TK - Smithers 81(2)A

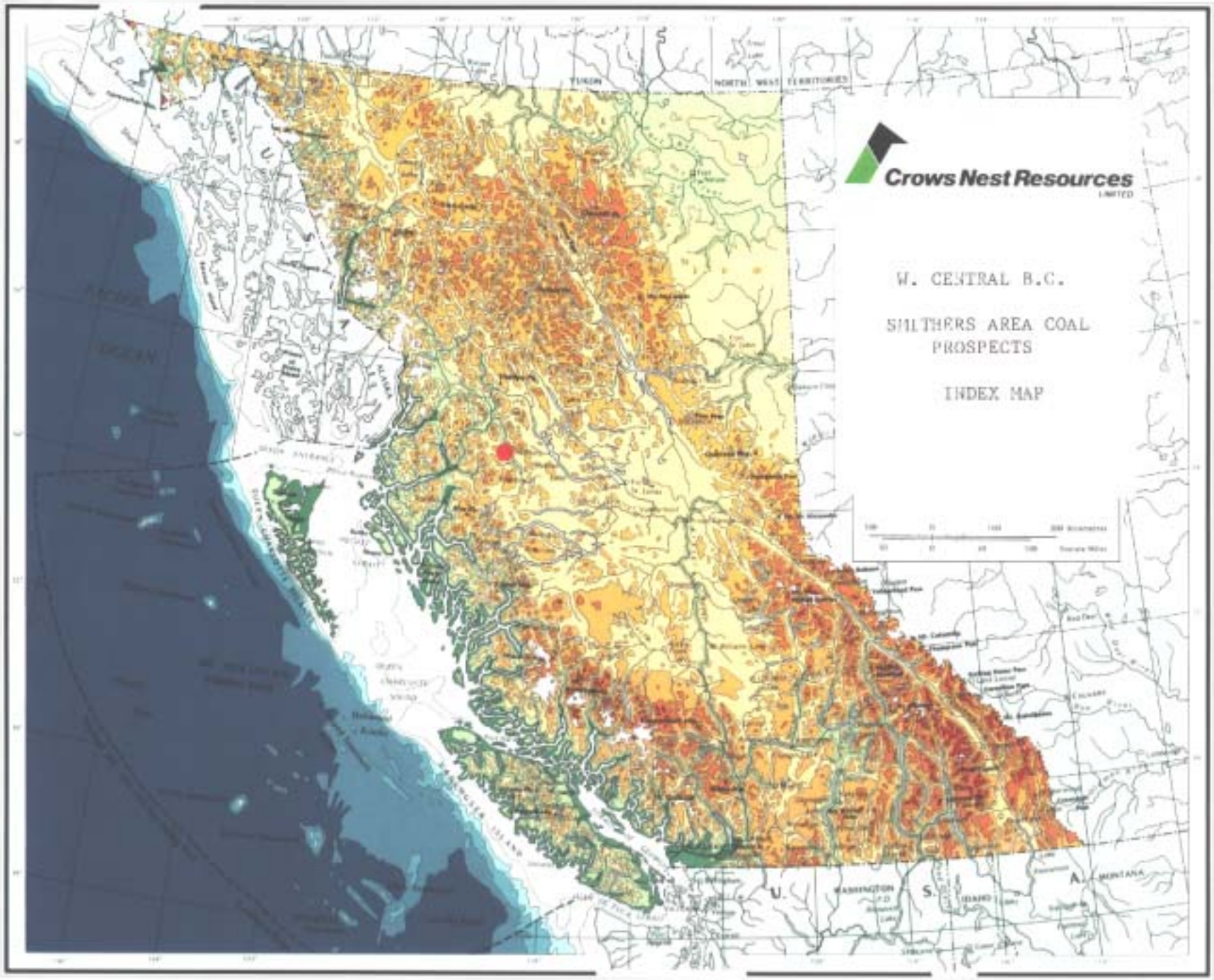
Smithers Area

N FILE

Maps and Sections

233

2 OF 2

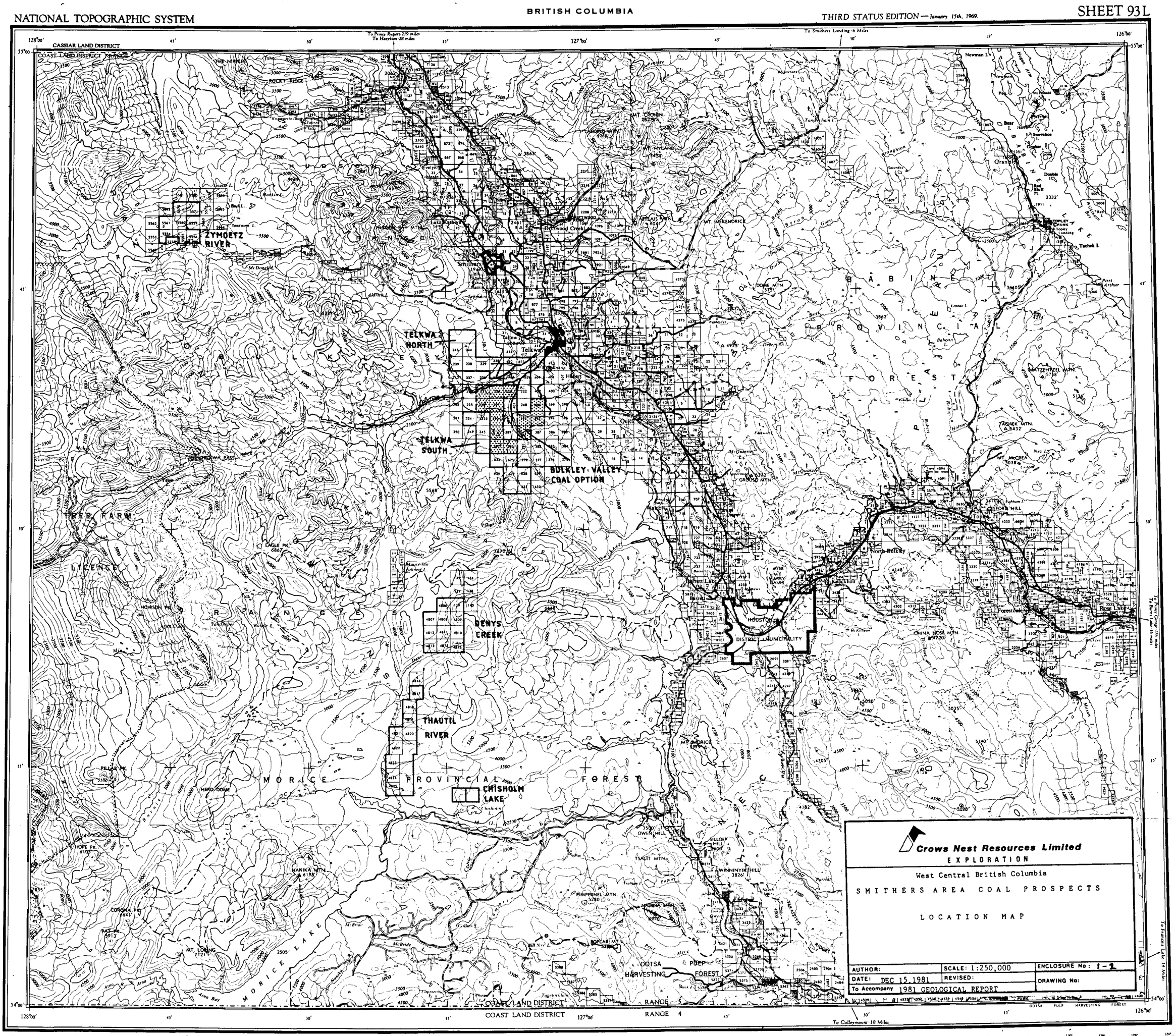

Crows Nest Resources
LIMITED
W. CENTRAL B.C.
SMITHERS AREA COAL
PROSPECTS
INDEX MAP
YUKON
NORTH WEST TERRITORIES
ALASKA
PACIFIC OCEAN
QUEEN CHARLOTTE ISLANDS
VANCOUVER ISLAND
WASHINGTON
IDAHO
MONTANA
U.
S.
A.

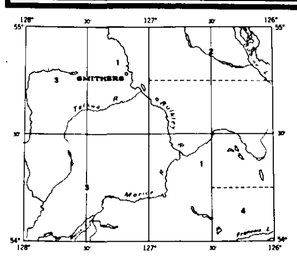
NATIONAL TOPOGRAPHIC SYSTEM

BRITISH COLUMBIA

THIRD STATUS EDITION — January 15th, 1969.

SHEET 93L





RELIABILITY DIAGRAM

1. Standard Provincial Topographic Surveys, 1:31,680, 1950-51.
2. Provincial Air Survey Inventory Mapping, 1:31,680, 1951.
3. Photometry compiled from B.C. Gov't. Air Photos, 1949.
2 & 3. Contours adapted from Mines and Technical Surveys, Ottawa, 1936.
4. Photometry compiled from B.C. Gov't. Air Photos, 1949.
Contours from Mines and Technical Surveys, Ottawa, 1951.

Roads revised from B.C. Gov't. air photos, 1960.

First Status Edition, compiled and produced by Geographic Division, Surveys and Mapping Branch, Dept. of Lands & Forests, Victoria, B.C., 1953.
Third Status Edition revised 1969.

REFERENCE

Land alienated or covered by application under the Land Act	
Surveyed Timber or Pulp Lease, Timber or Pulp Licence	T L or P L
Indian Reserve	
Government Reserve	G R
Land District Boundary	
Provincial Forest Boundary	
Tree Farm Licence	
Municipality	
Water Supply Area	
Park	
Park less than 40 acres	
Campground	
Forest Service Lookout	
Settlement or Locality	
Post Office	Po
School	Sc
Hospital	Ho
Mine	
Dyke	
Historic Monument	
Mile Post	5
International Boundary and Monument	U.S.

SMITHERS

BRITISH COLUMBIA

COAST LAND DISTRICT — RANGE 5

Scale 1:250,000 or approximately 1 Inch to 4 Miles

Miles 5 0 5 10 15 20 Miles

Scale of Kilometres

5 0 5 10 15 20 25 30

N

Magnetic Declination approximately 26°45' East of Centre of sheet, 1969.
Decreasing approximately 3'41" annually

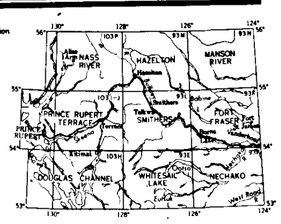
Maps and indexes with price lists may be obtained from the Map Production Division, British Columbia Lands Service, Parliament Buildings, Victoria, B.C.

LITHOGRAPHED IN CANADA BY R. M. MACDONALD, QUEEN'S PRINTER, VICTORIA, BRITISH COLUMBIA

REFERENCE

Road, Hard Surface, All Weather	Route No. 16 — 2 Lanes
" Loose Surface, All Weather	2 Lanes
" Loose Surface, Less than 2 lanes	All Weather — Dry Weather
" Private (Logging, Mining etc)	
" Four Wheel Drive	
Trail	Trail — Flag Stop
Railway	Along Road
Main Telephone Line	Along Road — Wooden Poles — Steel Poles
Main Electric Power Line	
Horizontal Control Station	
Contours (Interval 500 feet)	2500
Elevation in feet above mean sea-level	5215'
Intermittent Stream	
Intermittent Lake or Seasonal Inundation	
Swamp or Marsh	
Glacier or Icefield	
Spring	
Dam	Dam
Customs Office	Cust.
Lighthouse (occupied)	
Airport or Airstrip	
Airharbour or Seaplane Anchorage	
Abandoned Railway	

Universal Transverse Mercator Projection



On the above map index, the maps published are shown thus:

With District lot land status

Without

Land Commissioners' Offices are located in Smithers and Burns Lake.

Mineral Claims are not shown on this sheet.

District land lots, 5 acres or less may not be shown due to the scale of this map.

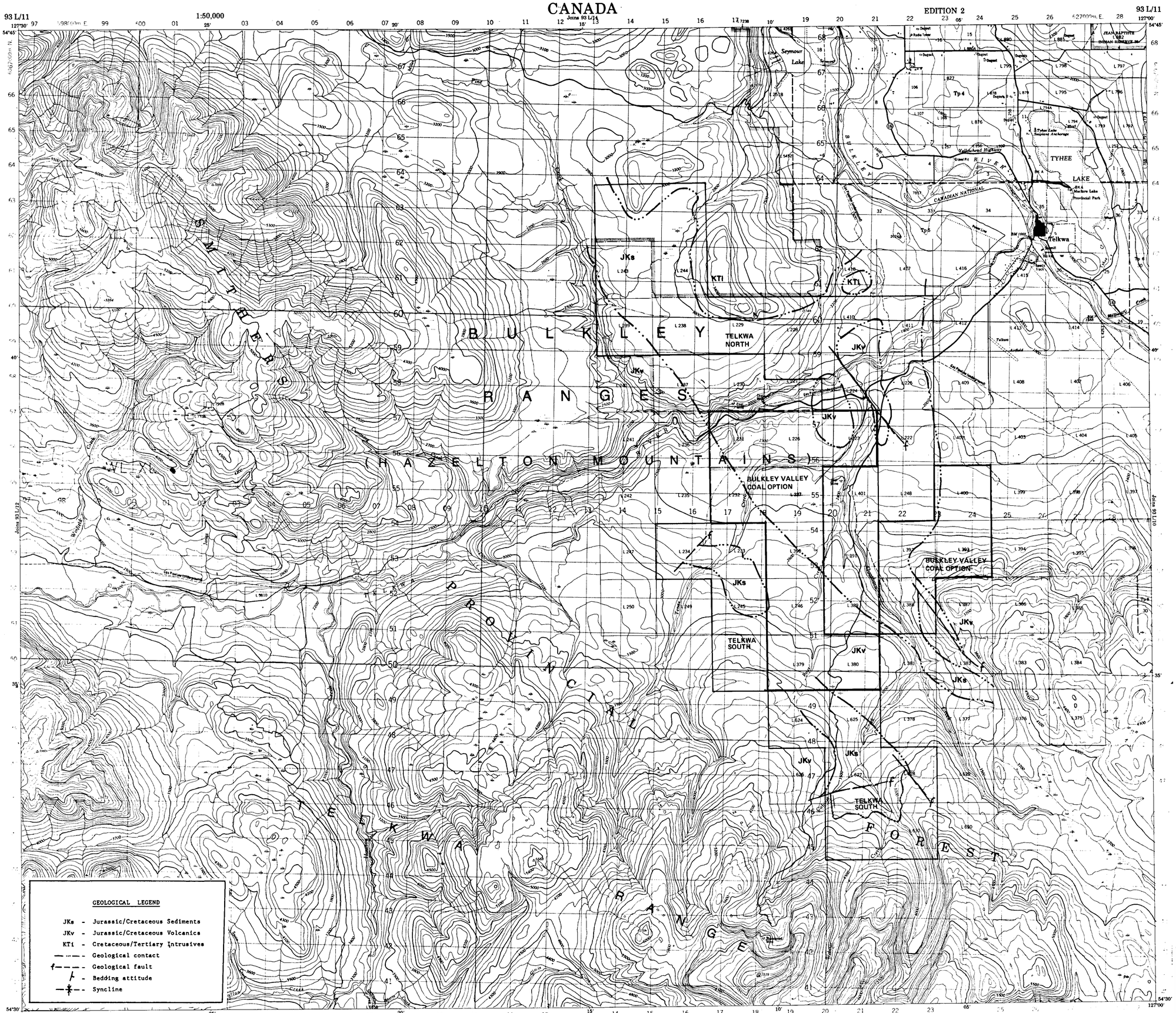
233 2/2 ①

TK Smithers 8/12/12

CANADA

93 L/11 — 1:50,000 — EDITION 2 — 93 L/11

Military users, refer to this map as: Référence de cette carte pour usage militaire: SERIES A721 SÉRIE; MAP 93 L/11 CARTE; EDITION 2 MCE EDITION



CONVERSION SCALE FOR ELEVATIONS — ÉCHELLE DE CONVERSION DES ÉLÉVATIONS

Use diagram only to obtain numerical values
APPROXIMATE MEAN DECLINATION 1972
FOR CENTRE OF MAP
Annual change decreasing 3.7'

N'utiliser le diagramme que pour obtenir les valeurs numériques
DÉCLINAISON MOYENNE APPROXIMATIVE
AU CENTRE DE LA CARTE EN 1972
Variation annuelle décroissante 3.7'

ONE THOUSAND METRE
UNIVERSAL TRANSVERSE MERCATOR GRID
ZONE 9
QUADRILLAGE DE MILLE MÈTRES
TRANSVERSE UNIVERSEL DE MERCATOR

GRID ZONE DESIGNATION / DÉSIGNATION DE LA ZONE DU QUADRILLAGE: 9U

100 000 M SQUARE IDENTIFICATION / IDENTIFICATION DU CARRÉ DE 100 000 M: WL, XL

EXAMPLE OF METHOD USED TO GIVE A REFERENCE TO NEAREST 100 METRES
EXEMPLE DE LA METHODE EMPLOYÉE POUR FIXER DES REPÈRES À 100 MÈTRES PRÈS

REFERENCE POINT / POINT DE REPÈRE	CHURCH - ÉGLISE	(as above) (ci-dessus)
EASTING. Read number on grid line immediately to left of point. LONGITUDE EST. Noter le chiffre de la ligne du quadrillage immédiatement à gauche du repère		97
Estimate tenths of a square from this line eastward to point. Estimer le nombre de dixièmes du carré entre cette ligne et le repère en direction est		6
		976
NORTHING. Read number on grid line immediately below point. LATITUDE NORD. Noter le chiffre de la ligne du quadrillage immédiatement en dessous du repère		98
Estimate tenths of a square from this line northward to point. Estimer le nombre de dixièmes du carré entre cette ligne et le repère en direction nord		4
GRID REFERENCE		984
RÉFÉRENCE AU QUADRILLAGE		976984

Normally only grid intervals of 100 000 metres (about 62 miles) appear on the margins of a map; at 1:50 000 metres, only every 6 (or more) appear.

