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TRIEX MINERALS CORPORATION

MOUNTAIN LAKE PROPERTY

NUNAVUT

(NTS 86N/7)

F.R. Hassard, B.A.Sc., P. Eng.
(Qualified Person)

February 15, 2005

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SUMMARY

Triex Minerals Corporation has acquired an interest in the Mountain Lake Property, Nunavut. The property is within the Hornby Bay Basin, northeast of Great Bear Lake, about 550 km. north of Yellowknife, NWT and 100 km. southwest of Kugluktuk, Nunavut.

No exploration has been done on the property by either Triex or its partner, Pitchstone Exploration Ltd. Uraniferous outcrops, discovered in 1969, and the Mountain Lake Deposit, discovered in 1976, exist within the property. The Mountain Lake Deposit was discovered during following airborne and ground geophysical surveys, geological mapping, geochemical surveys and drilling. To date, historical drilling totals nearly 22,000 m. within more than 190 holes. The deposit confirms that, within portions of the Hornby Bay basin, oxidizing fluids containing uranium and other metals were present and that appropriate deposition and preservation conditions existed.

The property is underlain by Aphebian granitic and rhyolitic rocks, which are unconformably overlain by Paleohelikian Hornby Bay Group and Neohelikian Dismal Lakes Group continental and marine sedimentary rocks.

The deposit is within gently northeasterly dipping Unit 11 quartzitic sandstone and conglomerate of the Dismal Lakes Group, which unconformably overlies weathered Aphebian granitic rocks and Hornby Bay Group sediments. The deposit is situated within a 500 m. wide, northeasterly trending graben. The graben is bounded by steeply dipping, northeasterly striking faults which are likely splays off the regional Herb Dixon Fault.

Most of the deposit consists of stratabound uranium oxides; a minor amount relatively high grade fracture-controlled mineralization has also been discovered. Stratabound mineralization occurs as two or more gently easterly dipping horizons, one to six m. thick, within the upper 60 m. of Unit 11. Grades are usually 0.1-0.3% U_3O_8. Local concentrations of uranium oxides occur. Stratabound layers locally contain up to 1.23% U_3O_8 over 1.9 m. vertical thickness. One steeply dipping fracture zone has been discovered and contains up to 5.19% U_3O_8 over a narrow width, within a zone estimated to grade 0.89% U_3O_8 across 1.9 m. true width. Minor amounts of copper, nickel, cobalt and silver occur locally and are associated with the uranium oxides.

The Mountain Lake uranium deposit is considered a Shale-related deposit, generally analogous to deposits near Oklo in Gabon, Africa. There is a strong association of the mineralization with faults.

A current estimate of Inferred Resources has provided an assessment of quantity and quality of the deposit. The Mountain Lake Deposit is estimated to contain Inferred Resources of 3,700 t. U_3O_8, within 1.6 million t. of mineralized rock, at an average grade of 0.23% U_3O_8. This is based on a minimum grade of 0.10% U_3O_8, a minimum vertical thickness of 1.0 m., the opinion that the mineralization could be mined *en masse*, and specific gravity of 2.5. The Mountain Lake Deposit consists of about 98% strata-bound mineralization, with an average thickness of 2.1 m. About 2% of the deposit is fracture-controlled mineralization.

The property is very well situated in a prospective structural setting. Fault-related mineralization, either within fracture zones or as lensoid concentrations, may exist. These types of mineralization represent targets that may substantially enhance the grade of the deposit, however, this style of mineralization is essentially unexplored within the property. Faults within and bounding the deposit are likely related to its formation but have been tested by few drill holes. Several unexplored faults with presumed similar age and characteristic to those bounding the Mountain Lake Deposit exist within overburden-covered portions of the property and are valid exploration targets for deposits similar to the Mountain Lake Deposit.

Exploration is recommended. An airborne and electromagnetic survey and satellite photo analysis should map the faults beneath the overburden and provide a modern geophysical and alteration framework

for the property. Ground geophysical and geochemical surveys, in conjunction with rehabilitation of core, relogging, core alteration mapping, lithogeochemical sampling and analyses are also recommended. This exploration should more precisely indicate future drill hole locations and ultimately lead to the development of an efficient drill program. The cost of the recommended exploration during 2005 is estimated at $350,000.

INTRODUCTION AND TERMS OF REFERENCE

Triex Minerals Corporation (Triex) is a public company with mailing address and offices at P.O. Box 11584, Suite 1410, 650 West Georgia Street, Vancouver, British Columbia. Triex was incorporated in British Columbia as 475284 B.C. Ltd. on June 21, 1994. On September 26, 1994 the name was changed to Triex Resources Ltd. and on July 16, 2002 the name was changed to Triex Minerals Corporation. Triex is registered extra-provincially in Alberta (#2111307951), in Saskatchewan (#101062253), in the Northwest Territories (#E8255), and in Nunavut (#ET8311).

Under an agreement with Pitchstone Exploration Ltd. (Pitchstone), Triex owns or has the right to acquire a 50% interest in the Mountain Lake Property (the "Property"), comprising eight mineral claims, and other properties that may be acquired in the Dismal Lakes area. The Property contains a uranium deposit (the "Deposit", defined under MINERALIZATION) and is the sole Mineral Project with respect to this Technical Report and, in the context of National Instrument 43-101, is material to Triex's interest

F.R. Hassard, P.Eng. has been retained as Qualified Person (QP) and independent consulting engineer by Triex to examine scientific and technical data pertaining to the Mountain Lake Property and to compile a Technical Report conforming to the Standards of Disclosure for Mineral Projects as required by National Instrument 43-101. This Technical Report has been prepared to guide future exploration and satisfy requirements that may develop.

The author and Mr. E.A.G. Trueman, P.Eng. of Pitchstone flew from Yellowknife to the Property on August 22, 2004. Drill core, from drilling by Imperial Oil Limited within the area previously held as the YUK Mineral Claims, was located at Kirwan Lake. A systematic examination and sampling of the core was not possible, however, some of the core was removed from racks and examined. Core box numbers and sample intervals and numbers were generally visible and most of the core appeared to be present. Some racks have collapsed to a state where core boxes could not be removed, however the core in those racks did not appear to be damaged. Drill core, from drilling by Aquitaine and partners within the area previously held as the PEC Mineral Claims, was observed from the air and is stored in racks or piled. The mineral showing discovered by Aquitaine was visited and a small trench was examined. Two claim posts were located. One is on the western boundary of the Property; the other is an internal post. Time did not permit a full investigation of the quality of the staking or location of the claim boundaries. However, the author has no reason to doubt the validity of the DL 1 to 8 mineral claims.

Some data originally recorded in various reports has been converted and is included in this report in metric units (Appendix 1). Abbreviations, conversions utilized in this report, as well as the composition of some uranium and other minerals mentioned, are in Appendix 1. Currency is in Canadian dollars unless otherwise indicated.

DISCLAIMER

The author of this Technical Report has relied on reports and other data written by or compiled on behalf of former owners of portions of land in what is now the Property, namely Imperial Oil Limited (historic YUK Mineral Claims) and Aquitaine Company of Canada Ltd. and various partners (historic PEC Mineral Claims) and on various publications prepared by government and academic institutions. Any reports used are referenced in applicable sections of this report and noted under REFERENCES. The author believes such reports and other data to be reliable but disclaims any responsibility for inaccuracies or omissions that may be inherent to those reports and other data. No exploration has been done on the Property by either Triex or Pitchstone.

F.R. Hassard, P.Eng. is not responsible for the use of this report, or any part thereof, if that use has not been approved in writing by F.R. Hassard, P.Eng.

PROPERTY DESCRIPTION AND LOCATION

The Property consists of eight mineral claims (DL 1 to 8 inclusive) totaling 6,647.0 ha. and is located within Nunavut, 550 km. north of Yellowknife and 100 km. southwest of Kugluktuk (formerly Coppermine) (Figure 1). The Property is centered at 67° 18'N latitude and 116° 51'W longitude within National Topographic System (NTS) map sheet 86N/7. Mountain Lake is approximately two km. to the west and Dismal Lakes is approximately one km. to the northeast (Figure 2).

The claims were staked May 23, 2004. The claims were transferred to Triex Minerals Corporation on February 10, 2005. The author of this report and QP has viewed a copy of the Transfer of Mineral Claim document.

Nunavut is an unsurveyed region and claims are physically staked by erecting posts on the perimeter of the claims. The holder of a claim has the exclusive rights to explore for minerals but does not have the right to mine Nor are surface rights automatically owned.

The Property described in this report has not been legally surveyed. A significant mineralized zone, the Mountain Lake Deposit or PEC (see MINERALIZATION) is located within the Property. There is drill core, stored in racks, and small excavated pits on two surface showings, but no other improvements, mine workings or waste deposits on the Property. Exploration activities require certain activity permits from the Nunavut government, including: Land Use Permits, Water Licences and/or other occupancy and development permits. These have not been applied for; however, the author is not aware of any reason that such required permits would not be issued for future exploration or development programs. Required Land Use Permits and Water Licences may be acquired for nominal fees through Nunavut government offices in Iqualuit and Gjoa Haven respectively.

FIGURE 1

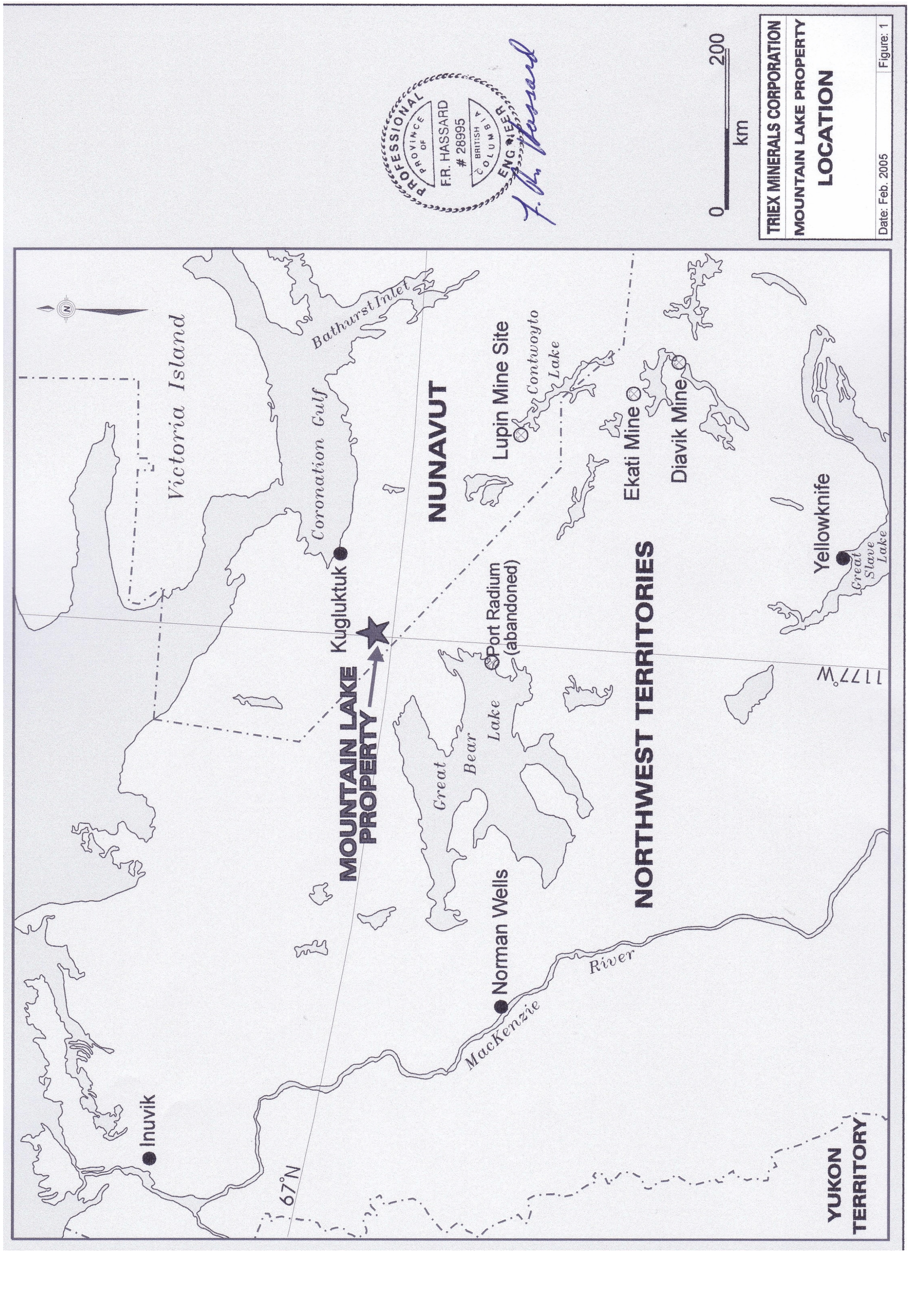
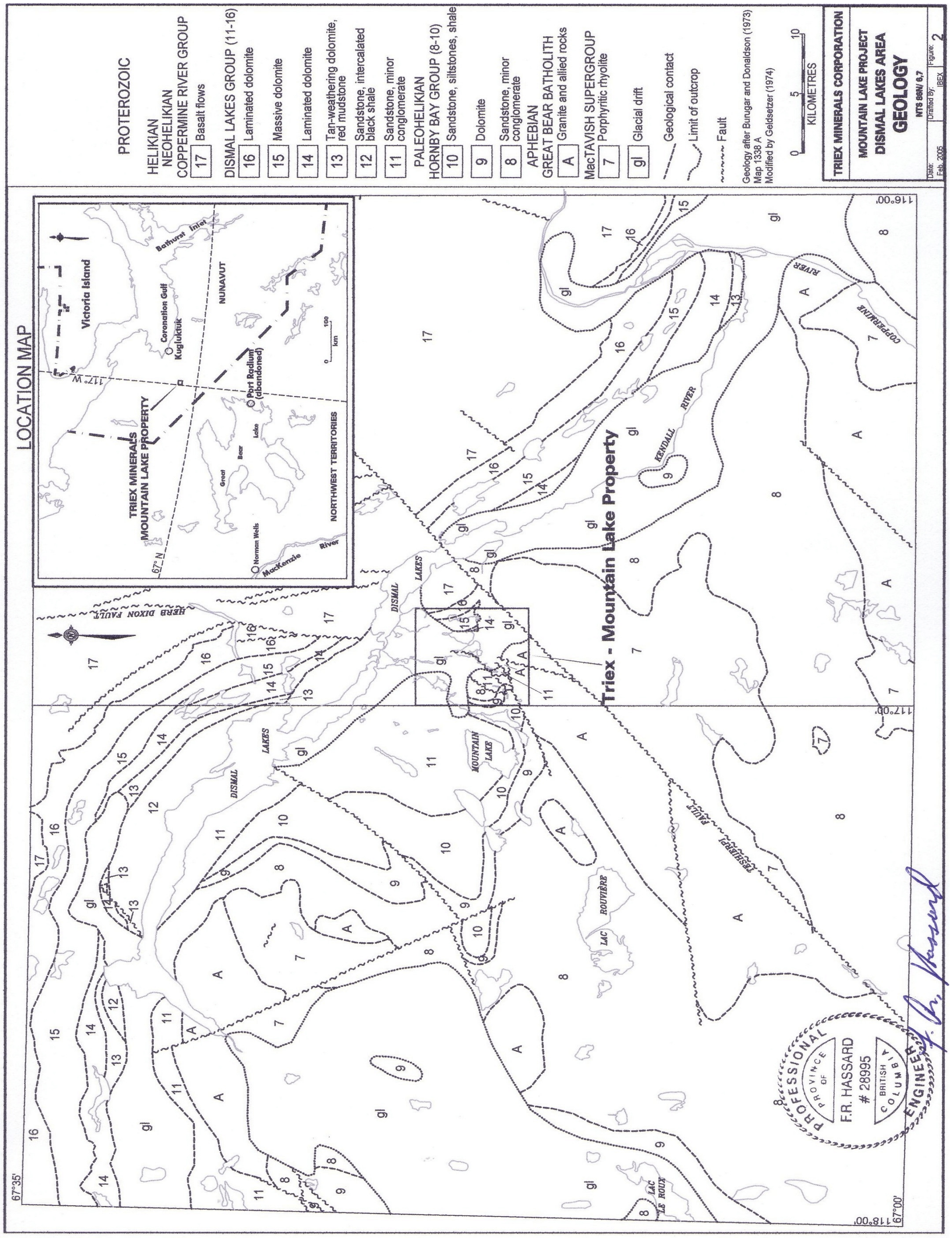

TRIEX MINERALS CORPORATION
MOUNTAIN LAKE PROPERTY
LOCATION
Date: Feb. 2005
Figure: 1
0
200
km
PROFESSIONAL
PROVINCE OF
F.R. HASSARD
28995
BRITISH COLUMBIA
ENGINEER
Victoria Island
Coronation Gulf
Bathurst Inlet
NUNAVUT
Lupin Mine Site
Contwoyto Lake
Ekati Mine
Diavik Mine
Yellowknife
Great Slave Lake
Kugluktuk
MOUNTAIN LAKE PROPERTY
Port Radium (abandoned)
Great Bear Lake
NORTHWEST TERRITORIES
Norman Wells
MacKenzie River
Inuvik
67°N
117°W
YUKON TERRITORY

FIGURE 2


PROTEROZOIC
HELIKIAN
NEOHELIKIAN
COPPERMINE RIVER GROUP
17 Basalt flows
DISMAL LAKES GROUP (11-16)
16 Laminated dolomite
15 Massive dolomite
14 Laminated dolomite
13 Tan-weathering dolomite, red mudstone
12 Sandstone, intercalated black shale
11 Sandstone, minor conglomerate
PALEOHELIKIAN
HORNBY BAY GROUP (8-10)
10 Sandstone, siltstones, shale
9 Dolomite
8 Sandstone, minor conglomerate
APHEBIAN
GREAT BEAR BATHOLITH
A Granite and allied rocks
MacTAVISH SUPERGROUP
7 Porphyritic rhyolite
gl Glacial drift
Geological contact
Limit of outcrop
Fault
Geology after Burugar and Donaldson (1973)
Map 1338 A
Modified by Geldsetzer (1974)
0 5 10
KILOMETRES
TRIEX MINERALS CORPORATION
MOUNTAIN LAKE PROJECT
DISMAL LAKES AREA
GEOLOGY
NTS 86N/ 6,7
Date: Feb. 2005
Drafted By: IBEX
Figure: 2
LOCATION MAP
TRIEX MINERALS
MOUNTAIN LAKE PROPERTY
Victoria Island
Coronation Gulf
Kugluktuk
Bathurst Inlet
NUNAVUT
NORTHWEST TERRITORIES
Port Radium (abandoned)
Great Bear Lake
Norman Wells
MacKenzie River
117° W
67° N
Triex - Mountain Lake Property
HERB DIXON FAULT
DISMAL LAKES
MOUNTAIN LAKE
KENDALL RIVER
COPPERMINE RIVER
TESHIERPI FAULT
LAC ROUVIÈRE
LAC LE ROUX
67°35'
67°00'
118°00'
117°00'
116°00'
PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
F.R. HASSARD
28995

ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

The Property is presently accessible from Yellowknife and Kugluktuk by fixed-wing aircraft or helicopter (Figure 1). Scheduled air service is available between Yellowknife, the major supply base in the area, and Kugluktuk, the closest source of labour. Kirwan and Spa Lakes, within the claims, and Uke Lake, immediately west of the Property, are suitable for Twin Otter and smaller aircraft on floats during the summer (approximately mid-June to mid-September) and on wheels or skis during the winter (November to May)(Figure 3). During the periods between fall and winter, "freeze-up", and between spring and summer, "break-up", the Property is accessible only by helicopter.

Large lakes in the area typically freeze to depths exceeding 1.5 m. and will support landings, on prepared ice strips, by large transport aircraft on wheels. Previously, trucks reached the Property along a winter road from Yellowknife, via Port Radium (now abandoned) on Great Bear Lake, and Dismal Lakes to Kirwan Lake. At present, the Property should be considered only as a fly-in situation. Any development of the Property will likely require the construction of an airstrip for year-round access. An airstrip site, near the northern boundary of the claims, has been surveyed and assessed (R.M. Hardy & Associates Ltd.; in Hassard, 1977)(Figure 3). It was determined that an airstrip approximately 1,600 m. long, capable of handling large cargo planes and jets, could be built at this location.

