MAR 19750007: ATHABASCA

Received date: Dec 31, 1975

Public release date: Jan 01, 1977

19750007

URANERZ EXPLORATION AND MINING LTD.

FINAL REPORT 1975

PROJECT 71-41

N.W. - ATHABASCA

DR. K. LEHNERT-THIEL

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SUMMARY

During theperiod May 19th to August 30th, 1975, Uranerz Exploration and Mining Ltd., carried out an exploration program in the area north of Lake Athabasca within both provinces, Alberta and Saskatchewan.

The following exploration methods were used successfully:

1) helicopter mapping to ascertain the position of the unconformity.

2) ground prospecting for uraniferous boulders down glacial strike of the unconformity.

The Helikian unconformity between the basement gneisses and the Athabasca Formation was found exposed on two localities, at Falling Sand Point and Greywillow Point, Alberta. Both outcrops show spotty uranium mineralization, at the first location within the regolith (.024% U_3O_8), at the second within the basal sandstone strata (.62% U_3O_8). Both assays were made of hand samples.

More than 400 uraniferous boulders were found by prospecting scattered in the area between Cypress Point, Alberta, and Goose Bay, Saskatchewan. Near Falling Sand Point, over 200 uraniferous Athabasca Sandstone boulders were found within an area measuring 50 x 50 meters. The average U_3O_8 content of 11 boulders is 0.51%. The source of these boulders is believed to be in close vicinity. The nature and the distribution of the uraniferous boulders suggest the following:

1) several individual sources with overlapping boulder fans can be expected within both provinces, Alberta and Saskatchewan. Some of the sources however are definitely submerged.

2) the presence of veintype (Rabbit Lake-type) uranium deposits.

3) the presence of intraformational uranium deposits within the Athabasca formation of the type found at Steward Island, Lake Athabasca, and at Fond du Lac (Amok Ltd.).

4) the presence of uranium deposits which are in close relationship to the Martin unconformity, similar to occurrences in the Beaverlodge area.

The uranium potential of the dispositions held by the Joint Venture in the NW - Athabasca area is classified as excellent.

The following recommendations are made:

1) establish a grid covering the area from Falling Sand Point to Maurice Bay.

2) carry out a ground magnetometer survey along the grid lines.

3) carry out a sledge mounted spectrometer survey along the present and past (raised) beaches of Lake Athabasca.

4) diamond drilling in the Falling Sand Point area to locate the source of the large boulder field.

5) prospecting, geochemistry and geological investigation during the summertime.

1 INTRODUCTION

1.1 AREA OF INVESTIGATION

Target of investigation was the northwest rim of the Athabasca Sandstone basin located within the northwestern part of Alberta and northwestern part of Saskatchewan along the NW-shore of Lake Athabasca (Map #1).

1.2 PURPOSE OF INVESTIGATION

The layout of the program was such to locate supergene pitchblende deposits bound on or near the Helikian unconformity between the Archean basement and overlying sediments.

1.3 TIME OF INVESTIGATION

The period of field investigation was from May 19, 1975 to August 10, 1975.

1.4 PERSONNEL

The following personnel was employed during the period May 19 to August 10, 1975:

Dr. K. Lehnert-Thiel	Project Geologist	May 19-Aug. 10
W. Markl	Assistant	June 6-June 24
Tom Hamilton	Prospector	May 19-June 30
Daniel Cook	"	May 19-Aug. 10
John McLeod	"	May 19-Aug. 10
Gideon McLeod	"	May 19-June 30
Mike O'Brien	"	July 4-Aug. 10
Sam Roberts	"	July 4-Aug. 10
Fred Cook	"	July 4-Aug. 10
Edward Cook	"	July 4-Aug. 10
Alphens McLeod	"	July 11-Aug. 10
Daniel Charles	"	July 11-Aug. 10
Frank Murphy	"	July 15-Aug. 10

1.5 INSTRUMENTS, VEHICLES USED

1.5.1 Instruments

6 SPP 2 Scintillometers (SRAT)
1 TV 5 Spectrometer (McPhar)
1 ETR-1 Emanometer (Scintrex)
1 Alpha Radon Detector (Alpha Nuclear)
28 Alpha Cups (Alpha Nuclear)

1.5.2 Aircraft

A helicopter was used for mapping, crew transportation and, during a short period, for airborne spectrometer survey. A Bell G 47 helicopter was contracted from Northern Helicopters Ltd., Edmonton, during the period Julu 4 to August 10. A total of 117.4 hours was flown in 31 contract days averaging 3.78 hours per day. The fuel consumption was approximately 20 gallons per hour.

Twin Otter, Single Otter, Beaver and Cessna 185 were used for mobilisation and logistic purposes.

1.5.3 Other vehicles

2 canoes
1 aluminum boat
2 small outboard motors (2-4 H.P.)
1 65-H.P. outboard motor.

2 GENERAL INFORMATION

2.1 LOCALITY

The area of investigation comprising approx. 800 square miles is located in both provinces, Alberta and Saskatchewan

Long. 108^{o} 15' to 111^{o} 00'
Lat. 58^{o} 45' to 59^{o} 45'

The base camp for the initial operational phase was located on Belinda Lake, and was moved on June 20, 1975 to Cypress Point, on the shoreline SW of Uranium City.

2.2 COMMUNICATION AND ACCESS

Access to the area of investigation is by float equipped aircraft. The barge service on Athabasca Lake does not have docking facilities within the area of investigation. Transportation within the area can be done by aircraft or by boat along the shore of Lake Athabasca.

It should be mentioned that the camp could not be serviced from the air even in times of moderate winds because of the enormous wave action of the lake. (Photo #10).

2.3 TOPOGRAPHY

Athabasca Lake has an elevation of 700 feet above sea level. The country is rugged except for the very region along the shoreline which is covered by sand plaines, raised beaches and swamps.

2.4 CLIMATE

The climate is extreme continental with temperatures in winter to -50°C and +30°C in summer.

2.5 VEGETATION

Jackpine and spruce are abundant.

2.6 POPULATION AND LAND USE

No settlements are located within the area of investigation.

2.7 WATER RESOURCES

Water resources are untapped.

2.8 MAGNETIC DEVIATION

The magnetic deviation is 26° E.

3 PREVIOUS SURVEYS AND ACTIVITIES

3.1 TOPOGRAPHIC MAPPING

The area of investigation is covered by National Topographic Survey sheets of a scale of 1:250,000 (NTS - Numbers 74M and 74N).

Airphotos are available for both the Alberta and Saskatchewan side of the area of investigation.

Photos may be obtained from the Geological Survey in Ottawa from the Department of Northern Saskatchewan or from the Alberta Research Council in Edmonton.

3.2 GEOLOGICAL MAPPING

ALBERTA

G.S.C. Map 12 - 1960, Fort Fitzgerald

J.D. Godfrey 1959, Aerial Photographic Interpretation of Precambrian Structures North of Lake Athabasca.
Research Council of Alberta,
Geology Division, Bulletin 1

SASKATCHEWAN

Report #11, The Geology of the Harper Lake Area (South Half). F. Foster 1967; Department of Mineral Resources, Regina.

3.3 GEOPHYSICAL SURVEY

The area is covered by aeromagnetic maps (1:63,360) surveyed by Canadian Aero Service Ltd. in 1961 as part of the Federal Provincial program for aeromagnetic coverage of the Precambrian Shield. The lines were flown at an altitude of 1000 feet at half mile intervals.

3.4 ASSESSMENT WORK

The area of investigation was repeatedly subject of exploration work starting in the early fifties. Very little positive information can be gathered from the old files, the only important one being the report on the uranium mineralized float found near Fidler Point, Alberta.

3.5 JOINT VENTURE WORK

The initial reconnaissance exploration for this project was undertaken late in 1974 upon the information of the Fidler Point uranium boulder. 140 lake bottom sediment samples were taken in the general area and a few days of helicopter flying were spent on reconnaissance spectrometer survey and airborne geological mapping. No uraniferous boulders were found at that time but geological information gained during that period indicated favourable uranium potential. Returns of the geochemical assays ranging between 10 and 100 ppm U_3O_8 being 10 times higher than on the SW rim of the Athabasca basin enhanced this opinion.

4 TENURE POSSIBILITIES

For tenure possibilities reference is made to the following regulations:

"The Mineral Disposition Regulations 1961" by the Province of Saskatchewan

"Alberta Regulation 377/67 as amended by Alberta Regulation 397/68 by the Government of the Province of Alberta.

4.1 MINERAL CLAIM BLOCKS

Three claim blocks totalling 30,161 acres were staked in Saskatchewan for the Joint Venture in 1975. Detailed information is presented in table #1 and map #1.

4.2 LARGER CONCESSIONS

Seven permits totalling 89,120 acres were granted by the Alberta Government on April 14, 1975. Three of these permits (numbers 189, 190 and 191) will be retained for another year, the others will be dropped in April 1976. More detailed information is presented in table #1 and map #1.

5. GENERAL GEOLOGY

Rocks underlying the area of investigation belong to the Churchill Structural Province which contains a wide variety of Precambrian units. During the Lower Proterozoic (Alphebian) several NE trending troughs were filled with sediments derived from the Archean uplands bordering their rims.

fter the Hudsonian Orogeny the metamorphic complex was peneplained and during the Helikian both the Martin and the Athabasca Formations were deposited.

5.1 STRATIGRAPHY

The northeastern part of Alberta was mapped by A.W. NORRIS who describes the oldest rock formation as porphyroblastic metasediments and gneisses of varying degrees of metamorphism.

K. KOSTER, who mapped the Saskatchewan portion of the investigation, differentiated the western granodiorite complex and the easterly situated White Lake complex.

