MAP NO.:	ASSESSMENT REPORT X	DOCUMENT NO:	092474
	PROSPECTUS	MINING DISTRICT:	WHITEHORSE
115 H 7	CONFIDENTIAL X	TYPE OF WORK:	GEOLOGICAL
	OPEN FILE		

REPORT FILED UNDER:	J.S. Dodge		
DATE PERFORMED:	July 1987	DATE FILED:	June 28, 1988
LOCATION: LAT.:	$61^{o}30'$N	AREA:	Aishihik Lake
LONG.:	$136^{o}39'$W	VALUE $:	600.00
CLAIM NAME & NO.:	LASCAS 1-2 YA98073-YA98073		

WORK DONE BY:	J.S. Dodge
WORK DONE FOR:	Dodgex Ltd.

DATE TO GOOD STANDING:	

REMARKS: #39 LASCAS
Industrial-grade quartz outcrops east of Aishihik Lake. Assays indicated the quartz is 99.80% pure. A reserve of 653 184 tonnes is estimated.

Indian and Northern Affairs Canada | Affaires indiennes et du Nord Canada

OFFICE OF THE REGIONAL MANAGER MINERAL RIGHTS JUN 28 1988 WHITEHORSE YUKON TERRITORY

TRANSMITTAL FORM

M.R. file no.

R.M.M.R. file no.

Date forwarded 28 June 1988

From ▶ Mining Recorder at: Whitehorse

To ▶ Regional Manager, Mineral Rights at Whitehorse, Y.T.

For action are:

- ☐ NEW APPLICATION FOR PLACER LEASE TO PROSPECT — Name
- ☐ RENEWAL APPLICATION PLACER LEASE TO PROSPECT — Name — Lease no.
- ☐ AFFIDAVIT OF EXPENDITURE ON PLACER LEASE — Name — Lease no.
- ☐ SECURITY DEPOSIT
- ☐ FINANCIAL ABILITY
- ☐ ASSIGNMENT OF PLACER LEASE NO. — From — To
- ☐ GROUPING APPLICATION UNDER SEC. 52(2) PLACER MINING ACT. — Owner
- ☐ DIAMOND DRILL LOGS — Claims — Claim sheet no.
- ☑ QUARTZ ASSESSMENT REPORT — Claims: LASCAS 1-2 YA98072-YA98073 — Claim sheet no.: 115-H-7

Type of report: Geological. — Submitted by: James C. Dodge

Cls. work performed on: LASCAS 1-2 — $ req. for ren. application: $600.00

Signature

REPLY ACTION

Date returned 9 July 1988

Approved for amount required 092474

#39 LASCAS

Signature

802-6027-26 (6-86)

092474

RECEIVED
JUN 23 1988
MINING
RECORDER'S OFFICE
WHITEHORSE, Y.T.

GEOLOGICAL REPORT
LASCAS 1-2 QUARTZ CLAIMS

MAP SHEET 105H-7
61°30'N-136°39'W

092474

JAMES S. DODGE, P.ENG.
15 June, 1988

This report has been examined by the Geological Evaluation Unit under Section 53 (4) Yukon Quartz Mining Act and is allowed as representation work in the amount of $600.00.

for Regional Manager, Exploration and Geological Services for Commissioner of Yukon Territory.

TABLE OF CONTENTS

ILLUSTRATIONS

002474

SUMMARY

A geological map was prepared and representative outcrop samples obtained in July, 1987 on the LASCAS #1 and #2 quartz-bearing Yukon Quartz claims situated east of Aishihik Lake in southwestern Yukon.

The claims cover a bold, castellated outcrop of milky, white quartz emplaced as an igneous segregation at the eastern end of a ridge underlain by coarse, salmon-colored leuco-granite alaskite.

Quartz of high SiO_2 purity is exposed, in what appears to be a continuous and nearly homogeneous mass, as a pear-shaped nesting of outcrops in an area 90 meters long and tapering in width from 45 meters to 10 meters. Castellated outcrops of quartz rise to 10 meters above the rolling, treeless terrain. Based on the apparent lithologic continuity among outcrop exposures, 65,000 metric tonnes (72,000 short tons) of inferred resource inventory are estimated.

Assays of representative samples in 1987 indicated that the quartz is of very high purity (99.3%-99.8% SiO_2) and very low in eleven potential mineral contaminants. Quartz of this purity can be considered as unbeneficiated, direct shipping, feestock for fused quartz, lascas (polycrystalline quartz), ferro-silicon, silicon carbide, advanced ceramics and fibreglass applications.

