

ARIS SUMMARY SHEET

District Geologist, Prince George

Off Confidential: 91.10.25

ASSESSMENT REPORT 20494

MINING DIVISION: Omineca

PROPERTY: Aramis Lakes

LOCATION: LAT 57 44 00 LONG 125 20 00

UTM 10 6393784 360810

NTS 094F10E 094F11W

CLAIM(S): CU 8090, CU 7890, CU 5296, CV 6000, CU 5298, CV 6200

OPERATOR(S): Ecstall Min.

AUTHOR(S): Dudka, S.

REPORT YEAR: 1990, 46 Pages

COMMODITIES

SEARCHED FOR: Lead, Zinc, Barium/Barite

KEYWORDS: Cambrian, Devonian, Gunsteel Formation, Shales, Argillites
Road River Formation, Barite

WORK

DONE: Geochemical

SILT 150 sample(s) ;PB,ZN

SOIL 150 sample(s) ;PB,ZN

MINFILE: 094F 020

LOG NO: 11-22	RD.
ACTION:	
FILE NO:	

SUMMARY REPORT ON THE
1990 GEOCHEMICAL PROGRAMME
ON THE KWADACHA RECREATION AREA CLAIMS:
CU5296, CU5298, CV6000, CV6200,
CU7890, AND CU8090
IN THE OMINECA MINING DIVISION

SUB-RECORDER
RECEIVED
NOV 16 1990
M.R. # \$
VANCOUVER, B.C.

N.T.S. 94F/10 and 94F/11

LATITUDE: ~~57° 37' TO 57° 45'~~ 51° 44' 00
LONGITUDE: ~~124° 58' TO 125° 30'~~ 125° 20' 00

FOR:

ECSTALL MINING CORPORATION
#307 - 475 Howe Street
Vancouver, B.C. V6C 2B3

GEOLOGICAL BRANCH
ASSESSMENT REPORT

NOVEMBER, 1990

STEVEN F. DUDKA, B.Sc.

20,494

SUMMARY

The Kwadacha claims are located within the Kwadacha Recreation Area in the Omineca Mining Division of British Columbia. The claims consist of 6 one post claims, CU5296, CU5298, CV6000, CV6200, CU7890 and CU8090, each consisting of 16 units for a total of 96 units. The claims are 100% owned by Ecstall Mining Corporation. The claims are within 22 km of Triumph Resources' Mt. Alcock property and within 20 km of Curragh Resources' Cirque deposit.

The Geological Survey of Canada reports that claims CV6000 and CV6200 (Aramis Lakes claim group) are underlain by upper Triassic calcareous siltstones and silty limestones. Claim CV 6000 is also partially underlain by rocks of the Gunsteel Formation. Claims CU5296 and CU5298 (Warneford River claim group) are underlain, where exposed, by the Road River Formation (shales, siltstones, sandstones and calcareous shales), and partially by rocks of the Gunsteel Formation. Claims CU7890 and CU8090 (George's Peak claim group) are underlain by upper Devonian and Lower Mississippian (Gunsteel Formation) rocks, lower Mississippian limestone, and rocks of the Road River Formation. Claim CU8090 is also host to the Kwadacha barite deposit.

A geochemical survey, consisting of 200 soil and silt samples, carried out on the claims revealed several areas anomalous in Pb and/or Zn. Most notable is the area of the George's Peak claim group and the Kwadacha barite deposit, where values of up to 309 ppm Pb and 4325 ppm Zn were obtained.

It is recommended that a follow up program be carried out to further investigate the anomalies found. Total cost of this program will be \$47,000. The total expended during the 1990 programme was \$19,585.00.

C: 30223

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INTRODUCTION

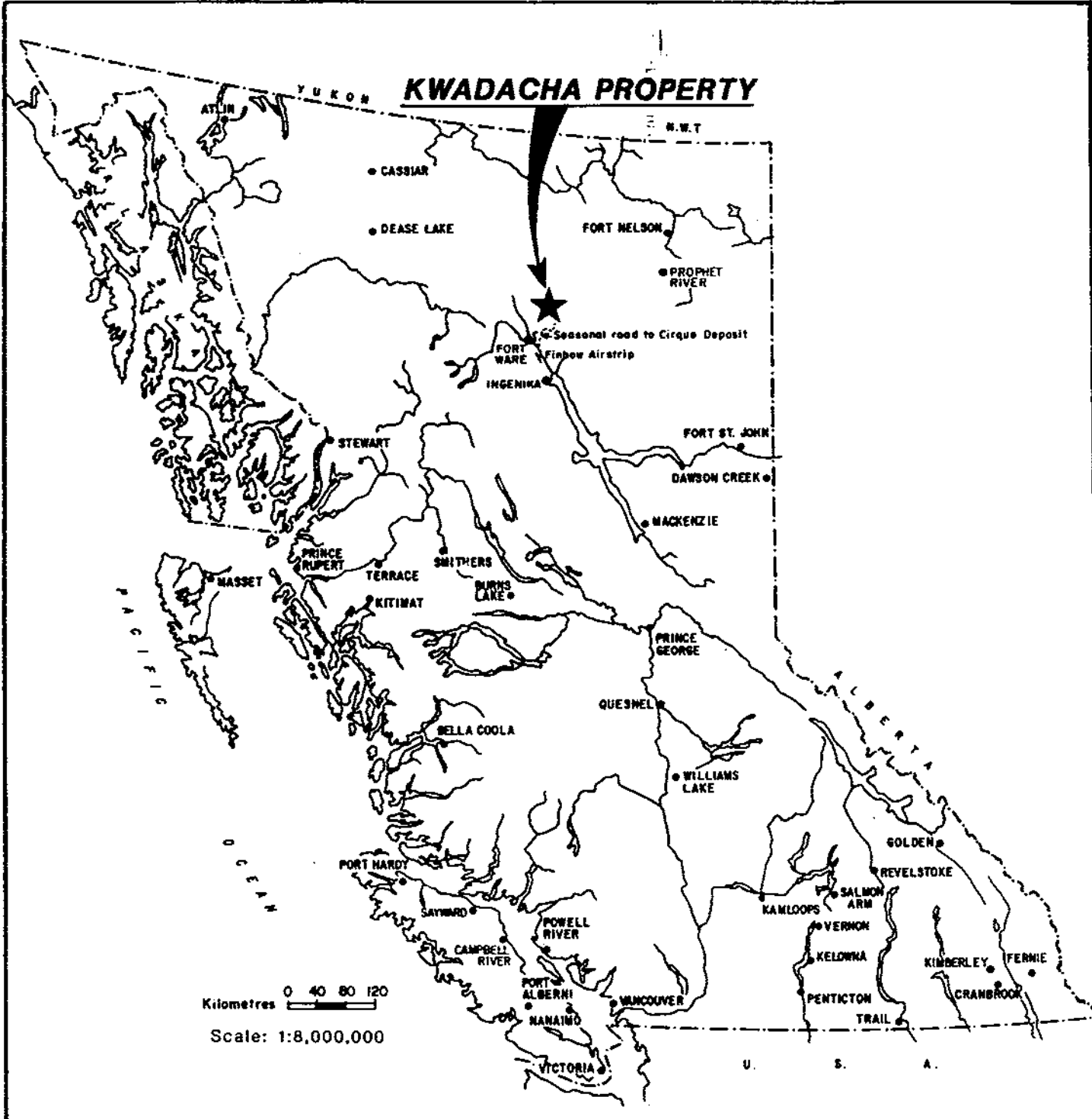
The Kwadacha claims are in the Omineca Mining Division, between longitude 124°58' and 125°30' and latitude 57°37' and 57°45' in the Kwadacha Recreation Area on N.T.S. Mapsheets 94F/10 and 94F/11. The claims consist of 6 one post claims, CU5296, CU5298 (Warneford River Group), CV6000, CV6200 (Aramis Lake Group), CU7890, and CU8090 (George's Peak Group), each consisting of 16 units for a total of 96 units. The claims are held 100% by Ecstall Mining Corporation.

Ground work carried out by the crew in 1990 consisted mainly of reconnaissance silt and soil sampling on the claims and in drainages immediately surrounding them. A total of 200 samples were taken. Samples were analysed for Pb and Zn, returning values of up to 309 ppm Pb and 4325 ppm Zn.

Based upon the results it is recommended that a follow up program be carried out. This should consist of further geochemical surveying, claim staking, mapping, and blast trenching over anomalous areas. The program would cost a total of \$47,000.

LOCATION AND ACCESS

The Kwadacha claims are located within the Kwadacha Recreation area, within 22 km of Triumph Resources' Mt. Alcock property and within 20 km of Curragh Resources' Cirque deposit. The claims are situated between longitude 124°58' and 125°30' and latitude 57°37' and 57°45' on N.T.S. mapsheets 94F/10 and 94F/11 in the Omineca Mining Division (see Figure 1). Access to the claims can be gained by helicopter from either Prophet River, at mile 233 on the Alaska Highway, from the Finbow Airstrip, or via a seasonal road from the airstrip to nearby Curragh's Cirque Deposit, 20 km to the south-west. Alternatively, float planes can land at several lakes in the near vicinity of the claims and fly camps can be established from these.



ECSTALL MINING CORPORATION

KWADACHA CLAIMS

OMINECA MINING DIVISION, B. C.

