

END

CLIENT: ELDORADO NUCLEAR
GEOLOGIST: WOLF, D   AGEOLOGIST: ,
NUMBER OF SAMPLES: 311   PRIORITY: P

REPORT NUMBER: G42-177
PROJECT: 546
DATE: JULY 28, 1982

SEE APPENDIX FOR EXPLANATION OF DIGESTION, ANALYSIS, SAMPLE TYPE, AND SIEVE SIZE CODES.

REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0001	82-546-40B-161 S 1	1.6
0002	82-546-40B-162 S 1	180.0
0003	82-546-40B-163 S 1	3.5
0004	82-546-40B-164 S 1	1.8
0005	82-546-40B-165 S 1	1.9
0006	82-546-40B-166 S 1	350.0
0007	82-546-40B-167 S 1	18.9
0008	82-546-40B-168 S 1	0.8
0009	82-546-40B-169 S 1	2.4
0010	82-546-40B-170 S 1	2.7
0011	82-546-40B-171 S 1	1.0
0012	82-546-40B-172 S 1	0.2
0013	82-546-40B-173 S 1	L 0.1
0014	82-546-40B-174 S 1	0.4
0015	82-546-40B-175 S 1	L 0.1
0016	82-546-40B-176 S 1	1.0
0017	82-546-40B-177 S 1	L 0.1
0018	82-546-40B-178 S 1	1.4
0019	82-546-40B-179 S 1	1.2
0020	82-546-40B-180 S 1	6.1
0021	82-546-40B-181 S 1	0.6
0022	82-546-40B-182 S 1	0.2
0023	82-546-40B-183 S 1	0.1
0024	82-546-40B-184 S 1	0.1
0025	82-546-40B-185 S 1	0.1
0026	82-546-40B-199 S 1	0.2
0027	82-546-40B-200 S 1	0.1
0028	82-546-40B-201 S 1	0.3
0029	82-546-40B-202 S 1	0.9
0030	82-546-40B-203 S 1	0.2
0031	82-546-40B-204 S 1	0.2
0032	82-546-40B-205 S 1	0.3
0033	82-546-40B-206 S 1	0.4
0034	82-546-40B-207 S 1	0.3
0035	82-546-40B-208 S 1	0.5

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CLIENT: ELDORADO NUCLEAR
GEOLOGIST: WOLF, D   AGEOLOGIST: ,
NUMBER OF SAMPLES: 311   PRIORITY: P
SEE APPENDIX FOR EXPLANATION OF DIGESTION, ANALYSIS, SAMPLE TYPE, AND SIEVE SIZE CODES.

REPORT NUMBER: G42-177
PROJECT: 546
DATE: JULY 28, 1982

REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0036	82-546-40B-209 S 1	0.5
0037	82-546-40B-210 S 1	0.1
0038	82-546-40B-211 S 1	2.4
0039	82-546-40B-212 S 1	0.1
0040	82-546-40B-213 S 1	0.7
0041	82-546-40B-214 S 1	0.2
0042	82-546-40B-215 S 1	0.2
0043	82-546-40B-216 S 1	0.1
0044	82-546-40B-217 S 1	0.2
0045	82-546-40B-218 S 1	0.1
0046	82-546-40B-219 S 1	0.4
0047	82-546-40B-220 S 1	0.2
0048	82-546-40B-221 S 1	0.1
0049	82-546-40B-222 S 1	0.3
0050	82-546-40B-223 S 1	0.1
0051	82-546-40B-224 S 1	0.5
0052	82-546-40B-225 S 1	0.2
0053	82-546-40B-226 S 1	1.3
0054	82-546-40B-227 S 1	0.5
0055	82-546-40B-228 S 1	2.0
0056	82-546-40B-229 S 1	0.2
0057	82-546-40B-230 S 1	0.4
0058	82-546-40B-231 S 1	0.1
0059	82-546-40B-232 S 1	0.9
0060	82-546-40B-233 S 1	5.8
0061	82-546-40B-234 S 1	1.2
0062	82-546-40B-235 S 1	1.0
0063	82-546-40B-236 S 1	21.0
0064	82-546-40B-237 S 1	7.6
0065	82-546-40B-238 S 1	4.0
0066	82-546-40B-239 S 1	0.1
0067	82-546-40B-240 S 1	0.4
0068	82-546-40B-241 S 1	L 0.1
0069	82-546-40B-242 S 1	1.1
0070	82-546-40B-243 S 1	1.0

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CLIENT: ELDORADO NUCLEAR
GEOLOGIST: WOLF, D   AGEOLOGIST: ,
NUMBER OF SAMPLES: 311   PRIORITY: P
SEE APPENDIX FOR EXPLANATION OF DIGESTION, ANALYSIS, SAMPLE TYPE, AND SIEVE SIZE CODES.

REPORT NUMBER: G42-177
PROJECT: 546
DATE: JULY 28, 1982

REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0071	82-546-40B-244 S 1	1.2
0072	82-546-40B-245 S 1	1.1
0073	82-546-40B-246 S 1	0.2
0074	82-546-40B-247 S 1	0.2
0075	82-546-40B-248 S 1	0.2
0076	82-546-40B-249 S 1	0.1
0077	82-546-40B-250 S 1	0.8
0078	82-546-40B-251 S 1	0.8
0079	82-546-40B-252 S 1	0.4
0080	82-546-40B-253 S 1	0.4
0081	82-546-40B-254 S 1	1.2
0082	82-546-40B-255 S 1	2.0
0083	82-546-40B-256 S 1	0.8
0084	82-546-40B-257 S 1	1.0
0085	82-546-40B-258 S 1	0.4
0086	82-546-40B-259 S 1	0.2
0087	82-546-40B-260 S 1	0.1
0088	82-546-40B-261 S 1	0.8
0089	82-546-40B-262 S 1	0.1
0090	82-546-40B-263 S 1	L 0.1
0091	82-546-40B-264 S 1	0.1
0092	82-546-40B-265 S 1	L 0.1
0093	82-546-40B-266 S 1	L 0.1
0094	82-546-40B-267 S 1	0.5
0095	82-546-40B-268 S 1	0.1
0096	82-546-40B-269 S 1	0.2
0097	82-546-40B-270 S 1	0.8
0098	82-546-40B-271 S 1	0.9
0099	82-546-40B-272 S 1	0.2
0100	82-546-40B-273 S 1	1.4
0101	82-546-40B-274 S 1	0.2
0102	82-546-40B-275 S 1	0.6
0103	82-546-40B-276 S 1	1.0
0104	82-546-40B-277 S 1	0.6
0105	82-546-40B-278 S 1	1.2

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CLIENT: ELDORADO NUCLEAR
GEOLOGIST: WOLF, D   AGEOLOGIST: ,
NUMBER OF SAMPLES: 311   PRIORITY: P

REPORT NUMBER: G42-177
PROJECT: 546
DATE: JULY 28, 1982

SEE APPENDIX FOR EXPLANATION OF DIGESTION, ANALYSIS, SAMPLE TYPE, AND SIEVE SIZE CODES.

REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0106	82-546-40B-279 S 1	1.3
0107	82-546-40B-280 S 1	0.4
0108	82-546-40B-281 S 1	0.2
0109	82-546-40B-282 S 1	0.6
0110	82-546-40B-283 S 1	1.7
0111	82-546-40B-284 S 1	0.2
0112	82-546-40B-285 S 1	0.1
0113	82-546-40B-286 S 1	1.0
0114	82-546-40B-287 S 1	0.1
0115	82-546-40B-288 S 1	L 0.1
0116	82-546-40B-289 S 1	0.1
0117	82-546-40B-290 S 1	0.4
0118	82-546-40B-291 S 1	1.6
0119	82-546-40B-292 S 1	1.0
0120	82-546-40B-293 S 1	0.2
0121	82-546-40B-294 S 1	0.3
0122	82-546-40B-295 S 1	1.5
0123	82-546-40B-296 S 1	2.2
0124	82-546-40B-297 S 1	2.4
0125	82-546-40B-298 S 1	0.2
0126	82-546-40B-299 S 1	0.8
0127	82-546-40B-300 S 1	0.8
0128	82-546-40B-301 S 1	0.8
0129	82-546-40B-302 S 1	1.0
0130	82-546-40B-303 S 1	1.4
0131	82-546-40B-304 S 1	2.4
0132	82-546-40B-305 S 1	1.2
0133	82-546-40B-306 S 1	0.3
0134	82-546-40B-307 S 1	0.2
0135	82-546-40B-308 S 1	3.6
0136	82-546-40B-309 S 1	2.8
0137	82-546-40B-310 S 1	1.3
0138	82-546-40B-311 S 1	1.4
0139	82-546-40B-312 S 1	3.0
0140	82-546-40B-313 S 1	2.0

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CLIENT: ELDORADO NUCLEAR
GEOLOGIST: WOLF, D   AGEOLOGIST: ,
NUMBER OF SAMPLES: 311   PRIORITY: P
REPORT NUMBER: G42-177
PROJECT: 546
DATE: JULY 28, 1982
SEE APPENDIX FOR EXPLANATION OF DIGESTION, ANALYSIS, SAMPLE TYPE, AND SIEVE SIZE CODES.

REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0141	82-546-40B-314 S 1	0.8
0142	82-546-40B-315 S 1	0.4
0143	82-546-40B-316 S 1	0.9
0144	82-546-40B-317 S 1	1.7
0145	82-546-40B-318 S 1	1.7
0146	82-546-40B-319 S 1	9.8
0147	82-546-40B-320 S 1	1.4
0148	82-546-40B-321 S 1	0.8
0149	82-546-40B-322 S 1	0.6
0150	82-546-40B-323 S 1	0.4
0151	82-546-40B-324 S 1	0.8
0152	82-546-40B-325 S 1	0.7
0153	82-546-40B-326 S 1	2.2
0154	82-546-40B-327 S 1	0.8
0155	82-546-40B-328 S 1	0.1
0156	82-546-40B-329 S 1	0.2
0157	82-546-40B-330 S 1	L 0.1
0158	82-546-40B-331 S 1	L 0.1
0159	82-546-40B-332 S 1	1.3
0160	82-546-40B-333 S 1	L 0.1
0161	82-546-40B-334 S 1	0.6
0162	82-546-40B-335 S 1	L 0.1
0163	82-546-40B-336 S 1	1.6
0164	82-546-40B-337 S 1	1.2
0165	82-546-40B-338 S 1	L 0.1
0166	82-546-40B-339 S 1	1.0
0167	82-546-40B-340 S 1	0.5
0168	82-546-40B-341 S 1	0.1
0169	82-546-40B-342 S 1	0.1
0170	82-546-40B-343 S 1	2.0
0171	82-546-40B-344 S 1	2.1
0172	82-546-40B-345 S 1	1.2
0173	82-546-40B-346 S 1	0.4
0174	82-546-40B-347 S 1	0.4
0175	82-546-40B-348 S 1	0.7

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CLIENT: ELDORADO NUCLEAR
GEOLOGIST: WOLF, D   AGEOLOGIST: ,
NUMBER OF SAMPLES: 311   PRIORITY: P
SEE APPENDIX FOR EXPLANATION OF DIGESTION, ANALYSIS, SAMPLE TYPE, AND SIEVE SIZE CODES.

REPORT NUMBER: G42-177
PROJECT: 546
DATE: JULY 28, 1982

REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0176	82-546-40B-349 S 1	0.3
0177	82-546-40B-350 S 1	0.2
0178	82-546-40B-351 S 1	0.2
0179	82-546-40B-352 S 1	L 0.1
0180	82-546-40B-353 S 1	0.1
0181	82-546-40B-354 S 1	0.6
0182	82-546-40B-355 S 1	L 0.1
0183	82-546-40B-356 S 1	L 0.1
0184	82-546-40B-357 S 1	2.8
0185	82-546-40B-358 S 1	2.6
0186	82-546-40B-359 S 1	1.4
0187	82-546-40B-360 S 1	0.5
0188	82-546-40B-361 S 1	0.1
0189	82-546-40B-362 S 1	L 0.1
0190	82-546-40B-363 S 1	0.2
0191	82-546-40B-364 S 1	0.4
0192	82-546-40B-365 S 1	1.0
0193	82-546-40B-366 S 1	0.1
0194	82-546-40B-367 S 1	1.4
0195	82-546-40B-368 S 1	0.7
0196	82-546-40B-369 S 1	0.4
0197	82-546-40B-370 S 1	L 0.1
0198	82-546-40B-371 S 1	0.2
0199	82-546-40B-372 S 1	0.4
0200	82-546-40B-373 S 1	4.0
0201	82-546-40B-374 S 1	1.8
0202	82-546-40B-375 S 1	3.0
0203	82-546-40B-376 S 1	1.0
0204	82-546-40B-377 S 1	0.2
0205	82-546-40B-378 S 1	0.1
0206	82-546-40B-379 S 1	L 0.1
0207	82-546-40B-380 S 1	2.3
0208	82-546-40B-381 S 1	0.2
0209	82-546-40B-382 S 1	0.2
0210	82-546-40B-383 S 1	0.5

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CLIENT: ELDORADO NUCLEAR
GEOLOGIST: WOLF, D AGEOLOGIST: ,
NUMBER OF SAMPLES: 311 PRIORITY: P
SEE APPENDIX FOR EXPLANATION OF DIGESTION, ANALYSIS, SAMPLE TYPE, AND SIEVE SIZE CODES.