Topography and shape of the quartz body indicates that low-cost, open pit mining will be feasible. Proximity to an existing tote road will enable prompt and inexpensive development access to the claims from the Aishihik Lake road. The nearby Aishihik hydro-electric station may offer a preferred site for installation of primary electric furnaces and/or autoclaves whereby significant value-added benefits and manufacturing spin-offs could be achieved.

Drilling will be an effective means of delineating a threshhold tonnage adequate to meet initial market/production goals. Recommendations are made for evaluation steps to be taken to obtain a definition of the LASCAS silica deposit prior to preparation of an economic feasibility report.

INTRODUCTION

This assessment report describes the collection and interpretation of geological and assay data on the two LASCAS Yukon Quartz claims, LASCAS #1 and #2, during one full day of field work and one full day of report preparation on 16 July, 1987 and 15 June, 1988, respectively.

CLAIM OWNERSHIP

Claim Name	Grant Number	Located By	Claim Sheet	Date
LASCAS 1	YA 98072	James S. Dodge	105H-7	19 June 1987
LASCAS 2	YA 98073	James S. Dodge	105H-7	19 June 1987

A 100% interest in each of the two LASCAS claims was transferred on 19 June, 1987 by Mr. Dodge to Dodgex Ltd. of 14 MacDonald Road, Whitehorse, Yukon, a private Yukon corporation wholly owned by Mr. Dodge.

