

INDUSMIN LIMITED

GEOLOGY OF THE LYN GROUP
SCUZZY CREEK, BRITISH COLUMBIA
New Westminster Mining Division

92H/13E

Geographic Coordinates

49° 50' N

121° 35' W

NTS Sheet 92H/13E



by

G. A. Van Dyck, B.Sc.

August 2, 1972

Work conducted June 22-30, 1972

Halferdahl & Associates Ltd.
401 - 10049 Jasper Avenue,
Edmonton, Alberta
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Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

by NO. 3760 MAP

G. A. Van Dyck, B.Sc.

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TABLE OF CONTENTS

	<u>Page</u>
Introduction	1
Summary	1
Property	2
Geographic Setting	2
Previous Mining Activity	4
Regional Geology	4
Geology of the Lyn Group	5
Surficial Deposits	7
Conclusions	8
References	9
Certificate	10
Appendix 1: Field Crew	11

LIST OF ILLUSTRATIONS

#1	Figure 1: Location Map	At End
#3	Figure 2: Geology of Lyn Group	In Pocket
#2	Figure 3: Poles to Joints, Lyn Group	At End

INTRODUCTION

The Lyn Group of mineral claims held by Indusmin Limited along Scuzzy Creek in southwestern British Columbia was mapped geologically in June 1972. Mapping at a scale of 1 inch = 200 feet was done by a geologist and assistant by chain and compass methods.

Accommodation was provided by a tent camp near the confluence of the South Fork of Scuzzy Creek and Scuzzy Creek. A rented two-wheel drive van provided transportation.

This report presents information on the bedrock underlying the Lyn Group and is supplemented with a few observations and descriptions of surficial deposits.

SUMMARY

The Lyn Group totalling 17 mineral claims held by Indusmin Limited along Scuzzy Creek is about 85 miles northeast of Vancouver in mountainous terrain. Scuzzy Creek is a tributary of the Fraser River and enters from the west four miles below Boston Bar. Access is by road for light vehicles and by both railway and road for heavy vehicles and equipment.

Almost all the valley of Scuzzy Creek is underlain by the Scuzzy Pluton which is part of the Coast Plutonic Complex. The rock is a homogeneous, light colored, medium-grained biotite-quartz diorite. The attitudes of joints, foliation and other structural elements were measured. The uniformity of the quartz diorite is regarded as favorable for potential industrial and ornamental uses.

Much of the valley is mantled with surficial deposits consisting of sand, sand mixed with quartz diorite boulders, and boulder clay.

PROPERTY

The property mapped consists of 17 mineral claims comprising the Lyn Group along Scuzzy Creek in the New Westminster Mining Division of British Columbia.

<u>Claim</u>	<u>Record Number</u>	<u>Record Date</u>	<u>Expiry Date</u>
<u>Lyn Group</u>			
Aplo 1 and 2	22125-26	August 13, 1969	August 13, 1975
Lyn 2 to 5	23518-21	May 1, 1970	May 1, 1975
Midge 13 and 14	23742-43	June 12, 1970	June 12, 1973
Midge 24 Fr.	26303	June 21, 1971	June 21, 1974
Nan 1 Fr.	26304	June 21, 1971	June 21, 1974
Nan 2 and 3	26305- 6	June 21, 1971	June 21, 1974
Nan 4 Fr.	26307	June 21, 1971	June 21, 1974
Nan 5 to 8	26308-11	June 21, 1971	June 21, 1974

Assessment work to be filed for these claims from the mapping presented herewith will extend the expiry dates above.

GEOGRAPHIC SETTING

The Lyn Group of mineral claims along Scuzzy Creek is about 85 miles northeast of Vancouver within the Lillooet Ranges of the Coast Mountains. Scuzzy Creek is a tributary of the Fraser River entering its west side four miles south of Boston Bar in the Fraser Canyon. Boston Bar, on the east side of the Fraser River, is on the mainline of the Canadian National Railway and the Trans Canada Highway. Boston Bar is about 135 miles from Vancouver via the Trans Canada Highway. About one mile north of Boston Bar on the west side of the Fraser River is North Bend, which is on the mainline of the Canadian Pacific Railway. North Bend and Boston Bar are connected by an aerial ferry which has a load capacity of 6000 pounds and a deck area of 8 feet by 18 feet.