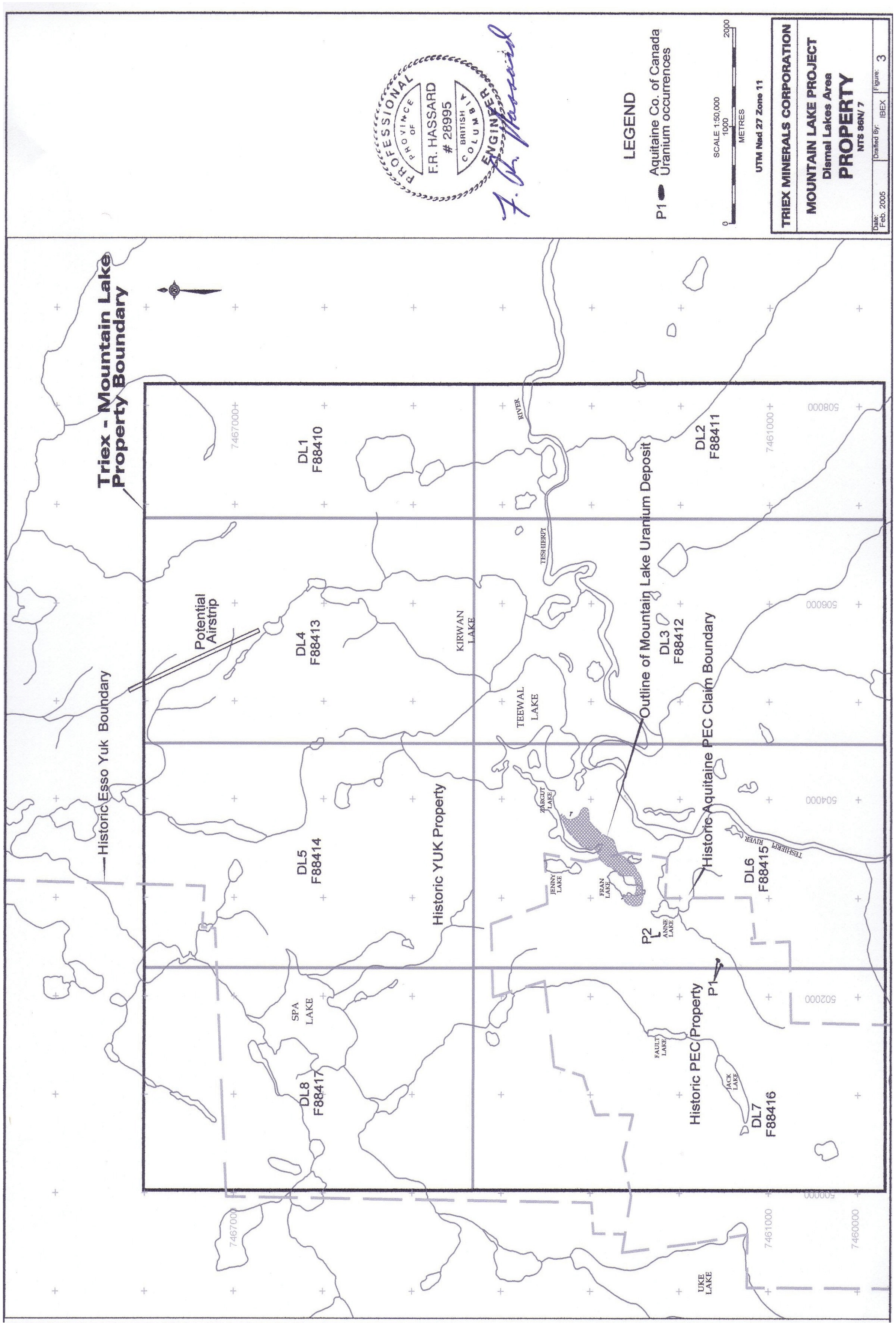
The Property is located in the Arctic climatic region, characterized by long, cold winters and short summers. Environment Canada climatic records from 1971 to 2000 are available for Kugluktuk, on Coronation Gulf, and for the Lupin minesite, on Contwoyto Lake. Both share a similar climate with the Mountain Lake property. Based on these two sites, the average annual temperature is about -11^{o} C. Total annual precipitation is about 25 to 30 cm.; this consists of about 13 to 16 cm. of rain and about 1.5 m. of snow. During the winter, snow is usually blown almost totally from high points and forms drifts on lakes and in depressions. Vegetation is typical tundra, consisting of lichens, mosses, sedges and grasses. Small willow shrubs occur near lakes and in protected hollows.

The topography is moderate with local relief in the order of 100 m. in the southwest and less in the northern and central parts of the Property. Elevations above sea level range from 280 to 330 m. in the northern part of the Property and rise to between 400 to 450 m. along the southern boundary, on PEC Hill and on the flanks of Teshierpi Mountain (Figure 3). Drainage from the small lakes and wet areas in the southeastern part of the Property is generally toward the Teshierpi River, which flows eastward into Dismal Lakes. The north and northwestern part of the Property drains northward to Dismal Lakes.

The Property is generally overburden-covered. Glacial deposits are extensive and only small and scattered outcrops occur over much of the property. Outcrop and felsenmeer, frost-heaved but essentially in-place rock, occupy about 10 to 20 percent of PEC Hill and also occur on the flanks of the granitic hills south of the property and on Teshierpi Mountain to the east.

Various precious metal and diamond deposits have been, or are currently being mined year-round near Contwoyto Lake, under conditions similar to that existing at the Property. However, the Property is considered to be at an exploration stage and, apart from the airstrip site discussed above, infrastructure and permitting requirements for property development and mining are not addressed in this report.

FIGURE 3


TRIEX MINERALS CORPORATION
MOUNTAIN LAKE PROJECT
Dismal Lakes Area
PROPERTY
NTS 86N/7
Date: Feb. 2005
Drafted By: IBEX
Figure: 3
LEGEND
P1 Aquitaine Co. of Canada Uranium occurrences
SCALE 1:50,000
0 1000 2000
METRES
UTM Nad 27 Zone 11
PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
F.R. HASSARD
28995
Triex - Mountain Lake Property Boundary
Historic Esso Yuk Boundary
Potential Airstrip
DL1 F88410
DL2 F88411
DL3 F88412
DL4 F88413
DL5 F88414
DL6 F88415
DL7 F88416
DL8 F88417
Outline of Mountain Lake Uranium Deposit
Historic Aquitaine PEC Claim Boundary
Historic YUK Property
Historic PEC Property
P1
P2
KIRWAN LAKE
TEEWAL LAKE
SPA LAKE
JENNY LAKE
FRAN LAKE
ANNE LAKE
FAULT LAKE
JACK LAKE
UKE LAKE
TESHIERPI RIVER
7467000
7461000
7460000
500000
502000
504000
506000
508000

HISTORY

General

The Property is situated on land previously held as the PEC Mineral Claims and as the YUK Mineral Claims (Figure 3). The PEC uranium occurrences were discovered in 1969; the Mountain Lake Deposit (see MINERALIZATION) was discovered in 1976. The PEC Mineral Claims (PEC Property) were explored by Aquitaine Company of Canada Ltd. (ACC) and various partners from 1969 to 1980. The YUK Mineral Claims (YUK Property) were explored by Imperial Oil Limited, also known as Esso Resources Canada Limited (Esso), from 1972 to 1979. Exploration is listed chronologically and described for the PEC and YUK Properties separately. During this period, numerous geochemical and geophysical surveys were performed, more than 4,000 uraniferous boulders were mapped, within and extending westerly from the Property, the Property was mapped, and over 190 holes, totalling more than 21,800 m., were diamond drilled and a minor amount of this percussion drilled. Only research on core and minor field work were conducted after 1980. The camps utilized for the previous exploration have been removed and the original mineral claims or leases have expired.

The exploration described below refers to lithologic units and other geologic features found on the Property and is pertinent to an understanding of historical exploration. Geological terms used in the following descriptions are more fully described in the Property Geology and Mineralization sections of this report. Various methods used to assay or analyse drill core, rock, lake sediment and lake water are listed in Appendix 2. Geophysical equipment used for property surveys is listed in Appendix 3.

1969 PEC Property Exploration

An airborne radiometric survey was flown by ACC over the Proterozoic sedimentary basin northeast from Great Bear Lake to as far north as the Coppermine River basaltic flows. Uranium mineralization was located in sandstones near prominent radiometric anomalies and 46 PEC Mineral Claims were staked (Bizard and Salat, 1969).

1970 PEC Property Exploration

Exploration by ACC is described by Salat and Arnaud (1970). A detailed radiometric survey was flown. Anomalies were explored on the ground, utilizing hand-held scintillometers. Seven uranium occurrences in sandstone or conglomerate were discovered. Two occurrences were in outcrop, three others were in areas of subcrop or felsenmeer, and two were in areas with concentrations of radioactive boulders. An additional 13 claims were staked.

1972 YUK Property Exploration

Geological traverses on behalf of Esso resulted in the discovery of radioactive boulders west and north of the PEC Property (Trueman, 1972). Some of the radioactive boulders were considered to have a source other than the PEC occurrences previously discovered by ACC and 66 YUK Mineral Claims were staked.

1973 YUK Property Exploration

Exploration by Esso is described by Ahuja (1973). A grid was surveyed in overburden-covered areas west and north of the PEC Property. Geological mapping of boulders, ground scintillometer surveys, geochemical soil sampling and radon gas in soil measurements were performed. Concentrations of radioactive boulders near the northern part of Uke Lake, west of Spa Lake and near Curiosity Lake were considered to be near-source. Correlation between uranium in soils, soil gas measurements, and boulder radioactivity was considered poor. Geochemical sampling and soil gas measurement techniques were considered to have limited exploration potential due to permafrost, a poorly developed soil profile, local concentrations of boulders and wet areas that precluded sampling soil and/or extracting soil gas.

1974 YUK Property Exploration

Exploration by Esso is described in Ahuja (1974). Their emphasis was to continue to locate radioactive boulders with an airborne spectrometer survey, flown along lines 1/4 and 1/8 mile apart, and by ground surveys utilizing hand-held scintillometers. Nine airborne anomalies were attributed to radioactive boulders and nearly 2,000 boulders were documented. Radioactive boulders in two areas, near Spa Lake and Curiosity Lake were considered to have sources different from known mineralization on the PEC claims. Some large and angular boulders were presumed to have a nearby source. Nineteen holes, totalling 700 m. were drilled to test radioactive boulder concentrations. Nine holes intersected Unit 11 sandstone and conglomerate below the overburden; however, none was drilled through the unit. No uranium mineralization was encountered and the source of radioactive boulders in the area was considered to be further to the east. Four holes were abandoned in overburden and five holes intersected Hornby Bay Group lithologies. Thirteen claims were staked to cover areas east of the PEC Property.

The lithologies and stratigraphy of the Hornby Bay and Dismal Lakes Groups were studied (Geldsetzer, 1974). Uranium mineralization was considered by be hosted by Unit 11. An angular unconformity was noted at the base of Unit 11, which was consequently removed from the Hornby Bay Group (Baragar and Donaldson, 1973) and placed at the base of the Dismal Lakes Group.

1975 PEC Property Exploration

Exploration by Eldorado Nuclear Ltd. is described by Hassard (1975a). Geological mapping improved the lithological and structural framework within the property. Ground radiometric surveys and prospecting detected uranium in frost-boil material and boulders north of Anne Lake and indicated an unknown source near the eastern boundary of the property. VLF-EM (EM-16) orientation surveys may have detected some faults. Radon in soil gas (ABEM and Track-Etch methods) orientation surveys indicated increased radon near known occurrences and the techniques were considered to have potential for detecting buried deposits. Water samples were collected from four small lakes. Water in Fault and Anne Lakes contained up to 2.74 ppb uranium, measured by Fission Track method, and the high values were confirmed by fluorimetric analysis. Numerous radioactive boulders were detected but not systematically mapped. Ten holes, totalling 681 m., were diamond drilled. Six holes intersected Unit 11 sandstone and basement gneisses while four holes intersected only basement rocks. Radioactivity was detected within Unit 11 sandstone in three drill holes; weak radioactivity detected by a down-the-hole probe in one hole was not detected in core. The best assay was 0.054% U_3O_8 over 30 cm. core length. Comparison of assay and radiometric data for seven samples from the occurrences indicated the uranium mineralization was in equilibrium (Appendix V, in Hassard, 1975a).

1975 YUK Property Exploration

Exploration by Esso is described in Hassard (1975b). Exploration was focussed in the overburden-covered area south and east of Spa Lake. Radon-in-soil-gas surveys (Track Etch and ABEM methods), magnetometer and VLF-EM orientation surveys and a seismic survey, utilizing explosive charges, were performed. None of the geochemical or geophysical surveys was successful. No areas of anomalous radon were detected. The magnetometer survey did not detect the contact between Hornby Bay Group and Dismal Lakes Group lithologies. VLF-EM, utilizing the Seattle transmitter, indicated portions of some faults. The bedrock surface indicated by the seismic survey did not correlate well with drill results. Ten holes totalling 424 m. were diamond drilled. One hole northeast of Uke Lake was abandoned after penetrating more than 50 m. of overburden. The remaining holes were drilled south and southeast of Spa Lake; one intersected Unit 11 sandstone while the others encountered Hornby Bay Group. No anomalous radioactivity was encountered. Sixteen claims were staked along the eastern boundary, north of Teewal Lake. Future drilling was recommended within the YUK claims northeast of the PEC claims and also east of the PEC showings.

1976 PEC Property Exploration

Exploration by ACC is described by Hassard (1976a). A Track Etch survey was done along 60 km. of grid lines. A total of 459 cups were placed, retrieved and analysed. Surface radioactivity was recorded at sample sites. Three anomalous areas were indicated: 1) near the known uranium occurrences, 2) near Anne Lake, and 3) between Jenny and Curiosity Lakes.

1976 YUK Property Exploration

Exploration by Esso is described in Hassard (1976b) and summarized by Hasan (1977). Exploration was focussed north and east of the PEC Property. An additional 407 claims were staked. A new metric grid was surveyed, replacing the previous non-metric grid. Geological mapping was continued. Ground radiometric surveys extended the area of known boulders further to the south and east; nearly 350 additional boulders were discovered and described. Water was sampled from 105 lakes and ponds within and near the claims and analysed for uranium by Fission Track method; sediment was collected at 85 of the sites and geochemically analysed for uranium and copper. Uranium in water and sediment and copper in sediment were analysed. Results from the various methods did not correlate well with each other but generally indicated areas of known mineralization. Geochemical sampling and radon-in-soil-gas surveys did not detect any anomalous areas underlain by Unit 12 shales. Hammer seismic orientation surveys did not detect the bedrock surface. A gravity survey was performed by Esso personnel, but their report is not available. An electomagnetic survey utilizing a Ronka VLF-EM unit was performed on grid lines and selected traverses. The transmitter was Seattle. Data was Fraser filtered (a method of mathematically averaging adjacent data points) but results did not correlate well with known faults or were inconclusive.

Diamond drilling utilized two drills. A total of 23 holes, totalling 3,472 m., were completed. Uranium mineralization was intersected in two overburden-covered areas. Hole 76Y-5 intersected 0.12% U_3O_8 within 30 cm. of core north of Jenny Lake. Hole 76Y-6 intersected two zones of uranium mineralization, the best of which assayed 0.124% U_3O_8 within 1.8 m. of core, within what is now the Mountain Lake Deposit. Consequently, drilling was concentrated near hole 76Y-6 at 100 and 400 m. spacing to evaluate the mineralization and to establish the geological setting. The best intersection during the year was in hole 76Y-21, where micro-fractured conglomerate assayed 1.23% U_3O_8 over 1.9 m. of core. Above and adjacent to the conglomerate, 3.4 m. of sandstone assayed 0.213% U_3O_8. Geological interpretation of the area near the deposit was significantly improved by the drilling results. The regional Herb Dixon Fault, previously thought to extend from north of Dismal Lakes to the Teshierpi River near the eastern boundary of the PEC Property, did not exist as a major structural break. The northeasterly trending Imperial Fault and the easterly trending Aquitaine Fault were considered to roughly bound the deposit.

1977 YUK Property Exploration

Exploration by Esso is described in Hassard (1977) and a separate study of the Pleistocene geology is described in Vagners (1977). The grid was expanded and some additional geological mapping was done. The property and surrounding area were photographed. A helium in soil survey was done but only in areas of dry soils. Only background amounts of helium were detected above area of known uranium mineralization. Horizontal loop EM , VLF-EM, induced polarization and resistivity surveys (EM16R) were performed. None of the geophysical surveys detected and defined known faults or geological contacts. The VLF-EM survey detected only surface features, including drainage channels and glacial deposits.

Diamond and percussion drilling in 55 holes totalled 6,197 m. A compressed air-driven down-the-hole hammer was used on one drill rig to penetrate frozen overburden and some rock. Use of the hammer made performance superior to drilling with mud systems and tricone bits. Percussion holes also tested a proposed site for an all-weather airstrip, which was found to be suitable. When Unit 12 black shales were encountered, diamond drilling was utilized to test any potentially uranium-bearing strata.

Uranium mineralization was intersected in 27 holes. Nine holes intersected more than 0.1% U_3O_8 over 1.0 m. of core, within what is now the Mountain Lake Deposit.

The highest grade intersection, in hole 77Y-35, assayed 5.19% U_3O_8 over 0.9 m., within a 3.9 m. interval which assayed 2.27% U_3O_8. Uranium minerals, including secondary uranium minerals, occurred as disseminations and along small fractures. Hole 77Y-35 is near what is interpreted to be a branch of the Imperial Fault. Hole 77Y-57 was inclined to test the fracture-controlled mineralization in hole 77Y-35. The fracture zone was intersected, above the mineralization in 77Y-35, and 1.50 m. of fractured core in hole 77Y-57 assayed 0.107% U_3O_8.

Paleotopography beneath Unit 11 was illustrated by plotting structure contours on the surface of pre-Unit 11 lithologies. The changes in thickness of Unit 11 were illustrated by plotting isopachs, *viz.,* lines of equal thickness. Interpretation of this information is included in Property Geology.

Additional drilling was recommended to further explore the uranium mineralization and to test for possible extensions to the northeast. The study of the Pleistocene glacial deposits indicated that most of the radioactive boulders likely sourced from areas of known occurrences on the PEC Property and from areas already tested by drilling north of Jenny Lake, near uranium mineralization intersected in drill hole 76Y-5. It was thought some radioactive boulders might have sourced from Unit 11 sandstone in the eastern part of the property, south of the Teshiepi River. Drilling was proposed to test near hole 76Y-5 and also within the eastern part of the property to determine the extent of unit 11 in that area.

1978 PEC Property Exploration

Exploration by Cominco Ltd. is described in Wiley (1979a). A grid was surveyed. A VLF-EM survey was conducted but did not detect any faults. Radon in soil gas was collected at intervals of 50 m. and essentially duplicated results of the 1976 exploration. Nine holes, totalling 1,066 m., were diamond drilled. Eight holes intersected Dismal Lakes sandstones and interbedded shales (Unit 12), sandstone with minor shale interbeds (Unit 12t; equivalent to Esso's Unit 11t) and sandstone (Unit 11). Hornby Bay group sandstone (Unit 8) and granitic rocks were also encountered. Uranium mineralization was intersected in eight holes, mainly in the Dismal Lakes sandstones but also within Hornby Bay group sandstones of Unit 8; a 30 cm. interval immediately below Unit 11 sandstones assayed 0.267% U_3O_8 in hole P78-2. The best intersection from the 1978 drilling assayed 0.133% U_3O_8 over 2.5 m. within Unit 11 sandstone.

1978 YUK Property Exploration

Exploration by Esso is described in Hassard (1978). Diamond and percussion drilling in 28 holes totalled 5,625 m.; 10 holes intersected uranium mineralization. The best intersection was 0.13% U_3O_8 over 1.6 m. Extensions to the deposit as then delineated were considered possible. Geological research was recommended: (a) to determine features which might help to increase the detection limits of the deposit type; and (b) to better understand the genesis of the uranium deposit and to recognize the features important in controlling uranium deposition. A resistivity survey to differentiate between sandstones and the overlying black shale unit was recommended. Additional drilling was recommended farther along the trend of the deposit and in areas indicated by the geological research and resistivity survey.

1979 PEC Property Exploration

Exploration by Cominco Ltd. is described in Wiley (1979b). The exploration was primarily diamond drilling. The grid established on the adjoining YUK claims was extended onto the PEC claims to give a common set of coordinates for drill hole control. Holes drilled in 1975 and 1978 were referenced to the new grid. Twenty-three holes totalling 2,443 m. were drilled. Seventeen holes were drilled near Fran Lake, in the area that is now known as the Mountain Lake Deposit; 14 holes intersected uranium mineralization. Most of the mineralized intersections were within Unit 11 sandstone or conglomerate or within the transition zone (Cominco's unit 12t). The best intersections were within Unit 11 in hole P79-16; a 2.5 m. interval assayed

0.762% U_3O_8 within the transition zone and a second interval about 15 m. deeper assayed 0.405% U_3O_8 over 5.4 m. Hole P79-11 intersected a 30 cm. interval in granitic regolith (Ar) which assayed 0.027% U_3O_8. Five holes were drilled north of the Imperial Fault, west of Jenny Lake; uraniferous zones assaying up to 0.172% U_3O_8 over 30 cm. were intersected in Unit 11 sandstone (hole P79-22). A 20 cm. interval assaying 0.029% U_3O_8 was intersected within unit 10, 18 m. below the unconformity with Unit 11a basal conglomerate (hole P79-19). One hole drilled in the western part of the property, near Hidden Lake, intersected granite.

Cominco identified two modes of uranium occurrences: (a) “sheet-like”, and (b) “channel-like”. The sheet-like material is represented by a tabular layer near the top of Unit 11 and within the transition zone. The mineralized layer occurs from west of Fran Lake to the eastern PEC claim boundary and is up to 400 m. or more wide. Further west it may occur as eroded remnants. The channel-like material is in as many as three stacked tabular layers in thicker unit 11 sandstones, which are confined within a paleochannel cut into Unit 8 sandstone. Locally it may be bounded on the south by granites.

Geophysical surveys included VLF-EM and utilized a different orientation from the 1978 survey. Four conductive zones were detected, three of which were believed to correspond to faults. An IP/Resistivity orientation survey was performed on five widely spaced lines. Resistivity lows corresponded to the VLF-EM conductive zones and a very pronounced resistivity low occurred on trend with the paleochannel that contained channel-like mineralization.

Geochemical surveys included lake sediment and/or water sampling from the small lakes, ponds and intermittent streams on the property; a few soil samples were collected near Anne Lake. Lake sediment and soils were analysed for uranium, lead, zinc, manganese, iron and loss on ignition. Water was analysed for uranium. Anne and Fran Lakes contain anomalous uranium in both sediments and water. A small pond near the eastern PEC Property boundary, about 55 m. above the uranium mineralization and within a glacial kame deposit, did not contain uranium in sediment or water above background amounts. Uranium in sediments was marginally anomalous north of the deposit area but anomalous sediments persisted further to the west, in the direction of down-ice dispersion.

The PEC property was legally surveyed and two mineral leases were granted on July 24,1979. Term of each lease was 21 years.

1979 YUK Property Exploration

Exploration by Esso consisted of geological research to define features related to and extending beyond the uraniferous zones and to determine the origin of the deposit. Field work was completed during the summer of 1979 (Abercrombie, 1980). Examples of features considered included: colour changes, chemical changes, mineral alterations, stratigraphic changes, structural changes and features that might indicate ozidation-reduction boundaries.

