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PROJECTS UNIT

REPORT ON WILSON URANIUM PROPERTY
CARDIFF & FARADAY TOWNSHIPS
Eastern Ontario Mining Division
Counties of Haliburton & Hastings
Ontario Canada
-forCHUKUNI GOLD MINES LIMITED

- submitted -

December 31, 1977

bу

A. S. Bayne & Company Consulting Engineers

A. S. Bayne, P.Eng. - Ontario

Report on Wils Cardiff & Fara



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Plan No. 5	H-B Zone, Plan & Sections. Scale 1" = 20'.



12 RICHMOND STREET EAST TORONTO, ONTARIO, CANADA MBC 1N1 TEL: (416) 368-3283

ADDRESS ALL CORRESPONDENCE

● 45 STRATHALLAN BLVD., TORONTO, ONTARIO M5N 1S8 ● TEL: 485-6793

April 25, 1978

The President & Directors Chukuni Gold Mines Limited Suite 100 12 Richmond Street East Toronto, Ontario

Gentlemen:

Attached you will find my certified "Report on Wilson Uranium Property, Cardiff & Faraday Townships, Eastern Ontario Mining Division, Haliburton & Hastings Counties, Ontario, Canada", dated December 31, 1977.

This report records, to date, our work and examinations, concentrated on Claims Nos. E.O. 328819, 328822, 328823 in Cardiff Township, and E.O. 328833 in Faraday Township.

For your convenience, kindly refer to the Index and Summary prefacing the report.

Yours sincerely,

A. S. BAYNE & COMPANY

ASB: TP

Att.

A. S. Bayne, B.Sc., P.Eng.

12 RICHMOND STREET EAST TORONTO, ONTARIO, CANADA MBC 1N1 TEL: (416) 368-3283

ADDRESS ALL CORRESPONDENCE

• 45 STRATHALLAN BLVD., TORONTO, ONTARIO M5N 1S8 • TEL: 485-6793

December 31, 1977

The President & Directors Chukuni Gold Mines Limited Suite 100 12 Richmond Street East Toronto, Ontario

Re: Consent as to use of "Report on Wilson Uranium Property --- " dated December 31, 1977

Dear Sirs:

Pursuant to the regulations of the pertinent Government Securities Control Statutes, in particular Section 50 of the Ontario Securities Act, I hereby consent as follows:-

- 1. To the reference to my name in a Prospectus and/or Amendment to Prospectus, which may be filed and published by Chukuni Gold Mines Limited, as the author of the attached "Report on Wilson Uranium Property, Cardiff & Faraday Townships, Eastern Ontario Mining Division, Haliburton & Hastings Counties, Ontario, Canada", dated December 31, 1977.
- The inclusion of the Summary (page (iv) of the preface of the said Report) in its entirety in the said Prospectus and/or Amendment to Prospectus.
- The placing on file, by Chukuni Gold Mines Limited, of the said Report and the said Summary, for the examination of any person or persons wishing to read the said Report and/or the said Summary.

Please take notice that this letter is attached to the said Report and the said Summary, and that no part of the said Report and/or the said Summary, which is out of context with the said Report or the said Summary, may be used or reproduced for any purpose whatsoever without the prior written permission of the undersigned.

Yours very truly,

ASB:TP

Att.

A. S. Baype, B.Sc., P.Eng

Chukuni Gold Mines Ltd. December 31, 1977

CERTIFICATE

- I, Arthur Stewart Bayne, do hereby certify that:-
- 1. I am a Consulting Engineer, residing at 45 Strathallan Boulevard, Toronto, Ontario, Canada, with offices at 12 Richmond Street East, Toronto, Ontario, Canada.
- 2. I am a Bachelor of Science in Mining & Metallurgical Engineering (Queen's University, Kingston, Canada, 1935).
- 3. I am a member, in good standing, of the Association of Professional Engineers of the Province of Ontario.
- 4. I have continuously practised my profession under the registered name and style of A. S. Bayne & Company, Consulting Engineers, since 1946.
- 5. This Certificate is part of the attached "Report on Wilson Uranium Property, Cardiff & Faraday Township, Eastern Ontario Mining Division, Haliburton & Hastings Counties, Ontario, Canada", dated December 31, 1977.
- 6. I have no interest, direct, indirect nor expected, in the properties or securities of Chukuni Gold Mines Limited, except that I hold one common share to qualify as a Director since May 4, 1976.
- 7. This report is based on:-
 - (a) My field examination and detailed reconnaissance and sampling of radioactive occurrences on claims E0.328819 to 328824 inclusive and E0.328833, in Cardiff and Faraday Townships respectively, during 11 field trips from May 19, 1976 to August 24, 1977.
 - (b) Searches and studies of the records, maps and data on file by the Ontario Ministry of Natural Resources and in my personal files covering the uranium deposits of Eastern Ontario from 1951 to date.
 - (c) Attendances on and technical discussions with executives, geologists and engineers currently operating uranium mining projects in the Haliburton Bancroft Area.
 - (d) My full cognizance of the facts.

SIGNED AT TORONTO in the Municipality of Metropolitan Toronto in the Province of Ontario this 31st day of December, 1977.

A. S. Bayne

Chukuni Gold Mines Ltd. December 31, 1977

SUMMARY

Chukuni Gold Mines Limited originally held 26 contiguous unpatented mining claims comprising approximately 1,300 acres, in Cardiff and Faraday Townships, just south of Highway 28 along the shore of lower Paudash Lake, about 10 miles west of Bancroft, Ontario. J. R. Wilson of Toronto, the original staker, also holds an interest in the claims. After extensive prospecting and surface exploration, the only claims being retained in good standing, as to assessment work requirements, are a group of six claims in Cardiff Twp. and one claim in Faraday Twp.

Bancroft is served by road and rail, lying 92 miles north of the uranium refinery of Eldorado Mining & Refining Co. Ltd. at Port Hope, Ontario, and about 180 miles northeast of the City of Toronto.

Hydro electric power is readily available, a transmission line crossing the northwest corner of the property and fresh water is plentiful in lakes and streams on and near the property. Labour and supplies can be brought economically to the property due to proximity of major population and industrial centres.

The property lies in the same Pre-Cambrian sub-province (Grenville) as the uranium mines of the Bancroft area which produced over 106.5 millions in 030, from 1964.

In 1957, Prospector J. R. Wilson and associates staked 21 claims in Cardiff Twp. and discovered high radioactivity in the south part of Lot 29 Concession VI (now called the Wilson Zone). As a result of a sudden slump in uranium price at that time, work was suspended due to lack of finances. Following 1957 and for the 10 years following, there was little or no activity in uranium exploration. In 1966-67, to recapture the investment in the original 21 claims, titles having expired, the Wilson-Gordon-Chukuni group included these in the staking of 91 contiguous claims in Cardiff and in Faraday Township adjoining east. In 1968-70, non-totalitarian world government agencies again urged the mining industry to prepare for an imminent shortage of fissile fuel. In 1967-70, the Wilson group conducted prospecting, supplemented by radiometric surveys and trenching of selected sites, over the 91-claim group.

By 1970, expected $\rm U_30_8$ markets failed to materialize which, compounded by disastrous tax levies against Canada's mines, again brought the industry to a standstill. Again, lack of finances prevented further work on the Wilson property and the claims titles lapsed in 1971.

In January 1972, the current property of 14 claims in Cardiff and 12 claims in Faraday, on which radioactive discoveries had been made, were restaked by the Wilson-Gordon-Chukuni group. Further stripping and trenching was done on three radioactive showings, known as the Kenjack, Wilson and Holbrooke Zones, during 1972-73-74, but due to the severe illness of Mr. Wilson, no further work was done in 1975.

By 1974, pressure of demand and price increases for fissile fuel, forced by the oil-producing countries of the Middle East, created renewed activity in the uranium industry. Prices for $\rm U_3O_8$, in the first 5 years of contracts of the 1950's, were around \$10.00 per lb. These dropped to \$5.00 until 1967-68 when limited offers of \$8.00 were made for deliveries up to 1973. In the past couple of years contracts have been let at \$20.00 per lb. for deliveries to 1980, and a utility contract reported early in 1976 in the U.S.A. indicated a price of \$50.00 per lb. for deliveries into the 1980's.

Chukuni Gold Mines Ltd. December 31, 1977

Summary - Continued

In the past year the Faraday mine, which produced over 50% of the uranium production of Bancroft Area in the 1957-64 period, has been reactivated by Madawaska Mines Ltd. on a contract totalling 6 million lb. of U308. Production started early in August 1976 and it is expected the mill will be treating, by the year end, about 1700 tons daily of ore running from 0.10% to 0.12% (2 to 2.4 lb/ton) U_3O_8 . This mine is about 5 miles northeast of the Wilson claims, in similar geological structures to those underlying, and striking southwesterly across the Wilson property.

From May 1976 to August 24, 1977, the author of this report conducted extensive field reconnaissance, including radiometric traverses, on claims E0.328819 to 328824 inclusive in Cardiff Twp. and on E0.328833 in Faraday Twp.; also trenching and sampling of four radioactive showings on E0.328819, 328822, 328823 and 328833.

The three previously discovered Kenjack, Holbrooke and Wilson Zones in Cardiff Twp. and a newly discovered radioactive pegmatite outcrop in Faraday Twp., were mapped and sampled, now called the H-B Zone.

The radioactive occurrences on the Kenjack and Holbrooke Zones are at or near a sheared contact between paragneiss of probable sedimentary origin and a metamorphosed basic (gabbroic) igneous intrusive rock. Those at the Wilson Zone are at or near a contact zone between a large body of pegmatite and metagabbro.

Sixteen rock samples were dug or broken from the broken rock and rubble and in the case of the Kenjack and Holbrooke Zones, from the faces of the scarps formed at the surface by the 50° to 55° south-dipping hanging wall paragneisses, after stipping by bulldozer. Of the sixteen sampled, the lowest assay was 0.007% U_3O_8 , 0.101% ThO₂, and the highest was $5.06\%~\mathrm{U_30_8}$, $29.1\%~\mathrm{ThO_2}$. Fourteen of the samples assayed from 0.11% U₃0₈, 1.27% ThO₂ and higher. Conditions at these old trenches prohibited, within the available financial budget, the extensive additional surface mining required to expose the radioactive shears in place across any substantial width, although the lengths can be traced for several hundreds of feet. Therefore, particularly in the Wilson Zone trenches, it is yet uncertain how many of the uranium-rich samples came from the adjacent contact shear or were moved into place with glacial debris.