This is the easiest connection of North Bend to the British Columbia Highway system. Another connection has been reported via the Lytton Ferry about 30 miles north of Boston Bar and then south on logging roads. Thus, access to Scuzzy Creek by car or light truck is easy, but heavy vehicles and equipment are best moved in by the Canadian Pacific Railway.

The Lyn Group of mineral claims is located at the confluence of the South Fork with the main branch of Scuzzy Creek, about 12 miles from the aerial ferry via a logging road. This is an all-weather gravel road constructed by Hampton Lumber Company of Boston Bar. Although a gate across it is not kept locked at all times, permission from Hampton Lumber Company is required for its use.

The Lyn Group lies at an average elevation of about 2500 feet above sea level, covering both sides of Scuzzy Creek for several thousand feet above and below the confluence of the South Fork with Scuzzy Creek. Uneven, mountainous terrain with elevations rising to 7000 feet and cut by steep-walled narrow valleys surrounds the property. The valleys of Scuzzy Creek and its tributaries are U-shaped with hanging-valleys and cirques near their headwaters. Post-Pleistocene down-cutting by Scuzzy Creek has left terraces of sand, sand mixed with boulders, lake silts and boulder clay along some parts of the valley margins.

Vegetation typical of the coastal forest covers the mountains to an elevation of about 5000 feet. Tree line is considerably higher, but lack of soil and winter accumulation of snow restricts growth above 5000 feet to scattered protected localities. Logging along Scuzzy Creek by Hampton Lumber Company is removing much of the timber.

PREVIOUS MINING ACTIVITY

From time to time starting in 1965, mineral claims and placer mining leases covering sand deposits have been located along Scuzzy Creek and some of its tributaries. In 1966 approximately 120 tons of sand were processed from one of these deposits on the Lyn Group in a plant at North Bend and sold in Vancouver and Kamloops.

In 1970 and 1971 several large blocks of quartz diorite which had rolled down a northwest-facing mountainside along the South Fork of Scuzzy Creek were split and trucked out for ornamental purposes by William Karps of Vancouver.

A silica lease southeast of the confluence of the South Fork with Scuzzy Creek was surveyed in 1971. It is currently held by Henry Peters of North Bend. In 1970 and 1971 geological mapping and sampling of bedrock and surficial deposits were conducted on the Midge and Min Groups of mineral claims held by Indusmin Limited along Scuzzy Creek by L.B. Halferdahl & Associates of Edmonton, Alberta.

REGIONAL GEOLOGY

The area of southwestern British Columbia drained by Scuzzy Creek and its tributaries is within the southeast end of the granitic and metamorphic Coast Plutonic Complex of the Canadian Cordillera. Here the rocks are a heterogeneous complex of plutons ranging in composition from diorite and quartz diorite to granodiorite. Gabbro and granite are rare. The average composition is that of quartz diorite with hornblende exceeding biotite as the mafic constituent. The plutons are characterized by diffuse interplutonic contacts and contain steep-walled roof pendants, generally elongated northwesterly, and partly bounded by faults. The volcanic and sedimentary rocks of the roof pendants are metamorphosed to varying degrees, commonly reaching the amphibolite facies.

The basic structural pattern, established in mid-Cretaceous to Early Tertiary time, is continuous with that of the Cascade Mountains to the southeast. Pre-mid-Cretaceous rocks were strongly folded, thrust and reverse faulted, giving structural features a general northwesterly trend. Local metamorphism, migmatization, and granitic intrusion also occurred at this time. Regional uplift was followed by an episode of normal and possibly strike-slip faulting concentrated on a north-south line along the Fraser River in Early Tertiary time. Mid-Tertiary granitic intrusions characterized by massive unsheared bodies with sharp discordant contacts appear to have had little structural effect.

GEOLOGY OF THE LYN GROUP

Overburden and vegetation cover much of the bedrock below elevations of 3500 feet along Scuzzy Creek. Continuous outcrop is common above 5000 feet.