TELKWA

COAST LAND DISTRICT RANGE 5

BRITISH COLUMBIA

Scale 1:50,000 Échelle

Miles 1 0 1 2 3 Milles

Metres 1000 0 1000 2000 3000 4000 Mètres

Yards 1000 0 1000 2000 3000 4000 Yarges

First edition map updated by the SURVEYS AND MAPPING BRANCH, DEPARTMENT OF ENERGY, MINES AND RESOURCES, from aerial photographs taken in 1968. Culture check 1971. Printed 1975

Copies may be obtained from the Canada Map Office, Department of Energy, Mines and Resources, Ottawa, or your nearest map dealer

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Roads	Routes	all weather	over 2 lanes
hard surface, all weather	pavée, toute saison	2 chaussées séparées	plus de 2 voies
hard surface, all weather	pavée, toute saison	2 voies	plus de 2 voies
loose or stabilized surface, all weather	gravier aggloméré, toute saison	2 voies or more	plus de 2 voies
loose surface, dry weather and unclassified streets	de gravier, temps sec et rues hors classe	2 voies ou plus	moins de 2 voies
cart track	de terre		
trail or portage	sentier ou portage		

This Provisional Map is equivalent to a standard map in accuracy of content

Some names on this map are not yet official. Corrections or additions are invited by the Surveys and Mapping Branch

CONTOUR INTERVAL 100 FEET
Elevations in Feet above Mean Sea Level
North American Datum 1927
Transverse Mercator Projection

Cette carte provisoire équivaut une carte régulière au point de vue précision de l'information

Certains noms inscrits sur cette carte ne sont pas encore officiels. La Direction des levés et de la cartographie saurait gré au public de lui signaler corrections et additions

ÉQUIDISTANCE DES COURBES 100 PIEDS
Élévations en pieds au-dessus du niveau moyen de la mer
Système de référence géodésique nord-américain 1927
Projection transverse de Mercator

Première édition mise à jour par la DIRECTION DES LEVÉS ET DE LA CARTOGRAPHIE, MINISTÈRE DE L'ÉNERGIE, DES MINES ET DES RESSOURCES, à l'aide de photographies aériennes prises en 1968. Vérification des ouvrages en 1971. Imprimée en 1975

Ces cartes sont en vente au Bureau des Cartes du Canada, ministère de l'Énergie, des Mines et des Ressources, Ottawa, ou chez le vendeur le plus près

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TK-Smithers 93L/11A

Crows Nest Resources Limited
EXPLORATION

West Central British Columbia
SMITHERS PROJECT
TELKWA RIVER AREA

GEOLOGY COMPILATION MAP 2/2

233 (2)

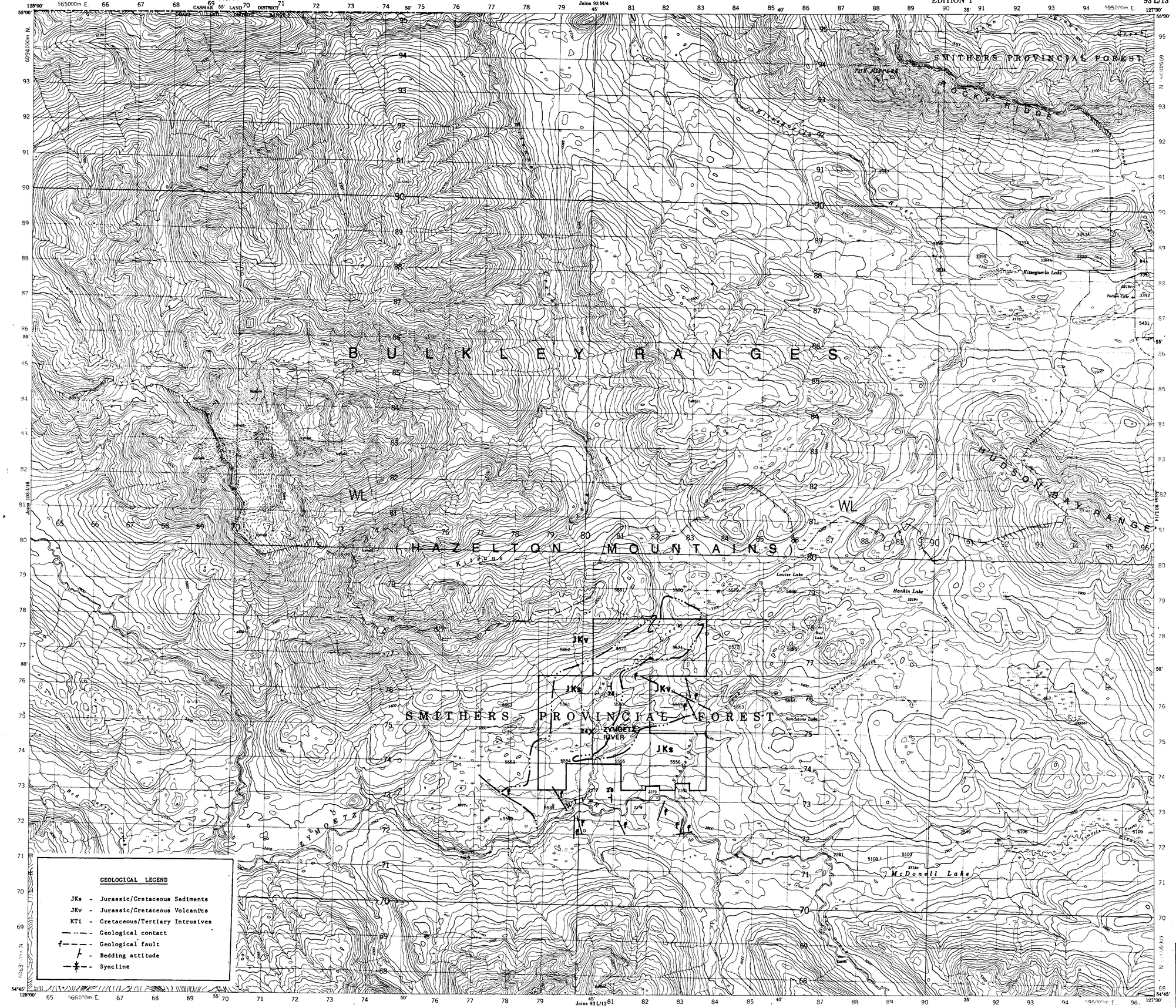
AUTHOR: D. HANDY	SCALE: 1:50,000	ENCLOSURE No: 2-1
DATE: DEC 15, 1981	REVISED:	DRAWING No:
To Accompany 1981 GEOLOGICAL REPORT		

93 L/13 — CANADA — EDITION 1 — 93 L/13

1:50,000

Joins 93 M/4

Refer to this map as: 93 L/13 EDITION 1 MCE SERIES A 721



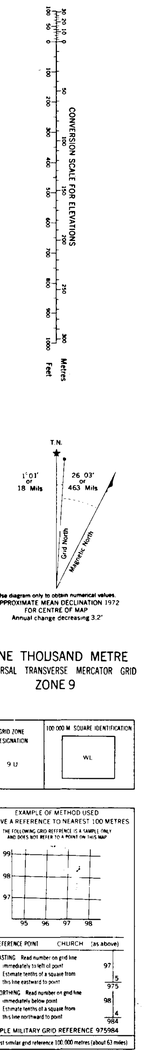
McDONELL LAKE
BRITISH COLUMBIA

Scale 1:50,000 Échelle

Miles 1 0 1 2 3 Milles

Metres 1000 0 1000 2000 3000 4000 Mètres

Yards 1000 0 1000 2000 3000 4000 Verges



Use diagram only to obtain numerical values.
APPROXIMATE MEAN DECLINATION 1972
FOR CENTRE OF MAP
Annual change decreasing 3.2'

ONE THOUSAND METRE
UNIVERSAL TRANSVERSE MERCATOR GRID
ZONE 9

GRID ZONE DESIGNATION 9 U — 100 000 M SQUARE IDENTIFICATION WL

EXAMPLE OF METHOD USED TO GIVE A REFERENCE TO NEAREST 100 METRES

THE FOLLOWING GRID REFERENCE IS A SAMPLE ONLY AND DOES NOT REFER TO A POINT ON THIS MAP

REFERENCE POINT	CHURCH (as above)
EASTING Read number on grid line immediately to left of point	97
Estimate tenths of a square from this line eastward to point	5
	975
NORTHING Read number on grid line immediately below point	98
Estimate tenths of a square from this line northward to point	4
	984

EXAMPLE MILITARY GRID REFERENCE 975984

Nearest similar grid reference 100 000 metres (about 63 miles)

233 2/2 ③ TR-Smithers 81L13A

Crows Nest Resources Limited
EXPLORATION

West Central British Columbia

SMITHERS PROJECT

ZYMOETZ RIVER

GEOLOGY COMPILATION MAP

AUTHOR: S. CAMERON	SCALE: 1:50,000	ENCLOSURE No: 2-2
DATE: DEC 15, 1981	REVISED:	DRAWING No:
To Accompany 1981 GEOLOGICAL REPORT		

Produced, 1970, by the SURVEYS AND MAPPING BRANCH, DEPARTMENT OF ENERGY, MINES AND RESOURCES, from aerial photographs taken in 1968. Field surveys 1968. Printed 1974.

Copies may be obtained from the Canada Map Office, Department of Energy, Mines and Resources, Ottawa, or your nearest map dealer.

© Canada Copyrights Reserved 1974.

Roads:	Routes:	2 lanes or more / 2 voies ou plus	less than 2 lanes / moins de 2 voies
loose or stabilized surface, all weather	gravier agglomériné, toute saison		
loose surface, dry weather and unclassified streets	de gravier, temps sec et rues hors classe		
cart track	de terre		
trail or portage	sentier ou portage		

This Provisional Map is equivalent to a standard map in accuracy of content.

Some names on this map are not yet official. Corrections or additions are invited by the Surveys and Mapping Branch.

CONTOUR INTERVAL 100 FEET
Elevations in Feet above Mean Sea Level
North American Datum 1927
Transverse Mercator Projection

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ÉQUIDISTANCE DES COURBES 100 PIEDS
Élévations en pieds au dessus du niveau moyen de la mer
Système de référence géodésique nord-américain, 1927
Projection transverse de Mercator

Établie, en 1970, par la DIRECTION DES LEVÉS ET DE LA CARTOGRAPHIE, MINISTÈRE DE L'ÉNERGIE, DES MINES ET DES RESSOURCES, d'après des photographies aériennes prises en 1968. Levés sur le terrain en 1968. Imprimée en 1974.

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93 L/6 1:50,000 **CANADA** EDITION 1 93 L/6

Joins 93 L/11

Refer to this map as: 93 L/6 EDITION 1 MCE SERIES A 721

CONVERSION SCALE FOR ELEVATIONS (Feet / Metres)

T.N. 1°25' or 25 Mils — 25°16' or 449 Mils — Grid North — Magnetic North

Use diagram only to obtain numerical values.
APPROXIMATE MEAN DECLINATION 1972
FOR CENTRE OF MAP
Annual change decreasing 3.1'

ONE THOUSAND METRE
UNIVERSAL TRANSVERSE MERCATOR GRID
ZONE 9

GRID ZONE DESIGNATION 9U — 100 000 M SQUARE IDENTIFICATION WL XL / WK XK

EXAMPLE OF METHOD USED TO GIVE A REFERENCE TO NEAREST 100 METRES
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		975
NORTHING Read number on grid line immediately below point	98	
Estimate tenths of a square from this line northward to point		4
		984

EXAMPLE MILITARY GRID REFERENCE 975984

Nearest similar grid reference 100 000 metres (about 63 miles)

Refer to this map as: 93 L/3 EDITION 1 MCE SERIES A 721

CONVERSION SCALE FOR ELEVATIONS (Feet / Metres)

T.N. 1°25' or 25 Mils — 25°02' or 445 Mils — Grid North — Magnetic North

Use diagram only to obtain numerical values.
APPROXIMATE MEAN DECLINATION 1972
FOR CENTRE OF MAP
Annual change decreasing 3.1'

ONE THOUSAND METRE
UNIVERSAL TRANSVERSE MERCATOR GRID
ZONE 9

GRID ZONE DESIGNATION 9U — 100 000 M SQUARE IDENTIFICATION WL XL / WK XK

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		984

EXAMPLE MILITARY GRID REFERENCE 975984

Nearest similar grid reference 100 000 metres (about 63 miles)

GEOLOGICAL LEGEND

- JKs - Jurassic/Cretaceous Sediments
- JKv - Jurassic/Cretaceous Volcanics
- KTi - Cretaceous/Tertiary Intrusives
- Geological contact
- Geological fault
- Bedding attitude
- Syncline

LAMPREY CREEK
BRITISH COLUMBIA

Scale 1:50,000 Échelle

Miles 1 — 0 — 2 — 3 Milles
Metres 1000 — 0 — 1000 — 2000 — 3000 — 4000 Mètres
Yards 1000 — 0 — 1000 — 2000 — 3000 — 4000 Verges

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Roads	Routes	2 lanes or more 2 voies ou plus	less than 2 lanes moins de 2 voies
loose or stabilized surface, all weather	gravier aggloméré, toute saison		
loose surface, dry weather and unclassified streets	de gravier, temps sec et voies non classées		
cart track	de ferme		
trail or portage	sentier ou portage		

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Elevations in Feet above Mean Sea Level
North American Datum 1927
Transverse Mercator Projection

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ÉQUIDISTANCE DES COURBES 100 Pieds
Élévations en pieds au dessus du niveau moyen de la mer
Système de référence géodésique nord américain 1927
Projection transverse de Mercator

Établie en 1970, par la DIRECTION DES LEVÉS ET DE LA CARTOGRAPHIE, MINISTÈRE DE L'ÉNERGIE, DES MINES ET DES RESSOURCES, d'après des photographies aériennes prises en 1968. Levés sur le terrain en 1968. Imprimée en 1974.