REPORT NUMBER: G42-177
PROJECT: 546
DATE: JULY 28, 1982

REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0211	82-546-40B-384 S 1	L 0.1
0212	82-546-40B-385 S 1	0.7
0213	82-546-40B-386 S 1	0.7
0214	82-546-40B-387 S 1	0.1
0215	82-546-40B-388 S 1	L 0.1
0216	82-546-40B-389 S 1	L 0.1
0217	82-546-40B-390 S 1	L 0.1
0218	82-546-40B-391 S 1	0.8
0219	82-546-40B-392 S 1	L 0.1
0220	82-546-40B-393 S 1	0.4
0221	82-546-40B-394 S 1	0.6
0222	82-546-40B-395 S 1	L 0.1
0223	82-546-40B-396 S 1	L 0.1
0224	82-546-40B-397 S 1	0.3
0225	82-546-40B-398 S 1	0.8
0226	82-546-40B-399 S 1	0.2
0227	82-546-40B-400 S 1	0.4
0228	82-546-40B-401 S 1	L 0.1
0229	82-546-40B-402 S 1	0.1
0230	82-546-40B-403 S 1	L 0.1
0231	82-546-40B-404 S 1	L 0.1
0232	82-546-40B-405 S 1	L 0.1
0233	82-546-40B-406 S 1	L 0.1
0234	82-546-40B-407 S 1	L 0.1
0235	82-546-40B-408 S 1	L 0.1
0236	82-546-40B-409 S 1	L 0.1
0237	82-546-40B-410 S 1	0.6
0238	82-546-40B-411 S 1	L 0.1
0239	82-546-40B-412 S 1	0.5
0240	82-546-40B-413 S 1	0.2
0241	82-546-40B-414 S 1	0.3
0242	82-546-40B-415 S 1	0.9
0243	82-546-40B-416 S 1	1.0
0244	82-546-40B-417 S 1	0.4
0245	82-546-40B-418 S 1	0.5

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CLIENT: ELDORADO NUCLEAR
GEOLOGIST: WOLF, D   AGEOLOGIST: ,
NUMBER OF SAMPLES: 311   PRIORITY: P
SEE APPENDIX FOR EXPLANATION OF DIGESTION, ANALYSIS, SAMPLE TYPE, AND SIEVE SIZE CODES.

REPORT NUMBER: G42-177
PROJECT: 546
DATE: JULY 28, 1982

REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0246	82-546-40B-419 S 1	0.7
0247	82-546-40B-420 S 1	0.4
0248	82-546-40B-421 S 1	0.6
0249	82-546-40B-422 S 1	0.7
0250	82-546-40B-423 S 1	0.2
0251	82-546-40B-424 S 1	0.6
0252	82-546-40B-425 S 1	0.4
0253	82-546-40B-426 S 1	0.2
0254	82-546-40B-427 S 1	2.3
0255	82-546-40B-428 S 1	1.5
0256	82-546-40B-429 S 1	0.3
0257	82-546-40B-430 S 1	L 0.1
0258	82-546-40B-431 S 1	L 0.1
0259	82-546-40B-432 S 1	L 0.1
0260	82-546-40B-433 S 1	L 0.1
0261	82-546-40B-434 S 1	0.8
0262	82-546-40B-435 S 1	1.0
0263	82-546-40B-436 S 1	L 0.1
0264	82-546-40B-437 S 1	L 0.1
0265	82-546-40B-438 S 1	L 0.1
0266	82-546-40B-439 S 1	L 0.1
0267	82-546-40B-440 S 1	0.2
0268	82-546-40B-441 S 1	0.9
0269	82-546-40B-442 S 1	0.7
0270	82-546-40B-443 S 1	0.2
0271	82-546-40B-444 S 1	0.1
0272	82-546-40B-445 S 1	0.5
0273	82-546-40B-446 S 1	0.4
0274	82-546-40B-447 S 1	1.0
0275	82-546-40B-448 S 1	1.2
0276	82-546-40B-449 S 1	3.1
0277	82-546-40B-450 S 1	0.8
0278	82-546-40B-451 S 1	1.5
0279	82-546-40B-452 S 1	0.8
0280	82-546-40B-453 S 1	2.3

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CLIENT: ELDORADO NUCLEAR
GEOLOGIST: WOLF, D   AGEOLOGIST: ,
NUMBER OF SAMPLES: 311   PRIORITY: P
REPORT NUMBER: G42-177
PROJECT: 546
DATE: JULY 28, 1982
SEE APPENDIX FOR EXPLANATION OF DIGESTION, ANALYSIS, SAMPLE TYPE, AND SIEVE SIZE CODES.

REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0281	82-546-40B-454 S 1	1.2
0282	82-546-40B-455 S 1	0.8
0283	82-546-40B-456 S 1	0.5
0284	82-546-40B-457 S 1	0.8
0285	82-546-40B-458 S 1	0.3
0286	82-546-40B-459 S 1	0.1
0287	82-546-40B-460 S 1	0.3
0288	82-546-40B-461 S 1	0.2
0289	82-546-40B-462 S 1	1.2
0290	82-546-40B-463 S 1	1.2
0291	82-546-40B-464 S 1	2.0
0292	82-546-40B-465 S 1	1.8
0293	82-546-40B-466 S 1	1.5
0294	82-546-40B-467 S 1	0.6
0295	82-546-40B-468 S 1	0.6
0296	82-546-40B-469 S 1	0.3
0297	82-546-40B-470 S 1	0.4
0298	82-546-40B-471 S 1	0.8
0299	82-546-40B-472 S 1	1.2
0300	82-546-40B-473 S 1	1.0
0301	82-546-40B-474 S 1	1.1
0302	82-546-40B-475 S 1	0.4
0303	82-546-40B-476 S 1	0.1
0304	82-546-40B-477 S 1	1.2
0305	82-546-42S-001 S 1	0.7
0306	82-546-42S-002 S 1	2.3
0307	82-546-42S-003 S 1	0.7
0308	82-546-42S-004 S 1	0.6
0309	82-546-42S-005 S 1	0.6
0310	82-546-42S-009 S 1	1.0
0311	82-546-42S-010 S 1	0.8

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Soils 478-730
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40-47

CLIENT: ELDORADO REPORT NUMBER: G42-198
GEOLOGIST: , AGEOLOGIST: , PROJECT: 546
NUMBER OF SAMPLES: 290 PRIORITY: P DATE: AUGUST 02, 1982
SEE APPENDIX FOR EXPLANATION OF DIGESTION, ANALYSIS, SAMPLE TYPE, AND SIEVE SIZE CODES.

REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0001	82-546-425-11 S 1	0.2
0002	82-546-425-12 S 1	0.1
0003	82-546-425-13 S 1	0.1
0004	82-546-425-14 S 1	0.9
0005	82-546-425-15 S 1	1.0
0006	82-546-425-16 S 1	1.8
0007	82-546-425-17 S 1	1.0
0008	82-546-425-18 S 1	1.8
0009	82-546-425-19 S 1	0.8
0010	82-546-425-20 S 1	0.4
0011	82-546-425-21 S 1	0.9
0012	82-546-425-22 S 1	1.8
0013	82-546-425-23 S 1	1.6
0014	82-546-425-24 S 1	1.2
0015	82-546-425-25 S 1	0.7
0016	82-546-425-26 S 1	1.6
0017	82-546-425-27 S 1	0.8
0018	82-546-425-28 S 1	0.1
0019	82-546-425-29 S 1	0.2
0020	82-546-425-30 S 1	0.9
0021	82-546-425-31 S 1	0.3
0022	82-546-425-32 S 1	0.4
0023	82-546-425-33 S 1	0.8
0024	82-546-425-34 S 1	0.4
0025	82-546-425-35 S 1	0.8
0026	82-546-425-36 S 1	1.8
0027	82-546-425-37 S 1	1.1
0028	82-546-425-38 S 1	0.3
0029	82-546-425-40 S 1	0.1
0030	82-546-425-41 S 1	1.5
0031	82-546-425-42 S 1	0.4
0032	82-546-425-43 S 1	0.1
0033	82-546-425-44 S 1	0.1
0034	82-546-425-45 S 1	0.2
0035	82-546-425-46 S 1	0.4

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CLIENT: ELDORADO
GEOLOGIST: ,
NUMBER OF SAMPLES: 290
SEE APPENDIX FOR EXPLANATION OF DIGESTION, ANALYSIS, SAMPLE TYPE, AND SIEVE SIZE CODES.

AGEOLOGIST: ,
PRIORITY: P

REPORT NUMBER: G42-198
PROJECT: 546
DATE: AUGUST 02, 1982

REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0036	82-546-425-47 S 1 ✓ (← 425 ?)	1.4
0037	82-546-40B-478 S 1 ✓	2.1
0038	82-546-40B-479 S 1 ✓	0.9
0039	82-546-40B-480 S 1	1.4
0040	82-546-40B-481 S 1	0.4
0042	82-546-40B-482 S 1 ✓	0.4
0043	82-546-40B-483 S 1	1.5
0044	82-546-40B-484 S 1	1.9
0045	82-546-40B-485 S 1 ✓	1.3
0046	82-546-40B-486 S 1 ✓	0.8
0047	82-546-40B-487 S 1	0.4
0048	82-546-40B-488 S 1	0.6
0049	82-546-40B-489 S 1	0.1
0050	82-546-40B-490 S 1 ✓	L 0.1
0051	82-546-40B-491 S 1	0.1
0052	82-546-40B-492 S 1 ✓	0.6
0053	82-546-40B-493 S 1	0.6
0054	82-546-40B-494 S 1	0.4
0055	82-546-40B-495 S 1	0.2
0056	82-546-40B-496 S 1	0.3
0057	82-546-40B-497 S 1	L 0.1
0058	82-546-40B-498 S 1	L 0.1
0059	82-546-40B-499 S 1	0.2
0060	82-546-40B-500 S 1	0.4
0061	82-546-40B-501 S 1	0.2
0062	82-546-40B-502 S 1	L 0.1
0063	82-546-40B-503 S 1	0.4
0064	82-546-40B-504 S 1	1.8
0065	82-546-40B-505 S 1	5.2
0066	82-546-40B-506 S 1	0.6
0067	82-546-40B-507 S 1	0.2
0068	82-546-40B-508 S 1	0.6
0069	82-546-40B-509 S 1	0.4
0070	82-546-40B-510 S 1	1.2
0071	82-546-40B-511 S 1	1.8

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CLIENT: ELDORADO
REPORT NUMBER: G42-198
GEOLOGIST: ,
AGEOLOGIST: ,
PROJECT: 546
NUMBER OF SAMPLES: 290
PRIORITY: P
DATE: AUGUST 02, 1982

SEE APPENDIX FOR EXPLANATION OF DIGESTION, ANALYSIS, SAMPLE TYPE, AND SIEVE SIZE CODES.

REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0072	82-546-40B-512 S 1 ✓	0.6
0073	82-546-40B-513 S 1 ✓	0.8
0074	82-546-40B-514 S 1 ✓	0.3
0075	82-546-40B-515 S 1 ✓	1.0
0076	82-546-40B-516 S 1 ✓	0.2
0077	82-546-40B-517 S 1 ✓	0.2
0078	82-546-40B-518 S 1 ✓	0.2
0079	82-546-40B-519 S 1 ✓	0.8
0080	82-546-40B-520 S 1 ✓	1.8
0081	82-546-40B-521 S 1 ✓	1.3
0082	82-546-40B-522 S 1 ✓	1.2
0083	82-546-40B-523 S 1 ✓	0.7
0084	82-546-40B-524 S 1 ✓	4.7
0085	82-546-40B-525 S 1 ✓	8.2
0086	82-546-40B-526 S 1 ✓	1.0
0087	82-546-40B-527 S 1 ✓	1.0
0088	82-546-40B-528 S 1 ✓	0.5
0089	82-546-40B-529 S 1 ✓	0.6
0090	82-546-40B-530 S 1 ✓	1.4
0091	82-546-40B-531 S 1 ✓	0.3
0092	82-546-40B-532 S 1 ✓	0.8
0093	82-546-40B-533 S 1 ✓	0.4
0094	82-546-40B-534 S 1 ✓	0.8
0095	82-546-40B-535 S 1 ✓	1.0
0096	82-546-40B-536 S 1 ✓	0.9
0097	82-546-40B-537 S 1 ✓	0.6
0098	82-546-40B-538 S 1 ✓	0.4
0099	82-546-40B-539 S 1 ✓	1.0
0100	82-546-40B-540 S 1 ✓	0.8
0101	82-546-40B-541 S 1 ✓	0.7
0102	82-546-40B-542 S 1 ✓	0.7
0103	82-546-40B-543 S 1 ✓	0.5
0104	82-546-40B-544 S 1 ✓	L 0.1
0105	82-546-40B-545 S 1 ✓	L 0.1
0106	82-546-40B-546 S 1 ✓	L 0.1

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CLIENT: ELDORADO | REPORT NUMBER: G42-198
GEOLOGIST: , | AGEOLOGIST: , | PROJECT: 546
NUMBER OF SAMPLES: 290 | PRIORITY: P | DATE: AUGUST 02, 1982

SEE APPENDIX FOR EXPLANATION OF DIGESTION, ANALYSIS, SAMPLE TYPE, AND SIEVE SIZE CODES.

REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0107	82-546-40B-547 S 1	L 0.1
0108	82-546-40B-548 S 1	L 0.1
0109	82-546-40B-549 S 1	0.2
0110	82-546-40B-550 S 1	0.5
0111	82-546-40B-551 S 1	0.3
0112	82-546-40B-552 S 1	0.2
0113	82-546-40B-553 S 1	L 0.1
0114	82-546-40B-554 S 1	L 0.1
0115	82-546-40B-555 S 1	0.3
0116	82-546-40B-556 S 1	0.4
0117	82-546-40B-557 S 1	5.1
0118	82-546-40B-558 S 1	1.2
0119	82-546-40B-559 S 1	0.6
0120	82-546-40B-560 S 1	L 0.1
0121	82-546-40B-561 S 1	0.1
0122	82-546-40B-562 S 1	L 0.1
0123	82-546-40B-563 S 1	0.2
0124	82-546-40B-564 S 1	0.3
0125	82-546-40B-565 S 1	0.5
0126	82-546-40B-566 S 1	0.7
0127	82-546-40B-567 S 1	0.4
0128	82-546-40B-568 S 1	0.3
0129	82-546-40B-569 S 1	1.0
0130	82-546-40B-570 S 1	0.9
0131	82-546-40B-571 S 1	0.6
0132	82-546-40B-572 S 1	0.8
0133	82-546-40B-573 S 1	1.5
0134	82-546-40B-574 S 1	0.4
0135	82-546-40B-575 S 1	0.4
0136	82-546-40B-576 S 1	0.6
0137	82-546-40B-577 S 1	0.3
0138	82-546-40B-578 S 1	0.2
0139	82-546-40B-579 S 1	0.4
0140	82-546-40B-580 S 1	1.1
0141	82-546-40B-581 S 1	0.8

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CLIENT: ELDORADO
REPORT NUMBER: G42-198
GEOLOGIST: ,
AGEOLOGIST: ,
PROJECT: 546
NUMBER OF SAMPLES: 290
PRIORITY: P
DATE: AUGUST 02, 1982
SEE APPENDIX FOR EXPLANATION OF DIGESTION, ANALYSIS, SAMPLE TYPE, AND SIEVE SIZE CODES.

REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0142	82-546-40B-582 S 1	1.0
0143	82-546-40B-583 S 1	1.3
0144	82-546-40B-584 S 1	0.8
0145	82-546-40B-585 S 1	0.5
0146	82-546-40B-586 S 1	0.3
0147	82-546-40B-587 S 1	1.6
0148	82-546-40B-588 S 1	1.8
0149	82-546-40B-589 S 1	4.0
0150	82-546-40B-590 S 1	3.1
0151	82-546-40B-591 S 1	5.5
0152	82-546-40B-592 S 1	1.2
0153	82-546-40B-593 S 1	0.4
0154	82-546-40B-594 S 1	0.4
0155	82-546-40B-595 S 1	0.5
0156	82-546-40B-596 S 1	1.2
0157	82-546-40B-597 S 1	0.6
0158	82-546-40B-598 S 1	L 0.1
0159	82-546-40B-599 S 1	0.4
0160	82-546-40B-600 S 1	0.8
0161	82-546-40B-601 S 1	0.3
0162	82-546-40B-602 S 1	1.0
0163	82-546-40B-603 S 1	L 0.1
0164	82-546-40B-604 S 1	0.3
0165	82-546-40B-605 S 1	0.4
0166	82-546-40B-606 S 1	L 0.1
0167	82-546-40B-607 S 1	0.2
0168	82-546-40B-608 S 1	L 0.1
0169	82-546-40B-609 S 1	0.1
0170	82-546-40B-610 S 1	L 0.1
0171	82-546-40B-611 S 1	L 0.1
0172	82-546-40B-612 S 1	0.5
0173	82-546-40B-613 S 1	0.6
0174	82-546-40B-614 S 1	0.5
0175	82-546-40B-615 S 1	1.0
0176	82-546-40B-616 S 1	1.1

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CLIENT: ELDORADO
GEOLOGIST: ,
AGEOLOGIST: ,
NUMBER OF SAMPLES: 290
PRIORITY: P
REPORT NUMBER: G42-198
PROJECT: 546
DATE: AUGUST 02, 1982
SEE APPENDIX FOR EXPLANATION OF DIGESTION, ANALYSIS, SAMPLE TYPE, AND SIEVE SIZE CODES.

REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0177	82-546-40B-617 S 1	0.6
0178	82-546-40B-618 S 1	0.8
0179	82-546-40B-619 S 1	2.4
0180	82-546-40B-620 S 1	1.1
0181	82-546-40B-621 S 1	1.3
0182	82-546-40B-622 S 1	1.6
0183	82-546-40B-623 S 1	1.8
0184	82-546-40B-624 S 1	0.8
0185	82-546-40B-625 S 1	1.0
0186	82-546-40B-626 S 1	0.4
0187	82-546-40B-627 S 1	0.4
0188	82-546-40B-628 S 1	0.2
0189	82-546-40B-629 S 1	L 0.1
0190	82-546-40B-630 S 1	0.2
0191	82-546-40B-631 S 1	0.3
0192	82-546-40B-632 S 1	1.1
0193	82-546-40B-633 S 1	L 0.1
0194	82-546-40B-634 S 1	0.2
0195	82-546-40B-635 S 1	L 0.1
0196	82-546-40B-636 S 1	0.1
0197	82-546-40B-637 S 1	0.4
0198	82-546-40B-638 S 1	0.1
0199	82-546-40B-639 S 1	0.4
0200	82-546-40B-640 S 1	0.3
0201	82-546-40B-641 S 1	1.6
0202	82-546-40B-642 S 1	0.2
0203	82-546-40B-643 S 1	0.4
0204	82-546-40B-644 S 1	0.6
0205	82-546-40B-645 S 1	0.1
0206	82-546-40B-646 S 1	0.7
0207	82-546-40B-647 S 1	0.6
0208	82-546-40B-648 S 1	1.1
0209	82-546-40B-649 S 1	0.7
0210	82-546-40B-650 S 1	0.8
0211	82-546-40B-651 S 1	1.3

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CLIENT: ELDORADO
GEOLOGIST: ,
NUMBER OF SAMPLES: 290
SEE APPENDIX FOR EXPLANATION OF DIGESTION, ANALYSIS, SAMPLE TYPE, AND SIEVE SIZE CODES.

AGEOLOGIST: ,
PRIORITY: P

REPORT NUMBER: G42-198
PROJECT: 546
DATE: AUGUST 02, 1982

REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0212	82-546-40B-652 S 1 ✓	2.4
0213	82-546-40B-653 S 1	0.7
0214	82-546-40B-654 S 1	0.4
0215	82-546-40B-655 S 1 ✓	1.2
0216	82-546-40B-656 S 1 ✓	1.8
0217	82-546-40B-657 S 1	1.7
0218	82-546-40B-658 S 1 ✓	2.0
0219	82-546-40B-659 S 1	0.9
0220	82-546-40B-660 S 1	0.3
0221	82-546-40B-661 S 1 ✓	0.7
0222	82-546-40B-662 S 1	0.5
0223	82-546-40B-663 S 1 ✓	1.7
0224	82-546-40B-664 S 1	1.8
0225	82-546-40B-665 S 1 ✓	2.1
0226	82-546-40B-666 S 1 ✓	2.3
0227	82-546-40B-667 S 1	1.0
0228	82-546-40B-668 S 1	1.1
0229	82-546-40B-669 S 1 ✓	1.4
0230	82-546-40B-670 S 1 ✓	1.0
0231	82-546-40B-671 S 1	0.4
0232	82-546-40B-672 S 1	0.5
0233	82-546-40B-673 S 1	1.4
0234	82-546-40B-674 S 1	0.2
0235	82-546-40B-675 S 1	1.2
0236	82-546-40B-676 S 1	1.4
0237	82-546-40B-677 S 1	2.6
0238	82-546-40B-678 S 1	6.5
0239	82-546-40B-679 S 1	1.3
0240	82-546-40B-680 S 1	1.2
0241	82-546-40B-681 S 1	0.4
0242	82-546-40B-682 S 1	1.3
0243	82-546-40B-683 S 1	1.4
0244	82-546-40B-684 S 1	2.2
0245	82-546-40B-685 S 1	2.4
0246	82-546-40B-686 S 1 ✓	2.1

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CLIENT: ELDORADO
GEOLOGIST: ,
AGEOLOGIST: ,
NUMBER OF SAMPLES: 290
PRIORITY: P
REPORT NUMBER: G42-198
PROJECT: 546
DATE: AUGUST 02, 1982

SEE APPENDIX FOR EXPLANATION OF DIGESTION, ANALYSIS, SAMPLE TYPE, AND SIEVE SIZE CODES.

REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0247	82-546-40B-687 S 1	2.4
0248	82-546-40B-688 S 1	5.5
0249	82-546-40B-689 S 1	2.0
0250	82-546-40B-690 S 1	1.8
0251	82-546-40B-691 S 1	1.8
0252	82-546-40B-692 S 1	0.4
0253	82-546-40B-693 S 1	2.8
0254	82-546-40B-694 S 1	0.8
0255	82-546-40B-695 S 1	0.9
0256	82-546-40B-696 S 1	1.3
0257	82-546-40B-697 S 1	0.1
0258	82-546-40B-698 S 1	L 0.1
0259	82-546-40B-699 S 1	1.6
0260	82-546-40B-700 S 1	0.8
0261	82-546-40B-701 S 1	0.1
0262	82-546-40B-702 S 1	0.1
0263	82-546-40B-703 S 1	0.6
0264	82-546-40B-704 S 1	2.3
0265	82-546-40B-705 S 1	1.7
0266	82-546-40B-706 S 1	0.4
0267	82-546-40B-707 S 1	L 0.1
0268	82-546-40B-708 S 1	0.4
0269	82-546-40B-709 S 1	0.3
0270	82-546-40B-710 S 1	L 0.1
0271	82-546-40B-711 S 1	L 0.1
0272	82-546-40B-712 S 1	1.2
0273	82-546-40B-713 S 1	L 0.1
0274	82-546-40B-714 S 1	0.4
0275	82-546-40B-715 S 1	0.5
0276	82-546-40B-716 S 1	1.5
0277	82-546-40B-717 S 1	1.2
0278	82-546-40B-718 S 1	0.8
0279	82-546-40B-719 S 1	1.1
0280	82-546-40B-720 S 1	0.8
0281	82-546-40B-721 S 1	0.5

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CLIENT: ELDORADO
GEOLOGIST: ,
AGEOLOGIST: ,
REPORT NUMBER: G42-198
PROJECT: 546
NUMBER OF SAMPLES: 290
PRIORITY: P
DATE: AUGUST 02, 1982
SEE APPENDIX FOR EXPLANATION OF DIGESTION, ANALYSIS, SAMPLE TYPE, AND SIEVE SIZE CODES.

REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0282	82-546-40B-722 S 1	0.2
0283	82-546-40B-723 S 1	0.3
0284	82-546-40B-724 S 1	0.8
0285	82-546-40B-725 S 1	0.6
0286	82-546-40B-726 S 1	0.7
0287	82-546-40B-727 S 1	1.2
0288	82-546-40B-728 S 1	0.7
0289	82-546-40B-729 S 1	0.6
0290	82-546-40B-730 S 1 ✓	0.4

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CLIENT: ELDORADO NUCLEAR LTD.
GEOLOGIST: CRUICKSHAN, R AGEOLOGIST: ,
NUMBER OF SAMPLES: 10 PRIORITY: P
SEE APPENDIX FOR EXPLANATION OF DIGESTION, ANALYSIS, SAMPLE TYPE, AND SIEVE SIZE CODES.