LOCATION MAP

NICHOLSON & ASSOCIATES

Drawn: Geodrafting	Date: Aug., 1990	FIGURE 1
Scale: 1:8,000,000	NTS. 94F11	

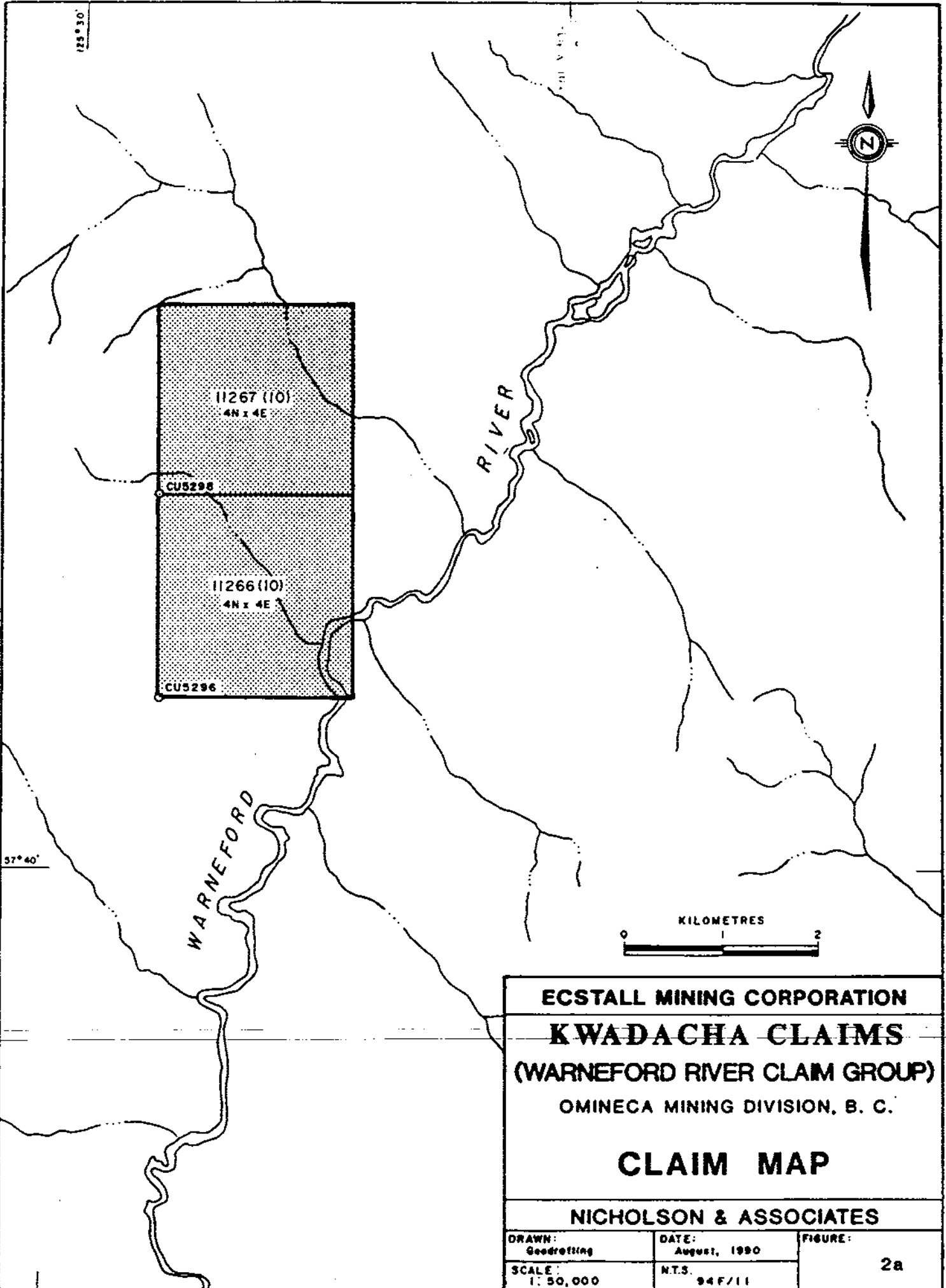
CLAIM STATUS

The initial Kwadacha claims, CU5296, CU5298, CV6000, CV6200 and CU8090, were staked in October 1989 for Ecstall Mining Corp. These one post claims were staked in accordance with the new modified grid system and in accordance to the regulations for claims in recreation areas. One further claim, CU7890, was added in July, 1990 and later transferred to Ecstall Mining Corp. (see Figures 2a, 2b, 2c).

<u>Claim</u>	<u>Record #</u>	<u>M.D.</u>	<u>Expiry Date*</u>
CU5296	11266	Omineca	Oct. 31, 1992
CU5298	11267	Omineca	Oct. 31, 1992
CV6000	11264	Omineca	Oct. 31, 1992
CV6200	11265	Omineca	Oct. 31, 1992
CU8090	11268	Omineca	Oct. 31, 1992
CU7890	12292	Omineca	July 27, 1992

*After filing the 1990 work for assessment purposes.

125° 52'

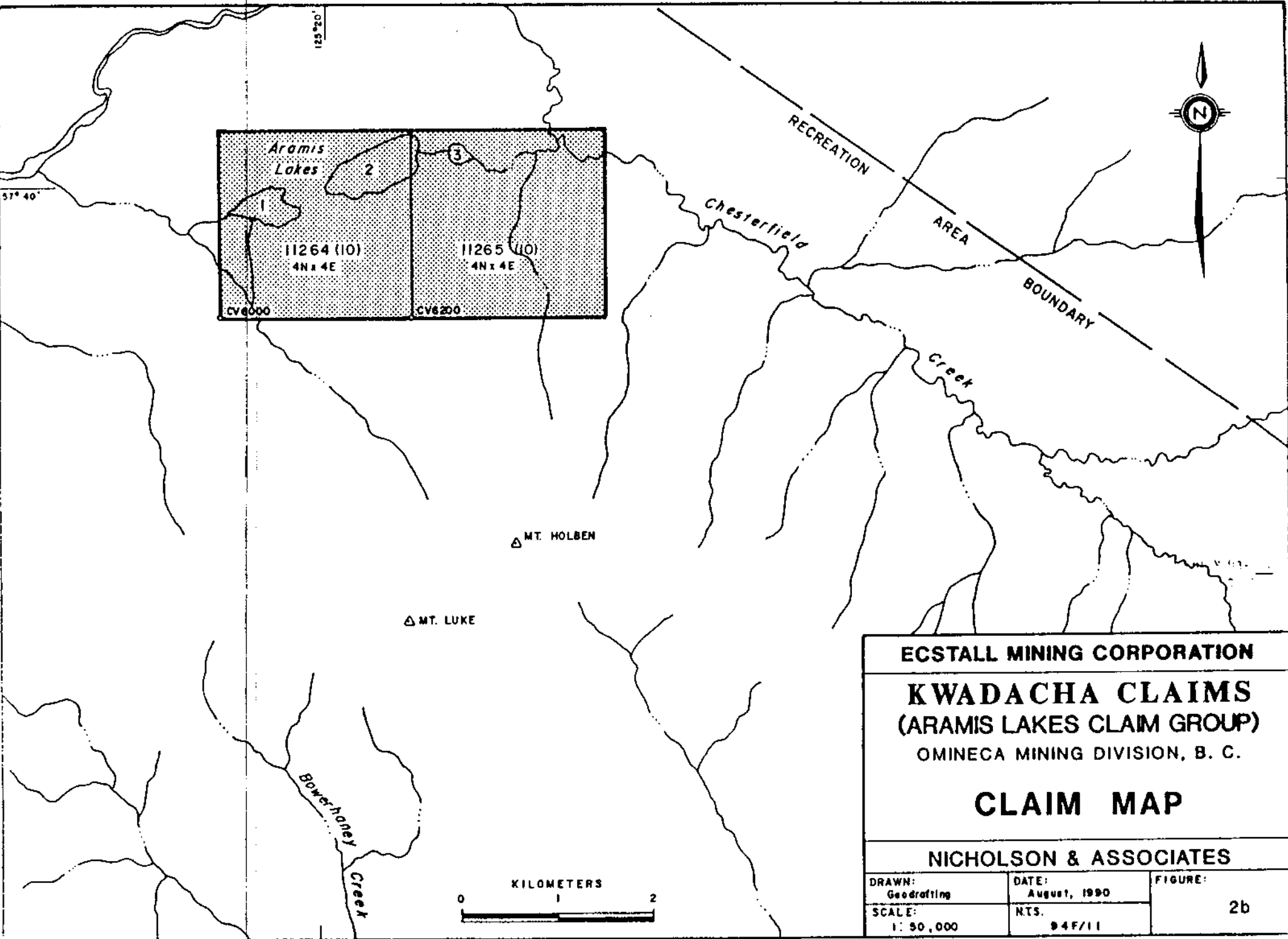


ECSTALL MINING CORPORATION
KWADACHA CLAIMS
(WARNEFORD RIVER CLAIM GROUP)
 OMINECA MINING DIVISION, B. C.

CLAIM MAP

NICHOLSON & ASSOCIATES

DRAWN: Goodfellow	DATE: August, 1990	FIGURE: 2a
SCALE: 1: 50,000	N.T.S. 94 F/11	



Aramis Lakes

1 2 3

11264 (10)
4N x 4E
CV6000

11265 (10)
4N x 4E
CV6200

ECSTALL MINING CORPORATION

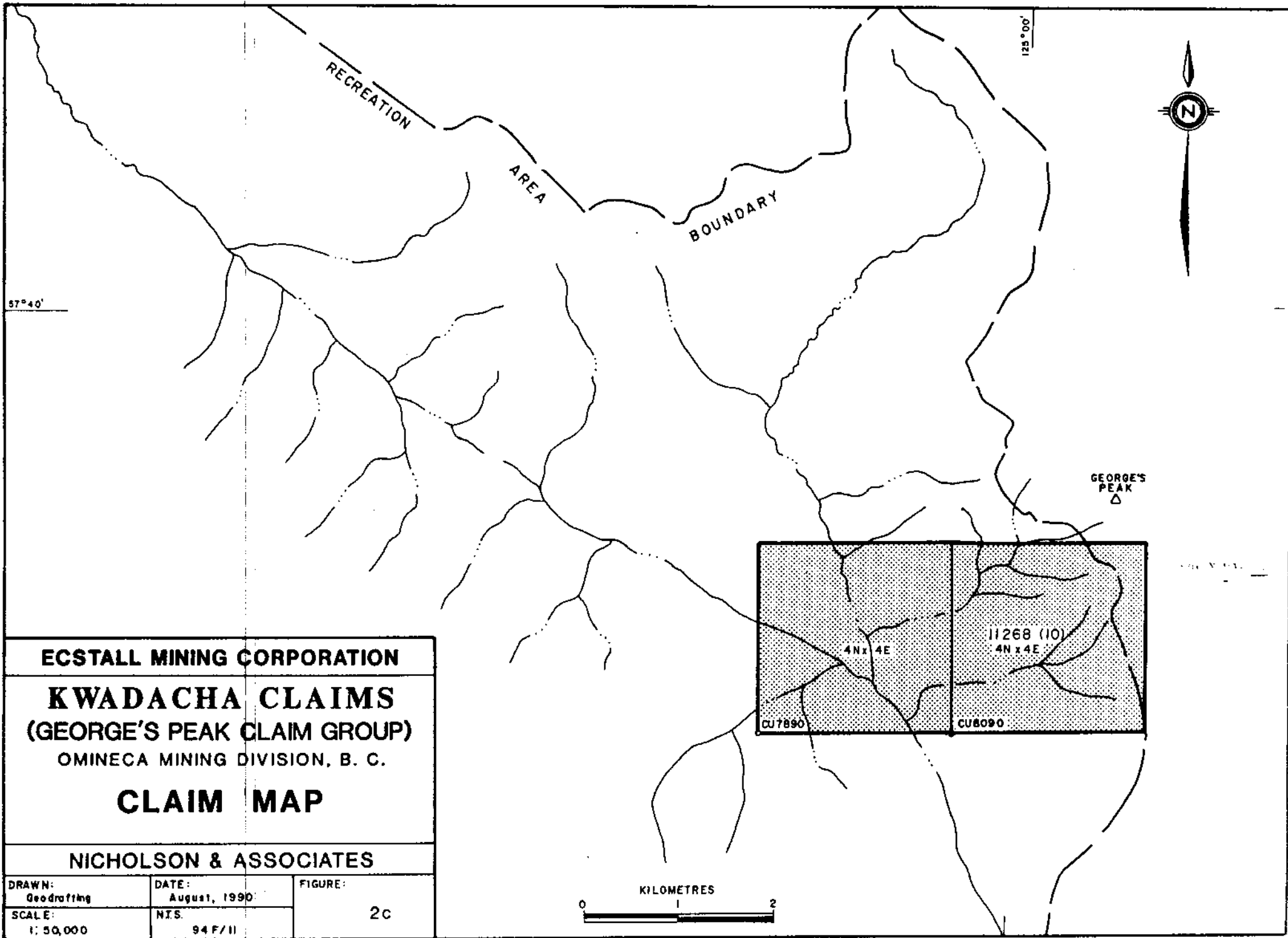
**KWADACHA CLAIMS
(ARAMIS LAKES CLAIM GROUP)**

OMINECA MINING DIVISION, B. C.

CLAIM MAP

NICHOLSON & ASSOCIATES

DRAWN: Geodrafting	DATE: August, 1990	FIGURE: 2b
SCALE: 1: 90,000	NTS. 94F/11	



PHYSIOGRAPHY AND CLIMATE

The Kwadacha claims are located in the Muskwa Ranges within the Rocky Mountains, approximately 30 km east of the Rocky Mountain trench. Elevations on the claims vary from 820 m (2690 ft.) in the river valley of the Warneford River Claim Group to 2,140 m (7021 ft.) on ridges and peaks of the George's Peak Claim Group. Valley walls are very steep and hazardous to traverse. Valley bottoms, as well as the lower slopes of valley walls, are generally covered by a blanket of unconsolidated glacial, alluvial and colluvial sediments ranging from a few centimetres to several metres in thickness.

