HASSELBERG PROJECT

Summary Report

Target Evaluation 95-033

EVALUATION SURVEY

NTS MAP SHEET 105 B/16
Lat. 59° 58' - Long. 130° 02'

SARAH DAWN, LAURA CHRIS AND BILL'S CLAIMS
OWNED BY
VAN KRICHBAUM AND ROGER KRICHBAUM

Report prepared by

VAN KRICHBAUM

Field work done JULY 27 - OCTOBER 27

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HASSELBERG PROJECT
Summary Report
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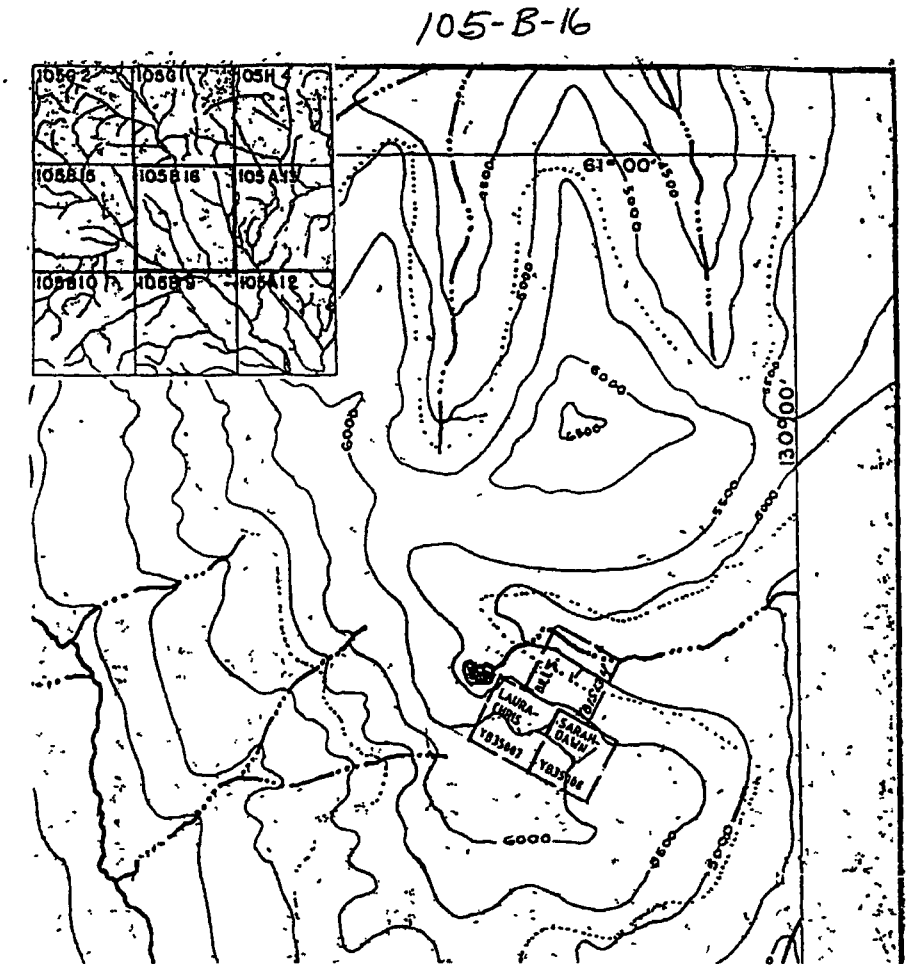
Project location & access

The Project location is on NTS map sheet 105 B/16 at the Sarah-Dawn, Laura-Chris, and Bill's claims area Access from Watson Lake is easiest by helicopter (Frontier Helicopter). We accessed the area using 2 Argos going West from the Campbell Highway at the Tungsten Road turn off following an established road, then a winter cat trail, ATV trail, and finally where there is no trail. See **Map A** below for the general location, and **Map B** (page 4) for the main specific area examined.



MAP A

Geology

The primary exploration target was a large seam of coarse nephrite (semi-nephrite), perhaps large enough for a quarry operation. The dimensions at the exposures indicated a large deposit, and the rationale for the project was to examine the size and quality of the deposit. The material is not the usual finely felted nephrite sold as jade, however it's prismatic character should make it possible to create a market as a carving material or as a dimension stone ("Crystal Jade"). The unusual character and large deposit size raises the question whether the deposit is the normal metasomatic type or the metamorphic type of nephrite.

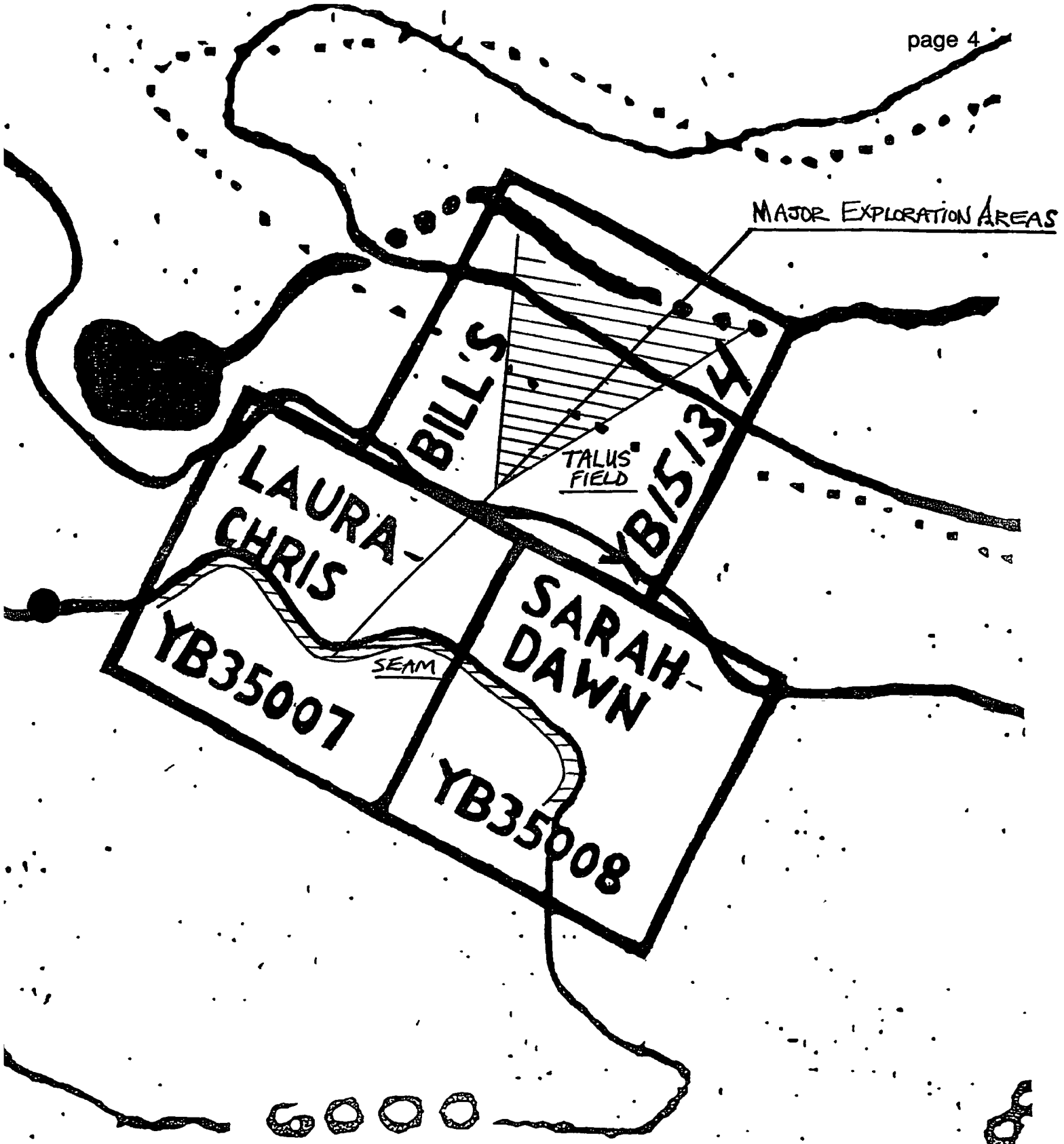
Metasomatic nephrite occurs between serpentinite and other rocks of various chemistry when there is permeation of calcium rich hydrothermal solutions at the contact. This results in material exchange between them and subsequent recrystallization of both rocks at the contact reaction zone. The formation of nephrite is associated with the faulting and intrusion of serpentinite. This takes place during emplacement of the serpentinite in a dynamic enviroment of changing pressure, temperature, and supply of reactants. This assures that the right conditions did not persist long in one spot. With rapid elevation of the serpentinite body along the fault, the tremolite formed in the reaction zone expands violently allowing recrystallization of the microfibers in random orientation. Typically then, metasomatic nephrite is found in small lenticular fault bounded lodes and is finely felted.

Metamorphic nephrite is not a common type and consequently it has recieved little attention. This type typically displays locally more intense deformation. Formation of the nephrite is probably due to sudden release of pressure and consequent recrystallization of tremolite. Metamorphic nephrite is sometimes more tremolitic with coarser grained fibro-lamellar tremolite prisms and lozenges, shelves and subparallel schistose alignment. Contacts between nephrite and calc-silicate rocks are usually sharp. Deposits are irregular, lenticular, and pod shaped bodies, often with a coarser texture than metasomatic type nephrite deposits.

Geology (cont.)

Nephrite jade deposits in B.C. and Yukon are all associated with middle Paleozoic to Triassic rocks thought to have been part of the oceanic crust but now found as large allochthonous slabs thrust over continental rocks. All deposits of nephrite are associated with serpentinites intrusive into or in fault contact with suites of greenstone, chert, limestone, etc. that range in age from Late Devonian to Late Triassic, although most are Late Paleozoic age. One of the most important of these rock assemblages is the Cache Creek ophiolitic complex of Late Devonian or Early Mississippian age. In Yukon, in the Campbell Range, Mississippian and Devonian sediments were intruded by serpentinites in narrow sill-like bands. Subsequent tectonic events led to the obduction or over-thrusting of these rocks onto the continental rocks in Mesozoic time. Since nephrite deposits are believed to have formed when the serpentinites were intruded or very shortly thereafter, final disposition of nephrite deposits probably rarely corresponds to the place of origin.

At the project location numerous hydrothermal and metamorphic alteration assemblages are evident nearby. Small carbonate and quartz veins are numerous, especially near the nephrite occurrence. The main nephrite vein itself is in excess of 2000 feet and may be even 3000 feet long or longer. Such a linear vein system indicates it is fault controlled. The nephrite seam is folded back at both ends indicating that deformation occurred later during emplacement of the ophiolite. However, there is enough skarn mineralization present locally in the form of grossular garnet, andalusite, epidote, zoisite etc. to leave open the possibility of an intrusion beneath the area with high temperature metamorphism occuring after emplacement of the ophiolite.