The Lyn Group and surrounding area is underlain by the Scuzzy Pluton. The Scuzzy Pluton was named by Roddick and Hutchison (1969). According to them it consists largely of massive white-weathering granodiorite, with coarse-grained quartz and feldspar and much finer-grained biotite with minor muscovite. The mafic mineral content averages 5 per cent or less. It is said to be devoid of inclusions or veins and a K/Ar date of 35 m.y. is believed to set a minimum age (Oligocene) for the Scuzzy Pluton. The pluton has sharp discordant contacts, and its massive nature, textural isotropy and widely-spaced, well-developed joints distinguish it from the commonly foliated older granitic rocks.

A northerly trending band of metasedimentary rocks consisting of intercalated layers of granitoid gneiss, schist, and amphibolite form a roof pendant in the Scuzzy Pluton. These metasedimentary rocks cross Scuzzy Creek about 5 miles above its confluence with the Fraser River.

Where examined on and adjacent to the Lyn Group, rocks of the Scuzzy Pluton consist of white-weathering, light-colored, medium-grained quartz diorite, which is fairly homogeneous in composition and texture. The rock typically consists of 60 to 65 per cent euhedral to subhedral white feldspar ranging in size from 2 to 5 mm. Zoning and twin lamellae are common. Anhedral glassy quartz as grains and aggregates up to 1 cm occupying interstitial positions between the feldspars typically composes 30 to 35 per cent of the rock. Biotite typically composes 5 per cent of the rock and is finer grained than the quartz and feldspar. Locally biotite composes up to 10 per cent with books up to one cm in size. White mica is present in variable, small amounts but rarely exceeds one per cent of the rock. Scattered small grains of pyrite were noted at one locality east of Aplo 1 mineral claim. Alternating bands of coarse-grained quartz-feldspar and biotite locally produce vein-like bodies up to 6 inches across which can be traced for several feet. Biotite is concentrated along the margins with very coarse-grained quartz and feldspar in the centre. Most of these strike 155° and have dips varying from 30° to 60° , attitudes similar to one set of joints.

Joints are the most pronounced structural feature of the massive quartz diorites underlying the Lyn Group. Three major joint sets (Fig.3) appear to be present with the following average attitudes:

- 1) strike 6° ; dip 85° W and 88° E,
- 2) strike 66° ; dip 88° NW and 70° SE,
- 3) strike 147° ; dip 65° NE.

Most joints appear to be tensional; those related to shearing are minor.

SURFICIAL DEPOSITS

Surficial deposits consisting of sand, sand mixed with boulders of quartz diorite, and boulder clay were noted on the Lyn Group along Scuzzy Creek. Their approximate positions and extents are shown in Fig. 2. Three areas underlain by sand are located in the Lyn Group.

The sand deposit mainly on mineral claims Nan 2,3,5, and 7 is roughly bounded by the South Fork of Scuzzy Creek, Scuzzy Creek, and the logging access road up the South Fork. The sand overlies boulder clay and has a maximum thickness of about 80 to 90 feet. The sand is a light whitish grey to light buff, medium to coarse-grained, quartzo-feldspathic, locally containing scattered quartz diorite pebbles and thin silty laminae.

To the northwest, directly across Scuzzy Creek a second body of sand is located on the south ends of mineral claims Aplo 1 and 2 and Nan 1 Fr. The sand overlies a boulder clay and has a thickness of 86 feet at one place. The terrace forming the top of the sand is at the same elevation as the sand across Scuzzy Creek on claims Nan 2,3,5, and 7 previously described. The two sand deposits were continuous prior to being separated by erosion of the present-day Scuzzy Creek.

The third body of sand is located on mineral claims Lyn 2,3,4, and 5 and is exposed in road cuts on the north side of Scuzzy Creek. These limited exposures suggest a possible thickness of about 100 feet.

Boulder clay underlies the sand near the confluence of the South Fork with the main branch of Scuzzy Creek and extends downstream for about 2200 feet. At the confluence it has a thickness of about 150 feet and appears to thin downstream. Near the confluence the boulder clay rests upon quartz diorite bedrock. The boulder clay is a dense, compacted, olive grey to brownish grey material consisting of scattered quartz diorite pebbles, cobbles, and boulders in a clayey silty matrix. Where examined no bedding is apparent and the pebbles and boulders are randomly scattered throughout.

Large areas are covered by sand mixed with quartz diorite boulders and blocks. Most of the angular to subrounded boulders are randomly distributed throughout the deposits and range from several inches to several feet in size. They are undoubtedly the products of mechanical erosion of the Scuzzy Pluton, abraded more or less during subsequent erosion.