REPORT NUMBER: G42-178
PROJECT: 546
DATE: JULY 13, 1982

REC# /	SAMPLE NUMBER / T/ S	U /G3 PPB
0001	82-546-42W-1 W X	0 .52
0002	82-546-42W-2 W X	0.59
0003	82-546-42W-3 W X	0.90
0004	82-546-42W-4 W X	1.16
0005	82-546-42W-5 W X	0.62
0006	82-546-42W-6 W X	0.12
0007	82-546-42W-7 W X	0.08
0008	82-546-42W-8 W X	0.08
0009	82-546-42W-9 W X	0.11
0010	82-546-42W10 W X	0.22

---END---

DPR#6

CLIENT: ELDORADO NUCLEAR LTD
GEOLOGIST: CRUICKSHAN, R AGEOLOGIST: ,
NUMBER OF SAMPLES: 35 PRIORITY: P
SEE APPENDIX FOR EXPLANATION OF DIGESTION, ANALYSIS, SAMPLE TYPE, AND SIEVE SIZE CODES.

REPORT NUMBER: G42-197
PROJECT: 546
DATE: JULY 22, 1982

REC# /	SAMPLE NUMBER / T/ S	U/G3 PPM
0001	82-546-42W11 W X	0.20
0002	82-546-42W12 W X	0.17
0003	82-546-42W13 W X	0.05
0004	82-546-42W14 W X	0.24
0005	82-546-42W15 W X	0.12
0006	82-546-42W16 W X	0.17
0007	82-546-42W17 W X	0.05
0008	82-546-42W18 W X	0.14
0009	82-546-42W19 W X	0.28
0010	82-546-42W20 W X	0.20
0011	82-546-42W21 W X	0.32
0012	82-546-42W22 W X	0.46
0013	82-546-42W23 W X	0.44
0014	82-546-42W24 W X	0.25
0015	82-546-42W25 W X	0.20
0016	82-546-42W26 W X	0.20
0017	82-546-42W27 W X	0.36
0018	82-546-42W28 W X	0.18
0019	82-546-42W29 W X	0.12
0020	82-546-42W30 W X	0.16
0021	82-546-42W31 W X	0.15
0022	82-546-42W32 W X	0.22
0023	82-546-42W33 W X	0.44
0024	82-546-42W34 W X	0.27
0025	82-546-42W35 W X	0.70
0026	82-546-42W36 W X	0.58
0027	82-546-42W37 W X	0.02
0028	82-546-42W38 W X	0.20
0029	82-546-42W41 W X	0.02
0030	82-546-42W42 W X	0.12
0031	82-546-42W43 W X	0.23
0032	82-546-42W44 W X	0.24
0033	82-546-42W45 W X	0.24
0034	82-546-42W46 W X	0.51
0035	82-546-42W47 W X	0.22

170482 170482

170482
170482

Bondar-Clegg & Company Ltd.
136 Industrial Road
Whitehorse, Yukon Territory Y1A 2V1
Phone (403) 667-6523
Telex 036-8-460

BONDAR-CLEGG

Geochem
Lab Re

CLIENT: ELDORADO NUCLEAR
REPORT NUMBER: G42-225
GEOLOGIST: HANNING, N
AGEOLOGIST: ,
PROJECT: 546
NUMBER OF SAMPLES: 30
PRIORITY: P
DATE: JULY 28, 1982
SEE APPENDIX FOR EXPLANATION OF DIGESTION, ANALYSIS, SAMPLE TYPE, AND SIEVE SIZE CODES.

REC# /	SAMPLE NUMBER / T/ S	U /B3 PPM
0001	82-546-42W-40 W X	0.06
0002	82-546-42W-48 W X	L 0.02
0003	82-546-42W-49 W X	0.07
0004	82-546-42W-50 W X	0.20
0005	82-546-42W-51 W X	L 0.02
0006	82-546-42W-52 W X	L 0.02
0007	82-546-42W-53 W X	0.07
0008	82-546-42W-54 W X	0.30
0009	82-546-42W-55 W X	0.24
0010	82-546-42W-56 W X	0.05
0011	82-546-42W-57 W X	0.40
0012	82-546-42W-58 W X	0.16
0013	82-546-42W-59 W X	0.25
0014	82-546-42W-60 W X	0.25
0015	82-546-42W-61 W X	0.36
0016	82-546-42W-62 W X	0.28
0017	82-546-42W-63 W X	0.32
0018	82-546-42W-64 W X	0.37
0019	82-546-42W-65 W X	0.08
0020	82-546-42W-66 W X	0.14
0021	82-546-42W-67 W X	0.12
0022	82-546-42W-68 W X	0.07
0023	82-546-42W-69 W X	0.08
0024	82-546-42W-70 W X	0.11
0025	82-546-42W-71 W X	0.06
0026	82-546-42W-72 W X	0.12
0027	82-546-42W-73 W X	0.12
0028	82-546-42W-74 W X	0.09
0029	82-546-42W-75 W X	0.11
0030	82-546-42W-76 W X	0.07

SHEET 1635

---END---

TSL

•CHEMICAL RESEARCH AND ANALYSIS
•CONTRACT LABORATORIES

TSL LABORATORIES

2 - 302 - 48th STREET, SASKATOON, SASKATCHEWAN, S7K 6A4

TELEPHONE: (306) 652-7178

SAMPLE(S) FROM

CERTIFICATE OF ANALYSIS

Eldor Resources
502-45th Street W.
Saskatoon, Sask.
Att: Dave Wolf

Project #546

REPORT No. 1547

Invoice 1445

SAMPLE(S) OF

	Gold Au(ppb)	Silver Ag(ppm)	Antimony Sb(ppm)	Arsenic As(ppm)	Mercury Hg(ppb)	Uranium U(ppm)
82-546-42C-1	<5	<.2	1	2	<10	.5
82-546-42C-2	40	<.2	<1	2	20	1.3
82-546-42C-3	50	<.2	2	30	10	2.0
82-546-42C-4	10	<.2	1	4	20	.2
82-546-42C-5	40	<.2	<1	<1	20	.6
82-546-42S-39	<5	<.2	<1	3	30	72
82-546-22-12	<5	<.2	<1	6	<10	.3
82-546-22-13	<5	<.2	<1	1	10	.3
82-546-22-14	<5	<.2	<1	<1	20	.3
82-546-22-15	<5	<.2	<1	3	20	.7
82-546-22-16	<5	<.2	<1	2	20	.7
82-546-22-17	<5	<.2	<1	22	30	2.3
82-546-22-18	<5	<.2	<1	2	10	.8
82-546-22-20	<5	<.2	<1	3	20	3.5

13

Samples, Pulps and Rejects discarded after two months

DATE August 12, 1982 SIGNED Bernie Dunn

CTA

•CHEMICAL RESEARCH AND ANALYSIS
•CONTRACT LABORATORIES

T S L LABORATORIES

2 - 302 - 48th STREET, SASKATOON, SASKATCHEWAN, S7K 6A4

TELEPHONE: (306) 652-7178

SAMPLE(S) FROM

CERTIFICATE OF ANALYSIS

Eldor Resources

REPORT No.
1547

Invoice #1445

SAMPLE(S) OF

Sample Designation	Total WT Dry (Grams)	Total WT Minus 10	HM Sep Sample WT (kg)	Heavies (Grams)
82-546-42C-1	1149	985	0.5	21.7
82-546-42C-2	1219	1160	1.0	13.9
82-546-42C-3	1198	1083	1.0	3.8
82-546-42C-4	1212	1082	1.0	11.0
82-546-42C-5	1910	1744	0.5	63.8

Samples, Pulps and Rejects discarded after two months

DATE ~~August 12, 1982~~ SIGNED Bernie Dunn

CTA

file 546-22

•CHEMICAL RESEARCH AND ANALYSIS
•CONTRACT LABORATORIES

T S L LABORATORIES

2 - 302 - 48th STREET, SASKATOON, SASKATCHEWAN, S7K 6A4

TELEPHONE: (306) 652-7178

SAMPLE(S) FROM

CERTIFICATE OF ANALYSIS

Eldorado Nuclear Ltd.
502 - 45th St. W.
Saskatoon, Sask.
S7L 6H2

Attn: Mr. D. Wolf

REPORT No.
1453

SAMPLE(S) OF

Invoice #1375

	Gold (Au)ppb	Silver (Ag)ppm	Mercury (Hg)ppb	Antimony (Sb)ppm	Arsenic (As)ppm	Uranium (U)ppm
82-546-22-01	<2	.2	600	<1	2	.8
82-546-22-02	<2	.2	1400	<1	7	.7
82-546-22-03	3	.2	40	<1	7	.6
82-546-22-04	<2	<.2	20	1	15	1.0
82-546-22-05	<2	<.2	120	<1	<1	.5
82-546-22-06	100	<.2	10	<1	1	<.2
82-546-22-07	<2	<.2	10	<1	1	.2
82-546-22-08	<2	<.2	30	1	11	.8
82-546-22-09	<2	<.2	<10	<1	4	.7
82-546-22-10	<2	<.2	10	<1	<1	1.9

Samples, Pulps and Rejects discarded after two months

DATE July 6th, 1982 SIGNED Bernie Dunn

CTA

•CHEMICAL RESEARCH AND ANALYSIS
•CONTRACT LABORATORIES

T S L LABORATORIES

2 - 302 - 48th STREET, SASKATOON, SASKATCHEWAN, S7K 6A4

TELEPHONE: (306) 652-7178

SAMPLE(S) FROM

CERTIFICATE OF ANALYSIS

ELDOR RESOURCES
502-45 Street W.
Saskatoon, Saskatchewan
Att: Dave Wolf

REPORT No.
1580

Invoice # 1446

SAMPLE(S) OF

	Gold Au(ppb)	Silver Ag(ppm)	Antimony Sb(ppm)	Arsenic As(ppm)	Mercury Hg(ppb)
82-546-C-6	<5	<.2	<1	<1	40
82-546-C-7	<5	<.2	2	9	20
82-546-C-8	<5	<.2	2	2	20
82-546-C-9	<5	<.2	2	6	40
82-546-C-11	<5	<.2	<1	<1	20
82-546-C-12	20	<.2	<1	2	<10
82-546-42X-1	5	.2	<1	3	<10
82-546-42X-2	<5	.2	<1	2	<10
82-546-42X-3	<5	.2	<1	6	10
82-546-42X-4	<5	<.2	<1	2	<10
82-546-42X-5	<5	<.2	1	2	20
82-546-42X-6	<5	<.2	<1	3	10
82-546-42X-7	<5	<.2	<1	2	10
82-546-42X-8	<5	<.2	<1	1	20
82-546-42X-9	<5	<.2	<1	2	10
82-546-42X-10	<5	<.2	<1	2	<10
82-546-42X-11	<5	.2	1	<1	10
82-546-42X-12	<5	.2	1	<1	<10
82-546-22-11	<5	<.2	1	1	10

Samples, Pulps and Rejects discarded after two months

DATE August 12, 1982 SIGNED Bernie Dunn

CTA

•CHEMICAL RESEARCH AND ANALYSIS
•CONTRACT LABORATORIES

T S L LABORATORIES

2 - 302 - 48th STREET, SASKATOON, SASKATCHEWAN, S7K 6A4

TELEPHONE: (306) 652-7178

SAMPLE(S) FROM

CERTIFICATE OF ANALYSIS

Eldor Resources
502-45 Street West
Saskatoon, Sask. S7L 6H2
Att: Mr. Dave Wolf

REPORT No.
1580

Invoice 1446

SAMPLE(S) OF

Sample Designation	Total WT Dry (Grams)	Total WT Minus 10	HM Sep Sample WT (Kg)	Heavies (Grams)
82-546-C-6	1686	1677	1.0	9.9
82-546-C-7	1192	1052	1.0	3.4
82-546-C-8	1547	1541	1.5	3.4
82-546-C-9	1468	1373	1.0	12.8
82-546-C-11	1822	1663	1.0	8.6
82-546-C-12	1798	1756	1.5	7.1

Samples, Pulps and Rejects discarded after two months

DATE August 12, 1982 SIGNED Bernie Dunn

CTA

TSL

- CHEMICAL RESEARCH AND ANALYSIS
- CONTRACT LABORATORIES

T S L LABORATORIES

2 - 302 - 48th STREET, SASKATOON, SASKATCHEWAN, S7K 6A4

TELEPHONE: (306) 652-7178

SAMPLE(S) FROM

CERTIFICATE OF ANALYSIS

Eldor Resources
502 - 45th Street West
Saskatoon, Saskatchewan
S7L 6H2
Attn: Dave Wolf

REPORT No. 1580

Invoice # 1558

SAMPLE(S) OF

	Uranium U(ppm)
82-546-C-6	2.7
7	no sample
8	no sample
9	6.3
11	3.5
12	5.9
42X-1	4.9
2	10
3	5.9
4	.6
5	4.1
6	1.2
7	.8
8	.6
9	1.1
10	2.1
11	.9
12	.7
22-11	60

Samples, Pulps and Rejects discarded after two months

DATE September 24, 1982 SIGNED Bernie Dunn

CTA

SASKATCHEWAN RESEARCH COUNCIL

30 CAMPUS DRIVE · SASKATOON · SASKATCHEWAN · CANADA · S7N 0X1 · Tel. 306/664-5400 · TELEX 074-2484

Science Serving Saskatchewan

August 17, 1982

Mr. D. Wolf
Eldorado Nuclear
502 - 45th Street West
Saskatoon, Saskatchewan
S7L 6H2

Dear Sir:

Enclosed is the XRD clay analysis result for sample 82-546-42S-39. If you have any questions please feel free to call.