MAJOR EXPLORATION AREAS
BILL'S
YB15134
TALUS FIELD
LAURA-CHRIS
SARAH-DAWN
SEAM
YB35007
YB35008
6000

MAP B

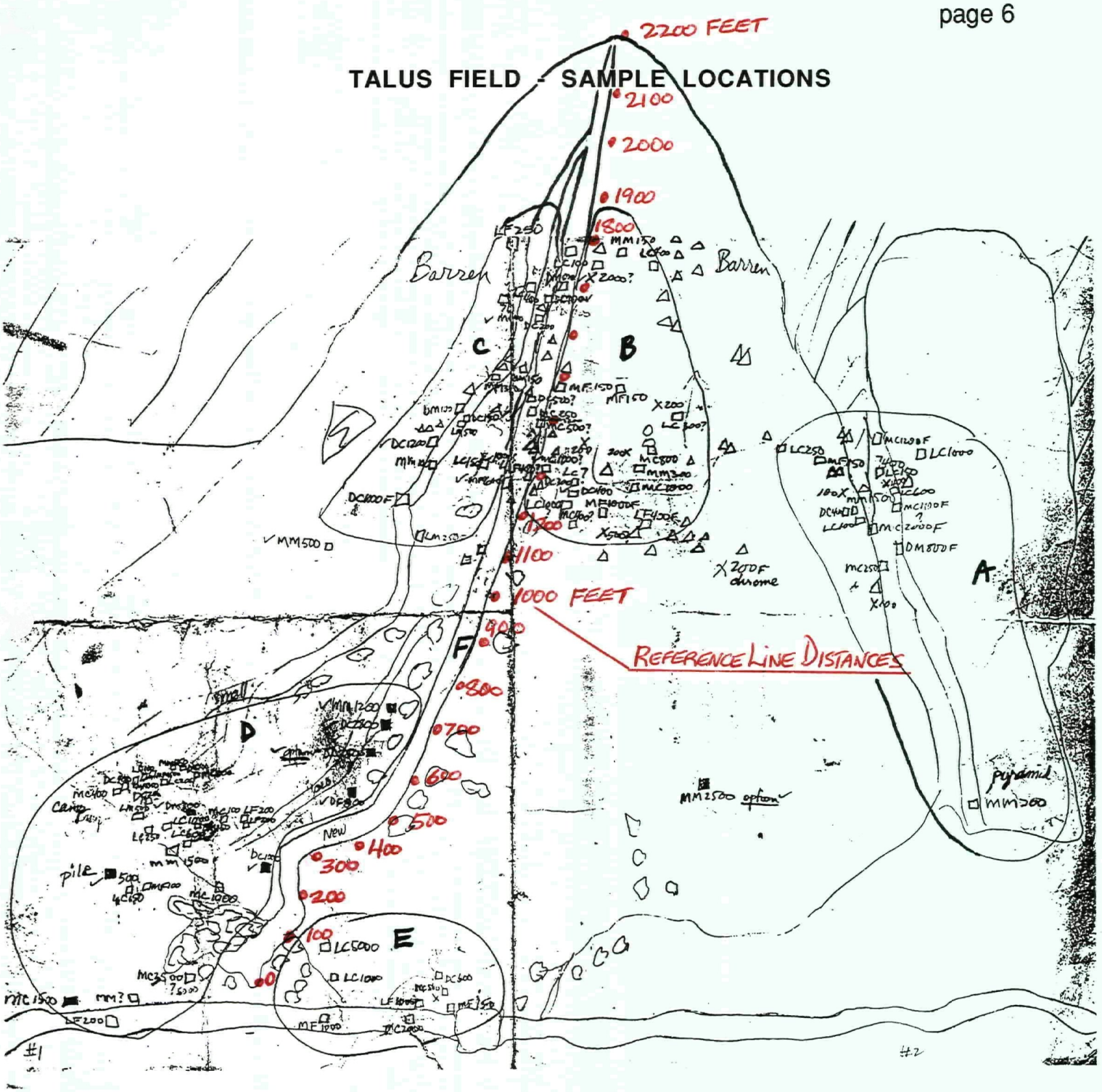
Work Done

Work done at the project location was primarily sampling, measuring and mapping of the nephrite main occurrence, however more nephrite was found by prospecting the immediate area. Weather was bad at the site on most days which hampered and reduced some of the operations. Also to contend with was the over 3000 foot climb from the base of the nephrite containing talus field (main camp) to the site of the nephrite occurance near the top of the cliff where some of the work was done. Attempts to find a route to the top for the Argo to haul needed equiptment were not successful. This limited sampling and any equiptment that could be used at the cliff top to that which could be carried by hand. Field work done was accomplished in two main sessions. There was a nephrite cutting/polishing sampling evaluation at the end of each of the two main field work sessions. Most of the rocks were removed at the end of the season using a helicopter. For further details see the daily journal (**Appendix A**).

For the talus field, surface mapping and sampling was done. The assumption is that the field at depth is similar. The talus fields' size was measured horizontally and a reference line was established that bisected the cone shape vertically. At every 100 feet, intervals were marked with a ribboned stake to the top of the field, a distance of some 2200 feet (670 m.). Due to the 50 acre (20 ha.) size of the talus field surface and the time available, only selected areas of the field were mapped. All nephrite boulders in the sampled areas of the talus field, except the small ones below 110 pounds (50 kg.), were mapped for location, estimated size, texture, and color. See **Map C** (page 6) for the talus field.

Physical sampling was done in the selected areas by marking all but the lowest quality boulders' locations with ribboned stakes. Those small enough were moved to common collecting sites for placing in nets, and the larger ones were dug out and/or propped up for slinging with the helicopter to a site where we could determine the nephrite's quality characteristics, such as the internal color and texture, amount of fracture, and the ability to be polished and cut. Some of the smaller boulders were taken out by Argo after each main work work session for quality determinations at the Campbell Highway. Some sawing and polishing was done there, and photos were taken. These are in **Appendix B**. The large boulder quality determinations were done in Colorado, USA at Colorado Stone Co.

TALUS FIELD - SAMPLE LOCATIONS



MAP C

Work Done (cont.)

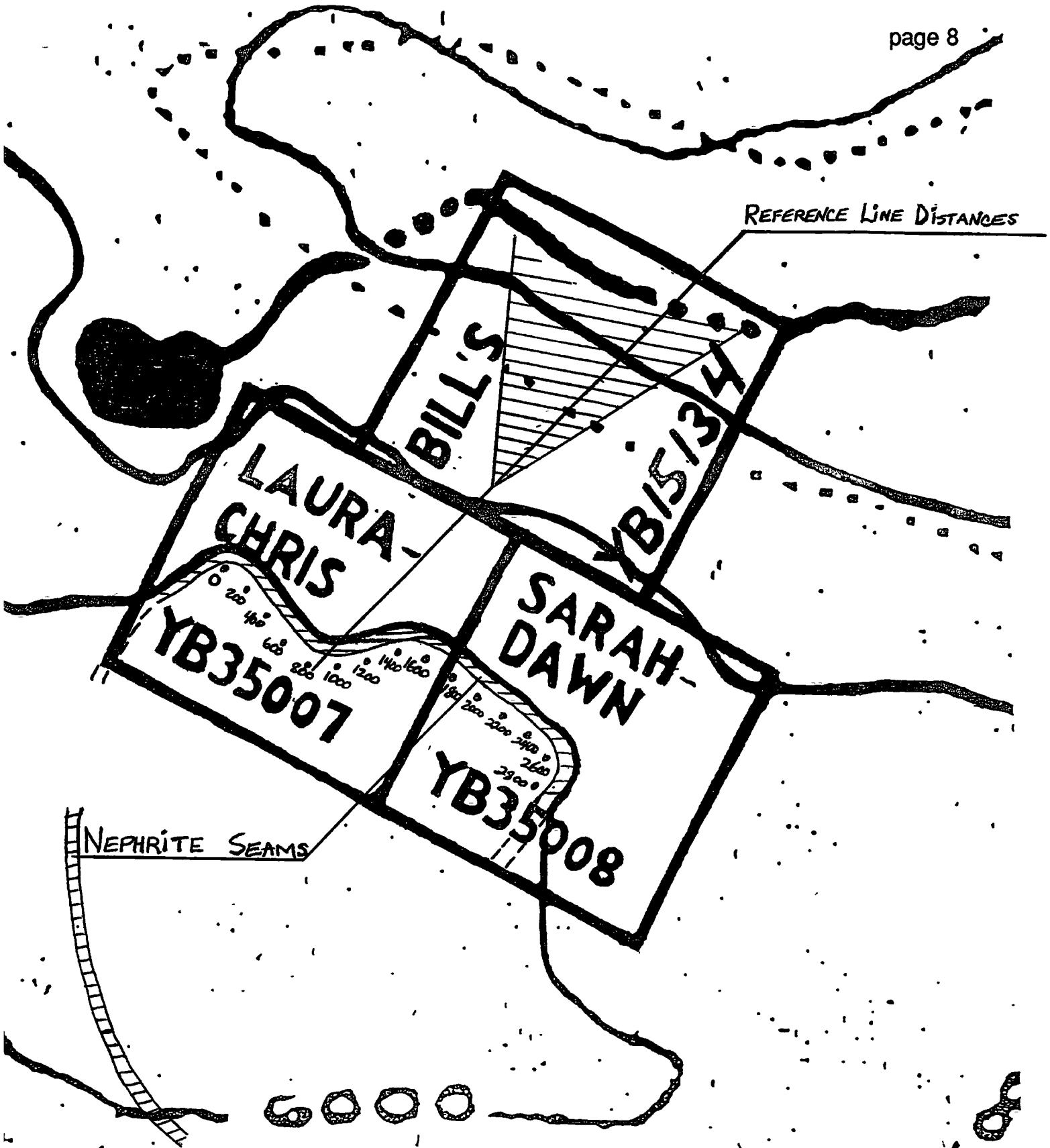
The main nephrite source located at or near the cliff edge was mapped and volumes estimated. Only hand size nephrite sampling done because no route was found to get the Argos to the top from the back (South side) of the mountain. Mapping was done by selecting a prominent nephrite projection at the West end of the cliff to be the starting point, or zero feet on the reference line. The reference line was marked out by following the cliff edge eastward and putting in marked ribboned stakes every 100 feet until the seam of nephrite disappeared some 2900 feet (890 m.) later. If accessible, the nephrite seam was measured for dip, strike, seam width, tonnes on the surface, rough grade catagory, and the visible quality factors of surface texture, translucency, and color. These were recorded in the daily journal, reproduced as **Table 4** and used to make **Map D** (page 8) for the location of each reference point at the cliff top.

Reconnaissance of the flat sloping plateau at the top of the mountain resulted in a further discovery of nephrite, probably an extension of the main seam as it curves back to the South. The exact location and seam data was not measured in the recon., but it's approximate location is included on Map D. The plan was to go back and stake it, but due to bad weather the site was not revisited.

Reconnaissance of the surrounding area yielded a further interesting site where a yellow green semi translucent mineral was found. Some material was excavated, bagged and marked as a net site. Bad weather conditions at the time also prevented us from revisiting this site and staking it, as was the plan. The material is probably vesuvianite, however it may be epidote or massive green grossular garnet.

The last field work was done in October when the main nephrite sample was transported to the Campbell Highway by helicopter. Weather condition were not ideal, as there was approximately 3 feet of snow on the talus field slope which made locating and removing the nephrite samples a challenge! However, approximately 27000 pounds of nephrite was taken out for further testing to see if the stone's characteristics would be suitable as either a dimension stone or carving material.

105-B-16


REFERENCE LINE DISTANCES
BILL'S
YB15134
LAURA-CHRIS
YB35007
SARAH-DAWN
YB35008
0
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
2400
2600
2800
NEPHRITE SEAMS
6000
6000

MAP D

Results (general)

Evidence of hydrothermal activity with skarn mineralization is present next to or near the nephrite vein. Contacts at the seam boundary are sharp. The shape of the deposit from mapping and reconnaissance suggests that the deposit is strongly deformed or may connect back on itself in a modified oval. The nephrite material is tremolitic with coarser grained fibro-lamellar tremolite prisms. All the evidence above points to a metamorphic nephrite occurence. If so, this is a rare deposit type for Yukon.

The prismatic nature of the deposit is made of crystals that are larger than the microfiberous felting that is typical of true nephrite. This places it in a category of semi-nephrite according to Jade in Canada. Some of the rocks tested by sawing exhibited some fractures, but most were fracture free. It's sparkly appearance and lighter color is quite attractive and it could still be commercially valuable, especially for dimension stone and as carving stone. It probably is not suitable for the traditional nephrite jewelery market, being too coarse throughout most of the deposit.

The semi-nephrite material at the deposit site is most suited for the carving stone and dimension stone market. The range of qualities, in the form of different grades, may allow for mining to proceed. Each grade will have a different market, and it may be possible to use the higher grades to pay for the infrastrucure that will allow for the mining of the lower grades if sufficient prices for the lower grades can be established. It is probable that transportation costs from this remote location will mean that the easily mineable nephrite will be economic with a cutoff market price of $2.00/lb. The more difficult material to mine material will require an even higher price to be economic.

Preliminary results of the evaluation of the one large boulder sawn so far at Colorado Stone were at least partly favorable for the materal to be used as a dimension stone. The marble and granite producer's reaction was that the nephrite was "irreplaceable" in the market because of it's color and patterning, and that it would sell at the high end of their market - in the range of US$100.00-120.00/square foot for finished material. The boulder was found to have some fractures however, so more tests need to be done.