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233 2/2 (4) TK Smithers SHEETA

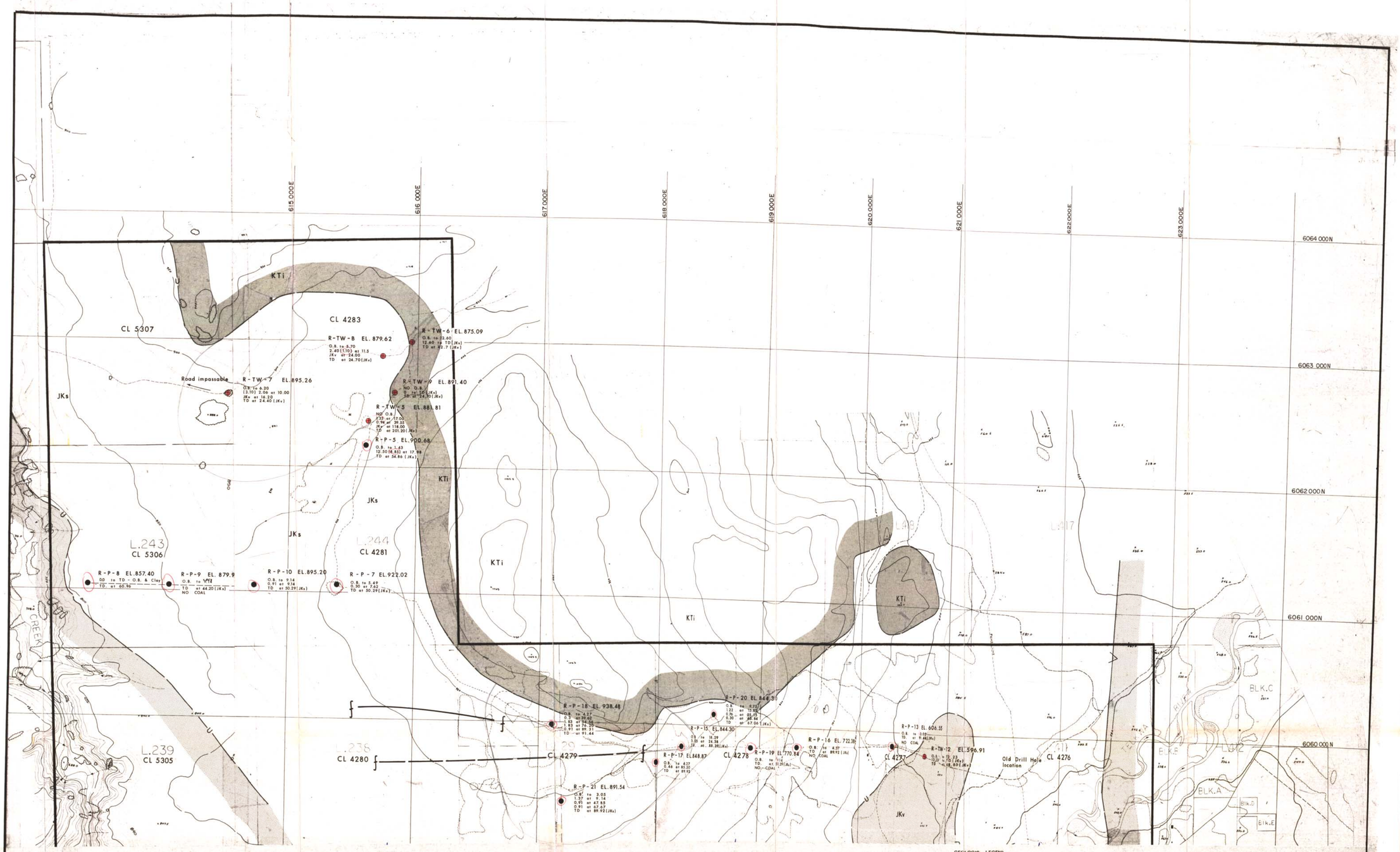
Crows Nest Resources, Limited
EXPLORATION

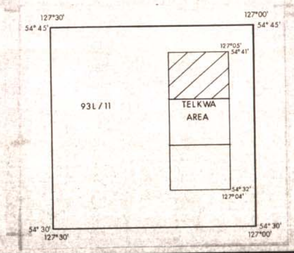
West Central British Columbia
SMITHERS PROJECT

DENYS CREEK
THAUTIL RIVER
CHISHOLM LAKE

GEOLOGY COMPILATION MAP

AUTHOR: HANDY/CAMERON	SCALE: 1:50,000	ENCLOSURE No: 2-3
DATE: DEC 15, 1981	REVISED:	DRAWING No:
To Accompany 1981 GEOLOGICAL REPORT		





TOPOGRAPHIC LEGEND

- CONTOURS
- INTERMITTENT STREAM
- RIVER OR LAKE
- TREED AREA
- ROAD
- TRAIL
- APPROXIMATE COAL LICENCE BOUNDARY

True North — Grid North — Magnetic North

UTM 9

0 500 1000m
1:10 000

GEOLOGIC LEGEND

- JKs — U. JURASSIC / L. CRETACEOUS SEDIMENT
- JKv — U. JURASSIC / L. CRETACEOUS VOLCANICS
- KTi — CRETACEOUS / TERTIARY INTRUSIVE
- BEDDING ATTITUDE
- OUTCROP
- UNCONFORMABLE CONTACT (INFERRED FROM AIR-PHOTO INTERPRETATION IN AREAS WITH NO OUTCROP)
- DEFINED FAULT
- POSSIBLE FAULT
- ALIGNMENT OF UNKNOWN GEOLOGICAL SIGNIFICANCE
- DRILL HOLE (LOC'N SURVEYED)
- DRILL HOLE (LOC'N APPROX.)

Drill Hole Data - ie 5.12 (5.00) or 60.0 indicates 5.12m Coal Zone (including splits & carb. mat'l.) starting at 60m depth and containing 5.00m clean coal.

Crows Nest Resources Limited

EXPLORATION

WEST CENTRAL BRITISH COLUMBIA

TELKWA AREA SMITHERS PROJECT

NTS-93L/11

233 3/2 (5) T.R. Smithers 31(2) A

AUTHOR: D. HANDY	SCALE: 1:10 000 UTM 9		ENCLOSURE No. 3
DATE: NOV. 29, 1979	REVISED: DEC. 31, 1981		DRAWING No. HH-39C North
To Accompany			

1 of 3

R-TW-10 EL. 754.13
OB to ~45.00
11.4 (10.3) at 99.20
1.10 at 111.90
1.20 at 119.80
TD at 225.90 (JKs)
R-TW-11 EL. 658.89
ABANDONED AFTER 7.50m (lost circulation thru gravel)
TW-81R-110 (Abandoned O/B)
TW-81R-111
Avelling Coal Mine 1920-1921
Betty Seam exposed at water level 3.05m
Normal Fault-5m Displacement
Strat. section measured with Coal 4.56 (2.20) at EL. 651.00
Igneous Dyke Vertical, ~3m wide Green, Porphyritic
4 coal seams 5-1m each separated by 1m mudstone
TK-79-1 EL. 593
O.B. to 68.6
68.6 to 91.4 (JKs)
91.4 to TD (JKv)
TD at 106.2
NO COAL
Normal Fault 5m displacement
Coal O.C. seen from air
Andesite Dykes
Block Faulting-2m Displacement
Coal Seam measures 0.45m
Congl.
Fault Displacement?
Fault Contact
Bedded
No Outcrop
Power Line
TK-78-2 EL. 677
O.B. to 106.7
ABANDONED
TK-78-1 EL. 717
O.B. to 83.8
ABANDONED
Tunnel found in this area. Bearing N130E (possibly 1918)
Coal Float & Sedimentary Float visible in creek
Sedimentary section measured (with Coal) June 30/79 2.66m
R-TW-4 EL. 604.70
OB to 16.75
16.75 to TD (JKv)
TD at 71.3 (JKv)
TW-81R-102 (Abandoned O/B)
TW-81R-103 (Abandoned O/B)
CL 4275
CL 4274
CL 4272
CL 4271
McNeill mine (pre 1930) 3.05m seam
Coal Seam Outcrop 3.0m
R-TW-1 EL. 670.48
OB. to 2.50
4.00 (2.70) at 108.30
TD at 189.00 (JKs)
MEASURED SECTION 81-07-03
Luscar open pit
TK-78-5 EL. 735
Stripped Coal pit (1.3m)
Bulkley Valley Collieries 5.12 (5.00)
R-TW-13 EL. 719.08m
O.B. to 2.50
1.88 at 3.88
2.63 at 7.24
TD at 128.00 (JKs)
R-TW-2 EL. 744.08m
O.B. to 1.50
1.88 at 45.40
2.10 at 49.5
12.50 (8.63) at 56.40
6.80 (2.09) at 80.00
5.20 (3.15) at 94.40
TD at 237.80 (JKs)
B.V.C. No. 2 Mine 1943-1951 90,500T
TW-81R-107
TW-81R-109 (Abandoned in O/B)
TK-79-4 EL. 787
O.B. to 39.6
39.6 to 99.1 (JKs)
TD at 99.1
NO COAL
TW-81R-104
B.V.C. No. 1 Mine 1930-1943 60,000T
TK-78-4 EL. 832
O.B. to 30.8
3.81 (3.20) at 31.2
0.61 at 37.5
2.11 (1.21) at 63.9
1.4 at 67.8
TD at 108.8 (JKs)
Strat. Cross-Section
B.V.C. No. 3 Mine 8.66m
1950-1951 23,500T
Meas. section 81-01 faulted Coal outcrop 0.8m coal roof not exposed underlain by finely lam sandstone
coal floor not exposed overlain by grey mudstone
TW-81R-112
TW-81R-105
TW-81R-106 (Abandoned in O/B)
no bedding
CL 4270
CL 4269
CL 4267
No Sedimentary Outcrop is visible in Tenas Cr. in this area. There is Sed. float consisting of Congl., Ss. & trace Coal
TW-81R-108
Red Volcanic Outcrop at water level
Some sedimentary float trace Coal float.
TENAS CREEK
FOUR CREEK
6 058 000N
6 057 000N
6 056 000N
6 055 000N
6 054 000N
6 053 000N
6 052 000N
615 000E
616 000E
617 000E
618 000E
619 000E
620 000E
621 000E
93L/11
TELKWA AREA
54°40'
54°32'
54°30'
127°03'
127°04'
127°00'
127°30'
True North
Grid North
Magnetic North
UTM 9
TOPOGRAPHIC LEGEND
CONTOURS
INTERMITTENT STREAM
RIVER OR LAKE
TREED AREA
ROAD
TRAIL
APPROXIMATE COAL LICENCE BOUNDARY
0 500 1000m
1:10000
GEOLOGIC LEGEND
JKs U. JURASSIC/L. CRETACEOUS SEDIMENT
JKv U. JURASSIC/L. CRETACEOUS VOLCANICS
KTi CRETACEOUS/TERTIARY INTRUSIVE
BEDDING ATTITUDE
OUTCROP
UNCONFORMABLE CONTACT (INFERRED FROM AIR-PHOTO INTERPRETATION IN AREAS WITH NO OUTCROP)
DEFINED FAULT
POSSIBLE FAULT
ALIGNMENT OF UNKNOWN GEOLOGICAL SIGNIFICANCE.
Drill Hole Data-ie
233 2/2 6A

HIC LEGEND

CONTOURS

NTERMITTENT STREAM

RIVER OR LAKE

TREED AREA

ROAD

TRAIL

APPROXIMATE COAL LICENCE BOUNDARY 233 2/2 6

0 500 1000m
1:10000

GEOLOGIC LEGEND

JKs	U. JURASSIC / L. CRETACEOUS SEDIMENT
JKv	U. JURASSIC / L. CRETACEOUS VOLCANICS
KTi	CRETACEOUS / TERTIARY INTRUSIVE
	BEDDING ATTITUDE
	OUTCROP
	UNCONFORMABLE CONTACT (INFERRED FROM AIR-PHOTO INTERPRETATION IN AREAS WITH NO OUTCROP)
	DEFINED FAULT
	POSSIBLE FAULT
	ALIGNMENT OF UNKNOWN GEOLOGICAL SIGNIFICANCE.

⊕ DRILL HOLE (LOC'N SURVEYED)
○ DRILL HOLE (LOC'N APPROX)

Drill Hole Data-ie 5.12 (5.00) at 60.0 indicates 5.12 m Coal Zone (including splits & carb. matl.) starting at 60m depth and containing 5.00m clean coal.

233 2/2 6B

T.E. Smithers 81(2)A

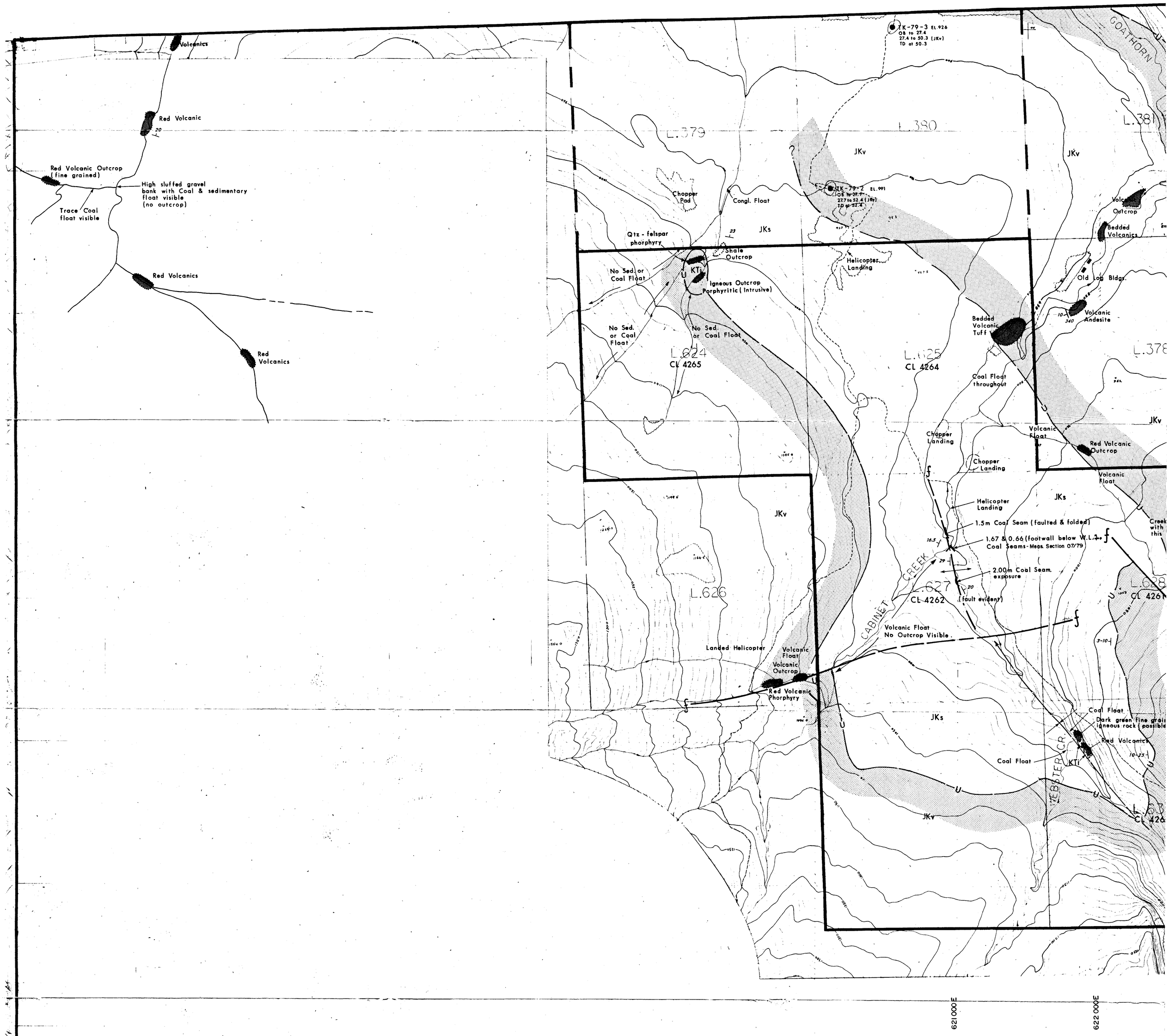
Crows Nest Resources Limited
EXPLORATION