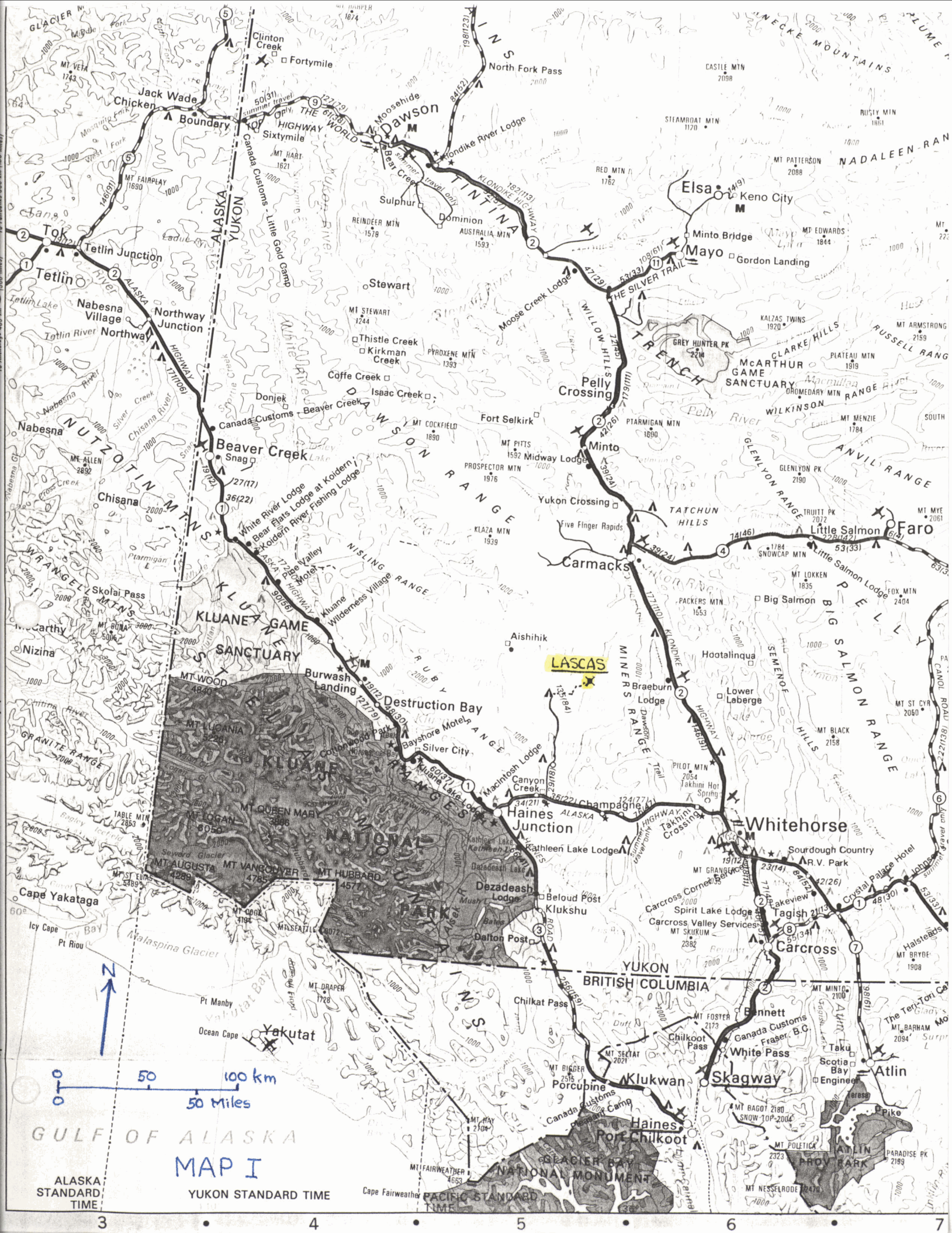
CLAIMS LOCATION AND ACCESS

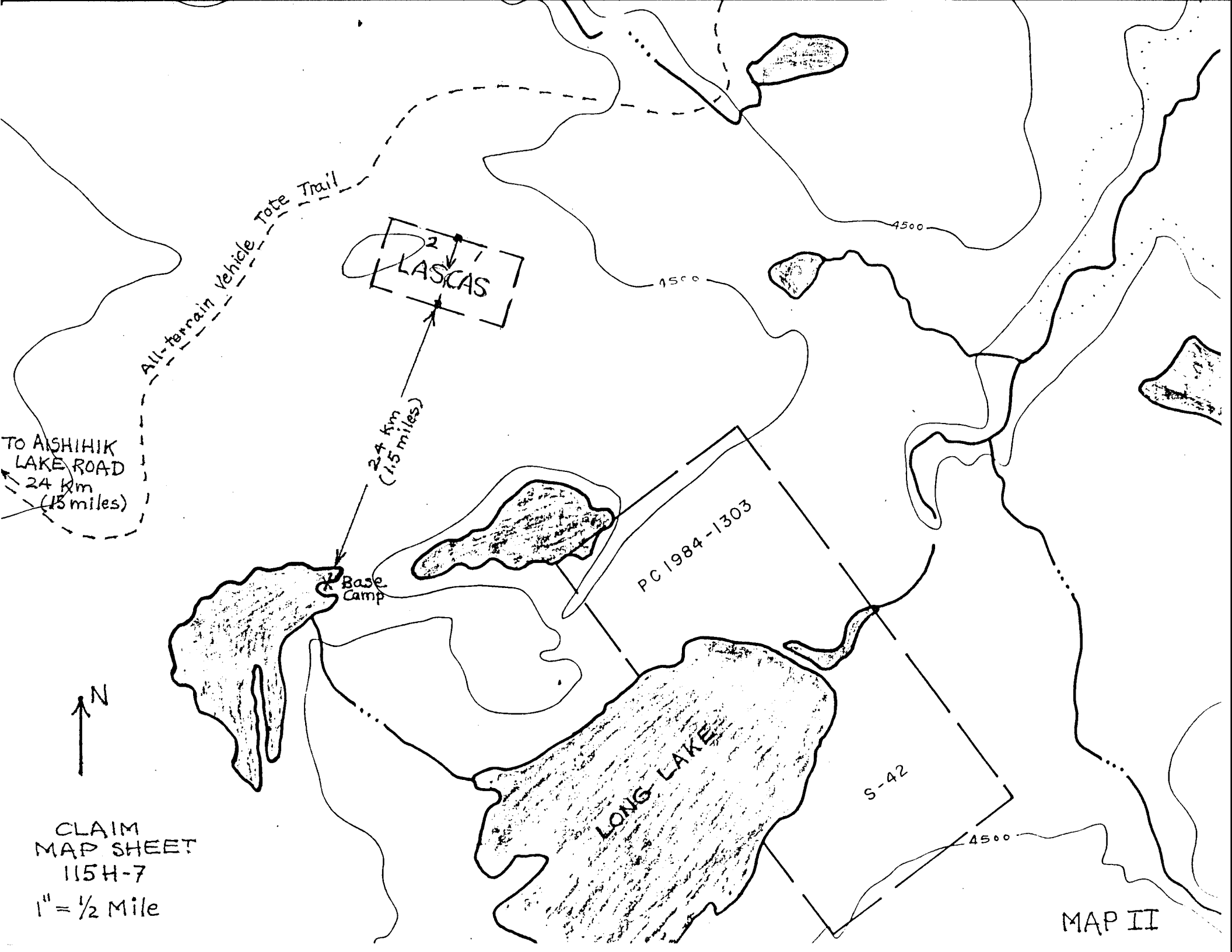
The LASCAS group of two full-sized Yukon Quartz claims is located on claim sheet 105H-7 in southwestern Yukon (Maps I and II) approximately 90 km (55 miles) northeast of the community of Haines Junction, Yukon. The claims are situated 3 km (2 miles) north-northwest from the north end of Long Lake at approximately 61°30' north latitude and 136°39' west longitude.

The claims cover a gently sloping, treeless tundra terrain area ranging in altitude from 1465m - 1525m (4800-5000 feet)(Photo 2). A muskeg drainage pond 0.5 km (1500 feet) northwest of the claims offers a water source for drilling during June and July.