CONCLUSIONS

The Lyn Group and adjacent ground is underlain by the Scuzzy Pluton, part of the Coast Plutonic Complex. Much of the area is covered with overburden and vegetation; few outcrops lie below elevations of 3500 feet. The underlying rock is massive, homogeneous light-colored, medium-grained biotite-quartz diorite.

Joints are the major structural element and are predominately tensional. Three major sets, one striking 6° , one striking 66° and one striking 147° generally have dips varying from vertical to 65° .

Thin vein-like bodies of coarse-grained quartz and feldspar have attitudes similar to some of the joints.

Surficial deposits of quartzo-feldspathic sand, sand mixed with quartz diorite, and boulder clay appear to be extensive.

The economic suitability of the quartz diorite of the Scuzzy Pluton either in blocks or crushed to individual mineral grains will require both laboratory and market investigations, but its uniformity is favorable.

Respectfully submitted,

G. A. Van Dyck

G.A. Van Dyck, B.Sc.

L. B. Halferdahl

L.B. Halferdahl, Ph.D., P. Eng.

Edmonton, Alberta
August 2, 1972



Expiry Date: August 5, 1973

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- Monger, J.W.H., (1970) - Hope map area, west half, British Columbia; Geol. Surv. Can., Paper 69-47, 75 pp., 2 maps.
- Roddick, J.A., and Hutchison, W.W., (1969) - Northwest part of Hope map-area, British Columbia (92H west half), Geol. Surv. Can. Paper 69-1, Part A, pp. 29-37.

CERTIFICATE

I. Laurence B. Halferdahl, with business and residence addresses in Edmonton, Alberta, do hereby certify that

1. I am a registered Professional Geologist in the Province of Alberta and a licensed Professional Engineer in the Province of British Columbia.
2. I am a graduate of Queen's University, Kingston, Ontario (B.Sc. in 1952 and M.Sc. in 1954 in Geological Sciences in the Faculty of Applied Science) and of The Johns Hopkins University, Baltimore, Maryland (Ph.D. in 1959 in the Department of Geology).
3. From 1957 to 1969 I was on the staff of the Research Council of Alberta as a mineralogist and geologist where I was in charge of the mineralogy laboratory and conducted various field and laboratory investigations.
4. Since 1969 I have been a consulting geological engineer conducting and directing property examinations and evaluations, and exploration programs for metallic minerals, industrial minerals, and coal.
5. The data in this report were obtained from published and unpublished reports and from G.A. Van Dyck's work on the property from June 22 to 30, 1972.