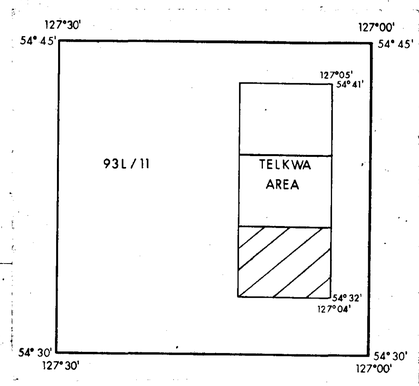
WEST CENTRAL BRITISH COLUMBIA

TELKWA AREA SMITHERS PROJECT

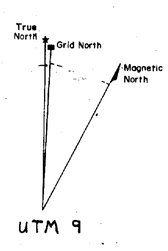
NTS 93L/11 CENTRAL

AUTHOR: D. HANDY	SCALE: 1:10,000 UTM 9	ENCLOSURE No. 3	
DATE: NOV 29, 1979	REVISED: DEC 15, 1981	DRAWING No. HH 39C 2 of 3	
By: Accompany			





TOPOGRAPHIC LEGEND



- CONTOURS
- INTERMITTENT STREAM
- RIVER OR LAKE
- TREED AREA
- ROAD
- TRAIL
- APPROXIMATE COAL LICENCE BOUNDARY

0 200m 400m 600m 800m 1000m

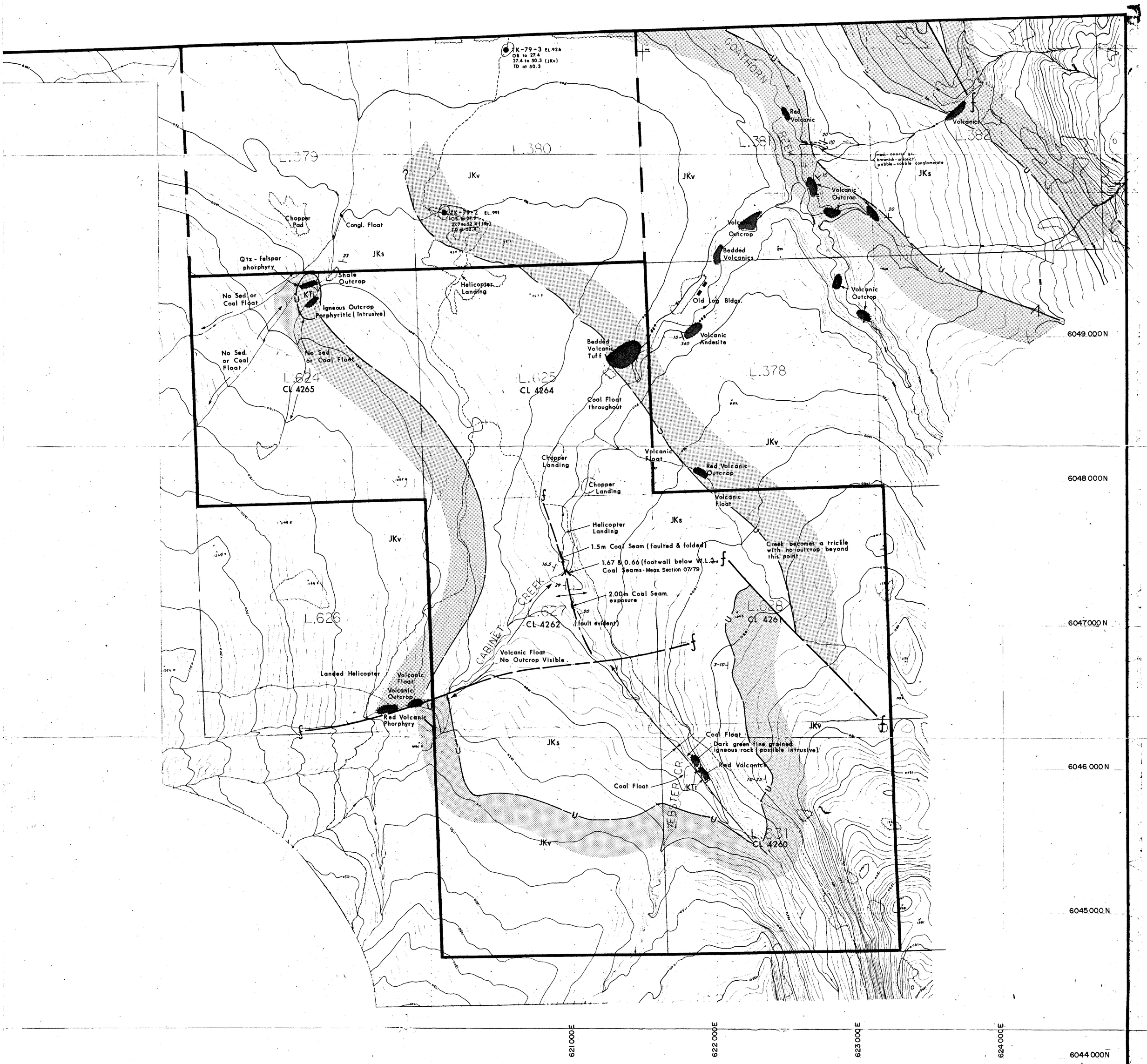
SCALE 1:10 000

GEOLOGIC LEGEND

- JKs — U. JURASSIC / L. CRETACEOUS SEDIME
- JKv — U. JURASSIC / L. CRETACEOUS VOLCAN
- KTi — CRETACEOUS / TERTIARY INTRUSIVE
- BEDDING ATTITUDE
- OUTCROP
- UNCONFORMABLE CONTACT (INFERRE FROM AIR-PHOTO INTERPRETATION WITH NO OUTCROP)
- DEFINED FAULT
- POSSIBLE FAULT
- ALIGNMENT OF UNKNOWN GEO SIGNIFICANCE.
- DRILL HOLE (LOC'N SURVEYED)
- DRILL HOLE (LOC'N APPROX)

Drill Hole Data-ie 5.12 (5.00) at 60.0 indicates 5.12m (including splits & carb. matl.) s 60m depth and containing 5.0

233 2/2 7A



TOPOGRAPHIC LEGEND

- CONTOURS
- INTERMITTENT STREAM
- RIVER OR LAKE
- TREED AREA
- ROAD
- TRAIL
- APPROXIMATE COAL LICENCE BOUNDARY

True North — Grid North — Magnetic North

UTM 9

0 200m 400m 600m 800m 1000m

SCALE 1:10 000

GEOLOGIC LEGEND

JKs	U. JURASSIC / L. CRETACEOUS SEDIMENT
JKv	U. JURASSIC / L. CRETACEOUS VOLCANICS
KTi	CRETACEOUS / TERTIARY INTRUSIVE
	BEDDING ATTITUDE
	OUTCROP
	UNCONFORMABLE CONTACT (INFERRED FROM AIR-PHOTO INTERPRETATION IN AREAS WITH NO OUTCROP)
f	DEFINED FAULT
f	POSSIBLE FAULT
	ALIGNMENT OF UNKNOWN GEOLOGICAL SIGNIFICANCE.
⊕	DRILL HOLE (LOC'N SURVEYED)
○	DRILL HOLE (LOC'N APPROX)
Drill Hole Data-ie	5.12 (5.00) at 60.0 indicates 5.12m Coal Zone (including splits & carb. matl.) starting at 60m. depth and containing 5.00m clean coal.

233 2/2 (7) B

T.K. Smithers 81C21A

Crows Nest Resources Limited

EXPLORATION

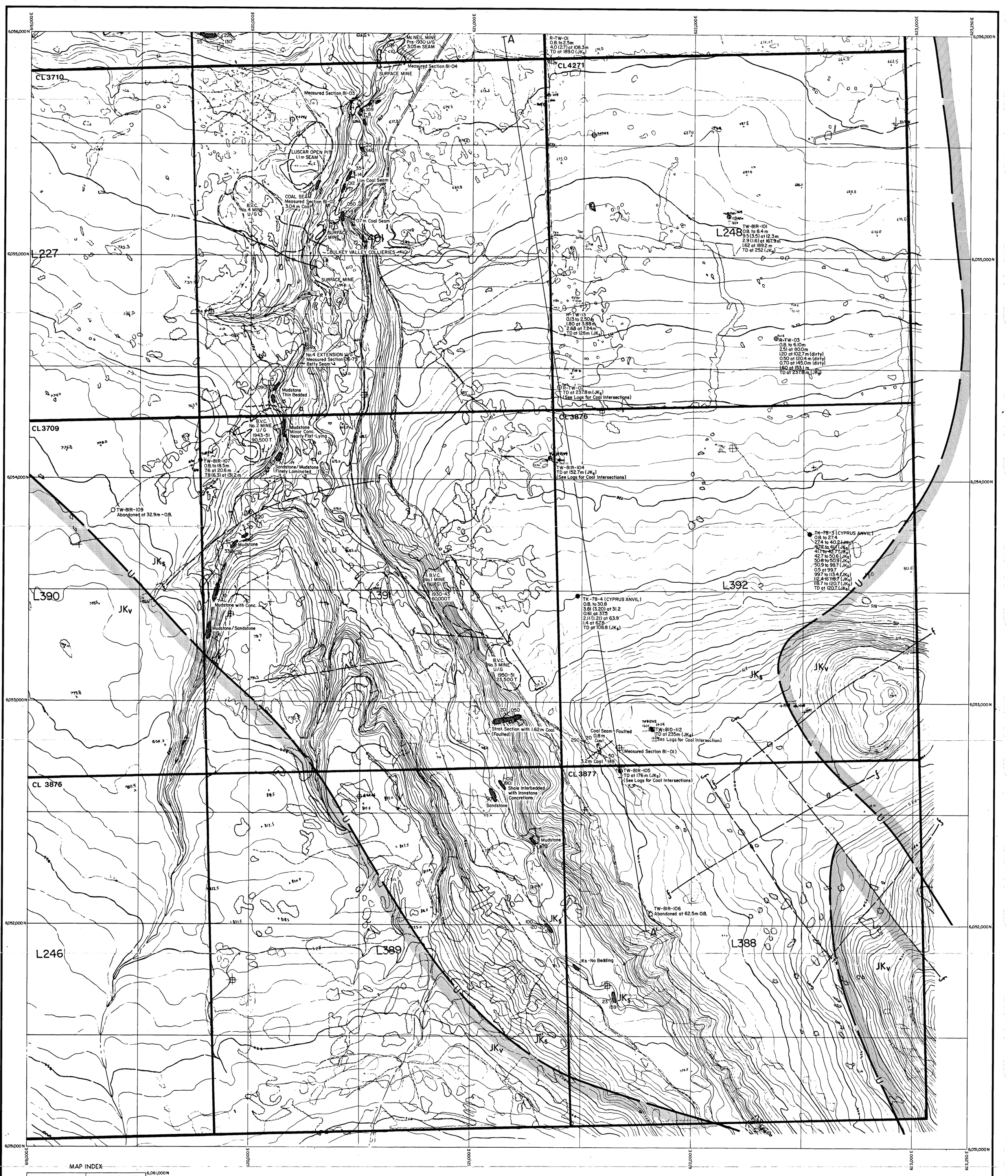
WEST CENTRAL BRITISH COLUMBIA

TELKWA AREA SMITHERS PROJECT

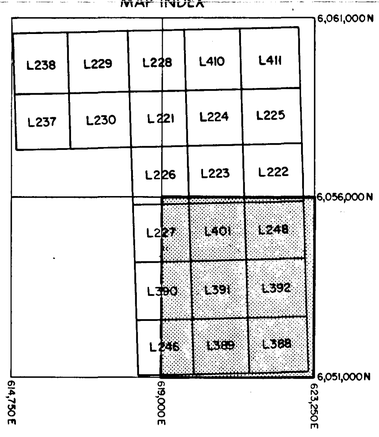
NTS-93L/11

AUTHOR: D. HANDY	SCALE: 1:10 000	ENCLOSURE No: 3
DATE: NOV. 29, 1979	REVISED: DEC. 15, 1981	DRAWING No: HH-39C South
To Accompany		

3 of 3



MAP INDEX



G.N.
T.N.
UTM 9

TOPOGRAPHICAL LEGEND

- CONTOUR INTERVAL (900, 875)
- INTERMITTENT STREAM
- RIVER OR LAKE
- TREED AREA
- ROAD
- TRAIL
- APPROXIMATE COAL LICENCE BOUNDARY

GEOLOGICAL LEGEND

- JKs — UPPER JURASSIC / LOWER CRETACEOUS SEDIMENTS
- JKv — UPPER JURASSIC / LOWER CRETACEOUS VOLCANICS
- KTi — CRETACEOUS / TERTIARY INTRUSIVE
- 20 / 010 — BEDDING ATTITUDE
- OUTCROP
- U — UNCONFORMABLE CONTACT (INFERRED FROM AIR PHOTO INTERPRETATION IN AREAS OF NO OUTCROP)
- f — f DEFINED FAULT
- SMALL FAULT
- f — — f POSSIBLE FAULT
- A — ALIGNMENT OF UNKNOWN GEOLOGICAL SIGNIFICANCE (AIR PHOTO INTERPRETED)
- ⊕ DRILL HOLE (LOCATION SURVEYED)
- ○ OR ● DRILL HOLE (LOCATION APPROXIMATE)

DRILL HOLE DATA:

i.e.: 5.12 (5.00) at 60.0 INDICATES A 5.12m COAL ZONE (COAL AND ROCK SPLITS), 5.00 m OF CLEAN COAL, ROOF INTERSECTED AT 60.0 m DEPTH.

TW-81R-110 = TELKWA-1981-ROTARY HOLE-No.110

METRES 100 50 0 100 200 300 400 500 METRES

SCALE 1:5,000

233 2/2 (8)

TK-Smithers 81(2)A

Crows Nest Resources Limited

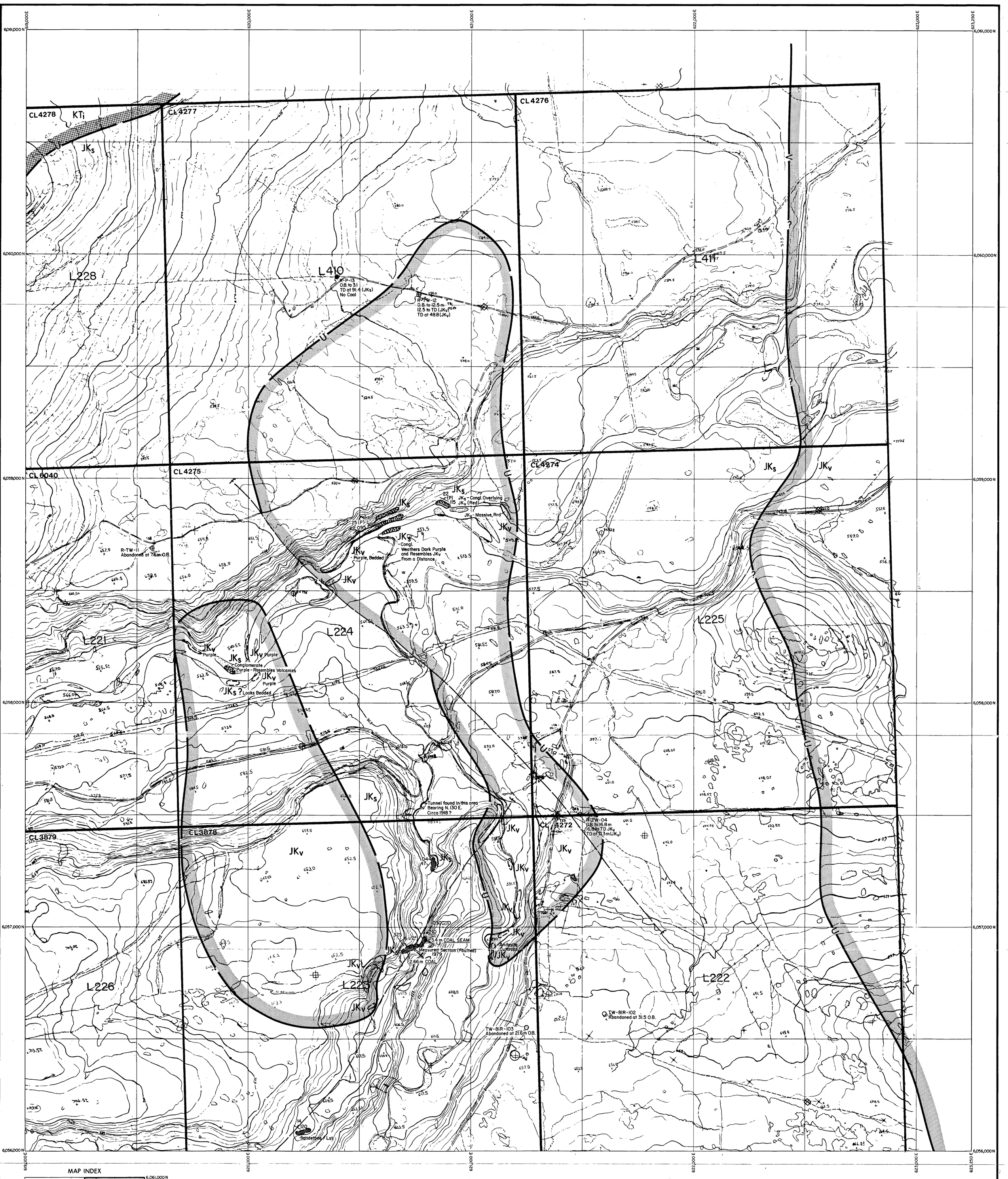
EXPLORATION

TELKWA AREA (SMITHERS PROJECT)
WEST CENTRAL, B.C.

