MAR 19780009: LAKE ATHABASCA

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REPORT ON THE
LAKE ATHABASCA JOINT VENTURE
ON THE DIAMOND DRILLING, GEOPHYSICS AND GEOCHEMISTRY PROGRAM

JUNE TO OCTOBER, 1978

PERMITS 219, 220, 221, 222 AND 223

TOWNSHIPS T112 TO T115,
RANGES R1 W4 TO R3 W4

NORTHEAST ALBERTA, CANADA

by WILLIAM E. NELSON
NOVEMBER 30, 1978

ABSTRACT

A total of 12,340 feet was drilled in four holes by GEOG and partners during the summer of 1978. The Precambrian Basement was intersected in two of the holes on Anomaly "A". Sub-economic uranium mineralization is present in both holes at the Precambrian-Regolith contact. The Precambrian Basement rocks are highly altered and sheared.

The two holes on Anomaly "B" did not reach the Precambrian Basement due to equipment limitations. One hole intersected a steeply dipping fault zone containing galena, sphalerite, pyrite and chalcopyrite. The interpretation is still pending on the reconnaissance magnetometer and VLF-electromagnetometer survey run during the summer.

CONTENTS

FIGURES

TABLES

INTRODUCTION

LOCATION AND ACCESS

The Lake Athabasca Joint Uranium Venture Group owns five permits totalling 48,320 acres, and, 21 claims totalling 3,500 acres, located in Northeastern Alberta, along the southeast shore of Lake Athabasca (Figures 1 and 2). The acreage encompasses Townships 112 to 115, Ranges 1 to 3, West of the 4th Meridian, Alberta.

The project area is accessible in summer by either float plane or boat from Uranium City, Fort Chipewyan or Fort McMurray. In winter, it is accessible by ski-equipped planes from the same locations, or, by the continuation of the Alberta or Saskatchewan winter road systems along or across Lake Athabasca. There are scheduled commercial flights by Pacific Western Airlines to Fort McMurray, Fort Chipewyan and Uranium City from Edmonton, and, by Norcanair to Uranium City from Saskatoon, Saskatchewan.

Shipment of bulk products is handled in the summer by barge from Fort McMurray, via the Athabasca River to Lake Athabasca. This allows for the shipment of material and equipment northbound, and, for bulk ore shipped to the south. Bulk products can be shipped in during the winter by truck over the winter roads, but this is more risky due to the varying ice conditions on the lake.

REGIONAL GEOLOGY

The land is generally flat, except for a series of glacial and post-glacial features. A series of W.N.W. trending moraines cover part of the project area. A continuous sequence of sand ridges are located along the shore of Lake Athabasca. Except for

...../2

these higher, sandier areas, the topography of the project area ranges from dry muskeg to swamp. Drainage is poor towards Lake Athabasca.

Vegetation is primarily spruce, willow, birch, aspen and tamarac in the wetter areas, while the dryer sandier areas are covered primarily by birch and pine. Thin layers of moss and lichen cover the dry ground.

The Precambrian Basement within the project area is overlain by the Athabasca Sandstone Formation. The Precambrian Basement rock type is unknown, except where it has been intersected in drill holes. Outcrops of the Athabasca Formation are generally sparse in an area, it being covered by up to 100 feet of glacial till.

The Athabasca Formation is dominantly a medium-grained, quartz-rich sandstone, usually in flat lying beds. Minor sections of shale and intraformation conglomerate exist in the upper parts of the unit. A basal conglomerate, up to 1500 feet in thickness and up to 75% in pebble composition, exists at the base of the formation. Alteration of the unit is primarily confined to the shale sections, although sporadic sections of hematitized sandstone are found throughout the unit. Marker horizons are not continuous for any great distance within this Formation.

Though the Precambrian Basement outcrops almost continuously along the north shore of Lake Athabasca, it is of unknown composition under the northwest section of the Athabasca Basin. It is part of the Churchill Province of the Canadian Shield, Archean to Aphebian in age, and probably strongly metamorphosed. A weathered zone called the Regolith, from 1 to 50 feet thick, is found overlying the Precambrian Basement. The thickness of this unit is dependent on the paleo-topography and the underlying rock type.

...../3

EXPLORATION HISTORY

The first geological work done in the area was by three members of the Geological Survey of Canada, R.G. McConnell in 1888 and J.B. Tyrrell and B.B. Dowling in 1892 and 1893 (Christie 1953). Sections of the property were radiometrically surveyed by private prospectors in the early 1960's. This was an uncontrolled survey, but gave an above-background radioactivity readings for the area.

During Phase One of the Alberta Quartz Mineral Exploration Permits, (prior to 1974), the land owned by the Lake Athabasca Joint Venture was held by different parties. Land southeast of Lake Athabasca in Townships 114 and 115, now part of permits 219, 220, 221 and 223, was part of permit 103, owned by North Canadian Oils Ltd. A helicopter survey was completed, as well as some spot sampling, but resulted in no significant uranium results (Cook, 1969).

The land in Township 113, now part of permits 219, 221, 222 and 223, was part of permit 73, owned by Pacific Silver Mines and Oils Ltd. This is now controlled by Great Basins Oil and Gas Ltd. as permit 13 today. Early work consisted of magnetometer and scintillometer surveys in 1971 (MacKenzie, 1972) and a radiometric survey in 1970 (MacKenzie, 1970).

Work on the old permit 74, in Township 112, now part of permit 222, in 1969, turned up weak radiometric and north-south magnetic trends from an airborne survey (Hirst, 1969). There was no follow-up work done by Fort Reliance Minerals Ltd. and Ensign Oil Ltd., who owned the land at that time.

A historical review of our Lake Athabasca Joint Uranium Venture follows.

...../4

DATE	ACTION
February 4, 1976 - April, 1976	Flin Flon Mines and Missi Island Mines file on permits, for 3 year term.
April 12, 1976	Some 21 claims blocks were acquired from Mr. J. Price of Edmonton.
May 3, 1976	Flin Flon Mines and Missi Island farmout permits to Union Oil and Embarcadero Corp.
Summer, 1976	Flin Flin (Operator) and partners conduct a 150 mile reconnaissance Tracketch program.
December, 1976	Union Oil named Operator.
March 7, 1977	Union offers to farmout 50% of its 63.7% working interest in all permits by matching Union's expenditures to date of $90,000.
March 31, 1977	GEOG agrees to Union's offer.

DEAL SUMMARY

TABLE 1

Company	Participating Interest Before $120,000 is Spent	Cost Share After $120,000 is Spent	Land Ownership Interest
Union Oil (Operator)	0%	37.5%	31.875%
GEOG	75%	31.6176%	26.875%
Embarcadero	20%	20%	17%
Missi Island	5%	5%	4.25%
*Flin Flon Mines	0%	5.8824%	20%
	100%	100%	100%

*Flin Flon being carried 15% to point of production. GEOG to spend $90,000 to become 31.6167% cost sharing partner. Once it arrives at the point of starting mine production, GEOG's net interest in the property reverts to 26.875%.

...../5

DATE	ACTION
March 31, 1977	Agreement signed between Union-Flin Flon and GEOG.
July - September 1977	GEOG and partners undertake an additional 100 mile detail Tracketch Program (Figs. 3 & 4).
February - March 1978	Union and partners drilled a total of 3 core holes, Nos. LAJV-001, 001A and 002.
April 6, 1978	Union opts to drop out of program entirely and reverts its ownership of permits back to partnership - GEOG named operator by remaining partners. New cost-share interests are as follows.

TABLE 2

Company	Old Cost Share Interest	Acquired Interest	New Revised Cost Share Interest
GEOG (Operator)	31.6176%	18.9704%	50.5880%
Flin Flon Mines (old W.I.)	5.8824%	0.0%	5.8824%
Flin Flon Mines (new W.I.)	0.0%	5.8824%	5.8824%
Missi Island	5.00%	12.6472%	17.6472%
Embarcadero	20.00%	0.0%	20.00%
Union Oil	37.50%	0.0%	0.0%
	100%	100%	100%

...../6

TABLE 3

New Ownership Interests

Company	Present Interest	Acquired Interests	New Ownership Interests
GEOG (Operator)	26.875%	16.125%	43.00%
Flin Flon Mines (W.I.)	5.0%	5.0%	10.00%
Flin Flon Mines (Carried Interest)	15.0%	0.0%	15.00%
Missi Island	4.250%	10.75%	15.00%
Embarcadero	17.00%	0.0%	17.00%
	100%	100%	100%

In summary, GEOG pays 50.588% of exploration and development costs to earn a net 43% until a mine is placed on production.

DATE	ACTION
June - September, 1978	GEOG and partners drilled 3 new core holes, Nos. 78-LAJV-003, 004 and 005, as well as deepening 002 to basement. Total of 12,340 feet of drilling. Completed reconnaissance magnetometer and RADEM survey over all permits. Completed a small, detailed, soil geochemistry survey around 78-LAJV-004.

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FIELD ACTIVITIES - SUMMER OF 1978

PROGRAM

The goal of the summer of 1978 field work was to accumulate stratigraphic information within the Lake Athabasca Joint Venture acreage. Four stratigraphic core holes were planned to be drilled to the Precambrian Basement. Also, surface magnetometer and RADEM were employed to map Precambrian Basement or structural trends within the Athabasca Formation. Based on the results of this work, future programs would be planned.

RESULTS

A total of four holes, amounting to 12,340 feet, was drilled in the summer program (Table 4). Only the two northern holes, numbers 78-LAJV-002 and 003; intersected the Precambrian Basement. The exact hole locations are on Figure 5.

All four holes intersected the Athabasca Formation beneath a sand and clay overburden, ranging from 10 to 110 feet in thickness. The thickness of the overburden is a localized feature, thinning to nil where the outcrop is most abundant, near the central portion of permit 219, and thickest in the swampy areas along some of the creeks and lakes.

The Athabasca Formation varied considerably in thickness from Anomalies "A" and "B", with only slight variations in thickness within the anomalies. The detailed logs of each drill core are enclosed in the Appendix, and sections in the pocket (Figures 6, 7, 8 and 9). Symbols are explained on an accompanying legend (Fig. 10). A medium-grained sandstone was the dominant rock type, varying locally from fine to coarse-grained and strong to no hematitization. Throughout

TABLE 4

DIAMOND DRILL SUMMARY

HOLE NO.	LENGTH	AZIMUTH	DIP	COMMENCED	COMPLETED
78-LAJV-003	3017'	-	90°	June 18/78	July 9/78
78-LAJV-002	1398' (1577'-2975')	-	90°	July 13/78	July 22/78
78-LAJV-004	4118'	-	90°	July 30/78	Aug. 28/78
78-LAJV-005	3807'	-	90°	Sept. 1/78	Sept. 24/7

TOTALS

4 Holes 12,340' DAYS DRILLING 86

the Athabasca Formation are shale layers; either red, hematitic, or green, chloritic-glauconitic, or buff unaltered. The shale layers are normally thickest near the top of the Athabasca Formation, up to 150 feet, and thinnest near the basal section, less than one inch. Contacts between the shale and sandstone vary from sharp to gradational. The basal unit of the Athabasca Formation is composed of at least 1000 feet of sparsely pebbled conglomerate. The bulk of the unit is comprised of coarse-grained quartz and minor feldspar, with lesser amounts of mafics and micas. Pebbles, primarily quartz, quartzite, granites, gneisses and regolith, form about 10% of the bulk of the conglomerate. Most pebbles are rounded to sub-rounded except near the Precambrian Basement, where they are more angular. Bedding and cross-bedding are good varying from 70^{o} to 90^{o} to the core. Fracturing occurs dominantly from 0^{o} to 30^{o} and 70^{o} to 90^{o} to the core, in all rock units of the Athabasca Formation.

A unit called the Regolith was intersected in holes 78-LAJV-002 and 78-LAJV-003, which is highly altered, fossilized soil horizon of the Precambrian Basement rocks. It varies in thickness from 10 feet to 20 feet in the holes, respectively. The Regolith is strongly hematitized, locally chloritized and contains fragments of both the over and underlying units. Bedding and correlation between holes are non-existant.

The Precambrian Basement is observed in 78-LAJV-002 and 78-LAJV-003 in the lower greenschist metamorphic facies and is dominantly quartz, feldspar, chlorite; with minor amounts of garnet and sulphides. Texturally different, they have basically the same mineralogy and metamorphic history except that 78-LAJV-002 has been mylonitized and 78-LAJV-003 migmatized. The Precambrian Basement is strongly sheared at very low angles to the core.

Uranium mineralization is concentrated at the contact between the Regolith and metamorphic Precambrian Basement in the most strongly altered zone. Values up to 300 ppm uranium are present. Nickel, cobalt, zinc and silver are also found enriched in this zone. Values of gold up to .08 oz/ton occur in the Regolith. A strong fracture system at low angles to the core in 78-LAJV-004, and to a lesser extent in 78-LAJV-005, contain galena, sphalerate and chalcopyrite, up to 1% and greater. This system extends from 1200 feet to 1700 feet in core, with traces to the base of the hole. Exact location of samples and assay results are in the log Appendix.

The fracture zone in 78-LAJV-004 is part of a steeply dipping fault zone thought to run roughly, east-west. Soil samples taken in a grid around hole 78-LAJV-004 and analyzed for U, Pb, Zn and Cu (Figures 11, 12, 13) reveal a strong anomaly running east-west to the north of the drillsite, approximately corresponding to the hypothesized surface trace of the fault.

Preliminary results from the magnetometer and RADEM surveys indicates no strong trends. A final report and maps are expected from the contractor shortly.

INTERPRETATION

Recent regional geological field work was shown the Athabasca Basin can be sub-divided into three sub-basins, bordering along a series of north-east striking faults and shear zones. Variable thicknesses of conglomerates have been built up along these zones. Studies of known deposits around the Athabasca Basin have shown certain features necessary for the formation and preservation of uranium deposits (Figure 14). These are as follows.

(a) Faults or Shear Zones,

(b) Graphite; at least 1%, in nearby rocks to act as reductant,

(c) Thick conglomerates,

(d) Altered zone in basement, or above, containing chlorite,

(e) Gabbroic intrusions, whether dykes or sills.

Many different theories exist for the formation of the Athabasca uranium deposits. The most popular theory is that the uranium originated in the Archean basement rocks to the east, northeast and southeast of the current Athabasca Basin.

The sands and muds, deposited in the basin, were leached by slightly acidic waters, which worked their way to the base of the Athabasca Formation. In zones where a proper reducing environment existed, such as near graphite or sulphide deposits, the uranium was reduced out of the solution and deposited. Many other elements, such as nickel, cobalt and zinc were also deposited. The fault and shear zones provide several factors from the deposit formation. The fractured rock forms a solution channel for the initial downward movement of uranium enriched acidic waters, as well as later channels for the uranium deposit to form along. The secondary altered zone in the Precambrian Basement is a result of the reducing solutions.

The conglomerate initially contained a large percentage of the uranium in the Athabasca Basin. The improved permeability allowed the greatest leaching by the acidic waters of uranium. Thus, the greater the thickness of the conglomerates, the more uranium present. The presence of nearby igneous activity in the form of gabbroic intrusions could have acted as a secondary source of deposits in the form of ion exchange between the gabbro and the surrounding sandstone, but this would only be minor. The intrusions greatest effect would be to fracture the sandstone, and cause the motion of the reduced solutions upwards by heat, to form deposits in the sandstone above the Precambrian Basement-sandstone contact.

Several other theories exist concerning the formation of uranium deposits in the Athabasca Basin. These concern the source of the uranium and mode of deposition. Some theories support the idea of a deposit underlying the Athabasca being reworked to form an overlying deposit in the Athabasca Formation, while others claim a supergene origin. The supergene origin states that the uranium was introduced by uranium-rich waters percolating along the Regolith until suitable traps were found. A second concern is the reductant. A graphite breakdown to methane is the most popular, but others include a potential difference between the graphite and surrounded rock types, a reduction by sulphides, by hydrocarbons or other organic materials.

There is not currently one theory that is applicalbe to all deposits in the Athabasca Basin. Sporadic movements of the uranium throughout time indicates that some deposits have at least partially, if not totally, been remobilized one or more times since deposition.

CONCLUSIONS

The Lake Athabasca Joint Venture acreage, based on these theories, is a prime target for the formation of a uranium deposit. A thick conglomerate sequence, intersected in all four holes to date, borders along the major northeast striking Black Bay Fault, which forms the border between two of the sub-basins of the Athabasca Formation. In addition to the Black Bay Fault, a major east-west fault system has been intersected in 78-LAJV-004, as well as Precambrian Basement mylonites in 78-LAJV-002. The east-west fault system extends through an extensive fracture system in the sandstone, which contains hydrothermal deposits of galena, sphalerite and pyrite.

Handspecimen examination of several Precambrian Basement samples show several patches of graphite in the most strongly altered chloritic zone, at the Precambrian Basement-Regolith contact. Also in the zone are the greatest concentration of uranium, nickel, cobalt, arsenic and silver. Though no known gabbroic intrusions exist within the Lake Athabasca Joint Venture, several are known within ten miles of both the south and east borders of the property.

The results would indicate that 78-LAJV-002 and 78-LAJV-003 were drilled in the halo, or along a horizontal solution passageway leading from a deposit of uranium. The environment and secondary mineral associations are correct for the presence of a uranium deposit.

The holes 78-LAJV-004 and 78-LAJV-005 were drilled on the downside of an east-west fault. Though the Precambrian Basement was not intersected in either hole, the sulphide mineralization in the sandstone could prove interesting for two reasons. The first is that with sufficient volume it could prove economic in itself, and second, it being hydrothermal in origin, the solution channel could be traced to prime uranium targets at the Precambrian Basement contact. The weakly radioactive shales, about 400' thick, near the top of 78-LAJV-005, could provide a potential secondary target in the form of a stratigraphic trap.

RECOMMENDATIONS

WINTER PROGRAM

The program for this winter should concentrate on two main tasks. In the northern Anomaly "A" (Figure 5) two holes should be drilled to help outline the extent and direction of the uranium anomaly at the basement contact. Dr. P. Ramaekers (Personal Communications 1978) has concluded that paleocurrents, as well as recent fluid movements in the northwest part of the Athabasca Basin, flow to the northwest. This would indicate that the greatest areal extent of the anomaly should extend along current directions to the northwest, with only minor movement in other directions. Dr. Ramaekers is the Saskatchewan Department of Mineral Resources expert on the geology of the Athabasca Basin and its deposits. The first hole would be drilled to the northwest of 78-LAJV-002 and 003 in an attempt to locate the anomaly down-current. The second hole would be drilled based on the results of the first hole. If the uranium assay results are greater than either 78-LAJV-002 or 003, then the next hole would be drilled to the northwest; if less, then the next hole would be drilled to the southeast of the two existing holes.

On Anomaly "B" (Figure 5) a combined seismic and gravity program should be carried out to help delineate fault directions, linear extent and depth to Precambrian Basement for both the east-west and Black Bay Faults. This information is necessary for locating future drill holes in this area. Several line miles of gravity and seismic should be performed over Anomaly "A", to see if any Precambrian Basement features can be mapped.

SUMMER PROGRAM

Work recommended for the summer of 1979 is to drill on both of the anomalous zones with targets to be based on the results of the winter work. A small geochemical program will be carried out to help delineate the surface trace of the main fault zone in Anomaly "B".

Serious thought should be given to acquiring controlling interest in the Great Basins Oil & Gas Ltd. property P-13; and, enough of Imperial Minerals Ltd.'s permit blocks bordering on the south and eastern of the Lake Athabasca Joint Venture acreage in Alberta, so as to consolidate our position around the Anomaly "B". Enough land should be acquired to form a complete block with the southern edge of Township 113 from the Alberta border to Lake Athabasca (Figure 15). This should be acquired prior to our release of data about the property.

[redacted]
W.E. Nelson
Uranium Projects Geologist

WEN:am

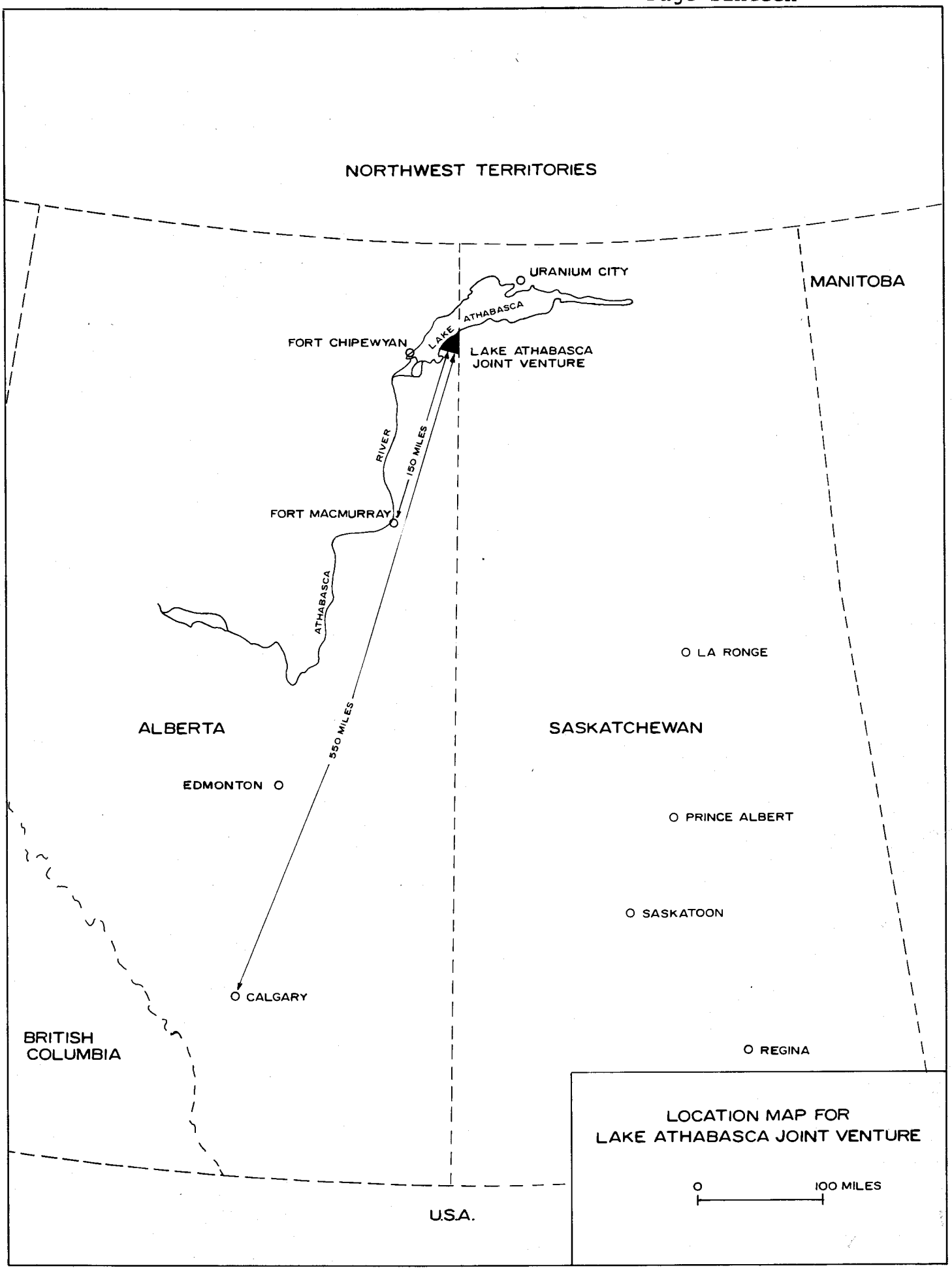
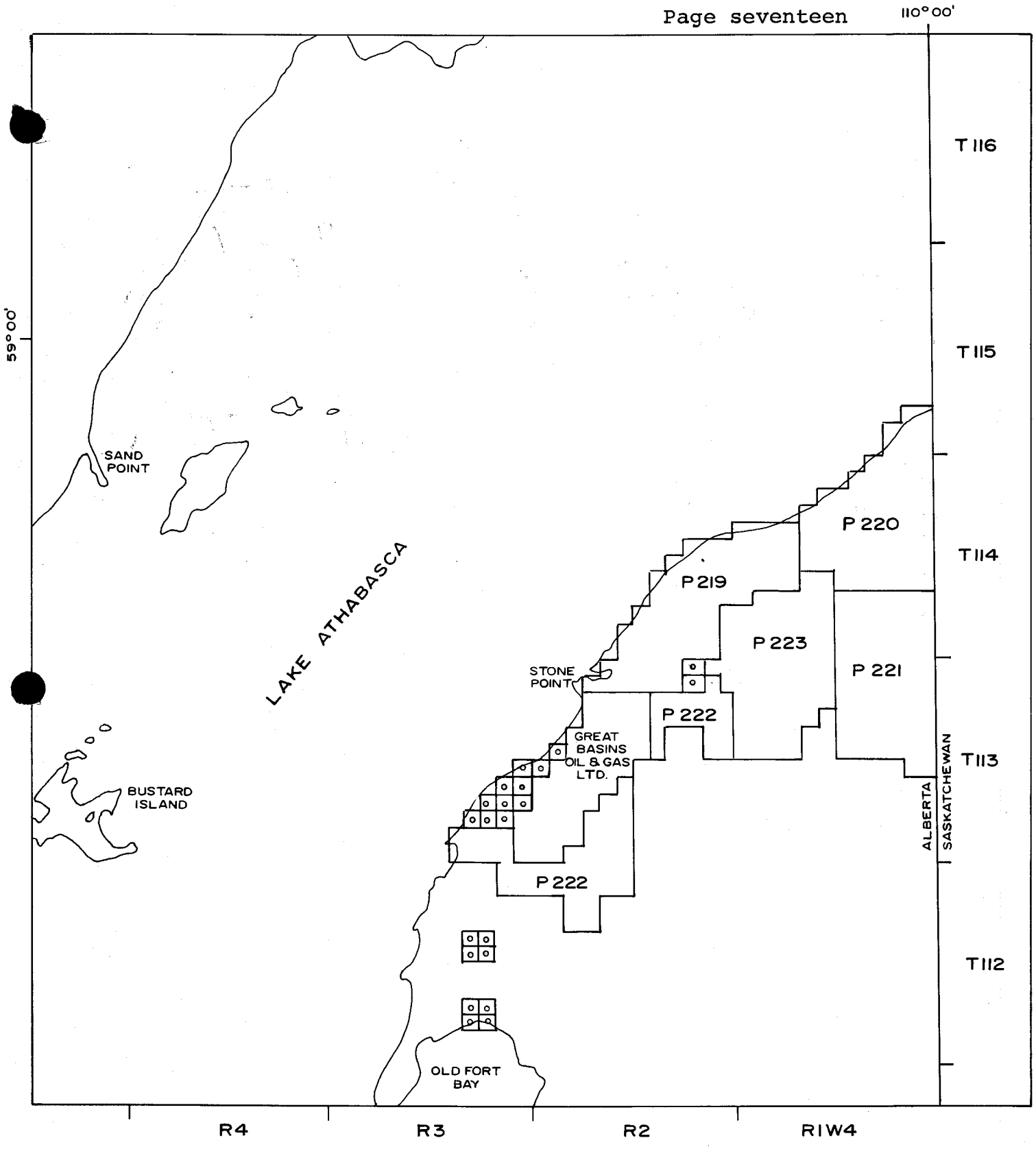


FIGURE No. 1



LAND IN ATHABASCA JOINT VENTURE.

PRICE MINERAL CLAIMS.

LAKE ATHABASCA JOINT VENTURE

0 5 10 Mi.

0 5 10 15Km.

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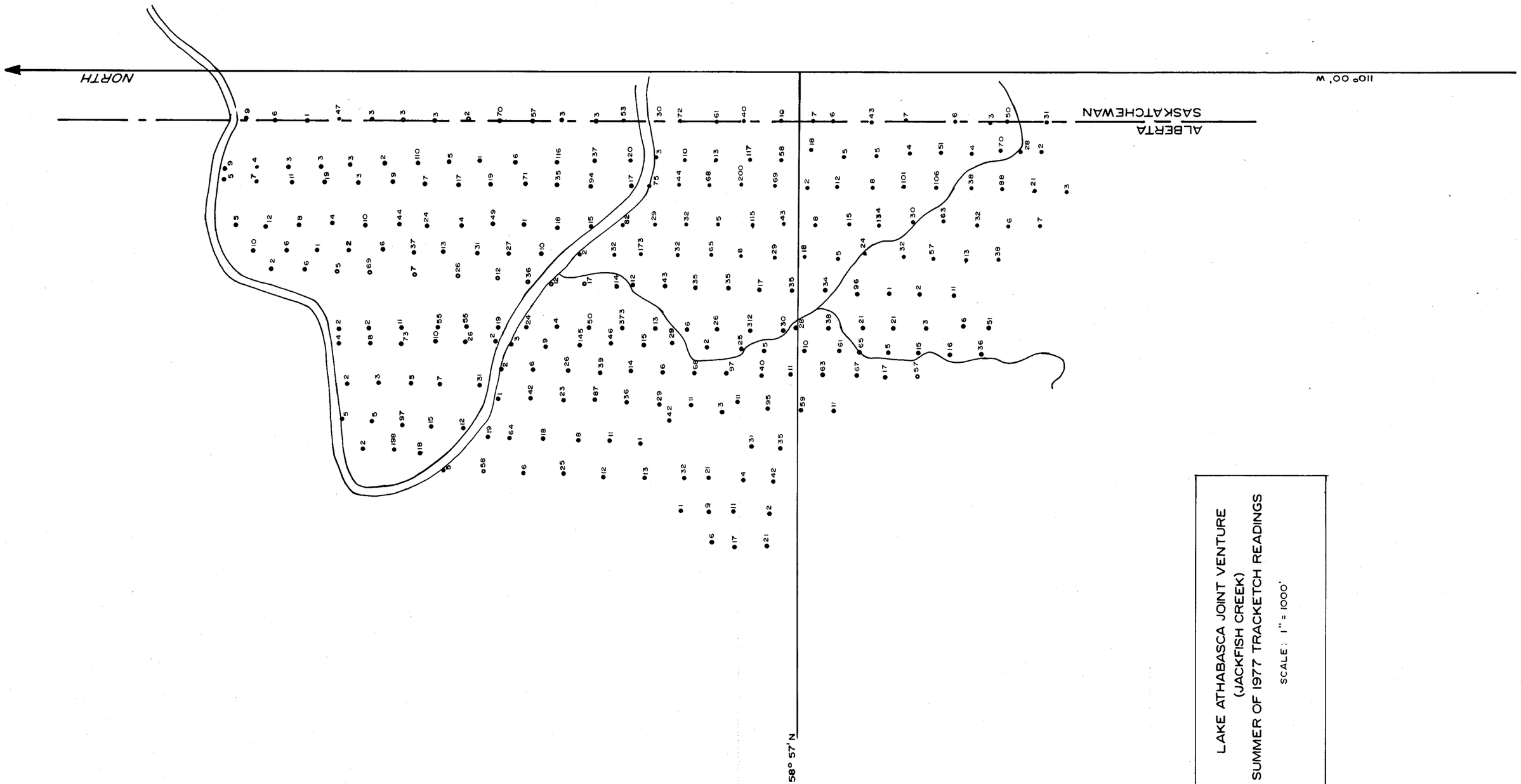
FIGURE No. 2



LAKE ATHABASCA JOINT VENTURE
(JACKFISH CREEK)
SUMMER OF 1977 TRACKETCH READINGS
SCALE: 1" = 1000'

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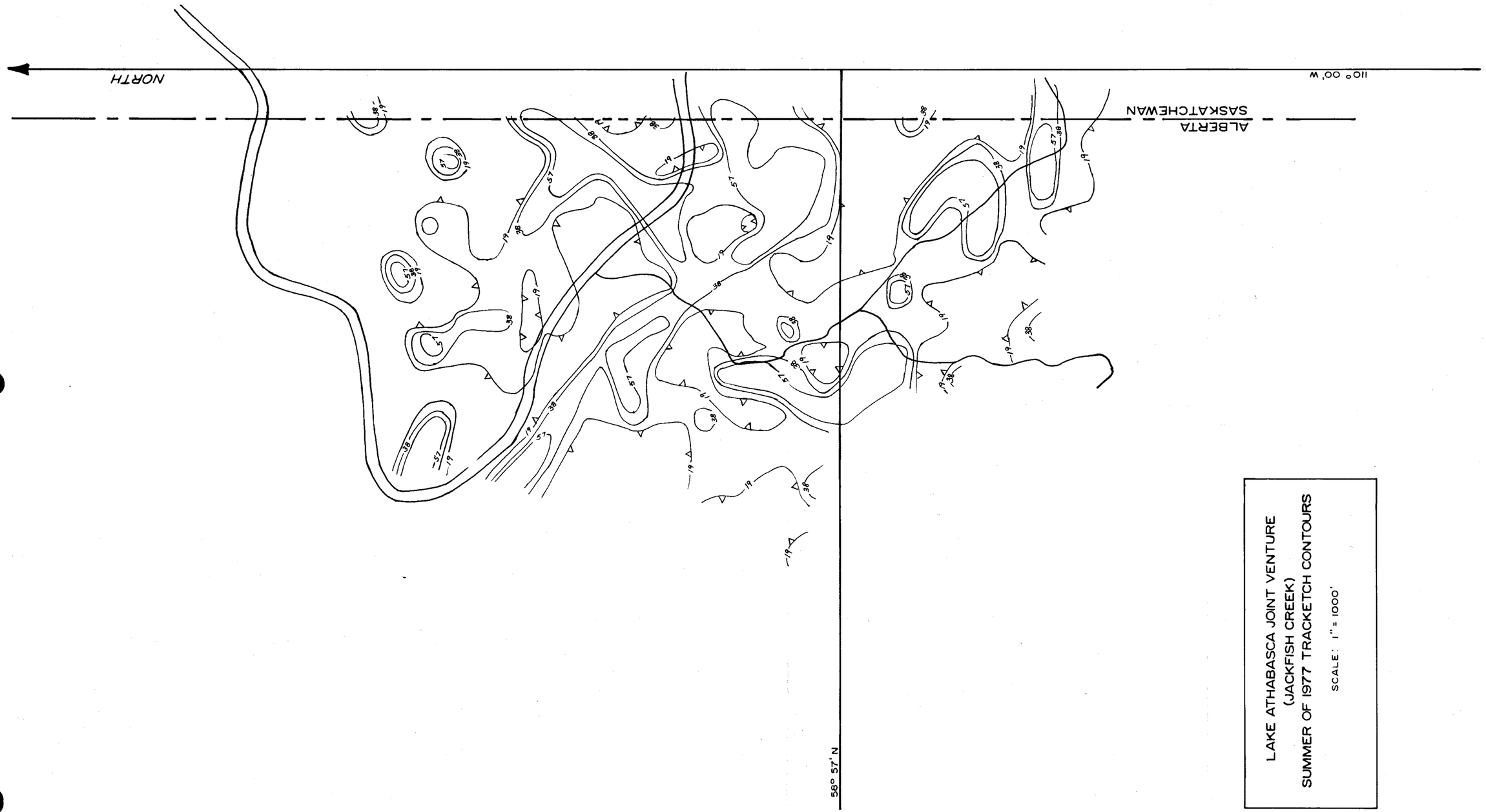
FIGURE No. 3



LAKE ATHABASCA JOINT VENTURE
(JACKFISH CREEK)
SUMMER OF 1977 TRACKETCH CONTOURS
SCALE: 1" = 1000'

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FIGURE No. 4

LITHOLOGY

COLOR	SYMBOL	LITHOLOGY
911	Gb	Gabbro (diabasic), basalt dykes and silts
943	P	Peridotite
931	L, SD	Lamprophyre, Syeno-diorite dykes
932	QM	Quartz-monzonite dykes
918	Ss	Sandstone
939	Sst	Siltstone
936	Sh	Shale
903	Sc	Conglomerate
905	Scb	Basal Conglomerate
909	Gw	Greywacke
966	Arg	Argillite
944	Reg	Regolith
921	Peg	Pegmatite
924	G	Granite
937	Mgn	Gneiss (>15% mafics)
930	Mgnl	Gneiss (<15% mafics)
901	Ma	Amphibolite
919	Mhf	Hornfels
908	Mx	Greenschist
942	Mq	Quartzite
946	Mms	Mica Schist
902	Dol	Dolomite
949	Marg	Metaargillite
923	My	Mylonite
925	Mig	Migmatite

ALTERATION (Subsurface)

928	f	Feldspathization
944	h	Hematitization
908	c	Chloritization
910	e	Epidotization
966	a	Argillization

MINERALIZATION

- Quartz
- Carbonate
- Pitchblende
- Sulphides

NOTE: Colors; 900 series - Prismacolor Pencils

MINERAL ABBREVIATIONS

All	Allanite	Ni	Nickel
Cu	Copper	Py	Pyrite
F	Fluorite	Ag	Silver
Au	Gold	Xs	Sulphides
Hem	Hematite	U	Uranium
Pb	Lead	VP	Visible Pitchblende
Mag	Magnetite	YO	Yellow Oxide
Mo	Molybdenum	Zn	Zinc
Se	Selenide	Lim	Limonite

TEXTURAL PREFIXES

fg	Fine grained
mg	Medium grained
cg	Coarse grained
p	Porphyritic, Porphyroclastic, Porphyroblastic
am	Amygdaloidal
v	Vesicular