Access to the claims is by all terrain vehicle along the tote road extending 27 km (16 miles) east from the Aishihik Lake road toward Kirkland Creek. The tote road turnoff on the Aishihik Lake road is 27 km (16 miles) north of the hydro-electric station and 90 km (56 miles) north of the Alaska Highway. The claims lie 0.5 km (1500 feet) southeast of the tote trail (Map II).

Alternatively, the claims may be reached on foot following a one-hour hike from float plane landing sites on the northern shore of either of two small lakes lying 1.5 km (1 mile) northwest of the north end of Long Lake.


Clinton Creek
Fortymile
North Fork Pass
Jack Wade
Chicken
Boundary
Sixtymile
Moosehide
Dawson
Klondike River Lodge
Bear Creek
Sulphur
Dominion
Elsa
Keno City
Minto Bridge
Mayo
Gordon Landing
Tok
Tetlin Junction
Tetlin
Nabesna Village
Northway Junction
Northway
Stewart
Thistle Creek
Kirkman Creek
Coffe Creek
Isaac Creek
Donjek
Canada Customs - Beaver Creek
Canada Customs - Little Gold Camp
Moose Creek Lodge
Pelly Crossing
Fort Selkirk
Minto
Midway Lodge
Yukon Crossing
Five Finger Rapids
Carmacks
Little Salmon
Faro
Little Salmon Lodge
Big Salmon
Nabesna
Beaver Creek
Snag
Chisana
White River Lodge
Bear Flats Lodge at Koidern
Koidern River Fishing Lodge
Pine Valley Motel
Kluane Wilderness Village
Skolai Pass
Nizina
Burwash Landing
Destruction Bay
Bayshore Motel
Silver City
Kluane Lake Lodge
Macintosh Lodge
Canyon Creek
Haines Junction
Kathleen Lake Lodge
Dezadeash Lodge
Beloud Post
Klukshu
Dalton Post
Aishihik
LASCAS
Braeburn Lodge
Hootalinqua
Lower Laberge
Whitehorse
Sourdough Country R.V. Park
Crystal Palace Hotel
Carcross Corner
Spirit Lake Lodge
Carcross Valley Services
Tagish
Carcross
Cape Yakataga
Icy Cape
Pt Riou
Pt Manby
Ocean Cape
Yakutat
Chilkat Pass
Bennett
Canada Customs Fraser, B.C.
Chilkoot Pass
White Pass
Skagway
Taku
Scotia Bay
Atlin
Klukwan
Porcupine
Canada Customs
Haines
Port Chilkoot
Pike
YUKON
BRITISH COLUMBIA
KLUANE GAME SANCTUARY
KLUANE NATIONAL PARK
GLACIER BAY NATIONAL MONUMENT
ATLIN PROV PARK
McARTHUR GAME SANCTUARY
GULF OF ALASKA
MAP I
ALASKA STANDARD TIME
YUKON STANDARD TIME
PACIFIC STANDARD TIME
0 50 100 km
0 50 Miles
N
3 4 5 6 7


All-terrain Vehicle Tote Trail
LAS CAS
2
4500
4500
4500
24 km
(1.5 miles)
TO AISHIHIK
LAKE ROAD
24 km
(15 miles)
Base
Camp
PC 1984-1303
LONG LAKE
S-42
N
CLAIM
MAP SHEET
115H-7
1" = ½ Mile
MAP II

HISTORY

The bold, white outcrops of milky quartz undoubtedly have been known to prospectors and hunters for scores of years. Many years ago several small, hand-dug prospect pits were excavated along the western border of the prominent outcrops; evidently in the search for gold possibilities.

Mr. Dodge, while prospecting under the Yukon Government's Prospectors' Assistance Program in 1987, staked the LASCAS claims to cover the prominent outcrops discovered on a traverse from a float plane base camp. A cursory examination of the quartz revealed its uniformly high purity and potentially substantial tonnage that could be feasibly mined by open pit methods. Western Canadian resources of such ultra-high purity silica, i.e. lascas and/or fused quartz grade, were known to be limited.