A sample of pegmatite from the new H-B Zone in Faraday Twp. assayed 0.056% U30g, 1.09% ThO₂. This zone has a potential width, subject to exploratory work, of 50 to 100 feet and is at least 500 feet long.

There are no buildings or equipment on the property. There are no mine workings nor evidence of any work other than that outlined in this report.

Field examinations and studies to date have disclosed high uranium occurrences at intermittent intervals along several hundred feet of strike of geologically favourable rocks which can be traced across the entire claims.

Further exploration is therefore recommended to determine the continuity of these occurrences along strike and across economically minable widths.

The recommended work schedule is divided into two consecutive phases. Phase I, including surface radiometric surveys, geological mapping and surface trenching, will require an estimated \$26,000. Phase II, depending on concurrent field conditions encountered, will include further detailed radiometric and sub-surface radon surveys, further trenching and some core drilling and will require an additional \$65,000. The estimated total speculative capital requirement for Phase I and Phase II is \$91,000. M

- End of Summary -

Chukuni Gold Mines Ltd. December 31, 1977

MINING CLAIMS - TITLES

The original property of 26 contiguous unpatented mining claims comprising approximately 1,300 acres, straddled the boundary between the south ends of Cardiff Township, Haliburton County, and Faraday Township, Hastings County, in the Eastern Ontario Mining Division.

The claims numbers, recorded and shown on Ont. Dept. Mines Plans Nos. M-69, Cardiff Twp., and M-90, Faraday Twp., were as follows:-

	Location	
<u>Claim No.</u>	Lot Concess	ion <u>Township</u>
E0.328819*	29 north part VI	Cardiff
E0.328820*	30 " " VI	. 11
E0.328821*	30 south part VI	II
E0.328822*	29 " " VI	II
E0.328823*	28 north part V	II
E0.328824*	29 " '" V	II
E0.328825	30 " " V	11
E0.328826	31 " " V	ii .
E0.328827	32 " " V	II
E0.328828	32 south part V	II
E0.328829	31 " " V	11
E0.328830	30 " " V)i
E0.328831	29 " " V	II
E0.328832	28 " " V	11
E0.328833*	33 north part VII	Faraday
E0.328834	33 mid part VII	11
E0.328835	33 south part VII	II
E0.328836	33 north part VI	U .
E0.328837	33 mid part VI	II
E0.328838	33 south part VI	ii
E0.328839	32 " VI	II.
E0.328840	31 " " VI	li .
E0.328841	31 north part VI	H
E0.328842	32 " " VI	II
E0.328843	32 south part VII	II
E0.328844	32 north part VII	II

*Titles are in good standing, as to assessment work requirements, on only seven claims: E0.328819 to 328824 inclusive and E0.328833. All the 1976-77 field work was performed only on these seven (7) claims, although the entire 26-claim group is shown on Plan No. 1 herewith, to facilitate location and geological correlation. The recorded holder is Chukuni Gold Mines Ltd. under an agreement with J. R. Wilson of Toronto, the original staker.

LOCATION AND ACCESS

The property covers a "U" shaped block covering an area about one mile north-south by 2 miles east-west. The north boundary lies 1/8 to 1/2 mile south of Highway 28 where the highway skirts the south shore of Lower Paudash Lake.

Chukuni Gold Mines Ltd. December 31, 1977

Location and Access - Continued

The Cardiff-Faraday Township line, which cuts the middle of the property, cuts Highway 28 about 10 miles southwest of the Town of Bancroft.

It is 5 miles southwest of the Faraday Mine of Madawaska Mines Limited, a current uranium producer and 92 miles, via Highway No. 28, to the uranium refinery of Eldorado Mining & Refining Co. Ltd. at Port Hope, Ontario.

The shortest route to the property from Toronto is about 180 miles, via Highways 401 and 115 to Peterborough, thence to Paudash Lake via Highway 28.

The Canadian National Railways also serves Bancroft with freight service from the main line at Belleville, Ontario.

The Lower Faraday Road, a winding gravel road from the Village of Coe Hill, about 15 miles to the southeast, passes within about 500 feet of the east boundary of the property, whence it turns northeast for about 4 miles to connect to Highway 28.

There are numerous traces of old timber cutters access roads across the property, but these are obscured by many years of undergrowth and second-growth timber, which is now part of a Forest Improvement Area for the production of quality hardwood, managed by the Ontario Ministry of Natural Resources.

One well-used bush road, locally called the Wilson Trail, leads from near the northwest corner of Lot 29 Conc. VII at Highway 28, for about one mile southward, traversing Claims Nos. E0.328819, 328822 and parts of E0.328824 and 328823, to southeast shore of Port Hope Lake. This road is passable by tractor or 4-wheel drive vehicle.

POWER, WATER, LABOUR, SUPPLIES

A 115 kv, 60 cycle, 3-phase transmission line, in the Hydro-Electric Power Commission's southern Ontario grid system, crosses the northwest corner of the property.

Ample fresh water, suitable for industrial or community use, is available in the lakes and streams on and near the property.

Accommodation, labour and supplies can be readily available due to the proximity of settled communities in the locality and the close accessibility of the area to Canada's largest industrial complex in southern Ontario.

HISTORY AND DEVELOPMENT OF AREA

The area was first colonized in the 1850's. Faraday Township was originally surveyed in 1856 and 1870 and Cardiff Township was surveyed in 1862.

The rough and rocky character of the area is not well suited to agriculture, and crops from farms of 100 to 500 acres are chiefly hay and feed grains for cattle,

Chukuni Gold Mines Ltd. December 31, 1977

History & Development of Area - Continued

sheep and pigs. Excellent stands of both hardwood and conifer timber made lumbering the most important industry, but it has become increasingly difficult to sustain the timber supply. Most of the timber consists of birch, beech, maple, poplar, spruce, balsam, hemlock and cedar. Some good stands of second growth timber are now maturing under government controlled environmental programs.

Highway 28 was completed from Peterborough to Bancroft in 1942. Since that time the area has become an important tourist resort, and many cottages now occupy the shores of the numerous lakes of the area.

Haliburton and Hastings Counties have been noted for a wide variety of mineral prospecting since before 1900, with iron, molybdenum, apatite (phosphate), corundum, talc, fluorspar, garnet, graphite, mica, marble and even gold and silver, attaining various degrees of economic importance from time to time.

Uranium was discovered in 1922 by W. M. Richardson, in the northwest corner of Cardiff Township, near the Town of Wilberforce. The first notable exploration was on this property from 1929 to 1936, when the Ontario Radium Corporation Ltd. and its successor International Radium and Resources Ltd. did underground exploration. From 1947 to 1951 Fission Mines Ltd. resumed work and further exploration and development was done by Cardiff Uraniim Mines Ltd. The property is currently under option to Imperial Oil Limited, who have conducted further exploration in 1976.

This indicates the recurrent continuity of uranium prospecting of the area since the early 1920's, but the first competently adequate uranium prospecting was made possible in the early 1950's by the "panic" demand of Western World governments for uranium oxide.

Arthur Shore discovered the Faraday uranium mine in 1949, but it was not until 1953, when Centre Lake Uranium Mines Ltd. started underground development, that the greatest uranium prospecting rush in the world hit the Bancroft Area. In 1954-56 exploration was reported on about 125 properties in the area between Bancroft, Haliburton and Bobcaygeon in Hastings, Haliburton and Peterborough. Most of these are described by Jack Satterly in Ont. Dept. Mines 65th Annual Report, Vol. LXV Part 6, 1956 and by Don F. Hewitt in Vol. LXVI Part 3, 1957.

By the end of 1956, the aggressive development of uranium producers of Elliot Lake, Ontario, and Beaverlodge, Saskatchewan, and the most influential fact of rapid discoveries and development of producers in the United States caused a sudden restraint comprising, in effect, a sharp reversal of the policy of urgent demand promoted by government agencies in the previous few years. This, coupled with a general reduction in new-mine financing, resulting from a drop in metals demand following the Korean war settlement, brought uranium prospecting to a standstill by 1960.

However, the first three mines, of the Bancroft area, to complete development and obtain sales contracts in 1955-56, completed the production of more than \$106.5 millions in uranium oxide, from 1957 to 1964. More than half this production came from the Faraday mine which produced \$54,000,000 from 3 million tons of ore treated.

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History & Development of Area - Continued

From 1966 to 1969, government atomic energy agencies again called urgently for renewed discovery and development to forestall an impending fissile fuel shortage by 1973. During this period, a revival of activity brought several mines to production readiness at the cost of many millions, one of which was the Faraday mine. Again, failure to obtain marketing contracts, coupled with disastrous tax levies, by myopic governments, against the Canadian mining industry, has curtailed activity since 1970.

In 1975, the need for uranium fuel was "driven home" on what promises to be a permanent basis, by the price increases of fossil fuels forced by the Organization of Petroleum Export Countries. In the past year, the Faraday mine has been rehabilitated by Madawaska Mines Ltd., having obtained a contract for the sale of 6,000,000 lb. of 0.00 lb. of

Also, the major minerals companies, such as Imperial Oil Ltd. and Kerr-Addison Mines Ltd., have been active in the area for the past year.

HISTORY OF PROPERTY

The first recorded work on the Wilson property was from September 15 - 30, 1955, when Geo-Technical Development Co. conducted a magnetometer and radiation survey for Denree Consolidated Mines Ltd., over 10 claims occupying Lots 32 & 33 Conc. VI & VII, Faraday Township. Denree ran out of funds and titles to the claims lapsed on March 27, 1957. These claims included claim E0.328833.

According to a report, September 18, 1967, by W. J. Riddell, P.Eng. to W. M. Gordon, Q.C., staking of the current 26 claims by Wilson et al started in 1957 when Joe Brisson, J. G. Huycke and J.R. Wilson staked 21 claims in Cardiff Township. The discovery, now called the "Wilson Zone", was made on the Lot 29 south part Conc. VI claim now numbered E0.328822, but lack of finances suspended work and the claims reverted to the Crown.

With the revival of interest in U_3O_8 in 1966, Mr. Wilson, financially assisted in part by Mr. W. M. Gordon, Q.C. and in part by Chukuni Gold Mines Ltd., commenced restaking claims in Cardiff and Faraday Townships.

By September 1967, a total of 91 contiguous claims were staked. Of these, 12 were on the locations now held in Faraday Township and 79 in Cardiff Township included the 6 claims now held in Cardiff.

Prospecting by geiger counter and scintillometer were conducted by Wilson in 1967 and two new trenches were opened by blasting. These are located on Claim E0.328822 (Holbrooke Zone) and E0.328823 (Kenjack Zone).