Selected drill holes were relogged and core sampled. Core samples were analysed, and mineralogical and petrographic studies were performed. Thin sections, polished thin sections and polished sections were utilized to identify the uranium minerals and associated accessory minerals. A paragenetic sequence was completed.

Core was wetted and subjected to resistivity measurements. Results were sent to Esso but are not included in Abercrombie's (1980) report and are not available.

After 1979, physical exploration on the YUK Property ceased.

1980 PEC Property Exploration

Exploration by Cominco Ltd. is described in Wiley (1979b). The exploration was primarily diamond drilling. Twenty-one holes totalling 1,238 m. were drilled near those completed in 1978. Only 15 holes were completed, as difficulty was experienced in drilling angle holes in overburden to test the Imperial Fault. The best intersection assayed 0.262% U_3O_8 over 2.1 m. within Unit 11 conglomerate in hole P80-7. Part of this mineralization occurred as secondary uranium minerals in small fractures in a zone about 15 m. southeast of the Imperial Fault. Holes completed through the Imperial Fault zone, which is indicated to be about 9 m. wide, did not intersect significant uranium mineralization. Drilling did not significantly improve the grade or dimensions of the deposit indicated previously. The prospective Unit 11 lithologies are absent or exist only as a thin and intermittent veneer north and west of Anne Lake.

An IP/Resistivity survey was performed by Kenting Exploration Services Ltd.; however, the details are in a report which was not included with the available report by Wiley (1979b). A summary indicates 30.2 km. were surveyed over known portions of the deposit and over areas of presumed potential. Targets were considered to have low resistivity values, indicating increased porosity, and high chargeability, indicating the presence of increased clays, sulphides or graphite. The survey did not give any distinctive pattern over the Mountain Lake Deposit. Drilling in a large area with low resistivity and high chargeability indicated the anomaly was caused by a basement high without any associated anomalous radioactivity. Tests on core samples indicated there was little contrast in the electrical responses between Unit 11, basement Unit Ar, and either the shale or sandstone components of Unit 12. Resistivities changed with temperature and were higher in frozen core than that at room temperature.

Data from the VLF-EM survey performed in 1979 was Fraser filtered. Results indicating the location of the Imperial Fault agreed generally with drill intersections.

Evaluations of the exploration on the PEC Property indicated there was little potential to expand either the tonnage or grade of the deposit and that the deposit was not economic by itself. It was felt that the PEC Property would have potential only in conjunction with the adjoining YUK Property.

GEOLOGICAL SETTING

Regional Geology

The region east and northeast of Great Bear Lake lies within the Bear Structural Province of the Canadian Shield and has been divided into basement rocks of the Aphebian Wopmay Orogen and the Helikian sediments and volcanics of the Coppermine Homocline. The area has been mapped at a scale of approximately 1:500,000 by the Geological Survey of Canada (Fraser *et al.*, 1960). Portions of Fraser's (1960) map area were subsequently mapped in greater detail and interpreted by Baragar and Donaldson (1973), Geldsetzer (1974), Hoffman (1978), Kerans *et al.* (1981), Ross and Kerans (1989), and Hoffman and Hall (1993). Pitchblende was mined within veins at Port Radium, on the east shore of Great Bear Lake (Figure1). Uranium and silver veins are in various basement rocks below and near the unconformity with the Hornby Bay Group (E.A.G. Trueman, P. Eng., pers. com.).

The Aphebian Wopmay Orogen consist of three tectonic units: the Epworth Basin; the Hepburn metamorphic-plutonic belt; and the Great Bear Batholith and associated volcanics. The easternmost and oldest is the Epworth Basin, which comprises miogeoclinal and eugeoclinal volcanic and sedimentary rocks of Epworth Group. The Hepburn metamorphic-plutonic belt comprises metamorphosed and migmatized Epworth Group strata and foliated granitic intrusives. The westernmost and youngest is the Great Bear Batholith, which comprises subvolcanic and volcanic rocks of Mactavish Supergroup, which are intruded by comagmatic, high-level plutons. Aphebian basement ranges in age from 1,875 to 1,840 Ma (Gandhi *et al*, 2001).

Prior to deposition of the Proterozoic strata, rocks of the Wopmay Orogen were deformed and uplifted; plutons of the Great Bear Batholith were cut by northeasterly trending dextral strike-slip faults. Following uplift, Aphebian rocks were chemically and mechanically weathered and eroded. A regolith developed on eroded sedimentary, metamorphic, volcanic and plutonic units. Topographic relief reached 300 m. (Hoffman, 1978).

Helikian sedimentary and volcanic rocks of the Coppermine Homocline include the Hornby Bay Group, Dismal Lakes Group and Coppermine River Group. Sedimentary units have been correlated with similar rocks exposed near Bathurst Inlet, Amundsen Inlet (Brock Inlier) and on Victoria Island (Minto Inlier) (Fraser *et al.*,1960).

Hornby Bay Group is a succession of dominantly fluvial sediments and minor shallow-water marine carbonates up to 1,400 m. thick. Continental sediments were deposited within three separate but interconnected fluvial systems (Kerans *et al.*, 1981). These clastics are conformably overlain by marine carbonates and fine continental sediments. The Hornby Bay Group includes the Narakay Volcanic Complex in Dease Arm, Great Bear Lake. This Complex consists of a basalt-rhyolite assemblage dated at 1,663 $\pm$ 8 Ma (Bowring and Ross, 1985; in Gandhi *et al*, 2001).

Prior to deposition of the Dismal Lakes Group, the Hornby Bay sediments were uplifted, tilted, faulted and eroded. Chemical and mechanical weathering of Hornby Bay Group resulted in a thin regolith being developed locally.

The Dismal Lakes Group was deposited unconformably on Aphebian units and with local unconformity on Hornby Bay Group (Geldsetzer, 1974). The Dismal Lakes Group is a conformable sequence of continental clastics, fine grained continental and marine clastics and marine carbonates up to about 1,100 m thick. Deposition of the Dismal Lakes Group ended with regional uplift but with little or no erosion. Some faults were likely reactivated during this period.

The Muskox Complex, a highly differentiated layered ultramafic body about 70 km. east of the Property, intrudes Hornby Bay Group. Stratigraphic evidence suggests that the Muskox Complex was emplaced during upper Dismal Lakes Group sedimentation (Ross and Kerans, 1989). The Muskox Complex may be of similar age to that of the Coppermine River Group, about 1,270 Ma (Hoffman and Hall, 1993).

Coppermine River Group tholeiitic basalts flows with an indicated age of approximately 1,270 Ma. (Hoffman and Hall, 1993). Total thickness exceeds 3,000 m. Overlying continental clastics and subordinate intercalated basalt flows are more than 1,200 m. thick (Baragar and Donaldson, 1973). The contact with underlying Dismal Lakes Group carbonates is sharp with only minor metamorphic effect evident. The Coppermine River Group is unconformably overlain by Hadrynian age sediments.

Local Geology

The Dismal Lakes area, within map sheet NTS 86N, has been mapped at a scale of 1:250,000 by the Geological Survey of Canada (Baragar and Donaldson, 1973) and by Ross and Kerans (1989). The general geology is shown in Figure 4 and the rocks occurring in the area northeast of Great Bear Lake, which includes the Dismal Lakes map area, have been compiled (Table 1); units younger than the Coppermine River Group basalts north of Dismal Lakes are excluded. Basement rocks comprise the Aphebian Great Bear Batholith, and associated subvolcanics of the MacTavish supergroup. These are unconformably overlain by Helikian Hornby Bay Group and Dismal Lakes Group sediments. Coppermine River Group volcanics were extruded onto the Dismal Lakes carbonates. The Proterozoic stratigraphic sequence initially defined by Baragar and Donaldson (1973) has been modified by Geldsetzer (1974) on the basis of an unconformity at the base of Unit 11, which had previously been placed within the Hornby Bay Group (Baragar and Donaldson, 1973). Lithologies and depositional history are additionally described by Kerans *et al.* (1981). Ice flow was generally from southeast towards the northwest.

FIGURE 4

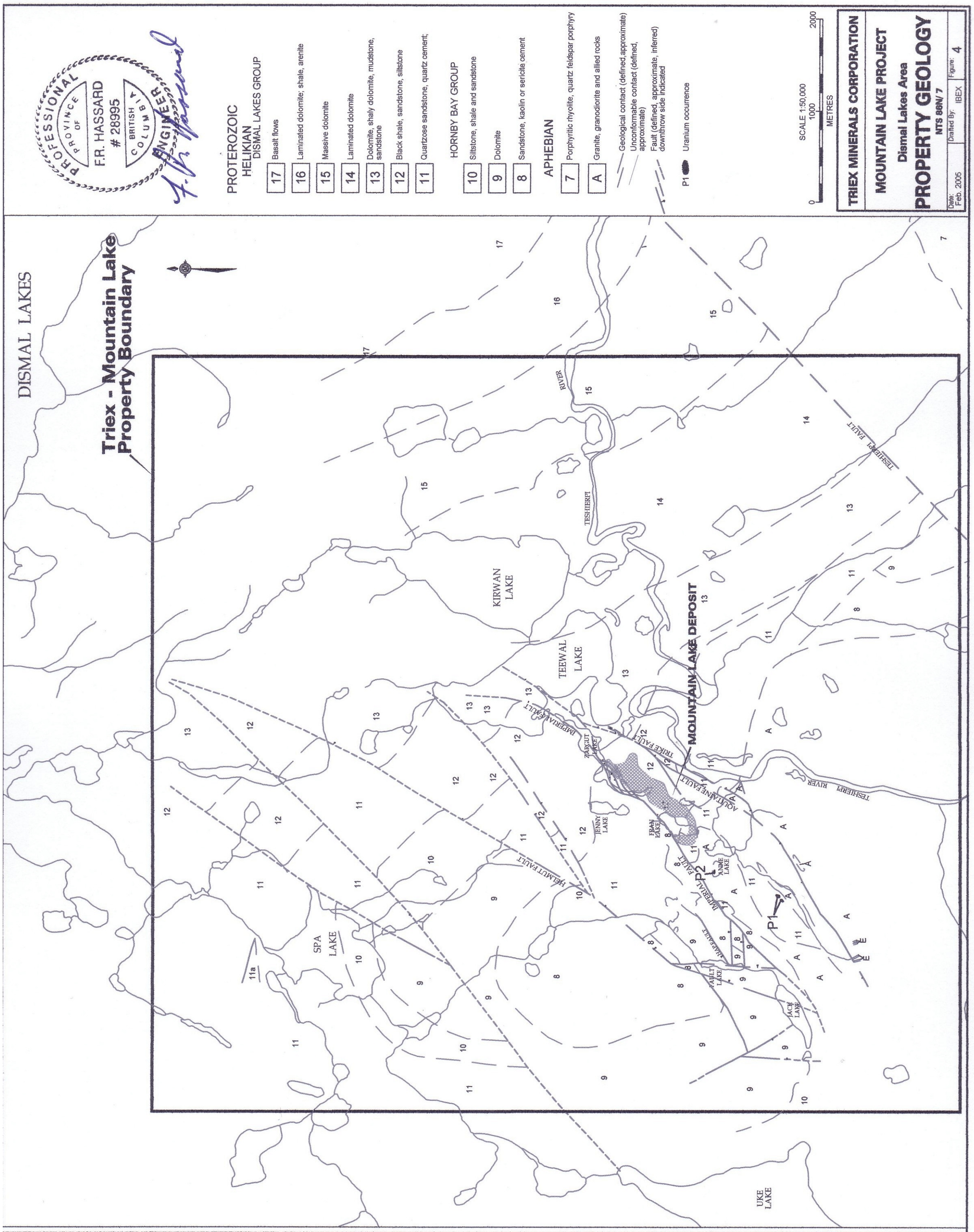

DISMAL LAKES
Triex - Mountain Lake Property Boundary
F.R. HASSARD
28995
PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
PROTEROZOIC
HELIKIAN
DISMAL LAKES GROUP
17 Basalt flows
16 Laminated dolomite; shale, arenite
15 Massive dolomite
14 Laminated dolomite
13 Dolomite, shaly dolomite, mudstone, sandstone
12 Black shale, sandstone, siltstone
11 Quartzose sandstone, quartz cement;
HORNBY BAY GROUP
10 Siltstone, shale and sandstone
9 Dolomite
8 Sandstone, kaolin or sericite cement
APHEBIAN
7 Porphyritic rhyolite, quartz feldspar porphyry
A Granite, granodiorite and allied rocks
Geological contact (defined, approximate)
Unconformable contact (defined, approximate)
Fault (defined, approximate, inferred) downthrow side indicated
P1 Uranium occurrence
SCALE 1:50,000
0 1000 2000
METRES
TRIEX MINERALS CORPORATION
MOUNTAIN LAKE PROJECT
Dismal Lakes Area
PROPERTY GEOLOGY
NTS 86N/ 7
Date: Feb. 2005
Drafted By: IBEX
Figure: 4
KIRWAN LAKE
TEEWAL LAKE
TESHIERPI RIVER
MOUNTAIN LAKE DEPOSIT
TESHIERPI FAULT
IMPERIAL FAULT
HELMUT FAULT
SPA LAKE
JENNY LAKE
UKE LAKE
P1
P2

TABLE 1
PROTEROZOIC FORMATIONS NORTHEAST OF GREAT BEAR LAKE

Eon	Era	Period	Group	Map Unit	Lithology
PROTEROZOIC	HELIKIAN	NEOHELIKIAN	Coppermine River	17	Basalt Diabase dykes and sills
			EXTRUSIVE OR INTRUSIVE CONTACT		
			Muskox Complex	B,C,D E	Dunite; Gabbro; Granophyre Diabase dykes and sills
			INTRUSIVE CONTACT		
			Dismal Lakes	16	Laminated dolomite, stromatolites
				15	Massive dolomite, stromatolites
				14	Laminated dolomite, stromatolites
				13	Reddish massive and shaly dolomite, evaporite casts
				12	Black shale, sandstone, siltstone
				11 11a	Sandstone Basal and intraformational conglomerate
		UNCONFORMITY			
		PALEOHELIKIAN	Hornby Bay	10	Red siltstone, shale, sandstone
				9	Stromatolitic, shaly and oolitic dolomite
				8 8a	Reddish sandstone, sericite cement; basal arkose Basal and intraformational conglomerate
	UNCONFORMITY				
	APHEBIAN		Great Bear Batholith	A	Granite, granodiorite and allied rocks
			INTRUSIVE CONTACT		
			MacTavish Supergroup	7	Porphyritic rhyolite, quartz feldspar porphyry, may locally include extrusive volcanics
			UNCONFORMITY OR INTRUSIVE CONTACT		
			Epworth	6	Metasediments, metavolcanics

Aphebian basement comprises volcanics of the MacTavish supergroup and granite, granodiorite and allied rocks of the Great Bear Batholith. Fine-grained porphyritic rhyolite and quartz feldspar porphyry of the MacTavish supergroup are in fault contact with, or intruded by, granites. These Aphebian rocks probably underlie most of the Helikian Hornby Bay sediments and have contributed significant clastic components to the basal sandstones and conglomerates. Although not well exposed, it is apparent, from drill core and clast composition, that a regolithic weathering surface existed before Hornby Bay deposition.

Hornby Bay Group is a dominantly fluvial succession approximately 1,400 m. thick (Geldsetzer, 1974). Three major units are recognized. Unit 8 consists of more than 1.100 m. of continental clastics deposited within the Lady Nye fluvial system (Kerans *et al*, 1981). A basal rubble breccia and conglomerate grades upward into reddish, medium-grained sandstone, cemented by sericite, a mixture of various clay minerals, iron oxide and quartz. Unit 8 is conformably overlain by up to 100 m. of shallow marine, light grey, laminated dolomite and fine-grained dolomitic sediments (Unit 9). This is conformably overlain by about 170 m. of poorly exposed, continental, reddish siltstone, shale and sandstone (Unit 10); locally the contact may be a minor unconformity indicated by a carbonate-clast conglomerate.

Dismal Lakes Group is a fluvial and shallow-water marine succession up to 1,100 m. thick (Geldsetzer, 1974). The basal fluvial conglomerates and sandstones of Unit 11 unconformably overly all of the Aphebian and Hornby Bay rocks; Unit 11 overlies Unit 10 with only slight disconformity west of Mountain Lake. The thickness of Unit 11 is highly variable and dependent on the underlying relief; near the west end of Dismal Lakes it is up to 500 m. thick, whereas on the Property it is locally less than 20 m. thick. In general, Unit 11 is described as light grey to white, medium-grained, very well sorted, silica cemented, quartzose sandstone (Geldsetzer, 1974); basal members are variable conglomerate, grit and sandstone comprised of material derived from the underlying lithologies. Unit 11 sandstone grades upwards into Unit 12, which is comprised of black shale and siltstone interbedded with white to dark grey, quartzitic sandstone. Unit 12 shale in particular is generally poorly exposed on surface and the contact, with both underlying and overlying units, is difficult to locate. Unit 12 is interpreted as being deposited in a coastal mudflat and is about 45 m. thick near the west end of Dismal Lakes but may locally exceed 120 m. on the Property. Unit 13 consists of reddish, shaley dolomite and dolomitic mudstones, containing evaporite (salt) casts, and thin dolomites deposited in a shallow marine, mudflat environment. Unit 13 is about 45 m. thick near the west end of Dismal Lakes (Geldsetzer, 1974) but locally exceeds 170 m. in holes drilled on the Property. Unit 13 is overlain by more than 500 m of stromatolitic dolomites (Unit 14), massive dolomite (Unit 15) and stromatolitic dolomite (Unit16).

Coppermine River Group basalts (Unit 17) occur north of Dismal Lakes and also cap Teshierpi Mountain. Teshierpi Mountain is within a fault block bounded by the Herb Dixon and Teshierpi Faults. Numerous copper deposits occur locally in proximity to Coppermine River basalts northeast of the Property. Basalt flows sharply overlie Unit 16 carbonates with little metamorphic effect other than a slight bleaching (Baragar and Donaldson, 1973). The accumulated thickness of the basalt flows may exceed 3,000 m. Associated dykes and sills of diabase (Unit E) have locally intruded some basalt flows and older lithologies.

Property Geology

The Property is mainly underlain by folded and faulted sedimentary rocks of Paleohelikian Hornby Bay Group and Neohelikian Dismal Lakes Group. The geology of the property is illustrated in Figures 4 and 5, and the formations and lithologies found within the property have been compiled in Table 2. Aphebian granitic rocks of the Great Bear Batholith outcrop along the southern boundary of the claims and underlie Helikian sediments in most of the area tested by drilling. MacTavish supergroup porphyritic rhyolite outcrops southeast of the Property, where it is intruded by fine-grained granite. Rhyolite was intersected beneath Dismal Lakes Group in the most easterly and northeasterly holes drilled.