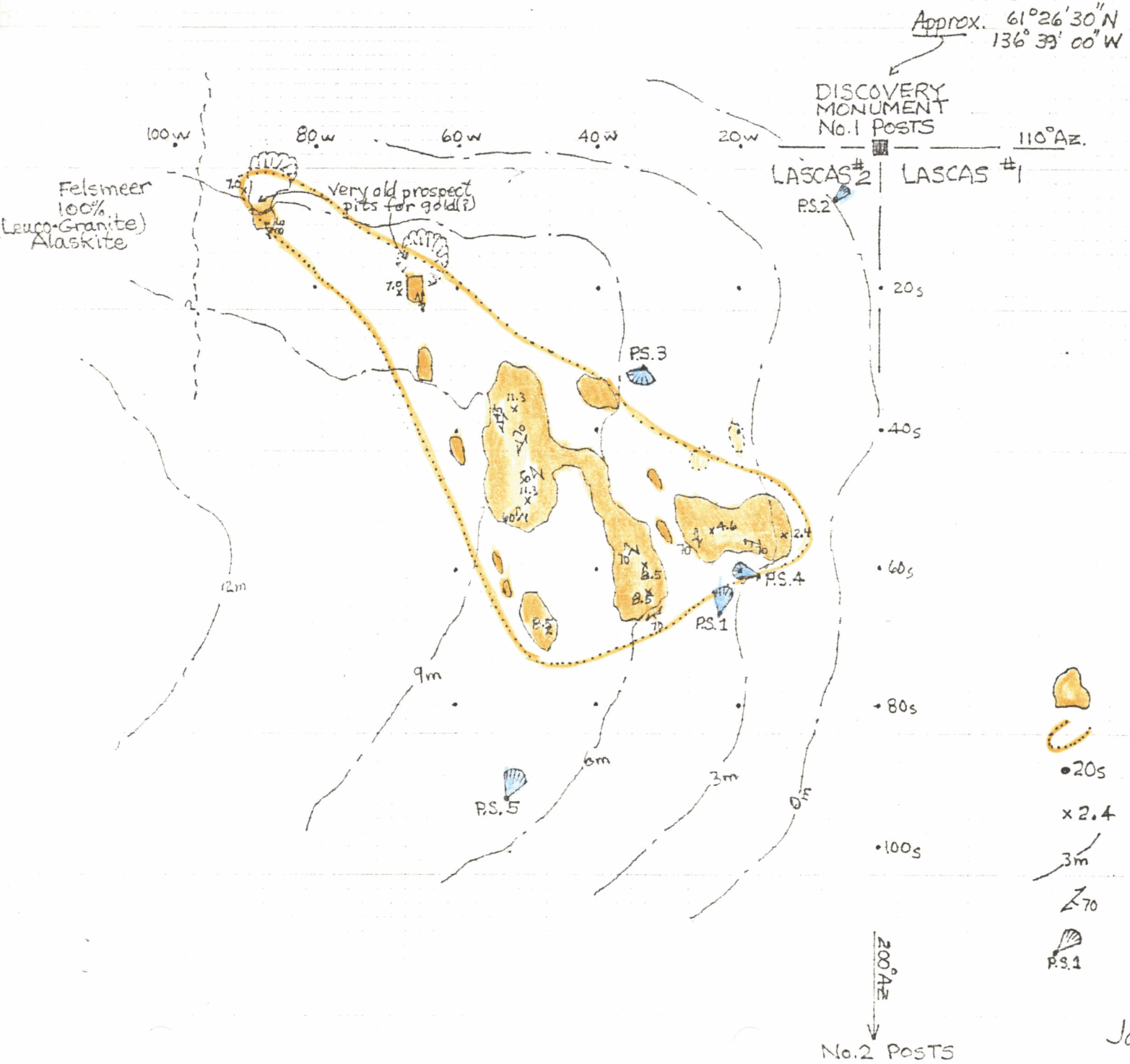
GEOLOGICAL SURVEY

Upon returning to the claims on 16 July, 1987 on foot overland from a base camp 10 km (6 miles) to the east, Mr. Dodge laid out a survey grid on 20-meter (65.5 feet) centers in the northeasternmost corner of LASCAS #2 and keyed to the claim Discovery Monument (Map II) using Brunton compass and pacing. Contoured topography was sketched using Brunton levelling procedure.

Elevations of the tops of the prominent quartz outcrops were plotted. Outcrops of quartz were mapped and their probable contact with the leuco-granite alaskite to the west was established largely on the evidence on a gentle slope comprising nearly 100% alaskite felsenmeer. Attitudes of several sets of fractures in the quartz outcrops were also mapped.

Mapping revealed that the area underlain by ultra-high purity quartz is crudely pear-shaped, elongated in a northerly direction. Base of the "pear" is 45 meters (150 feet) wide which narrows to 10 meters (33 feet) at the northern or "stem" end. The distance from the base to stem is 90 meters (295 feet). Elevations of outcropping quartz range from 2.0 to 11.3 meters (6.5-37 feet) for a relief of over 9 meters (30 feet).

Considering an areal extent of outcrops of 24,750 square meters, an average vertical depth extent of the quartz of 10 meters, and a specific gravity of 2.65 for quartz, there will be approximately 65,000 metric tonnes (72,000 short tons) of inferred resource inventory of quartz in this deposit.