PARTICLE SIZE PREFIXES

bdr	Boulder (256 mm and up)
cbl	Cobble (64 mm - 256 mm)
pbl	Pebble (4 mm - 64 mm)
grn	Granule (2 mm - 4 mm)
snd	Sand (1/16 mm - 2 mm)
cly	Clay (< 1/16 mm)

STRUCTURAL PREFIXES

m	Massive
f	Foliated
b	Bedded
wb	Well bedded
pi	Pillowed
sh	Sheared
x	Schistose
gn	Gneissic
my	Mylonitic
cata	Cataclastic
bx or Δ	Brecciated
mig	Migmatitic
con	Contorted
rm	Ripple marks
cb	Cross bedded
shc	Shale chips
gc	Ground core

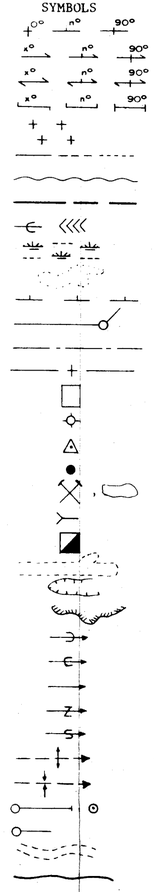
COMPOSITIONAL SUFFIXES

(q)	Quartz
(fs)	Feldspar (Undifferentiated)
(fp)	Feldspar (Plagioclase)
(fk)	Feldspar (Potassium)
(hb)	Hornblende
(px)	Pyroxene
(m)	Mica
(bi)	Biotite
(mu)	Muscovite
(chl)	Chlorite
(gar)	Garnet
(mag)	Magnetite
(c)	Cordierite
(gr)	Graphite
(ap)	Apatite
(ep)	Epidote

ALTERATIONS (Surface)

(s)	Serpentinization
(c)	Carbonatization
(chl)	Chloritization
(si)	Silicification
(hem)	Hematitization
(arg)	Argillization
(fel)	Feldspathization
(epd)	Epidotization
(gos)	Gossan
(gla)	Glauconite

SYMBOLS



- Bedding
- Schistosity
- Gneissosity
- Jointing, Fracturing
- Mylonitic
- Contact; Definite, Approximate, Assumed
- Fault; Definite, Approximate,(Assumed (surface)
- Fault: Definite; Assumed (subsurface)
- Glaciation, Esker
- Swamp
- Limit of Outcrop
- Scarp
- Mineral Disposition Boundary and Post
- Cut Baseline
- Picket Line crossing Baseline
- Photo Location
- Rock Specimen Location
- Surveyed Station
- Radioactive Anomaly
- Test Pit, Trench
- Adit
- Shaft
- Underground working
- Open Pit
- Muckpile
- Minor Fold, Anticline
- Minor Fold, Syncline
- Mineral Lineation, rodding (mullion)
- Reverse or Z drag
- Normal or S drag
- Anticline
- Syncline
- Drill hole; inclined, Vertical
- Drill hole; length unknown
- Roadway
- Edge of Lake

GOLDEN EAGLE OIL AND GAS

URANIUM GEOLOGY LEGEND

GEOLOGIST: W.E. NELSON | DATE: NOV. 30, 1978

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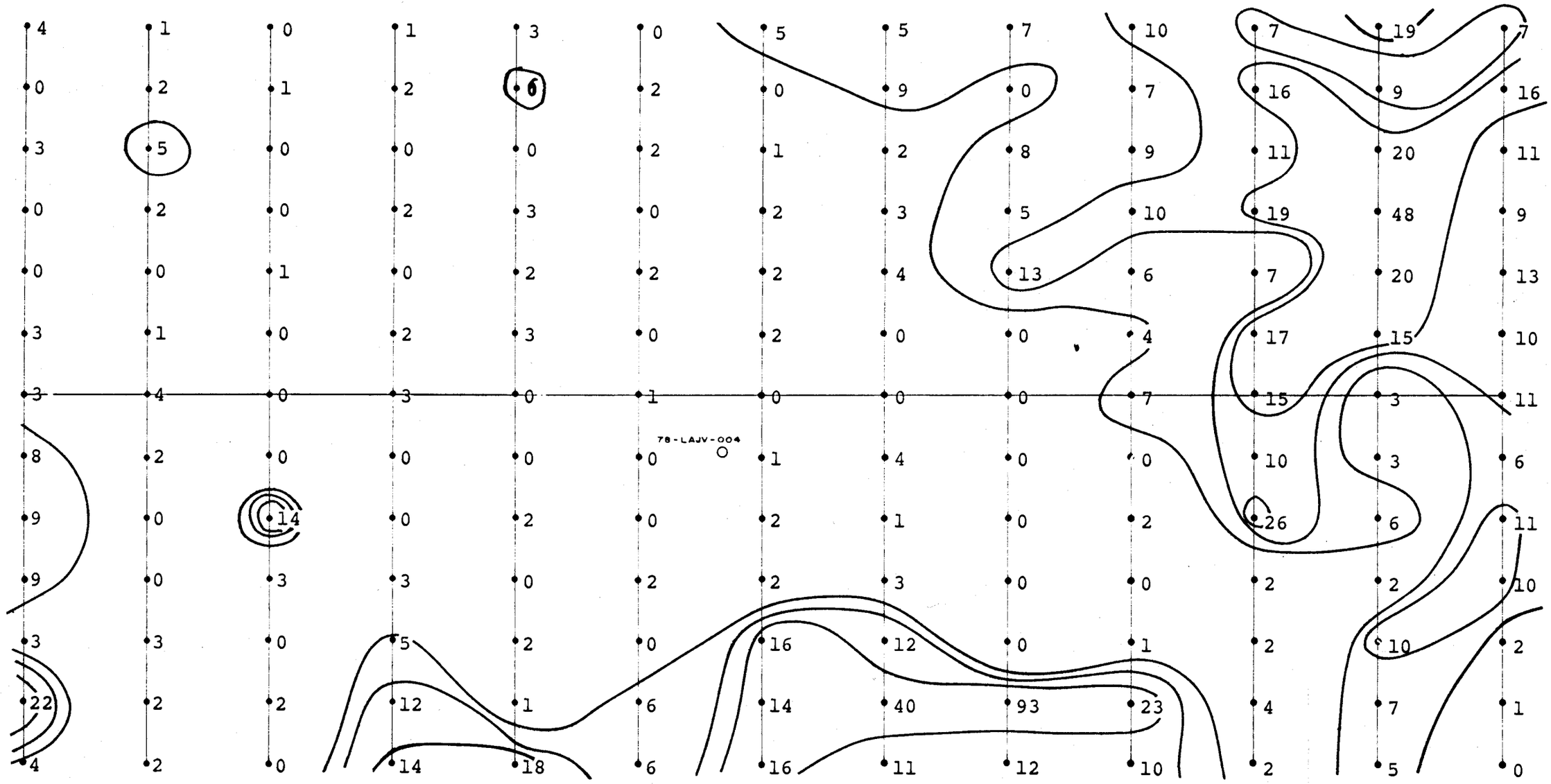
FIGURE No. 10



SOIL SAMPLE VALUES U

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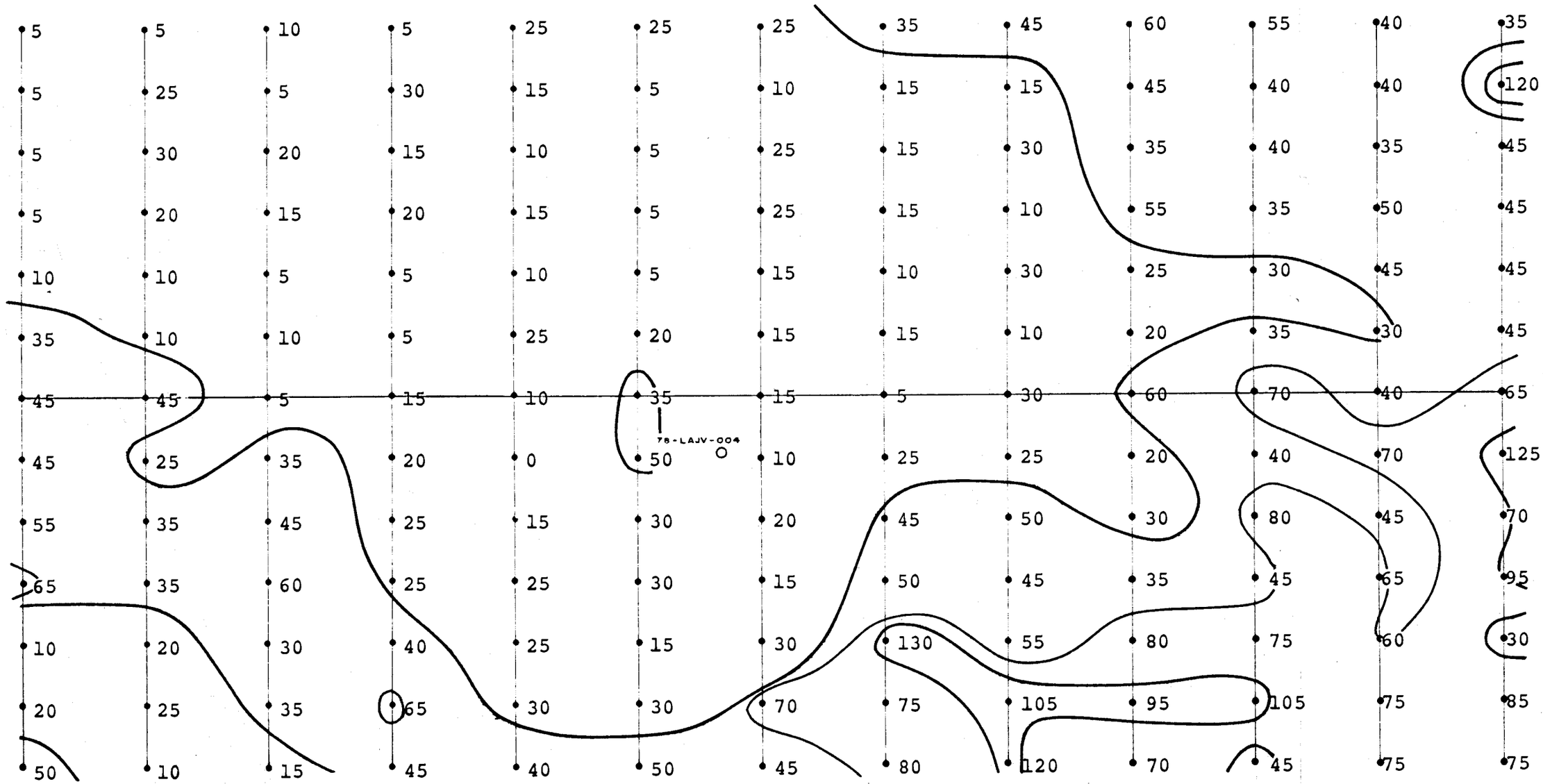
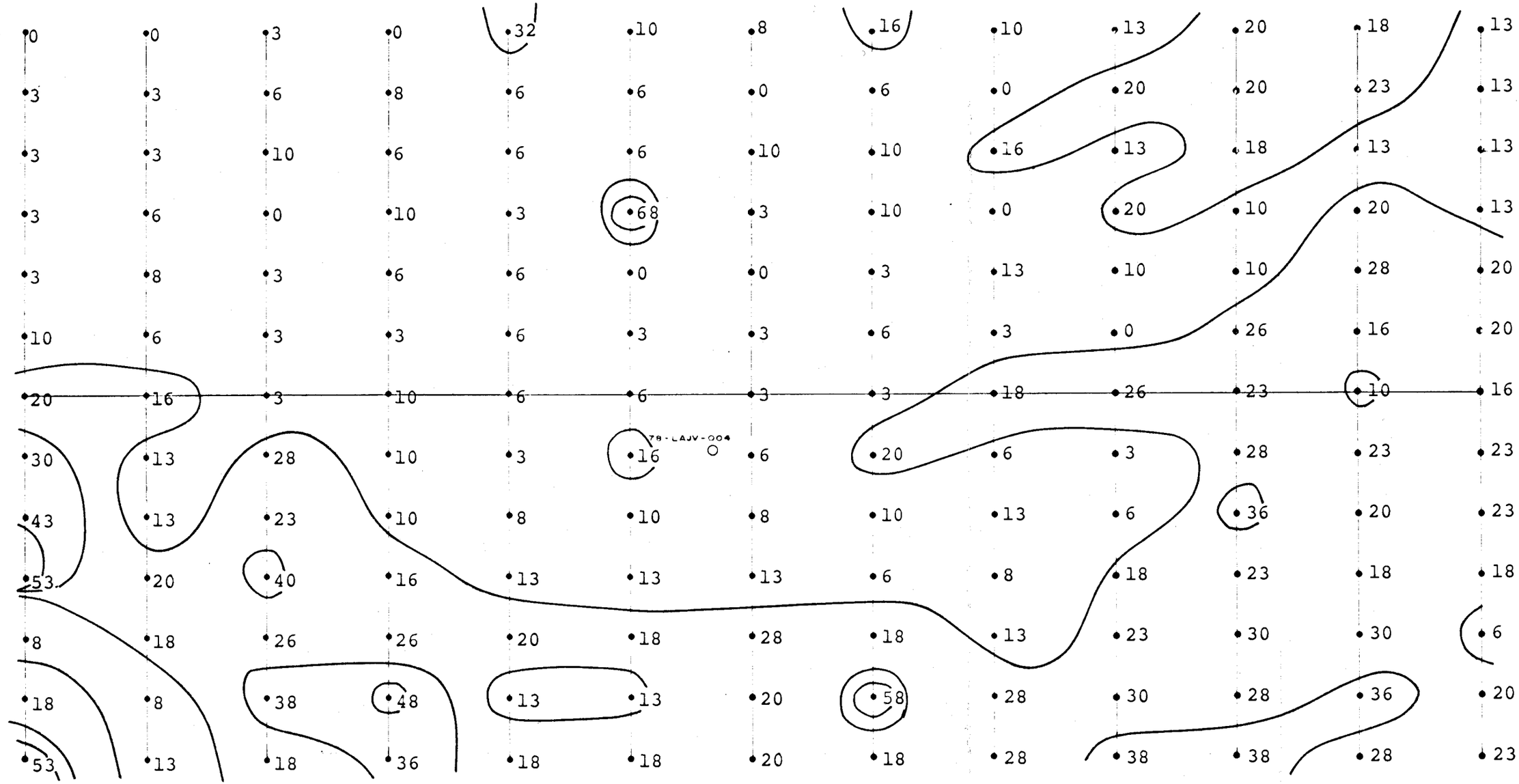
FIGURE No. 11



SOIL SAMPLE VALUES Zn

19780009

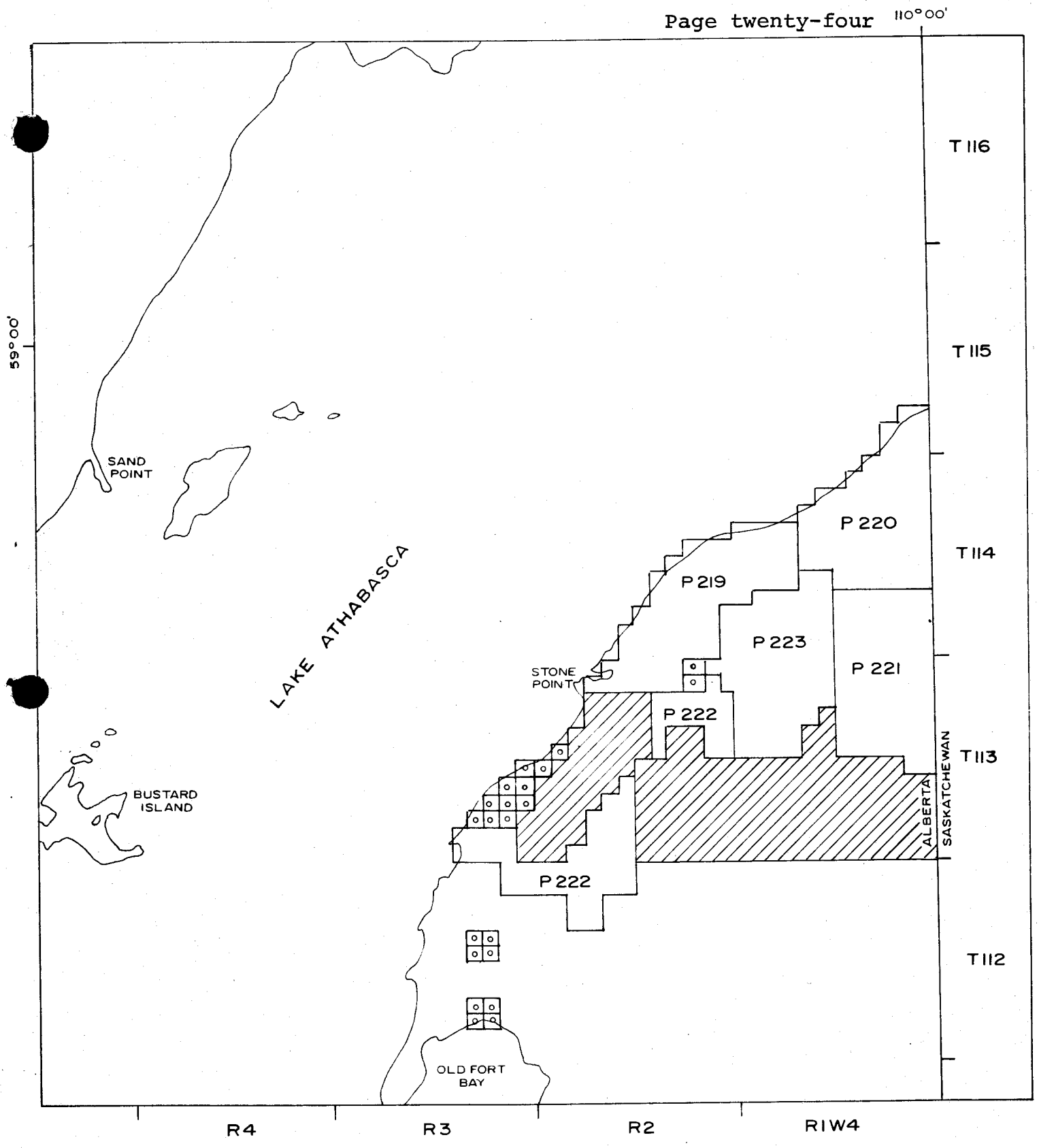
FIGURE No. 12



SOIL SAMPLE VALUES Cu

19780009

FIGURE No. 13



LAND IN ATHABASCA JOINT VENTURE.

PRICE MINERAL CLAIMS.

PROPOSED LAND ACQUISITION

LAKE ATHABASCA JOINT VENTURE

0 5 10 Mi.

0 5 10 15Km.

19780009

FIGURE No. 15

BIBLIOGRAPHY

1. CHRISTIE, A.M. — Goldfields - Martin Lake Map Area, Saskatchewan; Geological Survey of Canada. Memoir 269, Queen's Printer, Ottawa, 1953.

2. COOK, JOHN T. — A Report on a Helicopter Borne Gamma Ray Spectrometer Survey of Quartz Mineral Permits 103, 105, 106, 107, and 108, Northeastern Alberta for North Canadian Oils Limited; Roving Exploration Services Ltd., Calgary, 1969.

3. GODFREY, T.J.R. and SCHINDLER, J.N. — 1977 Lake Athabasca Project Report to Lake Athabasca Joint Venture NTS 74L16 Union Oil Company of Canada Ltd., March 1978.

4. HIRST, P.E. et al — Work on Permit #74 by Geo-X Surveys Ltd. of Vancouver for Fort Reliance Minerals Ltd. and Ensign Oils Ltd.; P.E. Hirst and Associates, Vancouver, 1969.

5. MACKENZIE, A.G. — Radiometric Survey on Pacific Silver Mines & Oils Ltd. Permit #73, Stone Point Area, Lake Athabasca, Alberta. Prepared for Columbian Northland Exploration Ltd., by Angus G. MacKenzie Mining Consultants Ltd., Calgary, 1970.

6. MACKENZIE, A.G. — Report on Magnetometer and Scintillometer Surveys Conducted on Selected Areas of Permit #73, Fort Chipewyan Area, Northern Alberta; Prepared for Columbia Northland Explorations Ltd., by Angus G. MacKenzie Mining Consultants Ltd., Calgary, 1972.

APPENDIX I PERSONNEL

GOLDEN EAGLE OIL AND GAS LIMITED

W.E. NELSON - Project Geologist
2600 Shell Centre
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ALEX STUCKEN - Chief Geologist and Assistant Manager

A. WERSE - Chief Draftsman

CONTRACTORS

DRILLING

MIDWEST DRILLING - A Division of Germac Enterprises Ltd.
- Thompson, Manitoba

FIELD FOREMAN - Doug Owens

VLF SURVEY

ANCON CORPORATION LTD. - Calgary, Alberta
- L.E.W. Hogg, President

APPENDIX II

DIP TEST

FROM	TO	TOTAL	ANGLE	CORR.	HOR.	CUMM.	VERT.	CUMM.
0'	1500'	1500'	88.5°	88.5°	13.1'	13.1'	1499.5'	1499.5'
1500'	2000'	500'	88.5°	88.5°	4.4'	17.5'	499.8'	1999.3'
2000'	2500'	500'	88.5°	88.5°	4.4'	21.9'	499.8'	2499.1'
2500'	2975'	475'	88.0°	88.0°	16.6'	38.5'	474.7'	2973.8'

DIAMOND DRILL CORE LOG

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

PROJECT: Lake Athabasca Joint Venture

LOCATION	Northeastern Alberta	HOLE NO.	78-LAJV-002-Ext.
LATITUDE		LENGTH	2975' (1398' Ext.)
LONGITUDE		AZIMUTH	———
ELEVATION		DIP	90°
CONTRACTOR	Midwest Drilling	PURPOSE	Obtain Stratigraphic
CORE	NQ BQ		Information to the
STORAGE	Field and Office		Basement
PHOTOGRAPHED	July 20, 1978	COMMENCED	July 13, 1978
SEALED	No	COMPLETED	July 22, 1978
CASING	———	LOGGED	W.E. Nelson

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Cu/Pb Zn PPM	Ag/Ni/ As PPM	Au Oz/Ton
1577.0	2879.6	ATHABASCA FORMATION - SANDSTONE						
		COLOR: White to grey and pink to red brown.						
		HARDNESS: 3.5 - 7.0						
		DESCRIPTION: The unit varies from dominantly fine to medium-grained in the upper sections, to medium to coarse-grained in the lower sections. Pebbles and cobbles of quartz, granite and gneiss are found in the coarser sections. The grains are mostly quartz and feldspar with minor amounts of mica and a mafic material, possibly amphibole. Bedding varies from none to good, with some cross-bedding. Silica, hematite and clay dominate the cementing agents, while the rock varies from weak to strongly cemented. Small sections of shale or shaly-sandstone exist in the upper part of the unit. Most are friable, at 80° to 90° to the core.						
		Hematitization of the core varies from none to strong, locally, and occurs either massive, banded, or irregular and mottled. Solution fronts are not necessarily associated with bedding. All other alteration is limited to the shale, where weak glauconitization or chloritization occurs occasionally.						
		COMPOSITION: Shale — Minor Sandstone — Quartz 90%; Feldspar 18%; Hematite 2%; Mica Trace; Mafic (Amphibole) Trace Conglomerate Minor						
		ALTERATION: None to moderate, widespread and strong, local hematitization of the entire unit. Weak, local chloritization, glauconitization and hematitization of the shale.						
		RADIOACTIVITY: None						
		CORE: Minor broken and no ground core. Fracturing dominated by angles greater than 60° to the core.						
1577.0	1615.6	Sandstone; fine to medium-grained, no to weak hematitization. Good bedding and cross-bedding Minor shale and shale-rich sections.						
1581.4		A 0.5" wide shale section, containing a moderately hematitized band overlying a weakly glauconitized band.						

GOLDEN EAGLE OIL & GAS LTD
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HOLE NO. 78-LAJV-002-Ext.

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Cu/Pb/Zn PPM	Ag/Ni/As PPM	Au Oz/Ton
1583.6		Cross-bedding. One at 60° to the core, the other at 80°, but at 40° to each other.						
1589.7	1589.9	Intermixed fine-grained sandstone and shale. Weakly hematitized.						
1591.0		Bedding at 60° to the core.						
1598.3	1598.4	Intermixed fine-grained sandstone and shale. Micaceous at both contacts, which are at 90° to the core.						
1611.8	1611.9	Shale-rich, fine-grained, buff sandstone.						
1615.6	1617.1	Shale-rich zone, comprised of sections of moderately hematitized shale and weakly hematitized, shaly-sandstone and sandstone sections. Core is partially broken.						
1617.1	1714.2	Sandstone, same as (1577.0 - 1615.6).						
1621.2	1621.6	Shale; weak hematitization. Soft, friable at about 90° to the core. Core is broken.						
1625.7		Bedding at 70° to the core.						
1626.5	1626.8	Shale-rich sandstone grading into hematitized shale.						
1628.7	1628.9	Shale; weakly hematitized. Basal contact with 0.2" wide zone of strongly hematitized sandstone.						
1639.3	1640.2	Fine-grained, shale-rich sandstone.						
1640.5		Strongly hematitized fracture at 90° to the core.						
1650.5		Coarse-grained section.						
1651.5		Bedding at 70° to the core.						
1653.2	1654.8	Intermixed shale and shaly sandstone layers, moderately hematitized and chloritized respectively.						
1657.7	1661.0	Sections of shale-rich sandstone and medium to coarse-grained sandstone.						

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MINERAL DEPARTMENT

HOLE NO. 78-LAJV-002-Ext.

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Cu/Pb/Zn PPM	Ag/Ni/As PPM	Au Oz/Ton
1661.9		Grey, shale chips.						
1667.0		Layers of coarse-grained sandstone.						
1676.9	1677.4	Moderately hematitized, medium-grained sandstone.						
1679.6		Clay band at 90° to the core.						
1687.5		Bedding at 90° to the core.						
1694.2		Shale layer, at 80° to the core.						
1695.8		Irregular, micaceous zone.						
1706.4		Fine-grained sandstone and shale layer at 90° to the core.						
1712.1		Shale chips.						
1713.9	1714.0	Irregular shale layers and chips.						
1714.2	1728.1	Sandstone; medium-grained. Small sections of shale, fine and coarse-grained sandstone. Sporadic pebbles, mostly sub-rounded quartz and quartzite.						
1727.6		Weakly hematitized, sub-rounded elongate, schist pebble.						
1728.1	2793.9	Coarse-grained, moderately hematitized vuggy, poorly cemented, porous sandstone intermixed with medium to fine-grained, no to weakly hematitized sandstone. Quartz still the dominant pebble type.						
1732.9		Fine lamellae of shale at 80° to the core.						
1747.0	1747.1	One inch of partially ground core.						
1756.9	1757.1	Broken core.						
1781.6	1781.8	Narrow shale layers in a medium-grained sandstone.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-002-Ext.

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Cu/Pb/Zn PPM	Ag/Ni/As PPM	Au Oz/Ton
1787.2		Bedding at 80° to the core.						
1798.4		Clay-filled fracture at 90° to the core.						
1804.5	1806.0	Fine-grained, unhematitized sandstone. Fine, shale-rich fractures.						
1828.5	1829.4	Fine-grained sandstone containing narrow bands of shale-rich material.						
1842.3		Bedding at about 90° to the core.						
1846.0	1846.9	Fine-grained, unhematitized sandstone.						
1850.3	1851.7	Sandstone; similar to (1846.0 - 1846.9). Basal contact is strongly hematitized.						
1857.1		Fracture at 90° to the core.						
1868.3	1872.3	Coarse-grained sandstone, weakly hematitized. Contains numerous, angular quartz and feldspar pebbles.						
1880.1		Hematite-filled fracture at 80° to the core.						
1882.5		Layer of pebbles.						
1892.5		Strongly hematitized material along a fracture at 80° to the core.						
1906.1	1908.3	Sections containing sub-rounded to rounded pebbles of granite and quartz, up to 2" in diameter.						
1911.3		Strongly hematitized fracture at 90° to the core.						
1932.0		Irregularly shaped shale-rich patch. Moderately hematitized.						
1935.0		Fracture at 70° to the core, accompanied by a 0.2" wide, leached zone.						
1942.6	1943.0	Fine-grained, unhematitized sandstone.						
1943.7	1943.8	A 2" diameter, round, quartz pebble.						

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HOLE NO. 78-LAJV-002-Ext.

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Cu/Pb/Ag/Ni/ Zn As PPM	Au Oz/Ton
1949.9	1950.2	Sandstone; coarse-grained, vuggy, very porous, hematitic cement.					
1950.6	1951.4	Sandstone; fine-grained, unhematitized.					
1958.0		Clay-rich layer at 90° to the core.					
1960.4	1969.7	Sandstone dominated by medium-grained, unhematitized material, with weak, patchy hematitization.					
1964.0	1964.6	Sandstone; strongly hematitized, medium-grained.					
1976.9		Limonite along a fracture at 90° to the core.					
1993.8	2008.9	Sandstone; medium to coarse-grained, weakly hematitized, interbanded with grey, fine-grained, unhematitized sandstone which contains minor amounts of clay, both in bands, and in the cement.					
2018.4	2019.4	Zone of numerous sub-rounded quartz pebbles.					
2025.2	2026.0	Sandstone; fine-grained, unhematitized.					
2028.1	2028.7	Sandstone; fine-grained, unhematitized.					
2031.1	2031.7	Sandstone; fine-grained, unhematitized.					
2046.9	2047.5	Fine-grained greywacke.					
2047.5		Bedding at about 90° to the core.					
2052.7	2056.8	Numerous, irregular, fine-grained, unhematitized sandstone sections.					
2065.4		Narrow zone of strongly hematitized, coarse-grained sandstone.					
2065.5	2065.6	Broken core.					
2065.6	2089.2	Sandstone, same as (2052.7 - 2056.8).					
2081.5	2082.5	Several, tabular pebbles, about 2" long, of a fine-grained, mafic material.					

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-002-Ext.

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Cu/Pb/Zn PPM	Ag/Ni/As PPM	Au Oz/Ton
2086.5		Hematitized fracture at 45° to the core.						
2091.2		Large granite pebble, of sub-rounded shape.						
2104.6		Elongate pebble aligned at 90° to the core.						
2126.8	2134.6	Sandstone, coarse-grained, weakly hematitized, containing numerous pebbles of quartz, granite, and one of a pegmatite. Pebbles are sub-rounded to rounded.						
2134.0		A 0.5" wide clay-rich, fine-grained sandstone layer at 80° to the core						
2148.6		Fine, clay-rich layers at 80° to the core.						
2181.7	2186.5	Interbanded fine and medium-grained sections of sandstone, possibly greywacke. Contains some quartz pebbles.						
2194.9	2195.0	Irregular, parallel bands of varying hematitization.						
2204.8		Angular pebble, possibly argillite or meta-argillite.						
2210.5		Strongly hematitized zone.						
2231.5		Bedding at 90° to the core.						
2246.2		Clay-rich band at 80° to the core.						
2255.4		Bedding at 90° to the core.						
2260.0		Several small, angular, altered, earthy pebbles, possibly regolith.						
2275.9	2276.1	Fine-grained, clay-rich, buff sandstone.						
2286.0	2287.0	Sandstone, fine-grained, unhematitized.						
2290.7	2291.2	Sandstone, fine-grained, unhematitized.						

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HOLE NO. 78-LAJV-002-Ext.

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Cu/Pb/Zn PPM	Ag/Ni/As PPM	Au Oz/Ton
2292.9		Pebble, same as (2260.0).						
2309.4		Bedding at 50° to the core.						
2309.7		Bedding at 80° to the core.						
2310.0	2310.5	Sandstone; fine-grained, unhematitized.						
2328.4		Irregular regolith pebble.						
2338.4		Large, (>2" diameter) pebble of either argillite or meta-argillite.						
2343.5		Strongly hematitized, irregular schist pebble. Tightly folded layering.						
2354.1		Finely banded, grey and buff, no to weakly hematitized sandstone, interbanded with coarse-grained, weak to moderately hematitized sandstone.						
2359.8		Fracture at 80° to the core.						
2367.0		Water coming into hole from another source.						
2372.6		Strongly hematitized, vuggy, hard, rounded pebble containing phenocrysts of amphibole, possibly volcanic in origin.						
2405.6		A 2" long, sub-rounded, elongate pebble of regolithic material.						
2405.7	2406.2	Sandstone, fine-grained unhematitized.						
2412.2		Bedding at 85° to the core.						
2424.2	2426.0	Fine mafic bands at 70° to the core in a fine-grained, unhematitized sandstone.						
2424.6	2425.2	Fracture at 20° to the core.						
2448.9		Disseminated sulphides in an angular quartz pebble.						

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HOLE NO. 78-LAJV-002-Ext.

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Cu/Pb/Zn PPM	Ag/Ni/As PPM	Au Oz/Ton
2457.6		Stongly weathered pebble of granite, vuggy, porous; surrounded by leached zone in the moderately hematitized sandstone.						
2464.0		Bedding at 80° to the core.						
2470.5		Several fine clay layers at 80° to the core in weakly hematitized, medium-grained sandstone.						
2474.2	2475.7	Sandstone, fine-grained, weakly hematitized.						
2482.9		Bedding at 85° to the core.						
2489.0		Bedding at 90° to the core.						
2493.0		Regolith pebble.						
2502.0		A 0.2" wide, strongly hematitized zone of sandstone surrounding a granitic pebble.						
2510.2	2510.9	Sandstone; fine-grained, unhematitized.						
2511.3		Bedding at 80° to the core.						
2519.7		Tabular, earthy, hematitic, regolith pebble.						
2519.8		Sub-rounded pebble of an altered granitic material containing crystals (up to 0.2" long) of specularite hematite.						
2526.6		Stongly hematitized band of medium-grained sandstone.						
2535.8		Sub-rounded pebble of fine-grained, weakly hematitized sandstone.						
2543.3	2543.4	A 1.0" wide band of vuggy, porous, strongly hematitized medium-grained sandstone at 90° to the core.						
2543.9		Sub-rounded to rounded, pebble to cobble-sized fragments of rocky quartz most dominant.						
2552.6		Bedding at 80° to the core.						

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HOLE NO. 78-LAJV-002-Ext.

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Cu/Pb/Zn PPM	Ag/Ni/As PPM	Au Oz/Ton
2566.4	2566.5	Fine-grained band at 90° to the core.						
2570.8		Large quartz-feldspar pebble; extensively fractured, cut by chlorite vein.						
2577.5		Bedding at 80° to the core.						
2600.4		Bedding at 80° to the core.						
2626.8		Fracture at 85° to the core, parallel to the bedding.						
2636.2		Round pebble of orange, uncemented fine-grained sandstone.						
2648.9		Round pebble of a hard material (volcanic) containing feldspar (?) phenocrysts.						
2650.1		Bedding at 70° to the core.						
2667.0	2667.2	Clay-rich bands at 85° to the core.						
2670.3		Large angular fragment of regolith						
2693.8		Bedding at 85° to the core.						
2694.6		Irregular pebble of altered, medium crystalline granite.						
2698.5		Irregular layer of strongly hematitized shale or tabular pebble of regolith.						
2710.7	2713.0	Zone of concentrated pebbles and cobbles of quartz, regolith, gneiss and granite.						
2718.0		Bedding at 80° to the core.						
2729.2		Fine-grained, earthy, patchy, hematitic coating on sandstone.						
2736.6		Large, tabular cobble of chloritized regolith.						
2742.0	2742.6	Mafic bands in a moderately hematitized medium-grained sandstone, at 70° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-002-Ext.

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Cu/Pb/Zn PPM	Ag/Ni/As PPM	Au Oz/Ton
2757.0		Fracture at 90° to the core containing earthy hematite.						
2764.4		Fracture at about 90° to the core, through a regolith-like pebble.						
2776.8		Hematitized fracture at about 90° to the core.						
2785.9	2787.0	Fracturing sub-parallel to the core.						
2787.7	2788.8	Fracturing varying from sub-parallel to 30° to the core.						
2788.0		Carbonate-rich pebble.						
2793.9	2879.6	Conglomerate, dominated by sub-angular pebbles of quartz and regolith and lesser amounts of granite and mafic-rich gneiss. The matrix is primarily coarse to medium-grained sandstone, dominantly weakly hematitized, but some local moderate hematitization.						
2809.2		Hematite band at 80° to the core.						
2813.5	2813.9	Fracture at 30° to the core.						
2817.1		Blue-green quartzite pebble.						
2821.6		Clay-rich layer at about 90° to the core, weakly hematitized and chloritized.						
2822.6	2824.3	Irregular fracturing at 0° to 30° to the core.						
2825.3	2826.0	Irregular fracturing at 0° to 30° to the core.						
2847.0		Pyrite-coated fracture at 30° to the core in the sandstone. Very strong sulphur smell when HCl dropped on it.						
2861.4		Strongly hematitized fracture at 30° to the core.						
2871.3	2871.9	Fractures at 30° to the core, 60° apart. Core partially broken.						
2879.6		Basal contact of the Athabasca Formation conglomerate, with the regolith. Contact at 60° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-002-Ext.