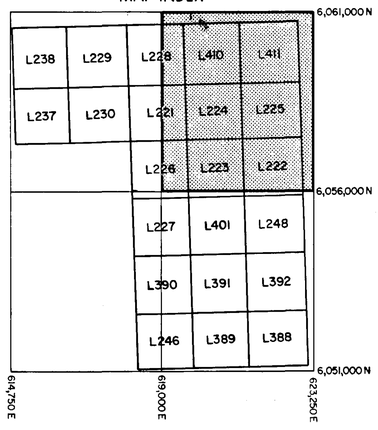
GEOLOGICAL MAP

NTS-93L/11 — 1 OF 3

AUTHOR: D. HANDY	SCALE: 1:5,000 UTM 9	ENCLOSURE No: 4
DATE: DEC. 15, 1981	REVISED:	DRAWING No: HJ-90
To Accompany SMITHERS GEOLOGICAL REPORT, 1981		



MAP INDEX



G.N.

T.N.

UTM 9

TOPOGRAPHICAL LEGEND

- 900 / 875 — CONTOUR INTERVAL
- INTERMITTENT STREAM
- RIVER OR LAKE
- TREED AREA
- ROAD
- TRAIL
- APPROXIMATE COAL LICENCE BOUNDARY

GEOLOGICAL LEGEND

- JKs — UPPER JURASSIC / LOWER CRETACEOUS SEDIMENTS
- JKv — UPPER JURASSIC / LOWER CRETACEOUS VOLCANICS
- KTi — CRETACEOUS / TERTIARY INTRUSIVE
- 20 / 010 — BEDDING ATTITUDE
- OUTCROP
- U — UNCONFORMABLE CONTACT (INFERRED FROM AIR PHOTO INTERPRETATION IN AREAS OF NO OUTCROP)
- f——f DEFINED FAULT
- SMALL FAULT
- f— —f POSSIBLE FAULT
- A — ALIGNMENT OF UNKNOWN GEOLOGICAL SIGNIFICANCE (AIR PHOTO INTERPRETED)
- ⊕ DRILL HOLE (LOCATION SURVEYED)
- ○ OR ● DRILL HOLE (LOCATION APPROXIMATE)

DRILL HOLE DATA:

i.e: 5.12 (5.00) at 60.0 INDICATES A 5.12m COAL ZONE (COAL AND ROCK SPLITS), 5.00m OF CLEAN COAL, ROOF INTERSECTED AT 60.0m DEPTH.

TW-81R-110 ⇒ TELKWA - 1981 - ROTARY HOLE - No. 110

METRES 100 50 0 100 200 300 400 500 METRES

SCALE 1:5,000

233 2/2 (9) TC-Smithers 81(7)A

Crows Nest Resources Limited

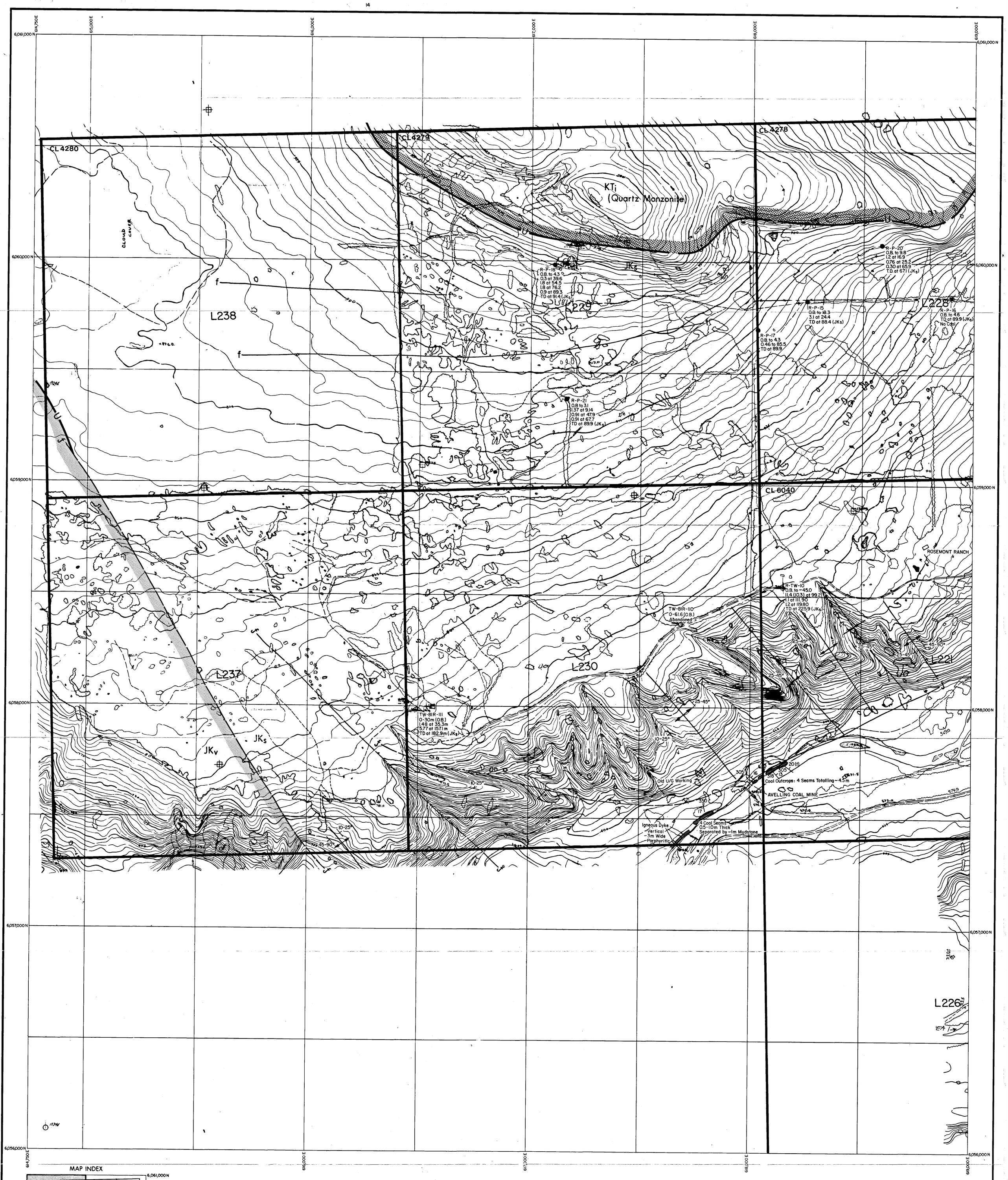
EXPLORATION

TELKWA AREA (SMITHERS PROJECT)
WEST CENTRAL, B.C.

GEOLOGICAL MAP

NTS-93L/11 — 2 OF 3

AUTHOR: D. HANDY	SCALE: 1:5,000 UTM 9	ENCLOSURE No: 4
DATE: DEC. 15. 1981	REVISED:	DRAWING No: HJ-90
To Accompany SMITHERS GEOLOGICAL REPORT, 1981		



MAP INDEX

L238	L229	L228	L410	L411
L237	L230	L221	L224	L225
		L226	L223	L222
		L227	L401	L248
		L390	L391	L392
		L246	L389	L388

6,061,000 N — 6,056,000 N — 6,051,000 N; 614,750 E — 619,000 E — 623,250 E

G.N.
T.N.
UTM 9

TOPOGRAPHICAL LEGEND

- CONTOUR INTERVAL (900, 875)
- INTERMITTENT STREAM
- RIVER OR LAKE
- TREED AREA
- ROAD
- TRAIL
- APPROXIMATE COAL LICENCE BOUNDARY

GEOLOGICAL LEGEND

- JKs — UPPER JURASSIC / LOWER CRETACEOUS SEDIMENTS
- JKv — UPPER JURASSIC / LOWER CRETACEOUS VOLCANICS
- KTi — CRETACEOUS / TERTIARY INTRUSIVE
- 20 / 010 — BEDDING ATTITUDE
- OUTCROP
- U — UNCONFORMABLE CONTACT (INFERRED FROM AIR PHOTO INTERPRETATION IN AREAS OF NO OUTCROP)
- f — f DEFINED FAULT
- SMALL FAULT
- f — — f POSSIBLE FAULT
- ALIGNMENT OF UNKNOWN GEOLOGICAL SIGNIFICANCE (AIR PHOTO INTERPRETED)
- ⊕ DRILL HOLE (LOCATION SURVEYED)
- ○ OR ● DRILL HOLE (LOCATION APPROXIMATE)

DRILL HOLE DATA:

i.e.: 5.12 (5.00) at 60.0 INDICATES A 5.12 m COAL ZONE (COAL AND ROCK SPLITS), 5.00 m OF CLEAN COAL, ROOF INTERSECTED AT 60.0 m DEPTH.

TW-81R-110 ⇒ TELKWA-1981-ROTARY HOLE-No. 110

METRES 100 50 0 100 200 300 400 500 METRES
SCALE 1:5,000

233 2/2 (10) TK-Smithers 81(2)A

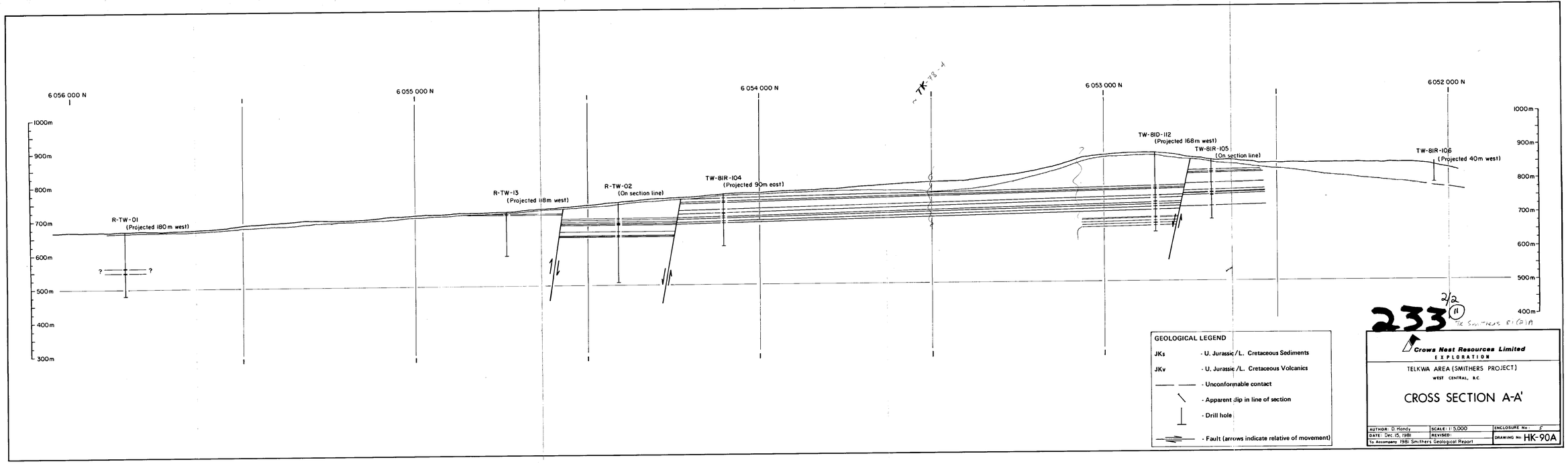
Crows Nest Resources Limited
EXPLORATION

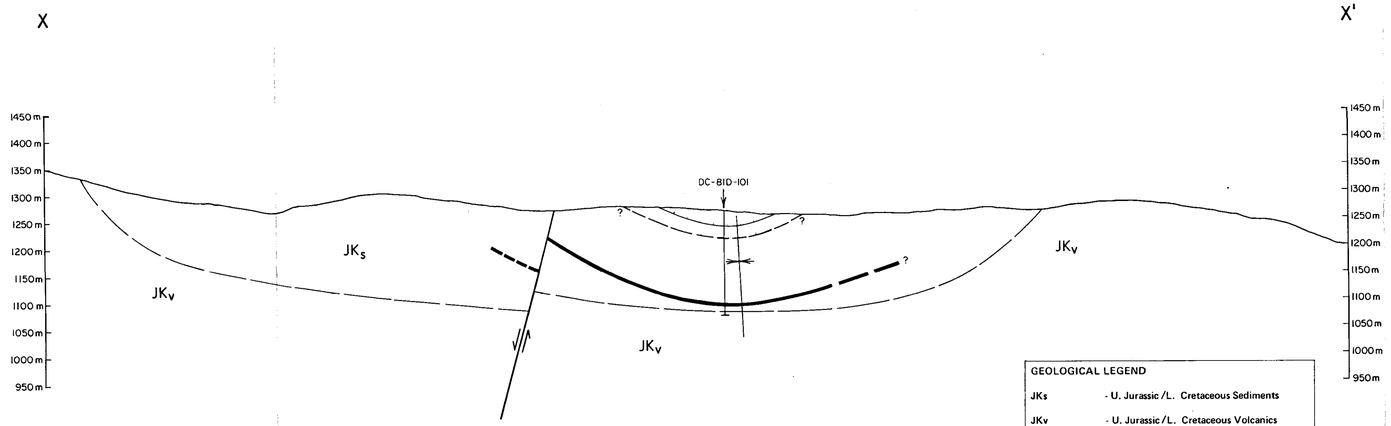
TELKWA AREA (SMITHERS PROJECT)
WEST CENTRAL, B.C.