In September, 1967, W. J. Riddell examined 30 of the claims in Cardiff Township, including the current 6 claims E0.328819-24 inclusive, and recommended detailed radiometric surveys and further trenching on the Kenjack and Holbrooke Zones.

Chukuni Gold Mines Ltd. December 31, 1977

<u> History of Property - Continued</u>

Wilson recorded further stripping and trenching in 1969 and 1970, but the second collapse of the uranium demand curtailed funds, all 91 original claims lapsing to the Crown by 1971. Of these, 14 claims in Cardiff and 12 in Faraday Twp. were restaked by the Wilson-Gordon-Chukuni group and recorded January 11, 1972, which included the current claims E0.328819-24 inclusive and E0.328833.

Wilson recorded further stripping and blasting completed on the Kenjack, Holbrooke and Wilson Zones in 1972-73 and 1974 but his severe illness, through 1975 to the present, prevented further work.

Upon the decease of Mr. Gordon in March 1976 and reference to Mr. Wilson restricted by his chronic illness, the directors of Chukuni Gold Mines Ltd. authorized on May 4, 1976, examination and further prospecting of the claims.

The author of this report conducted during eleven field trips to the property from May 19, 1976 to August 24, 1977: detailed field reconnaissance including radiometric traverses and geological examination and mapping on Claims E0.328819 to 328824 in Cardiff Twp. and E0.328833 in Faraday Twp.; stripping, trenching and sampling on the Wilson and Holbrooke Zones on claims E0.328819 and 328822, on the Kenjack Zone on E0.328823 and the H-B Zone on E0.328833.

TOPOGRAPHY

The highest surface elevations on the property are 1,250 to 1,300 feet above sea level, along thickly wooded rocky ridges and fairly flat-topped areas, cut by north to northeasterly trending, steep-sided ravines, to depths up to 150 feet, which drain the area.

Soil, sand, gravel and clay cover most of the area of the claims. Bedrock, therefore, although close to surface at the higher elevations, outcrops on less than 5 per cent of this area.

ECONOMIC GEOLOGY

The rock formations of the area are all Pre-Cambrian, consisting of an Archaean series of Grenville sedimentary rocks which have been highly metamorphosed by their intrusion and replacement by massive plutonic igneous rocks. The intrusives range from basic (iron rich low silica) rocks such as gabbro, pyroxenite, diorite to more acid (high silica) rocks such as syenite, granite, pegmatite and guartz veins.

Map No. 1957-1 (Hewitt 1957) divides the geology of Faraday and Cardiff Townships into two parts: the Haliburton and Hastings Highland gneiss complex lying to the north and west, occupying the area northwest of Bow Lake in Faraday and of Lower Paudash Lake in Cardiff; and the Hastings Basin, occupying the southeast corner of Cardiff and the south part of Faraday. Hewitt divides these areas by the western extension of the McArthurs Mills Fault zone (Ont. Dept. Mines Vol. LXIV, 1955, pt. 8, p. 42), which is assumed to run southwest, passing just south of Bancroft, almost parallelling Highway 28 as it passes through Lower Paudash Lake and Eels Lake in Cardiff Twp. In the north 2/3 of Faraday and the northwest 7/8 of Cardiff, the prevalence of great granite intrusions, which have resisted erosion to leave granite hills as high as 1700 feet, have left considerable outcrop evidence of many more stages of metamorphism and replacement of the

Chukuni Gold Mines Ltd. December 31, 1977

Economic Geology - Continued

older Grenville Series, leaving mixed hybrid gneisses in which the original sedimentary structures and textures are largely destroyed.

The rock outcrops mapped in the Hastings "Basin", particularly in the Wilson claims area, show no pegmatites, but mainly metasediments of the "Hermon" formation, comprised of peltic schists and gneisses, paragneiss, amphibolite, arkose and quartzite, intruded by "Umfraville" gabbro and associated basic rocks.

A large body of basic intrusives is shown underlying the Wilson claims, with the same S-E dip and N-E strike as the Faraday gabbro at the minesite, where it contacts the ore-bearing pegmatites, 5 miles along this N-E strike from the middle of the Wilson claims. However, on the Wilson claims, the northeastern strike continuity is abruptly cut off just east of the Cardiff-Faraday Township line, by an assumed contact running north and south with a few outcrops to the northeast typed as paragneiss and "para-amphibolite" - this latter in spite of an outcrop of leucogranite on the Township line, which can account for the metamorphism of the intrusive gabbro to "para amphibolitic schist" by the later granite intrusive.

Plan No. 1 accompanying this report is chiefly a "blow-up" of Map 1967-1, showing the locations of additional features observed during the 1976 field reconnaissance. It will be noted that over 4 mile along the northeast strike of the granite on the Township line, an outcrop of coarse red leucogranite and syenite pegmatite outcrops near the east central part of Lot 33 Conc. VII Faraday (Claim E0.328833), in contact with an intrusive metagabbro, along the N.W. side of a low flat topographic depression from 100 to 150 feet wide (see Plan No. 5). On the S.E. side of the depression a steep outcrop rises consisting of a pink closely banded "paragneiss" high in silica with, probably, some sillimanite, which is typed as a metasediment. The outcroppings of intrusive igneous rocks, striking northeasterly across E0.328833, show the probable continuity of both the granites and the metagabbros all the way from Silent Lake, northeasterly across the Wilson claims and to the east end of Bow Lake where the Faraday uranium producer is located. Although this continuity may be sub-surface and overlain by the Hermon sediments, the igneous outcrops previously unmapped show that the tops of these intrusives are at shallow depths and outcrop more frequently below the topsoil than indicated by Map No. 1957-1.

Further detailed mapping is necessary to illustrate this more completely, but these 1976 field observations prove the 1957 geological boundaries, interrupting the northeasterly continuity of the basic intrusives, are erroneous assumptions.

The importance of the basic intrusive rocks is emphasized by: (a) the fact that the most productive uranium orebodies in the area are found close to and at the contact of the uranium-bearing granitic rocks with the metagabbro; (b) the better grade ore shoots are usually indicated by abundant pyroxene, the chief iron-rich mineral constituent of gabbro.

On the Wilson property, radioactive rock speciments, assaying high in U308 and Th02, have been discovered in four separate zones, all near or at the contact with basic intrusive rocks typified by amphibolitic metagabbro. Of twenty (20) samples, selected from these speciments, assaying high uranium and thorium content, all were basic rock of which nineteen (19) were pyroxenitic.

Chukuni Gold Mines Ltd. December 31, 1977

Economic Geology - Continued

A description of the four zones follows.

H-B Zone (See Plan No. 1 & No. 5)

In May and June 1976, while traversing claim No. E0.328833 in Faraday Township by scintillometer, radioactivity up to 6 x B.G. was discovered intermittently along a zone at and near pegmatite-metagabbro-granitic gneiss contacts at a previously unrecorded location. This location is 525 feet S. along the Township line, by 1,200 feet east (magnetic) from the N.W. corner of Lot 33 Conc. VII Faraday, or in the east half of Claim E0.328833. As a 1955 report by Geo-Technical Development Co. recorded the highest radioactivity at 1.8 x B.G., over a 200' x 100' grid including this claim (at that time numbered E0.9625), the zone was examined in further detail in July and August 1976.

A shallow (5' to 10') flat topographic depression from 100' to 200' wide along a N. 50° E. bearing is flanked on the N.W. side by steep (70° - 80°) dipping coarse red syenite pegmatite and metagabbro. Along the S.E. side, pink, fine-grained granite gneiss rises steeply for five feet and more gently upward to the S.E. Along the edge of the depression narrow stringers of pegmatite and quartz with scintillometer readings up to 6 x B.G., indicate a radioactive contact zone below the overburden in the depression.

Lack of surface work prevented obtaining samples below 6-inch depth from the weathered surface. One sample, of red syenite from the N.W. side, assayed 0.056% U_30_8 , 1.09% $Th0_2$. The highest assay reported from the metasedimentary granite gneiss on the S.E. side, was 0.005% U_30_8 , 0.06% $Th0_2$.

Kenjack Zone (See Plans No. 1 & No. 2)

The rock trench excavated since 1966 by Jack Wilson and Ken Bowser is located 150 feet south of the shore of Port Hope Lake near the N.E. corner of Claim No. E0.328823. It is located at the base of a rock scarp extending along a strike of N. 40° E. W.J. Riddell, P.Eng. (1967) reported the noting of six (6) radio-active occurrences along 700 feet of this strike, at the intersection of the scarp and rubble lying along the base of the scarp. The rock forming the scarp is a light-coloured quartz-biotite gneiss and in the trench excavated below the rubble at the base of the scarp is a black quartz-mica-hornblende schist, with more massive facies of metagabbro near the sheared contact at the base of the scarp. This contact dips 53° S.E. Riddell (1967) reported finding hand samples of a coarsely crystalline oxidized rock, near the trench and among the rubble, which gave strong radioactive readings, but which could not be clearly identified as being part of the local bedrock. Samples of bedrock from the hanging wall, bottom and footwall of the trench were reported by Riddell to assay from nil to 0.01% U308, 0.04% ThO2. A grab sample of the oxidized material was reported by Riddell (1967) to assay 0.02% U308, 0.12% ThO2.

During the initial 1976 examination of this trench, high radioactive readings (from 3 x to 5 x B.G.) were encountered in the rubble-filled trench bottom and at the edge of the rubble against the shear face at the bottom of the scarp, at five more places, intermittently, along strike for over 200 feet N.E. of the original trench. Digging into the overburden from one to two feet below surface

Chukuni Gold Mines Ltd. December 31, 1977

Economic Geology - Continued

Kenjack Zone - Continued

against the shear face yielded nine (9) speciments of highly radioactive material (up to $35 \times B.G.$).

This material varied from coarse, vuggy oxidized pyroxenitic, carbonated rock, with clusters of highly radioactive material (answering Riddell's description) - to fresh, fine-grained pyroxenitic, carbonatized rock with attached radioactive, oxidized clusters of uranothorite - see Samples Nos. 1541 and 1540, Appendix I.