Talus Slope Trends

The main nephrite bearing talus slope is an area below the western part of the cliff that is most deeply eroded (indented) The talus slope is in the shape of a cone. The dimensions of the slope are 2,200 feet vertical run and approximately the same horizontally at the base. The calculated area is 50 acres, or 20 hectares. The data in **Table 1** below are a result of mapping approximately one half of the talus field and ignoring the rocks of such low quality that they could not pass as even semi - nephrite. Mapping parameters were 3 shades (tones) of green, 3 textures (crystal size), and estimated weight in pounds. For map site code designations refer to talus field **Map 4.**

TABLE 1 TALUS SLOPE - GRADE DISTRIBUTION (TOTAL POUNDS)
ALL SEMI - NEPHRITE BOULDERS OVER 100 LBS

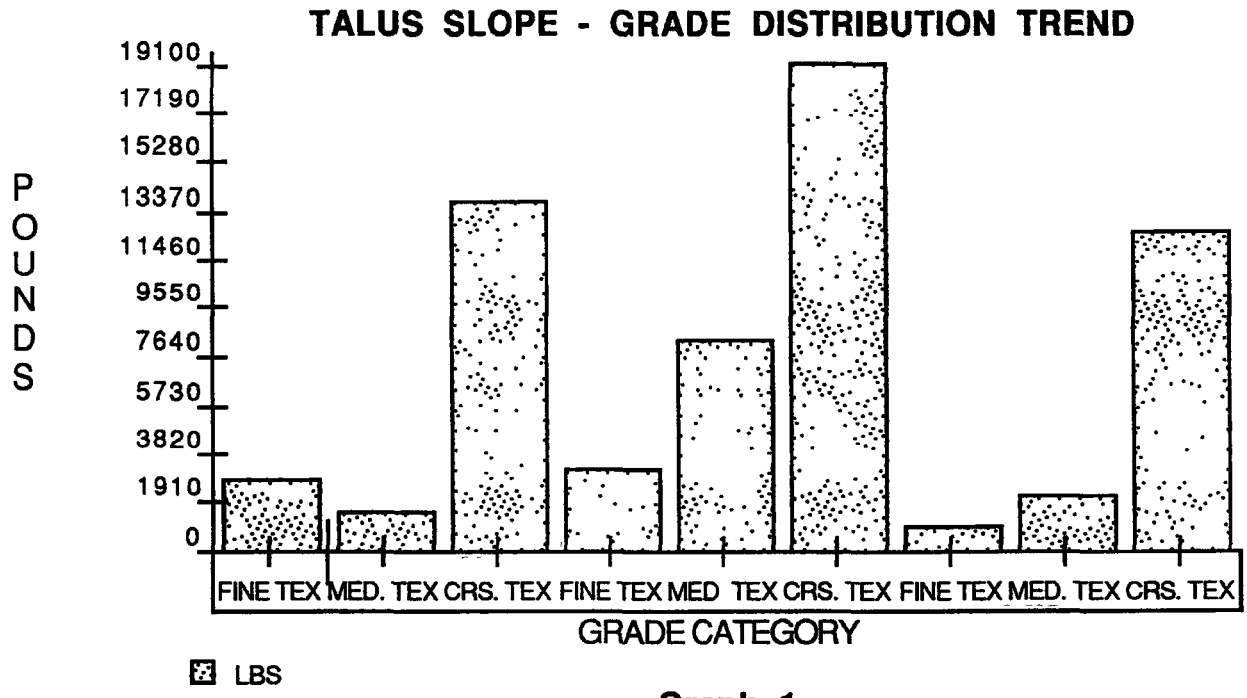
MAP CODE	LT GRN FINE TEX	LT GRN MED TEX	LT GRN CRS TEX	MED GRN FINE TEX	MED GRN MED. TEX	MED GRN CRS TEX	DRK. GRN FINE TEX	DRK. GRN MED TEX	DRK. GRN CRS. TEX
A	400	0	2100	150	2700	4550	0	800	400
B	0	0	1700	1300	450	3700	0	0	700
C	250	700	550	0	1550	100	0	100	3350
D	600	650	2300	450	3450	750	800	300	7000
E	1000	0	7000	1150	0	2500	0	0	600
F	400	0	100	0	0	750	0	800	500
LBS	2650	1350	13700	3050	8150	19100	800	2000	12550

TOTAL POUNDS 63400

GRN =Green
CRS.=Coarse
TEX =Texture

Talus Slope Trends (cont.)

The occurrence of different grade types is not evenly distributed. The unequal distribution is evident in **Graph 1** below.



Graph 1

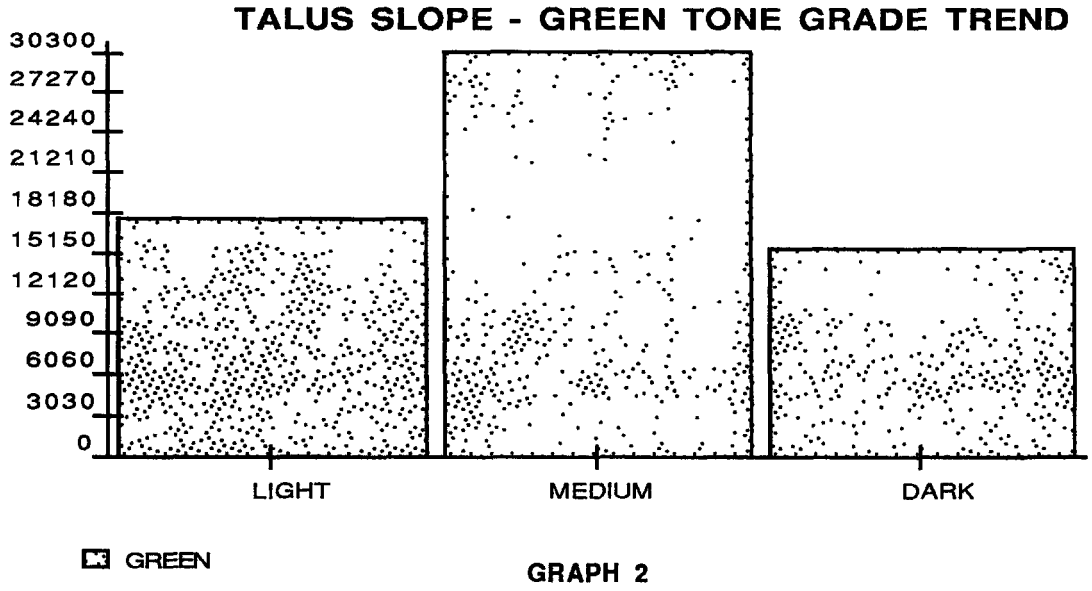
Some variations in the type of nephrite are evident. One trend is the tone of green. Approximately 50 % is medium green and 25% each is light and dark green. Another trend is the crystal texture, increasing from fine grain towards coarse grain. These are summarized in **Table 2** below.

TABLE 2 TALUS SLOPE - TRENDS from GRADE ANALYSIS (POUNDS)

TONE of GREEN	LIGHT 17750	MEDIUM 30300	DARK 15350
AMT of TEXTURE	FINE 6500	MEDIUM 11500	COARSE 45500

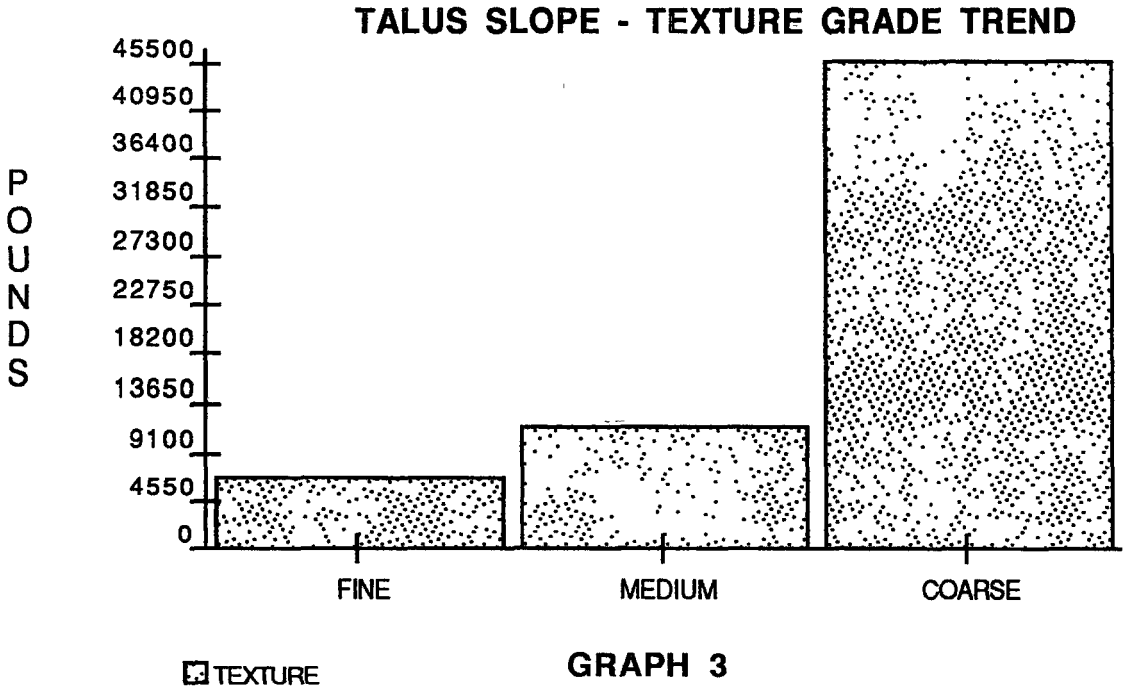
Talus Slope Trends (cont.)

The distribution of the tone (shade) of green grade factor is evident from **GRAPH 2** below.



GRAPH 2

The variations in the grade factor of texture (crystal size) are shown in **GRAPH 3** below.



GRAPH 3

Talus Slope Trends (cont.)

One final observation was detected in analysing **Table 1**. The distribution (location) of grade types on the talus field does not appear to be random. This type of information may be valuable later if seeking specific grade types on the talus slope. Thes observations are noted below in **Table 3.**

Table 3 TALUS SLOPE - TRENDS in AREA ANALYSIS (POUNDS)

AREA "A" - BOTTOM WEST SIDE	- MORE of COARSE (All tones of green)
AREA "B" - BOTTOM EAST SIDE	- MORE of COARSE (All tones of green)
AREA "C" - TOP WEST SIDE	- MORE of COARSE MEDIUM GREEN
AREA "D" - TOP EAST SIDE	- MORE of COARSE DARK GREEN
AREA "E" - BOTTOM CENTER	- MORE of COARSE LIGHT GREEN
AREA "F" - EROSION RUN	- TOO SMALL of a SAMPLE FOR TRENDS

Seam Deposit Data

Mapping and data collection was done for the nephrite seam deposit that occurs above and south of the talus field. The site is a "cliff" that is climbable without climbing equiptment in at least one spot, on the west end of the "cliff". The nephrite in most spots forms the most resistant weathering rock, and thus anchors the cliff from being even more deeply eroded. It forms outcrops along the cliff ridge in a continuous seam over 2100 feet long, and resurfaces again at the 2800 foot site. The seam was mapped using a reference line marked out with stakes every 100 feet. Some parts of the seam were not accessible without rock climbing equiptment (which we did not have) due to the steep nature of the cliff.

Data from the daily journal is produced in **Table 4** on the next page, and the point must be made that these data are incomplete. Sampling was attempted every 100 feet, and volumes are point value tonneages, not total tonnes found at the surface for the seam. Tonnes mineable on the surface has to be considerably more.