The Western granodiorite complex consists of a series of more or less porphyritic and foliated granitic to dioritic rocks. The White Lake complex includes a wide variety of gneissic to migmatitic and granitic assemblages of quartzo-feldspathic rocks, containing biotite and amphibole and locally minor amounts of hypersthene, cordierite, sillimanite or andalusite.

Conglomerates, sandstone and shales of the palaeohelikian Martin Formation occur in the southwestern part of the area of investigation along the shoreline of Lake Athabasca. Mr. L.P. Tremblay, who mapped the Martin Formation in the Uranium City area confirmed the identity of the Martin Formation after examining several handsamples from this formation (verbal communication). The presence of Martin Formation in Alberta was hitherto unknown.

The youngest rocks in the area of investigation are sandstones of the helikian Athabasca series, covering the central part of the area along the shoreline of Lake Athabasca.

CENOZOIC	Sand, Glacial drift	
	----------	unconformity
PROTEROZOIC	ATHABASCA SANDSTONE FORMATION	
	----------	unconformity
	MARTIN FORMATION	
	----------	unconformity
ARCHEAN OR APHEBIAN?	White Lake complex Western Granodionite complex	

5.2 STRUCTURE AND METAMORPHISM

Structural deformation and metamorphism of the Archean and Aphebian sediments are the result of the Hudsonian Orogeny. Several periods of folding are known. Tight isoclinal folding with northeast trending axes is a major structural feature, representing the youngest period of folding.

Metamorphism in the area is generally in the upper amphibolite facies.

J. D. Godfrey who mapped in NE Alberta discriminates two major structural domains located on each side of the major north trending Allen fault. On the west side, NE structures are predominant while on the other side west-east structures are evident.

The Martin Formation which is exposed in overturned position SW of the Allen Fault along the shore line of Lake Athabasca, appears to be dragged up along a fault semi-coincident with the unconformity. L.P. Tremblay, with whom this position was discussed suggested, however, that this position is merely the result of the Martin Formation being deposited in a graben structure.

Athabasca Sandstone outcrops were observed on Burntwood Island and NE of Cypress Point. The dip is SE but the amount is not known, however it appears to be steeper than 1:30, the amount established at the S and SW rim of the basin.

Syn- and post-Athabasca block faulting has taken place.

5.3 ECONOMIC GEOLOGY

In the past years significant uranium deposits have been recognized in the vicinity of major Proterozoic unconformities. Rabbit Lake, Cluff Lake and others are situated along the crystalline Athabasca Formation unconformity. Some Beaverlodge occurrences are closely associated with the Crystalline - Martin Formation unconformity.

The origin of these deposits is thought to be supergene with minor mobilization and re-deposition within close range.

Within the area of investigation, pitchblende has been reported within the former UMEX claims, now CBS 4430 and under joint venture disposition.

6 PROSPECTIVE TARGETS

Prospective target areas are:

1) The area close to the unconformity where the sandstone cover has been removed during the most recent glacial period.

2) The area east (up the glacial trend) of the unconformity, covered by a shallow sandstone. For practical reasons a sandstone cover of 600 vertical feet is considered the maximum workable thickness because of limited penetration of geophysical equipment on the one hand and the drilling costs for exploration on the other. Assuming an average dip of the Athabasca Basin of 1:30 the rim area of interest will be 30 x 600 = 18,000 feet, 3.5 miles, or 6 km wide. These figures were calculated for the SW rim of the basin. Assuming a dip of 1:15 at the NW rim the area of interest will be approximately 3 km.

3) The area west of the unconformity where the protective sandstone cover has been removed during the past geological epochs. Depending on the level of erosion most of these deposits were eroded along with the protecting sandstones or were leached by subsequent surface weathering. The chances to find substantial deposits in this area are not considered good.

7 INVESTIGATIONS

The following exploration methods were used during the 1975 field season:

1) Airborne fixed wing spectrometer and magnetometer survey.

2) Helicopterborne spectrometer rim survey.

3) Helicopter mapping for exact delineation of the surficial trace of the unconformity.

4) Ground prospecting down glacial strike of the unconformity.

5) Geochemical muskeg clay sampling.

6) Grid cutting, magnetometer and electromagnetic survey.

7) Alpha cup radon survey.

During the field season the base camp was moved from its original position at Belinda Lake to Cypress Point on Lake Athabasca. The supplies were flown in from Uranium City, located 60 miles NE.

7.1 AIRBORNE SURVEY

7.1.1 Helicopter

A Bell G-3B2 helicopter was contracted on July 4, 1975 with the main object to perform a spectrometer survey. A Scintrex GAM-2 spectrometer was installed in the aircraft and 3 days of rim survey were carried out. Due to the severe shortcomings of the spectrometer survey in drift covered stress the survey was discontinued and the instrument dismounted.

7.1.2 Fixed wing aircraft

The airborne spectrometer and magnetometer survey was performed by UEM staff using a Cessna 337 fixed wing aircraft equipped with a Scintrex GAM-2 spectrometer. Photomosaics at a scale of 1:50,000 were used for navigation. Line spacing was one km. For more detailed information reference is made in the report by E. R. Rockel: UEM Geophysical Report, Discussion of Airborne Radiometric Survey Results, N.W. Athabasca Area, Northern Saskatchewan.

7.2 CARBORNE SURVEY

Not applicable.

7.3 GROUND SURVEY

Ground prospecting with SRAT SPP2 scintillometers was performed down glacial strike of the unconformity. For general prospecting two or more prospectors were sent on a traverse which was marked on an airphoto overlay. For detailed prospecting grids were cut and the area was swept by 8 - 10 prospectors side by side, the areas being 5 - 8 meters apart.

7.3.1 Ground Radiometric Survey

Nothing to report.

7.3.2 Radon Survey

A new technique of radon testing using Alpha cups from Alpha Nuclear Ltd. was testedi n the Falling Sand Point area.

7.3.3 Geological Mapping

Only the surficial trace of the unconformity was mapped in great detail. It was done mainly from the helicopter. A few landings verified the observations from the air.

7.3.4 Geochemical Survey

No lake bottom sediment samples were taken during the 1975 field season. A new method using muskeg clay samples was tested. This method is used by AMOK Ltd. in the Cluff Lake area to outline boulderfans in muskeg covered area (verbal communication).

7.3.5 Sampling

Numerous grab samples of uraniferous boulders were taken. Assays were performed in both Canada and Bonn.

7.3.6 Other Surveys

The area of grid 200 (Falling Sand Point area) was covered by magnetometer and electromagnetic surveys. The objective was to outline structures which could be interpreted as structural uranium traps.

7.4 TRENCHING

Not carried out.

7.5 DRILLING

Not carried out.

7.6 MICROSCOPY

Some samples were investigated under the miscroscope in Bonn.

8. RESULTS

8.1 ANOMALIES DISCOVERED

8.1.1 Radiometric Anomalies

Airborne Anomalies:

Fixed wing flying:

The Grid Spectrometer flying, carried out by UEM staff in late fall, produced 47 airborne anomalies. All these anomalies except one (#44) are located within the crystalline basement (Map #5, Sheets 1 to 4). Due to the late season none of these anomalies were ground checked. It is believed that most of these anomalies are contrast anomalies produced by rugged terrain, bare granitic hills with a high level of radioactivity. The survey however, failed to outline any of the uraniferous boulder fields found by ground prospecting. For more detailed information regarding the Spectrometer Survey reference is made to the report by Ed. Rockel mentioned under 7.1.2.

Helicopter flying:

Three days of structural spectrometer survey were flown in the area of investigation. Several anomalies were found within the outcropping Precambrian basement, but ground examinations explained these anomalies as contrast anomalies.

The survey failed to detect clusters or even fields of uraniferous boulders previously found by ground prospecting. Upon recognition of this shortcoming the survey was discontinued.

One weak anomalous zone however was found during the helicopter survey. Two times background, on the total-count channel only, was recovered over a wide muskeg area between Alph and Fred Creek on Greywillow Point. At the time when the survey was made no further attention was paid, but when,

subsequently, outcropping uranium mineralization was found on both sides of the swamp interest did arise. At a later date the swamp area was re-checked using a jet ranger for transportation. A 3 - 4 times background was recovered on the SRAT SPP2. The difference in performance of the SRAT and the GA,-2 is caused by the ability of the SRAT to detect anomalies with lower energy levels.

Ground anomalies:

Ground prospecting in the area of investigation turned up more than 400 uraniferous boulders and 2 mineralized outcrop areas.

1) Belinda - Sebastian Lake Area

In this area the original "Fidler Point Boulder" was found in 1970. Close re-evaluation of the area turned up another 11 uraniferous boulders, some of them identical in mineralogic composition to the discovery boulder. A list of rock types and assays is enclosed in Table #2.

All these boulders are glacial float derived from the area between Cypress Point andGreywillow Point, a distance of 15 - 20 miles east north east.

2) Cypress Point - Greywillow Point Area

Two areas of outcropping mineralization were found during prospecting.

Falling Sand Point:

This mineralized zone is located within grid 200 at locality 230 x 201 (maps #3 and 4). The outcrop was originally covered by 30 cm of sand but was still detected by low held scintillometers. An area of 3 x 4 meter was dug out exposing the unconformity with Athabasca conglomerate overlying the regolith. (photos #1 and #2). Spotty mineralization was found within the regolith but none in the overlying conglomerate.

Greywillow Point:

This mineralized zone is located 1 km north of Greywillow Point (maps #3 and 4) within an area of scattered outcrop, measuring 100 x 50 meters. Spotty mineralization was found in several locations within sandstone which rests unconformably upon the exposed regolith (photos #3 and #4). It was noted that uranium is preferably situated where the purple colour of the basal sandstone strata changes into buff or white. The thickness of these basal strata is approximately 2 meters which contain no conglomerates at all, just reworked regolithic material. The complete absence of a basal conglomerate should be noted.