Assays of nine (9) samples of these specimens and locations N.E. from original Kenjack rock trench were as follows:

Sample No.	Location	<u> Assay - I</u>	Per Cent
No.	(hundreds feet)	<u> </u>	Th02
1544	0 + 06	0.68	5.57
1552	0 + 06	0.007	0.101
1538	0 + 12	0.22	1.66
1539	0 + 12	0.025	0.61
1550	0 + 12	0.783	13.46
1540	1 + 06	0.16	1.00
1543	1 + 24	0.63	5.81
1541	1 + 49	0.20	2.45
1542	2 + 01	0.21	3.25

Like Riddell's oxidized radioactive material in 1967, no exposures of the above samples could be exposed in situ, during the past summer, due to lack of budget finances for more extensive blasting or core drilling. However, in digging into the soil for 2 feet down and 2 feet south to the shear face, there was no doubt that samples Nos. 1540 and 1550 were scaled by the hammer (from $\frac{1}{2}$ " to 1" thick) from the face of the shear at the bottom of the scarp. An effort to expose this in situ, was made by stripping, by bulldozer, along the base of the scarp to a depth of 4 to 5 feet. Owing to the 53° S.E. dip of the shear, the bulldozer blade could not excavate down this dip, which can only be done, either by hand or mechanical equipment, after extensive blasting of the hanging wall rock (see Sections, Plan No. 2).

Samples of the wall rocks on either side of narrow ($^{1}_{2}$ " to 6") shear zone, registered low individual radioactivity and did not assay over 0.005% in U308 or ThO2.

Holbrooke Zone (See Plans No. 1 and No. 3)

This zone was identified as the outcrop scarp similar to that at the Kenjack showing, examined by Riddell in 1967. It is located about 900 feet N.E. of Port Hope Lake and 250 feet east of the apparent west claim boundary of E0.328822. The scarp forming the hanging wall of the radioactive zone, which dips 55° S.E. and strikes N. 20° E., consists of a finely banded pink granite gneiss (arkositic). The footwall, exposed on the N.W. side of a 35-foot wide clay-filled gulley, is black amphibolitic mica schist and metagabbro. The rock trench had been blasted

Chukuni Gold Mines Ltd. December 31, 1977

Economic Geology - Continued

Holbrooke Zone - Continued

from the side of the scarp but was full of rubble in the bottom. On August 22, 1976, several radioactive readings up to 3 x B.G. were observed along the scarp over a length of 400 feet. Against the shear face of the hanging wall of the trench digging below the rubble resulted in high radioactivity (35 x B.G.) at ground level. Further digging in the rubble yielded a specimen of coarse, oxidized gabbro or pyroxenite, a sample of which assayed $0.175\%~U_30_8$, $2.02\%~ThO_2$ (see sample No. 1545 Appendix I). This specimen was similar to some found at the Kenjack Zone, but Riddell (1967) reported having not seen this type of rock at the Holbrooke Zone.

On September 6, 1976, stripping of an area 75 feet long by 35 feet wide, contiguous to the hanging wall of the trench, was bulldozed to a vertical depth of 12 feet in clay, without reaching bedrock, except in the hanging wall, which receded southeasterly along a 55-degree dip. However, a sample (No. 1553) of coarsely crystalline black mineral (uranothorite?) in metagabbro, was scaled from the hanging wall shear, a distance of 4 feet N.E. and 4 feet below the source of the previous sample August 22/76. This second sample, from the rock in situ, assayed $0.606\%~U_3O_8$, $8.67\%~ThO_2$.

Again, the dip of the radioactive shear under the hanging wall gneiss will require extensive surface blasting or core drilling to expose it in situ.

Wilson Zone (See Plans No. 1 and No. 4)

Three trenches, numbered 3, 4 and 5 on Plan No. 4, have been blasted on the Wilson Zone, near the northwest corner of Claim E0.328822, Lot 29 Concession VI, Cardiff Twp.

Trench No. 3, in black amphibolite and metagabbro, is about 60 feet long by 6 feet wide by 3 feet deep. The strike of rock formation is N. 35° E. and dips 70° to 80° S.E.

Riddell (1967) reported radioactive Geiger readings in this trench and on an outcrop 300 feet due west. During the examinations June to September 1976, no radioactivity was detected in this trench, but scintillometer counts of 10 x to 16 x B.G. were obtained on the outcrop 300 feet west. This outcrop is also black metagabbro and an old pit has been dug against a shear face rising 5 feet at 70° to 80° dip above the overburden. The high R-A count was at the foot of the shear face where digging a foot into the rubble against the face, a specimen of sheared, banded, reddish black oxidized material registered a scintillometer count of 1000 c.p.s. or $40 \times B.G$. Assays (sample No. 1556) were 1.453% U $_30_8$ and 23.48% ThO $_2$.

Trench No. 4 is 120 feet northwest, in the middle of a rubble-filled, previously stripped area about 65' \times 140'. The trench is blasted about 60' \times 20' \times 4' in a coarse grey to pink syenite pegmatite. This pegmatite is exposed over a large area a further 400 feet northwest where Trench No. 5 is blasted about 60' \times 6' \times 4'.

Chukuni Gold Mines Ltd. December 31, 1977

Economic Geology - Continued

Wilson Zone - Continued

A 565-foot picket line was run N. 45^{0} W. magnetic, from Trench 3 past Trench 4 to Trench 5 and a scintillometer survey was made of the locality. A cover of overburden between outcrops on which trenches are located masks the radioactivity, but readings of from 1.6 x to 2.4 x B.G. indicate the probable location of the contact between the pegmatite and metagabbro, where the best concentrations of radioactive minerals are most likely.

Large broken rock and rubble filling the trenches prohibited access to bedrock in the bottom of trenches but, guided by the scintillometer, several speciments of highly radioactive material were dug from beneath the rock and rubble of the trenches. These specimens were 1" to 3" fragments of brown to black oxidized rock, with fine to coarse crystals of amphibolite and uranothorite (?) with some carbonates. They are similar to those found at the Kenjack and Holbrooke Zones, at which the only geological accountability is also a basic intrusive contact zone. Following are assays of selected samples registering radioactivity from $10 \times to 60 \times B.G.$

Sample No.	Trench No.	Assay - U308	Percent ThO2
1558	5	1.263	23.09
1526	4	5.06	29.1
1527	4	1.85	25.8
1528	4	1.46	23.8
1555	4	0.104	1.267

A sample of pinkish-white syenite pegmatite, from bedrock in the north wall of Trench No. 5, assayed 0.011% U_3O_8 , 0.227 ThO2 (see Sample No. 1557, Appendix I).

OBSERVATIONS AND CONCLUSIONS

- 1. The geological similarities on the four zones in which radioactivity has been discovered are: (a) major contact with basic intrusive rocks of same orogeny as the Faraday metagabbro, now represented in part by metamorphosed amphibolite hornblende-mica schists; (b) the presence of uranium-thorium bearing pyroxene-rich rocks near and at this intrusive contact.
- 2. The dissimilarity of the rocks shown on this property, to those outcropping north of Highway 28, on Map 1957-1, is made apparent by the large areas assumed to be underlain by meta-sedimentary rocks. The existence of large granitic bodies in the north part of Lot 29 Concession VI Cardiff (claim No. E0.328822) and Lot 33 Concession VIIFaraday (E0.328833), were evidently missed because of the wide spacings of field traverses (¼ mile) in 1955 and 1956. These outcrops and the basic intrusives now found on E0.328833, if mapped and delineated in further detail, indicate the occurrence of large masses of granitic and gabbroic intrusives, outcropping under the overburden and/or overlain by lesser areas of metasediments, continuing from Silent Lake, 3 miles S.W. of the Wilson property, to Bow Lake, 4 miles to the N.E.

Chukuni Gold Mines Ltd. December 31, 1977

Observations and Conclusions - Continued

- 3. a) The discovery, at or near the basic geological contacts in the three zones in Cardiff Twp., of over 20 specimens of basic pyroxenitic material rich in uranium and thorium, confirms Riddell's theory (1967) that a radioactive fault or shear zone exists along the edge of the rock scarps at the Kenjack, Holbrooke and Wilson Zones.
 - b) Although Samples Nos. 1553, 1554 (Holbrooke Zone, Plan No. 3) and Nos. 1540 to 1543 inclusive (Kenjack Zone), were dug and hammered from locations well within the shears, complete 'in situ' exposure of these pyroxenitic, skarny seams, must be made by more extensive surface mining to remove the hanging wall capping at the respective trenches.
 - c) Until this further surface mining or core drilling completely confirms the in situ position of the radioactive material, Riddell's (1967) alternate suggestion must not be overlooked, i.e., the possibility of the oxidized radioactive specimens emplaced with glacial float, although the location of the samples noted in b) above makes this unlikely.
- 4. The basic intrusive-pegmatite occurrences on the H-B Zone (E0.328833 in Faraday Twp.) require further exploratory work including core drilling.

RECOMMENDATIONS

It is recommended that the 19 claims to which titles are expiring next month, be allowed to revert to the Crown, to be restaked later in 1978, depending on the results of work recommended following, on Claims E0.328819 to 328824 inclusive and E0.328833.

Phase I - Preliminary Exploration

- 1. Establish locational line grids on the seven claims as follows:-
 - On the 6-claim group in Cardiff Township, three base lines will run north-easterly from west to east boundaries, respectively, passing near and approximately parallel to the Kenjack Zone on E0.328823, the Holbrooke Zone on E0.328822, and the Wilson Zone (Trench 4) on E0.328819. Grid lines, picketed every 100 feet will cross at 90° to the base lines at 300-foot intervals and extend to the claim boundaries.
 - On EO.328833 in Faraday Twp., the base line should be an extension of the picket line established on the H-B Zone in 1976. Grid lines will follow the same pattern as those in Cardiff Twp.
 - This will total 12 miles of lines including 4 miles of perimeter boundary lines.
- 2. Complete scintillometer survey over entire line grid, with readings at 50-foot intervals, reduced to 25-foot intervals in anomalous areas.
- 3. Supplement the foregoing by detailed geological mapping, stripping and trenching.

Chukuni Gold Mines Ltd. December 31, 1977

Recommendations - Continued

Phase II - Continuing Exploration

The work schedule following may be varied in detail contingent to concurrent findings in the field.

- 1. Detailed radiometric survey, using spectrometer or sub-surface radiometric detection apparatus along foot of rock scarps in currently known zones.
- 2. Provide for further stripping and trenching.
- 3. Test favourable rock formations by 5 to 10 core drill holes totalling at least 2,000 feet of drilling.