GEOLOGIC SKETCH
LASCAS CLAIMS

MAP SHEET 115 H-7
YUKON, CANADA

N ASTRO.

SCALE:
0 10 20
METRES

LEGEND

Bedrock outcrops lascas quartz

Probable areal extent lascas deposit

•20s Pace/compass survey grid - discovery monument as 0_S0_W base point

x 2.4 Relative elevation in metres with Grid station 40_S0_W as 0-metre base

3m Contour of hillside in metres above Base Station 40_S0_W

70 Prominent set of bedrock fractures and attitude in degrees

P.S.1 Photography Site with direction of photo-viewing

James S. Dodge. P.Eng. Yukon #311
16-07-87

The outcrops on the LASCAS claims comprise unusually uniform, high-purity quartz. Only in close proximity to the western contact with the alaskite were iron oxide fracture coatings of sufficient density to be considered potentially deleterious to the otherwise exceptionally high quality quartz.

Four assays of representative samples of quartz by the Chemex Labs Ltd. of North Vancouver, British Columbia ranged from 99.30% to 99.80% in silica (SiO_2) content. All other whole rock elemental determinations were very low (see Assay Certificates).

MARKETS

Quartz on the LASCAS claims is classed on the basis of its ultra-high purity as fused quartz or lascas grade material. As such, it is suitable as unbeneficiated direct-shipping feedstock for a number of commercial uses including:

- Specialty silicas (lascas for electronics)
- Advanced ceramics
- Ferrosilicon
- Silicon carbide
- Fused quartz glass making
- Fibreglass

Seasonal availability of surplus hydroelectric power from the nearby Aishihik hydroelectric generating station, and low transportation cost in delivering ore to the power station, are major advantages in developing industrial markets for the LASCAS quartz deposit.

CONCLUSIONS

The following conclusions have been reached with respect to the LASCAS #1 and #2 claims:

1. LASCAS claims cover a prominent outcrop of massive, milky white, igneous quartz bounded on the west by alaskite.

2. The geological setting, areal extent, and vertical relief of the outcrops supports an estimate of 65,000 metric tonnes (72,000 short tons) of inferred resource inventory of silica.

3. Assay results obtained from representative samples of quartz from the outcrops indicate an ultra-high purity for the deposit.

4. Configuration of the deposit and the surrounding topography indicate that open-pit mining would not only be feasible but also low-cost.

5. An all-terrain vehicular access is now possible by way of an existing tote trail. The upgrading of this trail to an initial access road standard for the 27 km (16 miles) to the Aishihik Lake road can be completed in two- to three-months time.

6. Proximity to the hydro-electric generating station on Aishihik Lake and growing industrial markets for various silica products - most likely fibreglass in Yukon and Alaska initially - support the conclusion that a feasibility study on the potential for silica production from the LASCAS claims is called for.

RECOMMENDATIONS

Recommended work to be undertaken over a one-month period to develop the silica deposit on the LASCAS claims include:

1. Remove overburden covering perimeter areas of quartz outcrops using a wide-track D-6 bulldozer walked in from the Aishihik Lake road along the existing tote trail.

2. Carry out detailed outcrop sampling and have suitable analyses performed to determine which of the various potential industrial applications that the silica can be used for.

3. Drill several percussion or core drill holes to sample and to confirm the continuity of the quartz deposit at depth.

4. Locate and bulldoze cuts across sites of suitable road building material adjacent to the tote trail route.

5. Providing that results from the aforeoutlined exploration are promising, prepare a feasibility report focusing on various markets, production capital requirements, and operating costs.

VALUE OF 1987 GEOLOGICAL SURVEY ON LASCAS CLAIMS

Assays	1 sample Whole Rock I8720523	$ 62.00
	1 sample Whole Rock I8724473	60.00
Groceries	1 man for one day @ $15/day	15.00
Geological Services		
	James S. Dodge, P.Eng. Yukon #311. One day geological mapping/sampling; one day report preparation: 2 days @ $300/day	600.00
TOTAL EXPENDITURES		$ 737.00

James S. Dodge, P.Eng.