Water is plentiful, in the form of snowmelt and ground water seepage. The claims are largely covered with tall spruce, abundant deadfall and frequently thick underbrush especially in valley bottoms. Large areas have been burned in recent forest fires. Roughly half of claim CU8090 of the George's Peak Group is covered in alpine meadow.

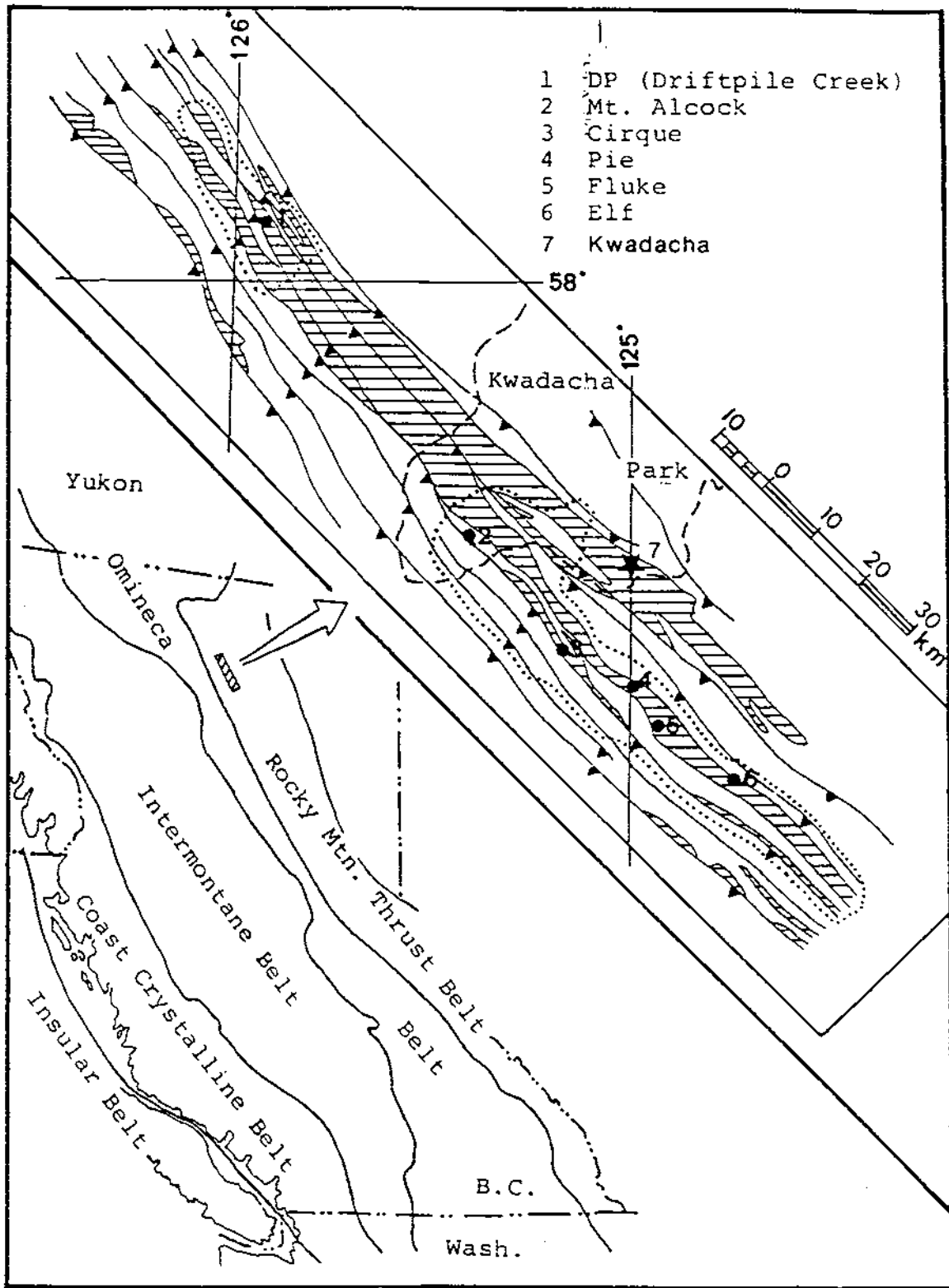
A continental climate prevails in the region, characterized by cold winters and short, warm summers. Snowfall accumulations are moderate to heavy, up to several metres, and the area experiences the occasional winter Chinook. The property is readily workable from early June to mid October.

REGIONAL GEOLOGY

The Kwadacha property is located within the Rocky Mountain (Foreland) thrust and foldbelt of the Columbian Orogen, about 38km east of the Northern Rocky Mountain trench. Rocks in this area are Cambrian to late Devonian clastic and carbonate rocks (MacIntyre, 1981), part of the north-west-trending Kechika Trough, which may represent a south-easterly extension of the Selwyn Basin. The trough is truncated to the west by transcurrent faults of the Rocky Mountain Trench system, and bounded to the east by platform carbonates and uplifted Proterozoic rocks forming the Muskwa anticlinorium (Taylor, et al., 1979).

The rocks have been folded into a series of northwest-trending asymmetric, overturned antiforms and synforms that have both southwest and northeast-dipping axial surfaces. The latter are somewhat enigmatic in that structural transport is generally to the northeast with most of the thrust movement occurring along the southwest-dipping axial surfaces of major fold structures. The various formations of the area are arranged in a series of narrow discontinuous belts bounded by northwest-trending thrust faults (see Figure 3).

Significant bedded barite mineral occurrences in the area occur within the siliceous argillite and shale of the Devonian Gunsteel Formation. Seven major shale-hosted bedded barite occurrences are known and all those except the Kwadacha barite deposit are known to have associated laminar banded pyrite-zinc mineralization. These are the Driftpile Creek, Mount Alcock, Cirque, Pie, Fluke, Elf (MacIntyre and Diakow, 1981) deposits. Numerous other occurrences of stratiform blebby or nodular barite are known in the Gunsteel shale. It has been suggested that the barite-bearing horizons are present on a regional scale and locally thicken to form significant deposits of potential economic value.



- 1 DP (Driftpile Creek)
- 2 Mt. Alcock
- 3 Cirque
- 4 Pie
- 5 Fluke
- 6 Elf
- 7 Kwadacha

Inset shows limit of mapping (dotted line), major thrust faults, distribution of Devonian black clastics (lined), and location of major shale-hosted Ba-Pb-Zn occurrences.

ECSTALL MINING CORPORATION		
KWADACHA CLAIMS		
OMINECA MINING DIVISION, B. C.		
REGIONAL GEOLOGY		
NICHOLSON & ASSOCIATES		
DRAWN: Geodrafting	DATE: August, 1990	FIGURE: 3
SCALE: As Shown	NTS.	

NOTE: Modified from MacIntyre (1980)

PROPERTY GEOLOGY

As reported in the GSC open file #483, the geology of the Aramis Lakes, Warneford River, and George's Peak claim groups are different and will thus be dealt with separately (see Figure 4).

The Aramis Lakes Claim Group is almost exclusively covered in recent glacial and alluvial sediments except for a small section on the southern boundary known to consist of upper Triassic calcareous siltstones and silty limestone (UTR), and some area reportedly underlain by Gunsteel Formation. An area of rusty coloured soil on the extreme SW corner of claim CV6000 was investigated. The rusty colour is due to the presence of suspected iron-rich carbonate, and possible goethite.

The Warneford River Claim Group, in the area previously mapped, consists of the Ordovician, Silurian and Devonian Road River Formation. The Road River Formation consists of black graptolitic shales, mainly Ordovician in age; platy tan coloured siltstone, mainly Silurian in age; and sandstone and calcareous shale. The remainder of the claim area is covered by loose glacial and alluvial sediments.

The George's Peak Claim Group consists of upper Devonian and lower Mississippian rocks: argillite, slate, shale (Gunsteel Formation) which is locally carbonaceous and pyritic; chert arenite and pebble conglomerate, polymictic conglomerate; and Lower Mississippian limestone. Also, on claim CU8090, rocks of the Road River Formation are found.

Detailed mapping performed by the B.C.D.M. during the 1981 field season, of the area of claim CU8090 and the region surrounding it, reveals and describes the Kwadacha barite deposit (see Figure 4a for location). Figures 4b and 4c show the geology of the George's Peak Claim Group and the area surrounding it; taken from BCDM Preliminary Map 44

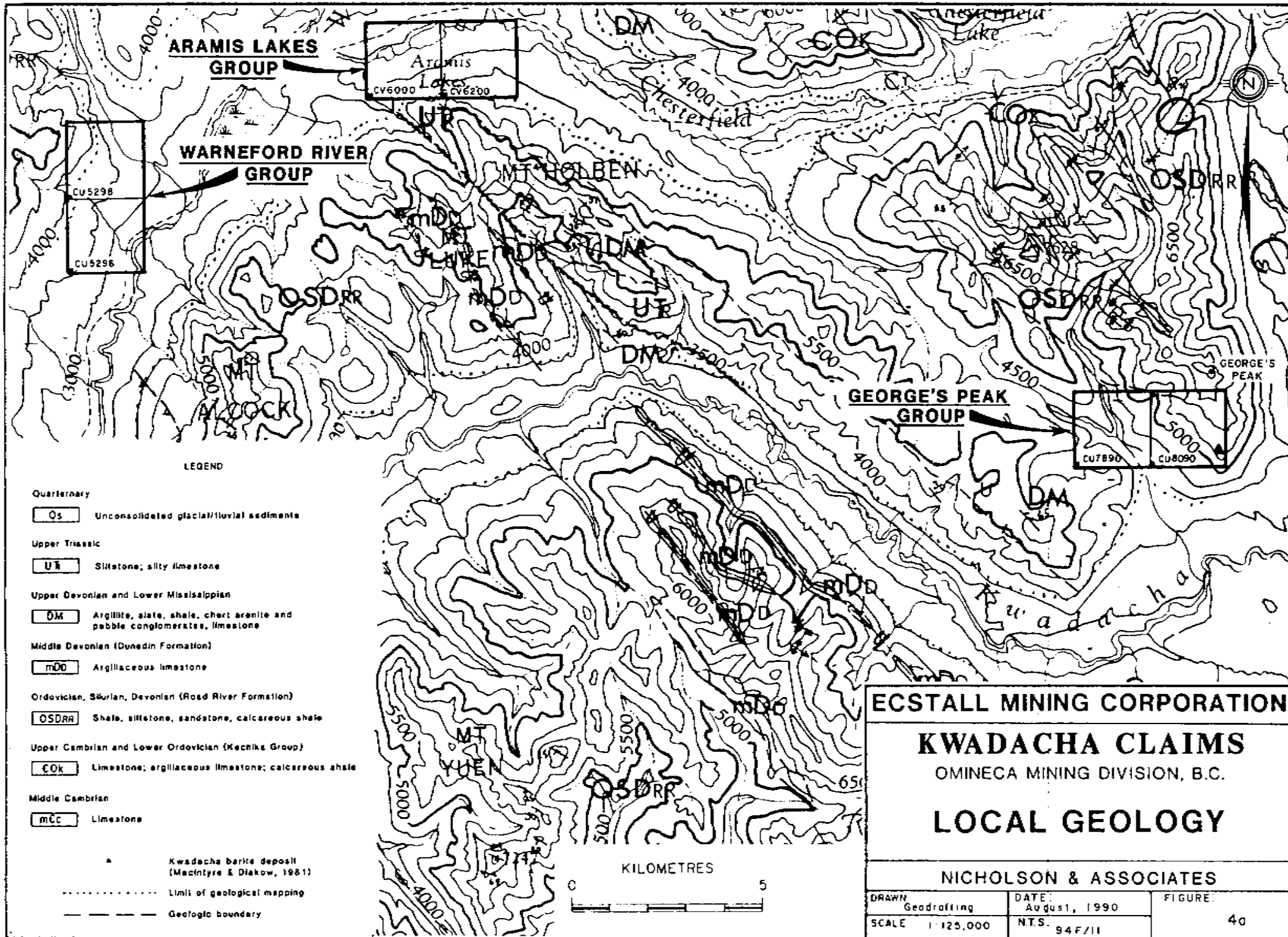
(D. MacIntyre). Relevant information from that report (MacIntyre & Diakow, 1981) is presented below:

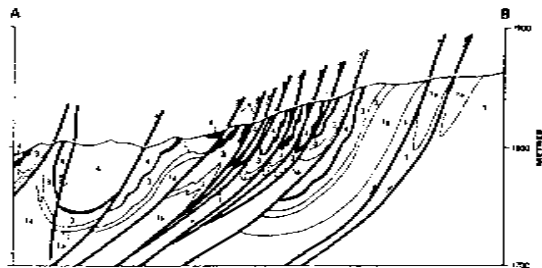
"The stratigraphic setting of the Kwadacha barite deposit is similar to that of other barite-sulphide deposits in the Driftpile Creek-Akie River District (see MacIntyre, 1981). In general, the baritic zone occurs near the top of a resistant unit of rhythmically bedded black chert, siliceous argillite, silty shale and minor limestone. This unit is overlain by black shale and underlain by grey fossiliferous limestones and calcarenites."

"Some of the silica in surrounding silica rich sediments may have been introduced by submarine exhalative activity that preceded and accompanied formation of the Kwadacha barite deposit."

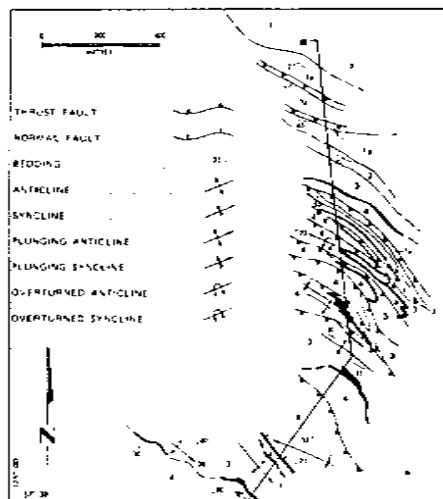
"Bedded barite is repeated by imbricate thrust faults and folding along the crest of a north-trending ridge. The barite is resistant and outcrops in two zones."

Zones of rusty soil are found on the western side of claim 7890 and in the area 5 km NW of the LCP for claim 7890 along the creek valley slope. These are the result of the leaching of iron oxide from boulders at surface and a suspected subcrop rock unit. The unit is initially interpreted to be iron oxide and carbonate cemented colluvium.





Geology of the Kwadacha barite deposit. After MacIntyre and Biscoe (1962).



MIDDLE DEVONIAN - MISSISSIPPIAN

EARLY GROUP

1 BLACK SILTY SHALE MINOR LIMESTONE (CHERT 100%)

MASSIVE LAMINATED BARITE

2 INTERBEDDED BLACK-BANDED CHERT SILICEOUS ARGILLITE AND BLACK CARBONACEOUS SHALE MINOR LIMESTONE (10-20%)

LOWER - MIDDLE DEVONIAN

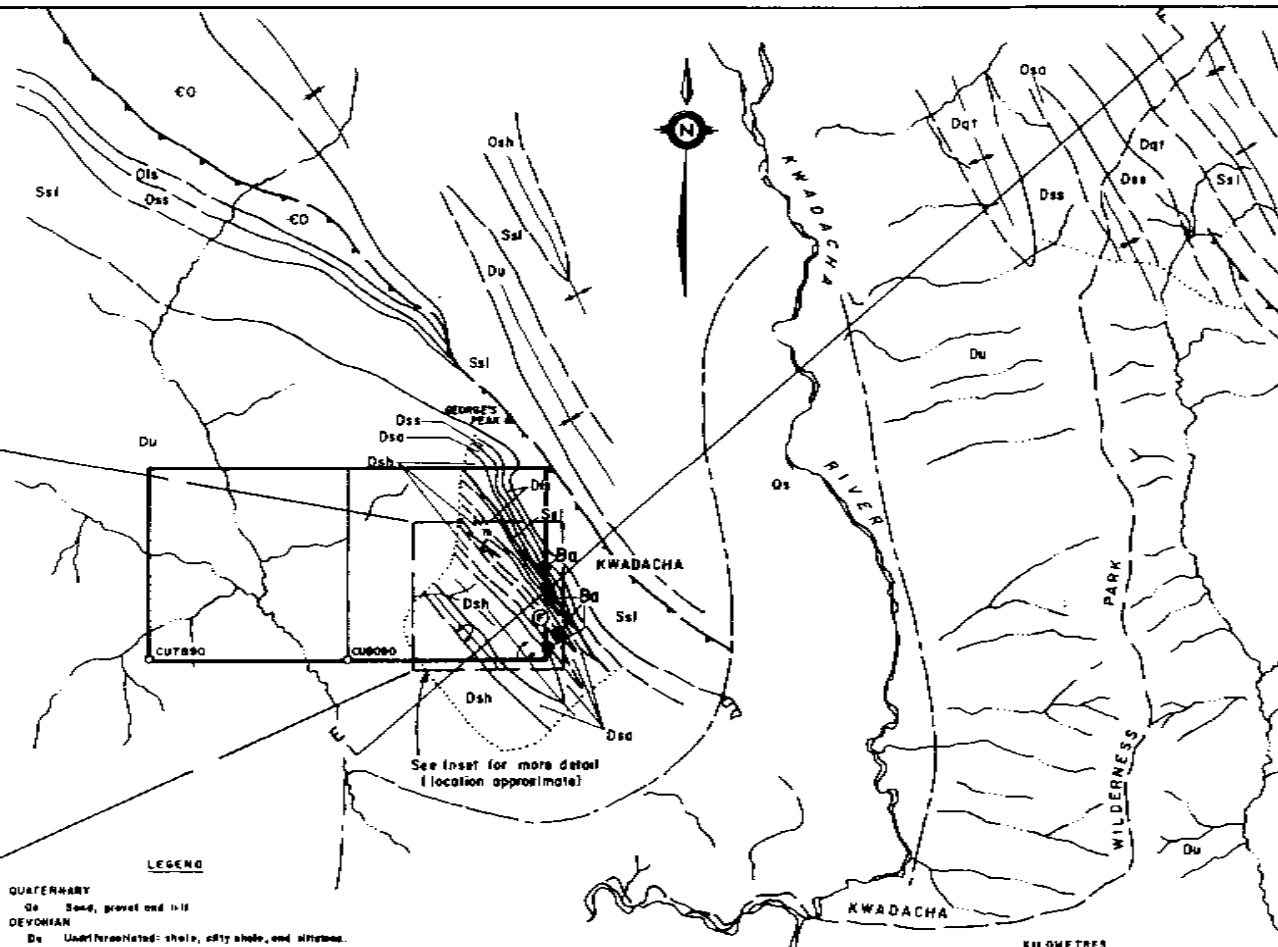
3 THIN BEDDED FINE-TEXTURED LIMESTONE CALCARENITE MINOR SHALE QUARTZ SANDSTONE AND SILTSTONE (1-2%)

SILURIAN - LOWER DEVONIAN

ROAD RIVER GROUP

4 PLATTY BANDED SILTSTONE AND LAMINATED SILTY SHALE MINOR LIMESTONE AND CHERT (50%)

5 MEDIUM TO THICK PLASSER BEDDED LAMINATED SILTSTONE MINOR LIMESTONE (5%)



LEGEND

QUATERNARY

Qs Sand, gravel and till

DEVONIAN

- Ds Undifferentiated: shale, silty shale, and siltstone.
- Dsh Blue-gray weathering black shale locally silty and laminated.
- Dsa Siliceous argillite, banded shaly, siliceous shaly, laminated siliceous silty shale and siltstone.
- Dss Black silty shale turbidites with argillaceous siltstone and calcarenite interbeds.
- Dqt Bedded quartz siltstone, sandstone and pebble conglomerate proximal turbidites.
- Dls Argillaceous limestone.

SILURIAN

Ssl ROAD RIVER FORMATION: Bedded Devonian Siltstone

ORDOVICIAN

- Osh Dark to bluish gray weathering black shale
- Osa Silty shale and argillaceous siltstone with thin sand streaks
- Ois Laminated to crossbedded limestone turbidites

CAMBRIAN/ORDOVICIAN

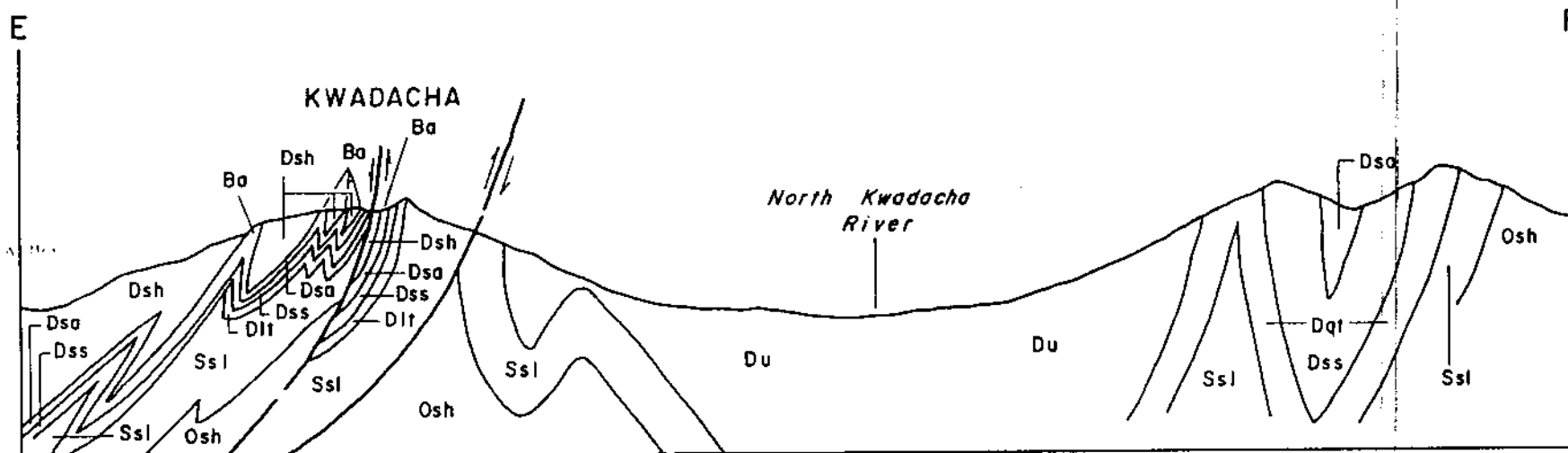
CO BECHINA FORMATION: phyllite mudstone and siltstone

- Bedding: overfanned
- Anticline, Syncline
- Overtorned anticline, Overtorned syncline
- Thrust fault: defined, assumed
- Geological contact: defined, assumed
- Bedded Barite occurrence
- Fossil locality

Modified from: BCOM Preliminary Map 44; Geology by G MacIntyre

See following page for cross section E-F

ECSTALL MINING CORPORATION		
KWADACHA CLAIMS (GEORGE'S PEAK CLAIM GROUP) OMINECA MINING DIVISION, B. C.		
GEOLOGY MAP		
NICHOLSON & ASSOCIATES		
DRAWN: Geodrafting	DATE: August, 1980	FIGURE: 4b
SCALE: 1" = 50,000'	NTS	



DEVONIAN

- Du Undifferentiated: shale, silty shale, and siltstone.
- Dsh Blue-grey weathering black shale locally silty and laminated.
- Dsa Siliceous argillite, banded chert, siliceous shale, laminated siliceous silty shale and siltstone.
- Dss Black silty shale turbidites with argillaceous siltstone and calcarenite interbeds.
- Dqt Bedded quartz siltstone, sandstone and pebble conglomerate proximal turbidites.
- Dlt Bedded limestone turbidites and debris flows.