ESTIMATE OF COST

The estimated cost of the foregoing recommended work schedule follows:-

Phase I (First 3 months)

Establish Line Grid 12 miles @ \$200/mile	\$ 2,400.00
Scintillometer Survey	Ψ 23400.00
12 miles @ \$175/mile	2,100.00
Detailed Geological Mapping & Prospecting	5,000.00
Provision for Stripping & Trenching	7,000.00
Contingency	3,500.00
Field Supervision & Management	6,000.00

Total - Phase I	\$26,000.00
	, ,

Phase II (Second 3 months)

Detailed Spectrometer & Subsurface Radon Surveys	\$ 5,000.00
Further Stripping & Trenching	5,000.00
Core Drilling - 2,000 feet @ \$20/foot	40,000.00
Contingency @ 15%	7,500.00
Field Supervision & Management	7,500.00

Total - Phase II	65,000.00
	······································

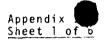
GRAND TOTAL - PHASE I & PHASE II \$91,000.00

Respectfully submitted,

A. S. BAYNE & COMPANY

A. S. Bayne, B.Sc., P.Eng.

REPORT ON WILSON URANIUM CLAIMS - CARDIFF & FARADAY TWPS. - CHUKUNI GOLD MINES LTD.



LOG OF SELECTED FIELD SAMPLES TAKEN BY A.S. BAYNE - JULY 19, 1976 TO SEPTEMBER 6, 1976

Sample No.	Radioacti C.P.S. X	ivity ⁽¹⁾	Percent 1	Assay (2) ThO ₂	Zone - Location (3)	. Description
1526	400	16x	5.06	29.1	Wilson Trench 4	From rubble below broken rock. Medium grain reddish black oxidized rock.
1527	250	10x	1.85	25.8		;;
1528	250	10x	1.46	23.8		TARREST TO THE PARTY OF THE PAR
1529	150	6x	0.056	1.09	H-B Outcrop	1+00 N. 50 W. Coarse red syenite pegmatite with tourmaline crystals.
1530	90	3.6x	<0.005	0.06		0+50\$. 50 E. Granitized metasediment with pegmatitic quartz veins.
1531	60	2.4x	<0.005	<0.005	tt 9	0+50 N · 40 W. Coarse red syenite pegmatite with tourmaline crystals.
1532	90	3.6x	0.006	<0.005		0+50N 55'E. Granitized metasediment with pegmatitic quartz veins.
1533	60	2.4x	< 0.005	<0.005	4 4	1+00N.50'W. Coarse red syenite pegmatite with small black specks.
1534	100	4x	<0.005	<0.005	11 11	1+50N. 40'W. """"""""""""""""""""""""""""""""""""
1535	80	3.2x	<0.005	<0.005	11	2+50N·45'W. " " " with tourmaline.
1536	100	4x	0.005	0.005	0 0	3+25N.70'W. " " " " " .
1537	80	3.2x	0.005	<0.005	и и	3+25N.70'W. " " " " " .
1538	695	3 5x	0.22	1.66	Kenjack Trench l	0+12 From rubble in bottom, where narrow 6" black metagabbro seam contacts paragneiss
1539	120	6x	0.025	0.61	M M .	0+12 H.W. 53 ⁰ S. Oxidized, vuggy pyroxenite (?) carbonates.
1540	100	5x	0.16	1.00	n a	1+06 From shear face 2' below surface. Fresh fine gr. pyroxenite with oxidized blebs.
1541	220	11x	0.20	2.45	41 41	1+49 From rubble 1' down against shear face. Coarse oxidized pyroxenite.
1542	220	11x	0.21	3.25	n n	2+01 " " " " " Fine oxidized pyrox. incontact mica schist.
1543	220	11x	0.63	5.81	я в	1+24 " " 1' " " " . Fine gr. gabbro mixed with soil.
1544	400	20x	0.68	5.57	0 11	0+06 " bottom rock trench. Coarse vuggy basic rock, mica-hornblende schist.
1545	750	35x	0.175	2.02	Holbrooke Trench 2	From rubble bottom of shear. Coarse oxidized gabbro. Arkose H.W. Hornblende F.W.
1546	40	2x	< 0.005	<0.005	Kenjack Trench 1	2+01 From F.W. of outcrop. Coarse & X-L. Hornblende & feldspar, interbanded mica schist.
1547	30	1.5x	< 0.005	<0.005	ñ u	1+49 " H.W. " . Banded gneiss and hornblende-mica schist.
1548	30	1.5x	<0.005	0.005	н н	1+24 " F.W. " , Black hornblende & mica schist.
1549	30	1.5x	< 0.005	<0.005	и и	1+06 " F.W. " . Hornblende-mica schist with white quartz.
1550	600	30x	0.783	13.46	и н	0+12 From rubble bottom of shear. Coarse brown oxidized vuggy black rock.
1551	40	2×	< 0.005	< 0.005	и и	0+06 From F.W. in trench. Hornblende-mica schist with some pink feldspar.
1552	40	2x	0.007	0.101	11 31	0+06 From rubble in bottom of trench. Sandy muck.
1553	400	20x	0.606	8.67	Holbrooke Trench 2	From scaling H.W. for 2' deep, Coarse X-L black mineral in metagabbro.
1554	70	2x	0.005	0.005	11	Rubble of soil and chips mica schist from base of shear.
1555	300	12x	0.104	1.267	Wilson Trench 4	1+50 W.15'S. Rubble bottom N. edge trench white pegmatite. Vuggy oxidized rock.
1556	1000	40x	1.453	23.48		3 From rubble bottom of shear. Sheared banded metagabbro. Reddish oxide.
1557	175	7x	0.011	0.227	" Trench 5	4+75 W.5' S. From bedrock N. wall of trench. White to pink pegmatite.
1558	1500	60x	1.263	23.09	31 11	4+75 W.20'S. Under rubble in trench bottom. Coarse vuggy black-brown rock.

Radioactive counts per second (C.P.S.) against background (B.G.) of 20 to 25 C.P.S. with Scintrex Model BGS-1 Serial 805110 Model BGS-1S Serial No. 902228. Accuracy ±5% full scale.

(2) Note: Assays by Technical Service Laboratories per Certificates following (Appendix I Sheets 2-6).

(3) Note: Refer to Plans Nos. 1 to 5 inclusive.

TECHNICAL SERVICE LABORATORIES 1301 FEWSTER DRIVE MISSISSAUGA, ONTARIO L4W 1A2

CERTIFICATE OF ANALYSIS # 7.00284

Sample(s) from: Chukuni Gold Mines Ltd.

Suite 100, 12 Richmond St. East

Toronto, Ont.

M5C 1N1

Att. A. S. Bayne

Sample(s) of: ROCKS

	Uranium Oxide (U308)%	Thorium Oxide (ThO ₂)%
Cardiff Project		
1526 1527 1528	5.06 1.85 1.46	29.1 25.8 23.8
Faraday Project		
1529	0.056	1.09



Appendix I Sheet 3 of 6

- CHEMICAL RESEARCH AND ANALYSIS
- CONTRACT LABORATORIES

TECHNICAL SERVICE LABORATORIES

DIVISION OF BURGENER TECHNICAL ENTERPRISES LIMITED

1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2

TELEPHONE: (416) 625-1544

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM

Chukuni Gold Mines Ltd., Suite 100, 12 Richmond St. E., Toronto, Ontario.

M5C 1N1

SAMPLE(S) OF

ROCK

REPORT No.

T - 02326

Inv. #3077

Uranium Oxide (U3O8) %	Thorium Oxide (ThO ₂) %

1530	<0.005	0.006
1531	<0.005	<0.005
1532	0.006	<0.005
1533	<0.005	<0.005
1534	<0.005	<0.005
1535	<0.005	<0.005
1536	0.005	<0.005
1537	0.005	<0.005

Copy to: A. S. Bayne, Suite 427, 12 Richmond St. E., Toronto, Ontario.

Samples, Pulps and Rejects discarded after two months

DATE August 11th, 1976.

SIGNED .





• CONTRACT LABORATORIES

TECHNICAL SERVICE LABORATORIES

Attn. Mr.A.D. MaCallum

DIVISION OF BURGENER TECHNICAL ENTERPRISES LIMITED

1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2

TELEPHONE: (416) 625-1544

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM

Chukuni Gold Mines Ltd.,

Sample Weight

Suite 100,

12 Richmond St. East,

Toronto, Ontario.

SAMPLE(S) OF

M5C 1N1

ROCK

REPORT No.

T - 02401

Inv. #3336

	Before Crushing	U ₃ O ₈ %	ThO ₂ %
1538	31.8 gm.	0.22	1.66
1539	163.7 gm.	0.025	0.61
1540	88.1 gm.	0.16	1.16
1541	42.5 gm.	0.20	2.45
1542	8.8 gm.	0.21	3.25
1543	21.0 gm.	0.63	5.81
1544	36.0 gm.	0.68	5.57
1545		0.175	2.02

Copy to:- A.S. Bayne & Co., 45 Strathallan Blvd., Toronto, Ontario. M5N 1S8
Attn. A. S. Bayne

Samples, Pulps and Rejects discarded after two months

DATE September 10th, 1976.

SIGNED

Š,

- . CHEMICAL RESEARCH AND ANALYSIS
- CONTRACT LABORATORIES

TECHNICAL SERVICE LABORATORIES

DIVISION OF BURGENER TECHNICAL ENTERPRISES LIMITED

1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1AZ

TELEPHONE: (416) 625-1544

CERTIFICATE OF ANALYSIS

Semiquantitative Spectrographic

SAMPLE(S) FROM

Chukuni Gold Mines Ltd.,

Suite 100.

12 Richmond St. East,

Toronto, Ontario.

M5C 1N1

Attn. Mr. A. D. MaCallum

REPORT NO.

T - 02401

Inv. #3336

SAMPLE(S) OF ROCK

SAMPLE(S) OF	ROCK						
•	Sample Composite 1538-1544	Sample #1545	Sample		Sample Composite 1538-1544	Semple #1545	Sample
Aluminum (Al ₂ O ₃)	M 10%	M 1-2%		Manganese	.05%	.05%	
Antimony	_	_		Magnesium (MgO)	M 10%	M 10%	
Arsenic	_	-		Molybdenum	-	-	, , , , , , , , , , , , , , , , , , ,
Barium	.1%	.04%		Neodymium (Nd ₂ O ₃)	-		,
Beryllium (BeO)	.001%	.002%		Nickei	-	-	
Bismuth		-		Phosphorus	-	-	
Boron	.01%	.01%		Silver	†	-	
Calcium (CaO)	10%	1-2%		Silicon (SiO ₂)	Н	Н	
Cadmium	<.005%	<.005%		Sodium (Na ₂ O)	4%	. 4%	
Cerium (CeO ₂)	-	-		Strontium	. 05%	.01%	
Chromium	<.005%	<.005%		Tentalum (Ta ₂ O ₅)	-	-	
Cobelt	-	-		Thorium (ThO ₂)	M 3%	2%	
Columbium (Cb ₂ O ₅)	-	•		Tin	<.001%	<.001%	
Copper-	.002%	.002%		Titanium	. 1%	.005%	
Gallium	-	-		Tungsten	-	-	
Germanium	-	8		Uranium (U3O8)	.3%	. 2%	
Iron (Fe)	M 5%	M 5%		Vanadium	.005%	<.005%	
Lanthanum (La ₂ O ₃)	-	-		Yttrium (Y2O3)	.005%	.005%	
Lead	. 1%	.12%		Zinc	-	-	
Lithium (Li ₂ O)	-			Zirconium (ZrO ₂)	<.005%		
					/		
Extra Elements							
Caesium				Platinum			
Gold				Rhenium			
Hafnium				Rubidium			
Indium				Tellurium			
Palladium				Thallium			

Figures are approximate: CODE

L - Low

H - High - 10 - 100% approx. M - Medium - 1 - 10% approx.