FIGURE 5

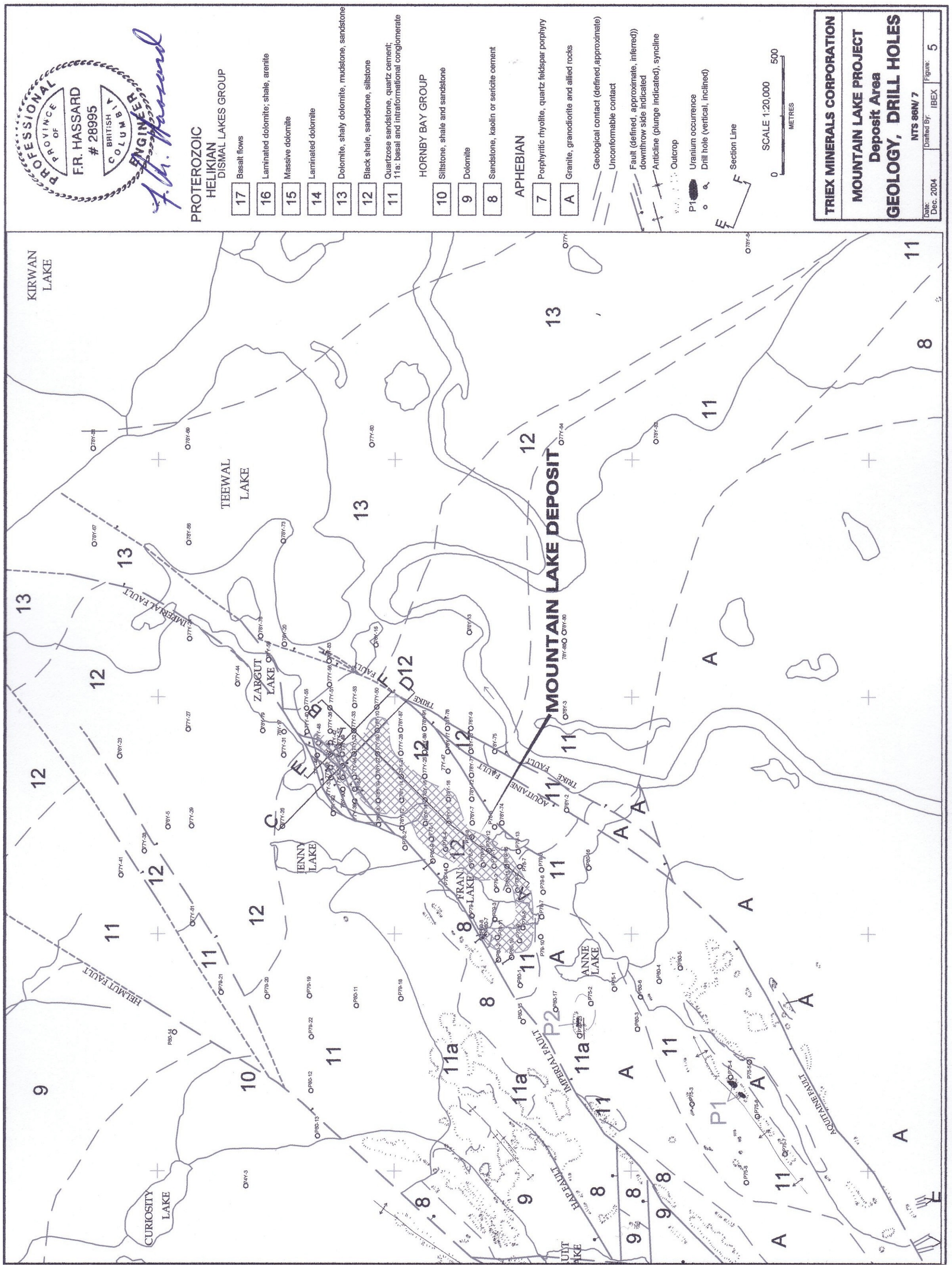

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
F.R. HASSARD
28995
PROTEROZOIC
HELIKIAN
DISMAL LAKES GROUP
17 Basalt flows
16 Laminated dolomite; shale, arenite
15 Massive dolomite
14 Laminated dolomite
13 Dolomite, shaly dolomite, mudstone, sandstone
12 Black shale, sandstone, siltstone
11 Quartzose sandstone, quartz cement; 11a: basal and intraformational conglomerate
HORNBY BAY GROUP
10 Siltstone, shale and sandstone
9 Dolomite
8 Sandstone, kaolin or sericite cement
APHEBIAN
7 Porphyritic rhyolite, quartz feldspar porphyry
A Granite, granodiorite and allied rocks
Geological contact (defined, approximate)
Unconformable contact
Fault (defined, approximate, inferred)) downthrow side indicated
Anticline (plunge indicated), syncline
Outcrop
P1 Uranium occurrence
Drill hole (vertical, inclined)
Section Line
SCALE 1:20,000
0 500
METRES
TRIEX MINERALS CORPORATION
MOUNTAIN LAKE PROJECT
Deposit Area
GEOLOGY, DRILL HOLES
NTS 86N/7
Date: Dec. 2004
Drafted By: IBEX
Figure: 5
KIRWAN LAKE
TEEWAL LAKE
ZARGUT LAKE
JENNY LAKE
FRAN LAKE
ANNE LAKE
CURIOSITY LAKE
MOUNTAIN LAKE DEPOSIT
IMPERIAL FAULT
HELMUT FAULT
TRIKE FAULT
AQUITAINE FAULT

TABLE 2
FORMATIONS - MOUNTAIN LAKE PROPERTY

Eon	Era	Period	Group	Map Unit	Lithology
PROTEROZOIC	HELIKIAN	NEOHELIKIAN	Coppermine River	17	Basalt Diabase dykes and sills
			EXTRUSIVE OR INTRUSIVE CONTACT		
			Dismal Lakes	16	Laminated dolomite; low amplitude stromatolites, minor dolomitic shale, arenite
				15	Massive dolomite; high amplitude stromatolites
				14	Laminated dolomite; low amplitude stromatolites, dolomitic shale
				13	Reddish dolomite, shaly dolomite, mudstone, sandstone
				12	Black shale and siltstone, sandstone
				11 11t 11a	Quartzose sandstone, quartz cement Transition zone; sandstone, minor black shale beds and laminations Basal and intraformational conglomerate
		UNCONFORMITY			
				10	Reddish siltstone, shale, sandstone
				9 9a 9b 9c	Dolomite Stromatolitic dolomite, basal shales Oolitic and stromatolitic dolomite, arenite Shaly dolomite, flat-pebble conglomerate
				8 8a	Reddish sandstone, sericite cement Basal and intraformational conglomerate
	UNCONFORMITY				
	APHEBIAN		Great Bear Batholith	A Ar	Granite, granodiorite and allied rocks Regolith, cataclastic gneiss
			INTRUSIVE CONTACT		
			MacTavish Supergroup	7	Porphyritic rhyolite

MacTavish Supergroup

Porphyritic rhyolite (Unit 7) underlies Dismal Lakes Unit 11 in 4 holes drilled near the Esso camp, between Kirwan and Teewal Lakes, and extends southeasterly toward the southern property boundary. Core samples of rhyolite are typically weathered and altered. Rhyolite is about 15 to 25% phenocrysts, 1-5 mm. in diameter, comprised dominantly of whitish quartz and subordinate cream or pink feldspar phenocrysts and serpentinized mafics, within a dark reddish brown aphanitic groundmass. Narrow quartz and carbonate veins and chlorite- or serpentine-coated fractures are common.

Great Bear Batholith

Granite (Unit A) outcrops along much of the southern part of the property, from the west to east of the Teshierpi River. Drill intersections indicate granite extends beneath Hornby Bay and Dismal Lakes Groups in the south-central part of the Property. Granite is reddish brown, medium- to coarse-grained and comprised of roughly 45% white, anhedral quartz, 45% pink to reddish brown, altered feldspars and 10% anhedral mafics, altered to chlorite and hematite. Elongate quartz and feldspars are up to one cm. long; mafics rarely exceed three mm. Minor fractures are filled with quartz, chlorite or serpentine gouge.

Locally the granite has been deeply weathered and little of the original texture is evident. This regolith (Unit Ar) is dark red to maroon and contains numerous quartz stringers and elongated fragments of white quartz and quartzite within a fine-grained, crushed groundmass of quartz, feldspar, hematite and chlorite. Scattered veins of coarsely crystalline barite occur. Numerous small fractures are coated with chlorite, hematite, talc and/or serpentine. A rubble breccia composed of material similar to Unit Ar exists locally between Hornby Bay Group (Unit 8) and Dismal Lakes Group (Unit 11). It is interpreted as possible slide debris deposited on the erosional surface of Hornby Bay Group prior to deposition of the Dismal Lakes Group.

Hornby Bay Group

Hornby Bay Group sediments are exposed on PEC Hill, which has the characteristics of a locally developed dome, and are partially buried by Dismal Lakes Group sediments. Hornby Bay Group consists of intermontane redbeds (Unit 8), marine carbonates (Unit 9) and fine arkosic clastics (Unit 10). About 500 m. northeast of Fault Lake, a silcrete regolith is exposed at the top of Unit 9 carbonates. Hornby Bay units are transected by numerous faults of varying displacements and are complexly folded. The distribution of the Hornby Bay units in glacially-covered areas is known from drill hole information. North of PEC Hill, low topography near Spa Lake is underlain by Units 8, 9 and10; strata are progressively younger to the west and north. Northeast of Jenny Lake, Units 8 and 10 were intersected beneath Dismal Lakes Group; strata are increasingly younger to the northeast.

Unit 8

Conglomerate and sandstone unconformably overlie altered granite (Units A and Ar) and, east of the claims, porphyritic rhyolite (Unit 7). Breccia and conglomerate (Unit 8a) are composed of angular to well rounded fragments of red granite and brick-red rhyolite. The matrix is identical with the overlying sandstone (Unit 8), which forms most of the formation.

Unit 8 sandstone is dominantly a reddish-purple colour but may be various shades of red, purple, orange or brown, and locally greenish. The clastic component is about 95% subrounded to rounded quartz grains and up to 5% chert and minor lithic grains. The unit is medium- to coarse-grained and usually moderately to well sorted. Scattered quartz pebbles occur throughout the unit. A few thin intraformational conglomerates, coarse sand and grit layers occur locally.

Unit 8 sandstone is moderately to poorly cemented and locally has up to 20% porosity. Cement is commonly quartz as overgrowth rims, which are often partly replaced by minute hematite inclusions. Intergranular masses of hematite and limonite are ubiquitous and colour the sandstone reddish. Other cements include: illite and/or sericite, which are up to 10% by volume; barite, which is up to 15% by volume; and minor dark green chlorite, which locally colours the sandstone greenish.

Unit 9

Shallow-water marine carbonates and fine clastics of Unit 9 overlie or are in fault contact with Unit 8. Geldsetzer (1974) divided the unit into three members. The lowest, Unit 9a, comprises interbedded, yellowish-brown weathering, grey stromatolitic dolomite and red, thinly bedded shaly dolmite. This is overlain by a thick section of yellow-brown weathering stromatolitic dolomite, oolites and arenite (Unit 9b). The highest member (Unit 9c) comprises interlayered flat-pebble conglomerate and shaly dolomite. About 500 m. northeast of Fault Lake, remnants of the regolith developed at the base of the Dismal Lakes Group are preserved. Unit 9 dolomite has been silicified and sedimentary structures destroyed; the ultimate product is chert breccia, termed silcrete, which is the siliceous equivalent of calcrete crusts formed on modern weathered carbonates.

Unit 10

Fine continental sediments of Unit 10 overlie carbonates (Unit 9) near Uke Lake. Exposures are generally poor. The contact with Unit 9 is sharp and marked locally by a thin conglomerate which contains pebbles derived from the underlying carbonate. Reddish, green, cream, purplish grey and pale pinkish brown siliceous siltstone and shale are often strongly colour-banded, ripple marked and dessication cracked. Siltstone is commonly interbedded with very fine grained grey or tan sandstone. Reduction spots and bleached fractures occur locally.

Dismal Lakes Group

Dismal Lakes Group clastics outcrop between the Helmut and Aquitaine Faults and contain the first discovered uranium surface occurrences. These occurrences, the Mountain Lake Deposit and other drill-indicated uranium mineralization on the property are described under MINERALIZATION. On the northeastern and eastern flank of PEC Hill, basal conglomerate (Unit 11a) and sandstone (Unit 11) overlie Hornby Bay sandstone (Unit 8) and silcrete (Unit 9) with striking unconformity. This area was the type locale for recognizing that Unit 11 should be placed into the Dismal Lakes Group (Geldsetzer, 1974). Between the Imperial and Aquitaine Faults, Dismal Lakes Group clastics overlie Aphebian regolithic material (Unit Ar) developed on granite. Elsewhere on the property, the distribution of Units 11, 12 and 13 is known from drill hole intersections, and Unit 11 overlies all of the Aphebian and Hornby Bay Group units. Dismal Lakes Group carbonates (Units 14, 15 and 16) form small cliffs on the flanks of Teshierpi Mountain. The Dismal Lakes Group is transected by several northeasterly trending faults, some of which were active previously.

Unit 11

Basal conglomerate and sandstone are highly variable in thickness, which is dependant on the underlying relief. This is illustrated by Structure Contours plotted on the surface of pre-Unit 11 lithologies, which indicate the relief prior to the deposition of the Dismal Lakes Group (Hassard, 1977) and by Isopachs of Unit 11 (Hassard, 1978, Abercrombie, 1980). Unit 11 slightly exceeds 90 m. in drill holes near the southwestern corner of Teewal Lake and is less than 30 m. thick locally within the Deposit area. Unit 11 likely did not exceed 30 m over granitic basement west of Anne Lake, prior to erosion.

Dismal Lakes Group typically consists of a basal polymictic conglomerate (Unit 11a), with clasts from pebbles to small boulders in a sandy matrix. Conglomerate is locally interbedded with medium- to coarse-grained sandstone (Unit 11). Occasionally, where the lowest member is a sandstone which overlies, and is composed of locally derived Unit 8 sandstone grains, the contact is obscure. The sandstone matrix varies from medium red-purple to orange or red, is poorly sorted, fine- to coarse-grained and varies from 10 to 80% by volume.

Sandstone within the lower part of Unit 11 is medium to dark reddish purple, or shades of purple, orange, brown and grey, and is commonly mottled by lighter coloured spots and irregular patches. These lower sandstones are massive to weakly laminated, as indicated by thin colour bands slightly darker than the surrounding material. These laminations probably represent low-angle crossbeds. Sandstone comprises: fine- to coarse-grained, subangular to well-rounded quartz grains; coarse-grained to grit-sized particles of subrounded to well-rounded quartz sandstone grains; well-rounded, milky quartz pebbles; and grit to large pebbles of shale and siltstone. Moderately sorted coarser members are interbedded with moderately sorted finer intervals. The matrix is silica, sericite, barite, hematite, limonite and/or chlorite (Abercrombie, 1980).

Sandstones in the upper part of Unit 11 are white, light grey, or lightly coloured pink, orange or green, and contain laminations and vague colour bands similar to those found in the lower sandstones. The upper sandstones are moderately to well sorted, very fine grained to fine-grained quartz, which are indurated by quartz overgrowth cement, and have a smooth, unpitted surface texture. Minor amounts of hematite and limonite are also present in upper Unit 11; locally minor penninite and microcrystalline biotite or nontronite, an iron-rich clay mineral, are present (Abercrombie, 1980). Minor interbeds and laminations of moderately sorted, medium-grained quartz sandstone, greenish, grey or black shale and/or siltstone, and shale rip-up clasts up to 15 mm. long, occur locally. Coarse-grained sandstone and grit are typically absent. Features that occur most commonly, or exclusively, within the upper sandstones include: sulphide nodules; shale partings; crystalline barite chips replacing shale; and silica dissolution features, which are thin fractures or spheroidal zones 2 to 10 mm. in diameter (Abercrombie, 1980).

Intraformational conglomerate occurs locally, at various stratigraphic levels, within Unit 11 sandstones. Clasts are generally well rounded pebbles and cobbles of sandstone that is compositionally and texturally similar to underlying Unit 8 sandstone; locally, pebbles exist that are similar to Unit 11 sandstone. The matrix is predominantly very fine grained sand grains cemented by silica.

The highest member of Unit 11 indicates a gradational transition to the overlying Unit 12. Fine-grained, light grey sandstone contains variable but minor amounts of black, dark grey or green shale as clasts and laminations. Thin units of interbedded shale, siltstone and fine sandstone, similar in composition to the overlying Unit 12 shales, also occur. These are separated by much thicker sandstone beds. This Transition Zone (Unit 11t) is usually less than 3 m. thick but may exceed 20 m. Because the sandstone component is much greater than the shale component, the Transition Zone is placed at the top of Unit 11 rather than within overlying Unit 12. This unit is equivalent to Cominco's Unit 12t, which utilized the first appearance of thin intercalated shale and sandstone as the base of Unit 12 (Wiley, 1979).

Unit 12

Black shale and siltstone interbedded with light to dark grey quartz sandstone (Unit 12) gradationally overlies Unit 11 and is typically about 70 m. thick. It may pinch out due to a facies change with overlying fine-grained marine sediments of Unit 13 south of the Teshierpi River, in the eastern part of the claims.

Shale and siltstone are comprised of quartz grains and a micaceous white, translucent mineral in flakes to 1 mm.; the sandstone is comprised of very fine grained to fine-grained quartz. Locally, black shale fragments exist within the sandstone and colour it dark grey. The sandstone and shale layers range in thickness from laminae 2 to 30 mm. thick to beds that are up to several m. thick.

Sedimentary structures within the shale intervals include: load casts, flame structures, shale rip-up clasts, and molar tooth structures. Silica dissolution features, identical to those in Unit 11 sandstones, exist locally; some have been partially filled with crystalline barite cement and minor amounts of limonite (Abercrombie, 1980).

Limonite has coloured some sandstones light orange in the lower part of Unit 12. Higher in the unit, reddish and green sandstone and red-purple and dark green shale indicate the presence of low to moderate amounts of hematite and chlorite.

Unit 13

Red to red-brown dolomite and interbedded red and green dolomitic shale and mudstone (Unit 13) overlie whitish quartz sandstone that marks the top of Unit 12. Unit 13 near-shore marine carbonates and very fine grained clastics are more than 170 m. thick in the eastern part of the property and may directly overlie Unit 11 sandstones due to a facies change or thinning of Unit 12 south of the Teshierpi River.

The dolomite is generally very dense and contains abundant halite and gypsum casts, which are slightly silicified and easily visible on weathered surfaces. A few stromatolites occur locally. Up section, Unit 13 grades into laminated and massive carbonates of Unit 14 (Geldsetzer, 1974).

Units 14, 15 and 16

Laminated and massive carbonates (Units 14, 15 and 16) form cliffs along the flank of Teshierpi Mountain. Geldsetzer (1974) describes these units, which exceed 500 m. thick.

Coppermine River Group

Copper Creek Basalt (Unit 17)

Basalt flows cap Teshierpi Mountain, in the northeastern corner of the Property.

Diabase Dykes (Unit E)

Within the property, weakly chloritized diabase dykes, possibly associated with the Coppermine Group, intrude granite southeast of Jack Lake and intrude Unit 12, within the area intersected by drill hole 78Y-73, near Teewal Lake.

Structural Geology

The PEC Hill dome formed subsequent to Hornby Bay Group deposition and is transected by relatively short east-west, north-south and northwest trending faults and by the younger, northeast trending fault Helmut Fault. The Imperial Fault transects the southeastern edge of the dome. Most faults dip almost vertically. West of the Helmut Fault, Units 8, 9 and 10 outcrop within a southwesterly plunging anticline; east of the fault, Hornby Bay strata are complexly faulted, folded into minor syncline-anticline pairs, locally overturned and dragged.

Within Dismal Lakes Group, most faults trend northeasterly to northerly and dip nearly vertical. Some may be splays off the regional Herb Dixon Fault mapped north of Dismal Lakes (Baragar and Donaldson, 1973). The Deposit occurs between the Imperial Fault and Aquitaine Fault, which are about 500 m. apart. In the northern part of the Deposit area, the Aquitaine Fault may be superceded by the Trike Fault. Near the Deposit, vertical displacement on the Imperial Fault is southeast side down about 50 to 60 m.; vertical displacement may increase to the northeast. The Aquitaine Fault is northwest side down about 30 to 40 m.; it may splay or terminate at the Trike Fault, between the Teshierpi River and Teewal Lake. The Trike Fault is southeast side down about 10 to 20 m.

The northeasterly trending Imperial Fault exhibits multiple periods of movement: prior to, during and after the mineralizing event. Initial movement was northwest side down prior to deposition of Hornby Bay Group. This movement is similar to that on the Aquitaine Fault. A thick sequence of Unit 8 sandstones was deposited on the northwest side. The Imperial Fault was later reactivated with a reversed sense of movement to the initial event, *ie.* southeast side down. The second fault event was prior to deposition of the Dismal Lakes group. The second event produced a pre Unit 11 topographic low, or paleovalley, between the granitic highlands southeast of the Aquitaine Fault and the Hornby Bay Group highlands northwest of the Imperial Fault, on PEC Hill. This paleovalley was partially filled with Unit 11 sandstone and conglomerate. A post Unit

12 event, or events, offset lithologies and mineralization. The Imperial Fault was partially healed by quartz and barium; uranium mineralization has not been intersected within the main fault zone. One fault, within a flexure of the Imperial Fault, has fracture-related uranium mineralization (Holes 77Y-35 and 77Y-57). The fracture zone contains significantly higher than average grade uranium, including secondary uranium oxides (see MINERALIZATION).

Structure contours drawn on the base of Unit 11 (map 7IY-6 in Hassard, 1977) indicate there is a rotational component to the Imperial Fault. Northwest of the fault the dip is northeast while southeast of the fault, in the deposit area, the dip is more easterly. Isopachs of the oligomictic conglomerate within Unit 11 indicate that its greatest thickness subparallels the trace of the Imperial Fault. It may have been displaced about 300 m. by late sinistral movement along the Imperial Fault (Abercrombie, 1980).

Glacial Geology

Glacial transport near the Property was primarily from southeast to northwest (Craig, 1960; Vagners, 1977). Till, kames, eskers, outwash deposits and lacustrine deposits were formed by glacial actions. Some of these features have been modified by recent erosional and depositional events. Glacial deposits have filled in the bedrock topography and vary from a few metres to about 30 m. thick near Spa Lake, however, near the Teshierpi river they exceed 80 m. thick.

Uranium-bearing conglomerate and sandstone were eroded and transported by glacial ice (Vagners, 1977); a few of the eroded clasts were transported by meltwater. More than 4,000 clasts of various sizes, from large pebbles and cobbles to boulders exceeding a metre, have been located and mapped, mainly within till and outwash deposits. The kame deposit extending north about 2.5 km. from Zargut and Jenny Lakes is about 1 km. wide and appears to cover till and outwash material containing the radioactive boulders. Most uraniferous boulders form a fan extending westerly to northwesterly from known mineralization within areas of eroded Unit 11. The major source area is near the occurrences discovered on the PEC claims, probably extending from near Fran Lake westerly to near Jack Lake. A second but minor source area may have been from near weak mineralization north and west of Jenny Lake. A few of the most northerly and easterly radioactive clasts, located near 9+50N, 9+00E, occur along the western edge of the kame deposit and may have a different and unknown source as they are outside the usual trends.

DEPOSIT TYPES

Introduction

The Mountain Lake deposit has been described by Gandhi (1986) as a "tabular, sandstone-type uranium deposit". At that time, the sandstone-hosted deposit model included essentially all mineralization occurring within sandstone and did not particularly consider the genesis of the mineralization. As such, the model was broad and inclusive. With the discovery of the very high grade Unconformity-related uranium deposits in Australia and Saskatchewan, the genetic relations of the mineralization to the unconformity became paramount. As a result, mineralization occurring entirely within sandstone, but genetically related to the unconformity, such as the perched mineralization at Cigar Lake, is currently classified as Unconformity-related instead of Sandstone-hosted.

Three models pertain to mineralization hosted within sandstone. The Sandstone-hosted uranium deposit model is restricted to mineralization that not only formed within the sandstone but also is genetically related to a source for reductants derived from within those sandstones. Mineralization formed within sandstone but which is genetically related to reductants from outside the sandstone is considered to be distinct. Examples of these include the Unconformity-related uranium deposits and the Shale-related uranium deposits.

The Sandstone-related, Unconformity-related and Shale-related deposit models are described below. Many features are common to all of the models. Uranium could have sourced directly from the saprolitic weathering of granitic and felsic volcanic highlands, or from sediments derived from them. Uranium was transported in the hexavalent state by oxidized solutions. Interaction of the oxidized solutions with a reducing environment (reduction/oxidation or redox boundary) caused the uranium to precipitate in the tetravalent state. Deposition was within sites that had an open space in which to accumulate the uranium and a suitable chemical environment in which to preserve it. Mineral or elemental zoning may have developed because oxidation potential and acidity (Eh and pH) gradients at the edge of a geochemical cell, or reduction-oxidation (redox) boundary, determined which minerals were deposited and their relative positions. Each of the deposit models contains these common features; differences between the models are essentially due to the presumed source of the reducing fluids

Sandstone-related Uranium Deposit Model

The Sandstone-related uranium deposit model described is restricted to deposits that have a source of reducing fluids (reductants) within the sandstone formation. Examples of these occur within the western United States (Colorado Plateau region and Wyoming). The model specifically excludes deposits that are genetically related to a source of reductants from outside the sandstone formations that host the deposit. Information about the deposit model is mainly based on the description and explanation of the model presented by Rackley (1976) and on personal examination of deposits in the Colorado Plateau region and Wyoming.