Besides those two occurrences of uranium mineralization in outcrop which are at the same time the only two exposures of the unconformity in the area of investigation more than 350 uraniferous boulders were found in the area between Cypress Point and Greywillow Point. Within grid 200, location 232 x 202 (map #4) more than 200 uraniferous Athabasca Sandstone boulders were found within one area measuring 50 x 50 meters. It should be noted that all boulders are located within the limits of the Athabasca basin. Despite the fact that all boulders were subject to mill action of the waves of the postglacial Athabasca Lake, the shape of the boulders is remarkably slabby.

Clusters and trains of uraniferous boulders were picked up along the present shoreline and on raised beaches. Approximately 150 boulders were found scattered throughout this stretch of 10 km. It is believed that most or all of those boulders originated within the Province of Alberta.

3) Goose Bay Area:

26 uraniferous boulders were found in the Goose Bay area and north of it close to the Alberta - Saskatchewan border. Only 3 days of prospecting were performed in this area, therefore, many more boulders are expected to be found. All these boulders in this area seem to originate within the limits of Saskatchewan.

A detailed listing of boulder specifications and location is presented in map #3.

4) Fishcamp Bay Area:

One uraniferous Athabasca Sandstone boulder was found in the very southwestern portion of the area of investigation on the shoreline of Lake Athabasca (map #2). This boulder, which differs in appearance from the other Athabasca Sandstone boulders found some 30 miles to the N.E. The source of this boulder is beneath Lake Athabasca.

8.1.2 Geochemical Anomalies

Muskeg clay samples were taken along several muskeg covered profiles within grid 200, with the objective to outline submerged boulderfans. The highest values obtained within grid 200 were around 8 ppm uranium in the vicinity of the large boulderfield at locality 232 x 202. At present we do not have enough experience with this method to judge the results obtained.

8.1.3 Radon Anomalies

The Alpha cup radon survey performed over profiles on grid 200 yielded unsatisfactory results. At present it is not established whether this was caused by instrumental malfunction or by the inadequacy of the method itself. The results of the survey are plotted on map #6.

8.1.4 Other Anomalies

No anomalous readings were recorded during the magnetrometer (map #7) and the horizontal loop electromagnetic survey (map #8).

8.2 DESCRIPTION OF MINERALIZATION

Three types of uraniferous boulders were found in the area of investigation.

1) The majority of the boulders are Athabasca Sandstone boulders which are of white to buff, and in some cases purple colour. They consist of 70-80% of quartz grains of an average diameter of 0.6 mm. The matrix (20-30% volume %) is made up of mica, chlorite, clay minerals and iron hydroxides.

The uranium mineral is pitchblende either as idiomorphic spheric knots or as lobed fill-ins within the matrix. The first type seems to be more evident in boulders from Falling Sand Point, the other one in boulders from the Belinda-Sebastian Lake area. Not enough work has been done to attribute these differences to a genetic cause. In a report by Voultsidis and Clasen, Bonn, of November 25, 1975 it is suggested that the precipitation of pitchblende occurred simultaneously with that of hematite with iron acting as a reduction agent. Secondary minerals are uranophane and probably coffinite.

2) Only a few uraniferous pre-Athabasca regolith boulders were found, two in the Belinda-Sebastian Lake area and one in the Goose Bay area. Voultsidis and Thomas, Bonn, report of August 19, 1975, describe the rock as granite which was severely deformed by tectonics and coloured red by hematization. The mineralization, however, is post-tectonic with pitchblende along with calcite and hematite. Calcite makes up between 5 - 10 volume % of the rock. The following chemical reaction is proposed by Voultsidis:

$$U^{6+} + 2\ Fe^{2+} = U^{4+} + 2\ Fe^{3+}$$

Observations under the microscope indicate that pitchblende and hematite are concentrated within vugs and tectonic shear planes.

3) A few uraniferous boulders were found which are believed to be pre-Martin regolith.

The pre-Martin regolith is a metamorphosed regolith and is the host rock of most of the uranium mineralization at the Eldorado Mine at Uranium City, where this rock type is called the Orange Mylonite.

However, no microscopic investigations have been done to confirm this observation.

One uraniferous boulder found at location 105 x 102 within grid #1 in the Cypress Point - Falling Sand Point area consists of Athabasca Sandstone and andesite(?) No petrographic investigations have been made to resolve the spatial and genetic relationship between those two rock types as well as the question of their association with uranium mineralization. Effusive igneous rocks within the Athabasca series are only known to exist in the Cluff Lake area where recent theories connect these rock types with the uranium mineralization.

Petrographic studies to investigate these questions are in preparation.

Quite different from all the other uraniferous boulders is the fresh looking granitic boulder which was found in the Belinda-Sebastian Lake area (#12). Although the grade is low (less than 0.05% U_3O_8) a high tonnage can be expected from such a rock type.

8.3 CHEMICAL ANALYSES

See Table #2 - Belinda-Sebastian Lake Area
#3 - Cypress Point-Greywillow Point Area
#4 - Goose Bay Area
#5 - Fishcamp Bay Area

9 ASSESSMENT

9.1 ASSESSMENT OF POTENTIAL

A very important factor in the evaluation of the mineralized glacial float is the glaciology in the area of investigation. Due to the wave action of the postglacial Athabasca Lake all the glacial deposits were reshaped and probably resorted. All that we can see on today's surface are raised beaches consisting of sand, gravel and boulders.

No till fabric has been found for exact delineation of the last glacial transport direction. Striation on outcrops indicates an E-W rather than a NE-SW direction. If this observation is correct, several sources have to be anticipated for the boulders found to January. The boulder fans of the individual sources overlap giving the impression of a line-up of boulders in a 45^{o} direction parallel to the shore.

Only a fraction of the area of investigation is suitable for ground prospecting areas which are covered by boulders. Much of the area of investigation however, is covered by beach sand or muskeg, both making boulder tracing impossible. It should be kept in mind that the obtained distribution pattern of the surfacially located uraniferous boulders does not neccessarily reflect the true distribution pattern.

Another major consideration in evaluating the uraniferous boulders is the fact that the boulders were not only frost heaved, crushed and transported by the glacier. They were also subjected to a severe milling action by which they were ground-up like in an autogene mill. Only the toughest and hardest rock survived this mistreatment. Softer rock like regolith or well mineralized boulders are less resistant and were ground-up during this process. We therefore conclude that we face a positive selection of rocks with respect to their hardness, but a negative selection in their grade of uranium mineralization.

Nature and distribution of the uraniferous boulders found in the area of investigation lead to following major conclusions:

1) several individual sources with overlapping boulder fans can be expected within both provinces, Alberta and Saskatchewan. Some of these sources, however are definitely submerged under the waters of Lake Athabasca.

2) mineralized regolith boulders evidence the existence of vein-type uranium deposits within the basement (type: Rabbit Lake, Key Lake).

3) pitchblende-mineralized Athabasca Sandstone boulders can be derived from two types of deposits. Firstly, from the top part of a vein type deposit and secondly from an intra-formational uranium deposit within the Athabasca series. The latter type is not too well known. Examples of this type are the sandstone mineralization of Steward Island south of Gunnar, and a reportedly minable orebody found by Amok Ltd., in the Fond du Lac area. The boulder concentration at Falling Sand Point might indicate such a mineralization.

4) several metamorphic uraniferous regolith boulders were found which are similar in appearance to pre-Martin regolith. Similar regolith is found at the Eldorado Mine where it is called the orange mylonite which is one of the major hostrocks of the uranium mineralization.

One point we should not overlook: The unconformity was found exposed on two locations within the area of investigation. Both outcrops are mineralized with uranium. Another well known exposure of the unconformity is located east of Stoney Rapids at Middle Lake, which is also mineralized with uranium. To my knowledge those are the only three exposures of the unconformity NW and north of the Athabasca basin.

In the foregoing considerations only the potential of the already surficially indicated uranium deposits was discussed. For the potential which can be expected within the basin under shallow sandstone cover, reference shall be made to the comments made in chapter 9. of the report on the Cree-Keefe Lake project, yearly report 1975.

9.1.1 Uranium Potential

Summarizing all evidence gathered during the past field season plus the considerations and experiences gained on the SW and SE rim of the Athabasca Basin, the uranium potential of the NW rim area has to be classified as excellent.

9.1.2 Potential for other minerals

No evidence of other mineralization was found. Of potential are only metals which are associated with the uranium mineralization. The high cobalt content (up to .4% Co) of some of the sandstone samples shall be mentioned in this connection.

10. RECOMMENDATIONS

During the winter months the area from Falling Sand Point to Maurice Bay should be covered by a grid, crosslines being 200 meters apart. A magnetometric survey should be carried out along lines with the objective to delineate basement structures which could be interpreted as uranium traps.

Diamond drilling in the Falling Sand Point area should be considered in order to:

a) find the source of the large boulder field

b) test the nature of the unconformity and the Athabasca Formation in this area.

A sledge mounted spectrometer survey is planned during late winter and early spring with the objective to detect additional uraniferous boulders.

The survey will take place mainly along the present and past (raised) beaches of the Lake Athabasca.

Prospecting is planned during the summer months using the grid lines as reference lines. Drilling may be considered depending on the outcome of the winter operations. Geochemistry, and geological investigations are planned as well.