FROM	TO	REMARKS
2879.6	2890.5	REGOLITH

COLOR: Buff to grey-green, and red-brown.

HARDNESS: 3.0 - 5.0

DESCRIPTION: This section is very hard to identify as it has been extensively altered, with abundant broken and some ground core. Several sections of unaltered sandstone, complete with quartz pebbles occur in the upper few feet of the unit. The remainder of the regolith is strongly chloritized with a weak, patchy, hematitization in areas of coarser crystalline, felspar-rich material, which more closely resembles the basement. Thickness of regolith is highly ambiguous.

COMPOSITION:

Sandstone	20%
Chlorite	40%
Feldspar	35%
Quartz	5%
Hematite	Trace

ALTERATION: Strong, widespread chloritization and weak, local hematitization.

RADIOACTIVITY:

Footage	CPM
2879.6-2881.0	1600
2881.0-2882.0	1400
2882.0-2883.0	1700
2883.0-2884.0	1500
2884.0-2885.0	1500
2885.0-2886.0	1400
2886.0-2887.0	1500
2887.0-2888.0	2000
2888.0-2889.0	1500
2889.0-2890.5	2000

CORE: Most of the core is broken, and contains sporadic ground core. Fracturing varies from 0^{o} to 90^{o} to the core.

FROM	TO	REMARKS
2879.6	2881.0	Strongly chloritized, finely crystalline zone, irregularly interbanded with fine-grained sandstone at 30^{o} to the core.
2881.0	2884.6	Sandstone, interbanded with unaltered and altered material. The altered material is strongly silicified and contains layers of chloritized mafics at about 45^{o} to the core.
2884.6	2887.6	Strongly feldspathic zone containing irregular and patchy alteration.
2887.6	2890.5	Zone dominated by extensively fractured, strongly chloritic material, containing clasts of the unaltered fine-grained mafic material.

FROM	TO	U/Th PPM	Cu/Pb/Zn PPM	Ag/Ni/As PPM	Au Oz/Ton
2879.6	2881.0	2.6/27	-	-	-
	2882.0	2.4/17	-	-	-
	2883.0	3.1/26	-	-	-
	2884.0	2.8/16	-	-	-
	2885.0	4.8/24	-	-	-
	2886.0	2.6/17	-	-	-
	2887.0	2.9/17	-	-	-

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HOLE NO. 78-LAJV-002-Ext.

FROM	TO	REMARKS
2890.5	2935.5	MYLONITE COLOR: Dark green, minor white and red-orange. HARDNESS: 3.5 - 6.0 DESCRIPTION: The overall appearance is of a fine-grained, gneissic material, comprised dominantly of chlorite, feldspar and mafics, containing small zones dominated by granitic material. Upon closer examination, it becomes obvious that the granitic sections are highly fractured. Remains of a syeno-pegmatite, and that the remainder is more highly crushed and altered parts of the body. This mylonite contains secondary growth of both feldspars and pyrite in bands at about 30° to the core; which is roughly sub-parallel to the shear zones. The unit also contains a secondary fracturing system along which some weak chloritization and hematitization has occured COMPOSITION: Feldspar 45% Chlorite 25% Pyrite 3% Mafics (Possibly Amphibole) 25% Quartz 2% ALTERATION: Strongly chloritized overall, plus weak, secondary chloritization and hematitization along fractures. RADIOACTIVITY: Footage — CPM 2890.5-2892.0 — 4500 2892.0-2893.0 — 3500 2893.0-2894.0 — 3000 2894.0-2895.0 — 1500 CORE: Minor broken, but no ground core. Fracturing varies from 20° to 90° to the core.
2890.5	2898.8	Fossil feldspars, extremely fractured and ground, gritty to touch. Rock is strongly chloritized. Finely-banded at 30° to 45° to the core. Some secondary fracturing at random angles.
2898.8	2906.2	Zone of essentially, finely banded and finely crystalline feldspar, chlorite and mafics Very little evidence of coarse feldspar crystals left. Numerous pyrite bands.
2906.2	2908.5	Coarse feldspar crystals; zone similar to (2890.5 - 2898.8), but with greater density of feldspar crystals.
2908.5	2911.5	Zone similar to (2898.8-2906.2), but with banding not so good.
2911.5	2922.0	Strongly feldspathic zone with deformation dominantly occuring from 30° to 45° to the core. Weak widespread hematitization, abundant subhedral to euhedral pyrite, and

FROM	TO	U/Th PPM	Cu/Pb/Zn PPM	Ag/Ni/As PPM	Au Oz/Ton
	2888.0	3.9/28	-	-	-
	2889.0	2.1/21	-	-	-
	2890.5	8.0/55	-	-	-
	2892.0	183/18	-	-	-
	2893.0	273/24	-	-	-
	2894.0	292/28	-	-	-
	2895.0	20.1/18	-	-	-
2903.0	2904.0	2.0/	2/2/28	1.0/48/0.2	Trace
2917.0	2918.0	1.0/	4/10/40	0.5/50/0.5	Trace

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-002-Ext.

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Cu/Pb/Zn PPM	Ag/Ni/As PPM	Au Oz/Ton
		moderate amounts of secondary chloritization.						
2920.0	2926.6	Zone similar to (2911.5 - 2922.0) but strongly leached, gritty to the touch.						
2926.6	2935.5	Finely ground zone, strongly leached, poor banding, random clusters of large, crystalline feldspar. Fine fractures from 0^{o} to 45^{o} to the core. Moderate, widespread chloritization. Transition zone to underlying leucocratic gneiss.						
2935.5	2975.0	LEUCOCRATIC GNEISS						
		COLOR: White to grey						
		HARDNESS: 5.0 - 6.5						
		DESCRIPTION: This unit is comprised of a finely-banded, strongly altered material, both physically and chemically. The white to light grey bands are dominantly medium-sized crystals of feldspar, with lesser amounts of quartz and chloritized mafics. The darker bands are composed of fine crystalline feldspars, mafics and chlorite. Some of the wider, light colored bands contain numerous pink to buff garnets (possibly staurolite) up to 1.0" in diameter, most of which have been badly eaten.						
		The unit has been strongly fractured at angles dominantly less than 45^{o}. Many fractures contain offsets of bands up to 2.0" long. Several zones of brecciated material occur, usually cemented by feldspar and quartz. Realignment of the crystals occurs parallel to the gneissosity, about 30^{o} to 45^{o} to the core. Probable phase of metamorphism is lower greenschist.						
		COMPOSITION: Feldspar 75% Chlorite 10% Mafics (Amphibole) 5% Quartz 8% Sulphides (Pyrite) Trace Garnet 2%						
		ALTERATION: Weak to moderate, widespread chloritization. Feldspathization localized in fracture and breccia zones.						
		RADIOACTIVITY: None.						
		CORE: No broken or ground core. Fracturing varies from 0^{o} to 90^{o} to the core.						
2935.5	2938.0	Banding averages 0.5" wide. Contains fragments of mylonitic zones.						
2938.0	2964.5	Leucocratic gneiss, extensively fractured, containing mylonitic characteristics in offset fracture zones. Sections with intermixed fragments of opposing bands. Fine banding and fracturing decrease with depth.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-002-Ext.

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Cu/Pb/Zn PPM	Ag/Ni/As PPM	Au Oz/Ton
2937.4		A 1.0" offset on feldspathized fracture at 20° to the core.						
2941.0	2943.0	Garnetiferous zone, possibly staurolites. Some garnets cut by banding. Others contain intergrowths of sulphides. Banding commonly offset at about 90° by the fractures.						
2951.5		Two parallel fractures, each offsetting bands by about 1.0".						
2964.5	2975.0	Unit varies from no to poor banding. Minor leucocratic sections containing pophyroblasts of garnet and feldspar, less than 0.3" in diameter. Some fractures sub-parallel to the core.						
2975.0		End of Hole.						

78-LAJV-002-EXTENSION: SAMPLES

SAMPLE NUMBER	FOOTAGE	ELEMENTS
78-CS-066	2879.6 - 2881.0	U, Th
78-CS-067	2881.0 - 2882.0	U, Th
78-CS-068	2882.0 - 2883.0	U, Th
78-CS-069	2883.0 - 2884.0	U, Th
78-CS-070	2884.0 - 2885.0	U, Th
78-CS-071	2885.0 - 2886.0	U, Th
78-CS-072	2886.0 - 2887.0	U, Th
78-CS-073	2887.0 - 2888.0	U, Th
78-CS-074	2888.0 - 2889.0	U, Th
78-CS-075	2889.0 - 2890.5	U, Th
78-CS-076	2890.5 - 2892.0	U, Th
78-CS-077	2892.0 - 2893.0	U, Th
78-CS-078	2893.0 - 2894.0	U, Th
78-CS-079	2894.0 - 2895.0	U, Th
78-CS-080	2903.0 - 2904.0	U, Ni, Ag, Au, As, Pb, Zn, Cu
78-CS-081	2917.0 - 2918.0	U, Ni, Ag, Au, As, Pb, Zn, Cu

DIP TEST

FROM	TO	TOTAL	ANGLE	CORR.	HOR.	CUMM.	VERT.	CUMM.
0	500	500	86.5	87.5	21.8	21.8	499.5	499.5
500	1500	1000	87.5	88.0	34.9	56.7	994.9	1498.9
1500	2000	500	88.5	89.0	8.7	65.4	499.9	1998.8
2000	2500	500	87.5	88.0	17.5	82.9	499.7	2498.5
2500	3017	517	86.0	87.0	27.1	110.0	516.3	3014.8

DIAMOND DRILL CORE LOG

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

PROJECT: Lake Athabasca Joint Venture

LOCATION	Northeastern Alberta	HOLE NO.	78-LAJV-003
LATITUDE		LENGTH	3017'
LONGITUDE		AZIMUTH	-
ELEVATION		DIP	90°
CONTRACTOR	Midwest Drilling	PURPOSE	Obtain Stratigraphic
CORE	HQ, NQ, BQ		Information to the
STORAGE	Field		Basement
PHOTOGRAPHED	July 10, 1978	COMMENCED	June 18, 1978
SEALED	No	COMPLETED	July 9, 1978
CASING	60' HW	LOGGED	W.E. Nelson

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb /Zn PPM	As/Ni /Co PPM
0.0	60.0	CASING						
60.0	2914.1	ATHABASCA FORMATION SANDSTONE, with minor Shale and Conglomerate						

COLOR: White to pink to purple, minor green and greenish-blue

HARDNESS: 4.0 - 6.5

DESCRIPTION: The unit is dominated by a fine to coarse-grained sandstone, containing minor amounts of shale and conglomerate. There are three main sections in the unit. The upper section contains about equal amounts of fine-grained, buff to purple, friable shales, and mudstones where surface alteration is present, and fine to medium-grained sandstones. About equal amounts of greenish, glauconite-rich and purple, hematitized shales exist. The sandstone is composed of rounded quartz, and lesser amounts of feldspar, grains. Coarser-grained bands are found sporadically throughout the unit. The matrix is dominated by silica and hematitized clay, silt and sand, as well as minor amounts of unhematitized clay, silt and sand, and carbonate.

The second situation is dominated by fine-to-medium-grained sandstone with lesser amounts of shale than above. The sandstone contains more coarser-grained sections, and correspondly more feldspar and mafic grains. Fracturing, which was sub-parallel to the bedding, about 0°-30° to the core, in the upper section, is more sub-parallel to the core in the second and bottom sections.

The basal section is almost exclusively medium to coarse-grained sandstone containing rounded pebbles of quartz, quartzite, granite and gneiss, and more angular pebbles of schist and regolith. The sandstone grades into a conglomerate near the base of the unit.

Hematitization, grading from none to strong, is a widespread feature, both as a bedding and dominantly as a solution feature. Hematitization occurs as either a staining or as a cement. Some fractures and beds are accompanied by leached zones.

COMPOSITION:

Quartz	65%
Feldspar	10%
Mafics	3%
Hematite	10%
Kaolinite	Trace
Pyrite	Trace
Pebbles	5%
Chlorite and Glauconite	7%

ALTERATION: Very weak, widespread to strong, local hematitization. Weak to moderate, local glauconitization and chloritization. Weak local kaolinization in the upper section.

from Golden Eagle - Jun - Oct/78.

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/Zn PPM	As/Ni/Co PPM
		RADIOACTIVITY: 1400.3 - 1401.0 2200 CPM 1401.0 - 1401.8 2500 CPM						
		CORE: Minor broken and ground core. Fracturing varies from 0° to 90° to the core.						
60.0	78.6	Medium-grained, white to pink sandstone; minor coarse-grained section up to 6" wide. Weak local hematitization.						
66.6		Major facture, about 1" of clay-like material at about 70° to the core. Several minor fractures and sub-parallel. Parallel to local bedding.						
69.2		Clay layer, about 0.5" wide. Pale green color, possibly glauconite.						
78.6	79.0	Shale; green, very fine-grained. Bedding and individual grains are impossible to see. Contacts with sandstone are sub-perpendicular to the core. A 0.2" layer of grey mud at 85° to the core in the center of the unit. Possibly due to fault, or an unconsolidated layer.						
79.0	79.5	Sandstone; red to pink, moderately hematitized.						
81.0	81.5	Mottled, purple hematitized sandstone.						
81.5	82.0	Shale; white to buff colored, fractured sub-parallel to the core. A 0.1" fracture perpendicular to the core, contains brecciated fragments of shale.						
82.0	83.0	Sandstone; moderately hematitized.						
87.0	92.0	One foot lost core.						
92.3		Bedding at 80° to the core, sub-parallel to hematite banding, and green, clay-rich layers.						
93.0	94.0	Coarse-grained sandstone.						
96.5	96.8	Irregular hematite-rich, clay-filled fractures at about 60° to 70° to the core						
99.0	102.3	Random shale chips in an irregular hematitized unit, varies from medium to coarse-grained.						
102.0	102.3	Some clay in matrix.						

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MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb /Zn PPM	As/Ni/ Co PPM
103.8	104.6	Shale; buff to grey in color containing several 0.1" layers of sandstone perpendicular to the core. Some weakly hematitized layers.						
104.6	105.5	Sandstone; hematitization and grain size are reducing with depth.						
105.5	105.6	Shale; similar to (103.8 - 104.6), but containing no sandstone.						
106.5	107.0	Coarse-grained sandstone; moderately hematitized. Bedding at 80° to core.						
108.0	108.4	Fracture sub-parallel to the core.						
110.0	110.4	Narrow clay-rich layers at about 90° to the core.						
110.7	111.4	Sporadic, coarser-grained material. Some clay chips, and some kaolinized feldspars.						
112.0	112.7	Shale; green to grey colored, becoming coarser-grained with depth.						
112.7	114.3	Sandstone; fine to medium-grained. Very irregular, grey grading down to pink, staining pattern. Contains about 30% fine-grained mafics in the matrix. Percentage decreases to nil by end of section.						
117.0	123.0	Moderately hematitized sandstone containing irregular sections of weaker hematitization.						
122.3	122.4	Hematite comprises 100% of the matrix.						
129.1	131.1	Mudstone; green-grey in color, intermixed with patchy, purple, hematitized material, containing sand size particles as the unit increases in depth. Grades into moderately hematitized sandstone containing green mudstone patches.						
131.1	131.9	Weak to strongly hematitized, coarse-grained sandstone.						
134.2	135.0	Interlayered green, very fine-grained shale and purple, hematitized fine-grained sandstone. Layering becomes finer and less distinct with depth, as it grades into a grey sandstone.						
143.8		Fracture at 10° to the core, covered by a clay film.						
144.0	144.4	Bedding at 70° to 80° to the core.						

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MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb /Zn PPM	As/Ni/ Co PPM
146.5	149.5	Sporadic narrow (< 0.2") clay-rich layers cutting the core at about 90°. Very weak to no hematitization.						
150.0		Good bedding at 80° to the core.						
154.2	155.5	Irregular hematitic and green clay layers in a pink sandstone.						
155.5	155.7	Siltstone; green. Contains minor amounts of clay and sand.						
155.7	158.0	Same as (154.2 - 155.5). Becoming coarser-grained near the base of the section.						
158.0	158.4	Coarse-grained sandstone; moderately hematitized.						
160.4	160.7	Coarse-grained layer of sandstone at about 90° to the core. Primarily quartz grains, some strongly hematitized material.						
161.8	161.9	Coarse-grained sandstone.						
162.8	163.1	Fine, mottled hematitized sandstone.						
166.0	167.0	Cross-bedding at 80° and 45° to the core.						
169.0		Bedding at 75° to 80° to the core.						
171.1		Coarse-grained layer; in a silt and clay matrix.						
173.0		Fracture, 0.1" wide, at 85° to the core filled with clay. Sub-parallel to the bedding.						
179.0		Bedding at 70° to the core.						
180.0	181.0	Strongly hematitized, fine-grained sandstone. Minor (<0.1" wide) clay-rich layers at about 90° to the core. Narrow zones of leached sandstone on either side.						
181.0	181.5	Pink, fine-grained sandstone grading into green mudstone, containing minor amounts of sand.						
181.8	182.0	Interlayered strongly hematitized, fine-grained sandstone and green to buff, clay-rich sandstone, at 80° to the core.						

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MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb /Zn PPM	As/Ni /Co PPM
184.1	185.5	Moderately hematitized sandstone.						
188.0	188.5	Patches of strongly hematitized sandstone in pink sandstone.						
193.0	193.8	Sandstone; no grading to strong hematitization.						
193.8	194.8	Shale; purple, moderate to strongly hematitized except for at top contact where it is green Core is partially broken.						
194.8	195.1	Coarse-grained sandstone; variable hematitization. Slight green color, possibly due to chloritization.						
197.9	198.1	Sandstone; fractured at 90° to core. Clay in matrix.						
198.8	201.0	Weak to moderate hematitization in bands.						
201.3		Clay-filled fracture, < 0.1" wide, at about 70° to the core.						
202.3	202.4	Shale; green, layering appears to be perpendicular to the core.						
202.4	205.5	Alternating bands of strong and weakly hematitized sandstone. Sporadic, narrow (< 0.1" wide), clay-rich layers at 60° to 80° to the core.						
206.6	206.8	Zone of concentric, hematitized solution fronts, center of which is to the top of the hole.						
207.0	207.3	Clay and sand; possibly ground core mixed with drilling mud.						
207.8	211.0	Sandstone; similar to (202.4 - 205.5), but with some fine, mottled leaching.						
212.3		Narrow fracture at 40° to the core. A0.1" wide leached zone on either side of fracture.						
215.5	215.8	Irregular, clay-filled fractures, at <30° to the core.						
220.7		Fracture at 50° to the core.						
222.4	224.1	Shale; green, with sporadic mottled and irregular bands of hematitized material. Buff-colored carbonate along irregular fractures, roughly sub-parallel to the core.						

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MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb Zn PPM	As/Ni/ Co PPM
224.1	224.6	Medium to coarse-grained, strongly hematitized sandstone.						
224.6	226.1	Moderately hematitized sandstone.						
228.8		Bedding at 75° to the core.						
228.8	232.8	Moderately hematitized sandstone, cut by numerous leached zones containing clay-rich stringers, most of which are from 60° to 90° to the core, and varying from 0.1" to 4.0" wide.						
232.8	233.6	Similar to (228.8-232.8) but with strongly hematitized layers.						
238.5	247.6	Interbedded, weak to moderately hematitized sandstone.						
250.2	250.7	Clay-rich patches of fine-grained sandstone intermixed with coarser material. Most of the coarser-grained material is quartz, but there are some mafic crystals (possibly anphibole) and some crystals which completely hematitized, or altered to kaolinite.						
252.1		Bedding at 70° to core.						
253.6		Bedding at 90° to the core.						
255.7	255.8	Coarse-grained sandstone with a green-colored, clay and carbonate matrix. Minor amount of garnets (<0.1" in diameter).						
255.8	260.5	Grey to buff-colored sandstone, most of which is fractured parallel to the core.						
258.9	259.2	Interbedded coarse-grained, with clay matrix, and fine-grained sandstone.						
259.2	259.8	Rock chips, which strongly altered and weathered or plucked out.						
260.5	262.5	White sandstone, fracture from 0° to 30° to the core, fractures have minor amounts of pyrite on faces.						
265.7		Cross-bedding at 30° to core. Regular bedding at 75° to core.						
266.0	266.4	Numerous clay-rich stringers (about 0.1" wide) at 70° to 90° to the core.						

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MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/Zn PPM	As/Ni/Co PPM
266.8	269.1	Fractures at about 0° to the core, which are weakly hematitized.						
269.3	269.8	Fine-grained sandstone, green-colored because of cement. Some mottled, red-brown hematite cement.						
269.8	276.6	Dark purple-black, strongly hematitized, fine-grained sandstone, containing some grey-green sub-perpendicular, clay-rich zones, and random shale chips.						
275.3	275.5	Mudstone; soft, green, very fine-grained.						
276.6	278.3	Interlayered, wide bands of green, clay-cemented, fine-grained sandstone and mud-like, very strongly hematitized zones.						
278.3	289.9	Sandstone; similar to (269.8 - 276.6), but coarser-grained.						
279.1		A0.1" wide, hematite-mud-filled fracture at 70° to the core.						
282.0	282.5	Broken core.						
283.7	284.1	Hematite-healed fracture at 25° to the core.						
285.9	286.9	Fracture at 10° to core.						
289.9	299.4	Fine-grained, strongly hematitized sandstone, grading to mudstone in places. Locally fractured, from 45° to 90° to the core. Minor sections up to 6" long of light green, buff to white medium-grained sandstone. Poorly banded and mottled green, clay-rich zones throughout.						
290.5	290.6	Fractures filled with pink mud.						
291.1	291.6	Extensively fractured, sub-perpendicular to core.						
295.0	295.4	Broken core. Soft, friable mudstone.						
298.1	298.9	Coarser-grained section of sandstone.						
299.2	299.4	Dark purple-black, soft mudstone.						

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MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/Zn PPM	As/Ni/Co PPM
299.5	314.1	Sandstone; grey-purple and buff-light green. Weak to moderate, local hematitization, as well as random spotty, strong hematitization. Fine to medium-grained, either uncemented or by fine material, hematite or glauconite. Poor bedding.						
306.5	308.5	Strong, spotty hematitization disappears as mottled, green and purple texture, becomes more dominant.						
312.0	313.0	Fracture sub-parallel to core.						
314.5	315.6	A 1" fracture at 80° to the core filled by gritty mud.						
315.2	315.7	Moderately hematitized, medium-grained sandstone.						
315.7	317.4	Finely banded, buff and glauconitic sandstone.						
320.7	321.0	Strongly hematitized mudstone.						
321.0	321.1	Glauconitic mudstone.						
321.1	344.3	Fine to medium-grained sandstone. Mottled to total, moderate hematitization.						
329.5		Mud and grit, 0.1" wide.						
333.5	334.2	Series of fractures at 70° to 90° to the core.						
337.4		Bedding at 80° to core.						
339.0	344.3	Spotted texture, weak to strong hematitization.						
344.3	346.1	Fine-grained, strongly hematitized sandstone, grading to coarser, less hematitized material.						
346.1	367.0	Sandstone; similar to (321.1 - 344.3) but either mottled or no hematitization grading to mottled, bedded or total moderate hematitization.						
349.8	349.9	Shale; green, at 80° to core.						
352.6	353.2	Fracture at 20° to core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/Zn PPM	As/Ni/Co PPM
353.8	354.0	Fracture zone, containing clasts of brecciated sandstone and a gritty, hematitic mud.						
367.0	368.8	Fine to medium-grained, green and purple sandstone. Alternating layers of glauconitic and strongly hematitic sandstone. Bedding at 90° to the core.						
368.4	368.8	Broken core.						
368.8	370.0	Weakly hematitized sandstone, with spotty strong hematitization.						
370.0	379.5	Moderately hematitized sandstone, with spotty leaching, grading to a layered sandstone of degrees of hematitization, finally into a mottled texture.						
376.5	376.6	Clay-rich layer at 60° to the core.						
379.5	384.7	Mottled and banded, buff and deep purple-grey, fine to medium-grained sandstone. Random, clay-rich layers (< 0.2" wide) at 80° to 90° to the core. Some spotty, strong hematitization.						
384.7	406.7	Mottled, green and purple shale. Composed of moderately glauconitic and hematitic patches.						
386.8	387.0	Extensively fractured perpendicular to the core.						
388.7	389.1	Shale chips; tabular, less than 1" long, aligned at 90° to the core.						
401.0		Several hairlike fractures at about 90° to the core.						
401.2		Mica flakes, dominantly muscovite, in layers at right angles to the core.						
402.7	402.9	Pale pink, leached out bands, at about 90° to the core.						
406.7	408.8	Buff colored, fine-grained sandstone containing irregular layers and patches of green, glauconitic shales, and irregular bands and lenses of moderately hematitized shale.						
408.8	409.5	Fine-grained, grey-purple sandstone.						
409.5	428.8	Shale; similar to (384.7 - 406.7), but with overall weaker hematitization and some gritty zones.						