Table 4

CRYSTAL JADE - SEAM DATA & COMMENTS						
SITE	DIP	STRIKE	SEAM WIDTH	TONNES	GRADE	COMMENTS
0 FT	60 SE	60 E of N	14 FT.	50 T	LOW	Asbestos to coarse schist, opaque lt green
200 FT.	65 NW	60 E of N	10 FT	100 T	MEDIUM	Consistant med texture, semi translu med green
400 FT	80 SE	60 E of N	10 FT	40 T	HIGH	Coarse crystaline texture, semi translu deep green
500 FT.	N/A	N/A	10 FT.	10 T.	LOW	Grit/granules, weathered? opaque, chrome green
600-800 '	N/A	N/A	N/A	N/A -	N/A	Crystal jade below cliff too difficult to access
1000 FT	90 E	70 E of N	16 FT	80 T	LOW/MED/HIGH	Med texture (3' fine tex.) opaq. exc 3' transl. med gr
1100 FT.	80 N	90 E of N	8 FT.	20 T	LOW	Medium texture, opaque dull green
1200 FT.	85 SE	60 E of N	5 FT.	10 T	LOW/MED	Medium texture, mottled opaque lt. green
1300 FT	N/A	N/A	N/A-broken up	5 T.	MEDIUM PLUS	Amorphous to fine texture, semi tranlu med. green
1400 FT	N/A	N/A	N/A-broken up	10 T	MEDIUM	Medium texture, semi translu. lt. green
1500 FT.	N/A	N/A	N/A-broken up	40 T	LOW	Coarse texture, opaque to better, lt. green
1600 FT	85 NW	40 E of N	8 FT	10 T	LOW	Coarse texture, opaque lt. green
1700 FT.	85 NW	40 E of N	8 FT.	15 T.	LOW/MED PLUS	Varies; asbestos to fine tex. opaq./semi tran.; lt./med. gr
1800 FT.	N/A	N/A	N/A-deformed	100 T	LOW PLUS	Sandy to medium texture, opaque, grey green
2000 FT	N/A	N/A	N/A-broken up	20 T.	LOW TO HIGH	Most sandy, some fine tex. most grey gr., some nice gr
2100 FT to 2700 '	N/A	N/A	N/A-missing	N/A	N/A	Seam seems to dissappear, probably covered with till
2800 FT.	10 W	N/A	N/A-broken up	20 T.	MEDIUM PLUS	Sandy to coarse texture, nice medium green
2900 FT	N/A	N/A	N/A-missing	N/A	N/A	Seam seems to dissappear, possibly covered with till
				---		
				530 T.		

Seam Quality Data

The distibution of gross quality for seam sampling is found in **Table 5** below. Quality was judged primarily by the amount of translucency, the shade of green, and the texture, with semi-translucent deep green fine to medium texture being the most desireable.

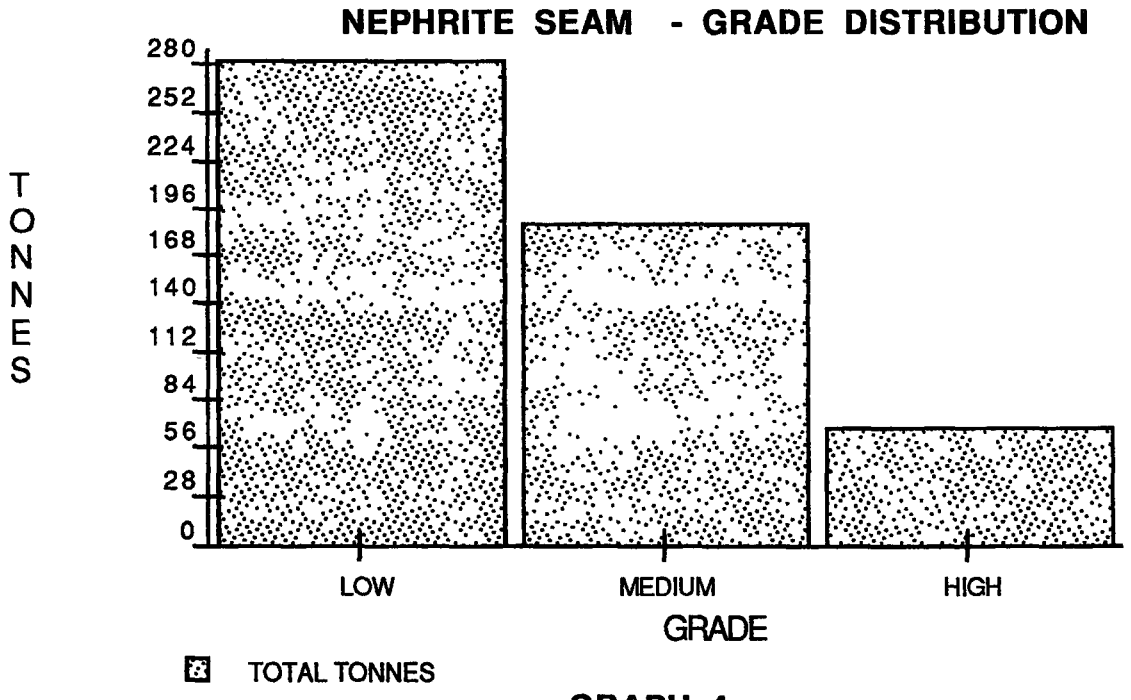
Table 5

NEPHRITE SEAM - GRADE DISTRIBUTION

SITE LOCATION	SEAM (FEET)	TONNES (EST)	LOW GRADE	MEDIUM GRADE	HIGH GRADE
0 FEET	14	50	50		
200 '	10	100		100	
400 '	10	40			40
500 '		10	10		
900 '	16	40	15	15	10
1000 '	16	40	15	15	10
1100 '	5	20	20		
1200 '	5	10	10		
1300 '		5		5	
1400 '		10		10	
1500 '		40	40		
1600 '	8	10	10		
1700 '	8	15		15	
1800 '	20	100	100		
2000 '	8	20	10	5	5
2800 '	20	20		20	
TOTAL TONNES		530	280	185	65

Seam Grade Trends

The nephrite seam grade distribution is more easily seen from **Graph 3** below. The main quality type from the sample is low grade, and makes up about one half of the sample by weight. Only about 12% of the seam deposit is high grade quality. However, even this percentage from such a large deposit represents a considerable resource.



GRAPH 4

Valuation of Deposit (General)

As far as development is concerned, the nephrite deposit is essentially two different types. Each type, the seam and talus field, need to be evaluated separately. Each will require a different mining process and a different road to a different site.

Talus Field Evaluation

The total surface volume of nephrite is approximately the surface sample mapped (for rocks larger than 100 pounds) x 2 (since 1/2 the area was mapped) times a factor for bringing into account the smaller unmapped nephrite rocks, which were numerous. This is an additional factor of at least x 2. The total estimated talus field surface volume is therefore the surface sample mapped (see Table 1) [63,400 lbs.] x 2 x 2 = 253,600 lbs, or at least 250,000 lbs. Grade values may be $0.50/lb. for low grade, $2.00/lb. for medium grade, and $5.00/lb. for high grade. See **Table 6** below for value calculations of the talus field surface.

TALUS FIELD - VALUE ANALYSIS

VALUE SCALE PARAMETERS	
LT GRN = 1	FINE TEX = 3
MED. GRN = 2	MED TEX = 2
DRK. GRN = 3	CRS. TEX = 1

COMBINED PARAMETER GRADE VALUE	
PARAMETER GRADE	POSSIBLE VALUE
HIGH GRADE = 6	$5 00/LB.
MED HIGH GRD = 5	$4 00/LB
MEDIUM GRADE = 4	$3.00/LB
MED LOW GRADE = 3	$1 00/LB.
LOW GRADE = 2	$0.50/LB.

TABLE 6

GRADE TYPE	LT. GRN FINE TEX	LT. GRN MED TEX	LT GRN CRS TEX	MED GRN FINE TEX	MED GRN MED TEX	MED. GRN CRS TEX	DRK. GRN FINE TEX	DRK GRN MED TEX	DRK GRN CRS TEX
SCALE	1+3 = 4	1+2 = 3	1+1 = 2	2+3 = 5	2+2 = 4	2+1 = 3	3+3 = 6	3+2 = 5	3+1 = 4
VALUE	$3.00	$1.00	$0.50	$4.00	$2.00	$1 00	$5 00	$4.00	$2.00
LBS	2650	1350	13700	3050	8150	19100	800	2000	12550
TOTAL	$7950	$1350	$6850	$12200	$16300	$19100	$4000	$8000	$25100
X2 X2									
(X4)	$23850	$4050	$20550	$36600	$48900	$57300	$12000	$24000	$75300

						(TOTAL RESOURCE)	SURFACE TOTAL GROSS VALUE		$302550

COMMERCIAL RESERVES - (@ CUTOFF GRADE OF $2.00)	SURFACE TOTAL GROSS VALUE	$220650

Talus Field Evaluation (cont.)

The grade distribution trend for the talus field overall is found in **Graph 1** and **Table 2**. The specific site trends for quality are found in **Table 3**. These support the reasons for mapping the talus field surface - to see if certain parts of the field naturally accumulate different amounts or different types of nephrite. It seems that the surface accumulation of nephrite on the talus field is not random - this could enhance the economics of the talus field deposit since certain sites have higher yields and/or higher grades.

The evaluation of the talus field deposit must take into account the cost of production. The cutoff grade value of the surface deposit may be all that is economic. The cost of production from lower depths below the surface will necessarily be much higher. The talus field is at least 200 feet deep overall (average), and may be closer to 400 feet deep Although probably not economic, the total contained nephrite value (if the surface is an indicator of lower depths) is estimated at ($300,000 00 x 200) = $60,000,000.00.

Nephrite seam evaluation

The nephrite seam is directly traceable for over 2100 feet, and probably continues (but is till covered) to the 2800 foot reference point showing at the East end. At the West end of the cliff the nephrite seam wraps around toward the South, however it only seemed to go for 100 - 200 feet, and was not accessible, so it was not evaluated with the main seam.

Reconnaissance to the South picked up the seam again and it was followed for another 1500 feet (estimated). It seems to be in line with the main seam and is probably a continuation of the main seam. If so, the seam continues for over a mile and averages approximately 10 feet wide.

This would make the seam the largest nephrite in situ deposit in the world (if the semi-nephrite can be considered to be nephrite)! Plans were made to revisit the newly discovered southern seam extension for making several additional claims and further mapping. However, these plans were not able to be accomplished due to the "dirty" weather on the mountain top after the discovery was made until the last work session ended.

Nephrite Seam Evaluation (cont.)

If the same dollar values for low grade, medium grade and high grade are used as in **Table 6** for the talus field evaluation, then the nephrite seam point samples evaluation (using the tonnes from **Table 5**) will result in the evaluation as follows in **Table 7**.

TABLE 7 NEPHRITE SEAM EVALUATION

	NEPHRITE GRADE	-	LOW	MED.	HIGH	
	TOTAL TONNES	-	280	185	65	
	TOTAL POUNDS	-	616000	407000	143000	
	VALUE/POUND	-	$0.50/LB.	$3.00/LB.	$5.00/LB	
(TOTAL RESOURCE)	TOTAL VALUE	=	$300 000	$1 200 000	$700 000	= $2 200 000
COMMERCIAL RESERVES	CUTOFF @ $2.00	=	$0 00	$1 200 000	$700 000	= $1 900 000

Since these are point sample values, the total contained nephrite jade resource at the seam is considerably more, probably by a factor of more than [x 2] for the surface showing. If the seam is mined to any depth the tonnage should be again more. Conservatively estimated, the main seam's value is appproximately $4,000,000.00 [$1,900,000.00 x >2] that should be economically mineable just at the surface.

This seam deposit value has not taken into consideration the newly discovered unmapped seam extension to the South for approximately a distance equal to the main seam [x 2] valued in **Table 7**. If the grade and tonnage is similar for the new seam section as it is for the main seam section, the total resource for the seam would be valued at $8,800,000.00 [$2,200,000.00 x 2 x 2]. This could result in a total contained nephrite seam value of approximately $8,000,000.00 [$4,000,000.00 x2] that is economically mineable.

Total Deposit Evaluation

The total value of the estimated contained nephrite resource for all grades at the target evaluation site is approximately $60,000,000.00 for the talus slope and $8,800,000.00 for the seam at the surface only The depth of the seam is not known at this time, so the total contained nephrite (semi-nephrite) resource is a mimimum of $68,800,000.00.

As far as the economics of a profitable deposit is concerned, if the cutoff grade is established at $2.00/lb. then the total economically mineable reserves are $220,000.00 for the talus field and $1,900,000.00 for the seam deposit (minimum), for a total proven economic reserve of over $2,000,000.00. The probable economic reserve is more likely $4,200,000.00 for the talus field and main seam combined, and could be even $8,000,000.00 for the talus field, main seam and newly discovered seam extension for the surface showings only. The economics of the jade deposit are further enhanced by the high probability of the higher grades extending to some (considerable) depth. The possibility also exists for marketing the extensive supplies of lower grades (below $2.00/lb.) by doing value added production of dimension stone in Yukon before shipping.