TABLE #2

SAMPLE LIST PROJECT: 7141 N.W. ATHABASCA

BELINDA - SEBASTIAN LAKE AREA (BOULDERS ONLY)

NUMBER	DATE FOUND	FOUND BY	DEPTH (ins.)	WEIGHT (lbs.)	CPS on SRAT SPP2	PETROGRAPHIC FIELD DISCRIPTION		ASSAYS %			
						ROCKTYPE	REMARKS	U_3O_8 CAN.	U_3O_8 BONN	Co	
1	1970		18	65	15000	Athabasca Sandstone	Very Quartzitic	1.93	1.8		
2	June 9/75	T.H.	6	35	11,000	"	Tyipical Athabasca	.73	.31		
3	" 10/75	G.M.	6	5	2000	Regolith	Weathered	.065	.57		
4	" 11/75	K.T.	6	20	7000	Athabasca Sandstone	Tyipical Athabasca	.79	.35		
5	" "	T.H.	10	15	12,000	"	Very Quartzitic	1.68	2.10		
6	" 12/75	K.T.	12	8	6000	"		1.21	2.00		
7	" "	J.M.	6	20	1000	Regolith (?)	Very Weathered	.044	.043		
8	" "	W.M.	6	4	400	Athabasca Sandstone	Coarse Grained	.016	.051		
9	" 14/75	D.C.	-	50	2000	"	Very Quartzitic	.025	.016		
10	" 16/75	"	-	20	2500	Regolith	Metamorph (Martin)	.076	.026		
11	" "	"	-	200	1400	Conglomerate	"	.006	.003		
12	" "	"	-	20	1200	Granite	Fresh	.048	.023		
			Note:			The Differing Assay Results Are Caused By					
						Splitting The Rock Sample.					

TABLE #3

SAMPLE LIST PROJECT: 7141 N.W. ATHABASCA

CYPRESS POINT-GREYWILLOW POINT AREA (BOULDERS & OUTCROP)

NUMBER	DATE FOUND	FOUND BY	DEPTH (ins.)	WEIGHT (lbs.)	CPS on SRAT SPP2	PETROGRAPHIC FIELD DISCRIPTION		ASSAYS %			
						ROCKTYPE	REMARKS	U_3O_8 CAN.	U_3O_8 BONN	Co	
1	July 75				4500	Athabasca Sandstone	Location Grid 200 232 x 202	.260	.66		
2	..				4200	..		.134	.386		
3	..				2900	..		.600	.52	.	
4	..				1200	..		.600	.136	.17	
5	..				5000	..		.460	.365		
6	..				4500	..		.198	.58		
7	..				12,000	..		.180	.95		
8	..				3500	..		.182	.549		
9	..				3600	..		.164	.326		
10	..				6000	..		.402	.53		
11	..				4800	..		.802	.64	.	
					200	Martin Regolith (?)		.062	.039	.32	
					1500	Sandstone + Andesite(?)	105 x 102	.18	.212	.35	
					Average For Boulder Sample No's. 1-11 Only			.362	.512		
					400	Regolith (Outcrop)	230 x 201	.030	.019	.12	
					400	Regolith (Outcrop)	..	.030	.024	.11	
	Aug. 8/75	F.C.			3600	Athabasca S.S. (Outcrop)	Greywillow Pt.	.41	.62	.16	
	Aug 8/75	A.M.			1800	.. .. ..	.. ..	.48	.346	.40	

Note: The Differing Assay Results Are Caused By Splitting The Rock Sample.

TABLE # 4

SAMPLE LIST PROJECT: 7141 N.W. ATHABASCA

GOOSE BAY AREA (BOULDERS ONLY)

NUMBER	DATE FOUND	FOUND BY	DEPTH (ins.)	WEIGHT (lbs.)	CPS on SRAT SPP2	PETROGRAPHIC FIELD DISCRIPTION		ASSAYS %			
						ROCKTYPE	REMARKS	U_3O_8 CAN	U_3O_8 BOR.	Co	
1	July 18/75	J.M.	2	5	3000	Athabasca Sandstone	Basal	.042	.046		
2	"	"	-	50	15,000	"	"	1.72	.72		
3	"	"	4	20	4000	No Sample		-	-		
4	"	"	4	50	6000	Regolith	Weathered	.22	.081		
5	July 19/75	M.O.	4	15	3000	Athabasca Sandstone					
6	"	"	-	2	7000	"	On Beach	1.28	.277		
7	"	D.C.	-	50	5000	"	"	1.04	.041		
8	"	F.C.	-	4	4000	"		.720	.423		
9	"	D.Ch.	6	6	3000	"		.162	.153	.11	
10	"	"	6	10	2000	"		.026	.033	.14	
11	"	F.C.	-	15	3000	"		.340	.264		
12	"	D.Ch.	-	5	1500	"		.039	.076		
13	"	F.C.	-	1	7000	"	"	.540	2.55		
14	"	"	6	3	3000	"		2.50	.236	.11	
15	"	"	-	10	700	"	"	.480	.201	.09	
			Another 11			Boulders Were Found	On August 4/75				
			Note: The Differing Assay Results Are Caused By Splitting The Rock Sample.								

SAMPLE LIST PROJECT: 7141 N.W. ATHABASCA

FISHCAMP BAY AREA

NUMBER	DATE FOUND	FOUND BY	DEPTH (ins.)	WEIGHT (lbs.)	CPS on SRAT SPP2	PETROGRAPHIC FIELD DISCRIPTION		ASSAYS %			
						ROCKTYPE	REMARKS	U_3O_8 CAN.	U_3O_8 BONN	Co	
1	July 75	K.T.			6000	Athabasca Sandstone	Dark Colored	.22	.378	.40	
				Note: The Differing Assay Results Are Caused By Splitting The Rock Sample.							

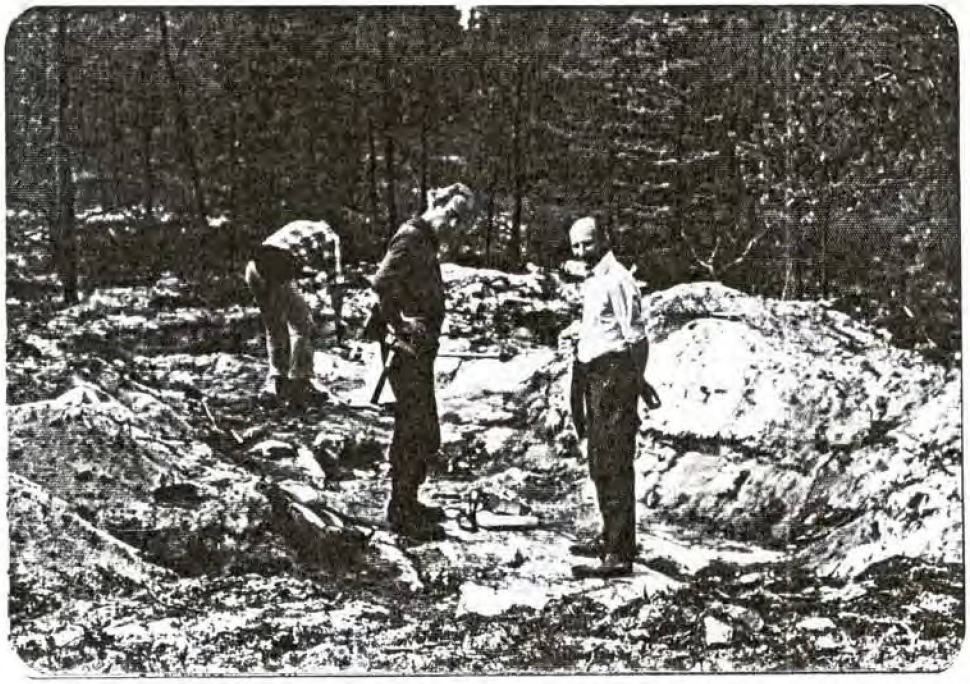


PHOTO # 1 (negative # 15)
Exposure of Helikian unconformity at locality 230 x 201 on grid 200, Falling Sand Point, Lake Athabasca (Project 71 - 41)

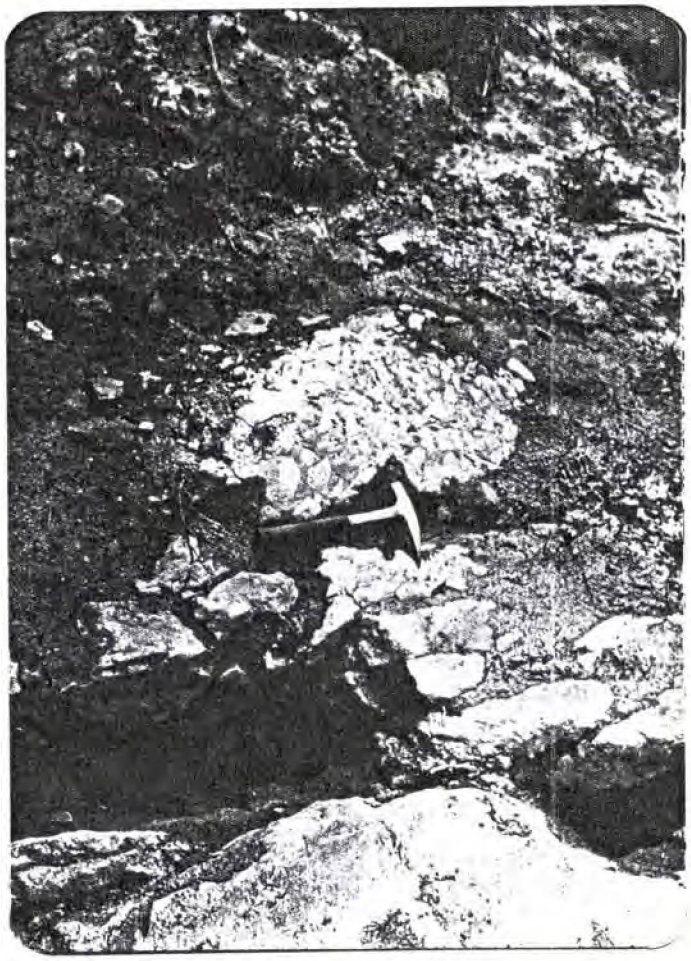


PHOTO # 2 (negative # 16)
Same exposure as photo # 1. Top part of picture is basal Athabasca conglomerate, bottom part is regolith, which is uraniferous (sample taken just below hammer yielded .019% and .024% U_3O_8 (Bonn assays)

PHOTO # 3 (negative # 5)
Exposure of Helikian unconformity at Grey-willow Point, Lake Athabasca (Project 71 - 41). Red flags indicate radioactive outcrops or frost heaves.