- .1 - 1% approx.

- Not Detected - Elements looked for but not found

X Not Looked For

< Less Than

Samples, Pulps and Rejects discarded after two months

DATE September 10th, 1976.

SIGNED

- CHEMICAL RESEARCH AND ANALYSIS
- CONTRACT LABORATORIES

TECHNICAL SERVICE LABORATORIES

DIVISION OF BURGENER TECHNICAL ENTERPRISES LIMITED

1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2

TELEPHONE: (416) 625-1544

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM

Chukuni Gold Mines Ltd., Suite 100, 12 Richmond St. E., Toronto, Ontario.

M5C 1N1

SAMPLE(S) OF

ROCK

Samples, Pulps and Rejects discarded after two months

September 21st, 1976. SIGNED

REPORT No.

T - 02438

Inv. #3400

	Uranium Oxide (U3O8) %	Thorium Oxide (ThO ₂) %
1546	<0.005	0.022
1547	<0.005	<0.005
1548	<0.005	<0.005
1549	<0.005	<0.005
1550	0.783	13.46
1551	<0.005	0.119
1552	0.007	0.101
1553	. 0.606	8.67
1554	<0.005	<0.005
1555	0.104	1.267
1556	1.453	23.48
1557	0.011	0.227
1558	1.263	23.09

Copy to:- A.S. Bayne, Suite 427, 12 Richmond St. E., Toronto, Ontario.

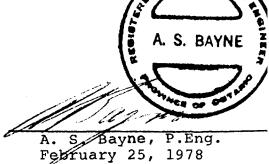
CHUKUNI GOLD MINES LIMITED

ASSAYS & ANALYSES OF SAMPLES - FARADAY & CARDIFF TOWNSHIPS URANIUM PROJECT EASTERN ONTARIO MINING DIVISION - CANADA

SOURCE OF SAMPLES		SAMPLE NOS.	ASSAYS & A	NALYSES*	DAYS ASSESSMENT WORK		
Claim No.	Trench Zone	(all inclusive)	No. Cost	TOTAL COST	CREDITS @ RATE OF ONE DAY PER \$15 EXPENDITURE		
EO.328819	Wilson	1526 to 1528 1555 to 1558	3 \$19.25 4 17.45	\$ 57.75 69.80 \$127.55	;		
EO.328822	Holbrooke	1545 1553 and 1554	1 15.00 1 18.00 2 17.45	\$ 15.00 18.00 34.90 67.90)		
EO.328823	Kenjack	1538 to 1544 " 1546 to 1552	1 15.00 7 19.75 7 17.45	\$ 15.00 138.25 122.15 275.40 TOTAL \$470.85	<u>.</u>		
* *	"H-B" echnical Servic 86(18) of The	1529 1530 to 1537 e Laboratories, M	l 19.25 8 19.25 ississauga, Onta	\$ 19.25 154.00 rio. \$173.25 TOTAL \$644.10			

APPLICATION OF WORK CREDITS per "The Mining Act-Report of Work dated February 25th, 1978:-

			Claim No.	Days
			(EO.328819	5
			(EO.328820	5
Contiquous	claims-Cardiff	Twp	(EO.328821	5
			(EU.328822	5
			(EO.328823	6
			(EO.328824	5
			6 claims	31 days
	Faraday	Twp.	EO.328833	12 days



TECHNICAL SERVICE LABORATORIES 1301 FEWSTER DRIVE MISSISSAUGA, ONTARIO L4W 1A2

CERTIFICATE OF ANALYSIS

REPORT No.

T-02284

Sample(s) from: Chukuni Gold Mines Ltd. Suite 100, 12 Richmond St. East

Toronto, Ont. M5C 1N1

Att. A. S. Bayne

Sample(s) of:

ROCKS

	Uranium Oxide (U308)%	Thorium Oxide (ThO ₂)%
Cardiff Project		
1526 1527 1528	5.06 1.85 1.46	29.1 25.8 23.8
Faraday Project		
1529	0.056	1.09



Appendix İ Sheet 3 of 6

- CHEMICAL RESEARCH AND ANALYSIS
- CONTRACT LABORATORIES

TECHNICAL SERVICE LABORATORIES

DIVISION OF BURGENER TECHNICAL ENTERPRISES LIMITED

1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2

TELEPHONE: (416) 625-1544

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM

Chukuni Gold Mines Ltd., Suite 100, 12 Richmond St. E., Toronto, Ontario.

M5C 1N1

SAMPLE(S) OF

ROCK

REPORT No.

T - 02326

Inv. #3077

	Uranium Oxide (U3O8) %	Thorium Oxide (ThO ₂) %
		,
1530	<0.005	0.006
1531	<0.005	<0.005
1532	0.006	<0.005
1533	<0.005	<0.005
1534	<0.005	<0.005
1535	<0.005	<0.005
1536	0.005	<0.005
1537	0.005	<0.005

Copy to: A. S. Bayne, Suite 427, 12 Richmond St. E., Toronto, Ontario.

Samples, Pulps and Rejects discarded after two months

DATE August 11th, 1976.

______SIGNED .

V

• CONTRACT LABORATORIES

TECHNICAL SERVICE LABORATORIES

1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2

TELEPHONE: (416) 625-1544

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM

Chukuni Gold Mines Ltd.,

Suite 100,

12 Richmond St. East,

Toronto, Ontario.

SAMPLE(S) OF

M5C 1N1 Attn. Mr.A.D. MaCallum

ROCK

REPORT No.

T - 02401

Inv. #3336

	Sample Weight Before Crushing	U308 %	ThO ₂ %
1538	31.8 gm.	0.22	1.66
1539	163.7 gm.	0.025	0.61
1540	88.1 gm.	0.16	1.16
1541	42.5 gm.	0.20	2.45
1542	8.8 gm.	0.21	3.25
1543	21.0 gm.	0.63	5.81
1544	36.0 gm.	0.68	5.57
1545		0.175	2.02

Copy to: A.S. Bayne & Co., 45 Strathallan Blvd., Toronto, Ontario. M5N 1S8 Attn. A. S. Bayne

Samples, Pulps and Rejects discarded after two months

September 10th, 1976. DATE -



Appendix I Sheet 5 of 6

- . CHEMICAL RESEARCH AND ANALYSIS
- . CONTRACT LABORATORIES

TECHNICAL SERVICE LABORATORIES

DIVISION OF BURGENER TECHNICAL ENTERPRISES LIMITED

1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2

TELEPHONE: (416) 625-1544

CERTIFICATE OF ANALYSIS

Semiquantitative Spectrographic

SAMPLE(S) FROM

Chukuni Gold Mines Ltd.,

Suite 100,

12 Richmond St. East,

Toronto, Ontario.

M5C 1N1

REPORT NO.

T - 02401

Inv. #3336

Attn. Mr. A. D. MaCallum

SAMPLE(S) OF ROCK

	Sample Composite	Sample #1545	Sample		Sample Composite	Sample #15 4 5	Sample
	1538-1544				1538-1544		
Aluminum (Al ₂ O ₃)	М 10%	M 1-2%		Manganese	.05%	.05%	
Antimony	_	-		Magnesium (MgO)	M 10%	M 10%	······································
Arsenic	pa .			Molybdenum	_	-	
Barium	. 1%	.04%	1	Neodymium (Nd ₂ O ₃)	-	-	
Beryllium (BeO)	.001%	.002%		Nickel	-	-	
Bismuth		_		Phosphorus	_	-	
Boron	.01%	.01%	1	Silver	_	-	
Calcium (CaO)	10%	1-2%	<u> </u>	Silicon (SiO ₂)	Н	Н	
Cadmium	<.005%	<.005%		Sodium (Na ₂ O)	4%	.4%	
Cerium (CeO ₂)	_	-		Strontium	. 05%	.01%	, , , , , , , , , , , , , , , , , , ,
Chromium	<.005%	<.005%		Tantalum (Ta ₂ O ₅)	-	-	
Cobalt	-	-		Thorium (ThO ₂)	M 3%	2%	
Columbium (Cb ₂ O ₅)	-	-		Tin	M 3% <.001%	<.001%	
Copper	.002%	.002%	1	Titanium	.1%	.005%	
Gallium	-	-		Tungsten		-	
Germanium	pa .	-		Uranium (U3O8)	.3%	.2%	
tron (Fe)	M 5%	M 5%		Vanadium	.005%	<.005%	
Lanthanum (La ₂ O ₃)	-	-		Yttrium (Y2O3)	.005%	.005%	
Lead	. 1%	.12%		Zinc	-	-	,
Lithium (Li ₂ 0)	-	_		Zirconium (ZrO ₂)	<.005%		
					/ / / / / / / / / / / / / / / / / / / /		
Extra Elements				<u> </u>			
Caesium				Platinum			
Gold				Rhenium			
Hafnium				Rubidium			
Indium				Tellurium			· · · · · · · · · · · · · · · · · · ·
Palladium			1	Thallium	•		

Figures are approximate:

L - Low

CODE

H - High = 10 M - Medium = 1

- 10 - 100% approx.

- 1 - 10% approx. - .1 - 1% approx. - Not Detected - Elements looked for but not found

X Not Looked For

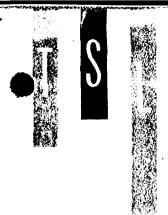
< Less Than

Samples, Pulps and Rejects discarded after two months

DATE September 10th, 1976.

SIGNED





Appendix I Sheet 6 of 6

- CHEMICAL RESEARCH AND ANALYSIS
- CONTRACT LABORATORIES

TECHNICAL SERVICE LABORATORIES

DIVISION OF BURGENER TECHNICAL ENTERPRISES LIMITED

1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2

TELEPHONE: (416) 625-1544

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM

Chukuni Gold Mines Ltd., Suite 100, 12 Richmond St. E., Toronto, Ontario.