Sincerely,

per: Terry McGovern

David H. Quirt
Research Scientist
Geology Division

DHQ/ml

Enclosures

```
*** QCLAY * ELDORADO * CLAY SAMPLES
DATE: AUGUST 17,1982
2
3
4

NORMALIZED AREAS(KARYNE'S APPROXIMATION FOR C002-K001, C004-K002;
                         I001  I002  C001  C002  C003  C004  K001  K002  KINDEX

82-546-425-39  000   100     1     0     0     0     0  1740  1488    3.2   0
READY
```

```
*** QCLAY * ELDORADO * CLAY SAMPLES
DATE: AUGUST 17,1982
2
3
4
                                                       KARYNE'S APPF
                         NORMALIZED AREAS(I+C+K=100)
                         ILLITE  CHLRITE KAOLNT  QUARTZ  HEMATITE  *  KUBLER

82-546-425-39  000          4       0       96       0        0          3.2   0

END OF DATA
```

University of Waterloo

1957 - 1982

Waterloo, Ontario, Canada
N2L 3G1

Faculty of Science
Department of Earth Sciences
519/885-1211

July 30, 1982

Mr. D. Wolf
Eldorado Nuclear Ltd.
Exploration Division
502 45 St. W.
Saskatoon, Sask.
S7L 6H2

Dear Mr. Wolf:

Your samples have been analysed for tritium and the results are as follows:

Sample		H^3(± 8T.U.)
82-546-42T	1	+64
	2	+39
	3	+53
	4	+18
	5	+26
	6	+29

Hope these are satisfactory. An invoice will follow under separate cover.

Yours truly,

Diana Palmer

Diana Palmer
Isotope Lab

DP:cm

Twenty-five Years of Co-operative Education in Canada

Inv. # 83796 $300.00

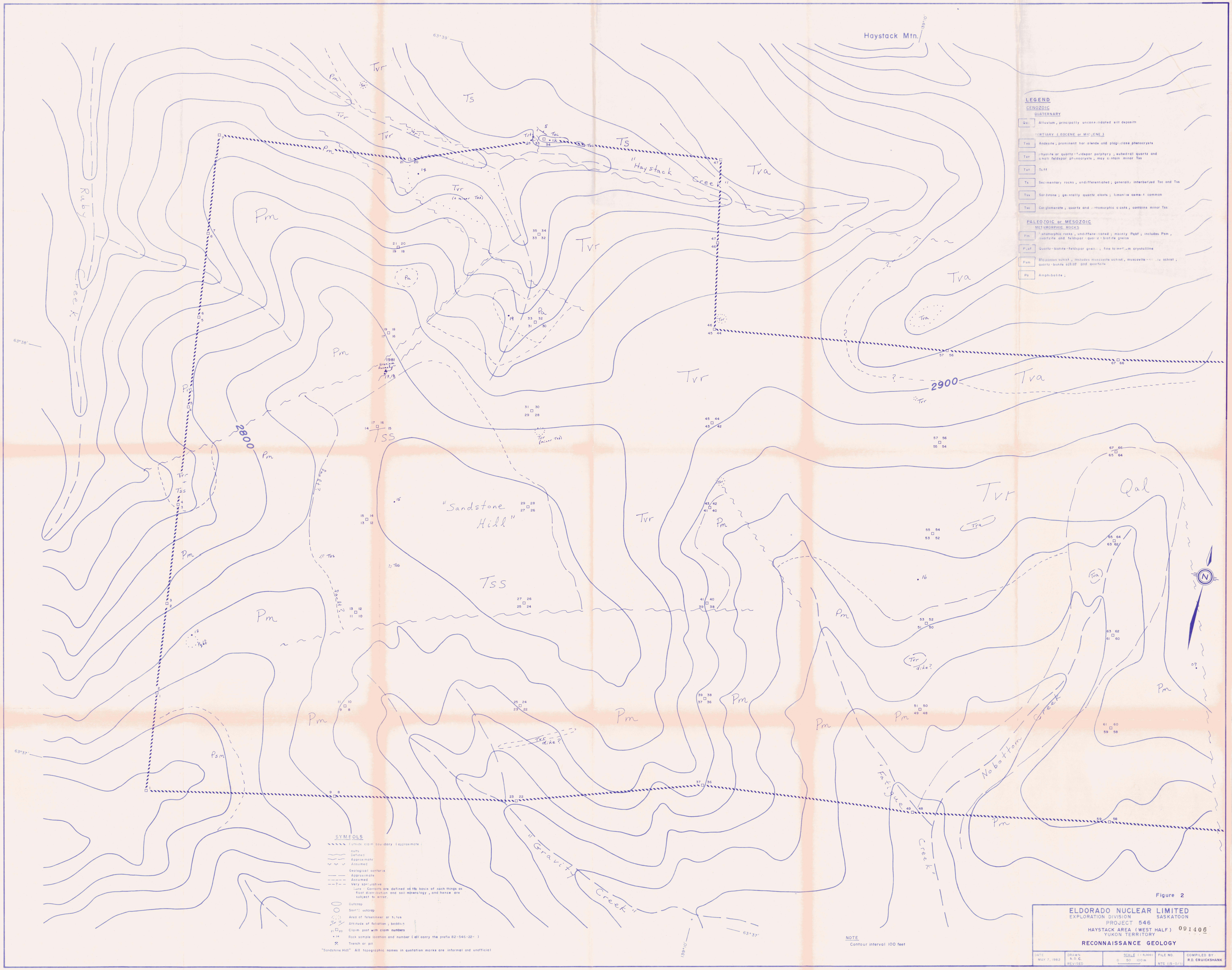
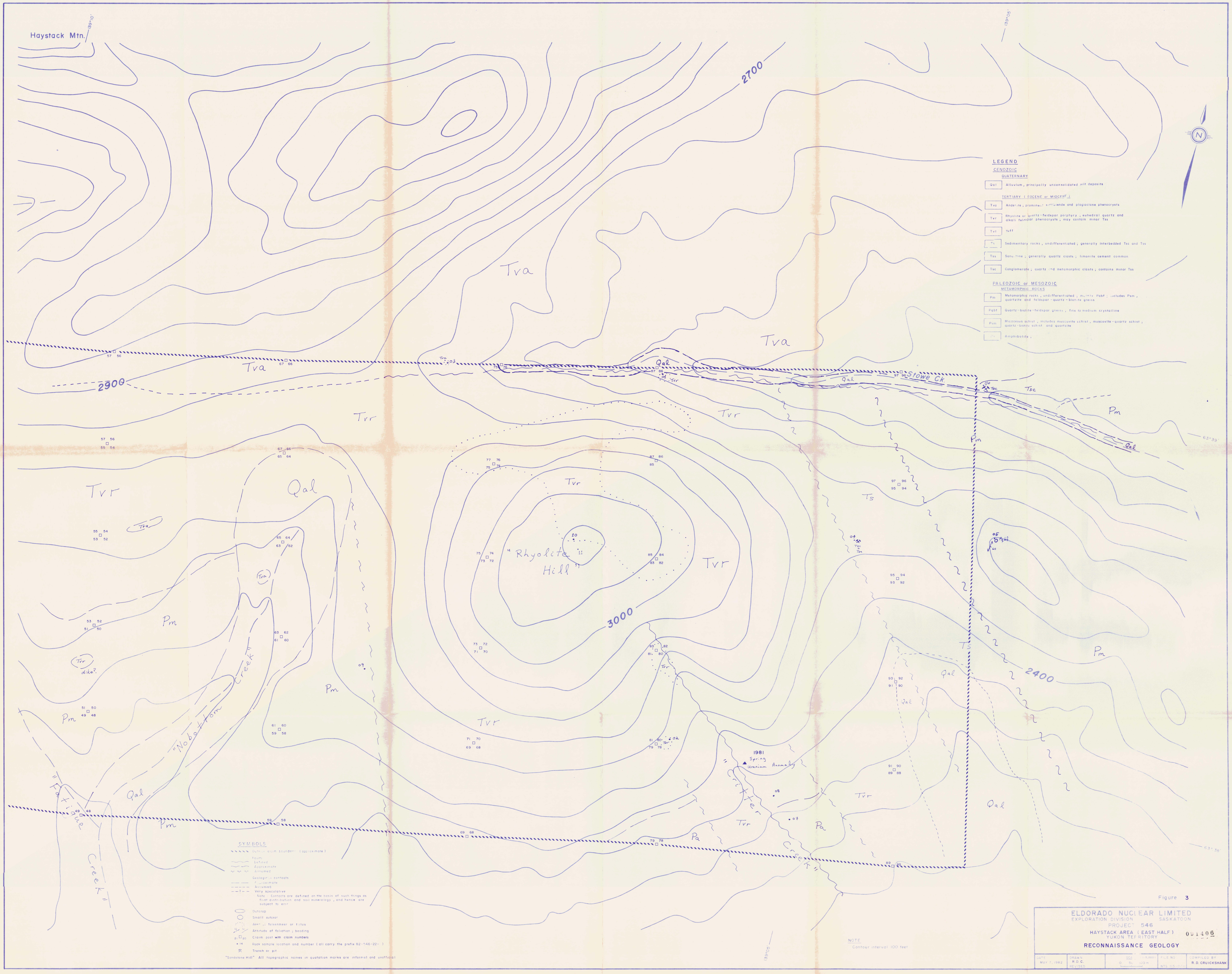