Host rocks comprise a thick, extensive continental sequence of coarse- to fine-grained sandstones, much of which may be red beds. These were deposited in a continental fluvial or marginal marine sedimentary environment. Impermeable shale/mudstone units are often interbedded in the sedimentary sequence and may occur immediately above and/or below mineralized sandstone. Carbonaceous matter, derived from terrestrial plants, is abundant. Uranium and other metals, in small but readily leachable amounts, were available from the erosion of basement rocks or from sediments derived from them. These metals were transported by oxidizing solutions through the continental sediments until being deposited at favourable physical-chemical sites or until being dispersed in the ocean. Mineralization of the principal uranium minerals (uraninite and coffinite) was both concordant and discordant with the sedimentation. Deposition was dependant upon two main conditions: an open space in which to deposit the metals, and a favourable chemical (reducing) environment to precipitate the metals out of solution. The typical ore-body represents an addition of less than one percent, which was accommodated in the pore space. Uranium was precipitated under reducing conditions caused by a variety of agents that existed within the sandstones, including: carbonaceous material (detrital plant debris, amorphous humate, marine algae) and sulphides.

Three main types of sandstone deposits are generally recognized: rollfront, tabular and tectonic/lithologic. Rollfront deposits are arcuate bodies of mineralization that crosscut sandstone bedding. Tabular deposits are irregular, elongate lenticular bodies parallel to the depositional trend, conformable or nearly conformable with host strata, and commonly occur in paleochannels incised into underlying basement rocks. Tectonic/lithologic or fracture-controlled deposits occur within fracture zones or breccias in sandstones adjacent to a permeable fault zone.

The geochemical cells in the Tertiary deposits of Wyoming are simple, containing principally uranium with minor amounts of molybdenum and minor to moderate amounts of selenium; vanadium is present in some deposits. Geochemical cells in the Colorado Plateau deposits contain copper, silver, chromium and lead in significant amounts (Rackley, 1976). Some minerals may be identifiable but many elements occur in only trace amounts and are best detected by geochemical analyses. Mineral zoning may extend from a few m. to as much as a km. from an ore body.

Unconformity-related Uranium Deposit Model

The Unconformity-related uranium deposit model includes deposits that are not only large, but also the highest-grade uranium deposits in the world. The following description is copied, with only minor changes, from the Uranium Geology section within the Pitchstone Exploration Ltd.'s website: www.pitchstone.net.

"Unconformity deposits are so named because they are spatially and genetically related to the geological hiatus, or unconformity, at the base of major sedimentary basins. Specifically, the most prospective basins are accumulations of oxidized clastic sediments that were deposited during Middle Proterozoic time, 1,800-1,000 Ma.

"Uranium, which was liberated by erosion that created the Proterozoic sediments, and from the sediments themselves after deposition, migrated through the sedimentary basin until the fluids encountered a suitable deposition site. Deposition sites have two components: a favourable chemical environment, and an open space in which to accumulate uranium. A reducing chemical environment allows hexavalent uranium, which is transported by oxidized fluids, to be reduced and precipitated in the tetravalent state. The unconformity at the base of the Athabasca basin is in effect a basin-wide oxidation/reduction (redox) boundary, which can facilitate precipitation of uranium. Open spaces are provided by faulting, fracturing, dissolution of the clastic sediments, and/or alteration of the host rocks.

"Older rock units, Lower Proterozoic and Archean basement that underlie the sediments of the Athabasca and other Proterozoic basins, include granite, gneiss, schist and calcareous rocks. Metamorphosed pelitic and semi-pelitic basement rocks are represented now as gneiss and schist. Gneiss and schist, particularly those containing graphite and sulphides, provide ideal settings for accumulation of uranium for two reasons; graphite enhances zones of weakness in pelitic rocks that promotes faulting and development of open spaces, and graphite and sulphides help facilitate the chemical change necessary to reduce and precipitate uranium. Some of the basement units may also have contributed uranium to the deposits.

"The graphite and sulphides have an added bonus for exploration. They are electrically conductive and can be detected with geophysical techniques, thereby providing an indirect method of searching for uranium deposits.

"Proterozoic accumulations of clastic sediments, like the Athabasca Basin, are not significantly metamorphosed and, from the time they were deposited, have changed mainly through diagenetic alteration. Accordingly, the porosity and permeability of the sediments have been maintained, which has allowed uranium to accumulate over hundreds of millions of years."

Unconformity uranium deposits may occur at, below or above the unconformity. Deposits may be hosted by: the basement schists, gneisses, granites and carbonates; the Athabasca clastic sediments; or, more commonly, the deposits straddle the unconformity and are hosted by both. Faults may be conduits essential for the formation of the sandstone-hosted mineralization in some deposits, which may occur some distance above the unconformity.

Shale-related Uranium Deposit Model

Examples of Shale-related uranium deposits occur in the Franceville Basin, Gabon. Reducing fluids are believed to have moved into the host sandstone formation from an overlying shale unit. These are considered as a separate deposit model as deposition of the uranium was apparently from a source of reductants not specifically associated with an unconformity.

The geology of the Franceville Basin and associated uranium deposits is described by Gauthier-Lafaye and Weber (1989). The intracratonic Francevillian series is divided into five formations: FA to FE, and is 1,000 to 4,000 m. thick. The lowermost formation, FA, is 100 to 1,000 m. thick and rests unconformably on the Archean basement. The FA formation hosts all of the uranium deposits in the basin. The FB formation, resting slightly discondantly over the FA, consists mainly of black carbonaceous marine shales carrying kerogen and asphalt/bitumen. FB was deposited during a period of downfaulting, and is over 1,000 m. thick in the central part of the basin. The FC to FE formations have more diverse lithology, with shale, chert, dolomite and volcanic rocks. The series is overlain by Mesozoic continental sediments of the Congolian basin.

The uranium deposits were formed by multistage events around 2,050 Ma., about the same time as early diagenesis (Zetterstrom, 2000). During maximum burial, reducing fluids, in the form of oil, migrated from the black shales into the upper part of the FA sandstone. At the same time, oxygenated fluids migrated into the lower part of the FA formation carrying, and also dissolving uranium and other metals; this event introduced hematite into the conglomerate and lower sandstones. After maximum burial, a tectonic event uplifted the basin. During this uplift, hydrofracturing occurred in the sandstone to produce a secondary porosity and permeability. Uranium was deposited by the mixing of oxygenated and reducing fluids.

The lower FA sandstones and conglomerates are red, and are overlain, within the upper part of the FA sandstones, by a green zone whose boundary transgresses stratigraphy. This green zone is capped by a black hydrocarbon-rich zone which hosts the ore, within sandstones, immediately below the black shales. All of the uranium deposits of the basin appear to be located in fracture zones and tectonic structures.

The uranium always accompanies hydrocarbon (kerogen or bitumen) and has associated sulphides (chiefly pyrite and galena, with minor marcasite and the copper minerals: chalcopyrite, digenite, and covellite). Some deposits contain significant vanadium. The mineralization usually grades from 0.1 to 1% U; locally much higher grade material occurs in lenses (5 to 20 m. long x 5 to 10 m. wide x 0.3 to 2 m. thick) and grades 1 to 10% U. Very high grade mineralization occurs at Oklo, as lensoid bodies, of up to 80% uraninite in a clay gangue, approximately 10 m. long (Zetterstrom, 2000).

Underground and open pit mining of uranium deposits in Gabon ended in 1999. Grades and tonnages mined are sketchy and occasionally contradictory; however, to give an indication of the tenor of the Gabon uranium deposits, Table 3 lists various deposits, their size and average grade. Values used are listed by Gauthier-Lafaye and Weber (1989), and Trueman (1995).

TABLE 3
GABON URANIUM DEPOSITS

DEPOSIT	MINING METHOD	OPERATION	AVERAGE GRADE (% U_3O_8)	SIZE (tonnes U)
Oklo	OP & UG	1970 - 1997	0.4-0.5	17300
Okelobondo	UG	? - 1997	0.71 - 0.94	7400
Mounana	OP & UG	1960 - 1975	0.58	5700
Mikouloungou	OP	1997 - 1999	0.2 - 0.25	4700
Boyindzi	UG	1980 - 1991	?	3100
Bangombe	?		?	3000

OP - open pit mine; UG - underground mine

MINERALIZATION

Introduction

The Mountain Lake uranium deposit is entirely within the Property and is defined as the area enclosing uranium mineralization, outlined with drill intersections or surface exposures, that contain grades of at least 0.10 % U_3O_8 with vertical thicknesses at least 1.0 m. thick, and which might be mineable *en masse* (the Deposit and the Criteria). Only one drill intersection that meets the grade-thickness minimums, 78Y-70 (0.156% U_3O_8 over 1.3 m.) has been excluded, because it is southeast of the Aquitaine Fault and adjoining drill holes contain very narrow or low grade mineralization. The Deposit is within a northeast trending area, approximately 1.3 km. long and up to 320 m. wide, located between the Imperial and Aquitaine or Trike Faults (Figures 3, 4 and 5). The Deposit boundary (the Boundary) encloses holes with intersections that meet the Criteria; however, the Boundary is smoothed and does not exactly follow the limit of blocks used in the Inferred Resource Estimation. The Boundary also encloses a few drill holes that do not meet the Criteria.

The Deposit contains mainly tabular, stratabound uranium mineralization within Unit 11 sandstone and conglomerate, described below, at depths from 28 to 136 m. below the surface (Appendix 4). The Deposit is underlain by Hornby Bay Group (Unit 8) and Aphebian granite (Unit A). In areas of paleotopographic highs, the Deposit extends nearly to the unconformity at the base of Unit 11. Within thicker Unit 11, the Deposit is up to 50 m. above the unconformity. Mineralized outcrops at Occurrence P1 and P2 are approximately 1.1 km. to the southwest of the Deposit (Figures 3, 4 and 5). These may be eroded remnants of an originally more extensive, continuous deposit If so, the deposit would have been at least 2.4 km. long prior to glaciation (Trigg, 1986).

Additional stratabound uranium mineralization occurs within the Property but is not included as part of the Deposit. This includes: mineralization intersected in Hole 78Y-70 east of the Aquitaine Fault, mineralization intersected along the eastern and southeastern Boundary of the Deposit, partially eroded mineralization to the southwest of the Deposit, and mineralization intersected northwest of the Imperial Fault (Figure 5).

Hole 78Y-70 lies approximately 170 m. southeast of the deposit, between the Aquitaine and Trike Faults. Although the intersected grade and thickness (0.16% U_3O_8 over 1.3 m.) meets the Criteria, it is not likely to be mined *en masse* with the Deposit and consequently has not been included.

Uranium mineralization was intersected in drill holes along the east and southeast Boundary of the Deposit. The intersected grades and/or thicknesses are less than the Criteria.

Additional uranium mineralization occurs southwest of the Deposit in surface exposures and in drill holes. Only assays of grab samples are available from surface occurrences. Drill intersections do not meet the Criteria. Occurrence P1 (Figures 4 and 5) is within an irregular 20 m. by 40 m. area (Hassard, 1975a, and Plate 80-13 in Wylie, 1980). Stratabound black, green and yellow uranium oxides occur within a Unit 11 sandstone horizon up to two m. thick. Grab samples assayed more than one percent U_3O_8 (Bizard and Salat, 1969; Hassard, 1975a). Occurrence P1 shows evidence of trenching however no channel or bulk sample assays are reported. Occurrence P2 (Figures 4 and 5) consists of green and yellow uranium oxides in Unit 11 conglomerate (Unit 11a). Mineralization is within an area about 10 m. by 40 m. Thickness is not known. Mineralization is within both the sandstone boulders and the sand matrix. Occurrences P1 and P2 and other mineralization from this general area were eroded to form an extensive radioactive boulder train, which is illustrated in Trigg (1986).

Uranium mineralization was intersected northwest of the Imperial Fault, north and west of Jenny Lake. The intersected grades and/or thicknesses are less than the Criteria.

Stratabound Mineralization

Uranium within the Deposit occurs in two or more peneconcordant, subparallel bands ranging in thickness from 1.0 to 6.5 m. (Figures 6 and 7). The Deposit dips easterly at 5 to10 degrees; drill intersections are about 1 to 2% greater than true thickness. The mineralization is oriented subparallel to the contact between Units 11 and 12 and occurs within the uppermost 60 m. of Unit 11 (including the Unit 11t). Over topographic highs, Unit 11 is thin and the Deposit may extend nearly to the unconformity; some of the lower mineralized horizons may be absent. In areas of thicker Unit 11, the Deposit is up to 50 m. above the unconformity.

The mineralization typically occurs within a very fine grained to medium-grained sandstone or within an oligomictic conglomerate, with pebble- to cobble-sized clasts comprised of fine sand to grit, quartz grains within a very fine grained to fine-grained quartz sandstone matrix. Sandstone or conglomerate is banded whitish and very light green, possibly by minor amounts of chlorite, and may contain minor hematite on thin fractures or veins. Disseminated sulphides, particularly copper minerals and pyrite or marcasite, and arsenides are present in above average amounts.

Lithogeochemical sampling by Abercrombie (1980) indicates that within the uraniferous zones, molybdenum, thorium, cobalt, sodium, fluorine, copper, beryllium, vanadium, lead, nickel, manganese, silver and zirconium correlate positively with uranium (Abercrombie, 1980). Barium is negatively correlated with uranium. Molybdenum, thorium, cobalt and sodium (analysed as oxide), exist in anomalous concentrations within the stratigraphic interval that corresponds to the uraniferous zone. These were detected, in core from scattered sites, at least 370 m. from the Deposit but were not detected in anomalous amounts 3.1 km. from the Deposit.

Uranium minerals include pitchblende, coffinite (Appendix 4) and unidentified sooty, black uranium oxides as interstitial disseminations and grain coatings within zones subparallel to bedding and as narrow veinlets in quartzite and replacing pyrite. Green and yellow uranium minerals exist in small amounts coating pitchblende, disseminated and on microfractures within the mineralized bands. These uranium minerals include: carnotite, cuprosklodowskite, torbernite and zeunerite (Appendix 4).

Pyrite is the most common sulphide associated with, and often replaced by uranium minerals and occurs as anhedral to euhedral disseminations and spheroidal aggregates. Chalcopyrite is also relatively abundant and occurs as anhedral to euhedral disseminations and fracture fillings; it has been extensively replaced by chalcocite and covellite.

Other associated minerals identified within the mineralized bands include: digenite, azurite, malachite, arsenopyrite, glaucodot, niccolite, bravoite(?), goethite, hematite, magnetite, quartz, barite, calcite, biotite, chlorite, and clay minerals (Appendix 1) (Abercrombie, 1980). Hematite occurs as earthy and specular varieties and is present as dusty inclusions in quartz overgrowths and replacing chlorite, clay, quartz or barite. Goethite replaces pyrite and, less commonly, chalcopyrite. Quartz is the most abundant mineral and, in addition to the matrix quartz sand grains, occurs as anhedral and euhedral overgrowths on quartz grains and as veins fillings. Barite exists as vein filling up to a few cm. thick, particularly near the Imperial Fault, and as cement and replacements of shale clasts more distal from the Imperial Fault (Geldsetzer,1978).

Uranium grades within the Deposit typically range from 0.1 to 0.3% U_3O_8 over thicknesses of 1 to 3 m.; however, higher grade and/or thicker mineralization exists (Appendix 4). Material assaying 1.23% U_3O_8 over 1.9 m. occurs within a section grading 0.58% U_3O_8 over 5.3 m. (drill log 76Y-21, Hassard, 1976). Other intersections assayed 0.284% U_3O_8 over 6.5 m. (P79-1) and 0.405% U_3O_8 over 5.4 m. (P79-16)(Wylie, 1979). Grades up to 0.53% copper, 0.24% nickel, 0.26% cobalt and 9.6 g/t silver exist over short intervals (drill log 76Y-21, Hassard, 1976).

FIGURE 6

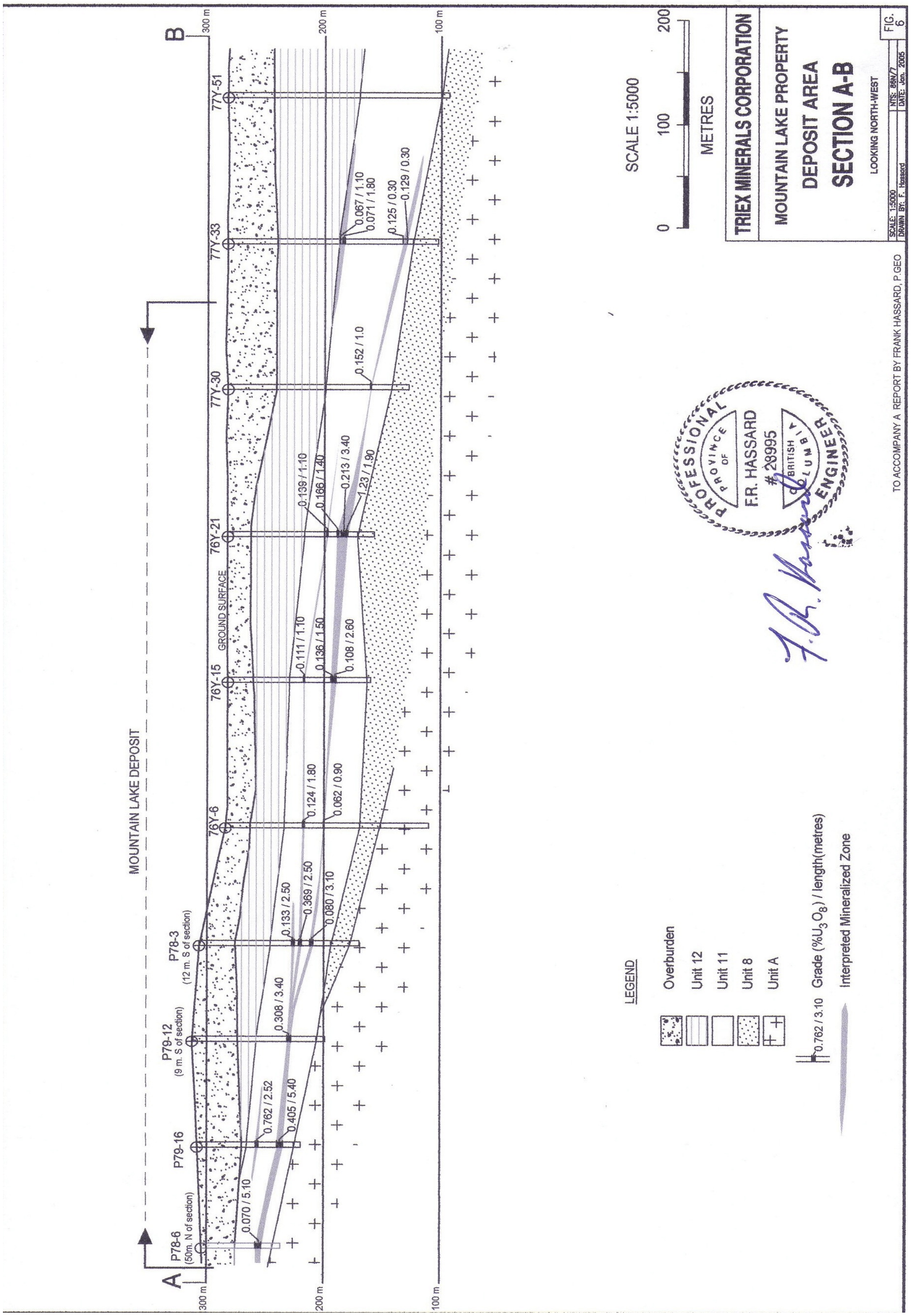
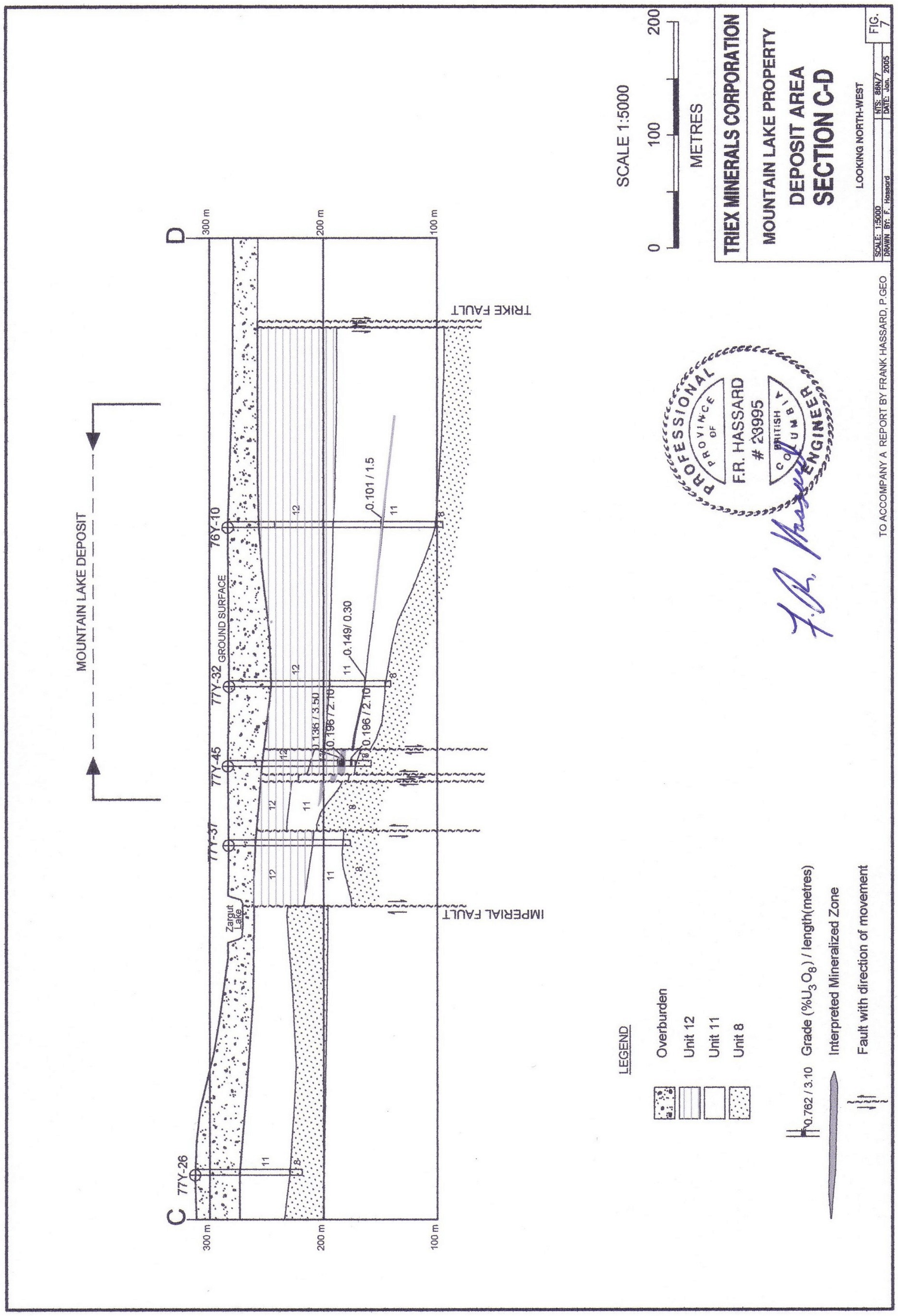