M5C IN1

SAMPLE(S) OF

ROCK

REPORT No.

T - 02438

Inv. #3400

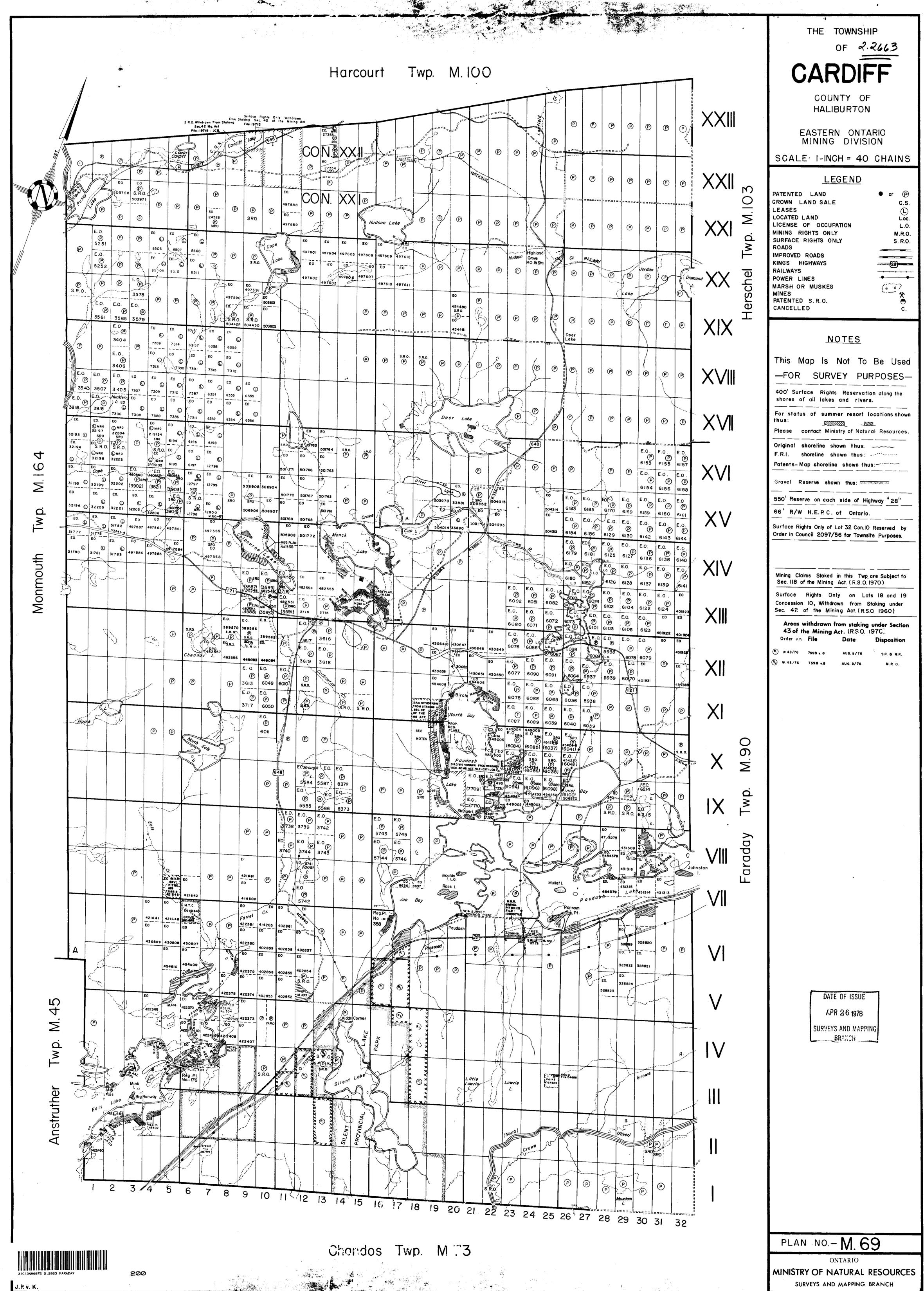
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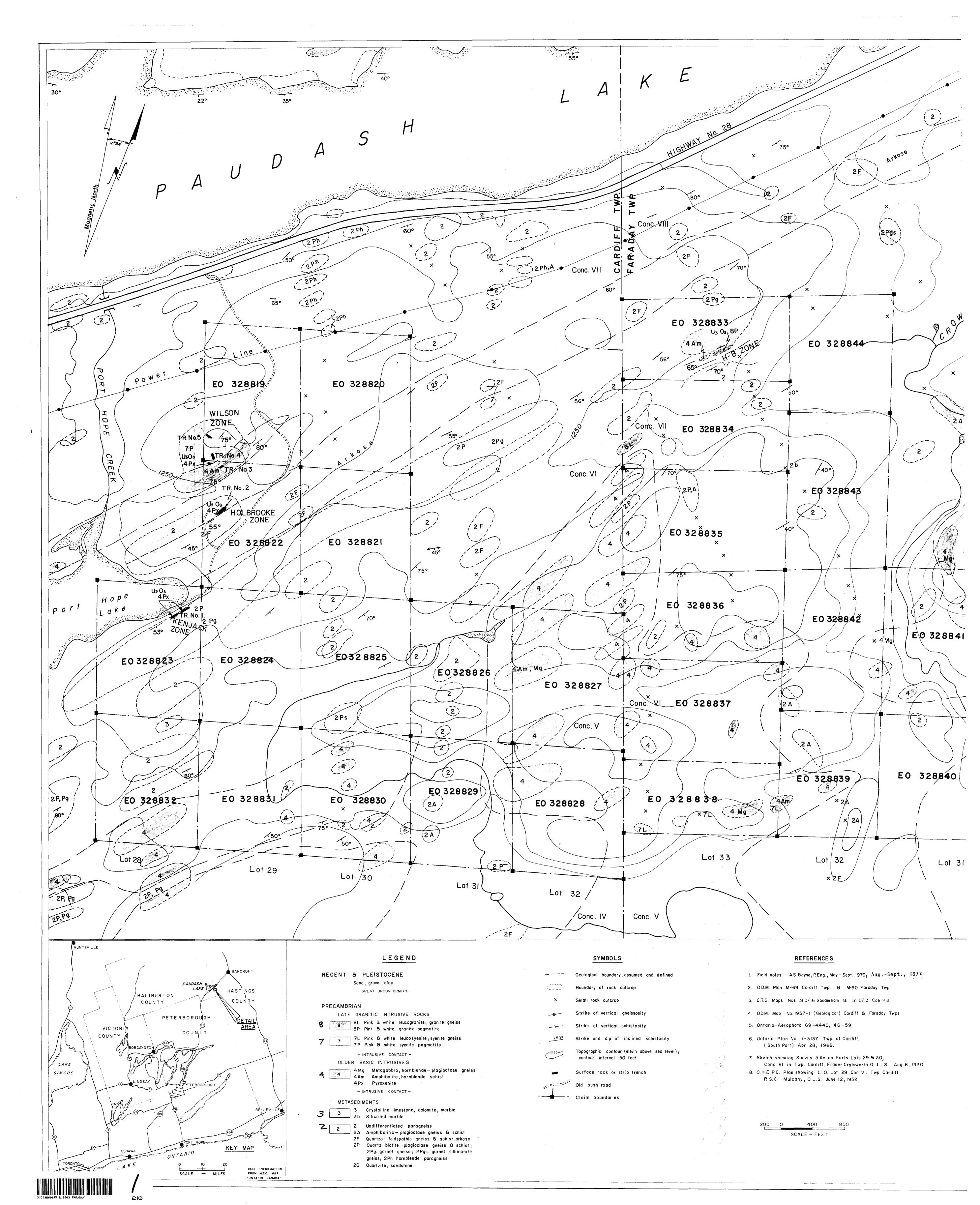
Samples, Pulps and Rejects discarded after two months