PHOTO # 4 (negative # 3)
Same exposure as photo # 3.
Upper part of the picture is underlain by regolith with an irregular weatherin pattern. Lower part is Athabasca formation with slabby weathering patter Prospector Fred Cook with mineralized sandstone (left hand!) which yielded .62 and .346% U_3O_8 (Bonn assays).

PHOTO # 5 (negative # 5)
On portage between Belinda Lake and Lake Athabasca (Project 71 - 41)

PHOTO # 6 (negative # 9)
En route to Lake Athabasca
(Project 71 - 41)

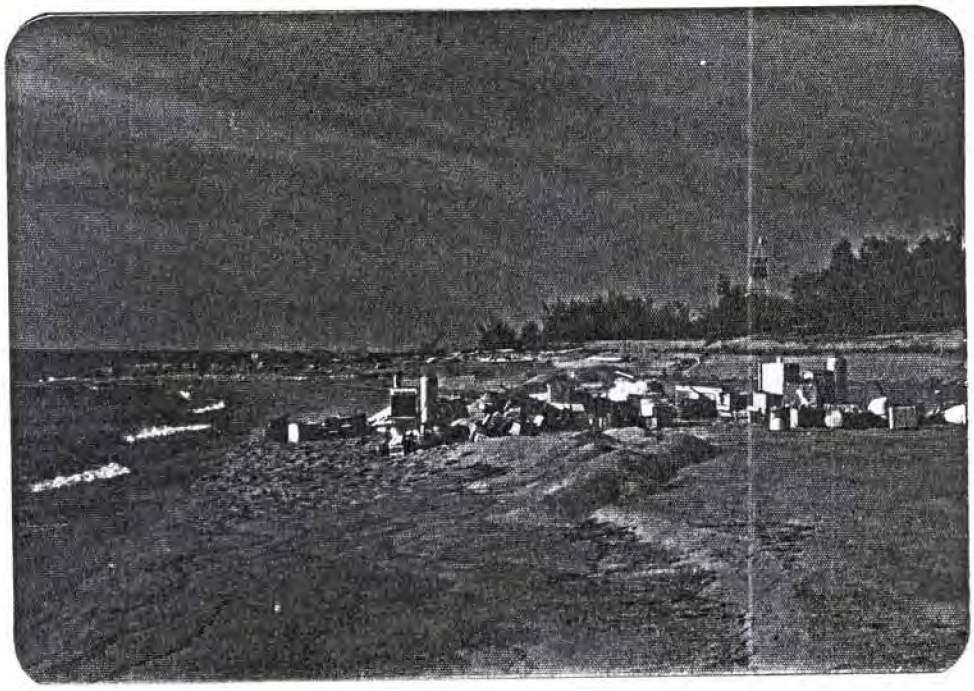


PHOTO # 7 (negative # 11)
Camp move, Cypress Point, June 1975
(Project 71 - 41)

PHOTO # 8 (negative # 14)
Moving equipment around Cypress Point,
June 1975 (Project 71 - 41)

PHOTO # 9 (negative # 17)
Building dock on Cypress Point,
June 1975 (Project 71 - 41)

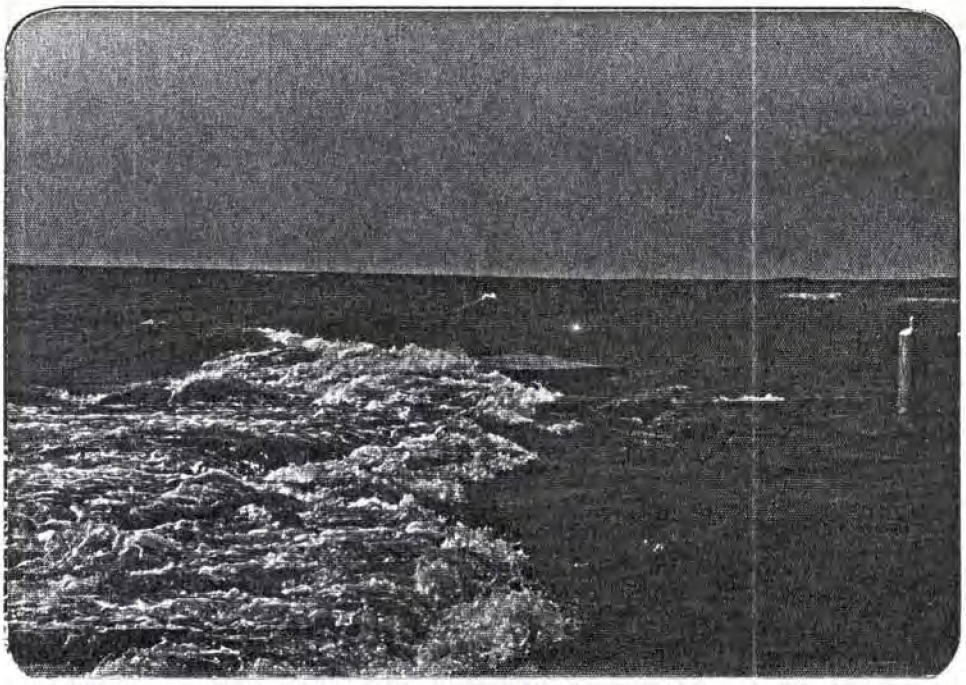
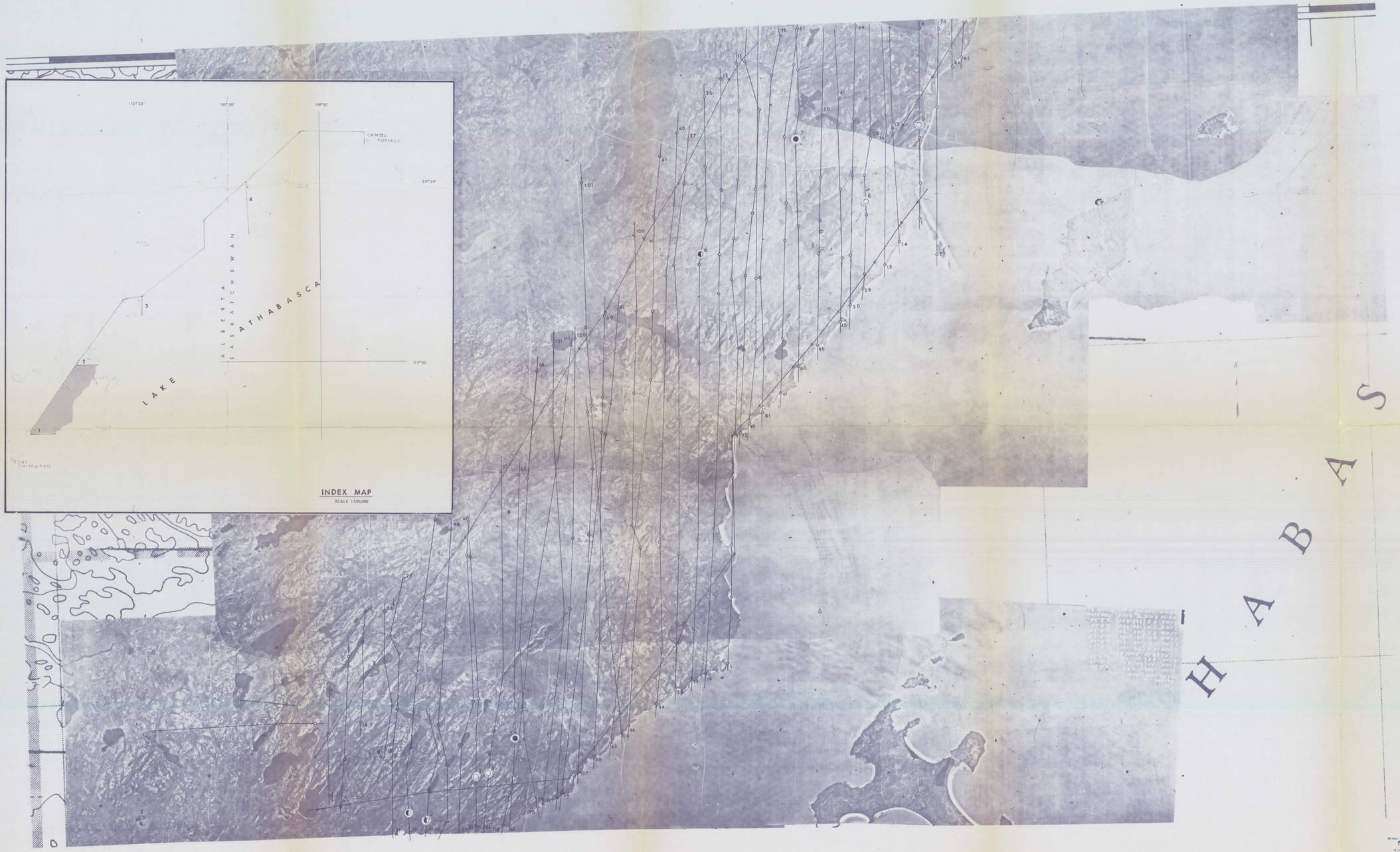


PHOTO # 10 (negative # 14)
Same dock as on photo # 9, on a windy day,
July 1975 (Project 71 - 41)

PHOTO # 11 (negative # 7)
Happy native crew leaving Cypress Point
for a day's prospecting, August 1975
(Project 71 - 41)

PHOTO # 12 (negative # 2)
Native crew prospecting for uraniferous boulders at Goose Bay, Sask, August 1975
(Project 71 - 41)



ANOMALY	U (cps)	Th (cps)	Alt (ft)
1	28	18	175
2	30	19	180
3	22	14	190
4	22	15	280
5	22	8	275
6	23	12	260
7	22	9	250
8	22	14	280
9	48	30	150

LEGEND

- ○ 1.4≤U/Th≤1.6
- ◑ 1.7≤U/Th ≤2.1
- ● 2.2≤U/Th≤4.2
- Flight line with numbered fiducial, unnumbered fiducial point
- (7) Flight line number
- Tie line

CONFIDENTIAL

71-41

URANERZ EXPLORATION & MINING LTD.