A
B
MOUNTAIN LAKE DEPOSIT
GROUND SURFACE
P78-6 (50m. N of section)
P79-16
P79-12 (9 m. S of section)
P78-3 (12 m. S of section)
76Y-6
76Y-15
76Y-21
77Y-30
77Y-33
77Y-51
300 m
200 m
100 m
0.070 / 5.10
0.762 / 2.52
0.405 / 5.40
0.308 / 3.40
0.133 / 2.50
0.369 / 2.50
0.080 / 3.10
0.124 / 1.80
0.062 / 0.90
0.111 / 1.10
0.136 / 1.50
0.108 / 2.60
0.139 / 1.10
0.166 / 1.40
0.213 / 3.40
1.23 / 1.90
0.152 / 1.0
0.067 / 1.10
0.071 / 1.80
0.125 / 0.30
0.129 / 0.30
LEGEND
Overburden
Unit 12
Unit 11
Unit 8
Unit A
0.762 / 3.10 Grade (%U_3O_8) / length(metres)
Interpreted Mineralized Zone
SCALE 1:5000
0 100 200
METRES
TRIEX MINERALS CORPORATION
MOUNTAIN LAKE PROPERTY
DEPOSIT AREA
SECTION A-B
LOOKING NORTH-WEST
FIG. 6
TO ACCOMPANY A REPORT BY FRANK HASSARD, P.GEO
PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
F.R. HASSARD
28995

FIGURE 7


C
D
77Y-26
77Y-37
77Y-45
77Y-32
76Y-10
GROUND SURFACE
Zargut Lake
MOUNTAIN LAKE DEPOSIT
IMPERIAL FAULT
TRIKE FAULT
0.101 / 1.5
0.149/ 0.30
0.136 / 3.50
0.196 / 2.10
0.196 / 2.10
LEGEND
Overburden
Unit 12
Unit 11
Unit 8
0.762 / 3.10 Grade (%U_3O_8) / length(metres)
Interpreted Mineralized Zone
Fault with direction of movement
SCALE 1:5000
0 100 200
METRES
TRIEX MINERALS CORPORATION
MOUNTAIN LAKE PROPERTY
DEPOSIT AREA
SECTION C-D
LOOKING NORTH-WEST
SCALE: 1:5000
DRAWN BY: F. Hassard
NTS: 86N/7
DATE: Jan. 2005
FIG. 7
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Fracture-Controlled Mineralization

A steeply dipping fracture zone was intersected by two drill holes (77Y-35 and -57) within the Deposit. The fracture zone is estimated to dip about -80° northwesterly (Figure 8) and is associated with a splay fault near a flexure in the main trace of the Imperial Fault (Figure 5 and 8). Sooty black uranium oxides, cuprosklodowskite, torbernite, and carnotite line fractures and coat vugs. Associated with the uranium minerals are: chalcopyrite, chalcocite, pyrite, hematite, cobalt (and possibly nickel) arsenides, quartz and carbonate. A hard, black, bituminous substance occurs immediately above the mineralized zone (Hassard, 1977; Geldsetzer, 1978; and Abercrombie, 1980). Geldsetzer (1978) reported "numerous fractures filled with barite and, to a lesser extent, with calcite" within Unit 12, in the upper part of hole 77Y-35, as well as in hole 77Y-57.

Uranium within core from hole 77Y-35 grades up to 5.19% U_3O_8 over 0.9 m. (core length), within an 11.1 m. (core length) mineralized and fractured section estimated to grade 0.89% U_3O_8. Grades to 1.04% copper, 0.48% nickel, 0.13% cobalt and 22.6 g/t silver exist over short intervals (drill log 77Y-35, Hassard, 1977). The zone is estimated to be 1.9 m. wide. Length is unknown.

Paragenesis

A paragenetic sequence has been determined by examination and analysis of drill core (Geldsetzer, 1978; Abercrombie, 1980). After deposition of Unit 11 quartzitic sandstone, but prior to cementation, hematite coated the quartz grains and quartz overgrowths, which are partly replaced by hematite and biotite, pyrite and chalcopyrite formed. Sericite-rimmed quartz overgrowths, along with chlorite, formed intergranular masses. Barite filled the remaining pores and partly replaced quartz overgrowths. The amount of barite cement decreases upward in Unit 11. Quartz grains and quartz overgrowths were dissolved and corroded.

Pitchblende and coffinite probably first formed contemporaneously with, or shortly after, the dissolution of quartz and the deposition of barite. Biotite, pyrite, arsenopyrite, glaucodot and bravoite(?) were possible deposited about the same time as the pitchblende and coffinite.

Veins associated with early faulting contain milky quartz, clear quartz, specular hematite and barite. Some sooty, black uranium oxides formed about this time along with barite, chlorite and chalcopyrite.

Late fractures are accompanied by veins that contain, in approximate paragenetic order, from oldest to youngest: goethite, barite, torbernite, cuprosklodowskite, carnotite and clay. Malachite, azurite and covellite(?) may have formed contemporaneously with these minerals but have not been identified in uraniferous veins and consequently their age relationships are not clear.

Some earlier formed minerals are replaced. These include: pyrite replaced by uraninite and other uranium minerals; chalcopyrite replaced by chalcocite, covellite, digenite and goethite; disseminated pyrite partly replaced by goethite, chacocite, covellite and digenite; calcite partly replaced by quartz and chlorite; and chlorite partly replaced by hematite and limonite.

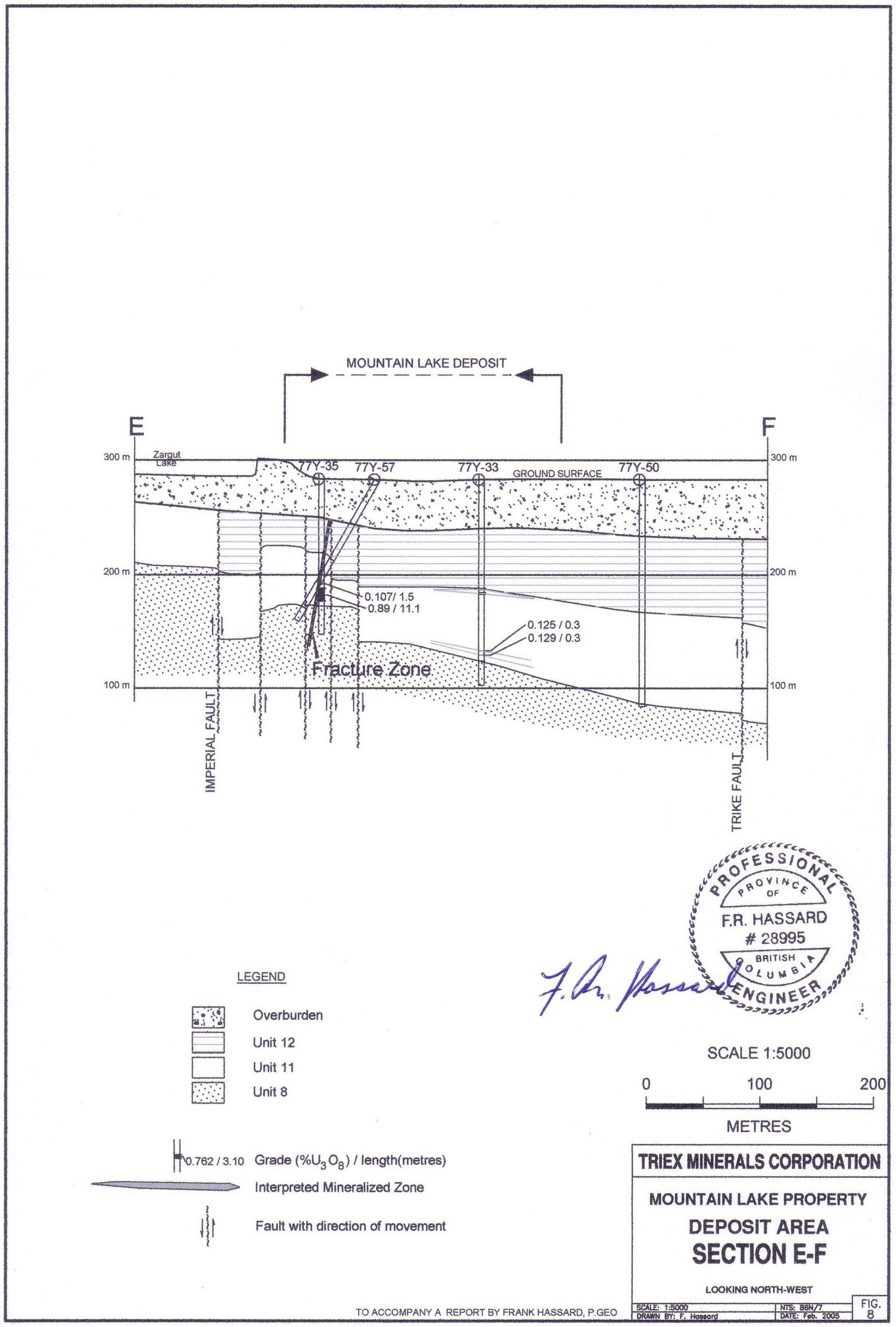
Absolute Age

Pitchblende and coffinite were sampled in duplicate from five drill core specimens. This material has been dated at 1053 $\pm$ 50 Ma with a possible remobilization at 450 Ma (letter addendum attached to Miller, 1981).

EXPLORATION

All the information contained in this report is from historical sources (see HISTORY). No exploration has been done on the Property by either Triex or Pitchstone.

FIGURE 8



MOUNTAIN LAKE DEPOSIT
E
F
300 m
200 m
100 m
Zargut Lake
77Y-35
77Y-57
77Y-33
77Y-50
GROUND SURFACE
0.107/ 1.5
0.89 / 11.1
0.125 / 0.3
0.129 / 0.3
Fracture Zone
IMPERIAL FAULT
TRIKE FAULT
PROFESSIONAL
PROVINCE OF
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200
METRES
TRIEX MINERALS CORPORATION
MOUNTAIN LAKE PROPERTY
DEPOSIT AREA
SECTION E-F
LOOKING NORTH-WEST
SCALE: 1:5000
DRAWN BY: F. Hassard
NTS: 86N/7
DATE: Feb. 2005
FIG. 8
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DRILLING

All of the drilling information utilized in this report, and for the Inferred Resource estimation, is historical. Over 190 holes, totalling more than 21,800 m., were percussion and/or diamond drilled on the parts of the Property previously know as the PEC and YUK mineral claims (Ahuja, 1974; Hassard, 1975a, 1975b, 1976b, 1977 and 1978; Wylie, 1979a, 1979b and 1980). Core recovered from the Deposit, and surrounding low-grade or narrow mineralization, during 1976 and 1977 was: AQ wireline (27 mm. diameter) and during 1978 to 1980 was BQ wireline (36.5 mm. diameter). Mineralized intervals were cored; percussion drilling was utilized on the historic YUK claims to penetrate overburden and rock units overlying Unit 11.

The author of this report and QP supervised one season of exploration drilling on the historic PEC property and four seasons of exploration drilling on the historic YUK property. This included all of the holes drilled for Esso that penetrated uranium mineralization, including the Deposit. During the exploration, the QP worked for a consulting geological engineering company that was independent of any of the owners of either the YUK or PEC properties(see CERTIFICATE OF AUTHOR). The author was aware of the drilling program being conducted by Cominco, on what was then the adjoining PEC claims, and provided initial information and suggestions regarding: lithologies and mineralization, use of a common grid for drilling, and local problems encountered during Esso's drilling. The author personally knew the field supervisor for Cominco, Mr. W. E. (Del) Wylie and can attest to his general competence and knowledge in the conduct of Cominco's drill program. Cominco personnel had some difficulty differentiating between some of the lithologies, but that did not materially affect the exploration of the Deposit within the historic PEC property. Similar logging and sampling procedures were followed during drilling on both the YUK and PEC properties.

The drilling process in each hole drilled on the YUK property was closely monitored by a geologist who terminated drilling based on the geology observed. Radioactive sections of core were often identified and noted at the drill site. Completed holes were routinely radiometrically probed with a properly calibrated instrument and the radiometric profile was plotted along the hole outline; a few holes were not probed due to freezing conditions or when the hole was abandoned in overburden. All core was routinely checked utilizing a calibrated hand-held scintillometer. Any anomalous radioactivity was recorded on a Drill Hole Radioactivity Log. The presence of thorium was checked with reference to a hand-held spectrometer; the mineralization of the deposit was confirmed as uranium. Detailed lithological records (logs) were compiled by a geologist. These logs included information such as: rock type, colour, grain size, mineralogy, fracture frequency and attitude to core axis, alteration, degree and type of cementation, mineral relationships and associations, intervals of ground or lost core and any other geological features considered of possible importance, and also core radioactivity. All radioactive intervals of core were mechanically split in half. One half was kept as a permanent record or in some cases utilized for mineralogical and other geological research; the other half was bagged and sent for assay or analysis.

Holes are plotted on sections, usually 50 and 100 m. apart. Sections by Esso are plotted on large sheets at a scale of 1:1.000. These contain surface topography, drill hole outlines, lithologies, structures, radiometric profiles, composite assay values, missing (ground) core intervals, and interpreted lithologic contacts and other geological features. Drill sections available from Cominco reports, which illustrate the bulk of the drilling on the PEC claims, are on page size sections at a scale of 1:2,000, and contain only lithologies, composite assays, and interpreted lithologic contacts and mineralized layers. Mineralized and assayed intervals were used to develop the geologic model described under MINERALIZATION.

Most holes were drilled vertically and minor some curvature in the hole is expected. The dip of various strata and mineralized horizons is gentle, generally less than 5^{o} and mineralized intervals are thought to vary less than 1 or 2% from true. Fracture-controlled mineralization has been corrected to estimated true thickness. Any angled holes have assay intervals for stratabound mineralization corrected to vertical thicknesses.

SAMPLING METHOD AND APPROACH

Material was selected for assay or analysis on the basis of radioactivity and geological features, such as the estimated amount of visible uranium minerals, rock type and degree of fracturing. In general, sample lengths were selected to ensure the sample was as uniform as possible. Sample intervals were usually 30 cm., although longer or shorter intervals were selected as warranted. Even very narrow radioactive intervals were routinely sampled. In general, mineralized intervals were closed off by sampling very low grade core on each side of the mineralized interval. Sample intervals and their individual and composite assays were recorded next to the geological description in the drill logs. Only the 1980 drill logs were available from drilling on the PEC claims; summary logs and composite assays were available for 1978 and 1979 (Wylie, 1979a, 1979b and 1980). Drill logs, sample and assay data from holes on the YUK claims are complete (Ahuja, 1974, Hassard, 1975b, 1976b, 1977 and 1978).

Sample intervals were marked on the core box by a geologist responsible for logging the core,and the core was mechanically split by a technician. Core with mineralized fractures was oriented, marked and split perpendicular to the fractures to ensure that the sample was as representative as possible. One-half of the split core was sealed in a thick plastic bag with a prenumbered identification tag from a sample book, and sent for assay at a commercial laboratory. The other half of the core was returned to the core box, which was identically numbered as the assay sample, in waterproof ink, and kept as a permanent record. The sample book recorded sample date, core intervals sampled and sample length, with notes on any particular radiometric or geological details about the core. Sample books were kept on file and stored at after the field season. Core boxes were marked with aluminum tags and placed in metal racks or piled. Core boxes examined in August, 2004 by the QP had legible hole and box numbers; the sampled intervals and sample numbers were visible.

SAMPLE PREPARATION, ANALYSES AND SECURITY

Individual core samples, with their identification numbers, were sealed in individual heavy plastic bags by wire twist ties. These samples were packed into plastic or metal pails with fitted lids; in some cases, cardboard boxes were utilized and were sealed with tape. The contained samples were listed on the pail or box. Batches of samples were routinely sent from camp, picked up by the company expeditor and shipped by commercial carrier to the assay laboratory. During the QP's involvement with drilling within what is now the Property, from 1975 to 1978, there was no report of any sample being damaged during shipment.

Samples of split core were crushed, pulverized and assayed for U_3O_8 by chemical assay (Esso) or X-ray Fluorescence (XRF) method (Cominco) by commercial laboratories, under the supervision of a licensed assayer. Laboratories utilized were familiar with assaying techniques for uranium. Intervals with more abundant uranium minerals and /or visible sulphides and other minerals were analysed for: copper, nickel, cobalt, and silver and other elements; several intervals were also assayed for thorium. Specific gravity values were not measured. Analytical methods and the laboratories utilized are listed in Appendix 2.

Assay data was grouped and combined arithmetically to obtain composite assays, which were recorded on the drill logs and plotted on vertical sections. A list of composite assays utilized for the Inferred Resource Estimate is included in Appendix 4.

DATA VERIFICATION

The QP personally supervised the historic drill program on the YUK property during exploration of the Deposit. During that time, chemical assays for uranium were verified by comparison to visual estimates of mineralization and radioactive data and were also compared relatively to other assays. Radiometric probes were calibrated against standard radiometric sources supplied by the manufacturer prior to use; scintillometers were also calibrated on a daily basis against standard sources supplied by the manufacturer. Assays were not subject to quality control methods utilized currently. Radiometric assaying techniques were not possible with the equipment available as many samples of core contained uranium concentrations too high to be measured by scintillometers. Analyses of seven mineralized samples by chemical assay and radioactive (Beta) assay were in very close agreement, and indicated the material was in equilibrium (Hassard, 1975a; Appendix V). The chemical assays were, and are, considered to be a reasonable estimation of the grade within the core samples.

It was common practice for laboratories to utilize standards to calibrate their instruments and to check their results. High values were routine reassayed. The laboratories utilized (Appendix 2) had considerable experience with uranium assays and procedures, which were supervised by a certified assayer. Documentation of assay procedures is not available. Neither Esso nor Cominco had standard-grade uranium material to insert with sample batches.

A current verification of drill core and comparison to original assay data was not performed by the QP. The core has been exposed to the elements for many years and has not been secure. Some core has been spilled from the original boxes and other core has been removed for study. In the QP's opinion, re-assays of available core would not increase the level of confidence in the original data beyond what currently exists. The QP considers that the historic assay data is acceptable for an Inferred Resource estimate, but that further drilling, and current industry-accepted quality control techniques, will be required if any of the historic data is to be utilized for Resource estimates requiring higher levels of confidence than presented in this report.

Rejects, from the crushing process, and pulps, from the pulverization process, were retained for some time to allow post season checks. The QP is not aware of any checks being requested or done.

The accuracy of Barringer Magenta Limited's inductively coupled plasma (ICP) spectrometry multi-element analysis was evaluated and verified by sending ten selected lithogeochemical sample pulps to Bondar-Clegg & Company Ltd. for analysis of copper, lead, cobalt, nickel and beryllium by atomic absorption, and for thorium by XRF analysis. With the exception of thorium, all metals analysed showed excellent correlation with ICP spectrometry results; the results of thorium by XRF were, in general, three to five times greater than thorium by ICP spectometry (Abercrombie, 1980).

ADJACENT PROPERTIES

The area surrounding the Property has recently been staked by companies unrelated to the owners of the Property. Radioactive boulders, considered part of glacial dispersal from the Property, occur in parts of these claims. No significant occurrences are known adjacent to the Property.

MINERAL PROCESSING AND METALLURGICAL TESTING

Samples obtained during exploration have been from relatively small diameter drill core. These have been utilized for geological research (Abercrombie, 1980; Miller, 1981). No mineral processing or metallurgical testing has been done.

MINERAL RESOURCE ESTIMATE

Introduction

Uranium mineralization occurs in surface showings and has been intersected in diamond drill holes within the Property. This mineralization has been described and referred to as the Mountain Lake Deposit (Gandhi, 1986) or the PEC Uranium Deposit (Trigg, 1986). In this report it is referred to as the Mountain Lake uranium deposit or the Deposit. Trigg (1986) estimated the PEC Uranium Deposit, including portions on both the PEC and YUK properties, contained 3,150 t. of U_3O_8, based on a minimum grade of 0.10% U_3O_8, a minimum thickness of 1.5 m. and specific gravity of 2.5. No average grade was published. Wylie (1979 and 1980) estimated that resources, within the PEC Property only, contained 2,100 t. U_3O_8 at an average grade of 0.13% U_3O_8, as both "channel" and "sheet" mineralization, south of the Imperial Fault. Wylie's (1979a, 1979b and 1980) estimates were based on a minimum grade of 0.05% U_3O_8, a minimum thickness of 0.3 m.

and specific gravity of 2.5.