GEOLOGICAL MAP

NTS-93L/11 — 3 OF 3

AUTHOR: D. HANDY	SCALE: 1:5,000 UTM 9	ENCLOSURE No: 4
DATE: DEC. 15, 1981	REVISED:	DRAWING No: HJ-90
To Accompany SMITHERS GEOLOGICAL REPORT, 1981		


6 056 000 N
6 055 000 N
6 054 000 N
6 053 000 N
6 052 000 N
1000m
900m
800m
700m
600m
500m
400m
300m
R-TW-01
(Projected 180m west)
R-TW-13
(Projected 118m west)
R-TW-02
(On section line)
TW-8IR-104
(Projected 90m east)
TW-8ID-112
(Projected 168m west)
TW-8IR-105
(On section line)
TW-8IR-106
(Projected 40m west)
GEOLOGICAL LEGEND
JKs - U. Jurassic/L. Cretaceous Sediments
JKv - U. Jurassic/L. Cretaceous Volcanics
- Unconformable contact
- Apparent dip in line of section
- Drill hole
- Fault (arrows indicate relative of movement)
Crows Nest Resources Limited
EXPLORATION
TELKWA AREA (SMITHERS PROJECT)
WEST CENTRAL, B.C.
CROSS SECTION A-A'
AUTHOR: D. Handy
SCALE: 1:5,000
ENCLOSURE No: 5
DATE: Dec. 15, 1981
REVISED:
DRAWING No: HK-90A
To Accompany 1981 Smithers Geological Report



GEOLOGICAL LEGEND

JKs	- U. Jurassic/L. Cretaceous Sediments
JKv	- U. Jurassic/L. Cretaceous Volcanics
—— ——	- Unconformable contact
	- Apparent dip in line of section
	- Drill hole
	- Fault (arrows indicate relative movement)

233 2/2 (12) F.K. Smithers 81(2)A

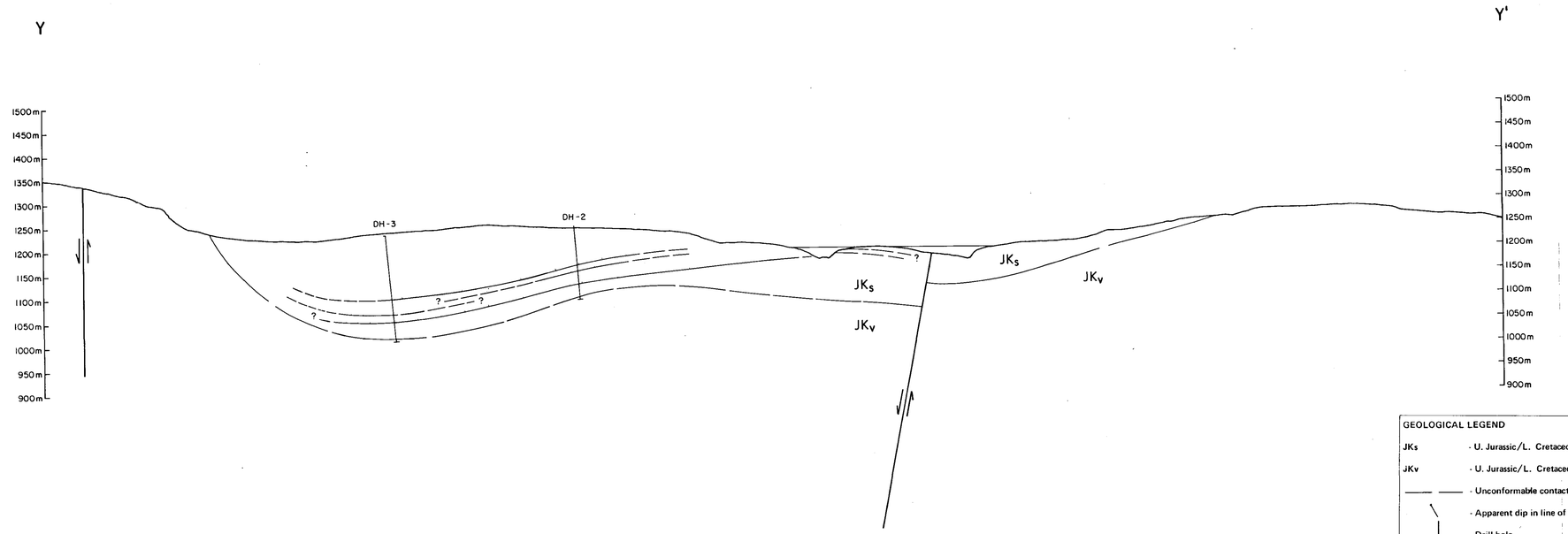
1 of 6

Crows Nest Resources Limited
EXPLORATION

DENY'S CREEK AREA (SMITHERS PROJECT)
WEST CENTRAL, B.C.

CROSS SECTION X-X'

AUTHOR: S. Cameron	SCALE: 1: 5,000	ENCLOSURE No: 9
DATE: Dec 15, 1981	REVISED:	DRAWING No: HK-90C
To Accompany 1981 Smithers Geological Report		



233 2/2 (13) T.C.-Smithers 81(2)A

2 of 6

GEOLOGICAL LEGEND

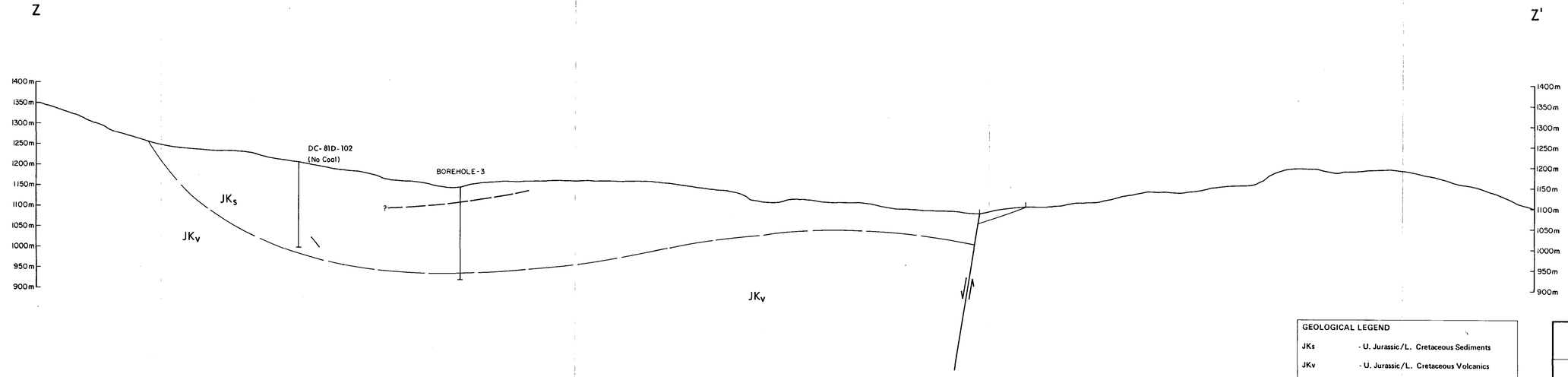
JKs	- U. Jurassic/L. Cretaceous Sediments
JKv	- U. Jurassic/L. Cretaceous Volcanics
	- Unconformable contact
	- Apparent dip in line of section
	- Drill hole
	- Fault (arrows indicate relative movement)

Crows Nest Resources Limited
EXPLORATION

DENY'S CREEK AREA (SMITHERS PROJECT)
WEST CENTRAL, B.C.

CROSS SECTION Y-Y'

AUTHOR: S. Cameron	SCALE: 1: 5 000	ENCLOSURE No: 9
DATE: Dec 15, 1981	REVISED:	DRAWING No: HK-90D
To Accompany 1981 Smithers Geological Report		



GEOLOGICAL LEGEND

JKs	- U. Jurassic/L. Cretaceous Sediments
JKv	- U. Jurassic/L. Cretaceous Volcanics
	- Unconformable contact
	- Apparent dip in line of section
	- Drill hole
	- Fault (arrows indicate relative movement)

2/2 TK-Smithers 81(2)A

233 (14)

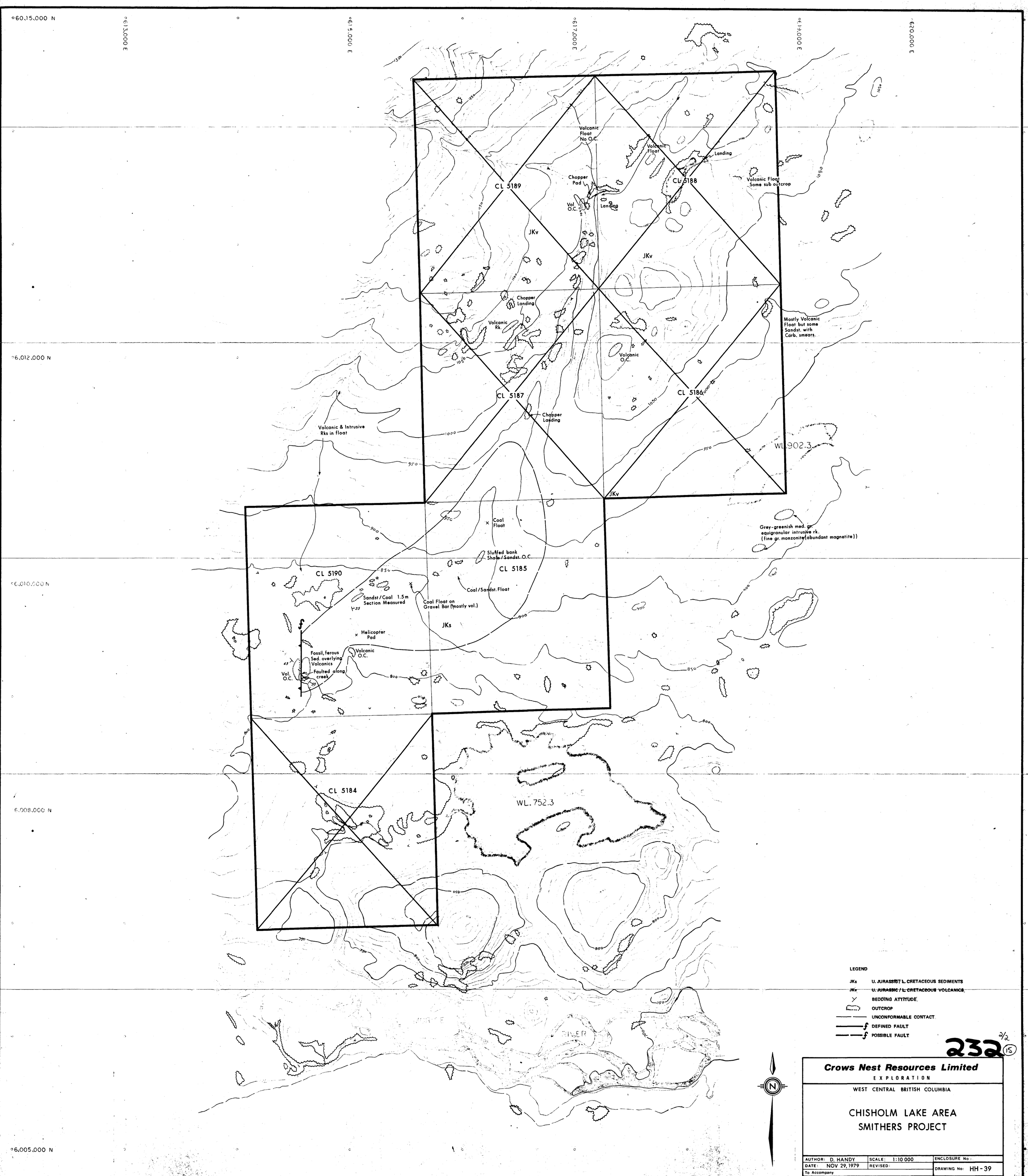
3 of 6

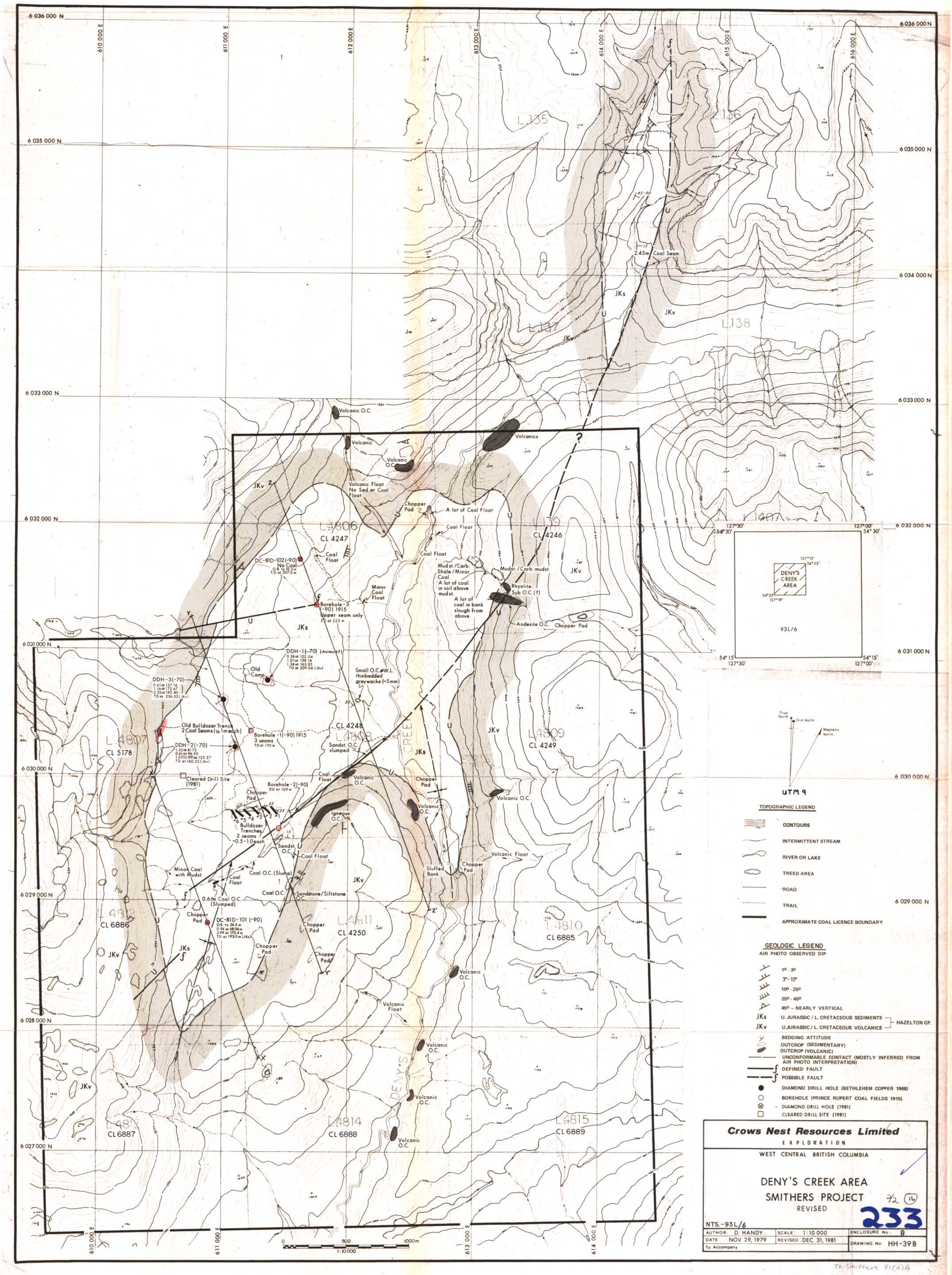
Crows Nest Resources Limited
EXPLORATION

DENY'S CREEK AREA (SMITHERS PROJECT)
WEST CENTRAL, B.C.