SILURIAN

- Ssl ROAD RIVER FORMATION: Bedded dolomitic siltstone.

ORDOVICIAN

- Osh Dark to bluish grey weathering black shale.
- Ba Bedded Barite Occurrence.



ECSTALL MINING CORPORATION

KWADACHA CLAIMS
(GEORGE'S PEAK CLAIM GROUP)
OMINECA MINING DIVISION, B. C.

CROSS SECTION
E - F

NICHOLSON & ASSOCIATES

DRAWN:
Geodratling
SCALE:
1: 50,000

DATE:
August, 1990
N.T.S.

FIGURE:
4c

GEOCHEMISTRY

A total of 200 silt and/or soil samples were taken on the Kwadacha claims in July, 1990 by a three man crew of Nicholson and Associates. Each sample was analysed for lead and zinc.

Geochemical surveys were carried out on each of the Warneford River, Aramis Lakes, and George's Peak claim groups and on ground immediately surrounding each. To facilitate presentation, each will be detailed separately. Soil and silt samples were obtained using a mattock to dig through the humus and gravel, as appropriate. Soils from the B horizon and well sorted silts were collected when possible. In several areas, especially surrounding the Aramis Lakes, good silts were difficult to obtain. Many samples in this area contain a high percentage of organics. All samples were placed in numbered kraft bags and shipped to Min-En Laboratories Ltd. in North Vancouver, B.C. for analysis.

The samples were analysed for two elements - Pb, and Zn by inductively coupled plasma analyser (ICP) (see Appendix IV for sample analysis technique). The analyses returned values of up to 309 ppm Pb and 4325 ppm Zn.

A total of 10 silt and soil samples were collected on and in the area surrounding the Warneford River claim group (see Figure 5a). Although results are not exceptionally high in this area several samples returned anomalous values (Pb > 40 ppm, Zn > 500 ppm) that warrant further investigation. The northern sample cluster contains two samples, 90KS-29 and 90KS-30 which returned Zn values of 650 ppm and 570 ppm respectively. More sampling up slope and upstream is necessary to trace the origin of these anomalous zinc values. In the southern sample cluster, anomalous lead values are found. Samples KS-33, -34 and -35

100' 30'



RIVER

11267 (10)

CUS298

11266 (10)

90KS-30/30,570

90KS-29/33,650

90KS-26/19,104

90KS-27/15,68

90KS-28/20,248

90KS-34/51,322

90KS-31/NS

90KS-33/47,800

90KS-32/19,164

CUS296

90KS-35/63,367

57°40'

WARNEFORD

KILOMETRES



ECSTALL MINING CORPORATION		
KWADACHA CLAIMS		
(WARNEFORD RIVER CLAIM GROUP)		
OMINECA MINING DIVISION, B. C.		
GEOCHEMISTRY		
Pb and Zn		
NICHOLSON & ASSOCIATES		
DRAWN: Goodretting	DATE: August, 1990	FIGURE: 5a
SCALE: 1: 50,000	N.T.S. 94 F/11	

LEGEND



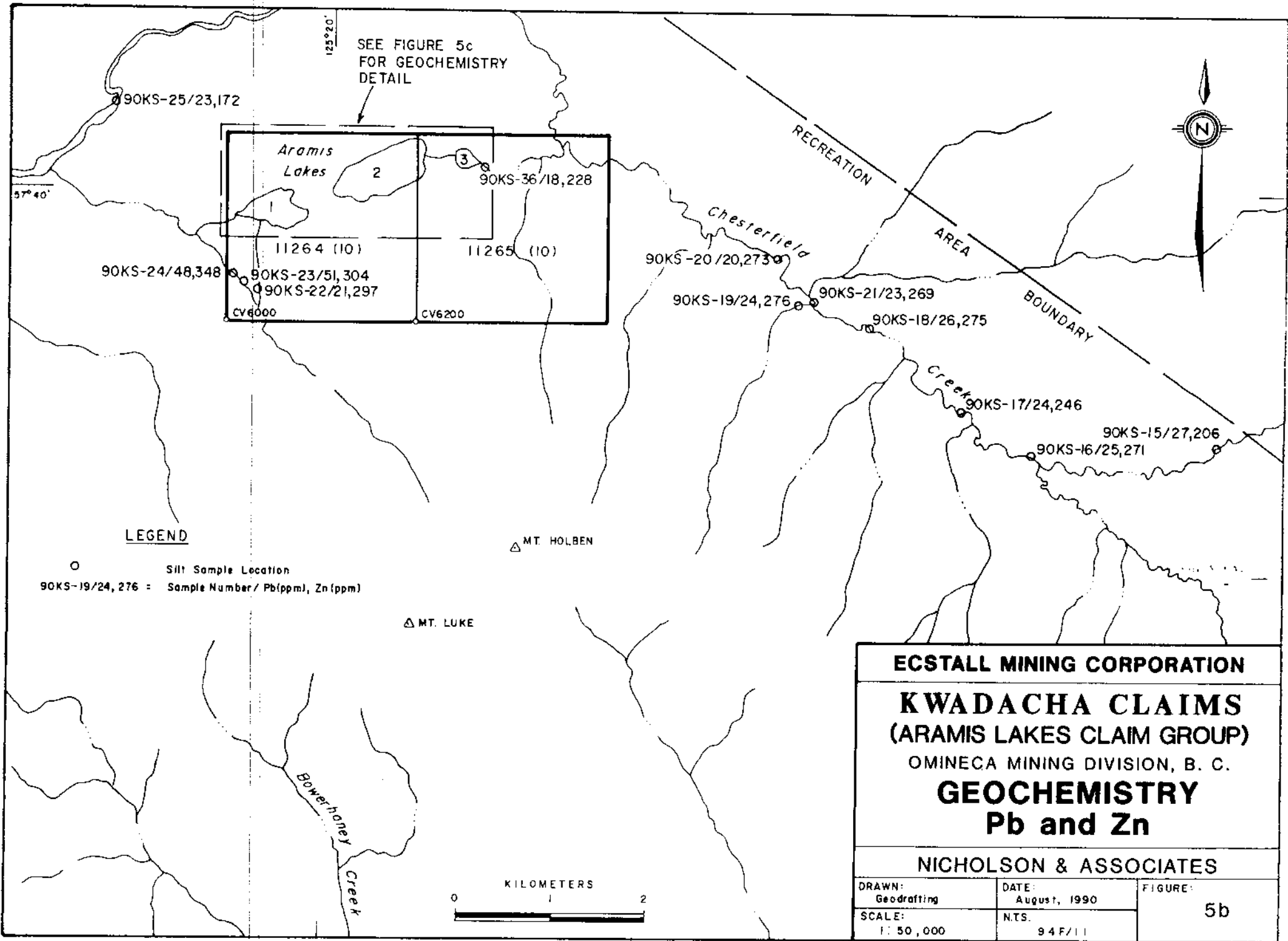
Silt Sample Location

90KS-30/30,570: Sample Number / Pb(ppm), Zn (ppm)

returned analyses of 47 ppm, 51 ppm, and 63 ppm respectively. Up slope investigation in this area may prove beneficial.

On and around the Aramis Lakes claim group, 120 silt and soil samples were collected (see Figures 5b, 5c). Results in the area were inconsistent, possibly due to the high organic content. Regional background values are consistent with the rest of the study area. Scattered values which can be considered anomalous (Pb > 40 ppm, Zn > 400 ppm) are found around Aramis Lake "1" and Aramis Lake "2". Anomalous results appear to be originating from both the northern and southern slopes of the depression containing the lakes. These might be further investigated by taking contour soil samples along both slopes bordering the lakes. Along the north slope bordering the tri-lake chain 12 samples had anomalous concentrations of Pb, ranging from 41 ppm to 85 ppm. Sample D90-A1-20 was the only sample on the north slope to reveal an anomalous value of Zn (440 ppm). Samples taken on the southern slope of the lakes returned 8 anomalous values of Pb, ranging 40 ppm to 67 ppm. Further investigation of both the north and south slopes is warranted. One or two short contour soil sample lines on both slopes, traversing parallel to the anomalous areas of the lakes would suffice.

From the George's Peak claim group and surrounding ground, 70 silt and soil samples were collected (see Figure 5d and 5e). Of the three areas investigated and discussed in this report, the area included within and surrounding the George's Peak Claim group demonstrates the highest potential for economic mineralization. Considering samples with Pb > 40 ppm and/or Zn > 500 ppm as being anomalous, 47 out of 70 samples are anomalous in Pb, Zn or both. Silt samples taken from creeks to the north-west of the claims are highly anomalous in Zn with 4 samples