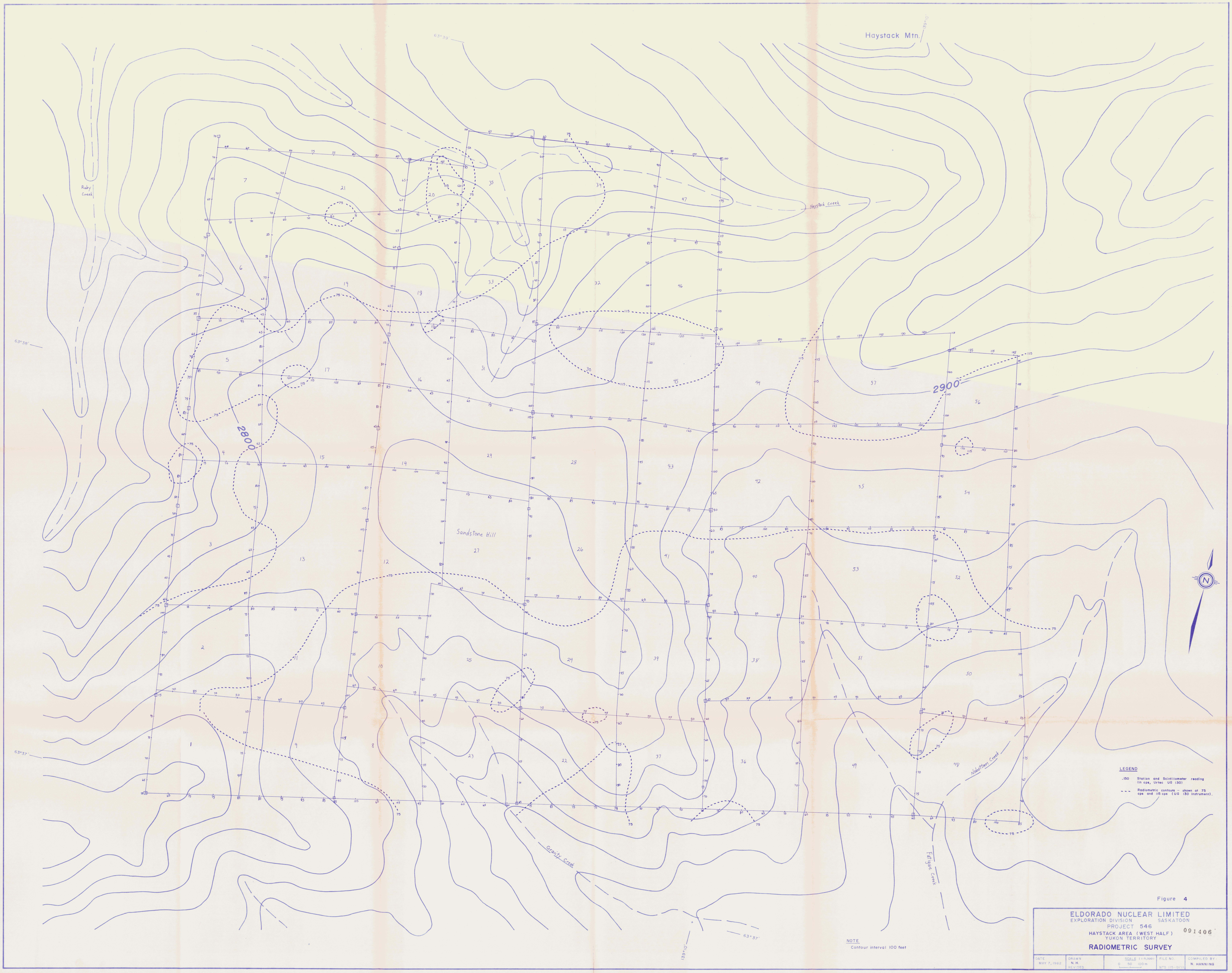
Figure 2

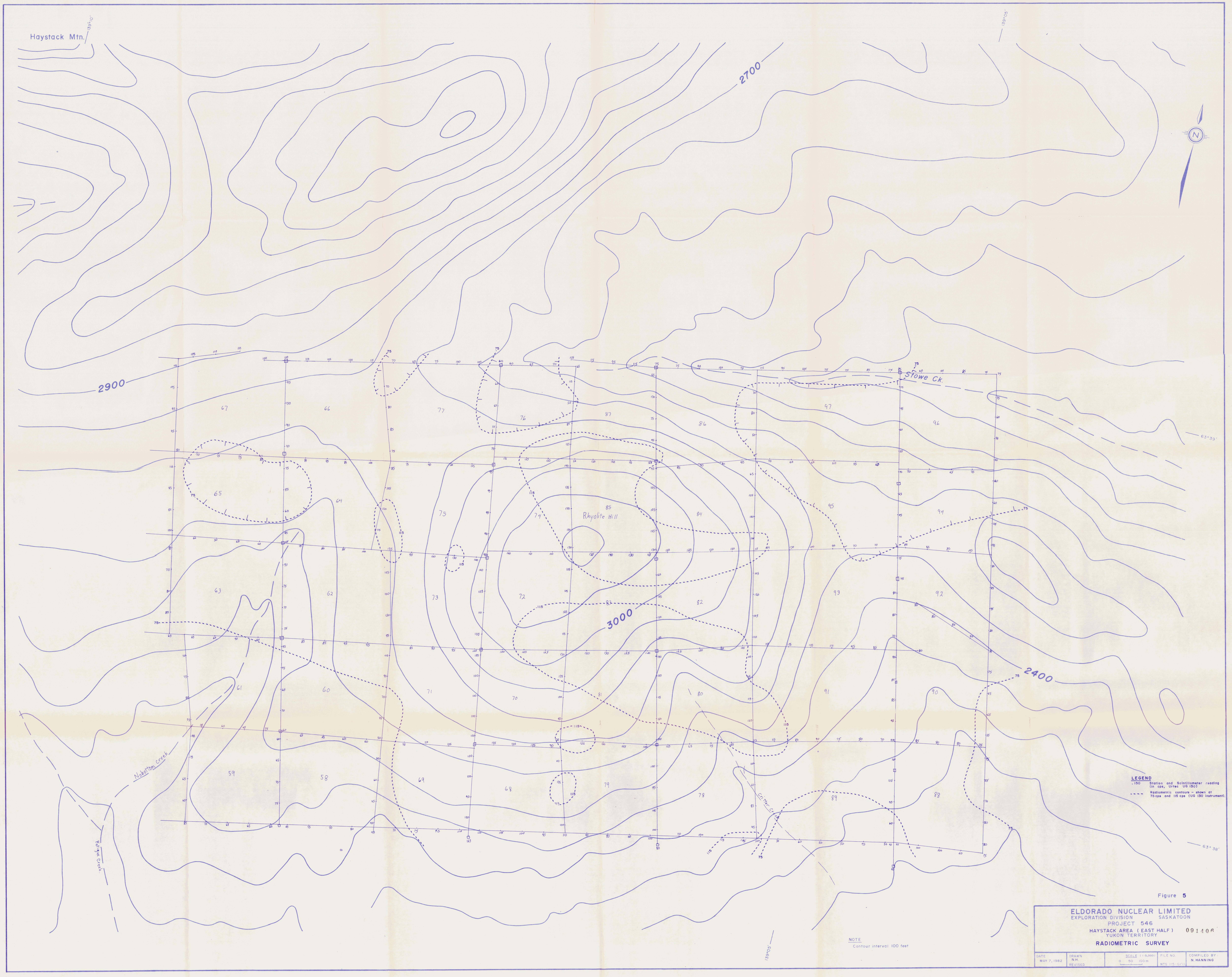
ELDORADO NUCLEAR LIMITED
EXPLORATION DIVISION SASKATOON
PROJECT 546
HAYSTACK AREA (WEST HALF) 091406
YUKON TERRITORY
RECONNAISSANCE GEOLOGY

DATE	DRAWN	SCALE (1:5,000)	FILE NO.	COMPILED BY:
MAY 7, 1982	R.D.C. REVISED	0 50 100 m	NTS 115-O/11	R.D. CRUICKSHANK

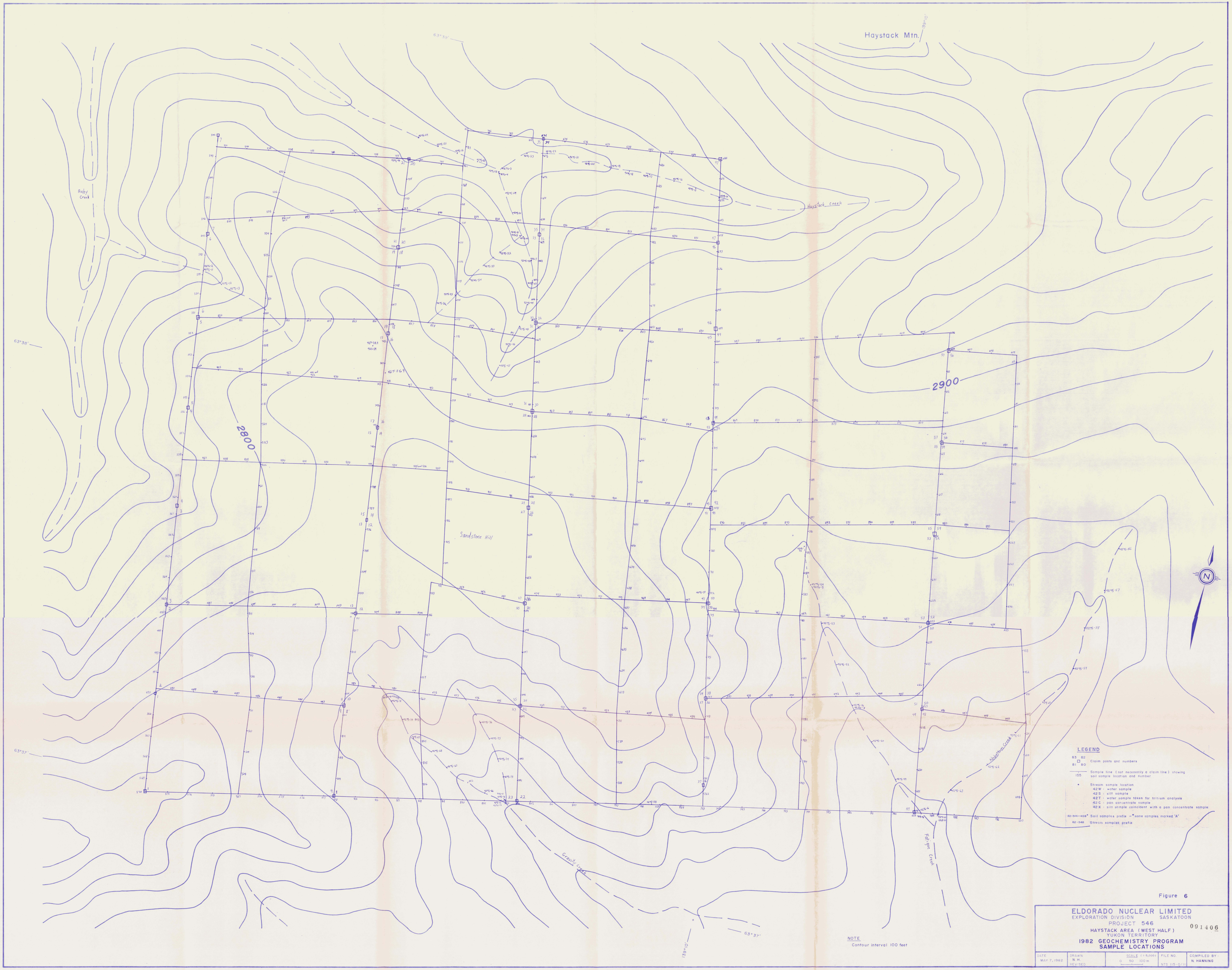


Haystack Mtn.
2700
2900
3000
2400
Tva
Tvr
Qal
Pm
Pa
Ts
Tsc
Stowe Ck
"Rhyolite Hill"
"Nobottom Creek"
"Fatigue Creek"
"Critter Creek"
1981 Spring Uranium Anomaly
dike?
LEGEND
CENOZOIC
QUATERNARY
Qal Alluvium, principally unconsolidated silt deposits
TERTIARY (EOCENE or MIOCENE)
Tva Andesite; prominent hornblende and plagioclase phenocrysts
Tvr Rhyolite or quartz-feldspar porphyry; euhedral quartz and alkali feldspar phenocrysts; may contain minor Tss
Tvt Tuff
Ts Sedimentary rocks, undifferentiated; generally interbedded Tsc and Tss
Tss Sandstone; generally quartz clasts; limonite cement common
Tsc Conglomerate; quartz and metamorphic clasts; contains minor Tss
PALEOZOIC or MESOZOIC
METAMORPHIC ROCKS
Pm Metamorphic rocks, undifferentiated; mainly Pqbf; includes Psm, quartzite and feldspar-quartz-biotite gneiss
Pqbf Quartz-biotite-feldspar gneiss; fine to medium crystalline
Psm Micaceous schist; includes muscovite schist, muscovite-quartz schist; quartz-biotite schist and quartzite
Amphibolite;
SYMBOLS
claim boundary (approximate)
Faults
Defined
Approximate
Assumed
Geological contacts
Approximate
Assumed
Very speculative
Note: Contacts are defined on the basis of such things as float distribution and soil mineralogy, and hence are subject to error
Outcrop
Small outcrop
Area of felsenmeer or talus
Attitude of foliation; bedding
Claim post with claim numbers
Rock sample location and number (all carry the prefix 82-546-22-)
Trench or pit
"Sandstone Hill" All topographic names in quotation marks are informal and unofficial
NOTE
Contour interval 100 feet
Figure 3
ELDORADO NUCLEAR LIMITED
EXPLORATION DIVISION SASKATOON
PROJECT 546
HAYSTACK AREA (EAST HALF)
YUKON TERRITORY
091406
RECONNAISSANCE GEOLOGY
DATE MAY 7, 1982
DRAWN R.D.C.
REVISED
(1:5,000)
0 50 100 m
FILE NO
NTS 115-O/11
COMPILED BY R.D. CRUICKSHANK


Haystack Mtn.
Haystack Creek
Ruby Creek
Sandstone Hill
Gravity Creek
Fatigue Creek
Nabotten Creek
2800
2900
LEGEND
.150 Station and Scintillometer reading (in cps, Urtec UG 130)
Radiometric contours – shown at 75 cps and 115 cps (UG 130 instrument).
NOTE
Contour interval 100 feet
Figure 4
ELDORADO NUCLEAR LIMITED
EXPLORATION DIVISION SASKATOON
PROJECT 546
HAYSTACK AREA (WEST HALF)
YUKON TERRITORY
091406
RADIOMETRIC SURVEY
DATE MAY 7, 1982
DRAWN N. H.
REVISED
SCALE (1:5,000)
0 50 100 m
FILE NO.
NTS 115-O/11
COMPILED BY: N. HANNING



Haystack Mtn.
2700
2900
3000
2400
N
Stowe Ck.
Rhyolite Hill
Nobel Creek
63° 39'
63° 38'
LEGEND
. 150 Station and Scintillometer reading (in cps, Urtec UG 130)
Radiometric contours – shown at 75 cps and 115 cps (UG 130 instrument).
NOTE
Contour interval 100 feet
Figure 5
ELDORADO NUCLEAR LIMITED
EXPLORATION DIVISION SASKATOON
PROJECT 546
HAYSTACK AREA (EAST HALF)
YUKON TERRITORY
091406
RADIOMETRIC SURVEY
DATE MAY 7, 1982
DRAWN N.H.
REVISED
SCALE (1:5,000)
0 50 100 m
FILE NO.
NTS 115-O/11
COMPILED BY: N. HANNING