These historical estimates give an indication of the tenor of the Deposit. However, considering the location and inherent high costs of any production, values given include material that, in the opinion of the author of this report and QP, utilized an unrealistically low minimum or cut-off grade of 0.05% U_3O_8 (Wylie, 1979b and 1980), or else no average grade of the deposit was published (Trigg, 1986). Consequently, neither estimate is considered acceptable under the guidelines and definitions established by the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) as adopted by the CIM Council August 20, 2000. The QP has conducted an independent estimate of the resource of the Deposit.

Standards and Guidelines

An estimate of Inferred Resources, as defined by the CIM (2000), has been undertaken by the QP in order to provide an assessment of quantity and quality of mineralization identified within the Property. This estimate has followed Best Practice Guidelines established by the CIM (2000 and 2003), including those specific to uranium. Some of the guidelines and definitions are included below, in abbreviated form in some cases, as a reference.

"A Mineral Resource is a concentration or occurrence of natural, solid, inorganic material in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.

"Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories. An Inferred Mineral Resource has a lower level of confidence than that applied to an Indicated Mineral Resource. An Indicated Mineral Resource has a lower level of confidence than a Measured Mineral Resource. An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.

"Due to the uncertainty which may attach to Inferred Mineral Resources, it cannot be assumed that all or any part of an Inferred Mineral Resource will be upgraded to an Indicated or Measured Mineral Resource as a result of continued exploration. The term Mineral Resource covers mineralization and natural material of intrinsic economic interest which has been identified and estimated through exploration and sampling and within which Mineral Reserves may subsequently be defined by the consideration and application of technical, economic, legal, environmental, socio-economic and governmental factors. The phrase 'reasonable prospects for economic extraction' implies a judgement by the Qualified Person in respect of the technical and economic factors likely to influence the prospect of economic extraction. A Mineral Resource is an inventory of mineralization that under realistically assumed and justifiable technical and economic conditions, might become economically extractable."

Because the Property is considered to be at an exploration stage only, the various legal, environmental, socio-economic and governmental factors that might affect the mineability of any deposit within the Property have not been addressed, other than in the definition of the Deposit (see Criteria). The Deposit is considered as an Inferred Resource, which has the lowest confidence level both geologically and economically.

Criteria

The Deposit for which Resources are estimated contains mineralization that occurs within what was previously both the PEC and YUK claims, but which is now entirely within the Property (Figure 3). The definition of the Deposit is based on economic and mineability factors (drill intersections or surface exposures, that contain grades of at least 0.10 % U_3O_8, with vertical thicknesses at least 1.0 m. thick, and which may be mineable *en masse*) and not solely geologic ones. The geological model of tabular layers, utilized for the Inferred Resource estimation and described under MINERALIZATION, is considered valid and the data utilized to form the model is considered adequate. Generally drill holes are 50 m. and greater apart. The information plotted on vertical sections through the drill holes indicates the continuity of the mineralization in the vicinity of the Deposit is very good (Figures 6 and 7). Mineralization, including low-grade intersections in some holes as well as those utilized in the Inferred Resource estimation, can be correlated over one km. in a northeast section through the Deposit (Figure 6) and more than 300 m. across the Deposit, in a northwest section (Figure 7). Offsets of the mineralization, interpreted as being caused by nearly vertical faulting, is consistent between adjacent sections (Figure 7, and vertical sections in Hassard, 1978). Depths to mineralization and geological units were predictable during the historical exploration drilling. There is a considerable variation in grades within a particular drill hole and within the same mineralized layer intersected by adjacent drill holes. This may be due to several factors, including: minor variations in permeability and porosity within the host lithology, variations in the Eh and pH during deposition, and the presence of microfracturing within the mineralized layer.

Drill holes were located in reference to a surveyed grid, which was common to all of the holes drilled by Esso and Cominco within the Deposit Boundary, and adequate records were kept. Lithological logs, assays, plans and sections were documented. Some of the primary lithological logs and individual assays were not available to describe the Cominco drilling; summary logs and composite assays were used for the Resource estimate in this report. However, any information not meeting the CIM (2003) guidelines has been excluded from the Resource estimate. Consequently, the Inferred Resource estimation is considered reasonable. Sampling and assaying data are considered to provide a reasonable estimate of mineral grade within drill holes.

Specific gravity was not measured during the historic exploration and more specific data will be required before restating the Inferred Resources with more confidence. Based on the predominantly quartz host, degree of silicification and cementation, observed porosity and amount of uranium, sulphides and other minerals, a specific gravity of 2.5 has been selected for this Resource estimate. This is considered a conservative value, particularly for material from higher than average concentrations of uranium oxides, sulphides and barite.

In order to arrive at a reasonable cut-off grade, it would be normal to utilize values used in mines extracting a similar product under similar conditions to that of the subject property. The Property cannot be realistically compared to uranium producing mines in Saskatchewan due to significant differences in the anticipated mining methods, uranium grade and infrastructure. Sandstone-hosted uranium deposits in the United States, and elsewhere, are also significantly different due to climate and infrastructure factors. The QP is familiar with gold deposits in the Northwest Territories with climatic and infrastructure similarities to that of the Property. These deposits are, or would be mined underground methods. The cut-off value utilized for these deposits was 5 g/t gold (or 0.15 oz/T) at a time of lower gold price than currently. Utilizing February 1, 2005 spot gold price and currency exchange values, 5 g/t gold is equivalent to a value of about $76. It is felt that the Deposit may be amenable to open pit mining because the mineralization is at a shallow depth. Most of the deposit is at depths less than 110 m. and the deepest part is less than 140 m. from surface. Utilizing February 1, 2005 uranium spot prices and currency exchange values, one kg. of uranium had a value of about $57. About 88% of uranium is sold under long-term contract prices, which are currently about $67/kg. (E.A.G. Trueman, P. Eng., pers. com.). Consequently, the minimum grade of material to be classified in the Inferred Resource category has been selected as 0.1% U_3O_8 (one kg/t), with an approximate value of $67, based on current long term contracts. This is twice the minimum grade used previously as the cut-off by Cominco (Wylie, 1980) and the same as that utilized by Trigg (1986).

The minimum thickness across which the minimum grade must be carried has been selected as 1.0 m. vertical. In fact, most of the mineralization included in the Inferred Resource estimate is greater than 0.1% U_3O_8 across more than 1.5 m. (Appendix 4 and Table 4). In-situ leach (ISL) method, which is often used to extract uranium from low-grade, sandstone-hosted uranium deposits in the U.S. and elsewhere cannot be currently be evaluated due to the lack of permeability and porosity information.

Method

The Inferred Resource for stratabound mineralization was estimated by using the polygon method. Because the general dip of the mineralized horizons is easterly at 5^o to 10^o, the vertical thickness generally differs from true thickness, and the horizontal area from the dip-slope area, by less than 2%. Polygons were drawn around each hole with one or more mineralized intervals meeting the Criteria. The sides of each polygon were determined by drawing lines perpendicular to, at one-half the distance along, the line to each adjacent drill hole. The intersection of the sides formed the polygon. Three polygons have been truncated 5 m. from the Imperial Fault because the few drill holes to intersect the fault have not intersected uranium mineralization within it. The area of each polygon was determined digitally. The mass of each mineralized block was estimated by multiplying horizontal area by the vertical thickness and specific gravity of 2.5. Uranium content was estimated by multiplying the grade of each mineralized interval by the mass of the surrounding block.

The Inferred Resource estimate for fracture-controlled mineralization in hole 76Y-35 was estimated by determining the attitude of the fractures. Drill log information for holes 76Y-35 and 77Y-57, an inclined hole drilled to test the mineralization in 76Y-35, indicates the fracture zone dips at about -80^o. Utilizing assay data in the drill log, an 11.1 m. long core interval is estimated to be 1.9 m. wide and grade 0.89% U_3O_8. The length of the block is estimated at 70 m. (the distance to adjacent polygons around holes 77Y-45 and -48, along the fault line). The height is estimated at 19 m. (the vertical intersection, plus one-half the distance from the top of the mineralized zone in 76Y-35 to hole 77Y-57, plus one-half the distance from the base of the mineralized zone to the unconformity). Specific gravity is estimated at 2.5.

Estimate

The Deposit is estimated to contain Inferred Resources totalling 3,700 t. of U_3O_8, within 1.6 million t. of mineralized rock, at an average grade of 0.23% U_3O_8. This is based on a minimum grade of 0.1% U_3O_8, a minimum vertical thickness of 1.0 m. and specific gravity of 2.5. Approximately 98% of the Resources are Stratabound mineralization, with an arithmetic average thickness of 2.1 m.; 2% of the Resources are Fracture-related mineralization.

The data set was re-estimated utilizing different minimum grades and thicknesses. These are presented in Table 4, to permit an partial understanding of how the Deposit would vary under different grades and minimum thicknesses requirements.

TABLE 4
COMPARISON OF ESTIMATION GRADE AND THICKNESS CRITERIA

Min. Grade (% U_3O_8)	Minimum Thickness (m.)	Deposit Mass (t)	U_3O_8 Content (t)	Average Grade (% U_3O_8)[1]
0.1	1	1,600,000	3,700	0.23
0.1	1.5	1,300,000	3,300	0.26
0.15	1	890,000	2,900	0.32

1. Average grade was estimated before rounding of mass and uranium content values.

Additional Resources

The Deposit area contains uranium mineralization that is lower grade and/or thinner than material included in the Deposit and selected for the Inferred Resource estimation (see MINERALIZATION). Some of this material lies adjacent to or above material included in the estimation. Cominco data available for this report contains only summary drill logs and, as they utilized a 0.05% U_3O_8 minimum grade for their in-house resource estimations, some of the composite assay intervals fall below the minimum grade utilized for the Inferred Resource estimate (APPENDIX 3). Hole P78-6 in particular contains an interval 5.1 m. long grading 0.07% U_3O_8., Consequently, P78-6 mineralization is not included in the current Inferred Resource estimation but is within the Deposit Boundary. Some of the mineralization within the composite assay might meet the Criteria if combined differently.

Hole 78Y-70 lies south of the Aquitaine Fault and is not contiguous with other holes included within the Deposit Boundary. It is not considered to be mineable *en masse* with material in the Deposit. Despite otherwise meeting the criterion to be included within the Inferred Resources (0.16% U_3O_8 over 1.3 m.) it has not been included in the Resource estimate.

OTHER RELEVANT DATA AND INFORMATION

There is no other relevant data or information available that has not been included in this report.

INTERPRETATION AND CONCLUSIONS

Compilation and reevaluation of data from prior exploration have provided an excellent geological base to guide future exploration within the Property and in the area. An improved understanding of the Deposit model has significantly enhanced the exploration potential of the Property, particularly its potential to host high grade mineralization.

The Deposit shares some features occurring in all three models described but also has some differences with each. The large horizontal extent and tabular nature of the Deposit is similar to that found in some Sandstone-related deposits. However, abundant plant material, typically found in the Colorado Plateau uranium deposits, is absent in the Proterozoic. Very minor pyrite is present in Unit 11 and is a possible, even likely minor source of reductants. The age of emplacement does not support with the Sandstone-related model. The age of the Dismal Lakes Group is constrained by that of the underlying Hornby Bay Group, dated around 1,660 Ma, and that of the overlying Coppermine River Group, dated at approximately 1,270 Ma. The age of the Deposit, and associated mineralization, is dated at about 1,050 Ma. This suggests the Deposit is epigenetic and was emplaced at least 200 Ma after the Unit 11 host was deposited. These differences, particularly the paucity of sulphides and other sources of reductants and that of age, suggest that the Sandstone-related model is not the most likely.

The proximity and apparent association of the mineralization to faults and fracture zones, suggest an external source for reducing, and perhaps oxidizing, solutions. Part of the Deposit is near the underlying unconformity. However, a good basement source of reducing fluids is notably absent. The local Aphebian basement comprises felsic volcanic and granitic rocks, which are generally dense, homogeneous and oxidized. The Hornby Bay Group consists mainly of clastics eroded from the Aphebian felsic basement. A uranium deposit within basement rocks on the Property is considered unlikely, unless reducing fluids were introduced into it along fault zones.

The Unit 12 black shales and siltstones are the most likely source of reductants. Faults are a notable feature associated with both the Deposit and uranium deposits in Gabon. Although the nature of the reductants available within the Unit 12 black shales during the mineralization event is not known, the Deposit is considered generally analogous to uranium deposits in Gabon and is interpreted to be a Shale-related uranium deposit.

The genesis of the Deposit is not fully understood but might have involved the following events. Uranium, copper, and other metals were leached from the saprolitic altered Aphebian granitic and rhyolitic highlands to the east and/or from Hornby Bay and Dismal Lakes Group sediments derived from them. Oxidizing fluids carrying the metal ions moved through aquifers in the Dismal Lakes Group Unit 11 sandstone and conglomerate. Fluids were confined below by essentially unreactive basement rocks and were confined above by black shales of Unit 12. The thickness of Unit 11, and groundwater flowing through it, were influenced by basement topography, which was both erosional and caused by faulting. Reducing fluids were produced by hydrocarbons, pyrite, and/or other sulphides within Unit 12 black shale and siltstone, or by the shale itself. These reducing fluids, carrying barium and silica, migrated along active fault zones into the upper 50 to 60 m. of Unit 11, or deeper. At the same time, oxidizing and uraniferous solutions may have migrated upwards from the lower Unit 11 sandstones. Additional oxidizing fluids may have migrated from Hornby Bay sediments or granitic basement, along fault systems. Uranium and other metals were precipitated at the interface of oxidizing and reducing fluids as stratabound, peneconcordant, tabular layers. The largest tabular layers extend several hundred m. horizontally. Mineral zoning formed with the mineralizing event because gradients, in the oxidation potential and acidity (Eh and pH), developed at the edge of a geochemical cell, or redox boundary. Additional uranium mineralization may have precipitated within fault zones. Fluids may have remobilized stratabound mineralization and reprecipitated it on newly developed or reactivated fractures.

An estimate of Inferred Resources has provided an assessment of quantity and quality of a uranium deposit within the Property. Drill spacing and other data are adequate to estimate the approximate size and grade of the Deposit. Continuity of mineralized strata is very good within the Deposit area, and extending beyond it. Assay data provides a reasonable estimate of the grade within drill holes and for the areas of influence that have been applied. The Deposit is estimated to contain Inferred Resources of 3,700 t. U_3O_8, within 1.6 million t. of mineralized rock, at an average grade of 0.23% U_3O_8. This is based on a minimum grade of 0.10% U_3O_8 , a minimum vertical thickness of 1.0 m., the opinion that the mineralization could be mined *en masse*, and specific gravity of 2.5. Specific gravity values and quality control of assays will be required to provide additional confidence in the Deposit parameters and ultimately upgrade the Deposit from the Inferred Resource estimation category.

The Deposit, while considered an exploration project at present, is of significance and importance. The discovery of this Deposit confirms that, within portions of the Hornby Bay basin, oxidizing fluids containing uranium and other metals were present and that appropriate deposition and preservation conditions existed. Local concentrations of uranium mineralization occur. Stratabound mineralization assayed up to 1.23% U_3O_8 over 1.9 m. vertical thickness; Fracture-controlled mineralization assayed up to 5.19% U_3O_8 over 0.9 m. (core length), within an 11.1 m. (core length) mineralized and fractured section estimated to grade 0.89% U_3O_8. Grades to 1.04% copper, 0.48% nickel, 0.13% cobalt and 22.6 g/t silver exist over short intervals. The fracture zone is estimated to be 1.9 m. wide.

The Deposit consists of about 98% Strata-bound mineralization, with an arithmetic average estimated thickness of 2.1 m.; only 2% of the Deposit is Fracture-controlled mineralization. This is a result of exploration drilling of vertical holes designed to evaluate the Strata-bound mineralization. Fracture-controlled mineralization has been intersected in one vertical drill hole and an adjacent inclined drill hole within the Deposit. The potential for Fracture-related mineralization is essentially untested by drilling. Fracture-controlled mineralization represents a target that may substantially enhance the grade of the Deposit and which also may occur within other parts of the Property.

Features of the Deposit considered important to discovering additional mineralization include: its stratigraphic location within the upper part of Unit 11, its proximity to overlying black shales, and the presence of faults with multiple periods of movement, particularly those with movement post Dismal Lakes Group deposition. The importance of: basement faults and topography; thickness, composition, permeability and porosity of particular Unit 11 sandstone and conglomerate subunits; and various minor geological controls on the mineralization cannot currently be assessed. It is likely that basement topography influenced ground-water migration patterns to some degree. Basement faults may also have provided conduits for oxidizing fluids. Particular strata within Unit 11 may have provided enhanced permeability and porosity.

Elements occurring with uranium in the Deposit have been identified. These include: copper, molybdenum, vanadium, thorium, cobalt, silver, nickel, sodium, and others. Molybdenum, thorium, cobalt and sodium, in particular, may extend the detection limits of the Deposit, and also indicate the presence of similar deposits in the region.

The Imperial Fault is a particularly important feature as it initially controlled basement topography, prior to Unit 11 deposition, and later could have been one of the conduits for uraniferous and/or reducing fluids to move into Unit 11. The Imperial Fault, and splays off it, may have associated dilatant or fracture zones suitable for the deposition of higher than average grade uranium mineralization.

The latest movements evident on the Imperial Fault are the same sense as the post Coppermine Group, regional, Herb Dixon Fault, mapped north of Dismal Lakes. The Imperial Fault, and other northeasterly trending faults within the Mountain Lake Property, may represent a horsetail pattern, or the splayed termination, of the Herb Dixon Fault. Their last movements are post Coppermine River Group and may be similar in age to mineralization event that formed the Deposit.

The Property is considered to be very well situated in a prospective structural setting. Any of the post Unit 12 faults may have associated dilation zones which would be potential sites for the deposition of high-grade, fault-related mineralization. Exploration should initially focus on locating areas of stratabound mineralization, particularly near structurally complex portions of faults, as these should provide a potentially large signature and exploration target. Exploration should then focus on evaluating structures with potential for hosting high-grade mineralization, either within fractured zones or as lensoid concentrations. Fault-related mineralization may be a relatively small target but could be very high grade.

Although no uranium mineralization has been intersected on the Imperial Fault, it has not been adequately explored. Faults of presumed similar age are present elsewhere on the Property and are unexplored. Small secondary faults or fracture zones may be important mineralization hosts.

Two areas within the Property are currently identified to have potential to host mineralization similar to that of the Deposit. These are: near the Helmut Fault, and east of and near the Trike Fault. However, any fault with multiple periods of movement and age, similar to that of the Imperial Fault is considered generally prospective within the Property.

An unexplored area near the Helmut Fault is a particularly noteworthy exploration target. Different styles of folding within Hornby Bay Group exist on either side of the Helmut Fault, suggesting that an early fault event, or events, occurred prior to deposition of the Dismal Lakes Group. There was a post Unit 12 event, with southeast side down, similar to that of the Imperial Fault, indicated by drill information. A few of the most northerly and easterly radioactive boulders discovered previously, located approximately 1.5 km. north of Jenny Lake, could have sourced from a nearby area east of, and near the Helmut Fault, in the general vicinity of 5+00N, 10+00E (Esso grid coordinates). Hole 78Y-93 is approximately 600 m. east of the Helmut Fault and, although lacking in anomalous radioactivity, contains up to 10% chalcopyrite on small, steeply dipping fractures within the upper part of Unit 11 (Transition zone). The strong association of copper with uranium within the Deposit supports the potential for mineralization in that area. The presence of fractures indicates additional, undiscovered structures occur nearby. The hole was not lithogeochemically analysed.

The Trike Fault is interpreted to be of similar age to that of the Imperial Fault and bounds the northeastern part of the Deposit. The Trike Fault may be younger than and override the Aquitaine Fault, which bounds the southeastern part of the Deposit. Several splays have been interpreted. Drill hole 78Y-70 is adjacent to the fault and contains an interval grading o.16% U_3O_8 over 1.3 m. long. Drilling east of the Trike Fault is sparse and no drill hole has tested the structures.

The simple fault pattern and location indicated for the Helmut Fault, and others in the overburden-covered area north and east of PEC Hill, are based on an interpretation of a few, scattered drill holes only. The fault traces are not accurately known and the fault pattern may be much more complex. Electromagnetic,

magnetic and perhaps other geophysical surveys, both airborne and ground, will be required to map the faults. Drilling will be required to test areas indicated as the most prospective by future geophysical and geochemical exploration.

Radiometric surveys, both airborne and on the ground, have been thorough. Several thousand uraniferous boulders have been mapped and described. Many unmapped uraniferous boulders exist within what was previously the PEC property; however, their source has been found.

Additional drilling is required to provide information about factors responsible for the higher grade-thickness portions of the Stratabound mineralization and to explore for Fracture-controlled mineralization, within the Deposit. Additional drilling is required to test prospective areas identified above, near the Helmut and Trike Faults. There are reasonable expectations that additional prospective areas will be identified within the Property after proposed exploration is completed.

Identification of clay minerals and alteration zones around the Deposit was not done systematically. This technique has potential to expand the detection limits of a deposit.

Remote sensing techniques have not been tried on the Property. Satellite photo interpretation, to detect alteration, may be useful on the Property because there is little vegetation. Mineralization exists at surface, within occurrences P1 and P2 and within nearby concentrations of radioactive boulders. This would allow calibration of the technique and its evaluation.

Geophysical techniques available nearly three decades ago produced results that were generally not conclusive or only slightly successful. Modern EM and magnetometer equipment and data processing techniques should be able to detect faults, and perhaps some dilatant zones and clay-filled fractures within the fault systems.