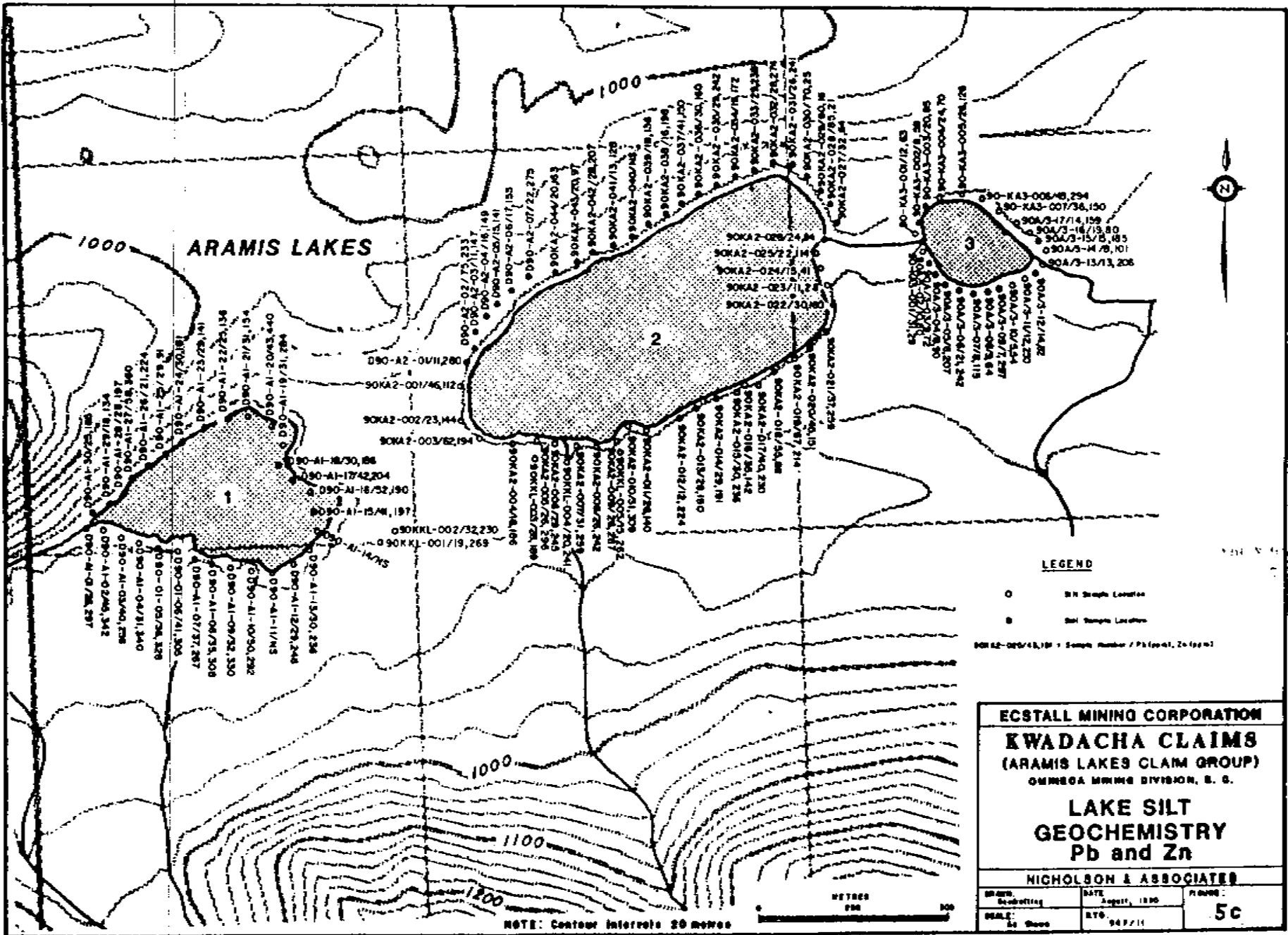
SEE FIGURE 5c
FOR GEOCHEMISTRY
DETAIL

LEGEND

○ Silt Sample Location
 90KS-19/24, 276 = Sample Number / Pb(ppm), Zn (ppm)

ECSTALL MINING CORPORATION		
KWADACHA CLAIMS (ARAMIS LAKES CLAIM GROUP)		
OMINECA MINING DIVISION, B. C.		
GEOCHEMISTRY Pb and Zn		
NICHOLSON & ASSOCIATES		
DRAWN: Geodrafting	DATE: August, 1990	FIGURE: 5b
SCALE: 1: 50,000	N.T.S. 94 F/11	





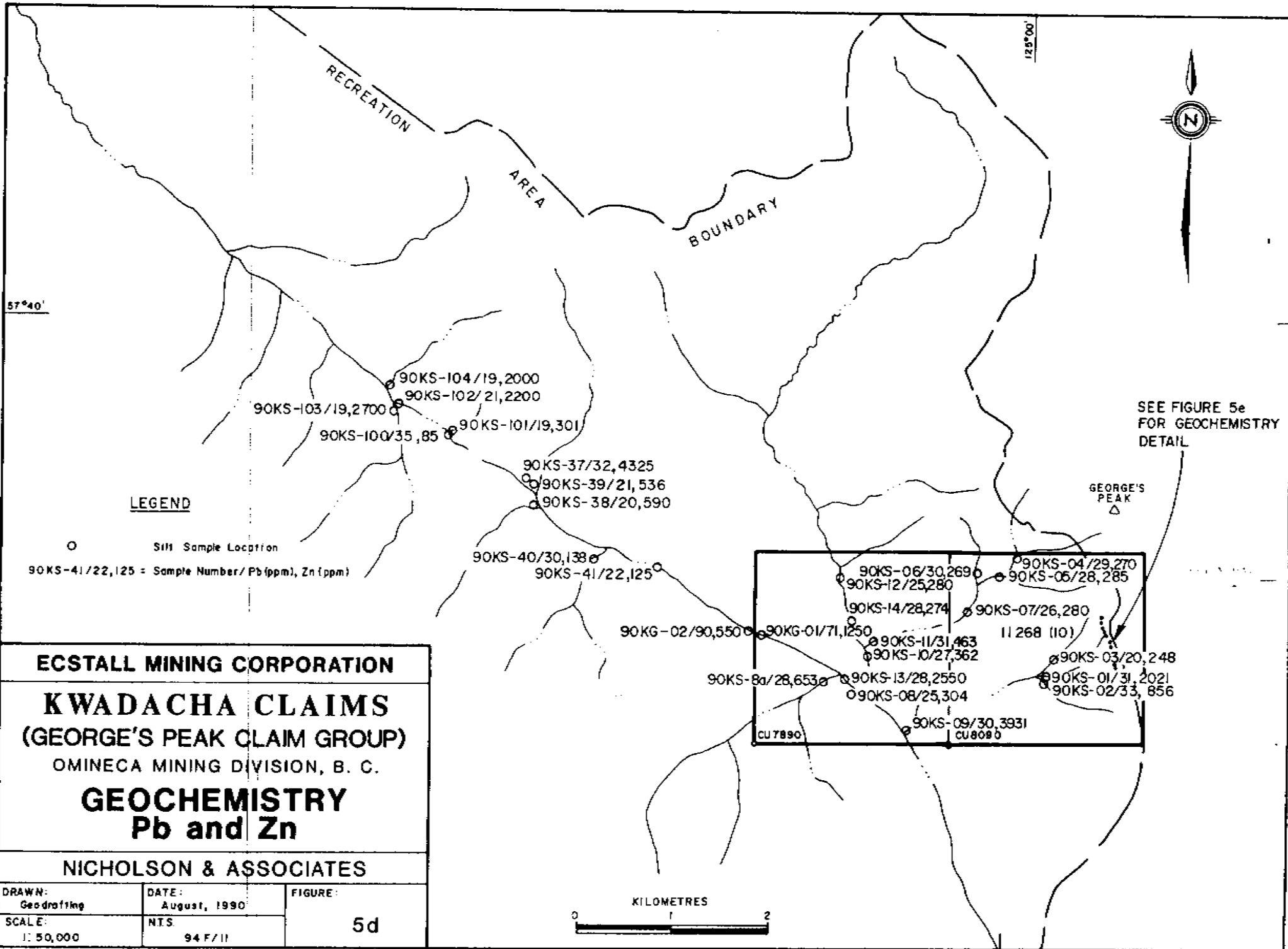
NOTE: Contour Interval 20 Metres

LEGEND

- BH Sample Location
- Soil Sample Location

SOKA2-025/22, 146 = Sample Number / Phosphate, Zn (ppm)

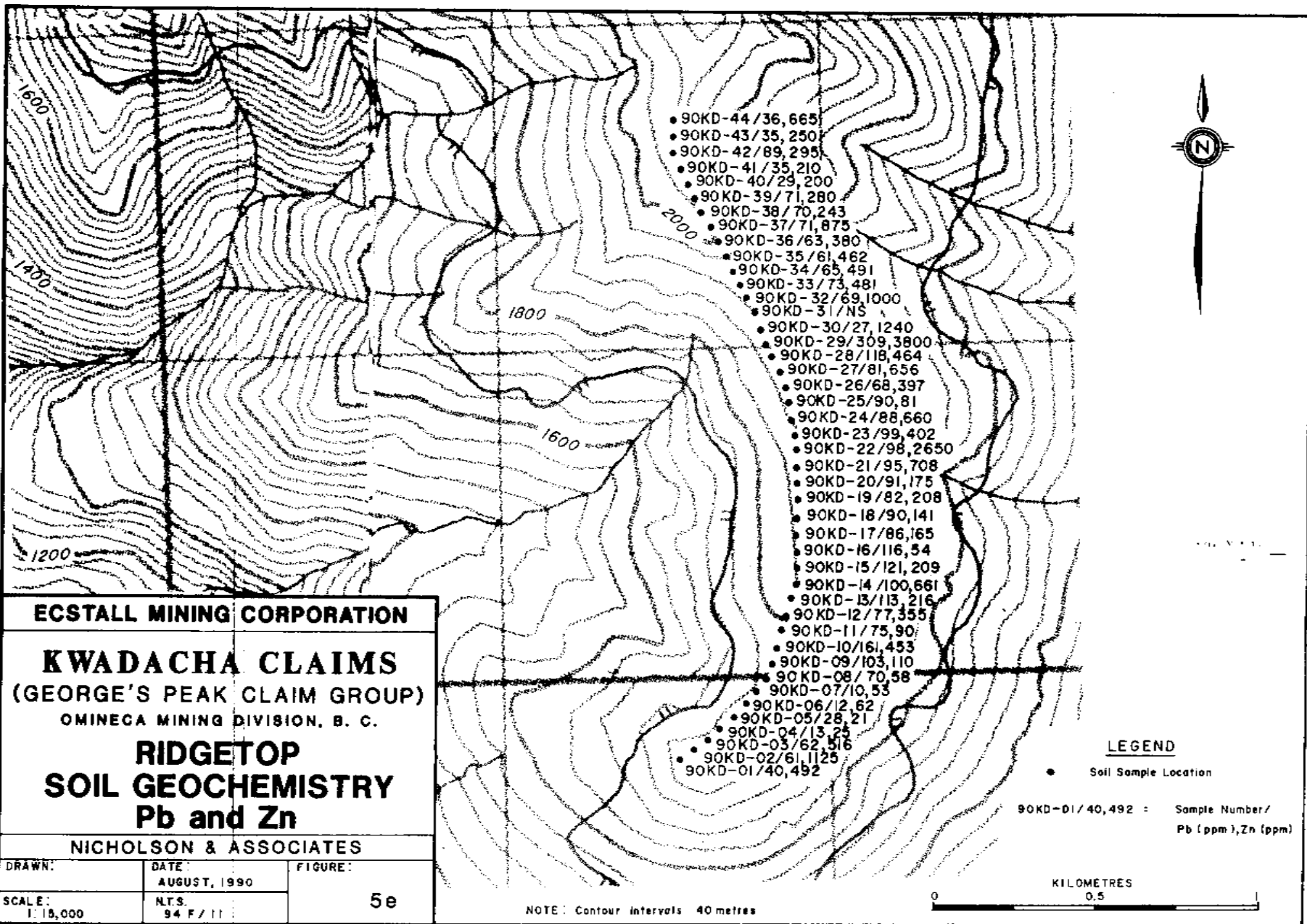
ECSTALL MINING CORPORATION		
KWADACHA CLAIMS		
(ARAMIS LAKES CLAIM GROUP)		
OMEGA MINING DIVISION, S. C.		
LAKE SILT		
GEOCHEMISTRY		
Pb and Zn		
NICHOLSON & ASSOCIATES		
DATE: August, 1990	SCALE: As Shown	PLANE: 5c



returning values with Zn > 2000 ppm. This area requires further investigation to trace the source of the anomalies.

Several silts on the western part of the claim group returned anomalous Pb and Zn values. These, as well, warrant further investigation. Other anomalous silts collected on the George Peak claim group include samples 90KS-01, -02, -09, and -13 which presumably represent runoff from the ridgetop on the eastern edge of claim CU8090. The Zn values for these samples are 2021, 856, 3931, and 2550 (ppm) respectively. Additionally they may reflect the presence of other target areas yet undiscovered.

A soil line 2150 m long, with samples collected at 50 m intervals, was established along the top of the ridge on claim CU8090 to cover the area of the Kwadacha barite deposit (see Figure 5e). A total of 44 samples were taken and results in this area are very encouraging. Analysis of these samples reveals that a total of 34 are anomalous in Pb and over 12 are anomalous in Zn. Values of up to 309 ppm Pb and 3800 ppm Zn were obtained, both being from the same sample (90KD-29). There is no apparent correlation between the concentrations of Pb and Zn in the samples. This area of claims certainly requires further investigation to determine the source of the anomalous samples and the size of the mineralized area or areas.