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MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/Zn PPM	As/Ni/Co PPM
412.8	413.1	Alternating, fine (< 0.1") layers of fine-grained, buff sandstone, and chlorite-rich layers at 90° to the core.						
415.3	419.8	Irregular, leached zones containing abundant green-grey clays, with minor patches and bands of hematitized shale. Grades into moderately glauconitic shale, and then into regular hematitic shale.						
428.8	432.0	Green glauconite, minor chlorite, shale interbedded with buff fine-grained sandstone at about 80° to 90° to the core.						
431.9	432.0	Core extensively fractured at 90° to the core.						
432.0	444.4	Intermixed shale and buff, fine-grained sandstone. Shale the dominant component is comprised of mottled green, glauconitic and light to dark purple, weak to moderately hematitic material.						
432.0	433.4	Minor broken core.						
434.3		Random crosscutting fractures.						
		Fractures at 90° to the core.						
440.7		Fracture parallel to the core.						
444.4	500.9	Shale; similar to (432.0 - 444.4) but green, glauconitic material dominant.						
449.0		Shale layer, rich in chlorite, with minor muscovite, at 85° to the core.						
452.5	452.6	Small (< 0.5" long) elongate shale chips. Lying between 70° and 90° to the core.						
455.5	457.4	Extensive fracturing, sub-parallel to the core. Slightly gritty in places.						
458.2	458.4	Four, hairlike fractures at 70° to 90° to the core.						
459.4	462.0	Intermittant, buff-colored, fine-grained sandstone.						
462.8		Fracture at 90° to core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/Zn PPM	As/Ni/Co PPM
465.5	465.7	Fine-grained sandstone, containing minor chlorite.						
468.1	468.2	Irregular patch of chlorite, in weakly glauconitic shale.						
468.8	469.4	Buff, fine-grained sandstone, with minor chlorite, glauconite and hematite						
471.3	472.0	Similar to (468.8 - 469.4).						
473.8	474.4	Similar to (468.8 - 469.4).						
476.9	477.1	Chlorite-rich zone. In planes at about 90° to the core.						
478.7	479.9	Fine-grained sandstone mixed in with shale.						
484.8	486.3	Fractures sub-parallel to the core.						
489.4		Extensively fractured zone.						
493.8		Core fractured at 90°, partially cemented by carbonate.						
495.1	495.6	Fine-grained, buff colored sandstone.						
500.9	509.5	Intermixed fine-grained, grey to buff colored sandstone, containing layers of shale chips at 80° to 90° to the core, and fine-grained, shale sections. Sandstone is cemented together by varying amounts of silt, clay, and silica.						
509.5	513.3	Shale; alternating bands of moderately hematitized, very friable and green, slightly sandy material.						
513.3	523.6	Sandstone; intermixed with shale, same as (500.9 - 509.5). Grades into moderately hematitized, shale section.						
523.6	530.6	Shale; dominated by moderately hematitized material, with only a minor amount of green, glauconitic material.						
524.3	524.7	Narrow, carbonate cemented fractures at 90° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/Zn PPM	As/Ni/Co PPM
528.7		Fracture at 90° to the core.						
530.1	530.2	Broken core.						
530.6	545.7	Sandstone, intermixed with minor shale; similar to (500.9 - 509.5). Hematitic and glauconitic sections dominated by fine-grained sandstone.						
538.6	538.8	Medium-grained sandstone, containing numerous shale chips.						
542.8	543.2	Broken core.						
543.8	544.8	Fracture; sub-parallel to the core.						
545.4	545.5	Shale; strong hematitization.						
545.7	546.0	Shale; strong hematitization, extensively fractured at top and basal contacts with the sandstone.						
546.0	580.7	Sandstone; medium-grained. Irregular weak to strong hematitization. Some green and purple shale units. Sandstone is primarily uncemented or cemented by silica except in the grey-green clay rich areas. Irregular mottled pattern of clay-rich zones on either clean or weakly hematized sandstone is dominant.						
558.5	560.0	Numerous, large (up to 2" long) shale chips in bands at 80° to 90° to the core. Base of section is dominated by extremely fractured set of clean and strongly hematitized shale layers.						
580.5	580.7	Brecciated, fine-grained sandstone and shale chips in a medium-grained sandstone matrix.						
580.7		Fractures at 90° to the core.						
580.7	599.7	Fine-grained sandstone; weak, widespread to strong, local hematitization. Mottled and banded leaching. Some small zones of breccia. Silica cement, very hard.						
582.0	582.4	Fracture zone at 90° to the core. Minor carbonate.						
589.0	589.4	Brecciated fine-grained sandstone in a pale green, fine-grained matrix, which contains minor carbonate.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/As/Ni/ Zn PPM	Co PPM
596.3	597.3	Randomly oriented shale chips, in a section of fine-grained sandstone with minor clay in the cement.						
599.7	636.7	Medium to locally, coarse-grained sandstone. Weak, widespread to moderate, local hematitization. No glauconite. Pitted core surface. Silicic and hematite cement. Very porous.						
604.7		Bedding at 70° to core.						
613.7		Fractures at 80° to the core.						
623.5		A 0.2" wide clay layer at 80° to the core.						
629.7	629.8	Irregular, hematitized fracture.						
631.8	632.2	Extensively fractured, clay-rich zone. Fractures dominantly at 90° to the core. Mostly broken, minor ground core.						
635.4	635.7	Fractured zone, similar to (631.8-632.2).						
636.7	736.7	Medium-grained sandstone; similar to (599.7-636.7) but contained more clay cement and less porosity.						
648.0	648.2	Coarse-grained sandstone in a hematitic cement.						
654.1	656.9	Fine-grained sandstone; intermixed with shale. Minor glauconite. Very fine bedding at about 90° to the core.						
655.4	655.5	Strongly hematitized, finely fractured shale. Broken core.						
660.1	661.8	Massive, weakly hematitized, medium-grained, well silicified sandstone						
662.1		Increase in clay content of sandstone						
667.7		Clay and sand layer at 60° to the core.						
668.0	668.4	Clay and sand layer at 90° to the core. Extensively fractured at that angle. Broken core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/Zn PPM	As/Ni/Co PPM
671.2		Clay-rich layer.						
679.7		Fracture at 40° to core with accompanying leached zone.						
682.7	683.1	Clay-rich zone. Fine-grained sandstone. Finely laminated, moderately hematitized.						
693.1		Clay-filled fractures at about 90° to the core. Accompanying 4" wide leached zone.						
696.3	698.2	Fracture sub-parallel to the core.						
700.9	701.4	Fracture at 20° to the core						
702.0		Silica content of matrix more dominant in medium-grained sandstone.						
714.8	715.0	Shale, irregular contacts with sandstone at about 70° to the core. Green fading into purple-green.						
716.0	716.6	Fracture, sub-parallel to core.						
716.2		Bedding at 60° to the core.						
719.9	720.2	Clay-rich zone.						
727.1	727.5	Shale; grey-green, weak hematitization.						
730.0	732.0	Irregular fractures, dominantly sub-parallel to the core.						
736.7	823.5	Sandstone; similar to (636.7-736.7) but with more clay in matrix and shale layers. Minor chlorite.						
741.8		Cross-bedding at 90° and 70° to the core.						
742.3		Irregular zone, altered clays and hematite matrix for fine to medium-grains of sand. Also some randomly oriented shale chips. Vuggy (< 0.2" in diameter) texture. Random large crystals (up to 0.3", which are 100% altered hematite).						
752.9		Fractures at 90° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/Zn PPM	As/Ni/Co PPM
767.7	768.3	Mudstone; interlayered glauconite and hematite - rich, very soft contacts at 75° to the core.						
769.0	769.3	Shaly sandstone; grey-green color.						
798.5		Hematite-coated fracture at 85° to the core.						
804.3	804.4	Shale; green, minor carbonate. Broken core.						
804.6	805.7	Irregular fracturing.						
808.5		Narrow shale layer at 90° to the core.						
815.0	817.0	Fracture sub-parallel to the core.						
818.4	818.8	Shale-rich horizon grading into shale chips in sandstone.						
820.7		Bedding at 80° to the core.						
823.5	848.0	Medium-grained sandstone; white to buff. No to weak hematitization. Minor shale and shale chips. Silicified, hard.						
832.0	832.8	Fracture sub-parallel to the core.						
840.3	842.9	Fracture sub-parallel to the core.						
846.4		Cross-bedding at 70° and 90° to the core.						
847.6		Coarse-grained sandstone layer.						
848.0	862.5	Medium-grained sandstone, similar to (823.5 - 848.0), buff to grey to pink in color. More clay in the cement of some sections.						
850.5	851.0	Fracture sub-parallel to the core.						
851.9	852.2	Random shale chips.						
856.0	856.2	Sandstone, with strongly hematitic cement.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/Zn PPM	As/Ni/Co PPM
861.0	861.5	Fracture sub-parallel to the core.						
862.5	897.5	Sandstone; medium-grained buff or purple-grey. Weak to no hematitization. Minor amounts of clay.						
874.2	874.4	Several large (2" long) shale chips (green with red-brown cores) immediately above a pure sandstone (upper) and clay sandstone (lower) contact at 60° to the core.						
874.4	874.6	Clay-sandstone.						
877.0	878.2	Fracture at 10° to the core.						
878.6		Shale chip; aligned at 90° to the core.						
882.4		Fracture at 35° to the core.						
886.9	887.1	Fine-grained sandstone, white, silicified, minor carbonate.						
888.3	889.0	Sandstone, fine-grained; similar to (886.9-887.1), but moderately hematitized.						
890.6	891.2	Series of fractures at 10° to 30° to the core.						
897.5	1048.2	Sandstone; medium-grained, weak to strong hematitization. Fractured for most of section. Some leached zones. Minor shale.						
897.6	899.8	Fracture sub-parallel to the core.						
898.1		Fracture at about 45° to the core.						
898.4		Random, larger grains (up to 1" long) which have been completely altered to hematite.						
907.4	907.8	Shale; banded green and purple.						
907.8	912.1	Strongly hematitized sandstone for the most part.						
908.7		Fracture at 60° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/Zn PPM	As/Ni/Co PPM
920.5	921.4	Fine-grained, clay-rich sandstone and shale (purple and green) intermixed. Strongly hematitized sandstone immediately above and below the section.						
922.1	922.8	Fractures; sub-parallel to the core.						
923.3	924.4	Fractures; sub-parallel to the core.						
928.3	929.2	Fractures; sub-parallel to the core.						
932.0	935.5	Sporadic patches of sandstone with minor carbonate in the cement surrounded by strongly hematitized rims.						
943.3	943.5	Leached zone. Yellow staining around a 2" long, completely hematitized clast aligned at 50° to the core.						
949.7	950.6	Fracture, sub-parallel to the core.						
954.1	954.2	Leached zone surrounding a 2" long shale chip.						
956.5	956.6	Hematitized shale layer at 60° to the core, surrounded by a leached zone.						
958.7	958.8	Shale, green and purple lamellae at 70° to the core.						
961.9	963.0	Fracture at 10° to the core.						
963.9	964.8	Fracture, sub-parallel to the core.						
969.4		Hematitized shale chips at 80° to the core.						
974.3	974.5	Shale chips.						
978.6	979.4	Fracture at 15° to the core.						
988.9		Bedding at 60° to the core.						
993.0	993.3	Leached patch in a moderately hematitized, medium-grained sandstone.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/Zn PPM	As/Ni/Co PPM
996.3	996.7	Fracture at 30° to the core.						
1000.8		Shale layer; grey, at 90° to the core.						
1002.7	1007.0	Fractures, sub-parallel to the core.						
1005.9	1006.1	Irregular patch of grey-green clay, with some spotty, strong hematitization. Strongly hematitized and leached sandstone patches surrounding.						
1018.6	1020.4	Strongly hematitized sandstone.						
1020.4	1024.5	Zone of mixed shales and fine-grained clay-rich sandstone. No to weak hematitization of sandstone.						
1020.7	1021.0	Shale; containing fine banding of glauconitic and hematitic shales.						
1022.5	1023.6	Fine, irregular clay layers and shale chips.						
1035.7	1037.2	Fractures; irregular, from 0° to 90° to the core.						
1039.1	1040.0	Sandstone; fine-grained, light colored.						
1039.5	1040.3	Fracture at 20° to the core.						
1041.0	1042.5	Interbanded shale and medium-grained sandstone. Shale is finely banded glauconitic and weakly hematitic layers, usually at 80° to 90° to the core. Sandstone contains some coarse-grained bands and is weakly hematitized.						
1048.2	1061.1	Intermixed sandstone, and shale. Sandstone is fine to medium-grained, weak to moderately hematitized, with poor or irregular bedding. Shale is finely, but irregularly laminated at roughly right angles to the core, between moderately hematitized, leached and glauconitic layers. Extensively fractured at 0° to 30° to the core.						
1061.1	1151.5	Sandstone; medium-grained, no to weak, widespread and strong, local hematitization. Some coarse-grained bands. Minor, grey clay layers. Extensive fracturing at 0° to 30° to the core, with accompanying leached zones. Very hard, silicified. Minor limonite or goethite along fracture surfaces.						
1076.6	1076.7	Coarse-grained layer of sandstone, bottoming on a fine clay layer.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/Zn PPM	As/Ni/Co PPM
1076.7	1077.0	Broken core.						
1077.0	1077.4	Fine-grained sandstone and shale intermixed.						
1079.0		Shale layers at 80° to the core.						
1083.1	1085.6	Fracture, sub-parallel to the core.						
1086.2	1086.3	Random shale chips.						
1100.5	1100.9	Interbanded fine-grained sandstone and shale.						
1130.4	1131.1	Interbanded, fine-grained sandstone and shale. Finely lamellar at 90° to the core.						
1133.0		Narrow, irregular clay layer at about 70° to the core.						
1137.1		Coarse-grained bed at 80° to the core.						
1138.3		Fracture at about 70° to the core; cutting fractures sub-parallel to the core.						
1151.5	1157.3	Irregularly mixed shale and fine to medium-grained sandstone. The sandstone contains some narrow, coarse-grained layers which help to determine bedding directions. No to moderate hematitization. The shale is finely, but irregularly, lamellar, at about 90° to the core, except where deformed around patches of sandstone. Shale is dominanted by moderately hematitized material, with lesser amounts of buff colored shale.						
1152.8		Cross-bedding, both at 70° to the core (40° apart).						
1157.3	1162.2	Sandstone; medium-grained, similar to (1061.1 - 1151.5), but lacking dominant fracturing from 0° to 30° to the core.						
1160.0		Fracture at 30° to the core.						
1160.2		Fracture at 80° to the core.						
1162.2	1165.3	Sandstone, fine to medium-grained, weakly hematitized, intermixed with weakly hematitized, irregular shale sections, and minor shale chips.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/Zn PPM	As/Ni/Co PPM
1165.3	1186.4	Sandstone; medium-grained, weakly hematitized, strong silification, sporadic leaching. Minor shale sections and chips. Irregular fracturing.						
1171.0	1173.1	Fractures sub-parallel to the core.						
1172.6		Shale band at 70^{o} to the core.						
1176.4	1177.2	Fracture at 0^{o} to the core. Leached zone.						
1178.0		Bedding at 80^{o} to the core.						
1186.4	1285.5	Sandstone intermixed with shale; same as (1162.2 - 1165.3).						
1189.7	1193.1	Fractures sub-parallel to the core.						
1193.1		Sandstone; similar to (1165.3 - 1186.4) but moderately hematitized.						
1197.2		Fracture at 30^{o} to the core; 0.5" leached zone.						
1204.3		Irregular, long (~2") shale chip at 75^{o} to the core.						
1205.6	1205.8	Shale; weakly hematitized. Friable at 80^{o} to 90^{o} to the core.						
1206.2	1206.8	Fracture, sub-parallel to the core.						
1214.5	1214.7	Zone of irregular fracturing.						
1221.3	1227.9	Extensive fracturing from 0^{o} to 30^{o} to the core.						
1234.7	1249.6	Core extensively fractured at all angles, dominantly $<30^{o}$.						
1239.5	1239.8	Minor shale layers.						
1295.5	1246.2	Moderately hematitized sandstone.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/Zn PPM	As/Ni/Co PPM
1248.4	1250.0	Narrow, weakly hematitized shale layers interbanded with weakly hematitized, fine to medium grained silidified sandstone at about 70° to the core.						
1250.0	1252.0	Fractures sub-parallel to the core.						
1257.0	1266.7	Irregular fractures, mostly sub-parallel to the core. Core is broken in small sections.						
1267.4	1269.3	Irregularly mixed shale and sandstone. Weak to moderate hematitization throughout.						
1271.0		Bedding at 70° to the core.						
1285.5	1304.4	Sandstone and shale intermixed. The sandstone is fine to medium-grained, weakly hematitized, silicified, and contains random shale chips, aligned at 70° to 90° to the core. The shale is irregularly banded and mottled between moderately hematitized, leached and green glauconitic matrix.						
1285.5	1285.8	Shale.						
1286.2	1287.7	Shale.						
1290.1	1290.2	Shale.						
1290.8	1291.0	Shale.						
1293.4	1294.1	Finely banded shale and sandstone.						
1294.8		Fine, hematitized bands along fractures to 80° to the core.						
1303.9	1304.4	Same as (1293.4 - 1294.1).						
1304.4	1380.0	Sandstone; medium-grained, moderately hematitized, silicified. Fractured extensively, dominantly 0° to 30° to the core from 1305.1 - 1309.6.						
1322.7	1322.9	Shale; grey, laminations at 90° to the core.						
1341.8		Bedding at 80° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/Zn PPM	As/Ni/Co PPM
1355.0	1357.8	Fractures sub-parallel to the core.						
1367.4		Clay-rich layer at 80° to the core.						
1369.4	1372.3	Spotty, moderate hematitization.						
1372.9		Bedding at 70° to the core.						
1380.0	1381.0	Coarse-grained sandstone, moderately hematitized. Minor silification, poor bedding.						
1381.0	1400.0	Sandstone; similar to (1304.4 - 1380.0) but only weakly hematitized.						
1386.5		Bedding at 90° to the core.						
1390.6	1396.6	Fracturing sub-parallel to the core.						
1400.0	1403.3	Sandstone; intermixed, moderately to strongly hematitized, coarse-grained and fine-grained sandstone. Grain size up to 0.5" in diameter. Primarily sub-rounded and sub-angular, quartz and chert; possibly some feldspar. Poor bedding.	1400.0	1401.0	17.3/1.56	-	-	-
1400.3	1401.0	#78-CS-001 2200 CPM						
1401.0	1401.8	#78-CS-002 2500 CPM		1401.8	6.6/1.24	-	-	-
1400.3	1401.8	Radioactive intersection in a coarse-grained strongly hematitized sandstone. Radioactivity is dispersed. T_1 = 4500 CPM (~4 x BG on a TV-1A 177-64) T_2 = 230 CPM T_3 = 125 CPM						
1403.3	1546.0	Sandstone; with minor shale sections. Sandstone varies from fine to coarse-grained and no to strong hematitization. Hematite and silica are the main cements. Sections, as well as fine, individual bands of buff to purple, partially hematitized shale, occur sporadically. Some sandstone-shale section are so finely banded as to appear homogeneous. Minor shale chips.						
1409.5		Fracture at 90° to the core.						
1411.5		Bedding at 70° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/Zn PPM	As/Ni/Co PPM
1413.4	1416.0	Fracturing, sub-parallel to the core.						
1417.8		Large, angular shale chip. Hematitized core.						
1420.3	1421.4	Fracturing, sub-parallel to the core.						
1424.8	1425.2	Large shale chips, at 90^{o} to the core.						
1425.2	1427.9	Irregular mixing of sandstone and shale. Primarily no to weak hematitization.						
1428.6	1429.6	Interbanding of sandstone and shale with contacts at 90^{o} to the core.						
1433.0	1433.3	Coarse-grained sandstone possibly containing some granite chips.						
1434.4	1434.7	Intermixed clay and sand.						
1434.4		Ripple marks indicating beds are right side up.						
1442.2		Bedding at 80^{o} to the core.						
1443.8	1444.0	Shale unit buff to pale brown. Silver dollar fracturing at 90^{o} to the core.						
1446.6	1447.4	Fracture at 20^{o} to the core.						
1451.4	1451.5	Shale; brown						
1455.8	1456.8	Narrow bands of grey-green shale at 90^{o} or 70^{o} to buff, fine-grained sandstone containing minor amounts of clay.						
1460.9		Coarse-grained layer at 90^{o} to the core.						
1461.8		Narrow buff shale layers.						
1484.5		Clay-filled fractures at 80^{o} to the core.						
1489.5		Clay layer, friable at 90^{o} to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/Zn PPM	As/Ni/Co PPM
1490.2	1490.6	Shale chips, buff.						
1502.0		Start of BQ core.						
1513.0		Bedding at 75° to the core.						
1522.6	1522.7	Coarse-grained sandstone layer at about 90° to the core.						
1529.8	1530.1	Coarse-grained sandstone, containing large linear shale chip aligned at 80° to the core.						
1531.4		Sporadic coarse-grained layers and individual grains. Almost all quartz. Coarse-grained sections are not as silicified as rest of sandstone.						
1540.9		Very fine clay-filled fractures at about 90° to the core.						
1546.0	1591.3	Sandstone; fine to medium-grained interspersed with small sections of coarse-grained material, no to moderate hematitization, weak to moderate silificiation; intermixed with sections of buff to purple shale, usually friable at about 90° to the core.						
1546.0	1546.2	Shale, brown.						
1555.4	1555.7	Shale; brown, friable, extensively fractured.						
1556.4	1556.5	Shale; brown-green.						
1557.3	1557.5	Sandy shale; brown, no banding.						
1560.1		Shale layer at 70° to the core.						
1563.3	1563.5	Shale; brown, broken into silver dollars.						
1571.7	1573.0	Fracture at 10° to the core.						
1578.4	1582.7	Fracture, sub-parallel to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/Zn PPM	As/Ni/Co PPM
1582.8 1583.2 1584.3	1583.0 1583.6 1584.8	Shale sections, brown, silver dollar fracturing. Partially broken. Separated by sections of coarse-grained sandstone.						
1587.7	1587.8	Shale silver dollars.						
1589.1	1589.5	Shale; brown to black, minor silver dollar fracturing, broken core.						
1591.2	1591.3	Shale; brown broken core.						
1591.3	1620.2	Sandstone; medium to coarse-grained, no to moderate hematitization, weak to moderate silicification. Very minor shale.						
1601.6		Shale chip.						
1603.3		Bedding at 70° to the core.						
1608.4		Clay-filled fracture at 90° to the core.						
1615.8		Bedding at 85° to the core.						
1620.2	1704.5	Sandstone; medium to coarse-grained, buff to grey to purple colored, weak to moderate, local hematitization; weak widespread silicification. Minor sections of buff to brown, friable shale.						
1620.2	1620.5	Shale; upper contact at 80° to the core. Gradational basal contact.						
1622.0		Shale; buff, at 90° to the core.						
1622.2		Shale; buff, at 90° to the core.						
1624.2		Shale; completely broken.						
1633.7 1636.7	1636.8	Shale chip, surrounded by a strongly hematitized sandstone rim. Clay mixed in sandstone.						
1638.0		Bedding at 70° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/Zn PPM	As/Ni/Co PPM
1643.1	1643.3	Fine clay bands in sandstone (leached).						
1644.0	1644.4	Shale layers intermixed with medium-grained sandstone. The section is leached.						
1647.3	1647.5	Shale; buff.						
1661.1	1661.6	Clay-rich sandstone, with strongly hematitized sandstone above and below.						
1664.8	1665.7	Interbanded shale and shaley sandstone; buff to red-brown, weak to moderate hematitization.						
1666.6	1667.0	Coarse-grained sandstone containing grains of granitic material.						
1672.2		Bedding at 75° to the core.						
1677.0	1677.4	Fine, hematitized clay layers interbanded with white, fine-grained sandstone.						
1682.8	1682.9	Shale, brown, finely laminated at 80° to the core.						
1682.9	1683.2	Strongly hematitized, crumbly, coarse-grained sandstone.						
1687.2	1688.2	Alternating bands of weakly and moderately hematitized fine-grained sandstone. Narrow, clay bands at 80° to 90° to the core.						
1694.2		Bedding at 80° to the core.						
1704.5	1737.3	Shaly sandstone; fine-grained, buff to purple-grey color. Some coarse-grained material.						
1723.8	1724.1	Shale; red-brown, moderately hematitized.						
1724.2	1724.3	Shale intermixed with layers of fine-grained sandstone.						
1724.7	1725.0	Sandstone containing minor amounts of clay.						
1730.7	1731.3	Shale; red-brown to purple containing narrow layers of buff, fine-grained sandstone at 90° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/Zn PPM	As/Ni/Co PPM
1733.0	1733.5	Shale and sandstone; similar to (1730.7 - 1731.3) but contained layers of moderately hematitized, coarse-grained sandstone.						
1734.0	1737.3	Banded, weakly and strongly hematitized, coarse-grained sandstone.						
1737.3	1836.0	Sandstone; comprised of gradational sections of medium-grained unhematitized sandstone and weakly hematitized coarse-grained sandstone. The coarse-grained sandstone contains mafic and feldspar grains as well as quartz.						
1771.9	1777.2	Sandstone; coarse-grained, moderately hematitized, vuggy, porous looking. Some hematite cement.						
1781.0	1781.5	Sandstone; same as (1771.9 - 1777.2).						
1788.4		Two 1" diameter sub-angular quartzite pebbles in coarse-grained sandstone.						
1794.9	1797.6	Sandstone, grey-black. Vuggy, porous appearance.						
1815.0	1817.3	Pebble conglomerate; pebbles of quartzite in a coarse-grained sandstone matrix. Slightly vuggy texture.						
1826.0		Bedding at 80° to the core.						
1836.0	2914.1	Random; single or small groups of pebbles, up to 1" in diameter. Dominantly sub-rounded to sub-angular quartz and quartzite with lesser amounts of granite and mafic material. Found in a coarse-grained white to grey-purple, no to strongly hematitized sandstone. Weakly silicified. Minor sections of fine to medium-grained unhematitized sandstone.						
1844.2		Bedding at 90° to the core.						
1853.5		Hematite-filled fractures at 90° to the core.						
1867.1	1867.6	Fine-grained, unhematitized sandstone.						
1871.2	1871.9	Shale; buff, finely lamellar grading into shale intermixed with fine-grained sandstone. Sharp contact with underlying, strongly hematitized, coarse-grained sandstone.						
1878.5	1890.0	Series of unhematitized fine to medium-grained sandstone, usually 6" to 1' wide, interbanded with moderately hematitized coarse-grained sandstone.						
1891.0		Large quartzite pebble >2" diameter.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/As/Ni/Zn PPM	Co PPM
1899.8	1928.0	Sandstone, similar to (1878.5 - 1890.0).						
1923.9	1924.1	Sandstone; buff, fine-grained.						
1924.9	1925.1	Sandstone; pink, fine-grained.						
1928.0	1990.5	Sandstone; coarse-grained, containing pebbles up to 2" in diameter of quartzite with minor amounts of granitic and mafic material. Pebbles are dominantly sub-rounded to sub-angular. The rock is weakly to strongly hematitized except in minor, fine-grained sections, where it is not hematitized. The rock generally has a vuggy appearance and the cement is dominantly silicic and hematitic.						
1939.2	1939.8	Sandstone; medium-grained, unhematitized.						
1944.3	1944.7	Sandstone; same as (1939.2 - 1939.8).						
1948.4	1948.9	Sandstone; same as (1939.2 - 1939.8).						
1952.9	1953.5	Sandstone; same as (1939.2 - 1939.8).						
1957.0	1962.0	Patches of weakly hematitized sandstone intermixed with moderately hematitized sandstone.						
1974.3	1975.2	Sandstone; intermixed medium and coarse-grained material.						
1978.3	1978.7	Sandstone; medium-grained unhematitized.						
1983.0	1983.1	Sandstone; pink, fine-grained, weakly hematitized.						
1990.5	2051.1	Sandstone; similar to (1928.0 - 1990.5), but containing more fine to medium-grained, buff to pink, unhematitized patches and bands of sandstone. Very minor carbonate sporadically in the sandstone.						
1999.5		Bedding at 90^{o} to the core.						
2012.4		Elongate pebble of chlorite schist at 80^{o} to the core.						
2017.2	2017.6	Conglomerate; dominantly quartzite pebbles, unhematitized.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/Zn PPM	As/Ni/Co PPM
2051.1	2137.0	Sandstone; similar to (1990.5 - 2051.1), but buff to pink sections also includes some coarse-grained material, as well as containing irregular, patchy or banded hematitization of varying degrees.						
2069.3	2071.1	Fine-grained sandstone.						
2078.8	2079.8	Fracture at 10° to the core.						
2083.9		Narrow clay bands at about 90° to the core, separating a coarse-grained hematitized sandstone from a fine-grained unhematitized sandstone.						
2084.0	2084.4	Conglomerate; quartzite pebbles, up to 2.5" in diameter in a coarse-grained, weakly hematitized, sandstone matrix.						
2094.5		Strongly hematitized, red-brown, medium-grained sandstone at 80° to the core.						
2094.6	2095.7	Buff-grey, fine-grained sandstone.						
2102.0	2102.3	Quartzite pebble.						
2105.5		Fracture at 80° to the core. Strongly hematitized on both sides.						
2120.0		Bedding at 80° to the core.						
2128.9	2138.8	Mottled leaching and hematitization, "Leopard spots", in a medium-grained sandstone.						
2137.0	2218.2	Sandstone; medium-grained, no to moderate hematitization, either patchy or in bands. Minor fine or coarse-grained sections. Sporadic quartzite and granitic pebbles throughout. Silicic and hematitic cements, minor carbonate. Vuggy appearance to coarse-grained sections.						
2159.6		Bedding at 85° to the core.						
2167.4	2167.5	Green clay layers, both above and below a fine-grained, unhematitized sandstone layer.						
2186.5	2187.5	Fine-grained sandstone.						
2195.8		Buff-colored, shale layer at about 90° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/As/Ni/ Zn PPM	Co PPM
2215.7		Bedding at 90° to the core.						
2218.2	2332.3	Sandstone; coarse-grained, weak, widespread hematitization. Minor, medium-grained sections, some not hematitized. Sporadic quartzite pebbles. Weakly cemented, vuggy texture.						
2236.2	2237.0	Fine-grained, unhematitized sandstone.						
2237.1		Irregular, mica-rich layer at about 80° to the core.						
2238.5	2239.2	Fine-grained, unhematitized sandstone.						
2248.8		Strongly hematitized fracture at 90° to the core.						
2256.4	2256.9	Fine-grained, unhematitized sandstone.						
2258.1	2259.1	Fine-grained, unhematitized sandstone.						
2260.1		Strongly hematitized zone.						
2260.3	2262.5	Micaceous material mixed in with quartz grains of a coarse-grained greywacke.						
2271.1	2277.0	Interbanded fine and coarse-grained sandstone, which is not and weakly hematitized, respectively.						
2274.5		Layer of large quartzite to pebbles at 90° to the core.						
2282.1		Elongate pebble of strongly hematitized, micaceous schist.						
2288.7	2289.3	White, unhematitized fine-grained sandstone.						
2293.0		Large pebble of chloritized granite in a fine-grained sandstone.						
2309.5		Bedding at 70° to the core.						
2320.3	2320.6	Series of fractures at 80° to 90° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/Zn PPM	As/Ni/Co PPM
2323.9		Irregular fracture at about 70° to the core, hematite-filled.						
2329.1		Fractures, hematite-filled at about 90° to the core.						
2329.7		Fractures, hematite-filled at about 90° to the core.						
2330.5		Fractures, hematite-filled at about 90° to the core.						
2332.3	2389.5	Sandstone; intermixed fine to coarse-grained, no to weak widespread, to locally moderate hematitization. Contains pebbles of quartzite and granite. Weakly cemented by varying amounts of silica, hematite and clay.						
2335.2	2335.5	Fracture, sub-parallel to the core.						
2345.3		Fracture at 45° to the core.						
2358.3	2358.9	Narrow (<0.1" wide) bands at 80° to 90° to the core containing small flakes of biotite.						
2371.4	2376.1	Coarse-grained sandstone section containing quartzite pebbles up to 2" in diameter.						
2380.0		Strongly hematitized fracture at 90° to the core.						
2381.9		Strongly hematitized pebble of unknown origin.						
2386.7		Strongly hematitized band in a small section of feldspar and quartz sandstone.						
2389.5	2564.0	Sandstone; similar to (2332.3 - 2389.5) but quartz grains no longer as dominant, particularly in the finer-grained material. Feldspar up to 75%, mafics and mica up to 10%, locally.						
2395.1		Large, rounded granite pebble.						
2407.3		Large, rounded pebble of strongly hematitized, possibly fine-grained sandstone.						
2408.0	2411.0	Very coarse-grained sandstone; moderately hematitized.						
2418.5		Bedding at 90° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/Zn PPM	As/Ni/Co PPM
2427.9		Bedding at 90° to the core.						
2431.7		Euhedral hematitic crystals in a vug in a 1.5" diameter quartzite pebble.						
2438.1	2439.3	Fine-grained, unhematitized sandstone.						
2459.9	2460.8	Coarse-grained sandstone in a specularite hematite cement.						
2474.2		Bedding at 85° to the core.						
2494.4	2496.0	Fine-grained, unhematitized sandstone dominated by white and pink feldspar. Minor mafics.						
2497.3	2497.5	Irregular, angular pebbles of a strongly hematitized and chloritized schist.						
2498.1		Bedding at 80° to the core.						
2502.4		Strongly hematitized fracture at 90° to the core.						
2511.5		Fracture at 90° to the core, containing clay and carbonate mixture.						
2515.0	2516.2	Fine to medium-grained, feldspathic sandstone.						
2535.5	2536.1	Fine-grained, unhematitized feldspathic sandstone.						
2546.5	2548.1	Sandstone; same as (2535.5 - 2536.1).						
2555.6	2555.7	Fine-grained, strongly hematitized sandstone layer. Top contact at 70° to the core, basal contact at 90° to the core.						
2561.0		Magnetite and hematite inclusions in and around a pebble of banded gneiss.						
2564.0	2832.7	Coarse-grained, feldspathic sandstone containing pebbles of quartzite and mafic gneiss. Minor fine-grained sections. No to weak, widespread hematitization.						
2589.8		Fine-grained section of sandstone.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/Zn PPM	As/Ni/Co PPM
2590.0		Bedding at 90° to the core.						
2603.8	2605.8	Fine-grained, unhematitized sandstone containing rounded pebbles of quartzite.						
2607.0	2607.4	Fracture sub-parallel to the core.						
2608.6		Bedding at 80° to the core.						
2611.4	2612.8	Medium-grained, unhematitized sandstone.						
2619.8		Strongly hematitized, micaceous layer or pebble.						
2623.1		Large pebble of earthy hematite possibly regolith, with several quartzite pebbles.						
2631.9		Bedding at 85° to the core.						
2649.5		Strongly hematitized fracture at 85° to the core.						
2655.1	2655.2	Narrow section of moderately hematitized coarse-grained sandstone.						
2660.5	2661.3	Fracture sub-parallel to the core.						
2669.3		Moderately hematitized zone at the intersection between zones of no and weak hematitization.						
2688.0	2688.1	Lamellar, clay-rich section, strongly hematitized. Contacts at 80° to the core.						
2688.9	2689.5	Narrow, strongly hematitized bands in the sandstone, containing minor amounts of specularite.						
2711.4	2711.7	Fine-grained, unhematitized section.						
2714.0	2714.4	Fine-grained, unhematitized section.						
2721.7		Bedding at 70° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/Zn PPM	As/Ni/Co PPM
2726.5	2727.6	Several large rounded (up to 4" in diameter) pebbles of strongly hematitized, fine-grained sandstone.						
2745.5	2746.5	Conglomerate; dominantly small pebbles of quartzite and granite in a coarse-grained sandstone.						
2749.0	2751.2	Zone of rounded quartzite pebbles and cobbles.						
2755.4	2756.2	Medium-grained, unhematitized sandstone.						
2760.6	2760.8	Fine-grained, strongly hematitized earthy layer, possibly an old weathering zone.						
2762.0		Red-brown, hematitic, earthy pebbles become more observable, either as rounded or tabular bodies.						
2773.9	2774.3	Pebbles of quartzite, carbonate-feldspar schist and mafic gneiss in a coarse-grained sandstone.						
2775.7		Layer of carbonatized feldspar, weakly chloritized at 85° to the core.						
2776.0	2776.5	Several rounded quartzite cobbles.						
2778.5		Bedding at 90° to the core.						
2790.6		Hematite-headed fracture at 80° to the core.						
2804.7	2804.9	Fine bands of moderately hematitized material at 90° to the core.						
2816.9	2817.0	Partially broken core.						
2823.0		Rounded pebbles of bull quartz, moderately hematitized along fracture planes.						
2832.7	2914.1	Conglomerate, intermixed with sections of coarse-grained sandstone containing sporadic pebbles and cobbles. Round, white to orange quartzite, along with sub-angular to angular bull quartz and red-brown moderately hematitized regolith dominate the pebble types. The sandstone host is vuggy and porous.						
2867.0		Partially broken core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS
2872.2	2872.4	Bands of fine-grained, moderately hematitized material at about 90° to the core.
2914.1	2936.7	REGOLITH
		COLOR: Red-brown, buff and blue-grey
		HARDNESS: 3.5 - 5.5
		DESCRIPTION: This unit is composed of extensively altered material, to such a degree, that the origin is mostly masked. Small sections of coarse-grained sandstone can still be observed in the regolith which are cut by numerous chlorite and hematite bands. Occasional, fractured boulders of quartz or quartzite can be found also.
		The bulk of the regolith is comprised of irregular bands and patches of moderately hematitized and chloritized material, which is very fine-grained and has a semi-vitreous lustre. on cleavage surfaces. Sporadic feldspar and quartz grains, possibly remnants of the sandstone, are found throughout.
		The regolith grades into a highly, altered basement which makes for difficulty in pinpointing a contact.
		COMPOSITION: Hematite 50% Chlorite 15% Feldspar 15% Quartz 10% Kaolinite Trace Pyrite Trace Mafic - Amphibole 10%
		ALTERATION: Most of the unit is altered. The mafic grains are altering to chlorite and/or hematite. The hematite and chlorite straining also affects the feldspar, some of which are partially kaolinitized. Generally, there is weak to moderate, widespread hematitization, and weak, widespread chloritization.
		RADIOACTIVITY: 2930.7 - 2931.5 2000 CPM
		CORE: No broken or ground core. Fracturing varies from 30° to 90° to the core.
2914.1	2917.0	Banding, some remnant sandstone sections.
2923.4	2927.8	Remnant sandstone sections.
2936.7	3017.0	MIGMATITE
		COLOR: Green-grey and white; minor red-brown and buff

FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/Zn PPM	As/Ni/Co PPM
2914.0	2915.0	2.6/	.005/.016	2/4/3	0/17/-
	2916.0	1.4/	Tr/0	1/2/2	0/12/-
	2917.0	1.8/	.005/.016	2/2/3	0/24/-
	2918.0	2.2/	.005/.016	2/3/4	0/81/-
	2919.0	1.8/	.010/.016	1/2/3	0/69/-
	2920.0	1.6/	.080/.016	1/2/4	0/84/-
	2921.0	1.8/	Tr/.016	2/2/3	0/41/-
	2922.0	2.4/	Tr/.016	2/2/3	0/54/-
	2923.0	1.8/	Tr/.016	2/3/4	0/60/-
	2924.0	2.0/	.020/.016	2/2/3	0/51/-
	2925.0	1.4/	.010/.016	2/3/3	0/63/-
	2926.0	1.4/	.010/.016	2/3/6	0/56/-
	2927.0	1.6/	Tr/.016	2/2/5	0/45/-
	2928.0	2.4/	.010/.016	2/2/8	0/43/-
	2930.0	2.4/	Tr/.016	2/3/22	0/75/-
	2932.0	2.2/	Tr/.016	2/3/40	1.1/85/-
	2933.0	2.6/	Tr/.016	2/3/92	0/112/-
	2934.0	2.8/	Tr/.016	2/3/64	0/79/-
	2935.0	2.4/	Tr/.016	2/8/42	0/60/-
	2936.0	2.8/	Tr/.016	2/8/54	0/59/-
2930.7	2931.5	4.3/25	-	-	-

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS

HARDNESS: 3.5 - 6.0

DESCRIPTION: This unit is comprised primarily of quartz and multi-colored feldspar, both in fine-grained, banded sections, and coarse-grained, massive sections. The fine-grained sections are usually grey-green, banded and primarily composed of feldspar, quartz, chlorite and mafics. The chlorite alters both the mafics and feldspar. Occasional pink-purple garnets also occur in these sections. The coarse-grained sections are massive and dominated by large crystals of quartz and feldspar, some of the latter are green-colored by chloritization. There is minor amounts of mafics.

The core, as a whole, is extensively fractured at all angles from 0° to 90°. Fractures cut each other, with no defined offset pattern. Feldspathization, along with sulphides occur in the vicinity of these fractures.

Sulphides, primarily pyrite, with minor amounts of chalcopyrite and bornite are found in narrow veinlets (0.1" wide) pods and dissiminated throughout the fine-grained, banded material.

Hematitization is limited to the upper, altered part of the basement.

COMPOSITION:

Quartz	15%
Feldspar	60%
Chlorite	15%
Mafics (Fine-grained, probably amphibole primary)	9%
Garnet	Trace
Sulphides (Pyrite, chalcopyrite, bornite)	1%
Hematite	Trace
Kaolinite	Trace

ALTERATION: Weak, localized hematitization and kaolinitization in the upper few feet of the unit. A widespread lower greenschist metamorphism appears prominantly in the unit (garnet-chlorite-feldspar-quartz). Relatively unaltered, coarsely-crystaline zones appear to be either metasomatic or igneous sections, thus the term migmatite. Weak to moderate, widespread chloritization associated with the metamorphism. Feldspathization and chloritization occur in conjuncture with the fractures.

RADIOACTIVITY:
2943.0 - 2944.0 2400 CPM
2944.0 - 2945.0 4200 CPM

CORE: No broken or ground core. Fracturing occurs from 0° to 90° to the core.

FROM	TO	REMARKS
2936.7	2945.2	Altered migmatite; both fine and coarsely crystalized sections. Weak hematitization and kaolinitization. Almost no sulphides. Very extensively fractured, gritty to the feel (like sandstone), possibly catoclastic.
2945.2	2953.7	Fine crystals; banding varying from none to moderate at 30° to 60° to the core. Garnets up to 1" in diameter, containing fine crystals of pyrite and other minerals. Eratic fracturing, usually sulphide-filled, as well as dissiminated sulphides.

FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/Zn PPM	As/Ni/Co PPM
	2937.0	1.6/	Tr/.016	2/10/76	0.9/67/-
	2938.0	1.4/	Tr/.016	2/8/90	0/63/-
	2939.0	1.0/	Tr/.016	2/3/60	245/59/-
	2940.0	0.8/	Tr/.016	4/2/62	2.1/58/-
	2941.0	2.4/	Tr/.016	5/2/54	0/63/-
	2942.0	13.0/	Tr/.016	3/2/46	0/50/-
	2943.0	2.6/	Tr/.016	1/1/22	0/36/-
2946.0	2947.0	1.0/	Tr/.032	11/12/26	420/50/-
2948.0	2949.0	0.6/	Tr/.016	4/2/16	24.0/26/-
2950.0	2951.0	0.4/	Tr/.032	7/3/32	2.1/28/-
2954.0	2955.0	1.4/	Tr/.016	11/2/7	0/8/-
2958.0	2959.0	0.6/	Tr/.016	7/1/4	1.6/5/-
2960.0	2961.0	1.2/	Tr/.016	12/1/8	2.1/9/-
2962.0	2963.0	1.0/	Tr/0	6/2/12	2.8/12/-
2964.0	2965.0	1.4/	Tr/.016	17/2/16	4.7/14/-
2966.0	2967.0	0.6/	Tr/.016	14/2/16	2.3/19/-
2968.0	2969.0	0.8/	Tr/.016	17/3/18	0.9/22/-
2974.0	2975.0	0.8/	Tr/.016	23/3/20	1.9/20/-
2976.0	2977.0	0.8/	Tr/.016	10/2/18	2.3/15/-
2980.0	2981.0	0.2/	Tr/.016	18/6/26	1.2/25/-
2943.0	2944.0	31.7/16	-	-	-
	2945.0	108/28	-	-	-
2951.7	2952.4	44.9/	Tr/.12	50/Tr/100	Tr/-/100

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS
2953.7	2960.7	Coarsely crystalline, subhedral migmatite. Igneous intrusive in appearance; quartz monzonite. Numerous sulphide-filled fractures.
2960.7	2975.0	Finely crystalline zone; similar to (2945.2 - 2953.7), but containing small patches (<6" long) of coarsely crystalline material. Secondary chloritization in zones of numerous convergent fractures.
2963.4	2963.9	Small vugs along a fracture at 30° to the core, containing a minor amount of carbonate.
2975.0	2977.7	Section of banded fine and coarsely crystalline material. Both gradational, and sharp contacts.
2977.7	3007.0	Finely crystalline material; same as (2960.7 - 2975.0)
2980.4	2980.8	Zone of large garnet crystals.
3007.0	3010.0	Coarsely crystalline material; same as (2953.7 - 2960.7).
3010.0	3017.0	Fine to medium crystal size; grey-green in color, extensively fractured sub-parallel to the core.

FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/Zn PPM	As/Ni/Co PPM
2956.0	2957.0	38.7/	Tr/.06	50/Tr/50	Tr/-/50
2972.0	2973.0	24.7/	Tr/.18	50/Tr/100	Tr/-/100
2978.0	2979.0	26.7/	Tr/.26	50/Tr/100	Tr/-/100
2992.0	2993.0	26.7/	Tr/.10	50/Tr/50	Tr/-/100
3004.0	3005.0	13.8/	Tr/.20	100/Tr/100	Tr/-/200
2980.0	2981.0	0.2/	Tr/.016	18/6/26	1.2/25/-
2982.0	2983.0	0.4/	Tr/.016	4/4/12	3.3/17/-
2984.0	2985.0	1.0/	Tr/.016	5/5/12	0.7/15/-
2986.0	2987.0	0.6/	Tr/.016	3/4/8	2.6/12/-
2989.0	2989.0	0.6/	Tr/.016	5/6/8	1.9/11/-
2990.0	2991.0	1.0/	Tr/.016	10/4/8	1.2/13/-
2994.0	2995.0	1.0/	Tr/.016	10/4/8	0.5/23/-
2996.0	2997.0	1.0/	Tr/.016	3/4/10	2.4/15/-
2998.0	2999.0	0.4/	Tr/.016	8/4/12	1.9/18/-
3000.0	3001.0	0.6/	Tr/.016	13/6/12	0.7/18/-
3002.0	3003.0	0.4/	Tr/.016	51/10/30	0/33/-
3006.0	3007.0	0.4/	Tr/.016	27/6/22	0/24/-

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-003

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Au/Ag Oz/Ton	Cu/Pb/Zn PPM	As/Ni/Co PPM
			3008.0	3009.0	0.4/	Tr/.016	3/6/10	1.9/29/-
			3010.0	3011.0	1.0/	Tr/.016	4/4/17	1.4/11/-
			3012.0	3013.0	1.0/	Tr/.016	5/4/14	2.9/11/-

SAMPLES

NUMBER	FOOTAGE	FOR/COUNTS
78-CS-001	1400.3 - 1401.0	U,Th / 2200 CPM
78-CS-002	1401.0 - 1401.8	U,Th / 2500 CPM
78-CS-003	2930.7 - 2931.5	U,Th / 2000 CPM
78-CS-004	2943.0 - 2944.0	U,Th / 2400 CPM
78-CS-005	2944.0 - 2945.0	U,Th / 4200 CPM
78-CS-006	2951.7 - 2952.4	Au, Ag, Cu, Pb, Zn, Co, As, U_3O_8
78-CS-007	2956.0 - 2957.0	Au, Ag, Cu, Pb, Zn, Co, As, U_3O_8
78-CS-008	2972.0 - 2973.0	Au, Ag, Cu, Pb, Zn, Co, As, U_3O_8
78-CS-009	2978.0 - 2979.0	Au, Ag, Cu, Pb, Zn, Co, As, U_3O_8
78-CS-010	2992.0 - 2993.0	Au, Ag, Cu, Pb, Zn, Co, As, U_3O_8
78-CS-011	3004.0 - 3005.0	Au, Ag, Cu, Pb, Zn, Co, As, U_3O_8
78-CS-012	2914.0 - 2915.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-013	2916.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-014	2917.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-015	2918.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-016	2919.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-017	2920.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-018	2921.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-019	2922.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-020	2923.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-021	2924.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-022	2925.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-023	2926.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-024	2927.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-025	2928.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-026	2928.0 - 2930.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-027	2930.0 - 2932.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-028	2932.0 - 2933.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-029	2934.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-030	2935.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-031	2936.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-032	2937.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-033	2938.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-034	2939.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8

/2

NUMBER	FOOTAGE	FOR/COUNTS
78-CS-035	2940.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-036	2941.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-037	2942.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-038	2943.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-039	2946.0 - 2947.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-040	2948.0 - 2949.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-041	2950.0 - 2951.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-042	2954.0 - 2955.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-043	2958.0 - 2959.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-044	2960.0 - 2961.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-045	2962.0 - 2963.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-046	2964.0 - 2965.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-047	2966.0 - 2967.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-048	2968.0 - 2969.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-049	2974.0 - 2975.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-050	2976.0 - 2977.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-051	2980.0 - 2981.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-052	2982.0 - 2983.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-053	2984.0 - 2985.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-054	2986.0 - 2987.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-055	2988.0 - 2989.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-056	2990.0 - 2991.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-057	2994.0 - 2995.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-058	2996.0 - 2997.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-059	2998.0 - 2999.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-060	3000.0 - 3001.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-061	3002.0 - 3003.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-062	3006.0 - 3007.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-063	3008.0 - 3009.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-064	3010.0 - 3011.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8
78-CS-065	3012.0 - 3013.0	Ni, Au, Ag, Cu, Pb, Zn, As, U_3O_8

DIP TEST

FROM	TO	TOTAL	ANGLE	CORR.	HOR.	CUMM.	VERT.	CUMM.
0	500	500	89°	89°	8.7	8.7	499.9	499.9
500	1000	500	89.5°	89.5°	4.4	13.1	500.0	999.9
1000	1500	500	88°	88°	17.4	30.5	499.7	1499.6
1500	2000	500	89°	89°	8.7	39.2	499.9	1999.5
2000	2500	500	89°	89°	8.7	47.9	499.9	2499.4
2500	3000	500	89°	89°	8.7	56.6	499.9	2999.3
3000	3500	500	89°	89°	8.7	65.3	499.9	3499.2
3500	4118	618	89°	89°	10.8	76.1	617.9	4117.1

DIAMOND DRILL CORE LOG

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

PROJECT: Lake Athabasca Joint Venture

LOCATION	Northeastern Alberta	HOLE NO.	78-LAJV-004
LATITUDE		LENGTH	4118'
LONGITUDE		AZIMUTH	———
ELEVATION		DIP	90°
CONTRACTOR	Midwest Drilling	PURPOSE	Obtain stratigraphic
CORE	HQ, NQ, BQ		information about the
STORAGE	Field		Athabasca Basin
PHOTOGRAPHED	———	COMMENCED	30/07/78
SEALED	No	COMPLETED	28/08/78
CASING	10'	LOGGED	W.E. Nelson

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au Ag PPM/Oz/T	Mg/Ca/Al PPM
0.0	12.0	CASING						
12.0	4118.0	ATHABASCA FORMATION: Sandstone, Shale and Conglomerate.						