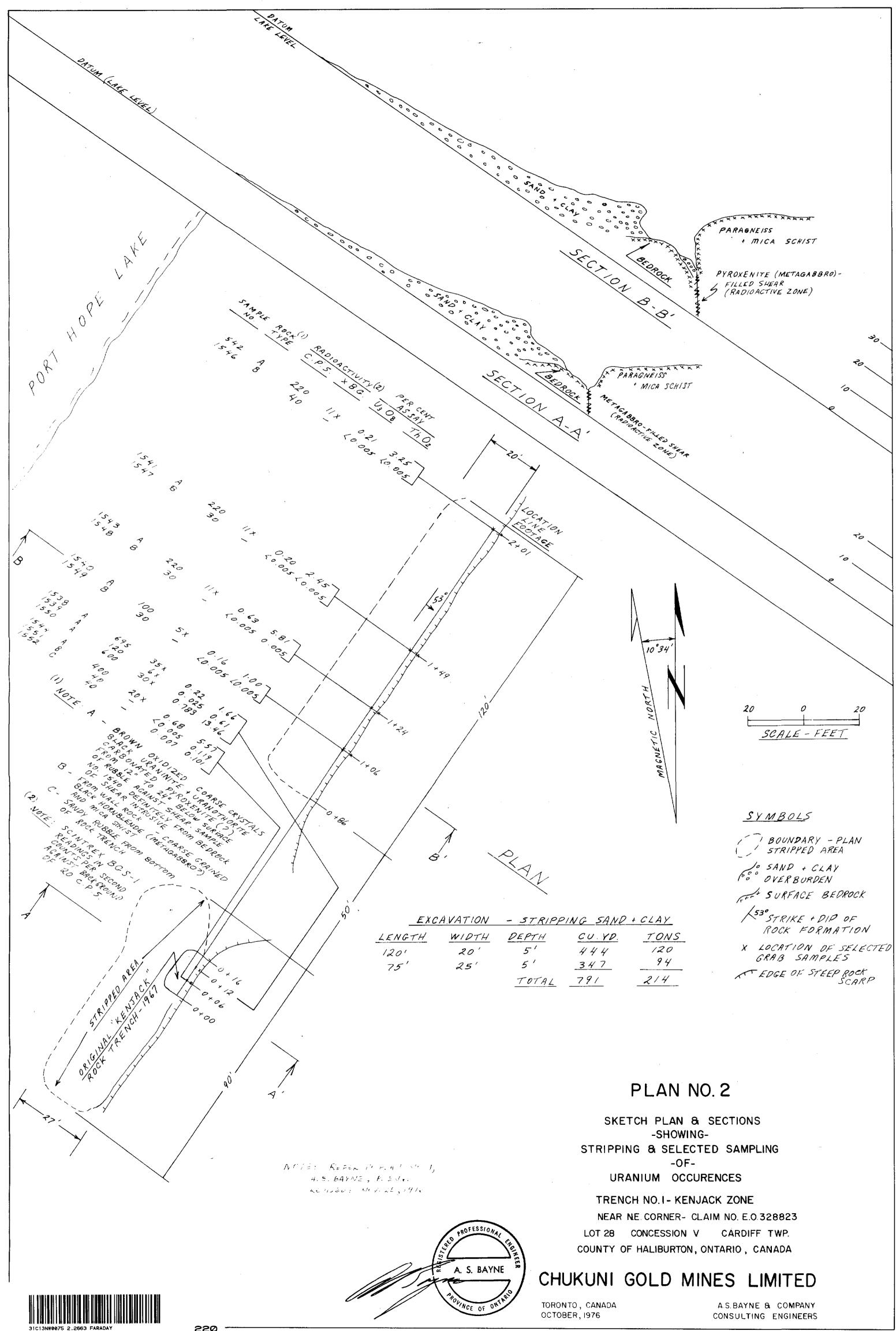
DATE September 21st, 1976. SIGNED

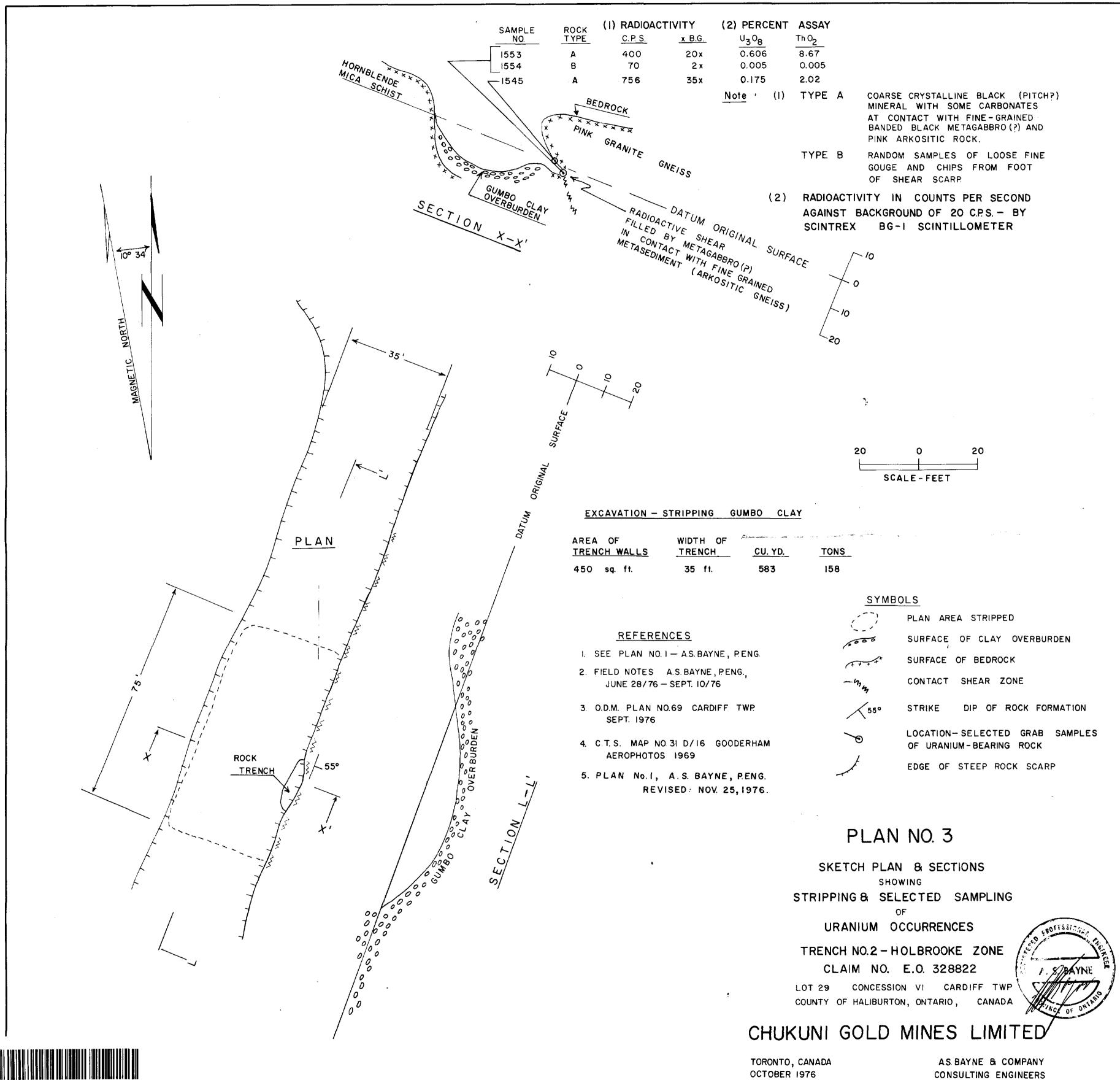




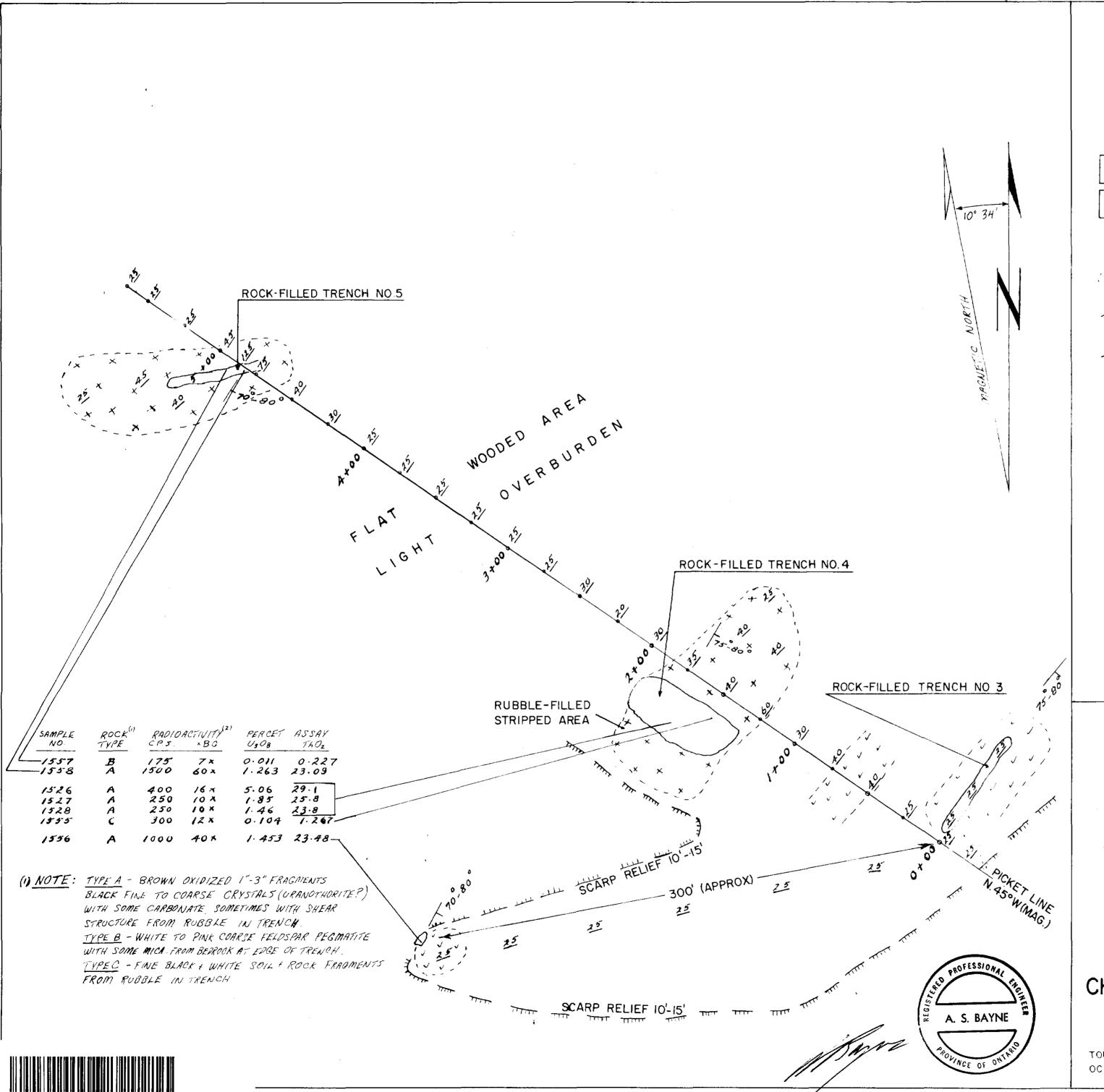
J.P. v. K







OCTOBER 1976





LEGEND

WHITE (SOME PINK) COARSE FELDSPAR · A LITTLE MICACEOUS - PEGMATITE

BLACK AMPHIBOLITIC ROCK; SOME MASSIVE CRYSTALLINE (METAGABBRO?) SOME FOLA'E

SYMBOLS

OBSERVED ROCK OUTCROP AREA

KOSO STRIKE . DIP OF ROCK FORWATION



40 812 10 1 21 21 18 18 18 18 18 I CHEX MOLL BY SUBJECT AS SELECTION 4.801 80 AV LAVIL

REFERENCES

1. FIELD NOTES - A S BAVNE PEng. SULY 3 SEPT 6 2 O.D.M PLAN NO. M 69 CARTIFF TWP 1976 3. CTS SHEET 31 DIVE GOODERHAM ALKOPED US 19.2 4. PLAN NO. 1, A. S. BAYNE . I. FNG. R.VISED: NOV. 25, 1976

> PLAN NO. 4 SKETCH PLAN - SHOWING-

STRIPPING & SELECTED SAMPLING -0F-

URANIUM OCCURRENCES TRENCHES NOS. 3,485-WILSON ZONE CLAIM NO. E.O. 328822

LOT 29 CONCESSION VI CARDIFF TWP COUNTY OF HALIBURTON, ONTARIO, CANADA

CHUKUNI GOLD MINES LTD.

TORONTO, CANADA OCTOBER, 1976

A S. BAYNE & COMPANY CONSULTING ENGINEERS