LEGEND

83 82 □ 81 80 — Claim posts and numbers

155 — Sample line (not necessarily a claim line) showing soil sample location and number

• Stream sample location
- 42W : water sample
- 42S : silt sample
- 42T : water sample taken for tritium analysis
- 42C : pan concentrate sample
- 42X : silt sample coincident with a pan concentrate sample

82-546-408* Soil samples prefix – *some samples marked 'A'

82-546 Stream samples prefix

NOTE
Contour interval 100 feet

Figure 6

ELDORADO NUCLEAR LIMITED
EXPLORATION DIVISION SASKATOON
PROJECT 546

091406

HAYSTACK AREA (WEST HALF)
YUKON TERRITORY

1982 GEOCHEMISTRY PROGRAM SAMPLE LOCATIONS

DATE	DRAWN	SCALE (1:5,000)	FILE NO.	COMPILED BY:
MAY 7, 1982	N. H. REVISED	0 50 100 m	NTS 115-O/11	N. HANNING

Haystack Mtn.
2700
2900
3000
2400
Stowe Ck.
Rhyolite Hill
63°38'
LEGEND
83 82 81 80 Claim posts and numbers
155 Sample line (not necessarily a claim line) showing soil sample location and number
Stream sample location
42 W : water sample
42 S : silt sample
42 T : water sample taken for tritium analysis
42 C : pan concentrate sample
42 X : silt sample coincident with a pan concentrate sample
82-546-40B* Soil samples prefix -*some samples marked 'A'
82-546 Stream samples prefix
NOTE
Contour interval 100 feet
Figure 7
ELDORADO NUCLEAR LIMITED
EXPLORATION DIVISION SASKATOON
PROJECT 546
HAYSTACK AREA (EAST HALF)
YUKON TERRITORY
091406
1982 GEOCHEMISTRY PROGRAM
SAMPLE LOCATIONS
DATE MAY 7, 1982
DRAWN N.H..
REVISED
SCALE (1:5,000)
0 50 100 m
FILE NO.
NTS 115-O/11
COMPILED BY: N. HANNING

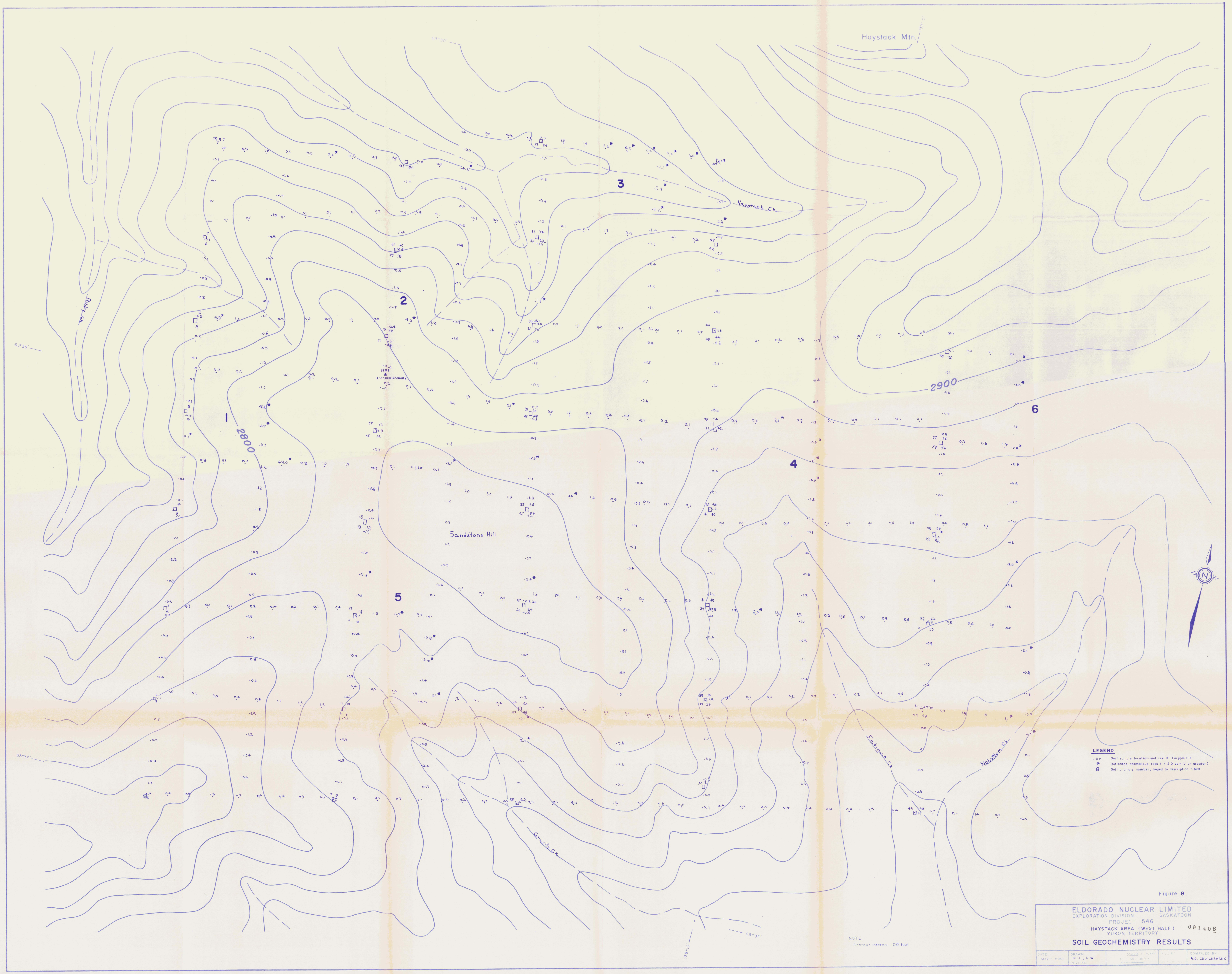
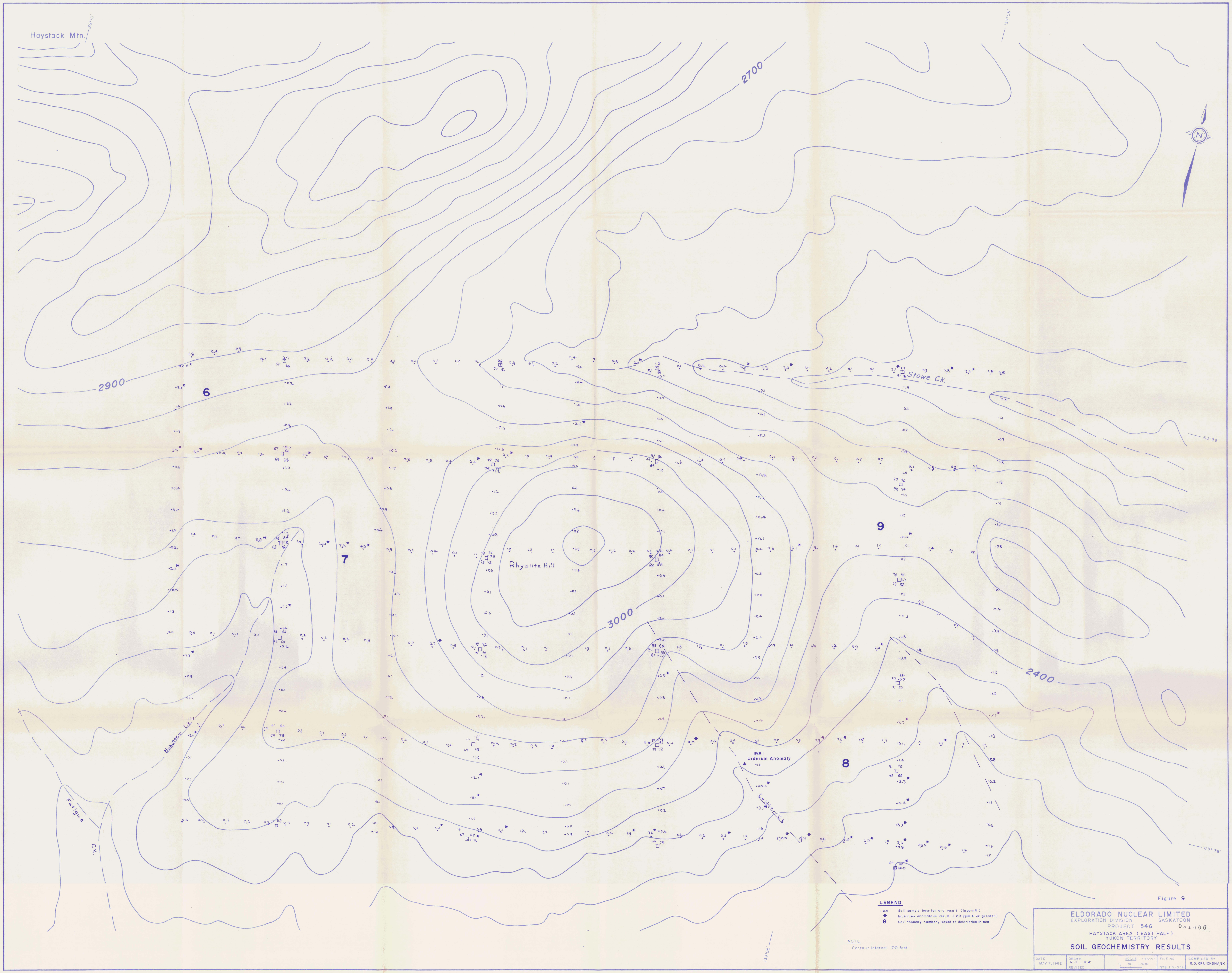