Soil sampling, utilizing enzyme leach techniques, with detection limits substantially lower than available during previous exploration, may be effective. The Deposit area would provide an excellent location to test this technique.

RECOMMENDATIONS

The exploration recommended below is fully justified in the opinion of the QP. Drill targets exist, both within the Deposit area and in other parts of the Property, and there is a reasonable expectation that mineralization with grades higher than the Deposit average can be discovered. However, it is recommended that the data base be refined and expanded prior to any drilling. This would allow improved precision in locating drill holes and, with the probable addition of new or expanded drill targets, provide a better cost per m. drilled.

Exploration prior to the field season is recommended to provide a better understanding of the alteration and structures within the Property. Satellite photos should be interpreted to identify any areas of alteration within the Property. The occurrences and Deposit should provide appropriate calibration source areas. This would establish an alteration framework for the entire property. An airborne EM and magnetometer survey should be flown over the Property to map faults within the Dismal Lakes Group, and also within the basement. Data interpretation should focus on flexures and small-scale faults within major fault systems.

Historical drill hole data should be digitized. This will allow better modelling and set up a system to fully integrate future exploration information.

Geological, geophysical and geochemical exploration is recommended for this summer. The available core will be made accessible and geological information about the Deposit and its model will be improved. Analysis of core for alteration products and trace elements will expand the knowledge about the alteration and lithogeochemical dispersion around the Deposit. Geophysical surveying will test the techniques over known Stratabound and Fracture-controlled mineralization and refine targets outlined by the airborne survey. Geochemical surveys will test a technique with very low detection limits over the Deposit and in other areas.

A camp should be established at Kirwan Lake. This would provide access to historical drill core, areas of geological interest and for ground geophysical and geochemical surveys.

Claims posts along the Property perimeter should be accurately located and placed in cairns. Global Positioning Surveying (GPS) should be used to record the locations, with reference to a regional and Property database. GPS should be used to locate monuments within the Deposit area, which were placed on Esso drill grid coordinates. Some drill hole collar markers should also be surveyed. This would integrate the historic drill hole data into a common base with the recommended airborne geophysical surveys and claim boundary location survey.

Drill core at Kirwan Lake and from other sites within the Property should be rehabilitated. Core racks should be repaired or rebuilt as required.

Core from holes drilled during previous exploration of the Property, within and outside the Deposit area, should be analysed for alteration minerals and the technique evaluated. A short wave infrared reflectance (SWIR) spectrometer should be acquired for this purpose.

Hole 78Y-93 contains significant chalcopyrite in the upper part of Unit 11 and is near a prospective area adjacent to the Helmut Fault that may have sourced radioactive boulders. Core from hole 78Y-93 should be relogged, analysed for alteration minerals and lithogeochemically sampled. Selenium was not previously analysed but occurs in some sandstone-hosted uranium deposits and should be lithogeochemically analysed.

Cominco drill logs and sections indicate the mineralization in some holes occurs within "white sandstone", which was indicated as being Unit 8, or not described in the available summary logs. The unconformable contact between Unit 11 and Unit 8 is not always distinct where a basal conglomerate is absent, particularly where Unit 8 sands have been incorporated into the basal member of Unit 11. Holes P79-3, -8 and -14 should be relogged, analysed for alteration minerals and lithogeochemically sampled.

Surface occurrences should be mapped, described, analysed for alteration minerals and channel sampled. Specific gravity for stratabound uranium mineralization should be determined for mineralized outcrops and selected drill core. Analyses of future drill core should include specific gravity values routinely.

Material with uranium content determined to within a narrow range of values (Standards) should be prepared, or acquired. Material from Occurrence P1 is typical of the Strata-bound mineralization within the Deposit and, as such, should be utilized to provide the Standard material. However, additional Standards should be acquired from commercial sources until material from the Property is available, or in addition to it. This will provide a basis for quality control to be implemented during future drilling programs.

Ground EM and magnetometer surveys should be performed across the Deposit, and also detail targets identified by the airborne survey and interpretation. Surveys across the northern part of the Deposit should be designed to evaluate the techniques. The area should include the Imperial Fault flexure zone near Zargut Lake, including the fracture-controlled mineralization in hole 77Y-35.

A soil survey, utilizing enzyme leach extraction for geochemical analyses, should be performed across the northern part of the Deposit to test the suitability of the technique. An area, approximately one-half km. wide by about two km. long, should be sampled, northwesterly from the Teshierpi River to northwest of the Helmut Fault. This would test an unexplored area southeast of the Trike Fault, faults bounding the Deposit, both stratabound and fracture-controlled mineralization within the Deposit, and also an area of weak or narrow stratabound mineralization intersected by drill holes north and west of Jenny Lake. Additional soil sampling should be performed from the west side of Teewal Lake to west of the Helmut Fault, and include the area around hole 78Y-93.

Costs have been estimated for the recommended exploration (Table 5). These reflect the current lack of infrastructure on the Property and anticipate some cost sharing with other projects in the area.

TABLE 5
RECOMMENDED EXPLORATION

Exploration	**Estimated Cost**
Satellite photo interpretation	$10,000
Airborne EM and magnetometer survey	$100,000
Ground EM and magnetometer survey	$40,000
Geophysical interpretation	$5,000
Data digitizing and compilation	$10,000
Camp, rental and purchased	$35,000
Consumables	$20,000
Personnel	$40,000
Consulting	$10,000
Travel and Accommodation	$10,000
Fixed -wing	$20,000
Helicopter	$15,000
Equipment rental	$5,000
Communications	$5,000
Assays, Lithogeochem. and Standards	$15,000
Data compilation and Reporting	$10,000
Total	**$350,000**

After the completion of the field surveys and other recommended work, and an evaluation of their results, a drill program should be designed and a budget of estimated costs prepared in anticipation of a major drill program in 2006. All holes drilled should be radiometrically (gamma) and resistivity probed, be subject to quality control of assays, and have specific gravity analyses done routinely. Selected portions of Unit 11 sandstones should be analysed lithogeochemically and analysed for clay minerals by SWIR spectroscopy. Mineralization should be photographed.

Drilling within the Deposit area should include a few holes to close down the spacing near high grade-thickness Stratabound mineralization (7Y-21 intersected 0.21% U_3O_8 over 3.4 m. above and adjacent to 1.23% U_3O_8 over 1.9 m.). Faults within the Deposit area should also be tested by drilling, particularly those near a flexure of the Imperial Fault, in the vicinity of 77Y-35. Three faults in this area have not been tested at all, and others may be indicated by exploration proposed for this year. Faults bounding the Deposit, the Imperial Fault and Trike Faults in particular, should be tested by a few holes located after evaluation of results from the ground geophysical surveys, alteration and soil geochemical anomalies. An additional two holes should be drilled to test the Deposit at the mid-points between P78-6 and P79-16 and between P78-6 and P79-16. P78-6 intersected 0.07% U_3O_8 over 5.1 m., which is below the Criteria and therefore was not included in the Inferred Resource Estimation. Hole P79-16 intersected two mineralized horizons, which contained 0.76% U_3O_8 over 2.5 m. and 0.41% U_3O_8 over 5.4 m. respectively.

Drilling will be required near the Helmut Fault, approximately 1.5 km. north of Jenny Lake. The location of the Helmut Fault is not well known at present. Location of the holes should be contingent upon results of the airborne and ground geophysical surveys, soil geochemical survey, any detected alteration from the satellite photo interpretation and sampling of drill holes near the general area. Hole 78Y-93 is about 650 m. southeast of the present trace of the Helmut Fault and intersected anomalous amounts of chalcopyrite, pyrite disseminated within Unit 11t sandstone and along small, steeply dipping fractures. In addition, the general area may be the source of radioactive boulders found to the north and northeast.

Drilling should be considered for an area east of the Trike Fault, north of the Teshierpi River and southwest of Teewal Lake. Hole 77Y-70 is located between the Aquitaine and Trike Faults, and intersected more than 90 m. of Unit 11 and 0.16 % U_3O_8 over 1.3 m. within Unit 11.

It is recommended that the proposed program core rock from the lower part of Unit 12 to the end of the hole, to maximize the amount of geological and other information possible. Percussion drilling, radiometric logging, should be considered for overburden and material overlying Unit 12. A percussion drill system, similar to that used in 1977 and 1978, was capable of conversion to a standard diamond drill and would be a very useful and cost effective tool in areas of thick and/or difficult to penetrate overburden. That system was portable by either Bell 206B or Hughes 500D helicopters. Drilling in the spring, utilizing tracked vehicles for drill moves and support, should also be considered, contingent on the number and location of drill targets. Percussion drilling is generally not practicable in areas beneath and close to large lakes as there are intermittent thawed layers beneath and adjacent to it. A diamond drill utilizing standard overburden drilling techniques may be required in some areas. Maximizing the use of percussion drilling should increase penetration rates, particularly through overburden and through rocks above Unit 12, and reduce overall drilling time. This should result in reduced project costs. The extra mobilization and demobilization costs should be more than offset by lower camp costs and reduced number of service flights for a large drill program.

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ADDITIONAL REQUIREMENTS FOR TECHNICAL REPORTS ON DEVELOPMENT PROPERTIES & PRODUCTION PROPERTIES

The property is currently at an exploration stage. Consequently, there is no information applicable to this section of the Technical Report.

CERTIFICATE OF AUTHOR

I, Franklin R. Hassard, P. Eng. do hereby certify that:

1. I am a consulting Geological Engineer residing at 4916 Back Enderby Road, Armstrong, B.C. V0E 1B8. I may be contacted by telephone at: (250) 546-8551 or by e-mail at: fhassard@telus.net.

2. I graduated with a B.A.Sc. degree in Geological Engineering from the University of British Columbia in 1970.

3. I am registered as a Professional Engineer with the Association of Professional Engineers and Geoscientists of B.C. and with the Professional Engineers, Ontario.

4. I have practiced my profession for more than thirty years.

5. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

6. I am responsible for the preparation of the technical report titled "Triex Minerals Corporation, MOUNTAIN LAKE PROPERTY, Nunavut, NTS 86N/7" dated February 8, 2005 relating to the Mountain Lake Project (the "Technical Report"). I visited the Mountain Lake property most recently on August 22, 2004.

7. I have had prior involvement with the Mountain Lake property that is the subject of this report. The nature of my involvement was through my employment by Trigg, Woollett and Associates Ltd., a consulting engineering company employed to conduct exploration in the area. I was personally involved with exploration on what was known as the YUK mineral claims, for Imperial Oil Limited, during the years 1973 through 1978, inclusive. I supervised field operations from 1975 through 1978, in particular the drilling which discovered and tested the eastern portion of the Mountain Lake Deposit. Through my employment by Trigg, Woollett and Associates Ltd., I was also personally involved with exploration on what was known as the PEC mineral claims, for Eldorado Nuclear Limited in 1975 and for Aquitaine Company of Canada Ltd. in 1976, with the permission of Imperial Oil Limited. I have been involved with exploration in the Hornby Bay Basin, and similar Proterozoic basins through my employment with Trigg, Woollett and Associates Ltd. and was employed as a mine geologist at Port Radium, NWT by Echo Bay Mines Ltd.

8. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

9. I am independent of the issuer applying all the tests in section 1.5 of NI 43-101.

10. I have read NI 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this 15th Day of February, 2005.

F. R. Hassard

Franklin R. Hassard, P. Eng.

Seal

PROFESSIONAL
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APPENDICES

APPENDIX 1
ABBREVIATIONS, CONVERSIONS AND MINERALS

Abbreviations

C = Celsius
cm. = centimetre(s)
g. = gram(s)
g/t = gram(s) per tonne = ppm
ha. = hectare(s)
kg. = kilogram(s)
km. = kilometre(s)
lb. = pound(s)
m. = metre(s)
Ma = million years
mm. = millimetre(s)
ppb = parts per billion, 1 X 10^9
ppm = parts per million, 1 X 10^6
t. = tonne(s)
T = short Ton(s)
U = uranium
U_3O_8 = uranium oxide

Conversions

1 ha. = 2.471 acres
1 t. = 1,000 kg.
1 T = 2,000 lb.
1 t. = 1.1023 T
1 kg. U_3O_8 = 0.8480 kg. U
0.1% U_3O_8 = 1 kg. U_3O_8/t = 2 lbs U_3O_8/T
1 Troy oz/T = 34.285 g/t (or ppm)

Uranium Minerals

Carnotite $K_2(UO_2)_2(VO_4)_2.3H_2O$
Coffinite $(U(SiO_4)_{1-X}(OH)_{4X})$,
Cuprosklodowskite $Cu(UO_2)_2(SiO_3)_2(OH)_2.5H_2O$
Pitchblende (massive uraninite) (UO_2)
Torbernite $Cu(UO_2)_2(PO_4)_2.12H_2O$
Uraninite (UO_2)
Zeunerite $Cu(UO_2)_2(AsO_4).10\text{-}12H_2O$

Accessory Minerals

Arsenopyrite FeAsS
Azurite $Cu_3(CO_3)_2(OH)_2$
Bravoite $(Ni,Fe)S_2$
Chalcocite Cu_2S
Chalcopyrite $CuFeS_2$
Covellite CuS
Digenite Cu_9S_5
Glaucodot (Cu,Fe)AsS
Goethite FeO(OH)
Hematite Fe_2O_3
Magnetite $(Fe,Mg)Fe_2O_4$
Malachite $Cu_2CO_3(OH)_2$
Niccolite NiAs
Nontronite $Na_{0.33}Fe_2^{+3}(Al_{0.33}Si_{3.67})O_{10}(OH)_2.nH_2O$
Penninite $(Mg, Fe^{+2}, Al)_6(Si,Al)_4O_{10}(OH)_8$
Pyrite FeS_2
Sericite - muscovite $\pm$ illite

APPENDIX 2
ANALYTICAL METHODS

Year	Property	Material	Analytical Method
1973	YUK	rock	assay (B-C) %U
		soil	fluorimetric, HNO_3 extraction
1974	YUK	rock	not available
1975	PEC	core	assay
		rock	chemical assay (ENL); radiometric (ENL); 32 element spectrographic analysis, X-ray fluorescence (XRF) (B-C)
		water	fission track (B-C), fluorimetic
1975	YUK	rock	not available
1976	YUK	core	chemical assay - U_3O_8, Cu, Ni, Co, Ag (L)
		rock	chemical assay - U_3O_8, Cu, Ni, Co, Ag (L)
		lake sediment	fluorimetric (Esso)
		water	fission track (B-C)
1977	YUK	core	corechemical assay - U_3O_8, Cu, Ni, Co, Ag (L)
1978	PEC	core	XRF assay - U_3O_8, Cu, Ni, Co
1978	YUK	core	chemical assay - U_3O_8, Cu, Ni, Co, Ag (L)
1979	PEC	core	assay - U_3O_8 (not available)
		lake sediment	U - fluorimetric, HNO_3 extraction; Cu, Pb, Zn, Mn, Fe - Atomic Absorption (AA), HNO_3 extraction; LOI - gravimetric
		water	fluorimetric (Cominco, Cantest)
1979	YUK	core	multielement analyses -24 elements by Inductively coupled plasma spectrometry (ICP) (BML), thorium by XRF, 10 elements by AA (B-C); gold by Fire Assay (FA), AA finish (B-C)
1980	PEC	core	assay - U_3O_8, thorium (not available)

B-C - Bondar-Clegg & Company Ltd
BML - Barringer Magenta Limited
ENL - Eldorado Nuclear Limited
Esso - Imperial Oil Limited, Production Research and Technical Service Laboratory
L - Loring Laboratories Ltd.

APPENDIX 3
GEOPHYSICAL EQUIPMENT

PEC Property

Radiometric surveys and core monitoring: SRAT SPP2N scintillometer and TV-1A spectrometer; Scintrex BGS1 and BGS2 scintillometers.

Airborne Spectrometer Survey: INAX Instruments Ltd. model 287-101 spectrometer with 4" X 8" sodium iodide crystal, MARS 6 channel chart recorder, Sperry RA235 radio altimeter;

Drill Holes: (1) SRAT GMT-3T gammameter and ST-22 probe (through the rods) on hand-powered cable reel with mechanical counter; (2) McPhar Spectra 44 gamma ray spectrometer with 3/4" X 3" thalium activated sodium iodide crystal and single channel chart recorder; (3) Mt. Sopris 2500 total count gamma logger with chart recorder, 1/2" X 3" sodium iodide crystal.

Radon Survey: Terradex Corporation Fission Track cups and ABEM radon counter with soil probe.

Electromagnetic (EM) Surveys: Ronka EM-16 (Cutler, Maine and Seattle, Washington stations), (Data Fraser Filtered).

Magnetometer Survey: Scintrex MP-2 proton magnetometer, Scintrex MBS-2 base station.

Induced Polarization (IP)/ Apparent Resistivity Survey: Scintrex IPR-8 receiver and Huntec MK IV LOPO transmitter.

YUK Property

Radiometric surveys and core monitoring: SRAT SPP2N scintillometer and TV-1A spectrometer;

Airborne Spectrometer Survey: INAX Instruments Ltd. model 287-101 spectrometer with 4" X 8" sodium iodide crystal, MARS 6 channel chart recorder, Sperry RA235 radio altimeter;

Drill Holes: SRAT GMT-3T gammameter and ST-22 probe (through the rods) on hand-powered cable reel with mechanical counter.

Radon Survey: Terradex Corporation Fission Track cups and ABEM radon counter with soil probe.

Electromagnetic (EM) Surveys:
VLF-EM Survey: Ronka EM-16 (Cutler, Maine and Seattle, Washington stations), (Data Fraser Filtered); Geonics EM-16/16R.
Horizontal Loop EM Survey: ABEM Demigun (2 frequencies, 2 cable lengths).

Magnetometer Survey:

Refraction Seismic Survey: RS4 12 channel seismograph, 12 geophones (explosive charges); FS-3 seismograph, 2 geophones, steel plate and hammer.

Gravity Survey: performed by Imperial Oil Limited, equipment specs. not available.

Induced Polarization (IP) Survey: performed by Imperial Oil Limited, no information available.

Resistivity Survey: Geonics EM16/16R; wetted core samples measured (Abercrombie, 1980), results sent to Z. Hasan, Esso Minerals Canada Ltd (not available).

APPENDIX 4
ASSAY INTERVALS - INFERRED RESOURCE ESTIMATION

DDH	Section	Location	Grade (% U_3O_8)	Vertical Thickness (m)	Depth (m) From (1) Surface	Unit 12
76Y-6	14+00S	12+00E	0.124	1.8	68	15
76Y-10	11+00S	16+00E	0.101	1.5	136	42
76Y-11	13+00S	12+00E	0.22	2.4	50	5
			0.12	1.2	58	8
			0.26	2.1	67	22
76Y-14	12+00S	13+00E	0.253	1.5	67	8
			0.115	1.2	71	18
			0.113	2.1	79	25
			0.11	1.5	82	29
76Y-15	13+00S	13+00E	0.111	1.1	66	12
			0.136	1.5	90	35
			0.108	2.6	93	37
76Y-18	14+00S	13+00E	0.1	1.2	78	21
76Y-19	11+00S	13+00E	0.152	1	90	21
76Y-21	12+00S	14+00E	0.139	1.1	86	19
			0.166	1.4	95	27
			0.213	3.4	101	32
			1.23	1.9	103	36
76Y-22	11+00S	14+00E	0.135	1.5	101	22
			0.174	1.8	111	31
77Y-30	11+00S	14+99E	0.152	1	123	38
77Y-35	9+00S	15+00E	0.89 (2)	1.93 (true)(F)	106	31
77Y-43	9+00S	14+53E	0.122	1.1	73	23
			0.171(2)	5.90 (2)	102	47
77Y-45	9+50S	14+50E	0.136	3.5	100	24
			0.196	2.1	103	29
			0.108	1.1	109	36

DDH	Section	Location	Grade (% U_3O_8)	Thickness (m)	Depth (m) From (1) <u>Surface</u>	<u>Unit 12</u>
77Y-48	8+50S	15+50E	0.154	1.7	114	29
77Y-49	9+50S	15+00E	0.104	2.2	111	21
77Y-52	9+50S	14+00E	0.291	1.8	72	23
			0.119	2.7	91	41
77Y-54	10+00S	13+50E	0.284	1.4	81	18
77Y-57(3)(-60°)	9+35S	15+35E	0.107 (2) (4)	0.51 (true)(F)	88	23
78Y-70 (4)	15+00S	15+00E	0.156	1.3	95	44
P78-1	13+25S	11+33E	0.11	2.1	55	7
P78-3	14+98S	11+40E	0.133	2.5	82	18
			0.369	2.5	88	24
			0.080 (4)	3.1	98	33
P78-4	13+90S	10+85E	0.083 (4)	1.3	67	5
P78-5	14+95S	10+17E	0.156	1.3	45	3
P78-6	16+90S	9+10E	0.070 (4)	5.1	52	N.A.
P79-1	15+90S	10+15E	0.131	1.4	61	17
			0.284	6.5	75	26
P79-8	17+10S	7+50E	0.119	1.6	35	N.A.
P79-9	16+95S	6+95E	0.149	1	28	N.A.
P79-11	16+00S	7+10E	0.078 (4)	1.65	43	N.A.
P79-12	15+70S	10+82E	0.308	3.4	85	27
P79-16	16+45S	10+12E	0.762	2.5	53	8
			0.405	5.4	74	26
P79-17	15+45S	10+20E	0.083 (4)	5.9	44	0
			0.106 (4)	0.9	48	9
P80-7 (-65° @ collar,-70° @ zone)	15+55S	7+25E	0.262	1.97 (vert.)	37	0

(1) Depth from surface to base of mineralized interval; depth from Unit 12 to top of mineralized interval.

(2) Value differs from sections. Composite recalculated from original drill log data to include nearby, or adjacent, ≥ 0.1 % U_3O_8 intervals. Fracture-controlled mineralization (F) corrected to estimated true width.

(3) Inclined hole drill beneath 77Y-35 to test the Fracture-controlled mineralization.

(4) Significant mineralization - composite assay only is available and/or not included in Inferred Resource Estimate.