N.W. ATHABASCA

Airborne Spectrometer Survey

COMPILED E.LALANDE	DATE SEPT. 26/75	TENEMENT	MAP No. 1 of 4 | 5
DRAWN E.LALANDE	DATE OCT. 10/75	PLAN No.	REPORT No. DEC. 75
LAST REVISION		SCALE 1:63,360	PROJECT No. 71-41
T.C. TO BONN	REF.		FILE No. M9-11

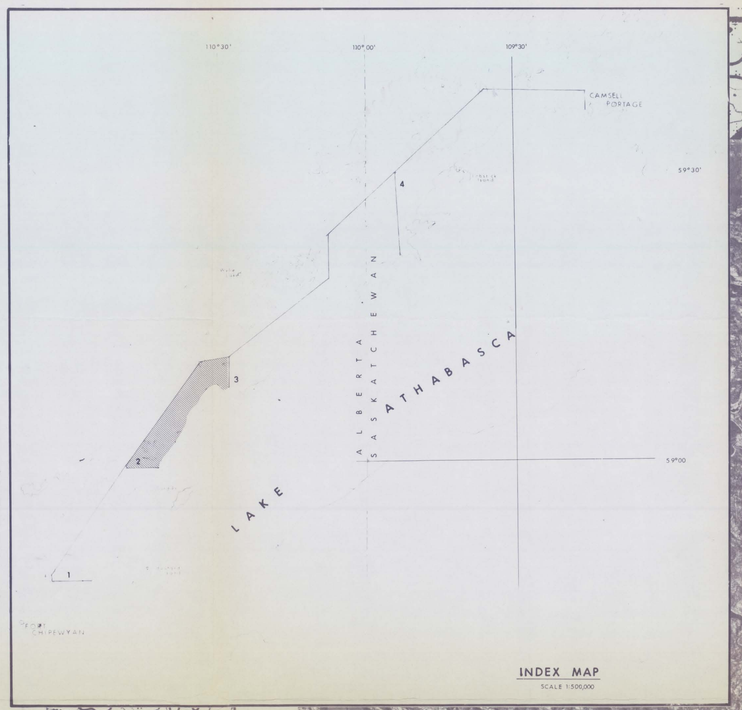
19750007

Miles 1/2 0 1 2 3 4 5 Miles

Kilometres 1/2 0 1 2 3 4 5 6 7 Kilometres

SCALE 1:63,360

Copy #2



ANOMALY	U (c.p.s.)	Th (c.p.s.)	ALT. (ft.)
1	22	16	310
2	22	12	225
3	24	14	290
4	30	15	200
5	34	13	190

LEGEND

- ○ 1.4≤U/Th≤ 1.6
- ◑ 1.7≤U/Th≤ 2.1
- ● 2.2≤U/Th≤ 4.2
- 21 — Flight line with numbered fiducial, unnumbered fiducial point.
- (7) Flight line number
- —X— Tie line

CONFIDENTIAL

71-41

URANERZ EXPLORATION & MINING LTD.

N.W. ATHABASCA
AIRBORNE SPECTROMETER SURVEY

COMPILED E.LALANDE	DATE NOV. 1975	TENEMENT	MAP No. (2/4)5
DRAWN E.LALANDE	DATE NOV. 1975	PLAN No.	REPORT No. DEC. 75
LAST REVISION NOV. 20, 1975		SCALE 1:63,360	PROJECT No. 71-41
T.C.TO BONN	REF.		FILE No. M9-12

19750007

Miles 1/2 0 1 2 3 4 5 Miles
Kilometres 1/2 0 1 2 3 4 5 6 7 Kilometres
SCALE 1:63,360

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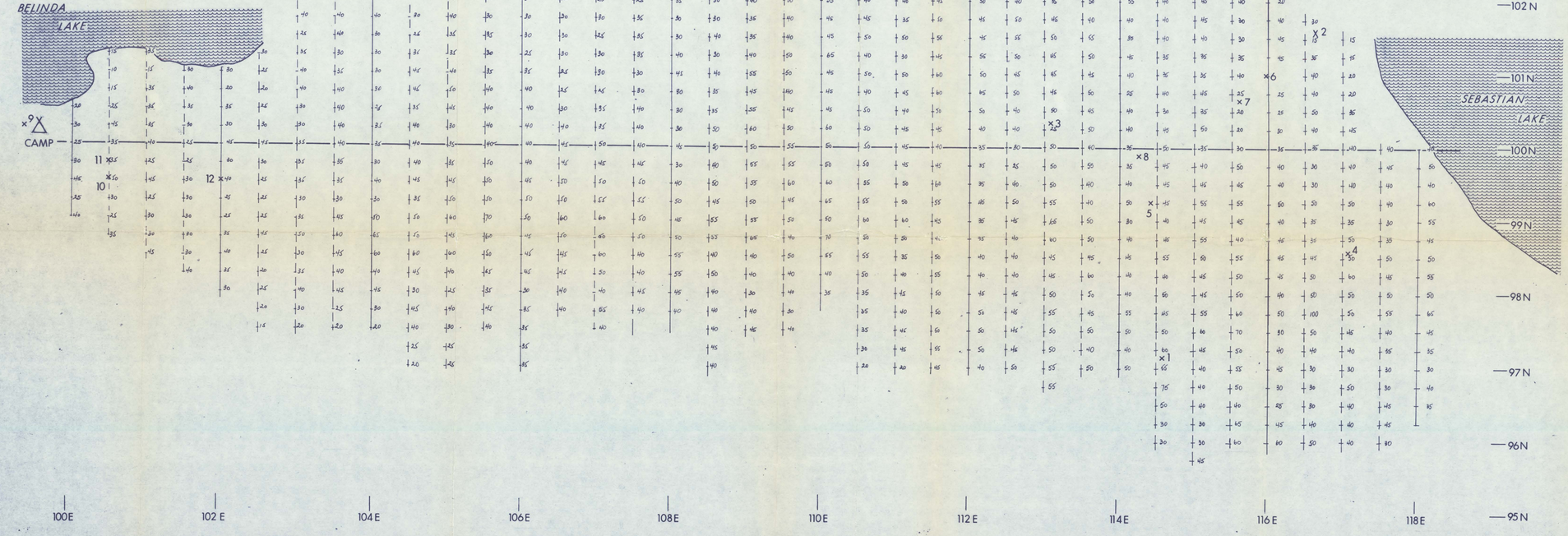

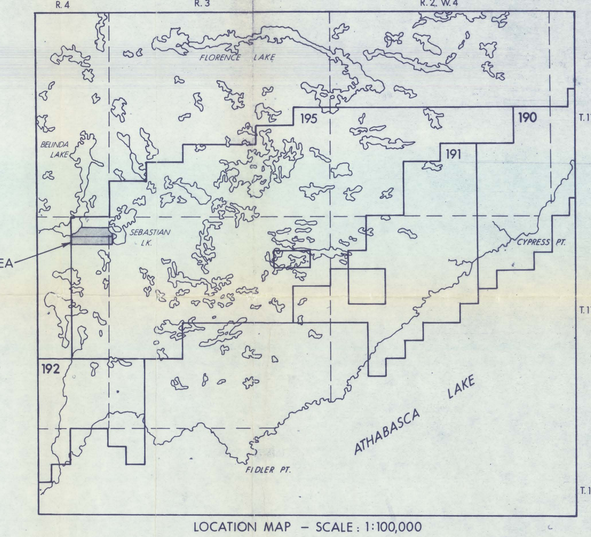

LOCATION MAP – SCALE : 1:100,000

Boulders Found	Date Found	By	Depth Overburden	Weight App.	cps on SSP2	Rocktype	Remarks	Assay U_3O_8
1	1970		18"	65 lb.	15,000	Sandstone	Very quartzitic leached, U-stain	1,93
2	June 9, 1975	T.H.	6"	35 lb.	11,000	Sandstone	Typical Athabasca	0,52
3	June 10, 1975	G.M.	6"	5 lb.	2,000	Regolith	Weathered	0,317
4	June 11, 1975	K.T.	6"	20 lb.	7,000	Sandstone	Typical Athabasca	0,57
5	June 11, 1975	T.H.	10"	15 lb.	12,000	Sandstone	Very quartzitic, similar to no1.	1,89
6	June 12, 1975	K.T.	12"	8 lb.	6,000	Regolith		1,60
7	June 12, 1975		6"	20 lb.	1,000	Regolith (?)	Very weathered	0,43
8	June 12, 1975	W.M.	6"	4 lb.	400	Sandstone	coarse grained	0,033
9	June 14, 1975	D.C.	Surface	50 lb.	2,000	Sandstone	very quartzitic	0,020
10	June 16, 1975	D.C.	Surface	20 lb.	2,500	Regolith	metamorph (?)	0,051
11	June 16, 1975	D.C.	Surface	200 lb.	1,400	Conglomerate	Metamorph	0,0058
12	June 16, 1975	D.C.	Surface	20 lb.	1,200	Granite	Fresh	0,048

RADIOACTIVE BOULDER SPECIFICATIONS

LEGEND

INSTRUMENTS USED : SRAT SPP2
ALL READINGS ARE IN c.p.s. WITH THE INSTRUMENT HELD AT HIP LEVEL

AREAS COVERED BY DETAILED PROSPECTING SWEPT BY AN ARRAY OF PROSPECTORS 6-10 m APART.