PROFESSIONAL
YUKON
JAMES S. DODGE
TERRITORY
ENGINEER

Whitehorse, Yukon
15 June, 1988

STATEMENT OF QUALIFICATIONS

I, James S. Dodge, of 14 MacDonald Road, Whitehorse, Yukon submit the following information which establishes some of my qualifications bearing on the necessary level of competence required to carry out the field work and preparation of the report qualifying for assessment work credit on the LASCAS claims:

Education

Missouri School of Mines, B.S. Mining Engineering, 1941
Princeton University, Field Geology, 1940
Stanford University, M.S., Economic Geology, 1951
Albert Ludwigs Universitaet (Germany), Economic Geology, 1952

Experience

Active in mineral industry since 1941 in North and South America, Asia and Africa as prospector, company geologist, mining engineer, mine operator, and consultant in ferrous and non-ferrous metals and in industrial minerals. Among the many organizations with which I have been associated as an employee or consultant:

Anaconda, Esso, Mitsui, USAEC, Ventures, DIAND, SCAP-Japan, Atlas, Glidden, Spartan/Nuspar, Hirst-Chichagof, Floyd Odlum, Yukon Barite, Standard Silver, Roseau River Council

Applicable experience has been gained in exploration of pegmatite deposits of tin in Alaska and beryllium in Rhodesia and British Columbia, and thorium in Colorado. Familiarization with industrial mineral marketing has been obtained from experience with barite in Nevada and Yukon, with expandable shales in California, with sand and gravel in Manitoba, refractory and halloysite clays in Utah, and limestone in Utah.

Professional Affiliations

Registered Professional Engineer (No. 311) by Association of Professional Engineers of the Yukon Territory
Member of Society of Economic Geologists
Member of American Institute of Mining Engineers

James S. Dodge

Whitehorse, Yukon
15 June, 1988

PROFESSIONAL
YUKON
JAMES S. DODGE
TERRITORY
ENGINEER

PHOTO SITE #1 on Geologic Sketch

Lascas "castle" from which sample enclosed was taken.

PHOTO SITE #2 on Geologic Sketch

Discovery Monument for mining claims staked 19-06-87

PHOTO SITE #3 on Geologic Sketch

Vertical relief is 10 metres (32 feet) between base of left outcrop and top of highest castle on right outcrop. Long Lake in far left distance.

PHOTO SITE #4 on Geologic Sketch

Lascas outcrops displaying mesh of fracture sets covered by black lichen growths.

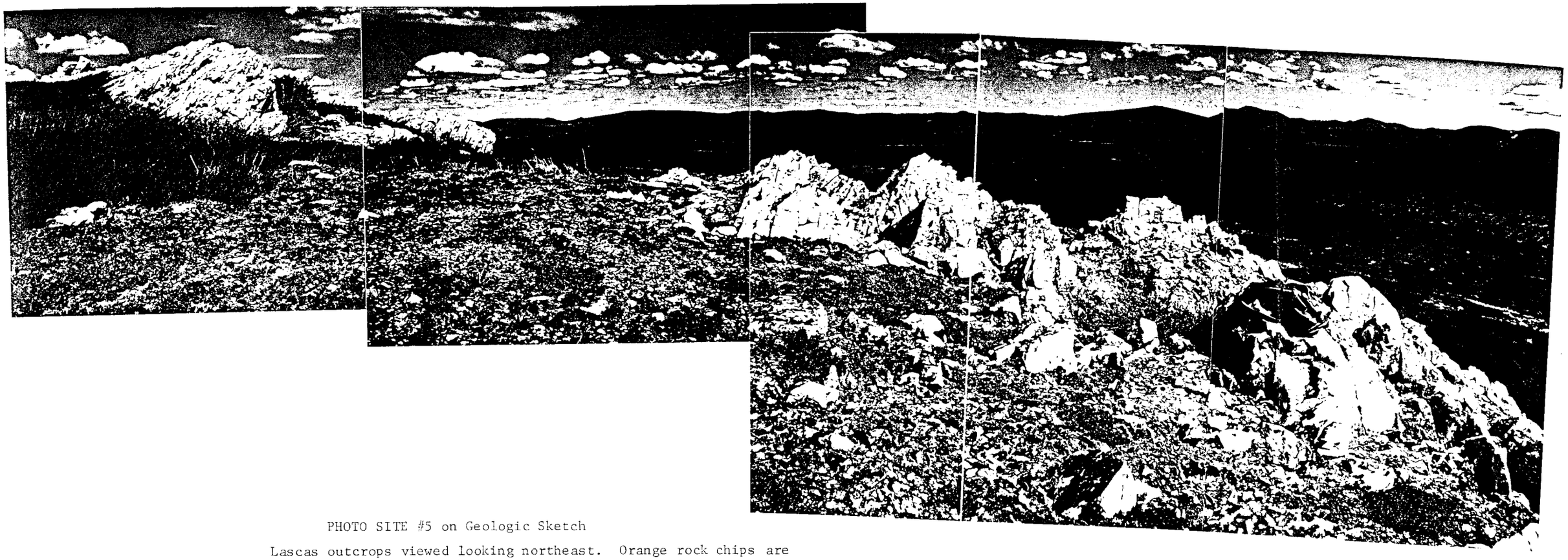


PHOTO SITE #5 on Geologic Sketch

Lascas outcrops viewed looking northeast. Orange rock chips are alaskite (leuco-granite) scree creeping downslope from bedrock source bounding western side of lascas deposit.