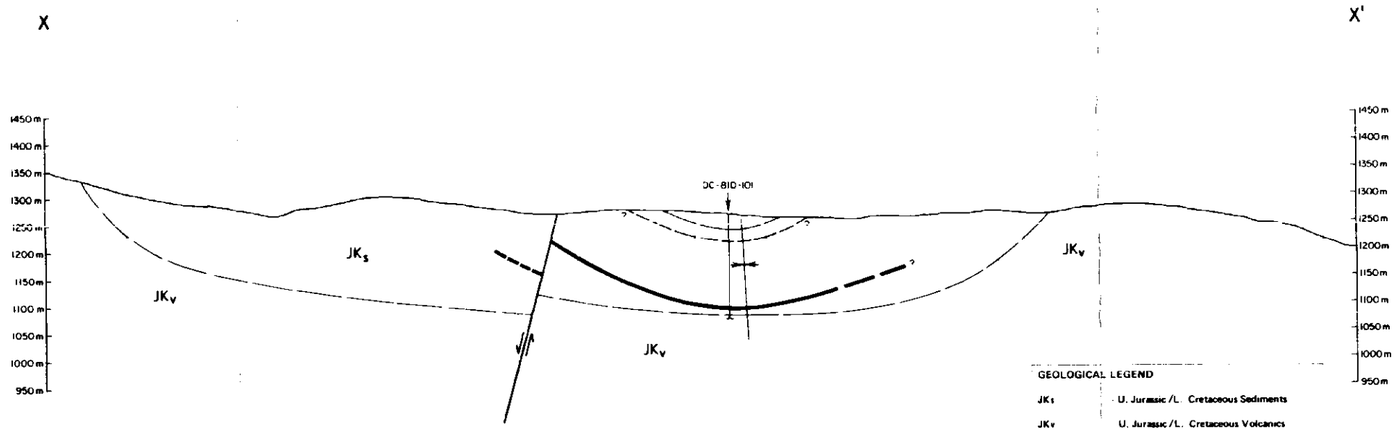
CROSS SECTION Z-Z'

AUTHOR: S. Cameron	SCALE: 1: 5 000	ENCLOSURE No.: 9
DATE: Dec. 15, 1981	REVISED:	DRAWING No: HK-90E
To Accompany: 1981 Smithers Geological Report		


6,015,000 N
613,000 E
615,000 E
617,000 E
619,000 E
621,000 E
6,012,000 N
6,010,000 N
6,008,000 N
6,005,000 N
CL 5189
CL 5188
CL 5187
CL 5186
CL 5190
CL 5185
CL 5184
JKv
JKs
Volcanic Float No O.C.
Volcanic Float
Landing
Chopper Pad
Vol O.C.
Volcanic Float Some sub outcrop
Chopper Landing
Volcanic Rk.
Volcanic O.C.
Mostly Volcanic Float but some Sandst. with Carb. smears.
Volcanic & Intrusive Rks in float
WL.902.3
Coal Float
Grey-greenish med. gr. equigranular intrusive rk. (fine gr. monzonite (abundant magnetite))
Slumped bank Shale/Sandst. O.C
Coal/Sandst. Float
Sandst/Coal 1.5m Section Measured
Coal Float on Gravel Bar (mostly vol.)
Helicopter Pad
Fossil, ferous Sed. overlying Volcanics
Volcanic O.C.
Faulted along creek
WL. 752.3
LEGEND
JKs U. JURASSIC / L. CRETACEOUS SEDIMENTS
JKv U. JURASSIC / L. CRETACEOUS VOLCANICS
BEDDING ATTITUDE
OUTCROP
UNCONFORMABLE CONTACT
DEFINED FAULT
POSSIBLE FAULT
232 2/2 (15)
Crows Nest Resources Limited
EXPLORATION
WEST CENTRAL BRITISH COLUMBIA
CHISHOLM LAKE AREA
SMITHERS PROJECT
AUTHOR: D. HANDY
SCALE: 1:10 000
ENCLOSURE No:
DATE: NOV 29, 1979
REVISED:
DRAWING No: HH-39
To Accompany



TK-Smithers 81(2)A



GEOLOGICAL LEGEND

JKs	U. Jurassic/L. Cretaceous Sediments
JKv	U. Jurassic/L. Cretaceous Volcanics
	Unconformable contact
	Apparent dip in line of section
	Drill hole
	Fault (arrows indicate relative movement)

233a

TK-Smithers 81(2)A

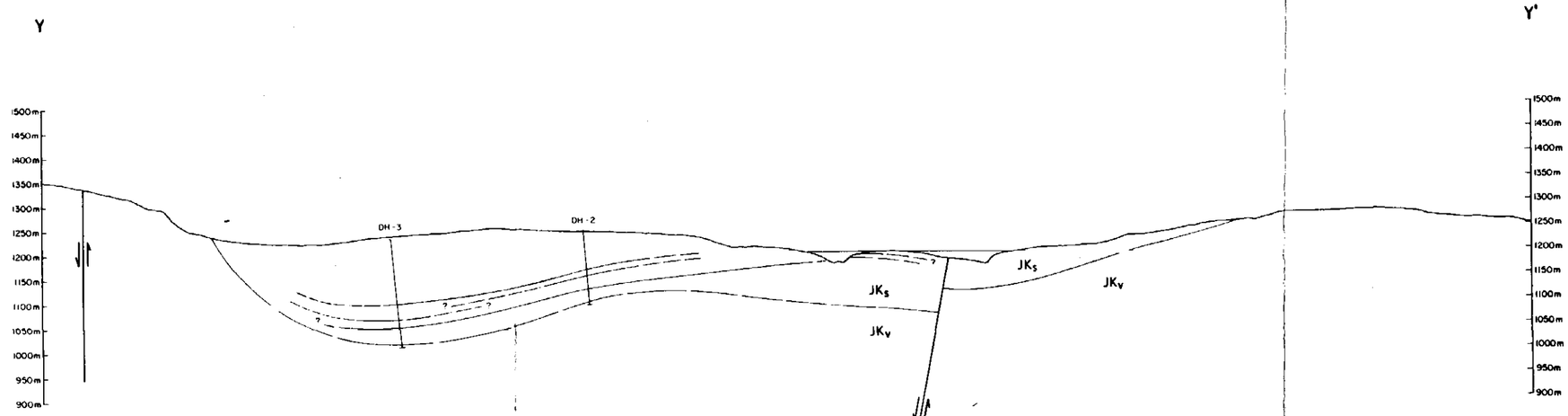
4 of 6

Crows Nest Resources Limited
EXPLORATION

DENY'S CREEK AREA (SMITHERS PROJECT)
WEST CENTRAL, BC

CROSS SECTION X-X'

AUTHOR S. Cameron	SCALE 1" 1000'	ENCLOSURE No 9
DATE Dec 15, 1981	REVISED	DRAWING No HK-90C
To Accompany 1981 Smithers Geological Report		



GEOLOGICAL LEGEND

JKs	- U. Jurassic/L. Cretaceous Sediments
JKv	- U. Jurassic/L. Cretaceous Volcanics
	- Unconformable contact
	- Apparent dip in line of section
	- Drill hole
	- Fault (arrows indicate relative movement)

233b

TK-Smithers 81(2)A

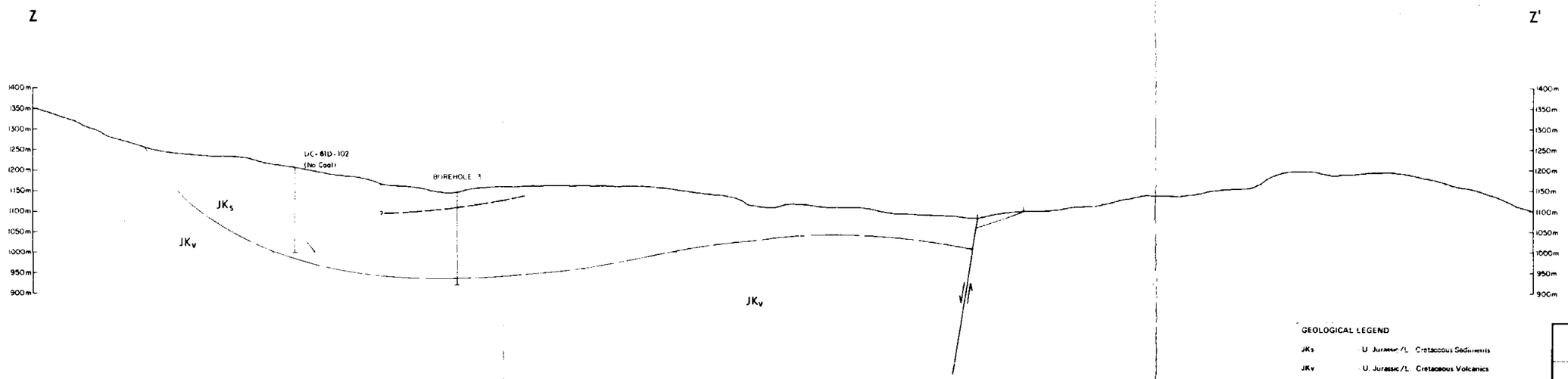
5 of 6

Crows Nest Resources Limited
EXPLORATION

DENY'S CREEK AREA (SMITHERS PROJECT)
WEST CENTRAL, B.C.

CROSS SECTION Y-Y'

AUTHOR: S. Cameron	SCALE: 1: 10000	ENCLOSURE No. 7
DATE: Dec. 15, 1981	REVISED	DRAWING No. HK-90D
To Accompany 1981 Smithers Geological Report		



233

TK-Smithers 81C21A

6 of 6

GEOLOGICAL LEGEND

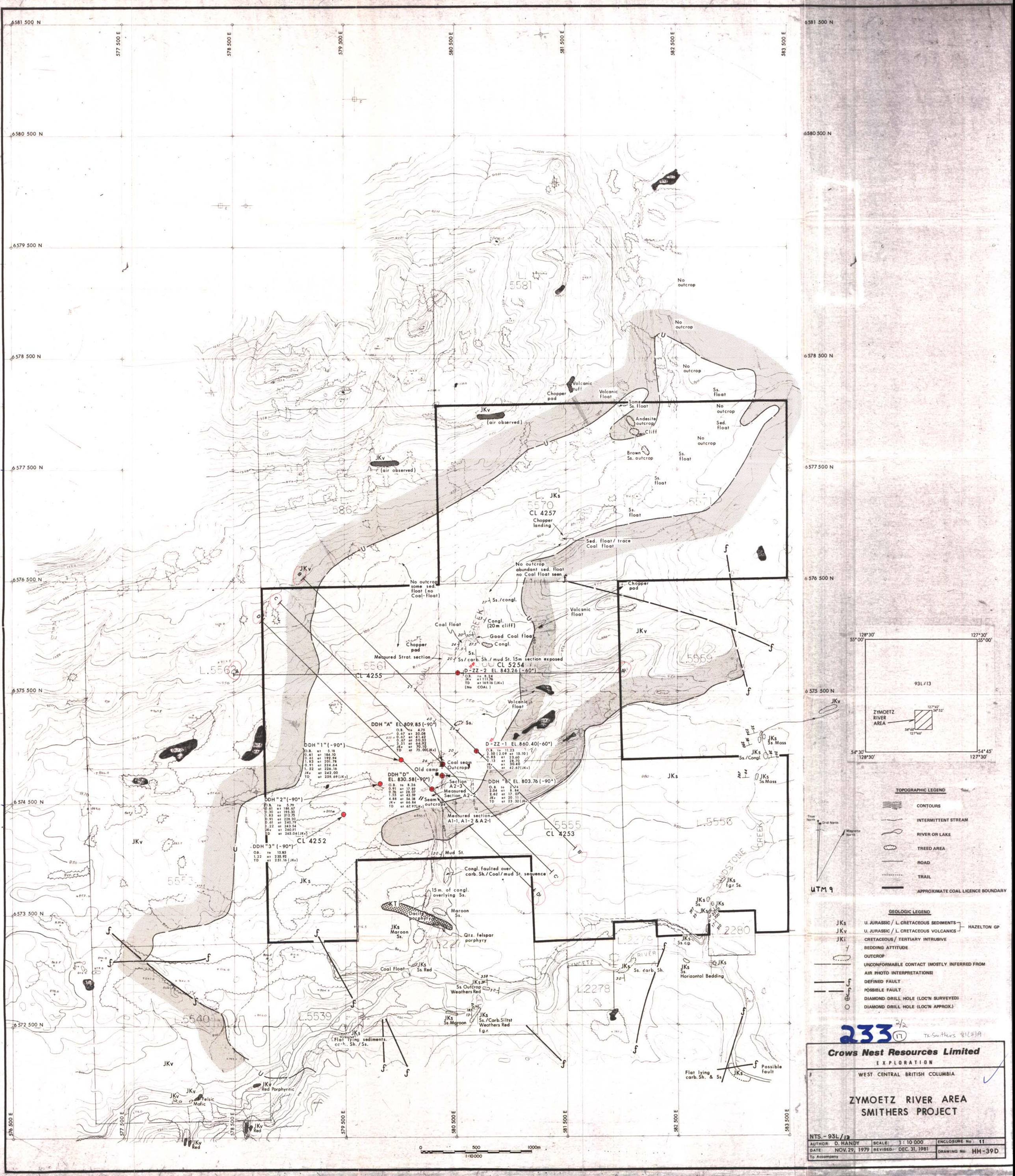
JKs	U. Jurassic/L. Cretaceous Sediments
JKv	U. Jurassic/L. Cretaceous Volcanics
	Unconformable contact
	Apparent dip in line of section
	Drill hole
	Fault (arrows indicate relative movement)

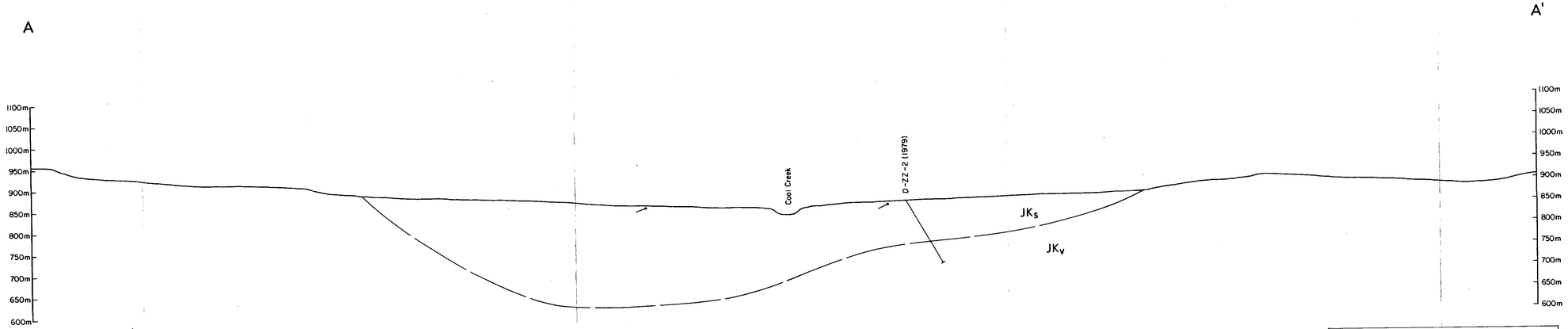
Crows Nest Resources Limited
EXPLORATION

JENNY'S CREEK AREA (SMITHERS PROJECT)
WEST CENTRAL B.C.