CUT AND SURVEYED LINES

SURVEYED LINES ONLY

19750007(1)

URANERZ EXPLORATION & MINING LTD.
N.W. ATHABASCA PROJECT 7141

SCINTILLOMETER SURVEY AND RADIOACTIVE BOULDER LOCATION MAP

MAP No. 2

COMPILED: K.L. THIEL	DATE: JUNE, 1975	TENEMENT:	MAP No.: 2
DRAWN: P. del Val	DATE: JUNE, 1975	PLAN No.	REPORT No.
LAST REVISION:		SCALE: 1: 2,500	PROJECT No. 71-41
T.C.TO BOMH	REF: NTS 74 M-1		FILE No. M 9-5

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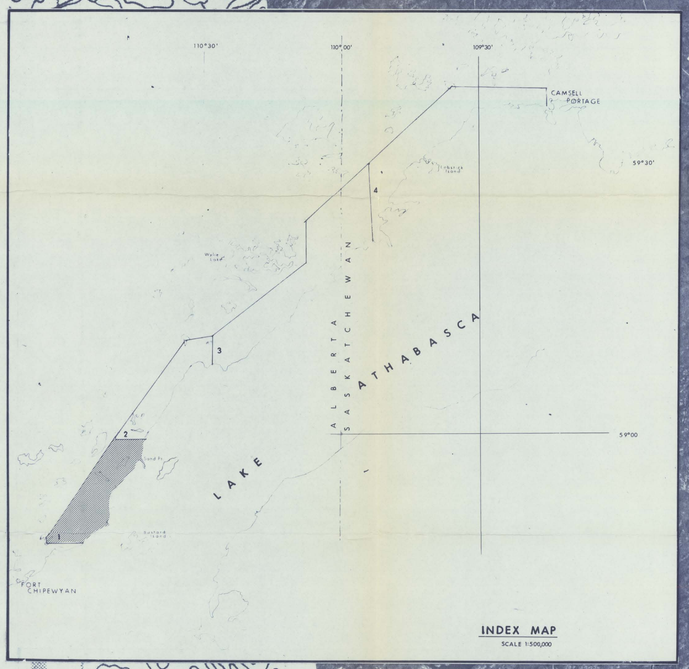

INDEX MAP
SCALE 1:500,000

ANOMALY	U (cps)	Th (cps)	ALT (ft)
1	28	18	175
2	30	19	180
3	22	14	190
4	22	15	280
5	22	8	275
6	23	12	260
7	22	9	250
8	22	14	280
9	48	30	150

LEGEND

- 1.4≤U/Th≤1.6
- 1.7≤U/Th≤2.1
- 2.2≤U/Th≤4.2
- Flight line with numbered fiducial, unumbered fiducial point
- Flight line number
- Tie line

71-41

URANERZ EXPLORATION & MINING LTD.

N.W. ATHABASCA

Airborne Spectrometer Survey

COMPILED E.LALANDE	DATE SEPT. 26/75	TENEMENT	MAP No. 11 of 415
DRAWN E.LALANDE	DATE OCT. 10/75	PLAN No.	REPORT No. DEC. 75
LAST REVISION		SCALE 1:63,360	PROJECT No. 71-41
T.C.TO BONN	REF.		FILE No. M9-11

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Kilometres 1/2 0 1 2 3 4 5 6 7 Kilometres
SCALE 1:63,360

19750007

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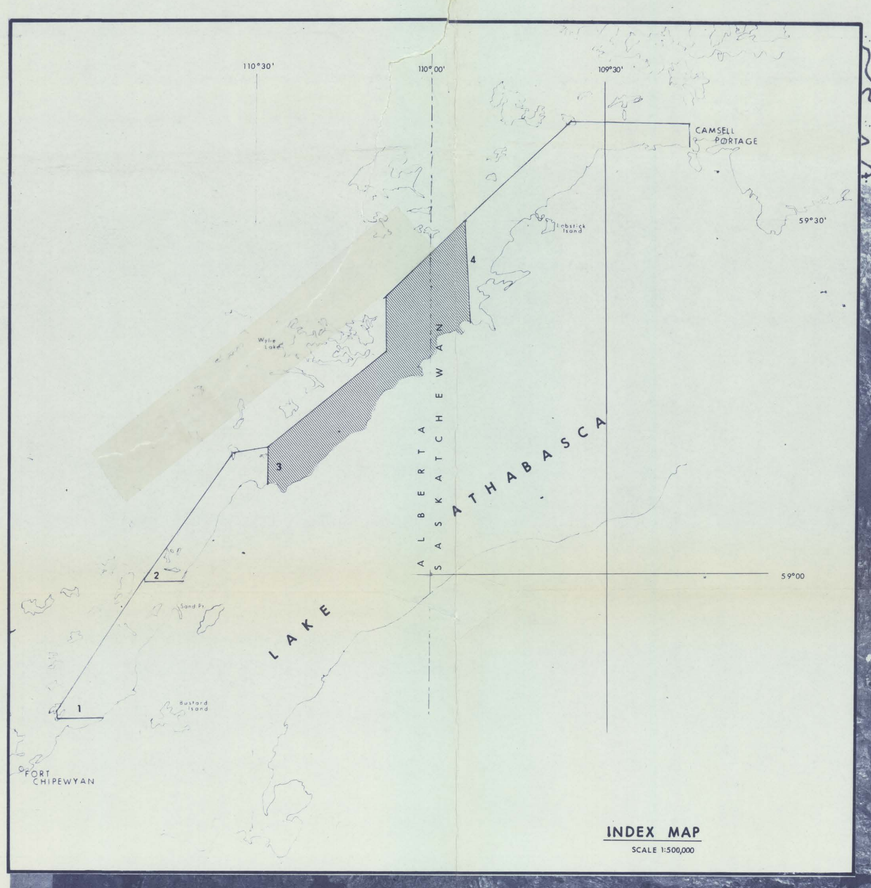

INDEX MAP

SCALE 1:500,000

ANOMALY	U (c.p.s.)	Th (c.p.s.)	ALT. (ft.)
1	26	12	220
2	28	20	220
3	38	18	250
4	36	26	200
5	27	12	210
6	30	10	280
7	30	15	250
8	58	18	285
9	34	18	245
10	60	28	160
11	28	18	145
12	44	18	240
13	42	26	280
14	45	18	180
15	55	12	210
16	21	10	270
17	35	20	265
18	34	20	255
19	28	16	245
20	30	20	280
21	36	15	260
22	24	16	220
23	25	18	235
24	48	20	125
25	32	20	140

ANOMALY	U (c.p.s.)	Th (c.p.s.)	ALT. (ft.)
26	22	12	245
27	28	18	250
28	23	8	240
29	35	24	230
30	31	21	245
31	36	18	250
32	48	20	190
33	44	20	190
34	26	11	230
35	27	15	230
36	26	12	230
37	30	18	220
38	23	12	210
39	28	16	200
40	25	14	230
41	24	10	250
42	23	14	180
43	22	12	250
44	18	6	160
45	36	24	160
46	30	18	180
47	20	10	280

LEGEND

- ○ 1.4 ≤ U / Th ≤ 1.6
- ◑ 1.7 ≤ U / Th ≤ 2.1
- ● 2.2 ≤ U / Th ≤ 4.2
- 21 — Flight line with numbered fiducial, unnumbered fiducial point.
- ⑦ Flight line number
- —x— Tie line

71·41

URANERZ EXPLORATION & MINING LTD.

N.W. ATHABASCA

AIRBORNE SPECTROMETER SURVEY

COMPILED E. LALANDE	DATE OCT 28/75	TENEMENT	MAP No. 13/415
DRAWN E. LALANDE	DATE NOV 12/75	PLAN No.	REPORT No. DEC. 75
LAST REVISION NOV. 20/75		SCALE 1:63,360	PROJECT No. 71-41
T.C. TO BONN	REF.		FILE No. M9-13

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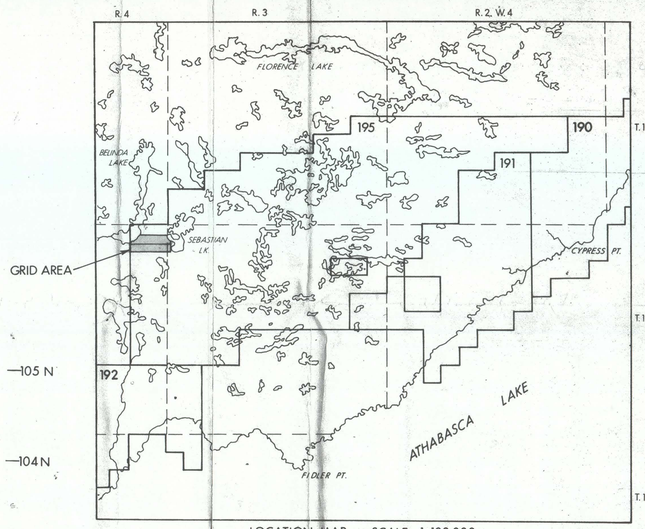
Kilometres 1/2 0 1 2 3 4 5 6 7 Kilometres