Chemex Labs Ltd.
Analytical Chemists * Geochemists * Registered Assayers
212 BROOKSBANK AVE., NORTH VANCOUVER,
BRITISH COLUMBIA, CANADA V7J-2C1
PHONE (604) 984-0221

To DGE, JAMES S.
14 MACDONALD RD.
WHITEHORSE, YUKON
Y1A 4L2
Project :
Comments:

*Page No.
Tot. Pages: 1
Date : 13-AUG-87
Invoice # : I-8719081
P.O. # : NONE

CERTIFICATE OF ANALYSIS A8719081

SAMPLE DESCRIPTION	PREP CODE		SiO2 % fusion									
12691	248	--	99.80									

ALL ASSAY DETERMINATIONS ARE PERFORMED OR SUPERVISED BY BC CERTIFIED ASSAYERS

CERTIFICATION : W. Glen Amanieu

Chemex Labs Ltd.
Analytical Chemists * Geochemists * Registered Assayers
212 BROOKSBANK AVE., NORTH VANCOUVER,
BRITISH COLUMBIA, CANADA V7J-2C1
PHONE (604) 984-0221

To ODGE, JAMES S.
14 MACDONALD RD.
WHITEHORSE, YUKON
Y1A 4L2
Project :
Comments: CC: AKY TSUJITA

Date : 15-OCT-87
Invoice # : I-8724473
P.O. # : NONE

CERTIFICATE OF ANALYSIS A8724473

SAMPLE DESCRIPTION	PREP CODE		Fe tot %	K2O %	SiO2 % fusion							
12697 ZR RING	214	--	0.02	< 0.01	99.33							
13698 ZR RING	214	--	0.01	< 0.01	99.30							

ALL ASSAY DETERMINATIONS ARE PERFORMED OR SUPERVISED BY B.C. CERTIFIED ASSAYERS

CERTIFICATION : W. Bonfiamini

Chemex Labs Ltd.
Analytical Chemists * Geochemists * Registered Assayers
212 BROOKSBANK AVE., NORTH VANCOUVER,
BRITISH COLUMBIA, CANADA V7J-2C1
PHONE (604) 984-0221

To: ODGE, JAMES S. **

14 MACDONALD RD.
WHITEHORSE, YUKON
Y1A 4L2

* INVOICE NUMBER I8720523 *

BILLING INFORMATION

Date : 30-SEP-87
Project :
P.O. # :
Account : BKY

Billing : For analysis performed on Certificate A8720523

Terms : Net payment in 30 Days 1.5% per month (18% per annum) charged on overdue accounts.

Please remit payments to:

CHEMEX LABS LTD.
212 Brooksbank Ave.,
North Vancouver, B.C.
Canada V7J-2C1

CHEMEX CODE	ANALYSIS DESCRIPTION		SAMPLES ANALYZED	UNIT PRICE	AMOUNT
592	- SiO2	%			
594	- Al2O3	%			
586	- Fe2O3	%			
593	- MgO	%			
588	- CaO	%			
599	- Na2O	%			
821	- K2O	%			
595	- TiO2	%			
597	- P2O5	%			
596	- MnO	%			
542	- BaO	%			
475	- LOI	%			
540	- TOTAL	%			
914	- Zr(XRF)	ppm	2	28.00	56.00
Sample preparation and other charges :					
205	- Rock/Core - RING		2	3.00	6.00
232	- Total ICP digestion		2	0.00	0.00
				Total Cost $	62.00
				TOTAL PAYABLE $	62.00

Chemex Labs Ltd.
Analytical Chemists • Geochemists • Registered Assayers
212 BROOKSBANK AVE., NORTH VANCOUVER,
BRITISH COLUMBIA, CANADA V7J-2C1
PHONE (604) 984-0221

T. DODGE, JAMES S. **

14 MACDONALD RD.
WHITEHORSE, YUKON
Y1A 4L2

*** INVOICE NUMBER I8724473 ***

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Date : 15-OCT-87
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Please remit payments to:

CHEMEX LABS LTD.
212 Brooksbank Ave.,
North Vancouver, B.C.
Canada V7J-2C1

CHEMEX CODE	ANALYSIS DESCRIPTION	SAMPLES ANALYZED	UNIT PRICE	AMOUNT
325	Fe tot %			
358	K2O %			
378	SiO2 % fusion	2	30.00	60.00
Sample preparation and other charges :				
214	Received as pulp	2	0.00	0.00
			Total Cost $	60.00
			TOTAL PAYABLE $	60.00