COLOR: White to pink to dark purple, some grey and green.

HARDNESS: 3.5 to 6.5.

DESCRIPTION: The unit is comprised primarily of a white or buff to purple, no to weakly hematitized, medium-grained sandstone. Variations occur with depth in the grain size. The upper part of the unit is fine to medium-grained, becoming progressively coarser-grained with depth. Local variations occur in color and in hematitization, which may be moderate or strong for some small sections or along some fractures. Bedding is for the most part good, varying from 70° to 90° to the core.

Minor shale sections exist throughout the unit, usually less than ten feet in thickness. The shale sections come in three colors, or combinations thereof; purple-hematitic, green-glauconitic or chloritic and buff, unaltered material. The thickness of the shale bands decreases with depth until they are fine, clay bands, less than one tenth of an inch thick in the conglomerate sections.

Pebbles become noticeable in size and numbers at about 3200 feet. Small sections of conglomerate exist from there to the base of the hole, becoming larger and more numerous with depth. Pebbles, and some cobbles, of quartz-feldspar (granites and leucocratic gneisses) and quartz dominate the types, with minor amounts of mafic gneiss and regolith-like material.

An extensive zone of fracturing exists from 1000' to 1900'. This is associated with two or more steeply dipping faults found at about 1490' and 1620'. Sulphide mineralization dominantly galena and sphalerite, are found in the fractures for several hundred feet around the faults, starting at about 1400'. Sulphides also occur disseminated throughout the sandstone to much greater depths than the fracturing, but have died out by the time the pebbles appear.

COMPOSITION:

Quartz	60%
Feldspar	30%
Hematite	5%
Mica	Trace
Mafics	Trace
Clays	4%
Sulphides	Trace
Pebbles	1%

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au Ag PPM/Oz/T	Mg/Ca/Al PPM
		ALTERATION: No to weak, widespread hematitization, moderate to strong, locally. Weak glauconitization and/or chloritization, locally in shales. Remobilized galena and sphalerite along steeply dipping fractures in part of the core.						
		RADIOACTIVITY: 2890.0 - 2891.0 1500 CPM TV-1A 3323.0 - 3324.0 1500 CPM TV-1A 3632.0 - 3633.0 1500 CPM TV-1A 3663.0 - 3664.0 1200 CPM TV-1A 3669.0 - 3670.0 1500 CPM TV-1A 3972.0 - 3973.0 1400 CPM TV-1A						
		CORE: Overall, minor broken and ground core, except in a section from 1500' to 1900' where most of the core is broken. Fracturing is dominantly from 0^{o} to 30^{o} and 80^{o} to 90^{o}. Lesser amounts fractured at angles in between.						
12.0	35.5	Sandstone; white, fine to medium-grained beds, well-bedded, and some cross-bedding. Primarily quartz, minor feldspar in a silicic dominated cement. Minor clay and coarse-grained material. No hematitization, possibly leached.						
13.7		Cross-bedding, at 90^{o} and 60^{o} to the core.						
25.3	26.4	Series of fractures at about 30^{o} to the core.						
31.2		Bedding at about 90^{o} to the core.						
35.5	47.0	Sandstone; fine to medium-grained, white, minor purple, no to weak hematitization. Bands of buff, green or pink mudstone or shale intermixed with sandstone. Extensive fracturing, dominantly 30^{o} or less to the core.						
35.5	35.8	Mudstone; buff to pink, intermixed with fine-grained sand. Very soft.						
35.8	41.0	Random fractures at less than 30^{o} to the core.						
40.0		Bedding at 90^{o} to the core.						
40.7	47.0	Weakly hematitized solution banding.						
46.6	47.8	Fracture at 20^{o} to the core.						
47.0	103.4	Sandstone; similar to (12.0-35.5) but with more clay-rich bands.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM/Oz/T	Mg/Ca/Al PPM
57.8		Cross-bedding, at 90° and 70° to the core.						
61.0		Bedding at 70° to the core.						
65.1	65.9	Fracture sub-parallel to the core.						
65.9	66.4	Interbanded clay-rich and weakly hematitized sandstone.						
73.0		Clay-rich band at 85° to the core.						
75.0	79.0	Extensive fracturing from 20° to 45° to the core.						
96.6	98.5	Irregular clay-rich layers.						
102.5	102.7	Clay-filled fractures at about 90° to the core.						
103.4	108.1	Fine to medium-grained sandstone dominantly white-buff, unhematitized. Contains bands oblique to the bedding, weakly hematitized. Also clay-rich bands parallel to the bedding. Bedding at 70° to 90° to the core.						
108.1	127.5	Sandstone; similar to (12.0 - 35.5).						
114.0	116.5	Fractures sub-parallel to the core.						
127.5	136.0	Sandstone; fine to medium-grained containing minor coarse-grained sections. Bands of weak to moderate hematitization. Clay-rich, as well as shale and mudstone sections.						
128.1	128.8	Weak to moderately hematitized sandstone.						
129.0	130.5	Clay-rich section, containing a 1.J" grey band of shale.						
133.4	133.8	Shale; grey-green, friable at 90° to the core.						
136.0	443.1	Sandstone; similar to (127.5-136.0), but almost no hematitization. Minor shale chips.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM/Oz/T	Mg/Ca/Al PPM
140.7		Shale layer at 80° to the core.						
142.9		Shale chips, angular, grey-green.						
156.7	173.0	Increase in hematitization, purple in color.						
163.1	163.3	Shale chips; grey-green.						
169.9		Fractures sub-parallel to the core. Carbonate filled.						
173.8	174.5	Fracture at 20° to the core.						
179.5		Shale chips, small, aligned at 90° to the core.						
184.4	187.0	Fractures, sub-parallel to the core.						
187.4		Bedding at 75° to the core.						
191.3	191.8	Weakly hematitized.						
200.4	201.0	Clay-rich zone.						
202.8	207.4	Interbanded grey-green shale, clay-rich sandstone and medium to coarse-grained, weak to moderately hematitized sandstone.						
203.7	204.0	Red siderite ($FeCO_3$) cement for medium-grained sandstone, above a 1" shale layer.						
226.5	238.5	Section; similar to (202.8 - 207.4) but with stronger overall hematitization.						
228.9	229.1	Irregular; clay-filled fractures.						
229.1	229.3	Carbonate in matrix of a coarse-grained layer.						
248.9	258.7	Weakly hematitized sandstone interbanded with unhematitized material. Minor shale chips.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM/ Oz/T	Mg/Ca/Al PPM
251.5		Small quartz pebble.						
252.8	253.6	Shale chips, hematitized cores.						
268.2		Bedding at 85° to the core.						
270.0		Chloritized fracture at 30° to the core.						
287.3		Bedding at 80° to the core.						
287.7	303.0	Clay-rich layers, mostly 0.1" or less.						
296.0		Bedding at 70° to the core.						
307.8		Bedding at 70° to the core.						
324.3	324.5	Coarse-grained sandstone.						
336.8		Clay-filled fracture at 60° to the core.						
342.4		Clay-rich zone.						
345.9		Bedding at 80° to the core.						
357.0	357.2	Irregular grey-green shale layer containing clasts of the surrounding sandstone.						
357.5	359.9	Coarse-grains of quartz , amphibole and sulphides disseminated throughout a medium-grained unhematitized sandstone. Fractured sub-parallel to the core.						
359.9	360.3	Clay-rich zone.						
365.0	368.7	Fractures sub-parallel to the core.						
372.5		Sandstone becomes more powdery, poorer cement.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Cu PPM	Pb/Zn/Ni/Co/Mg/Ca/ Sb/Au/ Ag PPM/ Oz/T	Al PPM
375.2		Broken and ground core.						
376.0		Bedding at 70° to the core.						
387.7		Large shale chip, greater than 2.0" diameter. Coarse-grained sandstone layer above.						
388.5	391.2	Irregular fractures, at all angles to the core.						
398.5	400.8	Clay bands (< 0.1" wide) at 90° to the core.						
405.7		Bedding at 85° to the core.						
416.2	416.9	Fracture sub-parallel to the core.						
416.7	418.7	Clay-filled fracture sub-parallel to the core.						
428.7	429.3	Fracture sub-parallel to the core.						
443.1	474.3	Irregular bands and patches of weak hematitization in a medium-grained sandstone, grading to a zone of continuous hematitization.						
470.8		Large, strongly hematitized shale chip underlain by coarse-grained material.						
472.6		Bedding at 70° to the core.						
474.3	481.6	Zone dominated by grey-green and purple shale, and grey shaly sandstone. Minor amounts of moderately hematitized sandstone. Contacts between zones of hematitization, chloritization or glauconitization are irregular and in places patchy. Most fracturing occurs at 80° to 90° to the core.						
481.6	540.1	Sandstone; similar to (443.1 - 474.3) but containing zones of clay cement and minor chlorite.						
486.5	488.1	Chlorite and clay in bands at 70° to the core.						
489.5	490.5	Fracture sub-parallel to the core bottoming on a fracture at 80° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM/Oz/T	Mg/Ca/Al PPM
508.5	509.5	Clay in cement of fine-grained sandstone.						
513.5		Broken core.						
515.5		Clay-filled fracture at 90° to the core.						
530.8	531.3	Clay-rich section.						
538.7	540.1	Shale; green, grading into a grey-green sandy shale.						
540.1	548.9	Sandstone; primarily medium-grained, minor clay bands and cement, weak to no hematitization.						
545.0		Bedding at 80° to the core.						
548.9	550.5	Shale; both moderately hematitized, purple and glauconitized, green; irregular contacts. Some silver dollar fracturing at 90° to the core.						
551.2	551.8	Sandy shale.						
567.3		Clay in fractures at about 90° to the core.						
577.4	582.1	Weak to moderately hematitized, fine-grained sandstone, cut by clay-rich leached fractures at about 90° to the core.						
591.0	662.0	Sandstone, same as (577.4-582.1).						
598.0		A 1.0" wide green, glauconitic shale layer.						
605.0	605.8	Clay-rich sandstone, extensively fractured and leached at about 90° to the core.						
607.3		Bedding at 70° to the core.						
610.1		Shale chips.						
611.0		Medium-grained sandstone more dominant than fine-grained.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM/Oz/T	Mg/Ca/Al PPM
619.6	620.1	Shale; green, glauconitic grading into purple hematitic.						
634.8		Fractures at 90° to the core.						
660.2	662.0	Clay-rich sandstone grading into weakly hematitized shale.						
662.0	665.0	Medium to coarse-grained, weak to moderately hematitized sandstone.						
663.0		Bedding at 80° to the core.						
665.0	684.0	Fine to medium-grained, no to weak hematitization. Extensive micro-fracturing at 45° to 90° to the core, either clay or hematite coated.						
668.0	668.3	Broken core.						
675.9	676.1	Broken core.						
683.0		Shale chips, strongly hematitized.						
684.0	706.5	Intermixed moderately hematitized fine-grained sandstone and shale, contacts are gradational. Minor broken core.						
686.1	687.5	Fracture sub-parallel to the core.						
687.4	687.5	Broken core in shale.						
696.8	697.8	Fracture sub-parallel to the core.						
697.4	697.8	Broken core.						
702.0	702.4	Very soft, strongly hematitized and glauconitized shale, pseudo-mudstone. Possibly shear zone or solution-transfer zone.						
706.5	722.0	Sandstone, medium-grained, minor coarse-grained, no to weak hematitization. Some chloritic bands. Gritty to feel, somewhat porous.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM/Oz/T	Mg/Ca/Al PPM
722.0	758.8	Sandstone and shale; similar to (648.0 - 706.5), but containing more fine to medium-grained sandstone. Irregular hematite and glauconite banding and patches in the shale.						
723.4		Fracture at 70° to the core, possible minor gauge.						
724.7	725.0	Fracture at 20° to the core.						
729.7	733.0	Shale; moderately hematitized, with patchy glauconite-rich zones. Extensively fractured at 45° to 90° to the core.						
736.0		Fracture at 90° to the core.						
744.3		Shale layer, very friable.						
750.1	753.5	Shale, grading into strongly fractured, sandy shale.						
754.6		Coarse-grained sandstone, containing several small quartz pebbles.						
758.8	816.3	Sandstone; medium-grained, irregular banding of both grey and purple, weakly hematitized and unhematitized material. Minor shale and clay-rich sections.						
768.3		Bedding at 70° to the core.						
773.5	773.6	Broken and ground core. Possible fault zone at 90° to the core.						
776.2	777.0	Fracture sub-parallel to the core.						
792.4	792.6	Strongly hematitized shale, at about 80° to the core.						
794.0		Mudstone; strongly hematitized, minor sand.						
808.6	811.2	Zone of fracturing at 45° to the core, leaching along fractures in sandstone.						
816.3	945.0	Intermixed clay-rich, no to weakly hematitized sandstone and dominantly shale, buff-unhematitized, purple-hematitized and green-glauconitized - chloritized. Alteration is patchy and contacts are gradational. Fracturing is dominantly at 90° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM/Oz/T	Mg/Ca/Al PPM
822.9		Spotty hematitization.						
824.7	824.9	Broken core.						
827.2		Bedding at 90° to the core.						
835.7		Broken core in shale.						
838.6		Chlorite layers.						
855.4	856.4	Irregular fracture in shale, roughly sub-parallel to the core.						
857.0		Green, chlorite-rich zone.						
870.6	870.8	Irregular, partially hematitized fractures in a green, glauconitic shale.						
875.2	875.8	Fracture sub-parallel to the core.						
879.5	881.2	Zone of fine shale chips, layered at top, becoming more randomly oriented with depth in a fine-grained, shaley sandstone.						
883.0		Minor shale solution breccia.						
902.4		Fracture at 75° to core, containing about 0.1" of gouge in shale.						
920.0		More fine-grained, unhematitized sandstone.						
925.7		Bedding at 90° to the core.						
942.3		Shale chips aligned at 70° to the core.						
945.0	992.2	Sandstone; fine-grained, unhematitized containing minor amounts of clay; intermixed with weak to strongly hematitized shale, mixed with minor amounts of sand. Weak, local glauconitization.						
955.7	957.1	Shale; strongly hematitized.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM Oz/T	Mg/Ca/Al PPM
962.9	964.9	Shale; moderately hematitized.						
968.6	968.8	Broken core.						
969.5	976.0	Shale; moderately hematitized.						
975.7	976.0	Broken core.						
978.7		Fracture at 45° to the core, start of a series to 980'. Shale still usually fractured at 90° to the core.						
988.8		Fracture at 30° to the core.						
992.2	1041.0	Sandstone; fine to medium-grained, weak to no hematitization. Dominantly in a tiger stripe pattern. Minor amounts of buff and grey-green clay in layers.						
995.0		Shale layer, grey-green.						
1009.4		Shale layer, grey-green.						
1009.6		Large, grey shale chip, extensively fractured at all angles.						
1015.0	1017.8	Shale; moderately hematitized. Fractured at about 80° to the core.						
1016.9	1017.6	Irregular fracturing at 45° to 60° to the core.						
1017.6		Breccia in a 60° fracture zone.						
1030.9		Bedding at 80° to the core.						
1041.0	1054.5	Shale; dominated by weak to moderately hematitized, slightly sandy shale, with minor amounts of grey-green, weakly glauconitic shale and buff, fine-grained sandstone sections. The core is extensively fractured from 70° to 90° to the core, with some fracturing at smaller angles. Minor amounts of broken and ground core.						
1043.1		Broken and ground core in an irregular set of fractures.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn Cu PPM	Ni/Co Sb/Au/ Ag PPM/ Oz/T	Mg/Ca/ Al PPM
1045.7		Broken and ground core in a series of fractures at 75° to the core.						
1047.0		Broken core.						
1048.1	1048.5	Broken and ground core.						
1053.9		Fractures at 40° to the core.						
1054.5	1930.0	Sandstone, fine grading into medium-grained, no to weak hematitization. Minor amounts of hematitized shale and clay-rich sandstone. The fine-grained sandstone is strongly silicified.						
1064.8	1065.6	Shale; spotty leaching.						
1068.2	1069.1	Fracture sub-parallel to the core.						
1069.9	1070.3	Fracture at 30° to the core.						
1085.0	1085.1	Shale; minor sand and chlorite.						
1099.0	1100.2	Fractures; sub-parallel to the core.						
1101.9		Cross-bedding at 90° and 70° to the core.						
1104.7	1105.2	Clay-rich section.						
1111.2	1111.4	Shale; grey-green, partially broken, friable at 90° to the core.						
1117.7	1118.1	Fracture at 20° to the core.						
1119.3	1119.5	Shale; grey.						
1122.3	1122.7	Clay-rich sandstone terminating in silver-dollar fracturing						
1123.4	1124.1	Clay-rich sandstone; minor glauconite.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM/Oz/T	Mg/Ca/Al PPM
1133.4	1134.1	Shale; both hematitic and glauconitic, grading into sandy shale.						
1139.5	1140.2	Shale; moderately hematitized.						
1140.7	1141.4	Shale; sandy , moderately hematitized.						
1147.5		Bedding at 80° to the core.						
1149.4	1150.2	Shale; extensively fractured at 90° to the core.						
1159.8	1162.2	Shale; moderately hematitized, spotty leaching, extensive fracturing at 90° to the core (silver dollar).						
1162.4		Sandstone; clay-rich, grey.						
1166.1	1166.4	Sandstone; clay-rich.						
1167.8	1167.9	Interbanded shale and sandstone at 80° to the core.						
1178.0		Irregular shale chip, 0.3" long.						
1182.4		Bedding at 70° to the core.						
1183.7	1183.9	Shale; purple, hematitic and green glauconitic, intermixed. Sharp, but irregular contacts.						
1184.0	1184.5	Extensively fractured section at 30° to 90° to the core. Several large vugs in the core, up to 0.5" wide, filled by secondary growth clay, feldspar and minor sulphides. Most of sandstone is breccia in area of fractures.						
1185.0		Shale at 70° to the core.						
1185.2	1185.6	Fracture; sub-parallel to the core containing minor amounts of chlorite and sulphides.						
1186.5		Shale at 90° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM Oz/T	Mg/Ca/Al PPM
1188.6	1189.8	Irregular fracturing at less than 30° to the core.						
1200.3	1200.9	Sandstone; containing minor amounts of clay.						
1217.9		Large, irregular, strongly hematitized shale chip.						
1221.9	1223.8	Fracture, sub-parallel to the core.						
1224.5	1225.2	Shale; weak to moderately hematitized, moderately glauconitized; friable at 90° to the core.						
1228.3	1228.9	Shale; sandy; friable at 80° to 90° to the core.						
1228.9	1231.3	Sandstone; grey-buff, unhematitized, contains minor amounts of clay.						
1235.8	1236.2	Fracture, sub-parallel to the core.						
1238.0		Bedding at 80° to the core.						
1245.5		Irregular fracture at 35° to the core.						
1256.2	1258.3	Fractures sub-parallel to the core.						
1258.7	1259.6	Shale; sandy.						
1267.8	1268.2	Shale; some silver dollar fracturing.						
1271.6	1272.3	Sandstone and shale intermixed in fine bands.						
1272.4	1279.0	Sandstone; containing fine, spotty hematitization.						
1279.0	1279.7	Sandy shale, friable at 90° to the core.						
1287.0	1287.4	Clay-rich sandstone.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM/Oz/T	Mg/Ca/Al PPM
1287.4	1288.0	Shale; moderately hematitized, strong silver dollar fracturing grading into mudstone.						
1288.7		Bedding at 70° to the core.						
1291.1	1291.2	Shale; very friable.						
1297.3	1298.3	Shale; buff-grey, strong silver dollar fracturing from (1297.4-1297.5) and (1297.9-1298.3)						
1301.2	1301.4	Shale; friable at 90° to the core.						
1307.3	1308.0	Shale; weakly hematitized and glauconitized.						
1319.7	1319.9	Shale; grey-green.						
1324.3	1324.9	Shale; green, glauconitic, incompetant; grading into sandy shale.						
1332.8	1332.9	Shale						
1339.0	1339.4	Shale; sandy, minor broken and ground core.						
1339.9	1340.0	Shale.						
1342.9	1343.6	Sandstone; fine-grained, clay-rich.						
1351.9		Fracture at 90° to the core.						
1352.1		Fracture sub-parallel to the core.						
1362.8		Fracture, strongly hematitized at 30° to the core.						
1381.2	1381.8	Shale; minor sand, irregular contacts.						
1387.0		Clay band at 80° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM Oz/T	Mg/Ca/Al PPM
1393.8	1394.0	Shale.						
1396.0	1396.3	Shale and sandstone intermixed.						
1397.2		Bedding at 70° to the core.						
1398.1		Shale chip; strongly hematitized.						
1399.5	1400.1	Sandstone; shale-rich, fractured sub-parallel to the core.						
1405.3		Shale.						
1405.6	1405.7	Shale.						
1407.5	1408.4	Sandstone; clay-rich.						
1409.8	1410.4	Fracture; sub-parallel to the core.						
1411.4	1412.3	Fracture; sub-parallel to the core.						
1414.6		Fractures at 90° to the core.						
1418.0		Fractures at 30° to the core.						
1434.4	1434.8	Sandstone; containing a few, narrow shale bands.						
1438.2	1438.3	Sandy shale.						
1439.0		Fracture at 80° to the core.						
1442.6		Small vugs, aligned at 70° to the core.						
1443.0		Fractures at 70° to the core.						
1450.7	1451.0	Fractures; irregular varying from 60° to 90° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM/Oz/T	Mg/Ca/Al PPM
1451.0	1451.4	Fractures sub-parallel to the core.						
1454.1	1455.1	Fractures; two sets, 70° to 90° to the core, and sub-parallel to the core.						
1466.0	1468.0	Extensive fracturing at 80° to 90° to the core.						
1471.9		Clay-rich zone.						
1479.0	1480.5	Shale and fine-grained sandstone intermixed, extensively fractured at 90° to the core. Minor broken core.						
1483.9		Fault, at less than 30° to the core, containing about 0.5" of white felsic gauge.						
1484.1	1489.1	Extensive fracturing from 0° to 30° to the core, some containing minor ground core. Another fault at about 10°.						
1501.6	1508.8	Extensive fracturing from 0° to 30° to the core, most fractures have some clay along the surface. Minor broken core.						
1510.9		Shale chip; buff, unhematitized surrounded by a weakly hematitized halo.						
1513.5		Fracture at 30° to the core.						
1519.4	1520.4	Fracture sub-parallel to the core.						
1520.4		Shale chip.						
1521.3	1522.2	Broken core.	1521.0	1522.0	0/	480/0/0	0	
1522.2	1522.5	Fractures at 90° to the core.						
1523.6	1527.0	Fractures dominantly less than 30° to the core.	1525.0	1526.0	3/	480/80/10	0	280/1280/2240
1532.6		Fracture at 20° to the core.						
1537.1	1544.9	Hematitization is weak to moderate locally, rest is unhematitized.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS
1539.6	1543.6	Fractures, dominantly 0° to 30° to the core.
1540.4		Clay-filled fracture at 80° to the core.
1547.0	1548.6	Clay-rich layers and fracture-filling, less than 0.1" wide, cutting the core from 45° to 90°.
1552.5	1558.7	Extensively fractured core, dominantly at less than 30° to the core. Minor clay-rich sections, minor broken core.
1559.9	1560.8	Broken core.
1563.5	1566.0	Fracturing from 0° to 30° to the core.
1566.0	1566.5	Broken core.
1567.7	1593.7	Extensively fractured, medium-grained, unhematitized sandstone. Angles are variable and irregular. Minor clay. Moderate broken core, minor ground core.
1587.8	1587.9	Shale; fine layers of green glauconite and purple hematite. Friable at 90° to the core.
1593.7	1596.3	Fractures sub-parallel to the core.
1596.8	1597.7	Fractures at 30° to the core.
1598.1	1603.1	Fractures at 0° to 30° to the core.
1604.7	1605.3	Broken core.
1609.2	1609.6	Shale intermixed with fine-grained sandstone. Basal contact is sharp, at 70° to the core.
1610.4	1612.1	Fracture at 10° to the core.
1614.2	1615.8	Shale intermixed with fine-grained, weakly hematitized sandstone. Fractured at both 0° and 90° to the core.

FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM/Oz/T	Mg/Ca/Al PPM
1566.0	1567.0	0/	480/40/10	0	
1575.0	1576.0	0/	480/40/10	0	

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM Oz/T	Mg/Ca/Al PPM
1616.6	1617.8	Shale and sandstone; similar to (1614.2-1615.8), but more strongly fractured.						
1616.8		Brecciated shale in a patch of sandstone.						
1617.6	1618.1	Broken core.						
1618.1	1618.5	Contact between shale and brecciated shale in sandstone at 30° to the core. Shale is extensively fractured at all angles.						
1619.5	1626.0	Strongly broken core, with minor amounts of ground core. Fracturing at all angles to the core. Minor shale sections.						
1619.6	1620.7	Fault; at least 0.5" of gouge at 10° to the core.						
1620.8	1621.5	Shale; strongly hematitized and deformed.	1623.0	1624.0	0/	440/80/0	0	
1626.0	1626.9	Fracture; sub-parallel to the core.	1625.0	1626.0	0/	480/40/10	0	
1627.0	1719.4	Extensive fracturing at 45° or less to the core.						
1629.0		Sandy shale.						
1631.5	1633.5	Broken core.						
1636.7	1637.3	Broken core.						
1636.7	1636.9	Shale.						
1644.8	1645.8	Fractures at 80° to the core.						
1649.0	1649.7	Shale; moderately broken, friable at 90° to the core, dominantly grey-green.						
1665.7		Layer of grey-green shale chips at about 70° to the core.						
1667.3	1669.9	Fracture sub-parallel to the core.	1667.0	1668.0	0/	400/40/0	0	

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn Cu PPM	Ni/Co Sb/Au Ag PPM Oz/T	Mg/Ca Al PPM
1670.5		Shale chips at 90° to the core.						
1673.8		A 1.0" long vug, feldspar and minor carbonate, at the juncture of several intersecting faults.	1673.0	1674.0	0/	520/ 40/10	0	
1676.6		Clays bands.						
1677.3		Hematitization along fracture at about 30° to the core.						
1678.3		Bedding at 75° to the core.						
1683.2	1683.3	Shale; very friable.						
1685.2		Shale chips; randomly oriented.						
1687.4		Irregular shale layer at 70° to the core.						
1689.7	1692.1	Extensively fractured core.						
1693.7	1694.0	Clay-rich zone.						
1693.8		Minor, euhedral pyrite, less than 0.1" wide, in a hematitized fracture at 80° to the core.						
1697.3		Hematite and carbonate-filled fracture at 80° to the core.						
1700.5		Shale; altered to mudstone.						
1703.8	1704.5	Strongly fractured zone, at all angles.						
1704.6		Clay-filled fractures at 40° to the core.						
1709.5		Clay-filled fractures at 10° to the core.						
1712.5		Shale chips.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM Oz/T	Mg/Ca/Al PPM
1712.7	1713.2	Irregular, clay-filled fracture.						
1713.4	1713.8	Broken core.						
1724.8	1726.5	Broken core, dominant fracture direction at 90° to the core.	1725.0	1726.0	0/	520/80/20	0	
1727.9		Fractures at about 90° to the core.						
1729.3	1731.1	Strongly fractured at all angles. Vuggy, partially brecciated. Hematite and/or clay along some fractures.	1729.0	1730.0	0/	400/40/0	0	
1739.9		Shale chips at random angles.						
1740.7	1742.7	Shale and fine-grained sandstone, irregularly mixed. No obvious control.						
1746.8		Shale chips.						
1749.2		Shale chips.						
1750.0		Clay-rich bands at 80° to the core.						
1751.6		Shale chip.						
1760.9	1761.8	Irregular fracturing of core, partially broken.						
1764.6		Sulphides along a fracture at 20° to the core.	1764.0	1765.0	0/	320/80/40	0	
1766.0	1770.4	Shale intermixed with fine-grained sandstone. Patchy, moderate hematitization. Moderate broken core.	1770.0	1771.0	2/	360/80/30	0	
1766.6	1775.0	About 1' of ground core missing.	1774.0	1775.0	0/	400/120/40	0	
1773.8	1775.0	Broken core.						
1775.8	1776.8	Fracture sub-parallel to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS
1778.5	1787.1	Fractures at 30° or less to the core. Many containing euhedral galena. Some zones are hematitized. Possibly some sphalerite and chalcopyrite.
1791.4	1792.9	Fractures similar to (1778.5 - 1787.1).
1793.6	1794.9	Fracture sub-parallel to the core.
1797.6	1797.8	Clay-rich bands at 60° to the core.
1807.5		Fracture; clay-rich, at 30° to the core.
1813.5	1814.3	Core fractured at 30° or less.
1821.2	1855.0	Core extensively fractured at 30° or less to the core.
1825.0	1826.3	Clay-rich section, minor shale.
1833.6	1834.0	Clay-rich, fine-grained, unhematitized sandstone. Broken core.
1837.0		Increase in silicification of core. Reduced fracturing in core.
1847.0	1847.4	Clay-rich; vugs along fractures at about 90° to the core. Slightly calcareous.
1850.8	1852.2	Slightly darker core, more disseminated sulphides.
1852.5		Large, irregular shale chip.
1859.5		Strongly hematitized sandstone at about 30° to the core.
1872.9	1873.3	Irregular, clay-rich layers at about 70° to the core.
1874.5	1877.5	Fractures sub-parallel to the core.
1885.3	1885.5	Clay-rich sandstone.
1898.5	1901.3	Fractures sub-parallel to the core.

FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM Oz/T	Mg/Ca/Al PPM
1778.0	1779.0	0/	360/80/40	0	
	1780.0	0/	440/80/30	0	
	1781.0	1/	1200/360/40	0	
1782.0	1783.0	1/	2700/2320/80	0	
1785.0	1786.0	-	-	-	
	1787.0	0/	1160/200/30	0	
1791.0	1792.0	0/	880/720/30	0	
1827.0	1828.0	2/	520/40/10	0	
1851.0	1852.0	0/	560/0/50	0	
1876.0	1877.0	0/	600/40/0	0	
1898.0	1899.0	6/	400/0/0	0	

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM/Oz/T	Mg/Ca/Al PPM
1904.0	1904.1	Shale.						
1915.4	1915.9	Broken core, minor shale sections.						
1916.1	1917.3	Shale; moderately hematitized intermixed with fine-grained unhematitized sandstone.						
1917.0		Sulphides in sandstone.	1917.0	1918.0	3/	440/40/10	0	
1918.9	1919.1	Clay-rich sandstone.						
1921.2		A 0.5" wide layer of light brown shale at 80° to the core.						
1924.0		Irregular patch of clay-rich sandstone.						
1930.0	2360.0	Sandstone; medium-grained, no to very weak hematitization, disseminated sulphides, strongly silicified.	1952.0	1953.0	2/	440/80/30	0	
1962.6	1963.2	Shale chips; in a medium-grained, weakly hematitized, strongly silicified sandstone.						
1983.3		Irregular shale chips; surrounded by vuggy sandstone, partially altered to clay.	1984.0	1985.0	6/	360/40/40	0	
1987.9	1988.2	Shale and sandstone intermixed, weakly hematitized.	1986.0	1987.0	4/	360/40/20	0	
1990.0		Quartz-healed fracture at 20° to the core.						
1994.4	1994.6	Moderately hematitized sandstone.						
1995.2	1995.4	Shale; bedding at 80° to the core.						
1997.3		Clay infilling of irregular fractures.						
2000.9	2001.7	Clay-rich sandstone.						
2019.0	2022.0	Clay-rich fractures at 20° to 40° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM/Oz/T	Mg/Ca/Al PPM
2022.0	2022.8	Sandstone, coarse-grained, slightly porous. Irregular fracturing. Fractures greater than 70° are clay-filled.						
2024.9	2025.6	Fracture at 15° to the core.						
2026.0		Clay and chlorite-filled fracture at about 90° to the core.						
2042.5		Shale chips; irregular shape.						
2042.9	2044.3	Sandstone; fine-grained, clay-rich, no to weak hematitization, minor glauconite.						
2056.2		Patch of irregular, unhematitized, strongly silicified sandstone, surrounded by moderately hematitized sandstone. Fractures radiating from patch.						
2061.0		Irregular clay-layer at about 90° to the core.						
2064.8		Coarse-grained sandstone.						
2069.8	2069.9	Moderate to strong hematitization associated with vuggy fractures in sandstone, at about 90° to the core.						
2070.9	2071.7	Sandstone; fine-grained and clay-rich. Some hematitized fractures at 70° to 90° to the core.	2074.0	2075.0	3/	320/40/10	0	
2081.9		Shale chips.						
2082.0	2082.2	Moderate hematitization.						
2082.7	2085.1	Irregular shale banding in a moderately hematitized, clay-rich sandstone.						
2087.7	2087.9	Clay-rich bands at about 80° to the core.						
2095.8		Sub-round cobble of leucocratic gneiss, good gneissosity. Surrounded by hematitized and feldspathized reaction rim.						
2096.0	2097.7	Sandstone; fine-grained, clay-rich.	2097.0	2098.0	3/	320/40/50	0	

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM/Oz/T	Mg/Ca/Al PPM
2097.5		Chalcopyrite is a white, medium-grained sandstone.						
2101.8		Clay-rich zone.						
2107.6	2107.8	Two small, sub-angular pebbles or patches of unhematitized sandstone, surrounded by a moderately hematitized rim of sandstone.	2121.0	2122.0	6/	360/40/40	0	
2122.2	2122.4	Small fractures at about 90° to the core. Minor clay and shale chips.						
2125.0		Chloritized shale chip.						
2128.0	2128.1	Sandy shale, unhematitized.						
2129.3	2129.6	Fracture at 20° to the core in shaly sandstone.						
2137.0		Clay-rich sandstone.						
2157.0	2157.2	Clay-rich sandstone; rough banding at about 80° to the core.						
2157.2	2168.5	Sandstone; medium-grained, moderately silicified, unhematitized.						
2169.2		Bedding at 70° to the core.						
2170.1	2170.3	Clay-rich sandstone.						
2181.5	2182.5	Fracturing sub-parallel to the core.						
2187.3		Clay-filled fracture at about 30° to the core.						
2196.3	2196.8	Several large, irregular shale chips, and several small ones.						
2197.3		Irregular fracturing.						
2199.2	2199.4	Clay-rich sandstone.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn Cu PPM	Ni/Co/ Sb/Au/ Ag PPM/ Oz/T	Mg/Ca/ Al PPM
2216.0	2217.3	Shale; buff and purple, irregular patchy hematitization, minor amounts of fine-grained sandstone.						
2217.8	2218.0	Clay-rich sandstone.						
2218.5		Shale chip.						
2219.0	2219.7	Clay-rich sandstone.						
2222.7		Irregular clay-layer at about 80° to the core.						
2226.4		Fracture; weakly hematitized at 75° to the core						
2239.3	2239.4	Shale; buff, unhematitized, with clay-filled fractures in sandstone at 90° to the core, both above and below the section.						
2247.5	2251.5	Sandstone; fine to medium-grained, unhematitized, intermixed with buff to pink shale.						
2257.0	2260.1	Fine, clay-filled fractures at about 90° to the core.						
2271.5		Bedding at 75° to the core.						
2276.5	2276.7	Medium-grained sandstone; clay cement only.						
2277.4	2277.5	Shale; green, massive, chlorite grains.						
2283.5	2286.4	Fine layers of clay at about 80° to the core.						
2307.6		Bedding at 90° to the core.						
2315.0	2315.2	Fracture at 20° to the core, adjacent sandstone is moderately hematitized.						
2316.5	2318.0	Moderate hematitization associated with fractures from 0° to 90° to the core.						
2321.9	2322.0	Patches of unhematitized sandstone surrounded by rims of stongly hematitized material.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au Ag PPM/ Oz/T	Mg/Ca/Al PPM
2344.6		Irregular fracture at about 90° to the core.						
2349.9	2350.1	Clay-rich sandstone, grading into shale.						
2356.6		Bedding at 90° to the core.						
2359.0	2359.9	Bands of coarse-grained, poorly cemented sandstone, as well as random shale chips, both hematitized and unhematitized.						
2360.0	2477.0	Sandstone; fine to medium-grained, occasional coarse-grained sections. No to weak hematitization, generally irregular banding at 70° to 90° to the core. Minor shale and clay-rich sections. Strong, widespread silicification, minor zones of limited fracturing. Mineralization confined to grey, partially hematitized zones, often sporadic. Random shale chips.						
2371.8	2372.1	Clay-rich, fine-grained sandstone.						
2380.6	2380.7	Shale; buff, friable at 90° to the core.						
2391.0		Clay-filled fracture at about 90° to the core.						
2398.0	2398.6	Zone of shale chips and small, sub-rounded sandstone pebbles.						
2398.2		Shale; buff.						
2399.5	2399.7	Shale interbanded with sandstone.						
2417.0	2417.5	Shale; grey-green, minor weakly hematitized sandstone.						
2419.7		Bedding at 90° to the core						
2447.2		Bedding at 75° to the core.						
2470.0		Bedding at 80° to the core.						
2477.0	3847.0	Sandstone, similar to (2360.0-2477.0), but medium to coarse-grained, with minor amounts of fine-grained material and very minor amounts of clay and shale.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM/Oz/T	Mg/Ca/Al PPM
2492.6		Bedding at 80° to the core.						
2501.5	2503.6	Increased density of disseminated sulphides in grey, medium-grained sandstone.	2501.5	2502.5	6/	0/60/110	0	
2506.7		Sporadic coarse quartz crystals or grains.						
2512.8	2513.4	Clay-rich, fine-grained sandstone, minor grey-green shale.						
2514.5	2514.6	Clay-rich sandstone.						
2517.9		Bedding at 85° to the core.						
2527.0	2527.1	Clay-rich sandstone. Bedding at 90° to the core.						
2540.2		Bedding at 90° to the core.						
2541.2	2541.3	Shale.						
2541.9	2877.3	Sandstone; medium to coarse-grained containing numerous irregular bands, patches and zones of clay-rich, fine-grained sandstone and shale. Numerous shale chips, mostly grey, up to 1.0" long. Minor fracturing at 70° to 90° to the core.						
2547.6		Cross-bedding, at 70° and 90° to the core.						
2550.5		Coarse-sized grains of granite.						
2553.4	2553.8	Shale; wakly hematitized, containing minor sandstone.						
2558.7		Bedding at 70° to the core.						
2561.9		Shale chip.						
2569.0		Bedding at 70° to the core.						
2570.6	2570.7	Shale chip, minor clay in core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM/Oz/T	Mg/Ca/Al PPM
2577.8	2579.4	Clay-rich, fine-grained sandstone, with minor shale layers.						
2580.0	2589.3	Sporadic shale chips.						
2582.2	2582.4	Shale; buff-grey, unhematitized.						
2585.3	2585.6	Clay-rich sandstone.						
2586.2	2589.4	Fractures sub-parallel to the core.						
2588.8	2589.0	Clay-rich sandstone						
2589.3	2589.4	Shale; weakly glauconitic and hematitic. Minor quartz inclusions.						
2589.8		Shale chips.						
2598.1		Narrow shale layer at 90° to the core.						
2599.3		Clay-rich zone in sandstone.						
2603.9	2604.2	Clay-rich sandstone.						
2611.0		Clay-layer at 80° to the core.						
2615.3	2615.5	Shale; pale green to grey, unhematitized.						
2617.5	2617.6	Clay-rich sandstone.						
2617.9		Bedding at 80° to the core.						
2625.9		Shale chip.						
2631.7	2631.8	Shale and sandstone; finely interbanded at 90° to the core.						
2633.7		Several small granitic pebbles.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM/Oz/T	Mg/Ca/Al PPM
2640.7	2640.8	Clay-rich sandstone.						
2646.0		Bedding at 75° to the core.						
2657.0	2657.1	Shale; grey-green, and clay-rich sanistone.						
2666.5		Shale; grey-green, narrow band at 90° to the core.						
2674.4		Bedding at 70° to 80° to the core.						
2674.7		Shale; grey-green						
2682.7		Clay-filled fracture at about 80° to the core.						
2689.8	2690.1	Shale; grey-green, very friable at 90° to the core.						
2697.0	2697.1	Clay-rich sandstone.						
2700.2		Bedding at 70° to the core.						
2707.2	2707.3	Clay-rich sandstone.						
2709.8		Bedding at 70° to the core.						
2712.4		Shale; green, at 70° to the core.						
2715.4		Sandy shale.						
2715.4	2715.8	Fracture sub-parallel to the core.						
2723.4		Irregular shale chip.						
2729.3	2729.8	Fracture sub-parallel to the core.						
2732.9	2733.1	Shale and clay-rich sandstone.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM/Oz/T	Mg/Ca/Al PPM
2741.8	2741.9	Shale; green, minor inclusions of sandstone.						
2743.5	2743.8	Shale; green, interbanded with grey, clay-rich, fine-grained sandstone.						
2744.7	2746.7	Intermittant band of shale, mostly less than 0.5" wide.						
2750.7	2750.9	Patches of unhematitized, strongly silicified sandstone surrounded by zones of moderate to strongly hematitized sandstone.						
2753.3	2753.4	Mica-rich, grey-green shale.						
2755.8	2784.8	Patchy hematitization, varying from none to moderate.						
2760.0	2760.4	Fracture, sub-parallel to the core, terminating at an irregular, clay-filled, minor carbonate, fracture at about 90° to the core.						
2762.0		Fracture at 30° to the core, partially leached.						
2763.2		Sandy shale at 90° to the core.						
2765.3		Fine clay-layer at 90° to the core.						
2767.3		Bedding at 80° to the core.						
2771.3	2771.4	Clay-rich sandstone.						
2786.1	2786.4	Shale and clay-rich sandstone. Bedding at 90° to the core.						
2791.9	2792.2	Shale; green, minor purple, minor clay-rich sandstone.						
2792.4	2793.0	Clay-rich sandstone, dominantly feldspar composition.						
2802.1		Fine-clay-rich bands at 80° to 90° to the core.						
2805.9	2806.8	Sandstone; medium to coarse-grained, moderately hematitized.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS
2808.3		Unhematitized sandstone patch, surrounded by strongly hematitized, coarse-grained sandstone.
2810.7	2811.5	Numerous patches similar to (2808.3) but smaller.
2812.5	2812.6	Shale; grey-green, minor sand, fine-grained.
2814.4	2814.6	Weak, clay banding at 80° to the core.
2821.2		Bedding at 75° to the core.
2830.4	2830.5	Shale; minor sand, some silver dollar fracturing.
2831.4	2831.5	Clay-rich sandstone and green shale.
2833.5	2834.3	Moderately hematitized sandstone containing a section of green-grey, sandy shale.
2835.0	2835.7	Mineralization, possibly galena and sphalerite in grey, quartz-rich, medium-grained sandstone.
2845.8		Strongly hematitized band at 90° to the core.
2850.2	2850.5	Moderately hematitized, weakly cemented, coarse-grained sandstone.
2851.2	2851.5	Clay-rich sandstone, weakly hematitized.
2851.5		Increase in hematitization from none to weak, to weak to moderate, with minor amounts of none and strong.
2855.0		Unhematitized patch of sandstone, surrounded by a rim of strongly hematitized material.
2855.2	2855.3	Shale; grey-green.
2861.9	2862.3	Shale; interbanded with clay-rich sandstone. No to weak hematitization.
2867.1		Fracture at 90° to the core, minor clay.

FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM/Oz/T	Mg/Ca/Al /PPM
2835.0	2836.0	80/	0/30/116	0	

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM Oz/T	Mg/Ca/Al /PPM
2876.7		Shale, strongly hematitized, or regolith pebble.						
2877.3	3847.0	Sandstone; coarse-grained, strongly hematitized, poor to fair cementing. Poor bedding.						
2879.6		Hematitized fracture at 30° to the core.						
2888.3		Bedding at 90° to the core.						
2889.0	2889.2	Shale; weakly hematitized, minor sand.						
2890.0	2891.0	Weak radioactivity in a moderately hematitized, medium-grained core. Up to 1800 CPM on a TV-1A.	2890.0	2891.0	1.3/5.9	-	-	
2897.3		Bedding at 70° to the core.						
2898.0	2950.0	Patchy leached zones surrounded by strongly hematitized rims, sporadic, strongly resembles pebbles.						
2899.7		Clay-rich sandstone; banding at 90° to the core.						
2912.0	2912.3	Irregular bands of shale and red, moderately hematitized sandstone.						
2912.3	2912.7	Fracture sub-parallel to the core.						
2914.0	2914.1	Shale; banded and friable at 90° to the core.						
2921.8	2921.9	Sandy shale; grey-green.						
2922.8	2923.0	Sandstone; minor clay.						
2926.0		Bedding at 80° to the core.						
2938.8	2939.0	Minor broken core.						
2940.0		Bedding at 85° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/ Cu PPM	Ni/Co/ Sb/Au/ Ag PPM/ Oz/T	Mg/Ca/ Al PPM
2946.7	2947.0	Coarse-grained quartz and feldspar in a strongly hematitized matrix.						
2958.0		Small, angular, granitic pebbles.						
2960.0		Feldspar and mafic content increases with depth.						
2986.9		Clay banding at 90° to the core.						
2988.4	2988.8	Fine-grained sandstone, unhematitized, clay-rich.						
2998.0	2998.2	Fine-grained, clay-rich sandstone.						
2999.7	2999.8	Shale; grey-green, minor sandstone.						
3000.5		Shale chip.						
3012.1		Clay-rich band at 90° to the core.						
3018.4	3019.3	Sandstone; fine-grained, unhematitized, minor clay.						
3020.9		Irregular shale chip, unhematitized except for the core, in a medium-grained, leached sandstone, surrounded by a moderately hematitized rim of sandstone.						
3023.6		Shale chip.						
3027.9		Irregular shale layer at about 80° to the core.						
3028.2		Shale chips, in a band at 80° to the core.						
3028.8	3029.0	Shale; weak and unhematitized material is intermixed.						
3040.0		Clay-rich band at about 90° to the core.						
3040.6	3041.6	Sulphide mineralization disseminated in a grey, medium-grained sandstone.	3040.6	3041.6	19/	15/ 25/116	0	
3041.6	3041.7	Shale and sandstone intermixed.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM/Oz/T	Mg/Ca/Al PPM
3044.8	3045.9	Minor clay bands at 90° to the core, and some hematitized shale chips.						
3054.8	3058.7	Fracturing sub-parallel to the core.						
3057.7		Bedding at 85° to the core.						
3063.1	3063.3	Clay-rich sandstone.						
3073.2		Irregular grey-green shale chips.						
3078.2		Tabular shale chips, aligned at 85° to the core.						
3079.6		Fracture; minor offsets, at 30° to the core. Shale chip cuts fracture at 90° to the core, but is not affected by it.						
3084.0	3085.7	Patchy, leached sandstone, surrounded by hematitized rims.						
3085.3		Fracture at 45° to the core.						
3091.6	3091.9	Clay-rich sandstone.						
3093.2		Fracture at 30° to the core.						
3096.7		Clay-filled fracture at 70° to the core.						
3097.6	3097.9	Clay-rich sandstone.						
3107.5		Bedding at 75° to the core.						
3117.2		Bedding at 80° to the core.						
3122.2		Cross-bedding at 70° to the core each, but 40° apart.						
3125.5		Fracture at 40° to the core.						
3133.9		Fine, clay-filled fractures at about 90° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM/Oz/T	Mg/Ca/Al PPM
3142.5		Silica-healed fracture at 30° to the core.						
3147.3		Several fine, clay layers at about 90° to the core.						
3147.5	3148.3	Zone containing irregular shale chips.						
3151.6	3151.7	Clay-rich bands at 80° to the core, associated with a fine-grained unhematitized zone.						
3156.7		Healed fracture at about 30° to the core, accompanying leached zone.						
3159.5	3160.8	Irregular, silica-healed fractures, roughly sub-parallel to the core.						
3161.8	3163.0	Patches of strong hematitization in the vicinity of small pebbles.						
3168.5		Fine clay layer at 70° to the core.						
3170.8		Silica-healed fracture at 30° to the core.						
3180.0	3180.6	Fracture sub-parallel to the core.						
3184.4	3184.9	Mica-rich sandstone.						
3186.6		Pebble; sub-rounded, about 1.0" in diameter. Quartz-rich, containing euhedral, mafic clasts.						
3187.3	3188.1	Fractures sub-parallel to the core.						
3188.5		Fracture at about 80° to the core.						
3189.6		Quartzite pebble, sub-angular.						
3193.3	3193.6	Zone containing several small quartz-feldspar, sub-rounded to sub-angular pebbles.						
3194.4	3194.8	Fracture at 10° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM/Oz/T	Mg/Ca/Al PPM
3199.0	3199.6	Tan colored shale chips, angular.						
3202.6	3204.6	Healed fracture, sub-parallel to the core.						
3208.0	3209.1	Sandstone, fine-grained, unhematitized, containing minor shale sections.						
3212.5		Random fracturing.						
3213.9		Sub-rounded, quartz-feldspar pebble.						
3215.6		Fracture at 30° to the core.						
3220.6		Clay-rich sandstone.						
3222.0		Silica-healed fracture at 40° to the core.						
3227.2	3228.0	Irregular silica-healed fractures, from 10° to 90° to the core.						
3237.0	3237.2	Clay bands at 80° to 90° to the core.						
3240.6		Bedding at 70° to the core.						
3241.2	3242.8	Silica-healed fractures at about 0° to 20° to the core.						
3256.0		Bedding at 85° to the core.						
3259.9		Sub-angular, quartz-feldspar pebble.						
3261.5	3261.9	Cherty sandstone.						
3268.0	3268.8	Silica-healed fracture at 10° to the core.						
3273.8		Clay-rich layer at 85° to the core.						
3285.0	3286.1	Fine to medium-grained, unhematitized sandstone.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM/Oz/T	Mg/Ca/Al PPM
3290.7		Bedding at 80° to the core.						
3291.1	3293.0	Fine to medium-grained, unhematitized sandstone.						
3293.3		Clay-rich bands at 80° to 90° to the core.						
3297.6	3298.0	Fracture sub-parallel to the core.						
3300.0	3300.9	Fracture at 10° to the core.						
3309.6	3310.0	Several quartz-feldspar, sub-rounded pebbles, containing euhedral mafic crystals.						
3311.7	3312.1	Clay-rich zone.						
3323.0	3324.0	Weak radioactivity in medium-grained, moderately hematitized sandstone. Up to 2000 CPM TV-1A.	3323.0	3324.0	5.6/72	-	-	
3326.0	3326.1	Clay-rich sandstone.						
3326.1	3326.6	Fracture sub-parallel to the core.						
3334.3		Healed fracture at 30° to the core.						
3337.0	3337.4	Clay-rich sandstone, containing large tabular shale chip aligned at 90° to the core.						
3337.5		Irregular fractures.						
3346.3		Sub-rounded, grey, feldspar-rich pebble.						
3346.7	3346.8	Clay-rich sandstone.						
3354.3	3356.2	Silica-healed fracture sub-parallel to the core, containing minor mafics.						
3356.4		Clay-rich sandstone.						
3359.7		Pebble; angular, strongly hematitized.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn Cu PPM	Ni/Co /Sb/Au/ Ag PPM Oz/T	Mg/Ca/ Al PPM/PPM
3362.1	3362.5	Fracture at 20° to the core.						
3363.6		Large, irregular, moderately hematitized shale chip.						
3365.0	3365.4	Layers of hematitized, tabular shale chips at 80° to the core.						
3371.5		Small, tan colored shale chips.						
3392.2	3392.5	Fracture sub-parallel to the core.						
3396.7	3397.1	Fine-grained sandstone, minor clay.						
3419.0	3419.5	Several, small, sub-angular quartz-feldspar pebbles, in a weakly hematitized, medium-grained sandstone.						
3427.1	3428.8	Healed fracture at 20° to the core.						
3430.1		Large, tabular, tan shale chip.						
3430.3		Clay-rich layer at 75° to the core.						
3433.6	3434.0	Irregular healed fracture at about 10° to 30° to the core.						
3452.6	3453.4	Fine-grained, clay-rich, unhematitized sandstone.						
3454.7		Sub-angular quartz-feldspar pebbles and angular, hematitized shale chip.						
3455.4		Same as (3454.7).						
3458.4		Bedding at 75° to the core.						
3463.9	3464.1	Fine-grained, clay-rich sandstone.						
3469.6	3469.7	Zone of fine clay-layers at 80° to 90° to the core.						
3490.8		Narrow, green shale layer at 90° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM/Oz/T	Mg/Ca/Al PPM
3501.0		Sub-rounded quartz-feldspar pebble.						
3502.4	3502.5	Irregular, tan, shale layer.						
3502.5	3508.3	Random, sub-rounded quartz-feldspar pebbles, about 1.0" in diameter.						
3508.4	3509.0	Healed fracture at 20° to the core.						
3521.2	3538.7	Conglomerate; weak, dominated by sub-rounded to sub-angular, quartz-feldspar pebbles up to 2.0" in diameter. Minor amounts of dark grey, mafic-rich pebbles. Pebbles most numerous in grey-colored sandstone.						
3521.9	3522.6	Silica-healed fracture sub-parallel to the core.						
3537.0		Tan, 1.0" long, angular shale chip.						
3539.5		Small vugs, void, along irregular fractures.						
3541.0		Medium-grained, no to very weakly hematitized sandstone, minor clay in bands at about 70° to 90° to the core.						
3555.6		Clay-rich sandstone at 90° to the core.						
3562.5		Small, tan colored, angular, feldspar-rich pebble.						
3571.0		Clay-rich, fine-grained sandstone band at 90° to the core.						
3575.0		Sandy shale chip; white, angular, tabular, aligned at 85° to the core.						
3586.9	3587.7	Several clay-rich bands in a fine to medium-grained sandstone, unhematitized at 90° to the core.						
3603.5	3603.9	Fine to medium-grained, grey, clay-rich sandstone.						
3611.7		Clay-rich layer at 75° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM/Oz/T	Mg/Ca/Al PPM
3624.2	3624.6	Strongly hematitized shale chips, prismatic and tabular, aligned at 70° to 90° to the core.						
3627.1		Fracture at 90° to the core.						
3630.4		Bedding at 90° to the core.						
3632.0	3632.5	Quartz-feldspar pebble conglomerate, no to weak hematitization. Weak radioactivity 2000 CPM on TV-1A.	3632.0	3633.0	2.3 38	-	-	
3636.6		Bedding at 70° to the core.						
3638.6	3638.7	Fine-grained, clay-rich sandstone.						
3642.7		Large leached zone surrounding a chlorite-rich piece of sandstone, in a moderately hematitized, medium to coarse-grained sandstone.						
3645.4		Angular, strongly hematitic pebble, very hard.						
3647.0	3648.3	Fracture sub-parallel to the core.						
3656.2	3656.3	Conglomerate; granitic and quartzofeldsparhic, sub-angular pebble.						
3661.6		Large, euhedral, green-red garnet, about 0.5" across.						
3661.6	3662.8	Fracturing sub-parallel to the core.						
3663.1	3663.6	Pebbles and grains of a white, quartzofeldspathic material in a mafic-rich, weakly hematitized matrix. Weak radioactivity, 1500 CPM, TV-1A.	3663.0	3664.0	1.8/ 27	-	-	
3669.1	3669.5	Zone similar to (3663.1-3663.6), except that it contains tiny pores in layers at about 80° to the core. Weak radioactivity, 2000 CPM, TV-1A.	3669.0	3670.0	2.8/ 47	-	-	
3681.6		Clay layer at 90° to the core.						
3693.2		Fractures at 90° to the core.						

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MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM/Oz/T	Mg/Ca/Al PPM
3698.3		Clay layer at 85° to the core.						
3702.7	3703.3	Zone of sub-rounded, quartzofeldspathic pebbles.						
3709.3	3710.6	Pebble-rich, coarse-grained sandstone. Mostly quartzofeldspathic and sub-rounded to sub-angular.						
3711.5		Clay-rich zone at about 90° to the core. Minor micaceous material. Cut by quartz pebble.						
3726.7	3727.0	Fractures from 80° to 90° to the core, parallel to the bedding. Moderate, red, earthy, hematitization in the fractures.						
3728.1	3728.3	Same as (3726.7-3727.0).						
3730.5	3733.7	Pebble-rich, sub-conglomerate. Dominantly sub-rounded, quartzofeldspathic pebbles. Minor granitic and mafic pebbles.						
3738.3		Clay-rich zone at 80° to 90° to the core.						
3741.6	3742.0	Fine, partially ground, quartzofeldspathic and granitic fragments in a mafic-rich, weakly banded matrix, at about 80° to the core.						
3744.3	3744.5	Irregular clay layers at about 80° to the core.						
3745.6	3746.1	Zone similar to (3741.6 - 3742.0).						
3761.1	3761.4	Zone similar to (3741.6 - 3742.0) but weakly hematitized.						
3762.0	3762.4	Quartz pebble conglomerate, very poorly cemented, no silica, weakly hematitized.						
3765.7		Clay-rich bands at 80° to the core.						
3777.8		A 1.0" wide pebble conglomerate layer at 90° to the core. Pebbles are sub-rounded to sub-angular, and either quartz or gneiss.						
3778.1	3778.6	Random pebbles; quartzofeldspathic composition.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM/Oz/T	Mg/Ca/Al PPM
3782.8	3783.1	Conglomeritic zone; similar to (3778.1-3778.6).						
3785.0	3785.2	Small, fractured pebbles in a band.						
3794.0		Angular pebble of red mafic gneiss.						
3804.4		Stongly hematitized fracture at 85° to the core.						
3814.7		Small sub-angular pebble of moderately hematitized material, earthy appearance, about 4.5 hardness; possibly regolith.						
3816.0	3817.0	Several rounded quartz pebbles, about 1.0" diameter.						
3824.5		Hematitized fracture at 80° to the core.						
3828.6	3829.4	Fine-grained, unhematitized sandstone.						
3829.4	3847.0	Sandstone; medium to coarse-grained, no to weak hematitization, containing sporadic pebbles of sub-rounded quartzofeldspathic material and minor amounts of mafic gneiss.						
3832.4		Bedding at 90° to the core.						
3839.7		Large, (about 2.0" diameter) sub-rounded pebble of black, fine-grained mafic material containing blebs of quartz and feldspar.						
3847.0	3851.8	Conglomerate; dominated by pebbles and large grains of sub-rounded to sub-angular quartz and/or feldspar pebbles in a coarse-grained sandstone matrix. Minor amounts of earthy hematitized pebbles and feldspar pebbles containing strongly hematitized vugs.						
3851.8	3854.5	Coarse-grained sandstone, very few pebbles.						
3854.5	4188.0	Coarse-grained sandstone, containing sporadic pebbles, dominantly sub-rounded to sub-angular in shape, and quartz-feldspar and mafic gneiss in composition with more minor amounts of earthy, hematitized material, possibly regolith and mafic pebbles. The matrix is primarily quartz and feldspar, with lesser amounts of mafics and mica. The cement is dominantly silica, with minor amounts of clay and hematite. Cementing varies from weak to strong. Hematitization varies from none to moderate, widespread, to strong locally.						

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MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM/Oz/T	Mg/Ca/Al PPM
3865.8	3866.2	Fine-grained, unhematitized sandstone containing minor amounts of clay.						
3877.5	3878.1	Sandstone; same as (3865.8-3866.2).						
3889.2	3889.4	Sandstone; fine-grained.						
3899.6	3902.7	Several soft, strongly hematitized pebbles, possibly regolith, usually tabular in shape.						
3900.8		Fracture at 40° to the core.						
3906.0		Bedding at 90° to the core.						
3919.5		Cobble, sub-rounded, quartzofeldspathic composition.						
3919.7		Minor clay in a band at 75° to the core.						
3929.2		Earthy, hematitic, angular pebble, possibly regolith.						
3936.1	3936.7	Sandstone; fine to medium-grained, no hematitization.						
3938.5	3939.9	Sandstone; fine to medium-grained, no hematitization, about 3% mica.						
3948.1		Long (1.5"), tabular, sub-angular, pebble of earthy, hematitic material, possibly regolith.						
3952.5	3954.0	Sandstone; fine to medium-grained.						
3957.6		Regolith pebble; sub-angular.						
3961.2		Clay-rich band at 80° to the core.						
3972.9		Weak radioactivity associated with a strongly hematitized zone surrounding a fracture at about 80° to the core. Maximum is 1800 CPM on a TV-1A.	3972.0	3973.0	2.9/49	-	-	
3988.9	3989.9	Sandstone; fine to medium-grained, unhematitized.	3987.0	3988.0	0/	0/15/116	0	

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MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS	FROM	TO	U/Th PPM	Pb/Zn Cu PPM	Ni/Co Sb/Au Ag PPM Oz/T	Mg/Ca Al PPM
4001.3		Sub-rounded cobble of quartzofeldspathic material.						
4011.4	4011.7	Fine-grained sandstone, minor clay.						
4013.8		Fractures at 60° to the core. Moderate hematitization in the adjacent sandstone.						
4019.5		Healed fracture at 30° to the core.						
4027.8		Small, strongly hematitized, vuggy pebble, possibly regolith.						
4031.7		Bedding at 70° to the core.						
4034.7		Pebble; similar to (4027.8) but sub-angular.						
4037.7	4037.9	Two large, quartzofeldspathic pebbles, one partially hematitized, the other white.						
4045.3	4045.7	Fine-grained, unhematitized sandstone.						
4045.8	4048.3	Zone of small angular pebbles, about equal number of clear quartz and feldspar fragments, and hematitized fragments, both earthy and felsic.						
4059.5		Layer of rounded quartz pebbles.						
4063.2		Angular, moderately hematitized (earthy) pebble, about 4.5 hardness, either regolith or a gneiss.						
4076.4		Green clay layer at 80° to the core followed by 2.0" of fine-grained sandstone.						
4079.1		Small, angular pebble of bright orange chert.						
4081.3	4081.7	Several fractured, sub-angular, quartz-feldspar pebbles, hematitized along fracture planes.						
4085.5		Several tabular pebbles moderately hematitized, finely banded.						
4091.9	4092.8	Fine-grained, unhematitized sandstone, minor clay.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-004

FROM	TO	REMARKS
4100.0		Irregular, sub-rounded, earthy hematitic pebble; regolith.
4117.6		Clay layer at 90° to the core, containing white mica.
4118.0		End of Hole.

FROM	TO	U/Th PPM	Pb/Zn/Cu PPM	Ni/Co/Sb/Au/Ag PPM/Oz/T	Mg/Ca/Al PPM

78-LAJV-004: SAMPLES

SAMPLE NUMBER	FOOTAGE	ELEMENTS
78-CS-082	1764.0 - 1765.0	U, Pb, Cu, Zn, Ni, Co, Sb, Ag, Au
78-CS-083	1780.0 - 1781.0	U, Pb, Cu, Zn, Ni, Co, Sb, Ag, Au
78-CS-084	1782.0 - 1783.0	U, Pb, Cu, Zn, Ni, Co, Sb, Ag, Au
78-CS-085	1792.0 - 1793.0	U, Pb, Cu, Zn, Ni, Co, Sb, Ag, Au
78-CS-086	1791.0 - 1792.0	U, Pb, Cu, Zn, Ni, Co, Sb, Ag, Au
78-CS-087	1786.0 - 1787.0	U, Pb, Cu, Zn, Ni, Co, Sb, Ag, Au
78-CS-088	1785.0 - 1786.0	U, Pb, Cu, Zn, Ni, Co, Sb, Ag, Au
78-CS-089	1779.0 - 1780.0	U, Pb, Cu, Zn, Ni, Co, Sb, Ag, Au
78-CS-090	1778.0 - 1779.0	U, Pb, Cu, Zn, Ni, Co, Sb, Ag, Au
78-CS-091	1774.0 - 1775.0	U, Pb, Cu, Zn, Ni, Co, Sb, Ag, Au
78-CS-092	1770.0 - 1771.0	U, Pb, Cu, Zn, Ni, Co, Sb, Ag, Au
78-CS-093	1730.0 - 1731.0	U, Pb, Cu, Zn, Ni, Co, Sb, Ag, Au
78-CS-094	1729.0 - 1730.0	U, Pb, Cu, Zn, Ni, Co, Sb, Ag, Au
78-CS-095	1725.0 - 1726.0	U, Pb, Cu, Zn, Ni, Co, Sb, Ag, Au
78-CS-096	1673.0 - 1674.0	U, Pb, Cu, Zn, Ni, Co, Sb, Ag, Au
78-CS-097	1667.0 - 1668.0	U, Pb, Cu, Zn, Ni, Co, Sb, Ag, Au, ~~Mo, V, Ti, Sr, Ba~~
78-CS-098	1525.0 - 1526.0	U, Pb, Cu, Zn, Ni, Co, Sb, Ag, Au, Mg, Ca, Al, Sn, Mo
78-CS-099	1566.0 - 1567.0	U, Pb, Cu, Zn, Ni, Co, Sb, Ag, Au
78-CS-100	1575.0 - 1576.0	U, Pb, Cu, Zn, Ni, Co, Sb, Ag, Au
78-CS-101	1623.0 - 1624.0	U, Pb, Cu, Zn, Ni, Co, Sb, Ag, Au

...../2

SAMPLE NUMBER	FOOTAGE	ELEMENTS
78-CS-102	1625.0 - 1626.0	U, Pb, Cu, Zn, Ni, Co, Sb Ag, Au
78-CS-103	1521.0 - 1522.0	U, Pb, Cu, Zn, Ni, Co, Sb Ag, Au
78-CS-104	1827.0 - 1828.0	U, Pb, Cu, Zn, Ni, Co, Sb Ag, Au
78-CS-105	1851.0 - 1852.0	U, Pb, Cu, Zn, Ni, Co, Sb Ag, Au
78-CS-106	1876.0 - 1877.0	U, Pb, Cu, Zn, Ni, Co, Sb Ag, Au
78-CS-107	1898.0 - 1899.0	U, Pb, Cu, Zn, Ni, Co, Sb Ag, Au
78-CS-108	1917.0 - 1918.0	U, Pb, Cu, Zn, Ni, Co, Sb Ag, Au
78-CS-109	1952.0 - 1953.0	U, Pb, Cu, Zn, Ni, Co, Sb Ag, Au
78-CS-110	1984.0 - 1985.0	U, Pb, Cu, Zn, Ni, Co, Sb Ag, Au
78-CS-111	1986.0 - 1987.0	U, Pb, Cu, Zn, Ni, Co, Sb Ag, Au
78-CS-112	2074.0 - 2075.0	U, Pb, Cu, Zn, Ni, Co, Sb Ag, Au
78-CS-113	2097.0 - 2098.0	U, Pb, Cu, Zn, Ni, Co, Sb Ag, Au
78-CS-114	2121.0 - 2122.0	U, Pb, Cu, Zn, Ni, Co, Sb Ag, Au
78-CS-115	2501.5 - 2502.5	U, Pb, Cu, Zn, Ag
78-CS-116	2835.0 - 2836.0	U, Pb, Cu, Zn, Ag
78-CS-117	2890.0 - 2891.0	U, Th
78-CS-118	3040.6 - 3041.6	U, Pb, Cu, Zn, Ag
78-CS-119	3323.0 - 3324.0	U, Th
78-CS-120	3632.0 - 3633.0	U, Th
78-CS-121	3663.0 - 3664.0	U, Th
78-CS-122	3669.0 - 3670.0	U, Th
78-CS-123	3972.0 - 3973.0	U, Th
78-CS-124	3987.0 - 3988.0	U, Pb, Cu, Zn, Ag

DIP TEST

FROM	TO	TOTAL	ANGLE	CORR.	HOR.	CUMM.	VERT.	CUMM.
0'	500'	500'	90°	90°	0'	0'	500.0'	500.0'
500'	1000'	500'	89.5°	89.5°	4.4'	4.4'	500.0'	1000.0'
1000'	1500'	500'	89.5°	89.5°	4.4'	8.8'	500.0'	1500.0'
1500'	2000'	500'	90°	90°	0'	8.8'	500.0'	2000.0'
2000'	2500'	500'	88°	88°	17.4'	26.2'	499.7'	2499.7'
2500'	3000'	500'	89°	89°	8.7'	34.9'	499.9'	2999.6'
3000'	3500'	500'	89°	89°	8.7'	43.6'	499.9'	3499.5'
3500'	3807'	307'	89°	89°	5.4'	49.0'	306.9	3806.4'

DIAMOND DRILL CORE LOG

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

PROJECT: Lake Athabasca Joint Uranium Venture

LOCATION	Northeastern Alberta	HOLE NO.	78-LAJV-005
LATITUDE		LENGTH	3807'
LONGITUDE		AZIMUTH	-
ELEVATION		DIP	90°
CONTRACTOR	Midwest Drilling	PURPOSE	Obtain stratigraphic information about the Athabasca Basin
CORE	NQ, BQ		
STORAGE	Field		
PHOTOGRAPHED	-	COMMENCED	01/08/78
SEALED	No	COMPLETED	24/08/78
CASING	107'	LOGGED	W.E. Nelson

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
0.0	107.0	CASING						
107.0	3807.0	ATHABASCA FORMATION; sandstone with minor shale and conglomerate.						

COLOR: White - buff to pink-purple; minor green, grey and black

HARDNESS: 3.5 - 6.5

DESCRIPTION: The unit is comprised primarily of quartz-feldspar, medium-grained, no to weakly hematitized sandstone. The average grain size increases from fine to coarse with depth. Individual pebbles and some narrow conglomerate units exist near the base of the hole. The pebbles are dominantly quartz or quartz-feldspar in composition. There are sporadic narrow sections of hematitization throughout the unit.

Numerous shale sections exist in the upper 1000 feet of the unit. Many of these exhibit weak radioactivity. Below this interval, the shale sections are few and very narrow, and not radioactive. There are buff unhematitized, purple hematitic and green chloritic-glauconitic shales, distributed throughout the unit. Hematitic sandstone frequently borders the shale sections.

Some sulphide mineralization was found in some vertically fractured zones in the sandstone. The mineralization appeared to be mostly galena and pyrite. The mineralization or fracturing was not continuous for any great length. No conclusive evidence of faulting was found in the core. Apart from the vertical fracturing, there was abundant fracturing sub-parallel to the bedding at 70° to 90° to the core.

Pebbles of the basal conglomerate unit first appeared about 3300 feet and appeared sporadically to the base of the hole. Some rounded pebbles and small sections of intraformational conglomerate appeared near the surface.

As the depth increases, minor amounts of mafics and mica enter the sandstone. Also, through the silicification is not consistant throughout the unit, it generally decreases with depth. Silicification is the main form of cementing, accompanied by minor amounts of hematitization, clay packing and carbonitization, in decreasing order.