Conclusion

This deposit should support mining for higher grade carving material, and quarrying for lower grade material if markets for "Crystal Jade" dimension stone products and Yukon production facilities can be developed. See **Appendix C** for further comments from Open File 1993 - 4 (T), Industrial Minerals and Minor Metals and Their Potential For Development in the Yukon. The first step for mineral production from this deposit has been taken with this valuation survey.

Recommendations

Further claims need to be made to the South to claim the newly discovered nephrite seam extension. Further evaluation is needed to determine depth/grade of the main seam and the seam extension. To accomplish this a cat road needs to be established to the seam deposit on the mountain top. Lastly , markets need to be developed for this beautiful unique Crystal Jade.

APPENDIX A - DAILY JOURNAL

July Hasselburg/Plateau Trail 1995 (3)

27 Thursday • Partly cloudy/sun
- Pack final things and leave for Crystal Valley.
- Argos running good and we make it to Ron's cabin
- Talk with Ron, Jerry + Alex Blacke for awhile. Then move on. Arrive at Laura's Camp at 10:00 Make camp.
- After supper starts to rain - getting really cold

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
Jul						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31						

1995 Plateau Trail Jul (3)

Friday 28
- Rain all day - cold
- Windy, sort of stormy at times
- Rained the night before all night, sometimes V. heavy
- Inner tent leaks + not staked out right - sidewalls wet, sleeping bag (foot end) get wet, tarp over head
- Spend day under tarp. Use erected dry out stuff, read and do some camp projects (tent frame pole/tarp pole for the future, cut more firewood
- At 3:30 quits raining enough to decide to move on - break camp and then rain starts again
- Drive in rain most all of the rest of day to Crystal Valley Camp Leave at 5:30, arrive 10:40 - about 5 hours from Laura's Camp to Crystal Valley Camp. (½ hour from Laura's Camp to top)

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
Aug		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25	26	27	28	29	30	31										

July Crystal Valley (3) 1995

29 Saturday Mixed cloud + sun, "warm" at midday (Roger put on shorts)

- Put in camp, put up wall tent, unloaded Argos + organized things. Made diff. tent spot for Roger Van + Jesse's tent - too bumpy!
- Decide to do a recon, take esupot + Argo to other side of Crystal Valley. Find good Zoisite area and fair dodge - gets more solid, but quality is not consistent.
- Decide to make claims for the material
- Move tent of Van's to new spot.

1995 Crystal Valley (3) July

- Rain except PM fill 8:30 Sunday 30
- Very cold - even the pen was froze up. Had to warm it on the coffee lid
- Need a wood stove and wood, may get some Rovers when chopper comes
- Recon the boulder field, mark a grid main line & to 800' and clear the rip of crystal jade
- Start selection process for the helicopter lift.
- Van's tent doesn't leak, rain most of the day

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
Jul						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31						
Aug																					
	21	22	23	24	25	26	27	28	29	30	31										

July Crystal Valley (3) 1995

31 Monday Rain till 1100 - again at 1900 (most of the day) - less cold

- Work further up "the rip" on both sides marking the mainline of grid access to 1300' and selecting and digging out rock for removal (samples to take)
- Add tarp lean-to for dry out stuff.
- Rain began but less than previous.

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
Jul						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31						

1995 Crystal Valley August (3)

Sun + Cloud National Day, Switzerland Tuesday 1

- No rain!! - first day so far (1st in 5 days)
- Sample up the talus field in alluvial cone doing boulder tracing to find the sources of different qualities of rocks in float
- Access mountain top by going up cliff ridge and one of the erosion shutes
- Quality in shute is good up the middle and to the East side - poor on west side
- Knob on west end of cliff is schisty, some good color and some is fiberous/asbestos
- Next knob projection to the East is excellent quality - V. good color, consistent, translucent, somewhat semi-course. Est. 20 tons
- Further East shute was mid grade and uniform - est. 25 tons

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
Aug		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25	26	27	28	29	30	31										

August Crystal Valley (3) 1995

2 Wednesday - Cloudy + Sun

- Decision to do major sampling from cliff top
- Necessity to get equipt. to top ridge
- Recon/prospect shoulder to East of Crystal Mountain
- Rock is dunite/some hedenbergite gabbroic rock - no nephrite
- trail is very rough, not practical, too many large boulders + boulder fields - will recon/prospect the South side next or go lower on the East side.
- Extremely cold (pen wouldn't write - had to heat it on the stove.) when we return Storm coming again - Very windy + rain - could snow
- Prospect field below pegmatite dike for green crystal - More but low quality zoisite found

M T W T F S S | M T W T F S S | M T W T F S S
Aug 1 2 3 4 5 6 | 7 8 9 10 11 12 13 | 14 15 16 17 18 19 20
21 22 23 24 25 26 27 | 28 29 30 31

1995 Crystal Valley August (3)

Thursday 3

"Dirty" weather all day
- Some rain, low clouds all around - cold to cool at mid day - upper clouds thinning
- May be able to leave tomorrow if weather cooperates
- Spent time near camp on talus field digging up large boulders + float for sample removal
- Sampling criteria was shape and quality as well as large size - the smallest size was 400 lbs the largest was 2500 lbs.
- So cold you can see your breath all day!
- Decide to go out tomorrow if weather permits - weather looks like clearing + cold by nightfall

M T W T F S S | M T W T F S S | M T W T F S S
Sep 1 2 3 | 4 5 6 7 8 9 10 | 11 12 13 14 15 16 17
18 19 20 21 22 23 24 | 25 26 27 28 29 30

August Crystal Valley (3) 1995

4 Friday V. windy at night - cold
- Tarp on side of tent takes a beating - Pipe out, perm rope + grommets
- Drizzle + wind in AM, but thin overcast so should be able to go out anyway
- Batten down camp, close rainfly to go out, load + leave at 500
- Only get to Laura's camp in cold (rainy some night. Lost time ring the dash, once at Stony Pass, once at Trail Head!
- To bed with no supper.

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
Aug																					
	21	22	23	24	25	26	27	28	29	30	31										

1995 Plateau Trail to Hayden Lake (3) August

Rain, cool, cloudy Saturday 5
- Leave Laura's Camp, go to Hayden Valley Lake
- Repair / replace tires
- Fuel up
- Stay in Cabin to get out of bad weather
- Prospect along lake

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
Sep																					
	18	19	20	21	22	23	24	25	26	27	28	29	30								

Hasselbury Trail to M.J.

August 1995 (3)

6 Sunday

— Service Argos.
— Drive rest of way out arrive at Dark Jct highway
— Stuck bar wet trail at least 6 times — once both stuck at same time — otherwise good trip out.
— Arrive at Highway at 11:30 PM — tired, wet, dirty

M.Junction

1995 August (3)

Week 32 *Bank holiday, R of Ireland & Scotland* Monday 7

— Unload samples + camp equipment
— Cut samples, polish some for quality testing
— Unit of Crystal jade taken out for samples is 500 lb.
— Initial results of first cuts looks very good
— First ones polished take good polish

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
Aug																					
	21	22	23	24	25	26	27	28	29	30	31										

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
Sep																					
	18	19	20	21	22	23	24	25	26	27	28	29	30								

August Miner's Junction (3) 1995

8 Tuesday

- Continuation of sample material polishing + cutting
- More polishing firms out a flat uniform hardness uniform polish making the material evaluation as follows on selected pieces
  a. Good color, though variable from piece to piece — usually consistent within piece — a light medium to mid-medium on most
  b. Some brown spots, little black, do not undercut
  c. Most pock without large fractures — Some smallones
  d. Uniform hardness
  e. Good polish finish
- Service Argos finish unpack

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
Aug		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25	26	27	28	29	30	31										

1995 Miner's Junction August (3)

Wednesday 9

- Decide to cut largest piece and see what it's like
- It is a nice med. grain medium to coarse crystal structure, no fractures takes a good polish
- Cut several others
  1. One was a "dud" — sandy opaque material, dull green color — outside was not great either
  2. Overall, variety is over a wide range of color, consistency, crystal size, etc.
  3. All pieces polish easily to a very good finish — can't stay too long on one spot with diamond wet polishing pads — sort of soft, rounds edges

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
Sep					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	18	19	20	21	22	23	24	25	26	27	28	29	30								

10 Thursday ○

Final day of cutting
— the seventh day from cutting up several more, plus the previous days cuttings give these preliminary results
1. Color varies from light dull green to mostly a nice light to medium green a few are a deep rich green — med.
2. Texture — most are coarse but they range to very fine almost amorphous
3. Fractures — most are good few fractures on most
4. Polish — all polish well except sandy one.
— Final day with some photographs of the wide variety of rocks found
— Nice selection — can possibly supply almost every kind of color/texture

Friday 11

Crystal Valley (4)
August Partly cloudy 1995

26 Saturday ●

- Weather threatening but decide to go anyway, me Roger, Eric and Cameron
- Drive to trailhead, park trucks, hide keys, unload 2 Argos. Leave at 12:30 from trailhead
- Get to Hasselbury Lake around 6:00, eat supper, cabin occupied so decide to go in the dark to Laura's Camp - arrive Laura's camp after driving thru snow.
- Have to camp the night in a skiff of snow!
- Roger sleeps under tarp by fire, doesn't even put up tent - we go to bed without supper / snack
- Cold night, damp, not much sleep
- Nice northern lights!

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
Aug		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25	26	27	28	29	30	31										

Crystal Valley (4)
1995 Partly cloudy August

Sunday 27

- Go from Laura's camp in cold front, decide to get going so no breakfast, no coffee - Yech!
- Snow melts off from previous day by noon.
- Make good time & good short cut across plateau
- Arrive Crystal Valley set up camp by 6:00, eat early for once!
- Map some more of the falls field along the creek in the evening
- Decide to go to the top of mountain tomorrow and try to find a route for the Argos to the top by going down the South slope of the mountain
- Get to bed at decent time (11:30) - cold night again.

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
Sep					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	18	19	20	21	22	23	24	25	26	27	28	29	30								

Crystal Valley (4)

August 1995 Partly cloudy, rained PM

28 Monday Week 35

Bank holiday, England, N Ireland & Wales

- Weather looks like it could get bad, but decide to go to top anyway w. Cameron
- Pack up + gone up Talus field by 11:00. Arrive at top by 1:30 (2½ hours). Raining
- Roger and Eric take Argo around base of mountain to try to find a lower route plan is to join up w. them
- Cameron and I follow direct of Jade seam where it disappears
- Pick up seam about ½ mile Sth to the south
- Collect samples and prospect new seam - prob. an extension of the Main one
- Quality like the main seam, some v. good but smaller part of the seam goes on for at least ½ mile
- Trail goes so far South + East then ends. Same for Argo trail
- Never met up, rain all the way on walk back to camp

Crystal Valley (4)

August 1995 Some low cloud, cold, snows

Tuesday 29

- Weather looks real bad low thick cloud on ridge very cold, can see breath.
- Decide to go to top to map seam - take extra gear to stay warm. Roger to sample the seam, save take tools, ropes, bars, etc.
- Hard climb with 40 lbs of tools each - 3½ hours to top
- Help Roger sample the seam at a real nice spot - good deep green, nice crystal jade.
- Roger stays to get more jade samples ready for helicopter
- To take out the seam at 100' intervals, also the rest of the talus field from 1400 to 2200 feet
- Seam goes to 2800 Minus a Stretch where till covered
- Record volumes qualities, dip, strike, seam width in journal for the seam - Snows
- Down to camp in the dark Roger was already there.