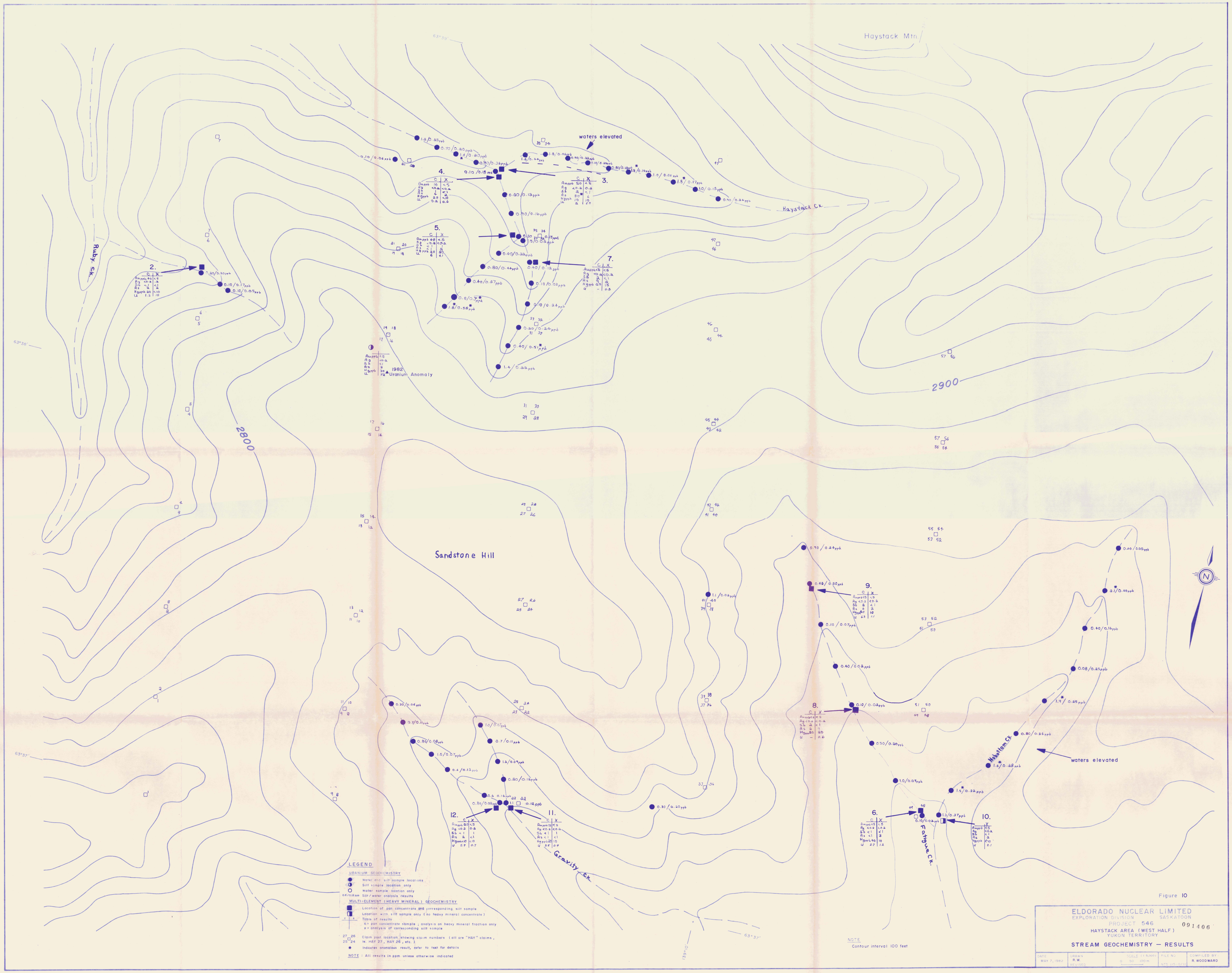
Figure 8

ELDORADO NUCLEAR LIMITED
EXPLORATION DIVISION SASKATOON
PROJECT 546
HAYSTACK AREA (WEST HALF) 091406
YUKON TERRITORY

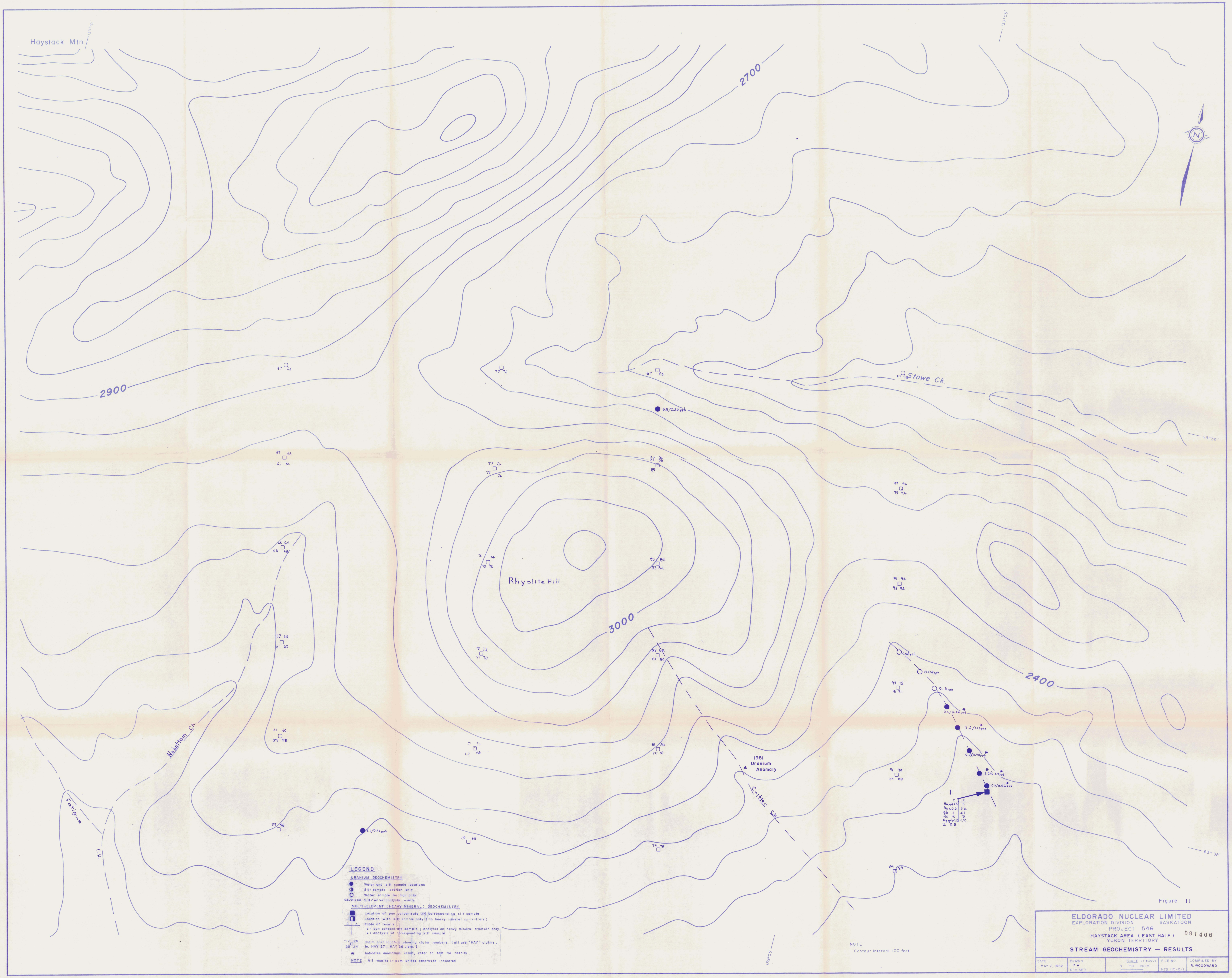
SOIL GEOCHEMISTRY RESULTS

DATE	DRAWN	SCALE (1:5,000)		COMPILED BY:
MAY 7, 1982	N.H., R.W. REVISED	0 50 100 m		R.D. CRUICKSHANK


Haystack Mtn.
2700
2900
3000
2400
Stowe Ck.
Rhyolite Hill
Nobstrom Ck.
Fatigue Ck.
Critter Ck.
1981 Uranium Anomaly
6
7
8
9
63° 38'
LEGEND
. 2.0 Soil sample location and result (in ppm U)
* Indicates anomalous result (2.0 ppm U or greater)
8 Soil anomaly number, keyed to description in text
NOTE
Contour interval 100 feet
Figure 9
ELDORADO NUCLEAR LIMITED
EXPLORATION DIVISION SASKATOON
PROJECT 546
091406
HAYSTACK AREA (EAST HALF)
YUKON TERRITORY
SOIL GEOCHEMISTRY RESULTS
DATE MAY 7, 1982
DRAWN N.H. , R.W.
REVISED
SCALE (1:5,000) 0 50 100 m
FILE NO.
NTS 115-O/11
COMPILED BY: R.D. CRUICKSHANK



Haystack Mtn
Haystack Ck.
Ruby Ck.
Sandstone Hill
Gravity Ck.
Fatigue Ck.
Hobattom Ck.
waters elevated
waters elevated
1982
Uranium Anomaly
2800
2900
LEGEND
URANIUM GEOCHEMISTRY
Water and silt sample locations
Silt sample location only
Water sample location only
0.6/0.12 ppb Silt / water analysis results
MULTI-ELEMENT (HEAVY MINERAL) GEOCHEMISTRY
Location of pan concentrate and corresponding silt sample
Location with silt sample only (no heavy mineral concentrate)
Table of results
c = pan concentrate sample ; analysis on heavy mineral fraction only
x = analysis of corresponding silt sample
Claim post location showing claim numbers (all are "HAY" claims, ie. HAY 27, HAY 26, etc.)
Indicates anomalous result, refer to text for details
NOTE : All results in ppm unless otherwise indicated
NOTE
Contour interval 100 feet
Figure 10
ELDORADO NUCLEAR LIMITED
EXPLORATION DIVISION SASKATOON
PROJECT 546
091406
HAYSTACK AREA (WEST HALF)
YUKON TERRITORY
STREAM GEOCHEMISTRY — RESULTS
DATE MAY 7, 1982
DRAWN R.W.
REVISED
SCALE (1:5,000)
0 50 100 m
FILE NO
NTS 115-O/11
COMPILED BY: R. WOODWARD


Haystack Mtn.
2900
2700
3000
2400
Rhyolite Hill
Stowe Ck.
Nobottom Ck.
Fatigue Ck.
Critter Ck.
1981 Uranium Anomaly
63° 38'
LEGEND
URANIUM GEOCHEMISTRY
Water and silt sample locations
Silt sample location only
Water sample location only
0.6/0.12 ppb Silt / water analysis results
MULTI-ELEMENT (HEAVY MINERAL) GEOCHEMISTRY
Location of pan concentrate and corresponding silt sample
Location with silt sample only (no heavy mineral concentrate)
Table of results
c = pan concentrate sample ; analysis on heavy mineral fraction only
x = analysis of corresponding silt sample
Claim post location showing claim numbers (all are "HAY" claims , ie. HAY 27 , HAY 26 , etc.)
Indicates anomalous result, refer to text for details
NOTE : All results in ppm unless otherwise indicated
NOTE
Contour interval 100 feet
ELDORADO NUCLEAR LIMITED
EXPLORATION DIVISION SASKATOON
PROJECT 546
HAYSTACK AREA (EAST HALF)
YUKON TERRITORY
091406
STREAM GEOCHEMISTRY — RESULTS
DATE MAY 7, 1982
DRAWN R.W.
REVISED
SCALE (1:5,000)
0 50 100 m
FILE NO.
NTS 115-O/11
COMPILED BY : R. WOODWARD
Figure 11

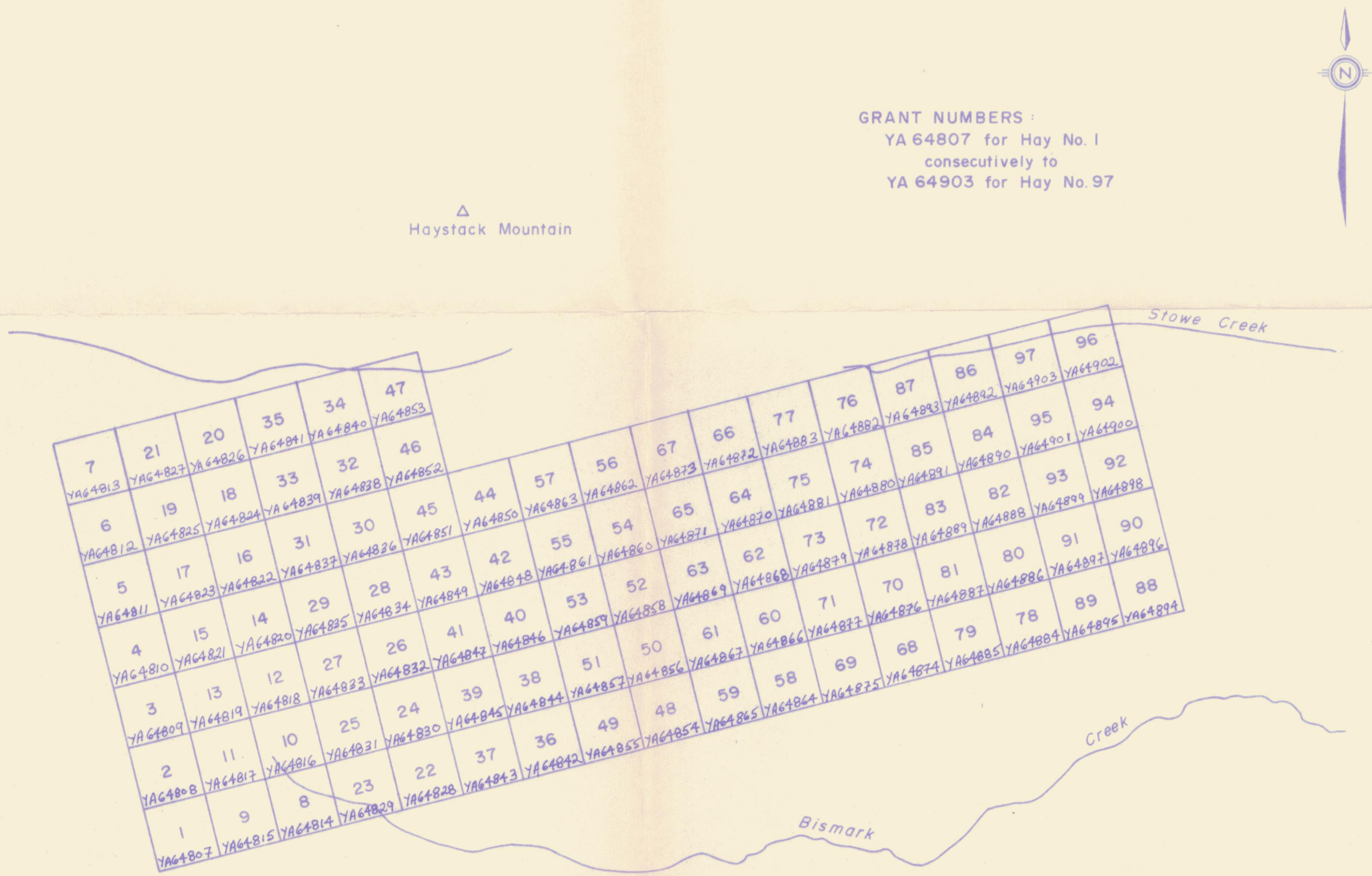


Figure 21

091406

ELDORADO NUCLEAR LIMITED EXPLORATION DIVISION SASKATOON PROJECT 546 REINDEER MOUNTAIN YUKON TERRITORY	TITLE HAY CLAIMS 1-97	DATE : JAN. 7, 1982 DRAWN : D. W. NTS 115-O/11 COMPILED BY R.D.C. SCALE 0 500 1000 m