SCALE 1 63,360

19750007

Copy #1

24



LOCATION MAP — SCALE : 1:100,000

Boulders Found	Date Found	By	Depth Overburden	Weight App.	cps on SSP2	Rocktype	Remarks	Assay U_3O_8
1	1970		18"	65 lb.	15,000	Sandstone	Very quartzitic leached, U-stain	1.93
2	June 9, 1975	T.H.	6"	35 lb.	11,000	Sandstone	Typical Athabasca	0.52
3	June 10, 1975	G.M.	6"	5 lb.	2,000	Regolith	Weathered	0.317
4	June 11, 1975	K.T.	6"	20 lb.	7,000	Sandstone	Typical Athabasca	0.57
5	June 11, 1975	T.H.	10"	15 lb.	12,000	Sandstone	Very quartzitic, similar to #1.	1.89
6	June 12, 1975	K.T.	12"	8 lb.	6,000	Regolith		1.60
7	June 12, 1975		6"	20 lb.	1,000	Regolith (?)	Very weathered	0.43
8	June 12, 1975	W.M.	6"	4 lb.	400	Sandstone	coarse grained	0.033
9	June 14, 1975	D.C.	Surface	50 lb.	2,000	Sandstone	very quartzitic	0.020
10	June 16, 1975	D.C.	Surface	20 lb.	2,500	Regolith	metamorph (?)	0.051
11	June 16, 1975	D.C.	Surface	200 lb.	1,400	Conglomerate	Metamorph	0.0058
12	June 16, 1975	D.C.	Surface	20 lb.	1,200	Granite	Fresh	0.048

RADIOACTIVE BOULDER SPECIFICATIONS

BELINDA LAKE

CAMP

SEBASTIAN LAKE

100N
99N
98N
97N
96N
95N
101N

100E
102 E
104E
106E
108E
110E
112 E
114E
116E
118E

LEGEND

INSTRUMENTS USED : SRAT SPP2
ALL READINGS ARE IN c.p.s WITH THE INSTRUMENT HELD AT HIP LEVEL

AREAS COVERED BY DETAILED PROSPECTING SWEPT BY AN ARRAY OF PROSPECTORS 6-10 m APART.

CUT AND SURVEYED LINES

SURVEYED LINES ONLY

URANERZ EXPLORATION & MINING LTD.
N.W. ATHABASCA PROJECT 7141

SCINTILLOMETER SURVEY AND RADIOACTIVE BOULDER LOCATION MAP

MAP No. 2

COMPILED: K. L. THIEL	DATE: JUNE, 1975	TENEMENT:	MAP No.: 2
DRAWN: F. del Val	DATE: JUNE, 1975	PLAN No.	REPORT No.
LAST REVISION:	SCALE: 1: 2,500		PROJECT No. 71-41
T.C. TO DORR:	REF: NTS 74 M/4		FILE No.: AX-F-5

1775007
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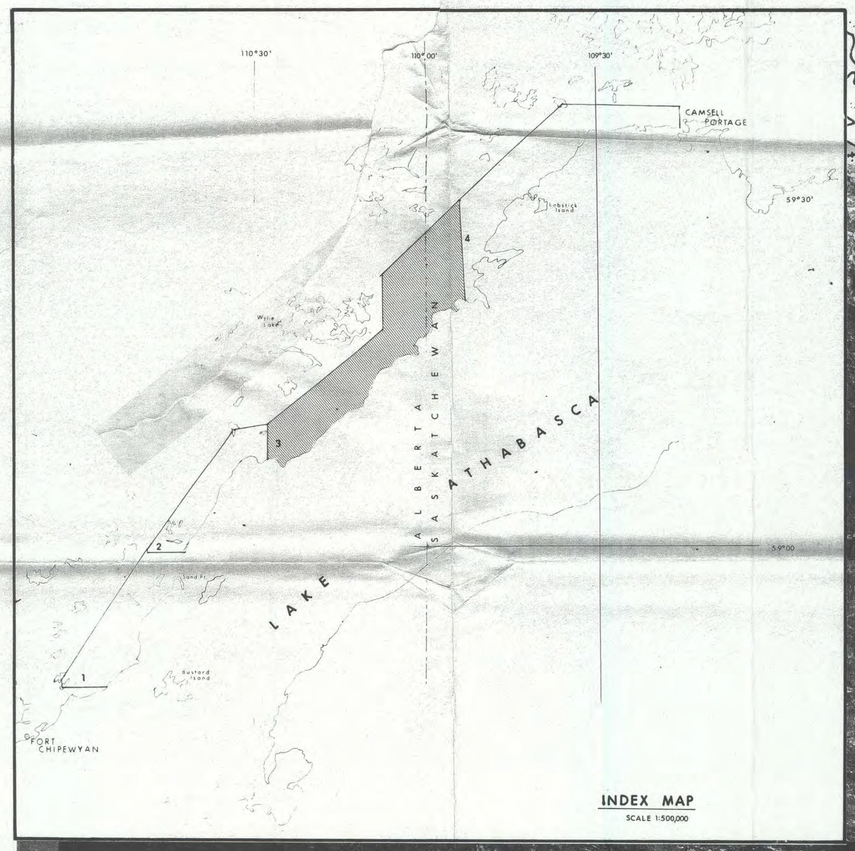


INDEX MAP

SCALE 1:500,000

N

ANOMALY	U (c.p.s.)	Th (c.p.s.)	ALT. (ft.)
1	26	12	220
2	28	20	220
3	38	18	250
4	36	26	200
5	27	12	210
6	30	10	280
7	30	15	250
8	58	18	285
9	34	18	245
10	60	28	160
11	28	18	145
12	44	18	240
13	42	26	280
14	45	18	180
15	55	12	210
16	21	10	270
17	35	20	265
18	34	20	255
19	28	16	245
20	30	20	280
21	36	15	260
22	24	16	220
23	25	18	235
24	48	20	125
25	32	20	140

ANOMALY	U (c.p.s.)	Th (c.p.s.)	ALT. (ft.)
26	22	12	245
27	28	18	250
28	23	8	240
29	35	24	230
30	31	21	245
31	36	18	250
32	48	20	190
33	44	20	190
34	26	11	230
35	27	15	230
36	26	12	230
37	30	18	220
38	23	12	210
39	28	16	200
40	25	14	230
41	24	10	250
42	23	14	180
43	22	12	250
44	18	6	160
45	36	24	160
46	30	18	180
47	20	10	280

LEGEND

- ○ 1.4 ≤ U / Th ≤ 1.6
- ◑ 1.7 ≤ U / Th ≤ 2.1
- ● 2.2 ≤ U / Th ≤ 4.2
- 21 Flight line with numbered fiducial, unnumbered fiducial point
- (7) Flight line number
- —x— Tie line

71-41

URANERZ EXPLORATION & MINING LTD.

N.W. ATHABASCA

AIRBORNE SPECTROMETER SURVEY

COMPILED E. LALANDE	DATE OCT 28/75	TENEMENT	MAP No. 13/41.5
DRAWN E. LALANDE	DATE NOV 12/75	PLAN No.	REPORT No. DEC.75
LAST REVISION NOV. 20/75		SCALE 1:63,360	PROJECT No 71-41
T.C. TO BONN	REF		FILE No M9-13

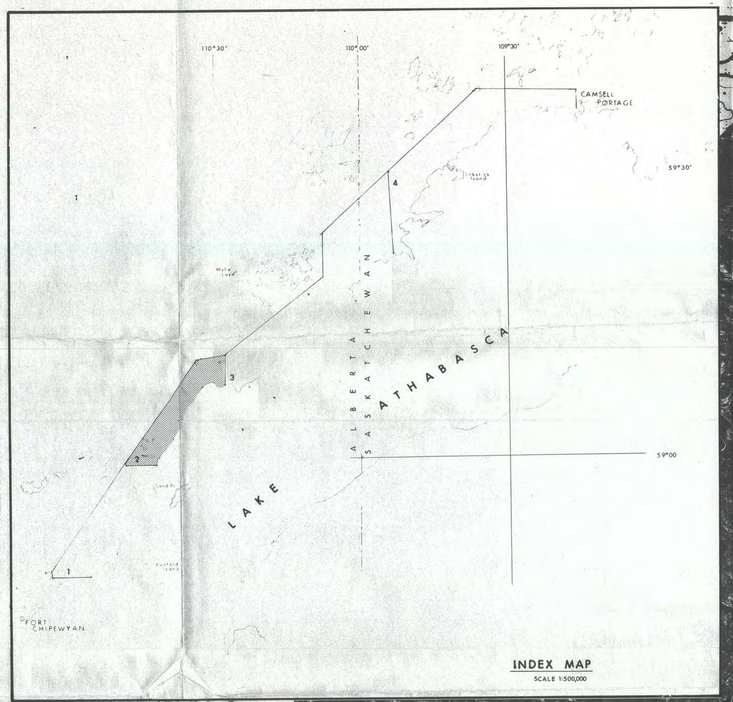
Miles 1/2 0 1 2 3 4 5 Miles

Kilometres 1/2 0 1 2 3 4 5 6 7 Kilometres

SCALE 1:63,360

19750007

(24)



INDEX MAP

SCALE 1:500,000

ANOMALY	U (c.p.s.)	Th (c.p.s.)	ALT (ft.)
1	22	16	310
2	22	12	225
3	24	14	290
4	30	15	200
5	34	13	190

LEGEND

- ○ 1.4 ≤ U/Th ≤ 1.6
- ◑ 1.7 ≤ U/Th ≤ 2.1
- ● 2.2 ≤ U/Th ≤ 4.2
- 21 — Flight line with numbered fiducial, unnumbered fiducial point.
- (7) Flight line number
- —×— Tie line

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AIRBORNE SPECTROMETER SURVEY

COMPILED: E.LALANDE	DATE: NOV. 1975	TENEMENT:	MAP No. (3/4)5
DRAWN: E.LALANDE	DATE: NOV 1975	PLAN No:	REPORT No. DEC. 75
LAST REVISION: NOV. 20, 1975		SCALE: 1:63,360	PROJECT No. 71-41
T.C.TO BONN	REF:		FILE No. M.9 -12

19750007

Miles 1/2 0 1 2 3 4 5 Miles

Kilometres 1/2 0 1 2 3 4 5 6 7 Kilometres

SCALE 1:63,360

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