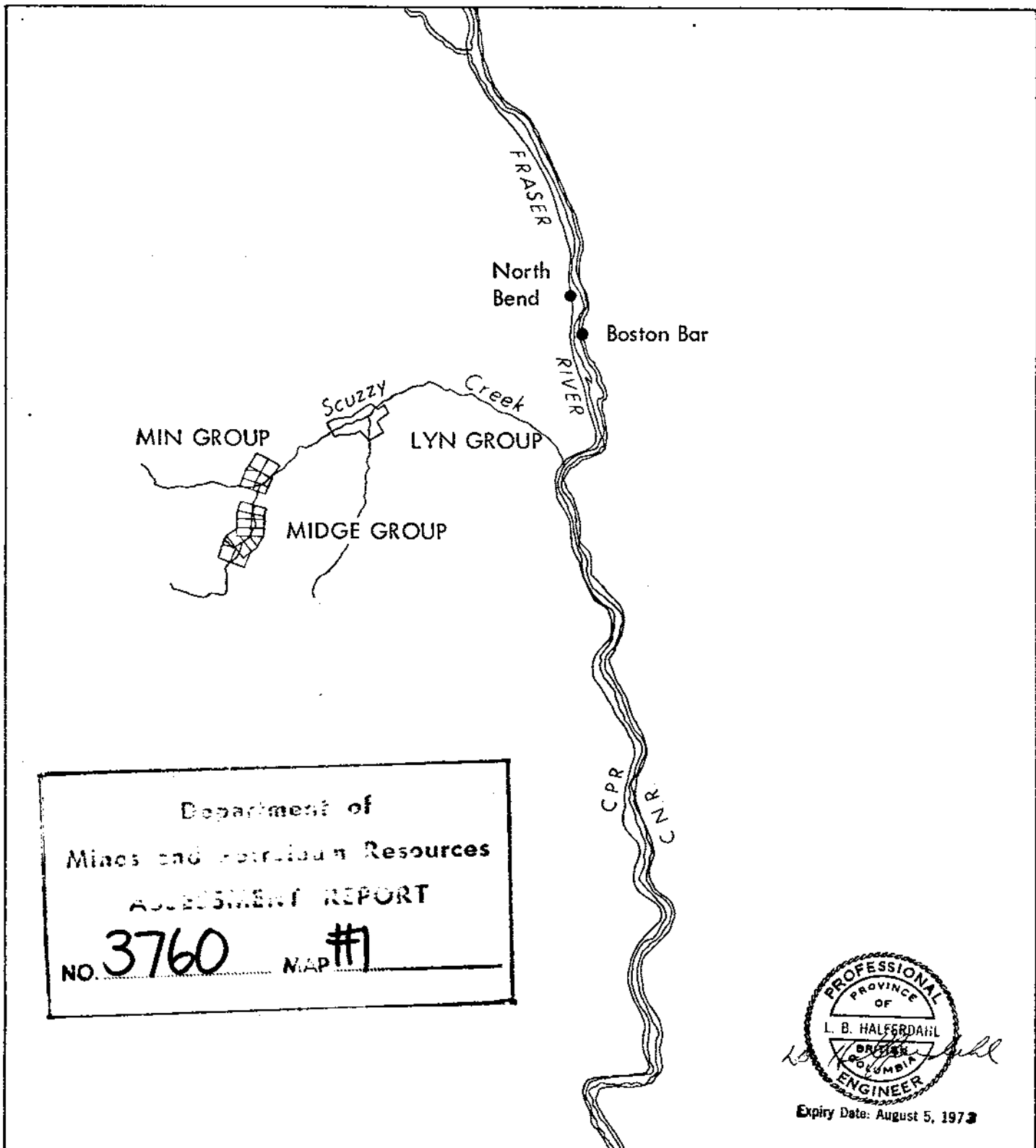
Edmonton, Alberta
August 2, 1972



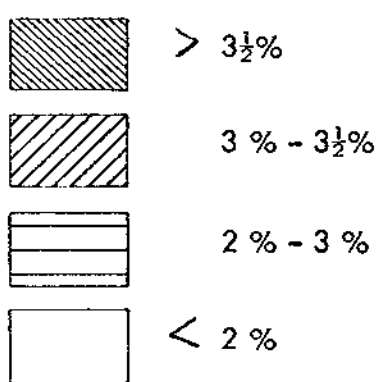
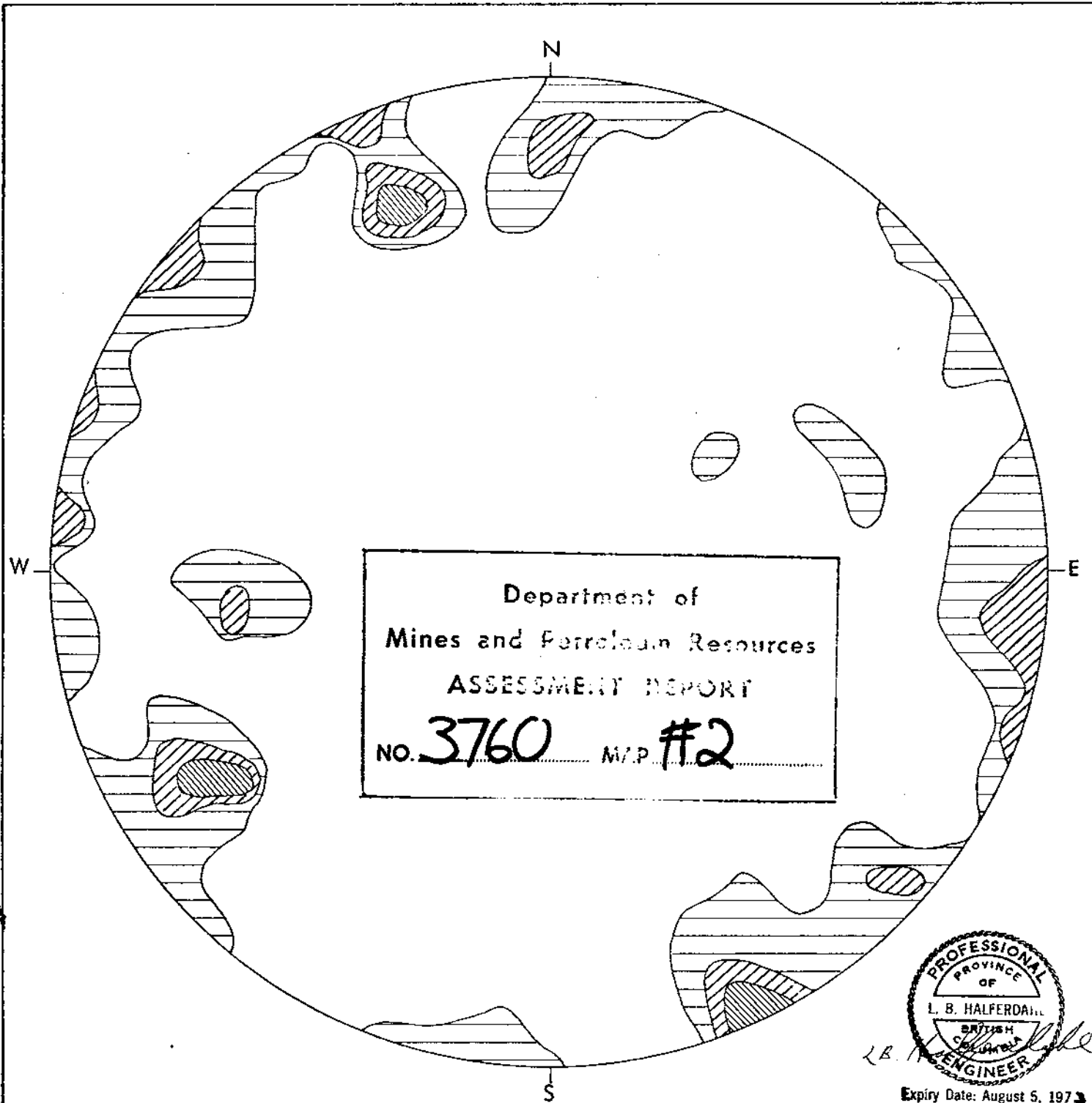
L.B. Halferdahl, Ph.D., P. Eng.

APPENDIX 1 : FIELD CREW

<u>Name</u>	<u>Position</u>	<u>Days on Property</u>
L. Halferdahl	Geologist	June 22-23, 1972
B. Redpath	Assistant	June 22-30, 1972
G. Van Dyck	Geologist	June 22-30, 1972



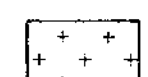

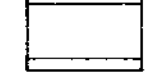
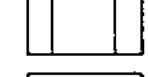
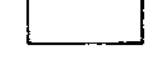
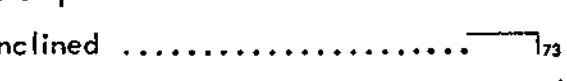
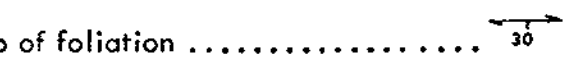
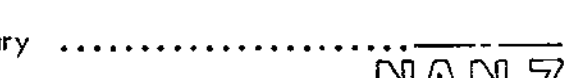
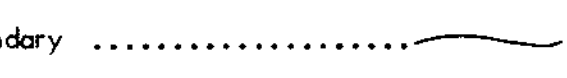




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Fig. 1 Location Map SCUZZY CREEK PROPERTY	
<p>SCALE IN MILES</p>	
Drawn: GVD	Aug. 1972