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
Aug		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25	26	27	28	29	30	31										
Sep												1	2	3	4	5	6	7	8	9	10
	18	19	20	21	22	23	24	25	26	27	28	29	30								

Crystal Valley (4)

August Rain off/on, low cloud 1995

30 Wednesday

- Weather really lousy, too bad to go back up to top since we decided to claim the new sean extension - maybe tomorrow
- Work on finishing the talus field bedded map using the reference line & tales for accuracy check. Record the size color and texture of each rock over about 600 lbs
- Much drizzle/rain. Back and forth to camp to warm up. Decide to bring the smaller rock samples to base camp with Argo
- Make it to 800' mark on talus slope with Argo
- Start making net sites for the helicopter.
- Weather really bad, just about blows tent down - glad to have proper

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
Aug		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25	26	27	28	29	30	31										

Crystal Valley (4)

1995 Rain off/on, low cloud August

Thursday 31

- Weather so bad we make decision to stay off the mountain top even though we may not get to make the claims we had planned - maybe we will have to leave it for next year.
- Finalize rock location map for helicopter to remove samples later
- Continue making net sites and moving the smaller samples to the main camp.
- Rains again lots of the time - gear getting wet, inside tent is turning to mud, lots of flood around tent. Good
- Map getting wet really hard to do in the rain
- Call it a day at 9:30 PM
- Windy night again!

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
Sep					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	18	19	20	21	22	23	24	25	26	27	28	29	30								

Crystal Valley – Laura's Camp

September 1995

1 Friday

"V.D.R." – in cloud, rain, drizzle

– Make final selection of samples to take out by Argo – Pretty in rain.

– Pack samples + camp gear, slow drills and other mining equipt. for return trip.

– Put samples not yet up off the flat side to their edges in position so don't freeze to the ground for easy removal w. helicopter

– Leave camp 4:00 – Travel in mist, "white out" on the plateau, so travel by compass heading first 110°, then 80° from creek crossing to trail head at grass pan.

– Camp at Laura's camp rain stops 2 hours before – Finally!!

Hasselburg Lakes (4)

September 1995

Saturday 2

Partly Cloudy, windy

– Fix tires, service Argos, reload

– Leave Laura's camp, Argo out

– Struck 4 times, once both struck at same time – Rope winches and

– Arrive trail head can't find keys for 1½ hours

– Arrive Junction at 2:00 AM – What a long day – extremely tired and pushed!

– Very cold night – not much sleep – Should have made a fire!

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
Sep						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	18	19	20	21	22	23	24	25	26	27	28	29	30									

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
Oct							1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31					

September Miner's Junction (of) 1995

3 Sunday

- Unload Argos of camp gear and nephrite samples
- Select nephrite material for further cutting + evaluation
- Go over the rocks brought out to see if we can predict the internal properties from the external properties using what we learned from our first cutting session.
- Review plans for the helicopter sample and finalize selection on map of talus field.
- Cut and polish several more small pieces for samples.

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
Sep					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	18	19	20	21	22	23	24	25	26	27	28	29	30								

1995 September

Week 36 Monday 4

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
Oct							1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31					

September 1995

5 Tuesday

M T W T F S S | M T W T F S S | M T W T F S S
Sep 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
18 19 20 21 22 23 24 25 26 27 28 29 30

1995 Miner's Junction September

Wednesday 6

— Cut and polish more samples using the predictions made on Sept. 3
— Samples are subtle but fairly predictable if one looks closely at the rock. Can see
a. Most large fractures
b. Overall color
c. Mottling if one looks very closely
d. Crystal texture
— Can NOT see the many brown tiny specks and black spots (if any (mostly not present)
→ Conclusion — one has to look very carefully at the Nephrite qualities, but the reward will be to fill orders economically if certain material is wanted.

M T W T F S S | M T W T F S S | M T W T F S S
Oct 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

September Meyers Junction (2) 1995

7 Thursday

- Last day of cutting and polishing
- nearly every sample has grow flaps cut / polished / evaluated
- Rods are fairly uniform within a specific range of characteristics - most are medium green or lighter and are coarsely crystalline and they polish good and easily - NICE
- ~~Should be able to get~~ over 100 on the glassmeter
- Fractures don't appear to be a big problem, but they do occur and will have to be factored into volumes needed to fill an order
- The Natural catches on

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
Sep					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	18	19	20	21	22	23	24	25	26	27	28	29	30								

1995 September

Friday 8

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
Oct							1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31					

October 1995

11 Wednesday

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
Oct							1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31					

1995 Miner's Junction October

Thursday 12

- Pack load of firewood to go into Camp into one of the nets.
- Weather not great, snowfall in mountains looks thick. Cloudy, cold, overcast like
- Late take off time.
- Upon arrival find tent is collapsed from snow load + damaged - stake there if!
- Hard to get around 3 feet of snow on tales field hard to find marker posts and probes
- Only manage one load before weather worsens
- Remove sample of 2100 lbs of semi-Replicate

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
Nov			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	20	21	22	23	24	25	26	27	28	29	30										

October 1995 — Meners Junction and Crystal Valley

13 Friday

Weather too low cloud for fly today
— Cancel trip to the Crystal Valley today
— Hope to fly tomorrow

M T W T F S S | M T W T F S S | M T W T F S S
Oct 1 | 2 3 4 5 6 7 8 | 9 10 11 12 13 14 15
16 17 18 19 20 21 22 | 23 24 25 26 27 28 29 | 30 31

1995 October — Meners Junction and Crystal Valley

Saturday 14

— Weather is better, decide to fly what we can today
— Make 3 trips to remove samples with Helicopter — Paul is a very good pilot for Frontier Helicopter with a long line — nice guy too. Sarah is helping us to load nets.
— Again, very difficult to locate marked sample sites, even with the map, in the deep snow! — what a lot of work!!
— Rombee loads of 3600, 3350 and 2700 pounds = 9650 lbs. of samples removed.

M T W T F S S | M T W T F S S | M T W T F S S
Nov 1 2 3 4 5 6 | 7 8 9 10 11 12 | 13 14 15 16 17 18 19
20 21 22 23 24 25 26 | 27 28 29 30

October 1995 — Miner's Junction and Crystal Valley

15 Sunday

- Make 2 more loads today - hard to get there early due to low light / short day and overcast cloudy day.
- Remove more plus nephrite samples 3250 and 3600 pound before calling it a day = 6850 pounds

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
Oct							1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31					

1995 October

Week 42 Monday 16

- Make last of the trips - just too hard to remove / find the samples and the weather is closing in.
- Make 3 more trips to Crystal Valley to remove rock samples
- Removed loads of 4000, 3400, and 2400 pounds = 9800 pounds
- Total sample removed is 28,600 pounds, including 3 large boulders of nephrite
- Due to snow cover the rock removed are truly a sample, not selected or high graded at all.

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
Nov			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	20	21	22	23	24	25	26	27	28	29	30										

October Mineral Junction (2) 1995

27 Friday

- Arrange to have Highway loader come up and NIC Trucking to be on site to load the samples for shipment
- load 16 drums and one small one with samples, place on truck
- load 24 smaller rocks and 3 large representative boulders onto truck for shipment for some further testing to determine large boulder quality and sample consistency to the rest of the load.
- Trucked to Colorado for above & along with saw and polisher.

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
Oct							1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31					

1995 October

Saturday 28

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
Nov			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	20	21	22	23	24	25	26	27	28	29	30										

APPENDIX B - PHOTOGRAPHS

CAMP, 2 ARGOS at Bill's Claim

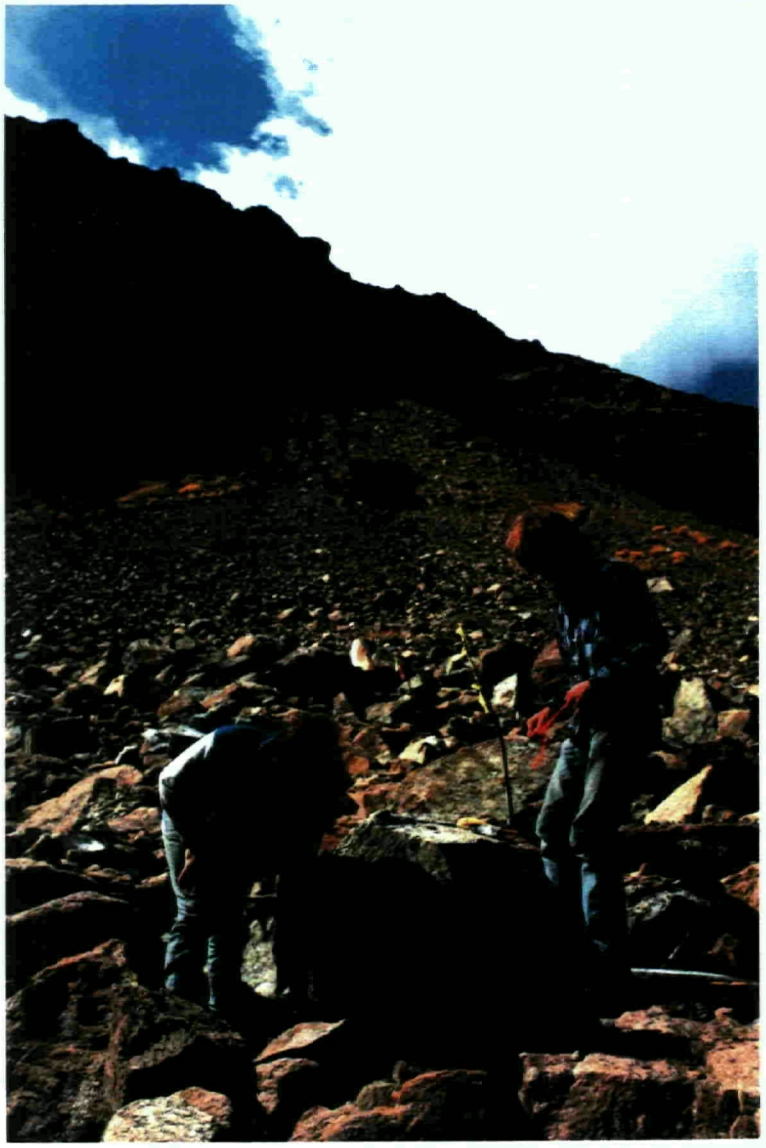
TALUS FIELD

Bill's Claim

TALUS FIELD

Bill's Claim

APPENDIX B - PHOTOGRAPHS

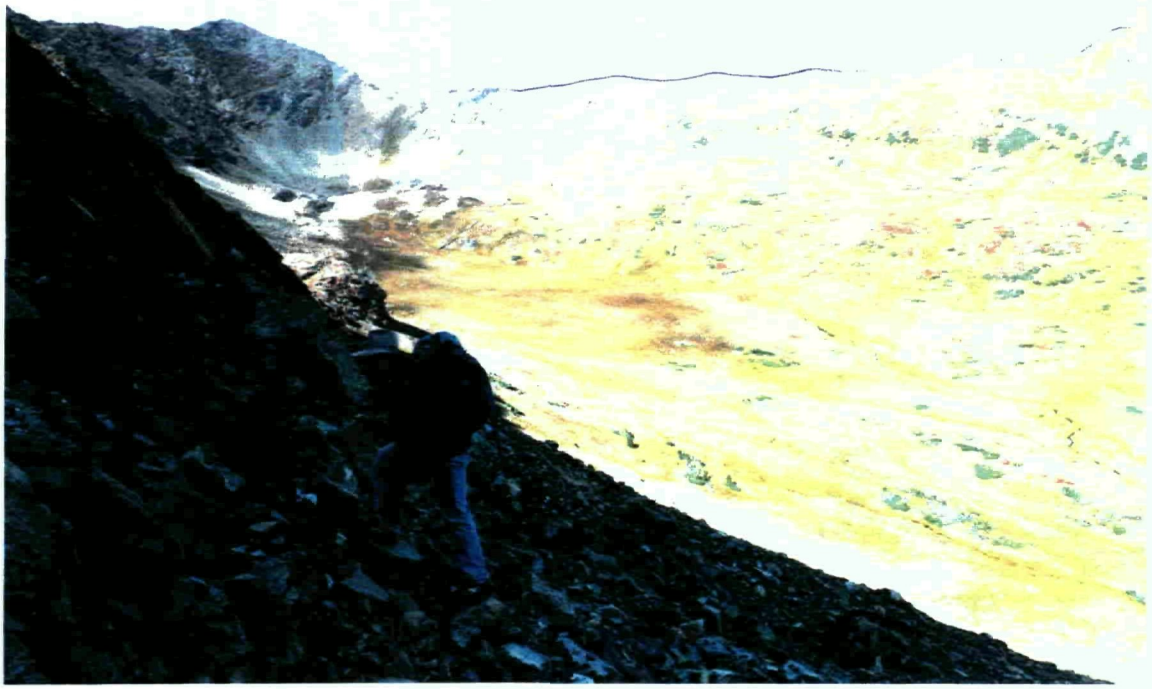


Mapping the Talus Field

APPENDIX B - PHOTOGRAPHS

The route to cliff top is up the ridge line

Reference stakes are visible ahead.