COMPOSITION:

Shale	4%
Sandstone	95%

Quartz	75%
Feldspar	15%
Hematite	2%
Mica	Trace
Mafics	Trace

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
		Sulphides Trace Clays 5% Pebbles 3% Conglomerate 1%						
		ALTERATION: No to weak, widespread and strong, local hematitization throughout the unit. Weak, local chloritization and glauconitization of the shale sections. Very weak, local carbonitization in the sandstone.						
		RADIOACTIVITY: 538.0 - 539.0 1200 CPM TV-1A 587.0 - 588.0 1400 CPM TV-1A 656.0 - 657.0 1600 CPM TV-1A 664.0 - 665.0 1500 CPM TV-1A 671.0 - 672.0 1100 CPM TV-1A 679.0 - 680.0 1300 CPM TV-1A 689.0 - 690.0 1200 CPM TV-1A 698.0 - 699.0 1500 CPM TV-1A 706.0 - 707.0 1200 CPM TV-1A 714.0 - 715.0 1300 CPM TV-1A 747.0 - 748.0 1200 CPM TV-1A 793.0 - 794.0 1600 CPM TV-1A 799.0 - 800.0 1500 CPM TV-1A 888.0 - 889.0 1100 CPM TV-1A 3161.0 - 3162.0 2000 CPM TV-1A 3467.0 - 3468.0 1600 CPM TV-1A 3520.0 - 3821.0 1500 CPM TV-1A						
		CORE: Minor broken and ground core. Fracturing dominantly in two ranges, sub-parallel to the bedding at 70° to 90° to the core, and sub-parallel to the core.						
107.0	224.5	Sandstone; dominantly medium-grained, minor fine and coarse-grained sections, minor green or purple clay sections. No to weak, widespread and moderate to strong, local hematitization. Weak glauconitization and chloritization in some shale and clay-rich zones. Weakly fractured. Not strongly silicic.						
114.5	117.0	Fractured zone, varying from 0° to 90° to the core. Sections of coarse-grained sandstone, and green and purple shale.						
115.5	116.3	Possible sulphides in fractures at 0° to 20° to the core	115.5	116.3	0	-	2/5	2/0
123.2	124.9	Several small, rounded quartz pebbles.						
139.7		Clay layer at 75° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
148.2	148.5	Pebble conglomerate, both sub-rounded quartzite and strongly hematitized gneiss or granite. Minor clay in matrix, accompanying leached zone.						
148.9	149.5	Coarse-grained, moderately hematitized sandstone.						
152.3	156.2	Medium to coarse-grained, moderately hematitized sandstone; weakly cemented by hematite and silica.						
162.5		Bedding at 80° to the core.						
163.2		Clay mud in a fracture at 60° to the core.						
167.4	170.5	Narrow, clay-filled fractures at 70°to 80° to the core, accompanied by leached zones.						
174.7		Shale; green at 90° to core.						
177.6	180.8	Shale; green, minor hematitized patches, no sand; grades into muddy basal contact with sandstone.						
181.0	181.2	Quartz-pebble conglomerate in a weakly hematitized sandstone matrix. Minor shale chips.						
203.5	204.2	Sandstone; coarse-grained, locally hematitized minor clay.						
214.6		Bedding at 80° to the core.						
221.8	222.2	Fractures from 45° to 90° to the core; minor clay.						
224.5	238.6	Sandstone; fine to medium-grained, no to weak widespread hematitization, moderate local. Leached fractures at 60° to 90° to the core, some clay-filled. Occasional coarse-grained section and quartz pebbles.						
238.6	347.9	Sandstone; similar to (224.5 - 238.6), but more coarsely-grained.						
248.7		Bedding at 70° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
254.7		Shale at 90° to the core.						
269.4	269.7	Shale; green chlorite, minor sand; sharp, but irregular contacts with the sandstone.						
275.4	275.8	Fractures at 90° to the core, some contain clay.						
279.6	280.5	Sandstone; coarse-grained.						
284.0	347.9	Sporadic, coarse-grained sandstone and pebbles.						
289.3	289.5	Shale; dark green, chloritic, irregular fracturing; hard.						
291.5	291.8	Shale; buff to pale green, gradational contacts to the sandstone; soft.						
292.0	292.4	Sandstone; coarse-grained, containing one large, angular shale chip.						
295.1		Conglomerate; containing mostly small, sub-rounded, quartz-feldspar pebbles.						
295.7	295.9	Shale; same as (289.3 - 289.5).						
300.4		Shale; same as (289.3 - 289.5).						
307.1		Bedding at 85° to the core.						
312.1		Irregular, clay-filled fracture at about 70° to the core.						
331.2		Fracture at 90° to the core.						
347.9	357.0	Sandstone; grey, minor clay, no hematitization, weakly fractured, weakly chloritized locally.						
348.3		Fracture at 45° to the core.						
353.3	353.8	Fracture sub-parallel to the core, containing a garnet surrounded by a strongly hematitized rim of sandstone.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
356.0	356.8	Sandstone; medium-grained, containing patchy, intermixed, weak hematitization and chloritization.						
361.5	362.4	Patchy, weak chloritization.						
364.2	367.5	Zone of numerous, irregular chloritic bands at 60^{o} to 90^{o} to the core.						
374.7	378.0	Several small, random mafic patches containing tiny euhedral crystals of pyrite.						
384.1	385.5	Zone similar to (364.2 - 367.5).						
389.5		Bedding at 90^{o} to the core.						
390.5	392.9	Zone similar to (364.2 - 367.5).						
406.7		Irregular, moderately hematitized patch.						
411.0	419.0	Patchy chloritization in a weakly hematitized, medium-grained sandstone.						
419.6	444.4	Sandstone; fine-grained, minor clay, no to weak hematitization, weakly chloritized, decreasing in the centre of the section.						
434.2		Fracture at 45^{o} to the core.						
434.8		Shale; chloritized and hematitized, at 75^{o} to the core.						
443.3		Fracture; clay-filled at 45^{o} to the core.						
446.2		Hematitized fracture at 85^{o} to the core.						
446.6		Large, irregular, chloritized shale chip.						
447.8		Irregular, weakly hematitized shale layer following a fracture at about 70^{o} to the core.						
450.8		Chloritized fracture at 70^{o} to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
454.5		Bedding at 70° to the core.						
456.9		Chloritized fracture at 20° to the core.						
459.3	461.6	Moderately hematitized, fine to medium-grained sandstone; weak, local, chloritization.						
462.8		Coarse-grained bed at 90° to the core.						
468.0		Strongly hematitized fracture at 90° to the core.						
483.0	483.7	Moderately hematitized sandstone grading into moderately chloritized sandstone.						
483.7	507.0	Intermixed zones of weakly hematitized and weakly chloritized, fine-grained sandstone.						
493.5	494.0	Tiny, hematitized vugs.						
513.4		Irregular fracture at about 70° to the core.						
514.9	515.6	Extensively fractured, fine-grained sandstone and weakly hematitized and chloritized shale, intermixed. Strongly silicified fractures in all directions.						
515.6	515.7	Shale; weakly hematitized, hard.						
520.0	522.2	Fracture sub-parallel to the core.						
521.7	521.8	Strongly chloritic sandstone.						
523.0	523.3	Chloritized shale and weakly hematitized sandstone intermixed.						
523.0	524.1	Fracture at 10° to the core.						
524.2		Bedding at 50° to the core.						
537.4	537.8	Shale; green, sandy grading into purple.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS
537.8	538.6	Sandstone; containing irregular shale layers and/or chips. Some coarse-grained felsic material. Weak radioactivity, 1500 CPM TV-1A.
538.6	540.6	Shale; dominantly purple, hematitic material, some patchy, green material. Partially broken core.
545.5		Fracture, powdered and hematitized at 90° to the core.
546.6		Orange colored, hematitized zone.
546.8	554.4	Sandstone; grey, medium-grained, weakly hematitized, poorly cemented.
549.4		Fracture at about 30° to the core.
554.4	555.4	Shale; dark green, sandy.
557.0	569.9	Sandstone, fine to medium-grained, no to weak hematitization, very poor cementing, minor shale chips.
569.9	575.7	Shale; weak to moderate hematitization, minor sand, friable at 80° to 90° to the core.
575.7	576.1	Fracture, sub-parallel to the core.
576.1		Fracture at 75° to the core.
584.8	597.0	Shale; brown, green spots and patches, friable and extensively fractured at all angles. Weak radioactivity 1800 CPM TV-1A.
591.6	597.0	Broken core, and about 3' of ground core.
599.0		Bedding at 75° to the core.
604.7		Sandstone, uncemented.
605.0	624.0	Sandstone; mottled purple and buff, medium-grained, poor to fair cementing. Minor shale chips and clay.

FROM	TO	U	Th	Pb/Zn	Cu/Ag
538.0	539.0	18.7	20	-	-
587.0	588.0	10.0	14	-	-

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS
624.0	626.0	Shaly sandstone; hematitized, friable at 80° to the core.
627.0	638.0	Sandstone; minor clay and chlorite, weak hematitization.
629.4		Broken core.
633.5		Broken core.
634.6		Fracturing at 60° to the core.
641.9		Large, buff, sandy, shale chip.
649.7	773.4	Shale; purple, moderately hematitized, friable at about 90° to the core, minor amounts of chlorite; grading into shale and fine-grained sandstone intermixed, weaker hematitization, more chlorite, some sections are strongly fractured at all angles. Weak radioactivity, up to 2000 CPM TV-JA.
656.2	656.6	Extensively fractured, soft, crumbly.
685.5		Fractures at 30° to the core, but 60° apart.
693.3	693.6	Fracture at 10° to the core.
702.3	703.0	Fractures sub-parallel to the core.
710.9	711.4	Fracturing at 70° to 90° to the core. Minor ground core.
725.8	725.9	Fine, hematitized shale chips in bands at 90° to the core.
738.3	738.8	Fracture sub-parallel to the core.
738.8	739.1	Chlorite in bands at 85° to the core.
739.5		Fracture at 45° to the core.

FROM	TO	U	Th	Pb/Zn	Cu/Ag
656.0	657.0	12.6	18	-	-
664.0	665.0	9.7	21	-	-
671.0	672.0	5.5	11	-	-
679.0	680.0	9.8	17	-	-
689.0	690.0	7.4	19	-	-
698.0	699.0	6.4	18	-	-
706.0	707.0	5.2	11	-	-
714.0	715.0	7.2	18	-	-

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS
752.0	753.5	Fracture sub-parallel to the core.
759.4	759.9	Chlorite-rich zone, crystals up to 0.2" long.
762.4		Bedding at 90° to the core.
762.5	762.8	Fractures at 45° to 60° to the core.
773.4	783.1	Sandstone; fine-grained, buff to light green, clay-rich, no to very weak widespread, to moderate local hematitization. Poorly cemented and poorly bedded. Minor shale chips.
778.0		Shale chips, small, aligned at 80° to the core.
783.1	816.6	Shale; sandy, similar to (649.7 - 773.4). Weak radioactivity, widespread.
785.3	785.4	Shale; moderately hematitized, silver dollar fracturing.
793.5		Fine pyrite along some irregular fractures.
795.9		Fracture at 30° to the core.
797.0	801.1	Shale; moderately hematitized. Small extensively fractured zones, broken and ground core; soft.
802.3		Fracture at 45° to the core; associated earthy hematitization.
804.3		Bedding at 90° to the core, shale chips.
808.5		Silver dollar fracturing.
816.6	2313.4	Sandstone; fine to medium-grained, weak, patchy hematitization, dominantly patchy grey and light green, clay-rich. Minor shale chips. Fair to poor cementing.
819.9		Healed fracture at 30° to the core.

FROM	TO	U	Th	Pb/Zn	Cu/Ag
747.0	748.0	8.5	18	-	-
793.0	794.0	34.6	12	-	-
799.0	800.0	8.3	25	-	-

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS
825.5	845.5	Tiger-striped sandstone; Irregular bands of white, purple (hematitic) and green (clay-rich) sandstone.
846.6	847.3	Shaly sandstone; strongly hematitized. Fractured at 70° to the core.
848.3	848.4	Shale; sandy, broken, partially ground.
849.3	867.6	Sandstone; tiger-striped, similar to (825.5 - 845.5), but banding not as distinct, and more clay and shale. Local, strong silicification.
856.7	857.4	Fracture, sub-parallel to the core.
857.5		Shale unit at 85° to the core, hematitized, chloritic upper and basal contacts.
863.0	863.3	Shale; minor sand, moderately hematitized.
869.3	896.2	Interbanded moderately hematitized, shale and buff, clay-rich, unhematitized sandstone. Weak, widespread radioactivity. Minor fracturing at 80° to 90° to the core.
871.1		Broken core.
896.2	897.7	Shale chips; both hematitized and unhematitized.
897.7	898.8	Fractures sub-parallel to the core.
898.8	974.1	Sandstone; medium-grained, no to weak, widespread hematitization, minor clay bands, fair to good silicification, some spotty hematitization.
906.8		Bedding at 80° to the core.
913.8	914.0	Shale; hematitized, containing medium-sized quartz grains.
915.7	924.5	Irregular fractures, sporadic from 60° to 90° to the core; healed by hematitic material, usually accompanied by a narrow leached zone.
925.4	925.6	Several large, irregular, grey shale chips.

FROM	TO	U	Th	Pb/Zn	Cu/Ag
888.0	889.0	5.5	14	-	-

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
940.0		Clay-filled fracture at 80° to the core.						
940.1		Several small shale chips.						
947.6	947.7	Shale; green-purple, hard. Upper contact with sandstone is moderately hematitized.						
949.0	949.3	Shale; hematitized, chloritic at contacts.						
949.3	949.5	Shale chips, random orientation.						
950.3	950.8	Shale; hematitic, grades into sandstone.						
955.7		Shale; fractured at 90° to the core.						
961.7	962.7	Fracture sub-parallel to the core terminating against a fracture at 90° to the core.						
963.0	963.8	Shale; strongly hematitized. Irregular contact at about 40° with the sandstone, broken core. Grading into intermixed material.						
963.5		Intermixed green, chloritic shale and sandstone.						
968.7	969.5	Fracture sub-parallel to the core.						
968.7		Euhedral pyrite in a fracture at 90° to the core.						
974.1	989.0	Shale; strongly hematitized, spotty leaching. Weak fracturing at 60° to the core. Grades into interbanded sandstone and shale. Fracturing increases with depth.						
979.0		Fracture at 45° to core, clay on surface slip.						
981.5		Broken core.						
981.7	982.2	Fracture sub-parallel to the core.						
984.5	984.7	Zone of irregular fracturing.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
984.5	984.7	Zone of irregular fracturing.						
984.8	985.8	Fractures at 0° and 90° to the core.						
986.3	986.6	Broken core.						
987.6	988.4	Fractures at 0° to 30° to the core.						
993.2	994.1	Fracture at 10° to the core.						
1003.1	1003.5	Sandstone; shale-rich, weakly hematitized.						
1012.2	1013.0	Fracture at 10° to the core.						
1013.9		Clay-rich sandstone, bedding at 80° to the core.						
1019.1	1019.4	Shale; purple-grey color, hard.						
1020.5		Healed fracture at 30° to the core.						
1022.7	1023.3	Sandstone; fractured sub-parallel to the core. Top and bottom of section are weakly hematitized shale bands at 70° to the core.						
1030.3	1030.8	Fracture sub-parallel to the core terminating at a fracture 45° to the core.						
1032.0		Fracture at 30° to the core.						
1041.0		Clay-filled fracture at 80° to the core.						
1052.5		Fracture at 10° to the core.						
1059.0		Fracture at 45° to the core.						
1060.5	1061.1	Irregular fracturing, broken core. Weak leaching along fractures.						
1061.7		Hematitized clay layer at 90° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
1067.0		Shale layer at 90° to the core.						
1079.0	1079.7	Fracture at 20° to the core.						
1081.7	1081.8	Random, coarse quartz grains, sub-rounded.						
1083.6	1084.2	Irregular shale chips and/or layers, both hematitized and chloritized. Aligned at about 60° to 80° to the core.						
1086.1		Shale chips.						
1087.0	1087.5	Weak hematitized, minor shale.						
1092.6	1093.6	Shale; both hematitized and chloritized, minor sand.						
1100.8		Spotty hematitization.						
1108.3		Fracture at 45° to the core.						
1108.6		Irregular clay-rich patch, weakly hematitized, possibly associated with fractures at 70° to the core.						
1115.6		Sandstone; clay-rich, weakly hematitized.						
1119.7	1120.2	Fractures at 0° and 90° to the core.						
1120.5	1121.2	Fracture sub-parallel to the core.						
1124.1	1125.1	Shaly sandstone; weak to moderate hematitization, banding at 80° to the core.						
1130.5	1133.7	Shale; hematitized, minor chlorite, hard, small fine-grained sandstone sections.						
1137.7		Shale layer at 85° to the core.						
1139.1	1139.5	Radial fractures.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
1141.3	1141.5	Shale; pale green.						
1144.5		Shale; sandy, weakly hematitic.						
1151.8	1152.7	Shale; both purple and buff-light green, friable at 90° to the core.						
1153.5	1155.2	Fractures sub-parallel to the core.						
1155.9	1160.6	Fractures sub-parallel to the core.						
1159.3		Shale; hematitized at 80° to the core.						
1165.8		Vugs; remnant material is hematitized.						
1173.5		Fracture at 45° to the core.						
1175.2		Two fractures at 60° and 80° to the core.						
1176.8	1179.2	Interbanded, weakly hematitized shale and grey, fine-grained sandstone. Minor chlorite in both shale and sandstone.						
1178.6		Silver dollar fracturing.						
1187.2		Bedding at 85° to the core.						
1191.9	1193.2	Fractures sub-parallel to the core.						
1192.1	1192.2	Clay-rich section.						
1196.7		Large, tabular shale chip, weakly hematitized.						
1201.5		Bedding at 60° to the core.						
1207.0		Clay bands at 90° to the core.						
1210.1		Irregular shale band or chip weakly hematitized.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
1213.7		Weakly chloritized shale chip.						
1214.3		Clay band at 70° to the core.						
1218.1		Clay-healed fracture at 80° to the core.						
1221.0		Large, irregular, soft, unaltered shale chip, surrounded by a hematitized rim of sandstone.						
1221.8	1223.8	Shale; core is weakly hematitized, while top and basal sections are weakly chloritic. Minor amounts of sand.						
1231.6		Shale chips.						
1239.1		Fracture at 30° to the core.						
1241.8	1242.2	Irregular fracture at less than 30° to the core.						
1246.5		Fracture at 20° to the core.						
1247.9		Bedding at 75° to the core.						
1261.0	1261.4	Fracture at 20° to the core.						
1264.0	1264.1	Shale; weakly hematitized, contacts at 90° to the core.						
1268.2		Patch of sandstone coarser than the material surrounding it.						
1270.1	1274.8	Clay-rich bands, grey-green color, at 80° to 90° to the core.						
1285.0	1290.8	Fracture, or fractures, sub-parallel to the core. Minor clay.						
1294.1		Bedding at 80° to the core.						
1295.6	1297.0	Broken core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
1298.7		Shale chips; irregular, soft.						
1308.1		Shale band, hematitized, at 80° to the core.						
1317.9		Fracture at 30° to the core.						
1323.8	1325.2	Irregular fractures from 0° to 30° to the core.						
1328.3		Bedding at 80° to the core.						
1333.1	1333.8	Shale; weakly hematitized, minor chlorite, friable at 75° to 90° to the core. Minor sandy section near the base of the unit.						
1342.9	1345.1	Two parallel fractures at 10° to the core.						
1348.8	1350.6	Several minor grey-green shale bands. Contacts at about 80° to the core. Minor sand.						
1367.8	1368.3	Fracture at 10° to the core.						
1374.0	1374.3	Fractures at 70° to 80° to the core, sub-parallel to the bedding.						
1379.0	1379.2	Shale; green-purple, friable at 90° to the core.						
1381.4	1381.5	Sandy shale; grey.						
1382.5	1383.1	Series of fractures sub-parallel to the core, terminating against a fracture at 45° to the core.						
1385.0	1449.0	Discontinuous fractures from 0° to 30° to the core.						
1390.3		Fine shale layer, hematitized, at 90° to the core.						
1397.5		Shale chips surrounded by weakly hematitized sandstone.						
1403.0		Bedding at 75° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
1406.3		Fracture at 45° to the core.						
1408.8		Bedding at 75° to the core.						
1412.0	1412.2	Cross-bedding at 90° and 60° to the core.						
1418.8	1421.7	Sandstone; fine to medium-grained, minor clay in bands with green tinge.						
1428.1		Coarse-grained sandstone layer at about 80° to the core.						
1428.5		Fracture at 45° to the core.						
1431.2	1431.5	Shale layer, underlain by clay-rich, weakly hematitized sandstone.						
1435.7		Weakly hematitized shale band at 80° to the core.						
1441.7	1442.3	Sandy shale.						
1444.0	1444.1	Irregular, grey-green shale chips.						
1450.1	1473.8	Shale and sandstone interbanded. No to weak, widespread, to moderate, local hematitization. Irregular banding, numerous shale chips. Intermixing of rock types. Dominant fracturing from 70° to 90° to the core. Minor broken core.						
1455.3		Broken core.						
1456.0	1456.3	Fractures sub-parallel to the core.						
1457.3		Fracture at 20° to the core.						
1464.2	1464.8	Numerous small, unhematitized shale chips.						
1468.5	1469.0	Fracture at 20° to the core.						
1473.8	1536.9	Sandstone; fine to medium-grained, largely unhematitized. Extensive fracturing from 0° to 30° to the core. Minor shale and clay.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
1481.1		Erratic shale band.						
1481.3	1481.6	Several large, irregular, unhematitized shale chips with weakly hematitized rims.						
1482.8	1483.2	Zone of irregular shale bands and chips.						
1489.5	1492.1	Broken core, zone sub-parallel to the core.						
1490.9	1492.1	Shale and shale chips intermixed with sandstone.						
1494.4		Shale chip; irregular, unhematitized.						
1495.9		Broken core.						
1496.9	1498.1	Irregular fracturing, associated with clay-rich sandstone, some shale chips.						
1510.2	1510.9	Sandstone; clay-rich.						
1510.9	1511.5	Numerous fractures from 20^{o} to 80^{o} to the core.						
1511.3	1518.7	Sporadic, sub-rounded, unhematitized shale chips.						
1520.7	2067.0	Sporadic, unhematitized shale chips.						
1530.3	1530.5	Shale; sandy weakly hematitized, friable at 90^{o} to the core.						
1534.2	1534.5	Intermixed shale and sandstone, no regular banding.						
1534.7		Bedding at 80^{o} to the core.						
1544.5		Bedding at 60^{o} to the core.						
1545.5		Irregular clay-filled fracture at about 90^{o} to the core.						
1548.1	1550.3	Clay-rich zone.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
1550.0		Band of shale chips at 75° to the core.						
1550.4	1775.0	Extensive fracturing at 0° to 30° to the core.						
1552.0		Shale chips.						
1558.1	1559.0	Clay-rich sandstone; some shale chips.						
1567.6	1568.0	Shale and sandstone intermixed. Weakly hematitized.						
1573.6		Band of shale chips at 90° to the core.						
1582.1		Large, irregular shale chip, unhematitized.						
1583.6	1583.9	Clay and sand intermixed, grey, spotty, weak hematitization, contacts with sandstone at 30° to the core.						
1590.2	1590.3	Shale band or chip; unhematitized, buff, soft, containing fragments of sandstone.						
1597.0	1597.9	Broken core, dominantly sub-parallel to the core.						
1598.3		Clay band at 90° to the core, bedding at 70° to the core.						
1603.7	1605.6	Sandstone; clay-rich, minor shale sections, irregular contacts.						
1612.0		Broken core.						
1616.8		Shale chips.						
1618.5		Bedding at 75° to the core.						
1625.0	1625.5	Sandstone; fine-grained, clay-rich, weakly hematitized, partially broken core.						
1634.2	1634.8	Sandstone; clay-rich.						
1635.4	1639.0	Shale chips, random.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
1641.2	1641.8	Irregular shale bands at about 70° to 90° to the core.						
1645.5		Bedding at 60° to the core.						
1652.9		Large, irregular, soft, unhematitized shale chip.						
1652.8	1653.6	Two fractures, one at 10° and the other at 30° to the core, at about 90° and 40° to each other.						
1654.9	1655.3	Sandstone; clay-rich.						
1673.7		Shale chip surrounded by weakly hematitized sandstone.						
1677.2	1677.5	Zone of buff-grey shale chips, and an irregular clay layer at about 70° to 90° to the core.						
1679.1		Cross-bedding, at 60° and 70° to the core, about 50° to each other.						
1685.8	1695.7	Start of irregular, flow-banded hematitization.						
1690.9	1692.4	Shale; weakly hematitized, brown color, minor shale.						
1692.5		Sporadic, buff to light green, unhematitized (except for some cores), irregular shale chips.						
1698.0	1698.2	Sandstone; light brown, clay-rich.						
1702.2		Bedding at 80° to the core.						
1705.6		Irregular patch of sandstone comprised of rings of varying hematitization.						
1709.7		Bedding 30° to 45° to the core.						
1729.7		Tabular shale chips in planes at 80° to 90° to the core, sub-parallel to bedding.						
1737.0	1738.1	Sandstone; fine to medium-grained, weak to moderate hematitization. Several patches of unhematitized sandstone, and one sub-rounded pebble of clay-rich sandstone.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS
1748.3	1748.6	Brown shale bands.
1760.1	1760.5	Brecciated sandstone in shale matrix. The brecciated sandstone is weakly to moderately hematitized as opposed to the sub-rounding sandstone being unhematitized. Contacts are sharp, but irregular, marked by fine clay layers.
1768.8		Patch of moderate hematitization.
1773.3	1773.4	Large, unhematitized, soft, shale chip, surrounded by zone of moderately hematitized sandstone.
1774.4		Shale; light brown, sandy, contacts at 90° to the core.
1774.4	1775.0	Sandstone; clay-rich.
1790.2	1790.6	Shale, brown and sandstone, weakly hematitized, intermixed.
1791.2		Irregular shale band at about 80° to the core.
1797.6	1797.8	Sandstone; clay-rich, weakly hematitized, fine shale bands at 70° to 80° to the core.
1810.7		Fine clay layer at about 90° to the core.
1814.8		Fracture at 20° to the core.
1825.2	1825.7	Sandstone; clay-rich, fine-grained, buff to light brown; minor, irregular shale layers.
1825.5	1849.5	Fractures from 0° to 30° to the core.
1827.5	1828.2	Vugs along fracture at 10° to the core.
1829.5		Bedding at 75° to the core.
1836.1		Crystalline galena in a fracture at 20° to the core.
1836.2	1837.1	Hematitized spots in circular bands of varying strengths.

FROM	TO	U	Th	Pb/Zn	Cu/Ag
1836.0	1837.0	0	-	380/3	2/0

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
1847.9		Bedding at 85° to the core.						
1850.0		Irregular clay band at about 70° to the core.						
1861.5		Shale; purple and green, irregular contacts.						
1873.5		Clay layer at 85° to the core.						
1875.5	1877.0	Fractures sub-parallel to the core.						
1882.6		Fracture at 50° to the core.						
1886.2	1891.7	Hematitization in sections from none to moderate. As hematitization increases, cementing decreases.						
1887.7		Fractures at about 90° to the core.						
1894.7	2067.0	Fractures from 0° to 30° to the core.						
1897.0		Sandstone; minor clay.						
1905.8	1906.1	Sandstone; strongly hematitized, fractured at 90° to the core; containing shale chips, unhematitized.						
1906.1	1906.9	Shale, grading into fine-grained sandstone.						
1907.4	1907.7	Sandstone; fine-grained, clay-rich, some white micas.						
1908.7		Zone of strong hematitization surrounding an irregular shale chip.						
1910.6	1911.1	Hematitized fracture, sub-parallel to the core, in a section of clay-rich sandstone.						
1914.4		Zone similar to (1908.7), except that there are several shale chips here.						
1915.0		Clay band at 80° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
1915.9	1917.0	Sandstone; fine-grained, clay-rich, fine shale bands at about 90° to the core. Minor shale chips.						
1921.9	1922.2	Sandstone; clay-rich.						
1924.4		Fine shale band at about 90° to the core, sub-parallel to the bedding.						
1935.2	1935.5	Shale and clay-rich, fine-grained sandstone interbanded at about 80° to the core.						
1937.0		Minor broken core.						
1940.5		Irregular clay band at about 90° to the core.						
1942.9	1947.6	Sandstone; fine to medium-grained, no to moderate hematitization. Extensive fracturing from 0° to 30° to the core, some fractures accompanied by narrow-leached zones.						
1956.3	1957.0	Sandstone; clay-rich.						
1959.6	1963.3	Minor amounts of sulphides, possibly galena and pyrite, along fractures sub-parallel to the core. Core broken to a large extent.	1962.0 1963.0	1963.0 1964.0	0 0	- -	8/4 6/4	2/0 3/0
1974.9		Hematitized solution fronts in the sandstone extend uninterrupted through a buff, soft shale chip.						
1975.2	1975.5	Clay intermixed with medium to coarse-grained sandstone.						
1983.2		Irregular shale layer at about 70° to the core.						
1990.3	1990.9	Section of clay-rich sandstone, commencing at a large, unhematitized shale chip, and terminating at a narrow shale band, weakly hematitized, at 80° to the core.						
1994.6	1995.9	Interbanded brown shale and fine-grained sandstone.						
1999.9		Unhematitized shaley chip rimmed by weakly hematitized sandstone.						
2007.0		Shale band at about 85° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
2007.1	2007.7	Sandstone; clay-rich.						
2021.4	2021.8	Moderate hematitization in a medium-grained sandstone.						
2021.8		Bedding at 85° to the core.						
2022.3	2023.1	Moderately hematitized sandstone, except one large patch which is unhematitized, but part of the sandstone. Evidence is continuous bedding through both sections.						
2028.3	2028.6	Fine, irregular shale bands or chips, associated with patches of moderately hematitized sandstone.						
2038.0		Shale chip rimmed by moderately hematitized sandstone.						
2038.5	2039.0	Sandstone; medium-grained, moderately hematitized.						
2041.8		Shale; sandy.						
2044.6	2044.7	Zone of moderately hematitized sandstone, in contact with a sandy, shale layer.						
2057.0	2061.1	Sandstone; medium-grained, weak to moderately hematitized, cementing decreases with increase in hematitization.						
2064.6	2064.8	Zone of numerous irregular shale chips and layers.						
2070.3	2071.9	Fracture at 0° to 10° to the core.						
2077.6	2078.0	Hematitized fractures at both 10° and 80° to the core.						
2082.2		Fracture at 30° to the core.						
2086.5		Fracture at 20° to the core, leached sandstone.						
2087.0	2102.8	Zone of interbanded weak to moderately hematitized sandstone, shale containing minor sand, and clay-rich, fine-grained sandstone.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
2094.8	2097.9	Fractures sub-parallel to the core.						
2102.8	2103.4	Interbanded sandy shale and clay-rich sandstone. Some irregular fracturing.						
2104.3	2105.2	Fracture sub-parallel to the core.						
2123.2		Bedding at 80° to the core.						
2124.4	2127.1	Fractures sub-parallel to the core.						
2133.3		Irregular shale layer, grading down into a narrow clay-rich sandstone section.						
2149.3		Bedding at 80° to the core.						
2156.2		Moderately hematitized sandstone and shale layers at about 90° to the core.						
2159.7		Shale; grey-green, at 85° to the core.						
2162.4		Interbanded moderately hematitized sandstone, both hematitized and not, shale and clay-rich sandstone.						
2182.0	2204.0	Minor coarse-grained material, irregular hematitization fronts, minor tabular shale chips. Grades into medium-grained sandstone containing patchy, weak to moderate hematitization, still some banded material. Minor shale chips, clay and coarse-grained sandstone.						
2183.9		Several inches of ground rock missing.						
2187.6		Shale chip surrounded by strongly hematitized rim, similar to most shale chips in section.						
2188.9		Clay-rich band at about 80° to the core.						
2206.2		Irregular, clay-rich zone, moderately hematitized.						
2207.0	2207.3	Fracture sub-parallel to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
2209.1		Bedding at 90° to the core.						
2217.0	2217.8	Bedding and clay-layers at about 80° to the core.						
2227.7		Small vugs along an irregular, clay-filled fracture.						
2232.5		Moderately hematitized, poorly cemented, sandstone band.						
2242.5	2245.4	Intermixed shale, shale chips and sandstone of varying grain sizes and hematitization Both sharp and gradational contacts exist. Patchy cementing of varying grades.						
2245.7	2245.9	Fine clay bands at 80° to the core.						
2252.0		Irregular band of shale chips.						
2255.1	2255.9	Fractures sub-parallel to the core.						
2256.8		Shale chip, weakly hematitized in the core.						
2260.0	2260.7	Weakly hematitized fractures at about 10° to the core.						
2276.2		Bedding at 80° to the core.						
2287.9		Fine, weakly hematitized, shale bands at about 85° to the core.						
2297.0		Narrow band of moderately hematitized coarse-grained sandstone.						
2307.7		Clay-rich band at about 90° to the core.						
2310.0		Bedding at 80° to the core.						
2313.4	3310.8	Sandstone; medium-grained, no to weak, widespread and moderate, local hematitization. Minor shale and clay-rich section. Sporadic coarse grains and small pebbles, dominantly quartz and feldspar. Occasional shale chip. Minor irregular fracturing. Generally the cementing is good.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
2316.4	2316.8	Fracture at 90° to the core.						
2319.0	2319.4	Irregular fracture from 0° to 30° to the core.						
2327.9		Pebble; sub-angular, quartz-feldspar.						
2339.4		Clay bands at 90° to the core.						
2347.0	2347.8	Irregular clay bands.						
2355.4	2357.0	Fracture sub-parallel to the core, containing a silver colored sulphide.	2355.0 2356.0	2356.0 2357.0	0 0	- -	18/8 54/5	3/0 3/0
2365.0	2365.3	Two fractures, irregular at about 60° to the core.						
2367.6	2495.9	Zone of intermixed sandstone and shale. No to moderate, local hematitization. Irregular clay-rich sections. Minor shale chips.						
2371.5		Shale bands narrow, at 80° to the core.						
2378.7	2379.2	Fractures sub-parallel to the core.						
2382.1		Bedding at 90° to the core.						
2390.8		Hematitized fracture at 70° to the core.						
2397.1		Irregular, hematitized shale chip.						
2399.8		Tabular shale chip, aligned at 70° to the core.						
2402.4	2403.2	Sandstone; moderately hematitized, medium-grained, containing a 2.0" wide layer of coarse-grained sandstone underlain by a narrow shale layer.						
2407.0		Narrow, grey-green, sandy, shale layer.						
2411.8	2412.0	Sandstone; coarse-grained, moderately hematitized, poorly cemented, vuggy.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
2415.0	2415.2	Fracture sub-parallel to the core, terminating against a narrow shale layer at about 80° to the core.						
2416.7	2417.0	Clay-rich sandstone.						
2420.4	2421.4	Clay-rich sandstone.						
2425.2	2425.9	Interbanded shale and sandstone.						
2427.1		Irregular band of tabular shale chips, not parallel to bedding at about 80° to the core.						
2435.0	2436.0	Fracture at 10° to the core.						
2436.5	2437.3	Clay-rich sandstone containing several narrow, shale bands and fractures at about 90° to the core.						
2443.5	2443.8	Sandstone; grey, fine-grained, clay-rich.						
2446.6	2447.0	Sandstone; moderately hematitized.						
2447.0	2449.3	Sandstone containing minor clay.						
2450.6	2450.7	Irregular coarse-grained layer, minor shale chips.						
2451.0		Shale layer at 90° to the core.						
2453.8	2454.4	Clay-rich sandstone.						
2456.0		Sandstone; coarse-grained.						
2458.1	2458.7	Interbanded shale and sandstone, fine, but irregular.						
2463.4	2463.5	Sandstone; medium-grained, moderately hematitized, poorly cemented and small irregular shale chips.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
2463.5	2464.2	Clay-rich sandstone.						
2467.2		Shale band at 70° to the core.						
2470.0	2470.1	Shaly sandstone.						
2474.8	2477.9	Sandstone; moderately hematitized.						
2476.0	2476.2	Sandstone; coarse-grained.						
2482.4	2482.5	Shale.						
2491.0		Several coarse quartz grains and one shale chip.						
2495.9		Clay layer at 80° to the core.						
2498.5		Irregular, hematitized shale chip.						
2502.8		Bedding at 85° to the core.						
2507.0	2512.0	Fracture sub-parallel to the core; continous.						
2518.6		Large, irregular, very weakly hematitized shale chip.						
2524.5	2525.7	Sandstone; clay-rich, minor shale. Grades into a moderately hematitized sandstone.						
2527.2	2528.3	Sandstone; coarse-grained, moderately hematitized, containing a 4" long shale section, which is fractured at about 0° to the core.						
2543.6		Bedding at 90° to the core.						
2544.3		Irregular shale chip accompanied by some coarse quartz grains.						
2551.2	2551.3	Finely banded shale and sandstone.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
2558.2	2558.7	Moderately hematitized sandstone, bedding at about 70° to 80° to the core.						
2560.2	2560.5	Sandstone; coarse-grained, moderately hematitized, fair cementing.						
2563.5	2563.6	Shale; grading into sandstone.						
2566.3		Clay-band at 90° to the core.						
2574.8		Small, shale chips.						
2588.6	2588.9	Shale; consisting of hematitic, sandy and buff-colored bands.						
2589.5		Irregular, buff shale layer.						
2596.1		Shale band at 80° to the core.						
2597.4		Shale band at 80° to the core.						
2601.0		Large, irregular shale chip, weakly hematitized core.						
2608.8		Bedding at 75° to the core.						
2613.7		Clay layers at 80° to 90° to the core.						
2616.7	2617.8	Sandstone; coarse-grained.						
2631.0	2631.5	Coarse-grained, moderately hematitized sandstone containing a 1" wide, buff-green, shale layer.						
2636.4	2637.1	Intermittant, strongly hematitized patches in sandstone.						
2637.3		Clay-rich band at 70° to the core.						
2643.5	2643.8	Shale; minor amounts of sand. Hematitized bands in the shale contain greater amounts of sand.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
2655.6	2655.7	Fine, shale bands at about 70° to 80° to the core.						
2659.0	2659.4	Sandstone; fine-grained, clay-rich cut by numerous, fine, shale bands at about 80° to the core.						
2666.5		Bedding at 80° to the core.						
2667.2	2668.0	Sandstone; moderately hematitized.						
2668.1	2668.2	Several, buff-green, shale bands at about 90° to the core.						
2671.4		Shale chip; hematitized.						
2673.2		Bedding at 85° to the core.						
2685.7		Clay-rich band at 80° to the core.						
2696.5	2696.9	Sandstone; clay-rich.						
2697.1		Irregular, hematitized layer, cutting bedding in a coarse-grained section.						
2700.8		Narrow shale layer at 90° to the core.						
2707.7	2708.1	Shale; pale green, sandy.						
2715.5		Bedding at 80° to the core.						
2725.9	2727.0	Shale bands in a red, earthy hematitic, medium-grained sandstone.						
2727.8		Shale chips.						
2741.4	2742.1	Interbanded, grey, fine-grained sandstone and buff-green, sandy shale.						
2747.4		Fine shale band at 75° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
2759.0	2760.1	Bands of moderately hematitized and unhematitized, clay-rich sandstone.						
2765.7		Shale band, irregular.						
2767.7	2768.1	Sandstone; moderately hematitized, poorly cemented.						
2768.3		Shale; buff-green.						
2768.4	2768.7	Sandstone; coarse-grained, moderately hematitized.						
2770.1	2770.5	Fracture sub-parallel to the core.						
2776.2	2776.3	Clay-rich sandstone.						
2783.2	2783.7	Shale; weakly hematitized, minor sand, finely friable.						
2787.3		Bedding at 80^{o} to the core.						
2789.7	2790.4	Sandstone; moderately hematitized.						
2797.2		Shale chip with hematitized core.						
2797.4		Clay-rich band.						
2802.7		Irregular, tabular shale chip.						
2809.9		Shale layer at about 90^{o} to the core.						
2814.2		Bedding at 70^{o} to the core.						
2814.5	2816.1	Sandstone; moderately hematitized.						
2817.0	2817.2	Sandstone; moderately hematitized.						
2821.4	2822.0	Sandstone; clay-rich, unhematitized.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
2829.5		Narrow shale band at 90° to the core.						
2832.1		Bedding at 85° to the core.						
2837.0		Narrow, light green, shale band at 90° to the core.						
2840.6		Shale; similar to (2837.0), but at 80° to the core.						
2846.2		Shale chip; irregular, unhematitized.						
2846.9		Shale chip; weakly hematitized, in a medium-grained, moderately hematitized sandstone.						
2854.6		Bedding at 75° to the core.						
2861.9	2862.0	Several irregular, fine shale bands.						
2864.3		Several small, tabular shale chips.						
2869.3	2869.4	Clay-rich sandstone.						
2869.4	2870.7	Sandstone; moderately hematitized.						
2871.0	2874.5	Sandstone; medium-grained, no to moderate hematitization. Numerous, irregular shale bands, both hematitized and not, in the centre of the section. Both the top and base of the section contain numerous shale chips.						
2875.1	2875.5	Fracture sub-parallel to the core.						
2885.1		Large, irregular, partially hematitized shale chip.						
2887.7	2888.1	Sandstone; moderately hematitized.						
2891.4	2891.6	Sandstone; moderately hematitized, the base of which is a narrow shale layer at about 80° to the core.						
2893.9		Narrow, strongly hematitized band at 90° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
2896.3		Irregular, strongly hematitized band at 80° to 90° to the core.						
2900.3	2900.5	Sandstone; moderately hematitized, poorly cemented.						
2902.0	2902.5	Several large, irregular, partially hematitized shale chips, rimmed by strongly hematitized, medium-grained, poorly cemented sandstone.						
2906.5		Narrow shale band; accompanied by a fine, hematitized layer of sandstone along the upper contact.						
2909.9	2910.0	Square shale chip in a coarse-grained, moderately hematitized, sandstone.						
2911.5	2911.7	Shale; weakly hematitized, grading through a clay-rich zone into sandstone.						
2916.6		Shale band at 90° to the core.						
2920.6		Shale chip.						
2922.0	2922.2	Sandstone; moderately hematitized.						
2923.8		Clay-filled fracture at 80° to the core, with accompanying leached zone.						
2927.5	2935.3	Sandstone; coarse-grained, minor medium-grained, weak to moderate hematitization.						
2941.9		Bedding at 80° to the core.						
2949.1		Fine clay layers at about 90° to the core.						
2952.8		Shale chip, irregular.						
2956.0		Angular, shale chip, partially hematitized.						
2961.8		Fine sand and clay layer at 80° to the core.						
2966.5	2970.9	Sandstone; medium-grained, moderate hematitization.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
2975.2	2976.7	Sandstone; same as (2966.5 - 2970.9).						
2979.5	2979.7	Fine clay bands at 80° to 90° to the core.						
2979.9	2988.2	Zone of angular or tabular, tan shale chips, becoming larger and more numerous with depth in section.						
2989.0	2989.6	Biotite comprises about 15% of the sandstone.						
2996.1	2996.5	Fractured zone, containing several angular quartz pebbles.						
2997.5	2997.7	Two small, sub-angular quartz-feldspar pebbles.						
2998.6	2998.9	Fracture at 10° to the core.						
3004.8	3005.0	Several narrow clay bands at about 90° to the core.						
3006.1		Hard, tabular pebble aligned at 70° to the core, possibly shale.						
3012.4	3013.1	Patches of unhematitized sandstone rimmed by strongly hematitized sandstone, extending sub-parallel to the core.						
3015.6		Fractures at 70° to the core.						
3018.2		Shale chips; tan colored.						
3033.0	3033.2	Several small, rounded, quartz pebbles and tan, shale chips.						
3040.7	3040.8	Clay in fine layers at 90° to the core.						
3054.2		Small, sub-rounded quartz pebble.						
3056.0	3056.6	Sandstone; moderately hematitized, well cemented.						
3056.6	3057.0	Sandstone; unhematitized, minor clay.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
3060.8	3061.3	Fracture sub-parallel to the core.						
3063.7	3064.3	Coarse-grained sandstone, containing some pebbles and black, very fine-grained material.						
3070.2	3070.7	Fracture sub-parallel to the core.						
3072.8	3073.8	Fracture sub-parallel to the core.						
3081.5		Brown shale band at 90° to the core.						
3082.3		Shale chips.						
3088.9		Tan shale chip surrounded by a circular leached zone.						
3095.6		Hematitized fracture at about 85° to the core.						
3107.8	3108.4	Weakly hematitized, healed fracture at 20° to the core.						
3109.2	3109.6	Fine clay layers at 80° to 90° to the core.						
3118.7	3120.1	Sandstone; medium to coarse-grained, moderately hematitized.						
3133.0	3133.3	Clay-rich sandstone.						
3143.3		Shale chips.						
3143.4	3143.7	Clay-rich sandstone.						
3145.6		Bedding at 80° to the core.						
3154.7		Fine, clay bands at 70° to the core.						
3155.3		Fine, clay bands at 80° to the core.						
3161.4	3161.5	Sandy shale; both purple, hematitic and green, possibly chloritic bands. Overall weakly hematitized. Weak radioactivity 3200 CPM on TV-1A.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
3161.5	3161.8	Fracture sub-parallel to the core.	3161.0	3162.0	9.8	66	-	-
3169.7		Small, tan, shale chips.						
3178.3	3193.2	Zones of unhematitized, medium-grained sandstone containing fine layers of grey-green shale, sometimes accompanied by very weak hematitization between layers. Weak radioactivity, just above background.						
3189.4	3189.8	Sandstone; fine-grained, clay-rich, strongly cemented by silica.						
3197.1	3197.4	Clay-rich bands at 80^{o} to the core.						
3228.9	3229.0	Strongly hematitized band at about 70^{o} to 90^{o} to the core.						
3229.3	3229.7	Sandstone; moderately hematitized, strongly cemented, cut by several fine, clay bands.						
3229.7	3232.6	Sandstone; medium-grained, pale orange, containing numerous clay-rich bands.						
3240.1	3240.5	Fracture sub-parallel to the core.						
3248.7		Fine shale bands at 85^{o} to 90^{o} to the core.						
3267.1		Clay band at 90^{o} to the core.						
3273.7	3273.9	Zone of fine, clay bands at about 90^{o} to the core.						
3275.1		Large, buff shale chips.						
3276.3	3276.4	Zone of fine, clay bands at 80^{o} to 90^{o} to the core.						
3281.7	3282.2	Sandstone; clay-rich.						
3283.9	3284.3	Several small, sub-angular, quartzofeldspathic pebbles in a weakly hematitized, medium to coarse-grained sandstone.						