- 90KD-44/36,665
- 90KD-43/35,250
- 90KD-42/89,295
- 90KD-41/35,210
- 90KD-40/29,200
- 90KD-39/71,280
- 90KD-38/70,243
- 90KD-37/71,875
- 90KD-36/63,380
- 90KD-35/61,462
- 90KD-34/65,491
- 90KD-33/73,481
- 90KD-32/69,1000
- 90KD-31/NS
- 90KD-30/27,1240
- 90KD-29/309,3800
- 90KD-28/118,464
- 90KD-27/81,656
- 90KD-26/68,397
- 90KD-25/90,81
- 90KD-24/88,660
- 90KD-23/99,402
- 90KD-22/98,2650
- 90KD-21/95,708
- 90KD-20/91,175
- 90KD-19/82,208
- 90KD-18/90,141
- 90KD-17/86,165
- 90KD-16/116,54
- 90KD-15/121,209
- 90KD-14/100,661
- 90KD-13/113,216
- 90KD-12/77,355
- 90KD-11/75,90
- 90KD-10/161,453
- 90KD-09/103,110
- 90KD-08/70,58
- 90KD-07/10,53
- 90KD-06/12,62
- 90KD-05/28,21
- 90KD-04/13,25
- 90KD-03/62,516
- 90KD-02/61,1125
- 90KD-01/40,492

ECSTALL MINING CORPORATION

KWADACHA CLAIMS
 (GEORGE'S PEAK CLAIM GROUP)
 OMINECA MINING DIVISION, B. C.

RIDGETOP
SOIL GEOCHEMISTRY
Pb and Zn

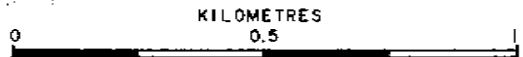
NICHOLSON & ASSOCIATES		
DRAWN:	DATE:	FIGURE:
	AUGUST, 1990	
SCALE:	N.T.S.	5e
1:15,000	94 F/11	

NOTE: Contour intervals 40 metres

LEGEND

• Soil Sample Location

90KD-01/40,492 : Sample Number /
 Pb (ppm), Zn (ppm)



CONCLUSIONS AND RECOMMENDATIONS

Samples from the Warneford River and Aramis Lakes claim groups produced several anomalous values in both Pb and Zn in each case. The areas containing these samples require further work to investigate the source of the Pb and Zn, as the case may be. This could be accomplished by tracing the anomalies upstream and/or up slope through further soil and silt sampling. A potential for economic mineralization certainly exists in the areas of both the above claim groups.

Concerning the area to the north-west of the George's Peak claim group, it is recommended that recreation claims CU7292, CU7492, CU7494, CU7690, and CU7692 be staked to cover the anomalies found in this program and the possible source areas around the anomalies.

On the George's Peak claim group itself, efforts should be concentrated near the Kwadacha Barite deposit determining the source and size of the source of the ridgetop anomalies. Either several contour soil lines should be completed to the west of the ridge or a grid established to investigate the existence of additional Pb and Zn mineralized rocks.

The area of anomalous silts just south of the centre of claim CU7890 (George's Peak Claim Group) should be further examined and sampled.

Based upon the results of the 1990 program, it is recommended that a follow program be carried out. This program should consist of further geochemical surveying, outcrop mapping, and blast trenching over anomalous areas. The program would cost \$47,000. Pending favourable results further follow up work should be completed.

STATEMENT OF QUALIFICATIONS

I, Steven F. Dudka, do hereby certify that:

1. I am a consulting geologist with Nicholson and Associates Natural Resource Development with offices at #606 - 675 West Hastings Street, Vancouver, British Columbia
2. I am a graduate of Dalhousie University, Halifax, Nova Scotia with a Bachelor of Science, Geology.
3. I have worked in geology in B.C., Yukon, Nova Scotia, and New Brunswick since 1983.
4. I am the author of this report and my findings are based upon work undertaken on the property between July 25 and July 27, 1990 and previously written related reports and papers.
5. I have no interest in the property or the company involved, nor do I anticipate any.
6. This report may be used by Ecstall Mining Corporation, in whole or in part, as they so require.

Dated at Vancouver, British Columbia this 7th day of November, 1990.



Steven F. Dudka, B.Sc.

PROPOSED BUDGETKWADACHA CLAIMS; 1991 FIELD SEASONPERSONNEL

Senior Geologist	(15 days @ \$275/day)	\$ 4125.00
Geologist	(15 days @ \$225/day)	\$ 3375.00
Geological Assistant	(13 days @ \$175/day)	\$ 2275.00

ROOM AND BOARD

43 man days @ \$100/day	\$ 4300.00
-----------------------------------	------------

TRANSPORTATION

Helicopter (16 hrs @ \$755/hr)	\$ 12,080.00
--	--------------

ASSAYS

30 rock samples @ \$17.50/sample	\$ 525.00
400 soil/silt samples @ \$16.00/sample	\$ 400.00

RENTALS

Truck Rental (\$1,325/month)($\frac{1}{2}$ month)	\$ 662.00
Radio Rentals (3 hand held @ \$8/day/radio) . . .	\$ 288.00
S.B.X. Rental (100 watt; \$100/wk x 2 wks) . . .	\$ 200.00
Camp Rental	\$ 900.00

EQUIPMENT PURCHASES

Miscellaneous	\$ 750.00
-------------------------	-----------

<u>REPORT WRITING/DRAFTING</u>	\$ 4,000.00
--	-------------

<u>TRAVEL</u>	\$ 1,500.00
-------------------------	-------------

<u>EXPEDITING</u>	\$ 500.00
-----------------------------	-----------

<u>TOTAL</u>	\$ 42,980.00
------------------------	--------------

CONTINGENCY @ 10%	\$ 4,020.00
-----------------------------	-------------

<u>TOTAL EXPENDITURES</u>	\$ 47,000.00
---------------------------	--------------

REFERENCES

- Gabrielse, H. (1977): Geological Map of Ware West half and Toodogone River Map-Areas, Geol. Survey, Canada, Open File Report 483.
- MacIntyre, D.G. (1980a): Geological Compilation and Mineral Occurrence Map, Driftpile Creek Akie River Ba-Pb-Zn Districts, B.C. Ministry of Energy, Mines & Pet. Res., Preliminary Map 38.
- MacIntyre, D.G. (1980b): Driftpile Creek - Akie River Project; B.C. Ministry of Energy, Mines & Pet. Res., Geological Fieldwork, 1979, Paper 1980-1, pp. 55-67.
- MacIntyre, D.G. (1981): Cirque Barite-Zinc-Lead-Silver Deposit; B.C. Ministry of Mines and Pet. Resources, Geological Fieldwork, 1979, Paper 1980, pp. 69-74.
- MacIntyre, D.G. (1981): Akie River Project, B.C. Ministry of Energy, Mines & Pet. Res., Geological Fieldwork, 1980, Paper 1981-1, pp. 33-47.
- MacIntyre, D.G. and Diakow, L. (1981): Kwadacha Barite Deposit; B.C. Ministry of Mines and Pet. Resources, Geological Fieldwork, 1981, Paper 1982, pp. 149-155.

APPENDIX I

Geochemical Analyses

Geochemical Analysis Certificate

OV-1066-SG1

Company: **NICHOLSON & ASSOCIATES**
Project: **KNADACHA**
Attn: **G. NICHOLSON**

Date: **AUG-10-90**
Copy 1. NICHOLSON & ASSOC., VANCOUVER, B.C.

We hereby certify the following Geochemical Analysis of 30 SOIL samples submitted AUG-03-90 by G.KING.

Sample Number	PB PPM	ZN PPM
90A/3-01	12	63
90A/3-02	10	80
90A/3-03	9	72
90A/3-04	8	90
90A/3-05	8	207
90A/3-06	21	242
90A/3-07	8	115
90A/3-08	9	64
90A/3-09	7	297
90A/3-10	5	54
90A/3-11	12	250
90A/3-12	14	82
90A/3-13	13	206
90A/3-14	8	101
90A/3-15	15	185
90A/3-16	19	80
90A/3-17	14	159
D90-A2-03	11	147
D90-A2-04	16	149
D90-A2-05	15	141
D90-A2-06	17	155
D90-A2-07	22	275
D90-A2-08	19	435
90KS-100	35	85
90KS-101	19	301
90KS-102	21	2200
90KS-103	19	2700
90KS-104	19	2000
90KS-24	48	348
90KS-25	23	172

Certified by _____


MIN-EN LABORATORIES



MIN-EN LABORATORIES

SPECIALISTS IN MINERAL ENVIRONMENTS
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

VANCOUVER OFFICE:
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9621

TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Geochemical Analysis Certificate 0V-1066-SG2

Company: **NICHOLSON & ASSOCIATES** Date: **AUG-10-90**
Project: **KWADACHA** Copy 1. NICHOLSON & ASSOC., VANCOUVER, B.C.
Attn: **G. NICHOLSON**

We hereby certify the following Geochemical Analysis of 29 SOIL samples submitted AUG-03-90 by G.KING.

Sample Number	PB PPM	ZN PPM
90KS-26	19	104
90KS-27	15	68
90KS-28	20	248
90KS-29	33	650
90KS-30	30	570


90KS-31	ND	SAMPLE
90KS-36	18	228
90KS-01	31	2021
90KS-02	33	856
90KS-03	20	248

90KS-04	29	270
90KS-05	28	285
90KS-06	30	269
90KS-07	26	280
90KS-08	25	304

90KS-08A	28	653
90KS-09	30	3931
90KS-10	27	362
90KS-11	31	463
90KS-12	25	280

90KS-13	28	2550
90KS-14	28	274
90KS-15	27	206
90KS-16	25	271
90KS-17	24	246

90KS-18	26	275
90KS-19	24	276
90KS-20	20	273
90KS-21	23	269
90KS-22	21	297

Certified by  _____
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 (DIVISION OF ASSAYERS CORP.)

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 FAX (604) 960-9821

THUNDER BAY LAB.:
 TELEPHONE (807) 822-8958
 FAX (807) 823-5831

SMITHERS LAB.:
 TELEPHONE/FAX (604) 847-3004

Geochemical Analysis Certificate

OV-1066-SG3

Company: NICHOLSON & ASSOCIATES
Project: KWADACHA
Attn: G. NICHOLSON

Date: AUG-13-90
 Copy 1. NICHOLSON & ASSOC., VANCOUVER, B.C.

We hereby certify the following Geochemical Analysis of SOIL samples submitted AUG-03-90 by G.KING.

Sample Number	PB PPM	ZN PPM
90KS-23	51	304
90KS-37	32	4325
90KS-38	20	590
90KS-39	21	536
90KS-40	30	138

90KS-41	22	125
90KA2-27	32	64
90KA2-28	85	21
90KA2-29	60	16
90KA2-30	70	25

90KA2-31	26	241
90KA2-32	28	274
90KA2-33	29	238
90KA2-34	19	172
90KA2-35	29	242

90KA2-36	30	160
90KA2-37	41	150
90KA2-38	16	198
90KA2-39	18	136
90KA2-41	13	128

90KA2-42	28	207
90KA2-43	20	97
90KA2-44	20	163
90KD-01	40	492
90KD-02	61	1125

90KD-03	62	516
90KD-04	13	25
90KD-05	28	21
90KD-06	12	62
90KD-07	10	53

Certified by 

MIN-EN LABORATORIES



MIN-ENVIRONMENTAL LABORATORIES
(DIVISION OF ASSAYERS CORP.)