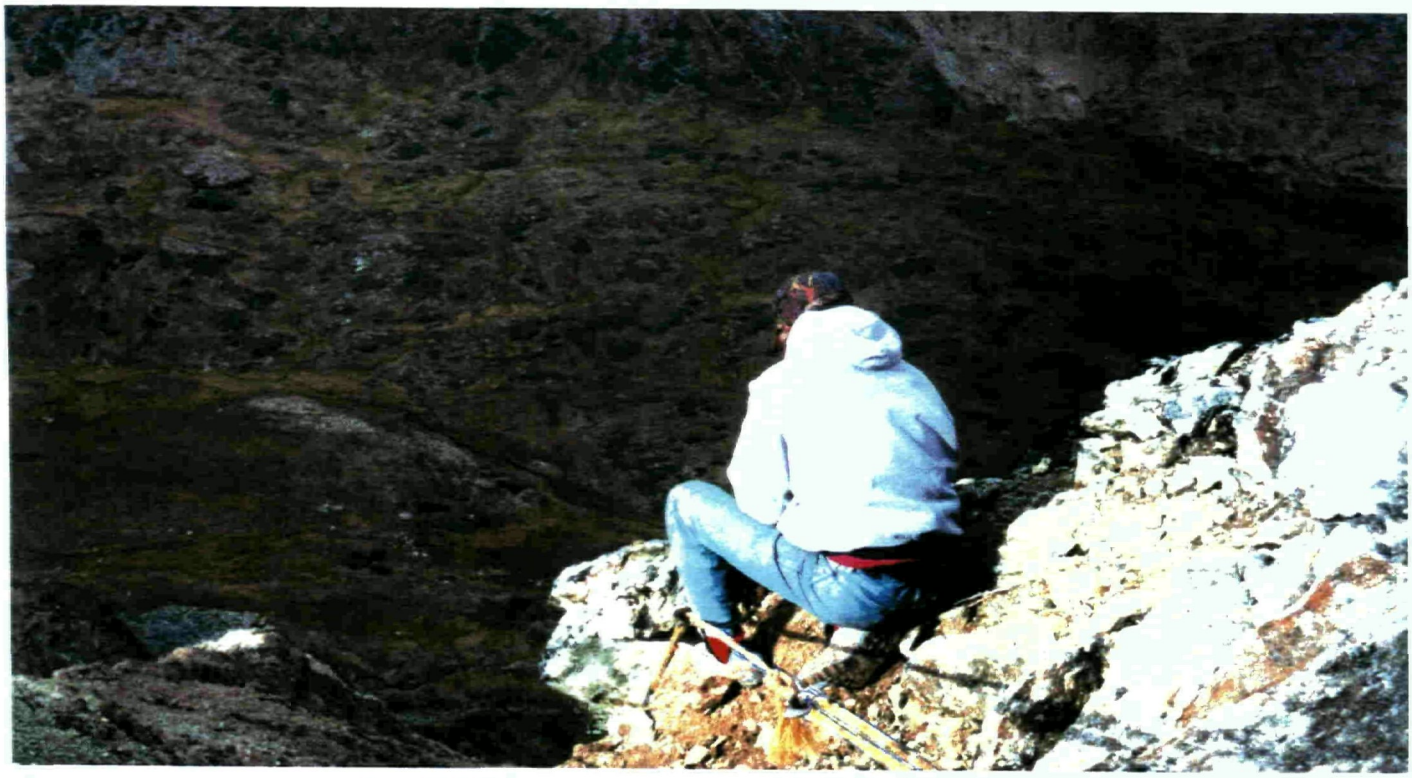


BOULDER TRACEing and Mapping the TALUS FIELD

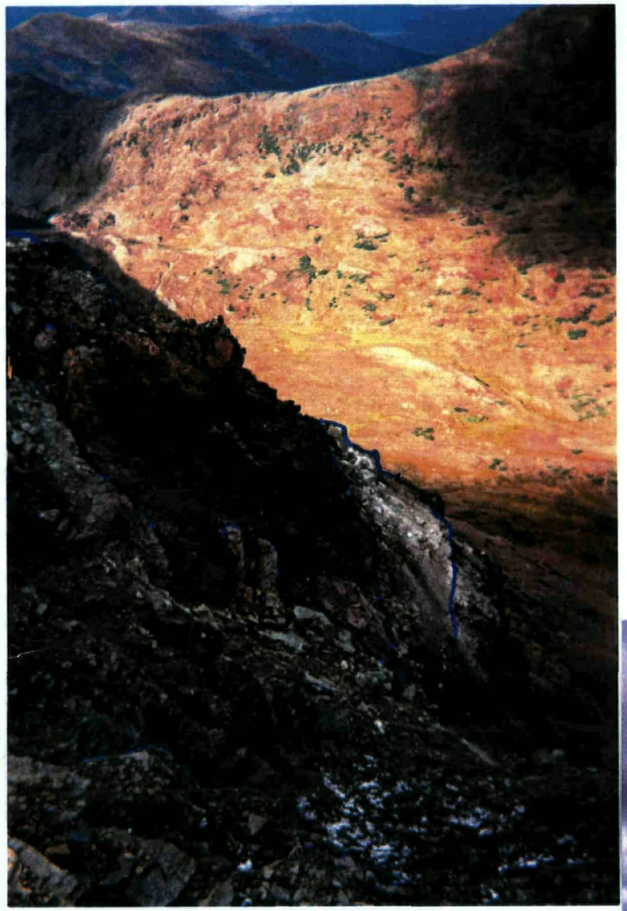
APPENDIX B - PHOTOGRAPHS

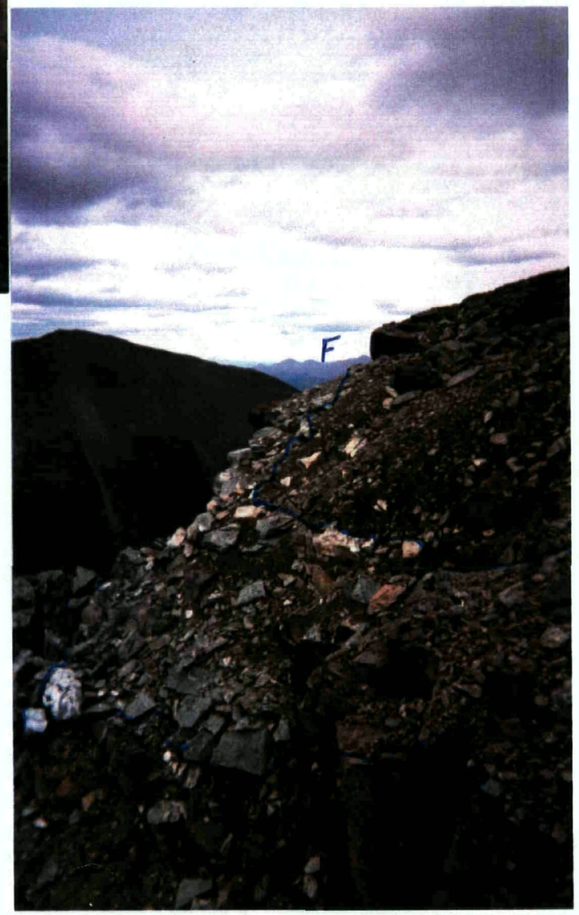
Example of raw nephrite boulder in the TALUS FIELD (1400 lbs. est.)

SAMPLING the NEPHRITE SEAM along cliff edge



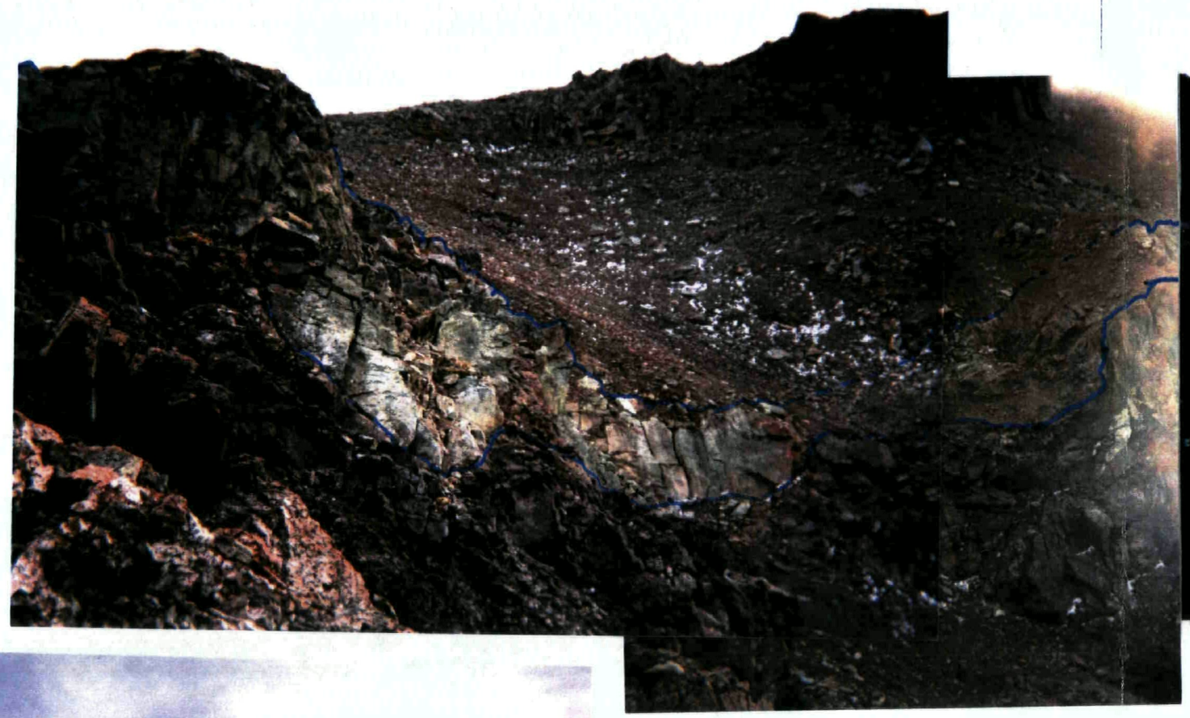
APPENDIX B - PHOTOGRAPHS

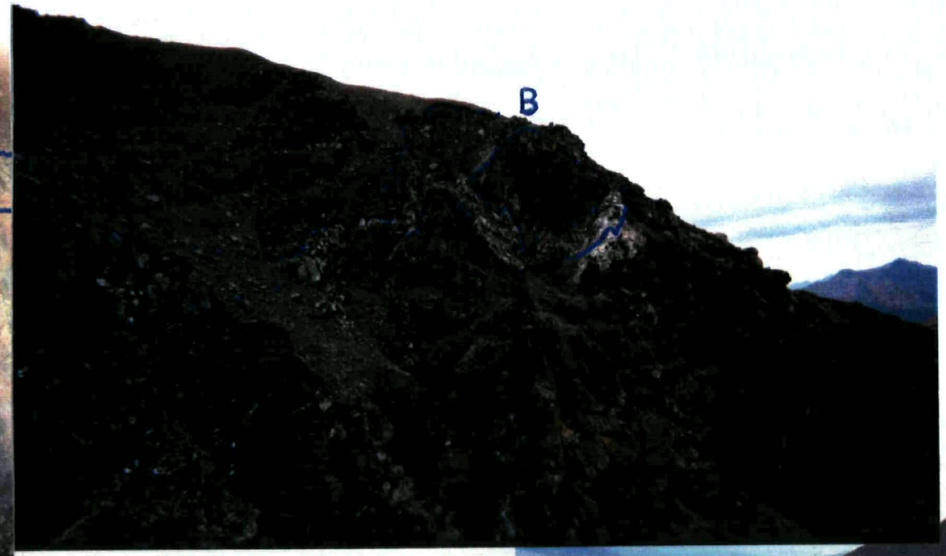


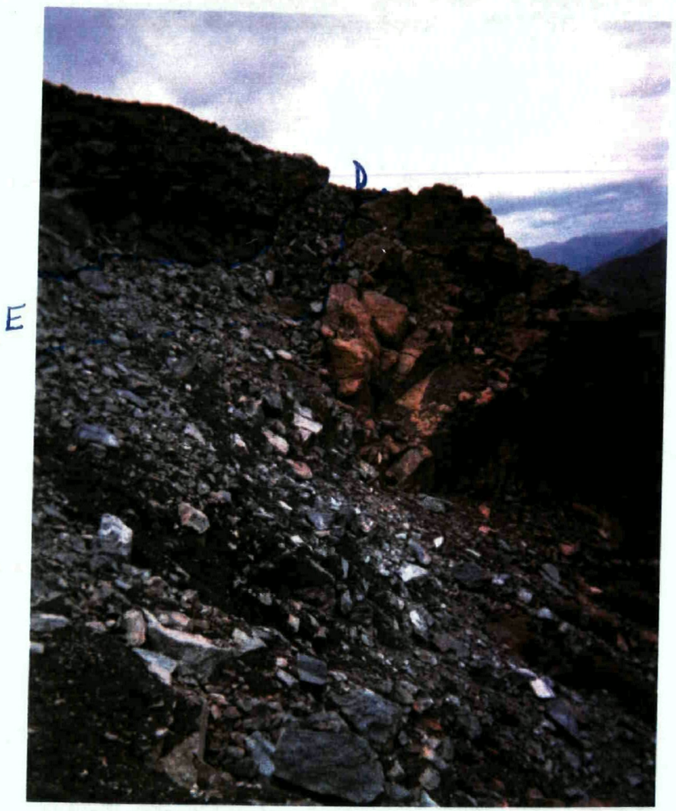


JADE SEAM DETAILS
WEST (A) to EAST (F)