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MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
3288.4	3291.0	Random small, sub-angular, quartz and quartz-feldspar pebbles in a medium-grained sandstone with patchy, moderate hematitization.						
3298.2	3298.8	Sandstone; fine-grained, some clay, unhematitized.						
3301.8		Fine, clay bands at 80° to the core.						
3306.6		Small, sub-rounded, quartz pebbles.						
3309.4		Patch of hematitized, coarse-grained sandstone.						
3310.8	3807.0	Sandstone; medium to coarse-grained, no to weak widespread, to strong local hematitization. Small zones of pebble conglomerate, as well as sporadic individual pebbles, dominantly quartzofeldspathic in composition. Minor fine-grained sandstone and some fine clay banding.						
3310.8	3311.6	Conglomerate; small, sub-rounded, quartz and feldspar pebbles in a medium-grained, weakly hematitized sandstone.						
3314.4	3316.3	Several small quartz pebbles in a strongly silicified, medium to coarse-grained sandstone.						
3318.1	3321.5	Sandstone; coarse-grained, some rounded quartz pebbles.						
3321.9	3322.5	Sandstone; fine-grained, some clay banding.						
3334.7	3335.3	Sandstone; fine-grained, some clay banding.						
3346.6	3346.8	Minor clay in sandstone.						
3347.4		Banding at 90° to the core.						
3350.0	3399.0	Sandstone; no to weak hematitization, some fine clay bands at 70° to 90° to the core.						
3394.2		Coarse-grained band of sandstone, at 9)° to the core.						
3399.0	3408.9	Sandstone, medium to coarse-grained, mostly unhematitized, minor fine shale bands.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
3408.9	3421.3	Sandstone; coarse-grained, minor pebbles, no to weak hematitization, minor, finer-grained sections.						
3411.5		Pebbles; sub-angular, weakly hematitized quartz.						
3418.2		Bedding at 85° to the core.						
3428.0	3428.7	Sandstone; fine-grained, unhematitized.						
3436.0		Bedding at 80° to the core.						
3450.3	3450.9	Sandstone; very coarse-grained, minor pebbles; in a weakly hematitized, fine-grained matrix.						
3452.4		Clay band at 85° to the core.						
3460.3		Fine clay bands at 90° to the core.						
3463.9	3464.3	Shale; sandy, grey, finely laminated at 90° to the core.						
3467.3	3467.6	Sandstone; coarse-grained, weakly hematitized. Weak radioactivity, maximum 2200 CPM TV-1A.	3467.0	3468.0	6.8	76	-	-
3481.4	3482.7	Sandstone; fine-grained, no hematitization, minor clay.						
3486.7		Band of small, rounded quartz pebbles.						
3489.7	3490.0	Strongly hematitized bands at 80° to the core in a coarse-grained, moderately hematitized sandstone.						
3490.8	3491.8	Sandstone; fine to medium-grained, unhematitized, intermittant shaly sections.						
3494.8	3495.8	Interbanded coarse-grained, moderately hematitized and medium-grained, unhematitized sandstone.						
3498.7		Fine clay-banding at 85° to the core.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
3501.1	3501.2	Fine clay banding at 85° to the core.						
3507.5		Red, earthy, hematitic matrix in a medium-grained sandstone.						
3517.6	3517.8	Several small quartz pebbles.						
3520.2	3521.2	Moderately hematitized sandstone, several small pebbles near the middle of the section. Weak radioactivity associated with the pebbled part, maximum 2400 CPM, TV-1A.	3520.0	3521.0	5.5	72	-	-
3522.2	3523.8	Sandstone; similar to (3520.2 - 3521.2), but no radioactivity.						
3525.8		Clay band at 80° to the core.						
3538.1	3538.3	Sandstone; fine-grained, minor clay.						
3541.3	3541.6	Sandstone; coarse-grained, poorly cemented, small vugs between grains.						
3542.1		Pebble; medium sized, sub-rounded, quartz.						
3543.3	3544.8	Sandstone; similar to (3520.2 - 3521.2), but no radioacitivity, just above background.						
3546.6		Bedding at 85° to the core.						
3554.2		Bedding at 80° to the core.						
3563.3		Strongly hematitized sandstone band.						
3567.7	3567.9	Sandstone; coarse-grained, moderately hematitized.						
3570.2	3570.4	Sandstone; same as (3567.7 - 3567.9).						
3573.6	3573.7	Sandstone; fine-grained, clay-rich.						
3574.1	3575.7	Sandstone; moderately hematitized, several small sub-rounded, quartzofeldspathic pebbles.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS
3579.8	3582.5	Sandstone; coarse-grained, buff to red-brown, minor pebbles, minor earthy hematite.
3594.8		Strongly hematitized band at 80° to the core.
3596.3	3597.0	Sandstone; fine to medium-grained, minor clay.
3600.8		Small, hematitized pebble, possibly jasper.
3601.0	3601.2	Two medium-sized quartz pebbles, sub-angular.
3602.0	3608.0	Sandstone; coarse-grained, no to moderate hematitization, sporadic sub-rounded pebbles of quartz and feldspar.
3608.4		Fine clay band at 85° to the core.
3614.4	3614.9	Several fine, clay bands at about 80° to the core.
3621.0	3621.8	Sandstone; coarse-grained, weakly hematitized, poorly cemented, minor vugs.
3626.0	3626.9	Sandstone; fine-grained, minor clay.
3635.7		Bedding at 85° to the core.
3649.5		Clay bands at 90° to the core.
3649.7		Several quartz-feldspar pebbles.
3656.4		Layer of rounded quartz and feldspar pebbles.
3657.1		Layer of coarse-grained sandstone containing numerous vugs. Very minor carbonate.
3662.8	3663.4	Zone of numerous small quartz pebbles.
3665.0		Clay band at 85° to the core.

FROM	TO	U	Th	Pb/Zn	Cu/Ag

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS	FROM	TO	U	Th	Pb/Zn	Cu/Ag
3666.3		Large quartz-feldspar pebble.						
3669.0	3670.5	Sandstone; coarse-grained, vuggy, numerous sub-angular quartz pebbles.						
3675.5	3676.8	Sandstone; fine-grained, minor clay.						
3681.2	3683.6	Sandstone; fine-grained, minor clay.						
3682.4	3684.8	Several, narrow, strongly hematitized bands at about 60^{o} to 90^{o} to the core.						
3697.2		Pebble, sub-rounded, quartz, containing euhedral amphibole crystals.						
3702.3	3703.4	Sandstone; fine-grained, unhematitized.						
3705.2	3705.3	Sandstone; coarse-grained, poorly cemented, moderately hematitized.						
3709.4		Minor clay in sandstone.						
3713.3		Large round, quartz-feldspar pebble.						
3726.3	3726.5	Several, feldspar pebbles, partially hematitized.						
3727.0	3728.1	Numerous, small, angular pebbles.						
3734.7		Layer of pebbles at 90^{o} to the core.						
3745.9	3747.8	Sandstone; fine to medium-grained, unhematitized.						
3751.7	3752.2	Sandstone; fine-grained, minor clay.						
3759.9		Bedding at 60^{o} to the core.						
3767.7		Large, sub-rounded quartz pebbles.						
3769.1	3769.3	Zone of sub-rounded quartz-feldspar pebbles.						

GOLDEN EAGLE OIL & GAS LTD
MINERAL DEPARTMENT

HOLE NO. 78-LAJV-005

FROM	TO	REMARKS
3773.0	3773.2	Sandstone; coarse-grained, some vugs
3776.7		Bedding at about 90° to the core.
3778.2	3778.5	Narrow, moderately hematitized, minor vugs, bands in a coarse-grained weakly hematitized sandstone.
3787.7		Moderately hematitized sandstone band at 80° to the core.
3801.6	3801.9	Sandstone; fine-grained, minor clay.
3806.9		Strongly hematitized sandstone band, poorly cemented, at about 90° to the core.
3807.0		End of Hole.

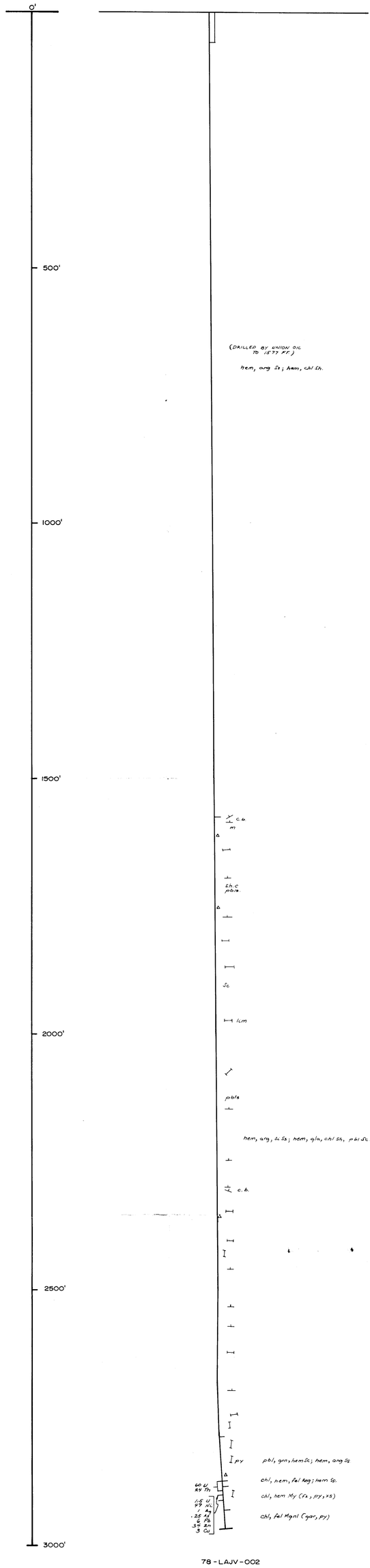
FROM	TO	U	Th	Pb/Zn	Cu/Ag

78-LAJV-005: SAMPLES

SAMPLE NUMBER	FOOTAGE	ELEMENTS
78-CS-400	115.5 - 116.3	U, Pb, Zn, Cu, Ag
78-CS-401	538.0 - 539.0	U, Th
78-CS-402	587.0 - 588.0	U, Th
78-CS-403	656.0 - 657.0	U, Th
78-CS-404	664.0 - 665.0	U, Th
78-CS-405	671.0 - 672.0	U, Th
78-CS-406	679.0 - 680.0	U, Th
78-CS-407	689.0 - 690.0	U, Th
78-CS-408	698.0 - 699.0	U, Th
78-CS-409	706.0 - 707.0	U, Th
78-CS-410	714.0 - 715.0	U, Th
78-CS-411	747.0 - 748.0	U, Th
78-CS-412	793.0 - 794.0	U, Th
78-CS-413	799.0 - 800.0	U, Th
78-CS-414	888.0 - 889.0	U, Th
78-CS-415	1836.0 - 1837.0	U, Pb, Zn, Cu, Ag
78-CS-416	1962.0 - 1963.0	U, Pb, Zn, Cu, Ag
78-CS-417	1963.0 - 1964.0	U, Pb, Zn, Cu, Ag
78-CS-418	2355.0 - 2356.0	U, Pb, Zn, Cu, Ag
78-CS-419	2356.0 - 2357.0	U, Pb, Zn, Cu, Ag
78-CS-420	3161.0 - 3162.0	U, Th
78-CS-421	3467.0 - 3468.0	U, Th
78-CS-422	3520.0 - 3521.0	U, Th

BIT RECORD FOR 78-LAJV-005

BIT NO.	TYPE	SIZE	DEPTH IN	DEPTH OUT	DISTANCE DRILLED
1	100-3 Step	NQ	107'	267'	160'
2	200-3 Step	NQ	267'	417'	150'
3	200-3 Step	NQ	417'	517'	100'
4	200-3 Step	NQ	517'	597'	80'
5	200-3 Step	NQ	597'	867'	270'
6	200-3 Step	NQ	867'	982'	115'
7	200-3 Step	NQ	982'	1087'	105'
8	200-3 Step	NQ	1087'	1132'	45'
9	200-3 Step	NQ	1132'	1134'	2'
10	100-3 Step	NQ	1134'	1185'	51'
11	200-3 Step	NQ	1185'	1230'	45'
12	200-3 Step	BQ	1230'	1357'	127'
13	200-3 Step	BQ	1357'	1457'	100'
14	200-3 Step	BQ	1457'	1577'	120'
15	200-3 Step	BQ	1577'	1697'	120'
16	200-3 Step	BQ	1697'	1767'	70'
17	200-3 Step	BQ	1767'	1937'	170'
18	200-3 Step	BQ	1937'	2097'	160'
19	100-3 Step	BQ	2097'	2207'	110'
20	100-3 Step	BQ	2207'	2367'	160'
21	200-4 Step	BQ	2367'	2437'	70'
22	100-3 Step	BQ	2437'	2627'	190'
23	100-3 Step	BQ	2627'	2727'	100'
24	100-3 Step	BQ	2727'	2867'	140'
25	200-4 Step	BQ	2867'	2987'	120'
26	100-3 Step	BQ	2987'	3077'	90'
27	100-3 Step	BQ	3077'	3197'	120'
28	100-3 Step	BQ	3197'	3347'	150'
29	100-3 Step	BQ	3347'	3437'	90'
30	100-3 Step	BQ	3437'	3531'	94'
31	100-3 Step	BQ	3531'	3567'	36'
32	100-3 Step	BQ	3567'	3697'	130'
33	100-3 Step	BQ	3697'	3807'	110'



78-LAJV-002

19780009

FIGURE No. 6

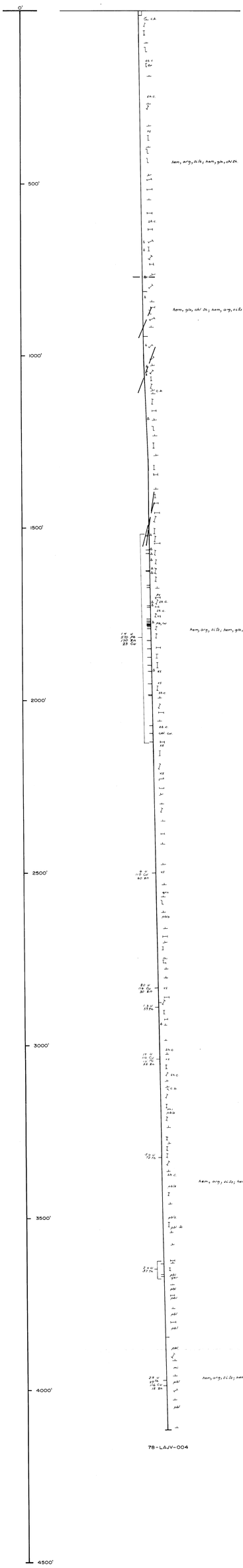
147

78-LAJV-003

150

A780009

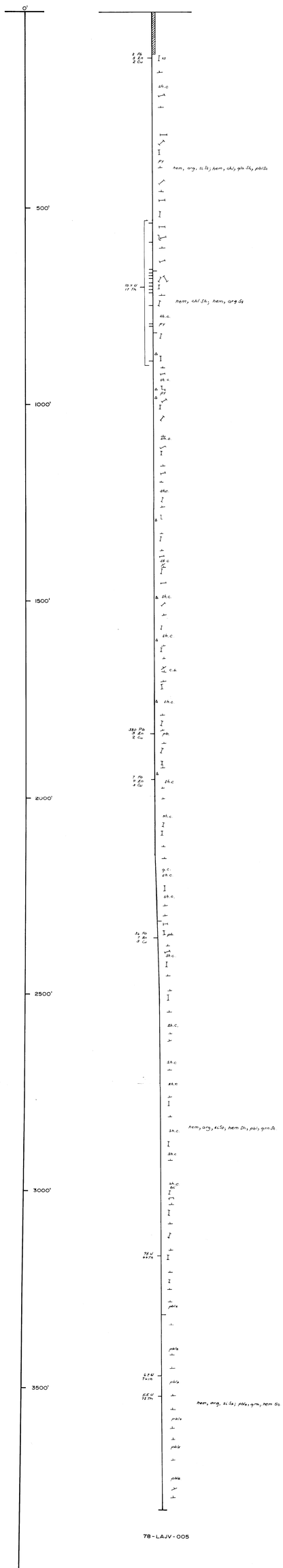
FIGURE No. 7



78-LAJV-004

1978009

FIGURE No. 8



78-LAJV-005

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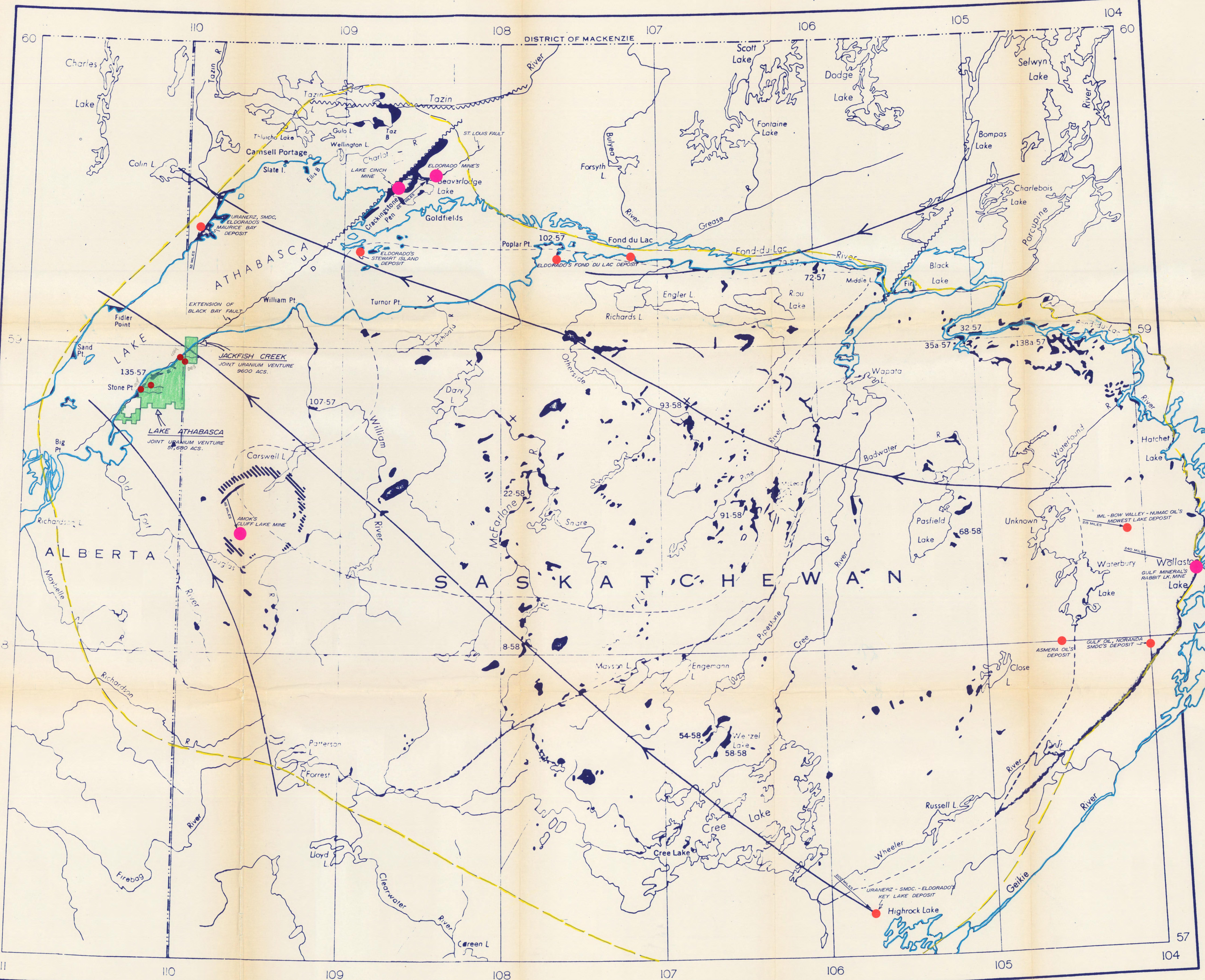
FIGURE NO. 149

PART OF SHEET 74


DISTRICT OF MACKENZIE
ALBERTA
SASKATCHEWAN
LAKE ATHABASCA
Charles Lake
Colin L.
Camsell Portage
Tazin Lake
Tazin River
Scott Lake
Dodge Lake
Fontaine Lake
Selwyn Lake
Bompas Lake
Forsyth L.
Charlebois Lake
Black Lake
Fond du Lac
Fond-du-Lac River
Beaverlodge Lake
Goldfields
Crackingstone Pen.
ST. LOUIS FAULT
ELDORADO MINE'S
LAKE CINCH MINE
URANERZ, SMDC, ELDORADO'S MAURICE BAY DEPOSIT
ELDORADO'S STEWART ISLAND DEPOSIT
ELDORADO'S FOND DU LAC DEPOSIT
EXTENSION OF BLACK BAY FAULT
JACKFISH CREEK
JOINT URANIUM VENTURE
9600 ACS.
LAKE ATHABASCA
JOINT URANIUM VENTURE
51,680 ACS.
Carswell L.
AMOK'S CLUFF LAKE MINE
William River
McFarlane R.
Pasfield Lake
Hatchet Lake
Wollaston Lake
IML - BOW VALLEY - NUMAC OIL'S MIDWEST LAKE DEPOSIT
GULF MINERAL'S RABBIT LK. MINE
ASMERA OIL'S DEPOSIT
GULF OIL, NORANDA SMDC'S DEPOSIT
Wapata L.
Waterbury Lake
Close L.
Cree Lake
Russell L.
Wheeler R.
Geikie River
URANERZ - SMDC - ELDORADO'S KEY LAKE DEPOSIT
Highrock Lake
Clearwater River
Richardson R.
Firebag R.
Patterson L.
Forrest L.
Lloyd L.
Careen L.
Wollaston Lake
135-57
107-57
102-57
93-58
73-57
72-57
32-57
35a-57
138a-57
22-58
91-58
68-58
8-58
54-58
58-58
60
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58
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111
110
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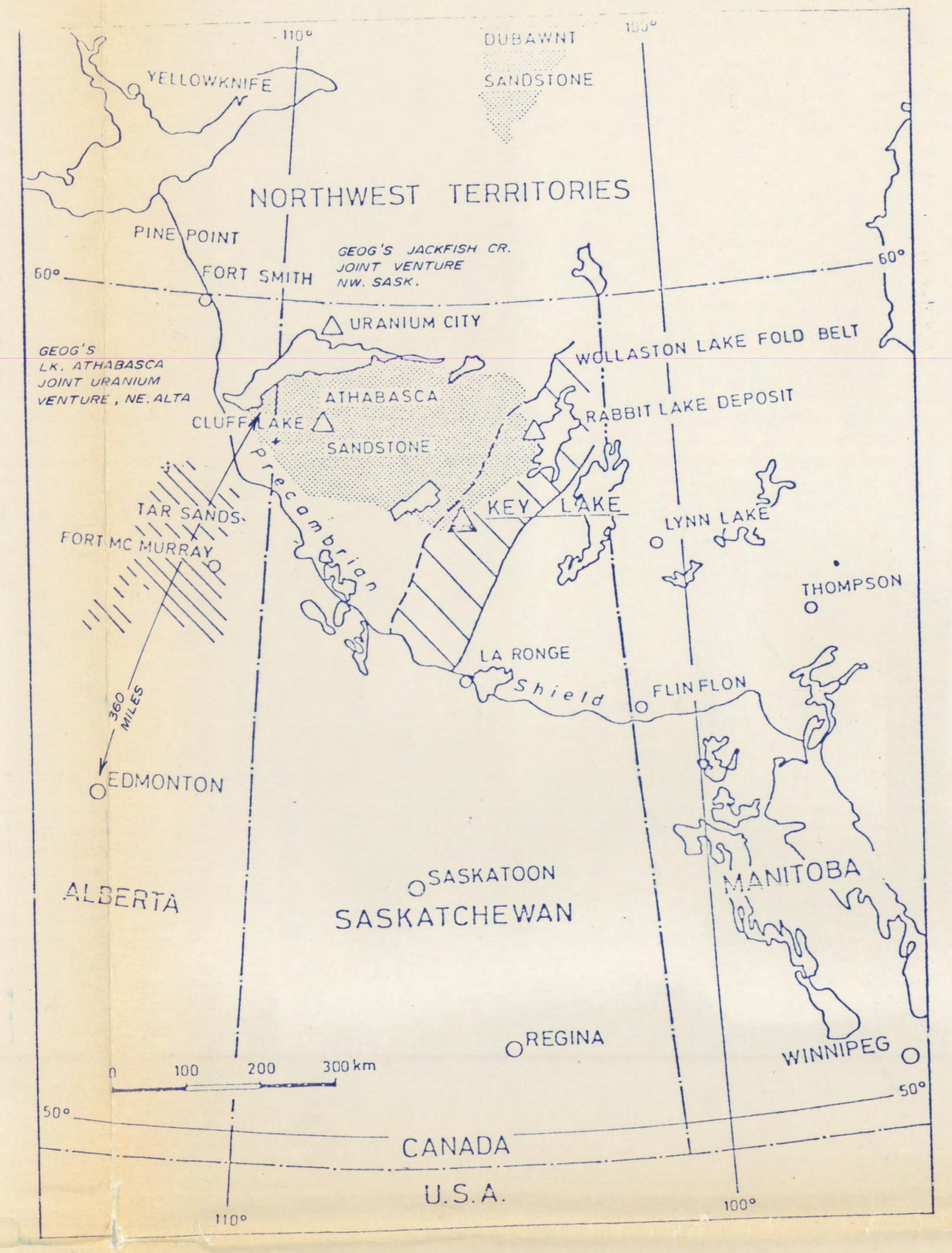
108
107
106
105
104


NORTHWEST TERRITORIES
YELLOWKNIFE
URANIUM CITY
FORT SMITH
PINE POINT
ATHABASCA SANDSTONE
WOLLASTON LAKE FOLD BELT
RABBIT LAKE DEPOSIT
KEY LAKE
LYNN LAKE
THOMPSON
LA RONGE
FLIN FLON
EDMONTON
ALBERTA
SASKATCHEWAN
SASKATOON
MANITOBA
REGINA
WINNIPEG
0 100 200 300 km
CANADA
U.S.A.

LOCATION MAP

FOR

GEOG'S URANIUM EXPLORATION AREAS

SCALE: 1 INCH = 108 MILES

19780009

LEGEND

- OUTCROP OF ATHABASCA FM.
- OUTCROP OF CARSWELL FM.
- 68-58 SAMPLE LOCALITY
- ATHABASCA FM. SAND TRANSPORT DIRECTION
- DEPOSITIONAL LIMIT OF ATHABASCA FM.
- FAULT
- GEOG URANIUM PROJECTS
- EXISTING URANIUM MINES
- KNOWN URANIUM OCCURENCES
- DIAMOND DRILL HOLE
- 65 MILES DISTANCE FROM MAJOR MINES AND DEPOSITS TO GEOG PROJECTS.

GOLDEN EAGLE OIL AND GAS LIMITED

LAKE ATHABASCA AREA

NW. SASKATCHEWAN - NE. ALBERTA

PORTION OF GSC REGIONAL MAP OF THE ATHABASCA SANDSTONE FM., ILLUSTRATING LOCATIONS OF CURRENT URANIUM EXPLORATION

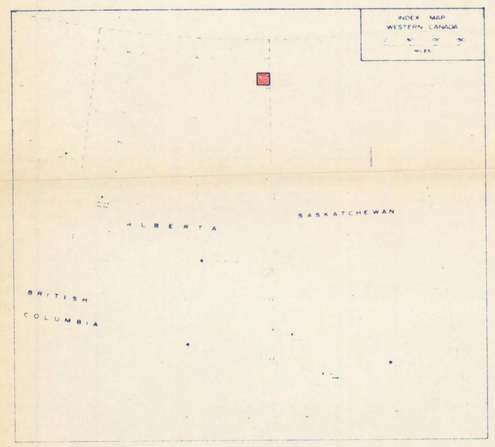
SCALE: 2.5 INCHES = 20 MILES

GEOLOGIST: W.F. FAHRIG GSC 1961, A. STUCKEN 1977	DATE: SEPT. 6, 1977
MAP No 1310	REV. DATE: OCT. 3, 1978
	GEOLOGIST:

19780009

146

19780009



LEGEND

- PROVINCIAL BOUNDARY
- TOWNSHIP BOUNDARY
- PERMIT BOUNDARY
- LAKES AND STREAMS
- MAJOR TRACKETCH ANOMALIES
- FAULTS APPROXIMATE
- DRILL HOLE, VERTICAL
- 398 PRICE CLAIMS

GOLDEN EAGLE OIL AND GAS LIMITED

LAKE ATHABASCA JOINT VENTURE
ALBERTA

PERMIT MAP

SCALE : 1 INCH = 4000 FEET

GEOLOGIST W. E. NELSON		DATE MAY 24, 1978
MAP No.	REV. DATE NOV. 21, 1978	GEOLOGIST

FIGURE No. 5
19780009