SPECIALISTS IN MINERAL ENVIRONMENTS
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VANCOUVER OFFICE:
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
FAX (604) 980-9621

THUNDER BAY LAB.:
TELEPHONE (807) 622-8958
FAX (807) 623-5931

SMITHERS LAB.:
TELEPHONE/FAX (604) 847-3004

Geochemical Analysis Certificate

OV-1066-SG4

Company: **NICHOLSON & ASSOCIATES**
Project: **KWADACHA**
Attn: **G. NICHOLSON**

Date: **AUG-13-90**

Copy 1. NICHOLSON & ASSOC., VANCOUVER, B.C.

We hereby certify the following Geochemical Analysis of 30 SOIL samples submitted AUG-03-90 by G.KING.

Sample Number	PB PPM	ZN PPM
90KD-08	70	58
90KD-09	103	110
90KD-10	161	453
90KD-11	75	90
90KD-12	77	355
90KD-13	113	216
90KD-14	100	661
90KD-15	121	209
90KD-16	116	54
90KD-17	86	165
90KD-18	90	141
90KD-19	82	208
90KD-20	91	175
90KD-21	95	708
90KD-22	98	2650
90KD-23	99	402
90KD-24	98	660
90KD-25	90	81
90KD-26	68	397
90KD-27	81	656
90KD-28	118	464
90KD-29	309	3800
90KD-30	72	1240
90KD-32	69	1000
90KD-33	73	481
90KD-34	65	491
90KD-35	61	462
90KD-36	63	380
90KD-37	71	875
90KD-38	70	243

Certified by _____

MIN-EN LABORATORIES

Geochemical Analysis Certificate

OV-1066-SG5

Company: NICHOLSON & ASSOCIATES
Project: KWADACHA
Attn: G. NICHOLSON

Date: AUG-13-90

Copy 1. NICHOLSON & ASSOC., VANCOUVER, B.C.

We hereby certify the following Geochemical Analysis of 30 SOIL samples submitted AUG-03-90 by G.KING.

Sample Number	PB PPM	ZN PPM
90KD-39	71	280
90KD-40	29	200
90KD-41	35	210
90KD-42	89	295
90KD-43	35	250

90KD-44	36	665
D90-A1-01	26	297
D90-A1-02	45	342
D90-A1-03	40	258
D90-A1-04	31	340

D90-A1-05	36	328
D90-A1-06	41	305
D90-A1-07	37	267
D90-A1-08	35	306
D90-A1-09	32	330

D90-A1-10	50	292
D90-A1-12	29	248
D90-A1-13	30	236
D90-A1-15	41	197
D90-A1-16	52	190

D90-A1-17	42	204
D90-A1-18	30	186
D90-A1-19	31	284
D90-A1-20	43	440
D90-A1-21	31	154

D90-A1-22	25	136
D90-A1-23	29	141
D90-A1-24	30	161
D90-A1-25	29	91
D90-A1-26	21	224

Certified by _____

MIN-EN LABORATORIES

Geochemical Analysis Certificate

OV-1066-SG6

Company: **NICHOLSON & ASSOCIATES**
Project: **KWADACHA**
Attn: **G. NICHOLSON**

Date: **AUG-13-90**
Copy 1. **NICHOLSON & ASSOC., VANCOUVER, B.C.**

We hereby certify the following Geochemical Analysis of 30 SOIL samples submitted AUG-03-90 by G.KING.

Sample Number	PR PPM	ZN PPM
D90-A1-27	58	360
D90-A1-28	28	197
D90-A1-29	18	134
D90-A1-30	25	165
D90-A2-01	11	280

D90-A2-02	75	233
90-KA3-001	31	29
90-KA3-002	8	58
90-KA3-003	20	85
90-KA3-004	24	70

90-KA3-005	26	126
90-KA3-006	45	294
90-KA3-007	36	150
90-KA2-001	46	112
90-KA2-002	23	144

90-KA2-003	62	194
90-KA2-004	18	186
90-KA2-005	26	296
90-KA2-006	29	245
90-KA2-007	31	259

90-KA2-008	26	242
90-KA2-009	26	287
90-KA2-010	31	309
90-KA2-011	26	140
90-KA2-012	12	224

90-KA2-013	28	150
90-KA2-014	29	191
90-KA2-015	30	236
90-KA2-016	35	142
90-KA2-017	40	230

Certified by _____



Geochemical Analysis Certificate

0V-1066-SG7

Company: **NICHOLSON & ASSOCIATES**
 Project: **KWADACHA**
 Attn: **G. NICHOLSON**

Date: **AUG-13-90**

Copy 1. NICHOLSON & ASSOC., VANCOUVER, B.C.

We hereby certify the following Geochemical Analysis of 20 SOIL samples submitted AUG-03-90 by G.KING.

Sample Number	PB PPM	ZN PPM
90-KA2-018	55	68
90-KA2-019	67	214
90-KA2-020	45	151
90-KA2-021	37	259
90-KA2-022	30	160
90-KA2-023	11	28
90-KA2-024	15	41
90-KA2-025	22	114
90-KA2-026	24	84
90-KKL-001	19	269
90-KKL-002	32	230
90-KKL-003	28	189
90-KKL-004	20	241
90-KKL-005	15	262
90-KS-032	19	164
90-KS-033	47	80
90-KS-034	51	322
90-KS-035	63	267
90-KG-01	71	1250
90-KG-02	90	550

Certified by



MIN-EN LABORATORIES

APPENDIX III

Silt and Soil Sample Descriptions

KWADACHA SILTS & SOILS

- 90KS1 - silt as plotted - good silt, no flow
- 90KS2 - silt as plotted - poor silt, no flow
- 90KS3 - silt as plotted - high percentage soil, no flow
- 90KS4 - silt as plotted - still frozen drainage
- 90KS5 - silt as plotted
- 90KS6 - silt as plotted - stream not running
- 90KS7 - silt as plotted - good silt
- 90KS8 - silt as plotted - small drainage; good silt
- 90KS8A - silt as plotted - fast running
- 90KS9 - silt as plotted - good silt
- 90KS10 - silt as plotted - fast running
- 90KS11 - silt as plotted - fanned stream outwash
- 90KS12 - silt as plotted - fast running
- 90KS13 - silt as plotted - fast running
- 90KS14 - silt as plotted - small drainage into main creek
- 90KS15 - silt as plotted - Chesterfield Creek
- 90KS16 - silt as plotted - Chesterfield Creek
- 90KS17 - silt as plotted - Chesterfield Creek
- 90KS18 - silt as plotted - Chesterfield Creek
- 90KS19 - silt as plotted - outwash plain of small creek
- 90KS20 - silt as plotted - Chesterfield Creek
- 90KS21 - silt as plotted - Chesterfield Creek
- 90KS22 - silt as plotted - main drainage
- 90KS23 - silt as plotted - small drainage (1 m)
- 90KS24 - silt as plotted - small drainage (1 m)
- 90KS25 - silt as plotted - small drainage possible flood contamination from Warneford River.
- 90KS26D - soil sample as plotted
- 90KS27D - soil sample as plotted
- 90KS28D - soil sample as plotted
- 90KS29 - silt as plotted - outwash/flood plain
- 90KS30 - silt as plotted - outwash fan of 2 m creek
- 90KS31 - silt as plotted - small (0.8 m) creek
- 90KS32D - soil sample as plotted
- 90KS33D - soil sample as plotted
- 90KS34D - soil sample as plotted
- 90KS35 - silt as plotted - small (0.5m) drainage
- 90KG1&2 - soil from Goethite Zone A
- 90 Kd 01+44 - Ridge Top Soil Samples, plotted 50 m interval
- 90KA-2-001+026 - Soil samples taken from south shore of middle Aramis Lake. Most of these contain dominantly black organic material, except for 90KA-2-008, which is mostly silt. 50 m intervals.
- 90KA-3-001+007 - Soil/muck samples taken from northwest shore of easternmost Aramis Lake, 50 m intervals.
- 90-KKL-001+005 - Silt samples from creeks on south side of Middle Aramis Lake as plotted.
- 90KA-2-027+044 - Soil line taken along northeast side of middle Aramis Lake. KA2-27+30 are comprised dominantly of organic muck. 31+44 are soils approx. 10 m from lakeshore.
- 90KA2-37 - silt from small creek (dry)
- 90KS37+41 - silt samples taken from drainage as plotted.
- 90A3 1-17 - silts and soils from Aramis Lake "3" as plotted
- D90A1-01-30 - silts and soils from Aramis Lake "1"
- D90A1-09 good silt from creek flowing into lake on south side
- samples taken at 50 m intervals around the lake
- no samples were obtained for D90-A1-11 and D90-A1-14.

90KS100-104
D90A2-01-07

- sample quality is generally poor with rather high organic content
- conditions indicated that for samples D90A1-23 to 30 soil samples had to be taken
- silts as plotted
- samples were taken roughly 25-30 m back from the lake shore; all soil samples

APPENDIX IV

Sample Analysis Technique



**MINERAL
• ENVIRONMENTS
LABORATORIES**

Division of Assayers Corp. Ltd.

ANALYTICAL PROCEDURE REPORT FOR ASSESSMENT WORK:

PROCEDURE FOR TRACE ELEMENT ICP

Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Co, Cu,
Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Sb,
Sr, Th, U, V, Zn, Ga, Sn, W, Cr

Samples are processed by Min-En Laboratories, at 705 West
15th Street, North Vancouver, employing the following procedures.

After drying the samples at 95 C, soil and stream sediment
samples are screened by 80 mesh sieve to obtain the minus
80 mesh fraction for analysis. The rock samples are
crushed by a jaw crusher and pulverized on a ring mill pulverizer.

0.50 gram of the sample is digested for 2 hours with an aqua
regia mixture. After cooling samples are diluted to
standard volume.

The solutions are analyzed by computer operated Jarrall Ash
9000 ICAP or Jobin Yvon 70 Type II Inductively Coupled
Plasma Spectrometers.

APPENDIX VI

Exploration Program Budget Breakdown

NICHOLSON & ASSOCIATES

natural resource development inc.



COPY

September 3, 1990

IN ACCOUNT WITH:

Ecstall Mining Corporation
#307 - 475 Howe Street
Vancouver, B.C. V6C 2B3

Invoice #90GNI-056

Re: Kwadacha Recreational Area claim assessment work, North Central B.C., July, 1990.

PERSONNEL

Project Manager	5.0 days @ \$240/day	\$1,200.00
Senior Geologist	4.0 days @ \$230/day	\$920.00
Geologist	4.0 days @ \$225/day	\$900.00

MOB/DEMOB \$1,500.00

ROOM AND BOARD

16.0 man days @ \$60/man/day \$960.00

HELICOPTER

14.3 hours @ \$765/hour (fuel included) \$10,939.50

RENTALS

(1) 4X4 Truck, 5.0 days @ \$50/day	\$250.00
(4) Handheld Radios @ \$8/radio/day	\$128.00

FIELD COSTS

12 man days @ \$20/man/day \$240.00

FILING FEES, REPORT PREPARATION AND PRESENTATION \$3,000.00

ASSAYS

200 soil samples @ \$6.00/sample (incl. shipping and prep.) . . . \$1,200.00

Subtotal	21,237.50
Less Advance	(\$10,000.00)
TOTAL	\$11,237.50

E.&O.E.

Terms: Net 7 days, thereafter 2% interest per month (24% per annum) charged on overdue accounts.

.c:30942(2)