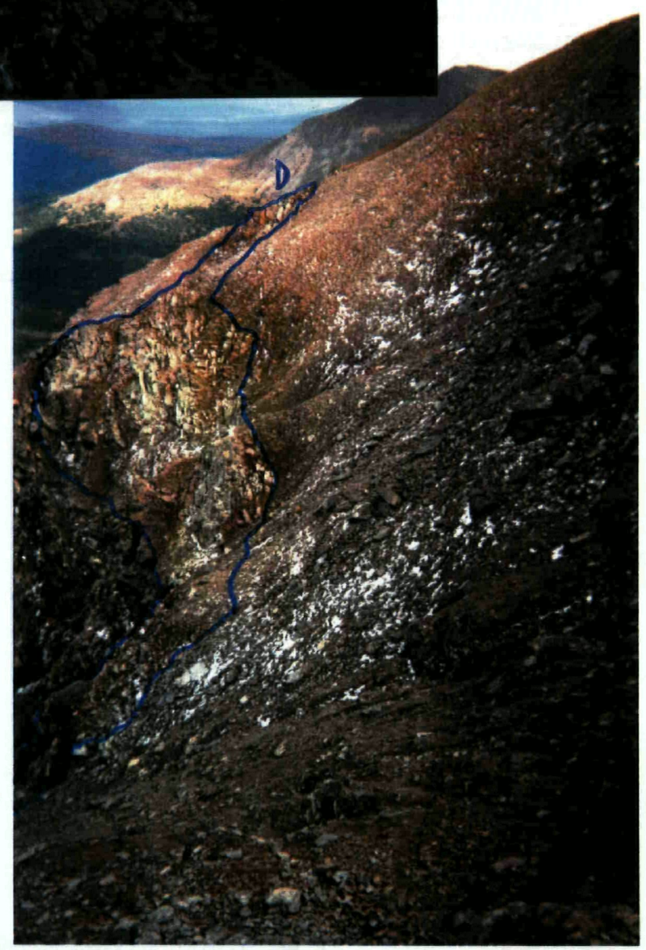
APPENDIX B - PHOTOGRAPHS



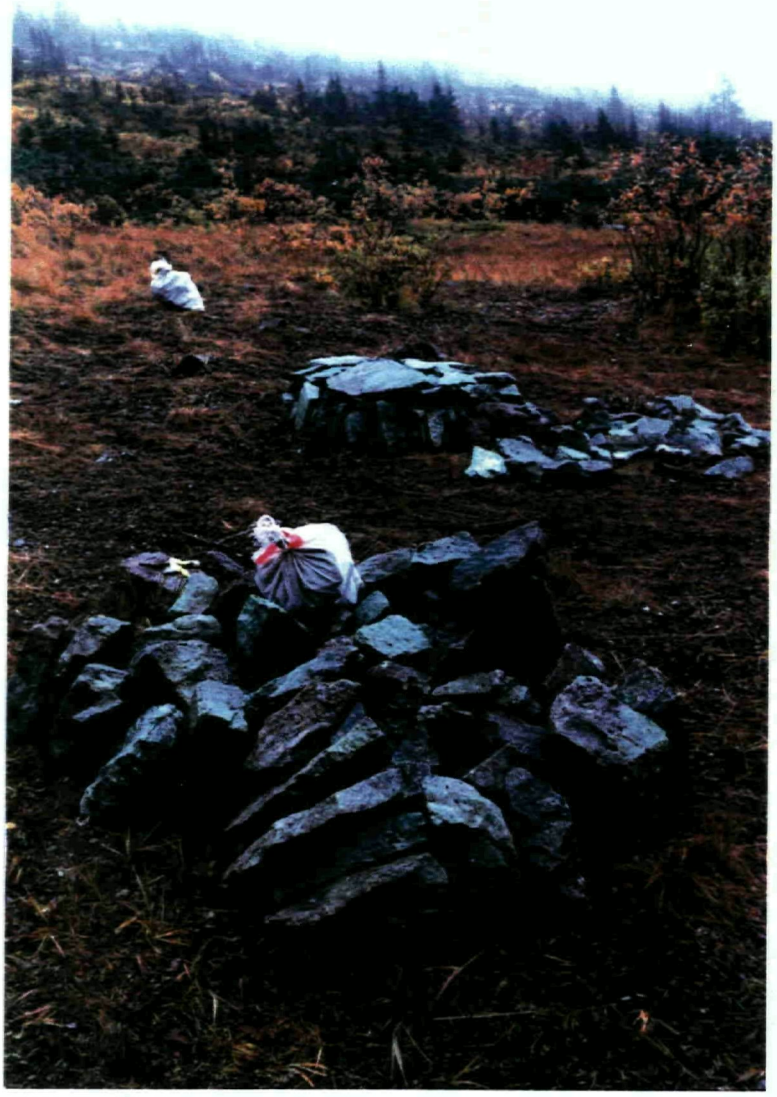




JADE SEAM DETAILS
- RUNS WEST (A) to EAST (E)



APPENDIX B - PHOTOGRAPHS



Rock (NEPHRITE)
SAMPLES

- Small

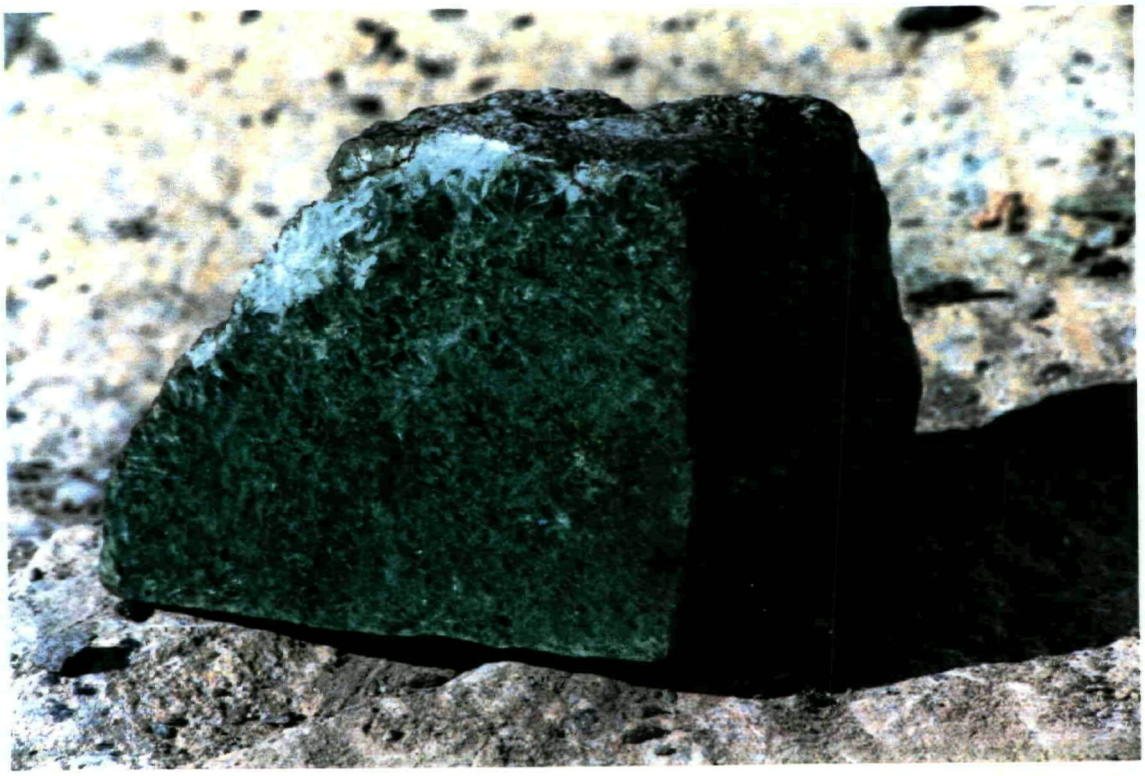
- LARGE (below arm)

APPENDIX B - PHOTOGRAPHS

Most samples had consistent color and polished easily

CRYSTAL JADE
- visible crystals on the polished face

APPENDIX B - PHOTOGRAPHS



Many blocks have a rectangular break pattern

CRYSTAL JADE
- Color and texture Variation

INDIAN AND NORTHERN AFFAIRS CANADA
NORTHERN AFFAIRS YUKON REGION

APPENDIX C

Open File 1993-4 (T)

INDUSTRIAL MINERALS AND MINOR METALS AND THEIR POTENTIAL FOR DEVELOPMENT IN THE YUKON

Compiled By

D.A. Downing, Resource Engineering
Revised and Updated from Original Study by A. Woodsend (1988)

DIMENSION STONE

Types include granite limestone travertine marble serpentine sandstone dolerite and soapstone The term granite in this context can include syenite monzonite diorite and granitic gneisses

The important characteristics of a deposit are the ease of quarrying the stone s strength colour hardness workability texture porosity and durability Some lines of weakness such as well spaced bedding or joint ing planes are necessary to assist in quarrying but deep and irregular weathering is undesirable

Some rocks that combine several of the required attributes have gained world wide reputations Examples are Carrara marble Mexican onyx marble Italian travertine Scottish granite Virginia soapstone Bedford limestone Ohio sandstone and Vermont marble

Although dimension stone is under increasing pressure from other products such as steel concrete glass and ceramics demand for marble limestone sandstone and slate has grown in recent years The greatest growth markets are in residential and interior decorative uses In the US the end uses of dimension stone are building stone 42% monuments 27% rubble 13% flagging 4% and curbing 4% The US imports US$302 million annually largely from Italy

Western Canadian stones that have been quarried for building materials include Manitoba s Tyndall Stone which is a mottled dolomitic limestone mined at Garson a red granite from Lac du Bonnet northeast of Winnipeg a grey granodiorite from Nelson Island British Columbia an andesite from Haddington Island British Columbia a pink quartzite from Babette Lake British Columbia and a sandstone known as Rundal Stone from near Banff Alberta

A more complete description of British Columbia s dimension stone types can be found in British Columbia Dimension Stone by G V White and Z D Hora British Columbia Ministry of Energy Mines and Petroleum Resources Minerals Resource Division Information Circular 1988 6

YUKON POSSIBILITIES

There are numerous intrusives in the Yukon that could be used for dimension stone An inventory of those that occur near roads in the south western part of the Territory and the collection of a suite of samples for cutting and polishing would be the first steps necessary to identify Yukon dimension stone resources

SidRock a local stone operation opened in 1991 It produces several rock products including dimension stone and various crushed and paving stone products