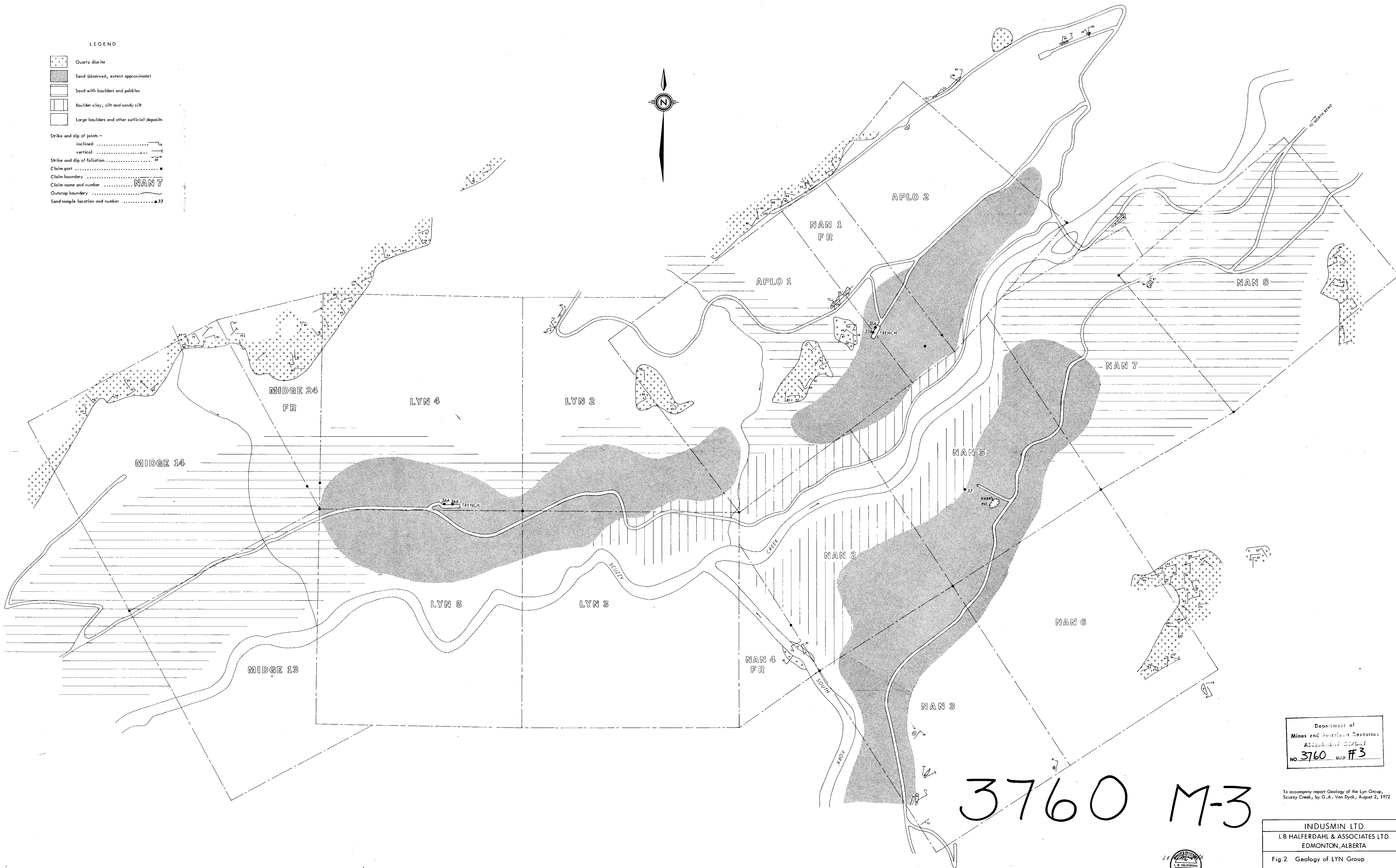


Poles are projected into the lower hemisphere.

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Fig. 3. Poles to Joints LYN GROUP SCUZZY CREEK PROPERTY	
DRAWN: G.V.D.	July, 1972

LEGEND

-  Quartz diorite
-  Sand (observed, extent approximate)
-  Sand with boulders and pebbles
-  Boulder clay, silt and sandy silt
-  Large boulders and other surficial deposits
- Strike and dip of joints -
 -  inclined
 -  vertical
- Strike and dip of foliation 
- Claim post 
- Claim boundary 
- Claim name and number  NAN 7
- Outcrop boundary 
- Sand sample location and number  33



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3760 M-P #3

To accompany report Geology of the Lyn Group,
Scuzzy Creek, by G.A. Van Dyck, August 2, 1972

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EDMONTON, ALBERTA

Fig. 2. Geology of LYN Group
SCUZZY CREEK PROPERTY

200 0 200 400 600
SCALE IN FEET

DRAWN: G.V.D. JULY 1972