CROSS SECTION Z-Z'

AUTHOR L. Lamerton	SCALE 1:10000	ENCLOSURE No. 9
DATE Dec 15 1981	REVISED	DRAWING No. HK-90E
To Accompany 1981 Smithers Geological Report		


6581 500 N
6580 500 N
6579 500 N
6578 500 N
6577 500 N
6576 500 N
6575 500 N
6574 500 N
6573 500 N
6572 500 N
577 500 E
578 500 E
579 500 E
580 500 E
581 500 E
582 500 E
583 500 E
576 500 E
L. 5581
No outcrop
No outcrop
No outcrop
No outcrop
Volcanic tuff
Chopper pad
Volcanic float
Some Ss. float
Ss. float
No outcrop
Andesite outcrop
Cliff
Sed. float
No outcrop
Brown Ss. outcrop
Ss. float
Ss. float
Ss. float
JKv
(air observed)
JKv
(air observed)
L. 5862
L. JKs
5570
CL 4257
Chopper landing
Sed. float / trace Coal float
No outcrop abundant sed. float no Coal float seen
No outcrop some sed. float (no Coal-float)
Ss./congl.
Congl. (20m cliff)
Coal float
Good Coal float
Congl.
Ss.
Ss / carb. Sh. / mud St. 15m section exposed
Chopper pad
Measured Strat. section
L. 5562
L. 5561
CL 4255
CL 5254
D-ZZ-2 EL. 843.26 (-60°)
O.B. to 9.24
JKv at 111.56
TD at 169.16 (JKv)
(No COAL)
Volcanic float
Chopper pad
JKv
L. 5559
Volcanic float
Ss.
DDH "A" EL. 809.85 (-90°)
O.B. to 4.75
0.67 at 30.08
0.67 at 41.42
0.67 at 50.32
3.51 at 64.92
JKv at 70.10
TD at 75.00 (JKv)
D-ZZ-1 EL. 860.40 (-60°)
O.B. to 11.23
2.50 (2.09 at 13.10)
0.85 at 23.60
2.13 at 28.70
JKv at 30.40
TD at 42.67 (JKv)
DDH "1" (-90°)
O.B. to 5.18
0.61 at 184.10
0.61 at 192.94
1.83 at 201.78
0.91 at 224.64
1.52 at 226.16
JKv at 242.00
TD at 259.69 (JKv)
Coal seam Outcrops
Old camp
DDH "D" EL. 830.58 (-90°)
O.B. to 8.26
0.91 at 17.89
0.76 at 28.07
1.55 at 43.39
4.88 at 54.38
JKv at 66.84
TD at 67.97 (JKv)
Section A2-3
Measured Section A2-2
Seam outcrops
DDH "B" EL. 803.76 (-90°)
O.B. to 2.74
2.04 at 8.84
2.62 at 17.07
JKv at 20.11
TD at 23.32 (JKv)
JKs
JKs Ss. Mass
JKs Ss./Congl.
JKs Ss. Mass
DDH "2" (-90°)
O.B. to 5.79
0.61 at 188.67
0.30 at 195.33
1.83 at 212.75
0.91 at 228.30
0.61 at 240.79
1.22 at 243.54
JKv at 260.91
TD at 263.04 (JKv)
CL 4252
L. 5555
CL 4253
L. 5556
DDH "3" (-90°)
O.B. to 15.85
1.22 at 235.92
TD at 251.16 (JKs)
JKs
Mud St.
Congl. faulted over carb. Sh./Coal/mud St. sequence
15 m. of congl. overlying Ss.
KT
Dacite porphyry
Maroon Ss.
JKs Maroon Ss.
Qtz. felspar porphyry
JKs f.gr Ss.
JKs Ss.
JKs Ss.
JKs Ss.cg.
L. 2280
L. 2279
L. 2277
Coal Float
JKs Ss. Red
JKs Ss. carb. Sh.
JKs Ss. Horizontal Bedding
JKs
L. 2278
JKs Ss. Outcrop Weathers Red
JKs Ss. Maroon
JKs Ss./Carb. Siltst Weathers Red f.g.r.
L. 5540
L. 5539
JKs Flat lying sediments. carb. Sh./Ss.
JKv
JKv Red Porphyritic
JKv Felsic Mafic
JKv Red
JKv Red
Flat lying carb. Sh. & Ss.
JKs
Possible fault
0 500 1000m
1:10000
128°30' 127°30'
55°00' 55°00'
93L/13
ZYMOETZ RIVER AREA
127°42' 54°52'
54°48' 127°46'
54°30' 128°30'
54°45' 127°30'
TOPOGRAPHIC LEGEND
CONTOURS
INTERMITTENT STREAM
RIVER OR LAKE
TREED AREA
ROAD
TRAIL
APPROXIMATE COAL LICENCE BOUNDARY
True North
Grid North
Magnetic North
UTM 9
GEOLOGIC LEGEND
JKs U. JURASSIC / L. CRETACEOUS SEDIMENTS
JKv U. JURASSIC / L. CRETACEOUS VOLCANICS
HAZELTON GP
JKi CRETACEOUS / TERTIARY INTRUSIVE
BEDDING ATTITUDE
OUTCROP
UNCONFORMABLE CONTACT (MOSTLY INFERRED FROM AIR PHOTO INTERPRETATIONS)
DEFINED FAULT
POSSIBLE FAULT
DIAMOND DRILL HOLE (LOC'N SURVEYED)
DIAMOND DRILL HOLE (LOC'N APPROX.)
233 2/2 (17)
TK-Smithers 81(2)A
Crows Nest Resources Limited
EXPLORATION
WEST CENTRAL BRITISH COLUMBIA
ZYMOETZ RIVER AREA
SMITHERS PROJECT
NTS.- 93L/13
AUTHOR: D. HANDY
SCALE: 1 : 10 000
ENCLOSURE No: 11
DATE: NOV. 29, 1979
REVISED: DEC. 31, 1981
DRAWING No: HH-39D
To Accompany



233 2/2 (18)

TK-Smithers 81(2)A

1 of 8

GEOLOGICAL LEGEND

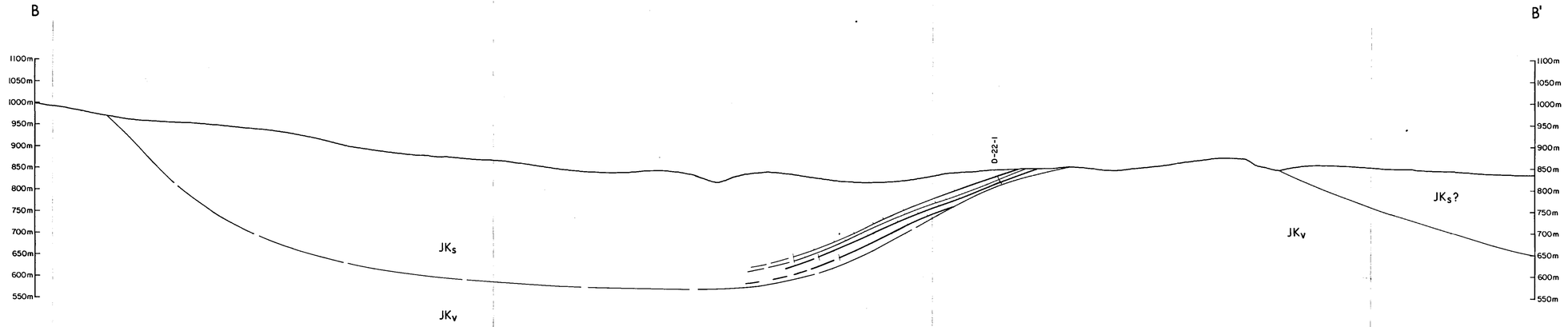
JKs	- U. Jurassic/L. Cretaceous Sediments
JKv	- U. Jurassic/L. Cretaceous Volcanics
—— ——	- Unconformable contact
	- Apparent dip in line of section
	- Drill hole
	- Fault (arrows indicate relative movement)

Crows Nest Resources Limited
EXPLORATION

ZYMOETZ RIVER AREA (SMITHERS PROJECT)
WEST CENTRAL, B.C.

CROSS SECTION A-A'

AUTHOR: S. Cameron	SCALE: 1: 5 000	ENCLOSURE No: 12
DATE: Dec 15, 1981	REVISED:	DRAWING No: HK-901
To Accompany 1981 Smithers Geological Report		



233 2/2 (19)

TK-Smithers E1(2)A

2 of 8

GEOLOGICAL LEGEND

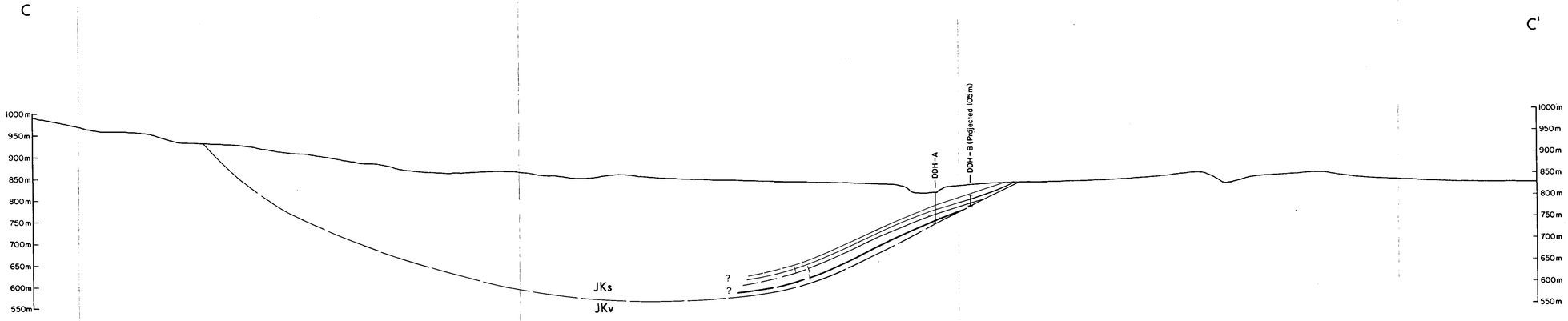
JKs	- U. Jurassic/L. Cretaceous Sediments
JKv	- U. Jurassic/L. Cretaceous Volcanics
—— ——	- Unconformable contact
\	- Apparent dip in line of section
⊥	- Drill hole
⇌	- Fault (arrows indicate relative movement)

Crows Nest Resources Limited
EXPLORATION

ZYMOETZ RIVER AREA (SMITHERS PROJECT)
WEST CENTRAL, B.C.

CROSS SECTION B-B'

AUTHOR: S. Cameron	SCALE: 1:5 000	ENCLOSURE No: 12
DATE: Dec. 15, 1981	REVISED:	DRAWING No: HK-90K
To Accompany 1981 Smithers Geological Report		



233 2/2 (20)

TK-Smithers 81(2)A

3 of 8

GEOLOGICAL LEGEND

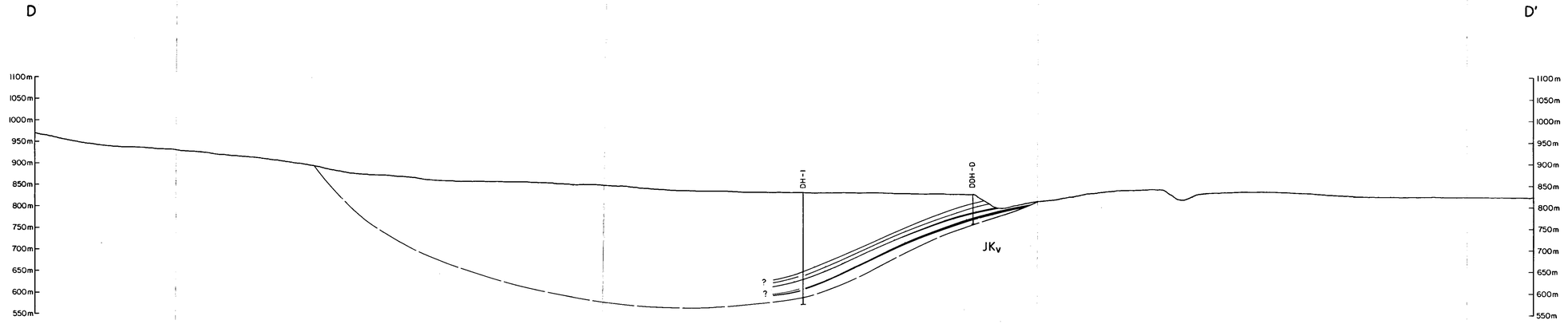
JKs	- U. Jurassic/L. Cretaceous Sediments
JKv	- U. Jurassic/L. Cretaceous Volcanics
	- Unconformable contact
	- Apparent dip in line of section
	- Drill hole
	- Fault (arrows indicate relative movement)

Crows Nest Resources Limited
EXPLORATION

ZYMOETZ RIVER AREA (SMITHERS PROJECT)
WEST CENTRAL, B.C.

CROSS SECTION C-C'

AUTHOR: S. Cameron	SCALE: 1:5 000	ENCLOSURE No: 12
DATE: Dec 15 1981	REVISED	DRAWING No: HK-90L
To Accompany 1981 Smithers Geological Report		



GEOLOGICAL LEGEND

JKs	- U. Jurassic/L. Cretaceous Sediments
JKv	- U. Jurassic/L. Cretaceous Volcanics
—— ——	- Unconformable contact
↖	- Apparent dip in line of section
⊥	- Drill hole
⇄	- Fault (arrows indicate relative movement)

233 2/2 (21)

TK-Smithers 81(21)A

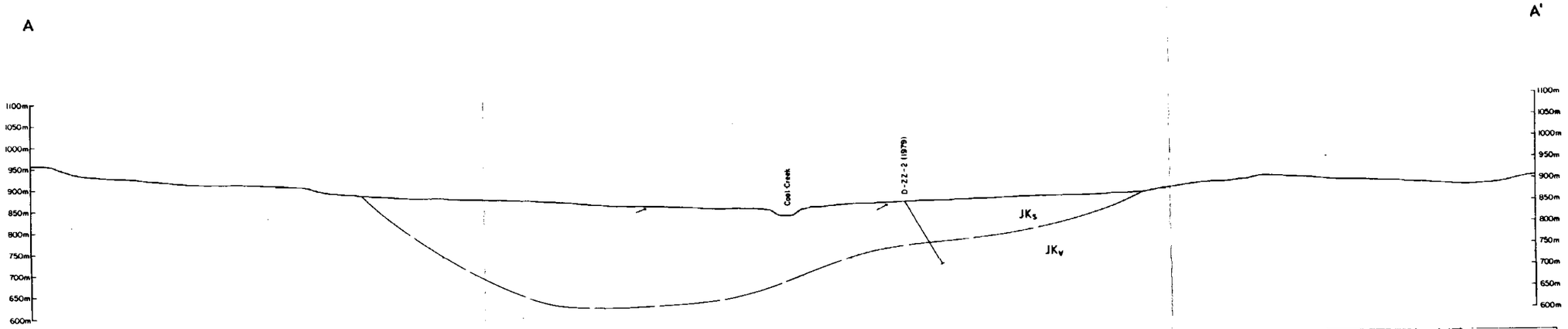
4 of 8

Crows Nest Resources Limited
EXPLORATION

ZYMOETZ RIVER AREA (SMITHERS PROJECT)
WEST CENTRAL, B.C.

CROSS SECTION D-D'

AUTHOR: S. Cameron	SCALE: 1: 5000	ENCLOSURE No: 12
DATE: Dec. 15 1981	REVISED:	DRAWING No: HK-90J
To Accompany 1981 Smithers Geological Report		



233d

TK-Smithers 81(2)A

5 of 8

GEOLOGICAL LEGEND

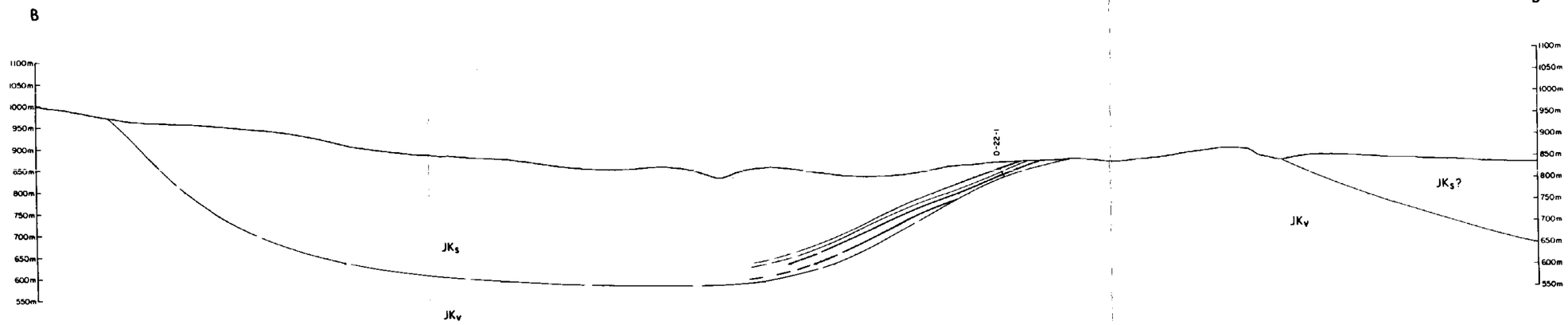
JKs	- U. Jurassic/L. Cretaceous Sediments
JKv	- U. Jurassic/L. Cretaceous Volcanics
— —	- Unconformable contact
	- Apparent dip in line of section
	- Drill hole
	- Fault (arrows indicate relative movement)

Crows Nest Resources Limited
EXPLORATION

ZYMOETZ RIVER AREA (SMITHERS PROJECT)
WEST CENTRAL, B.C.

CROSS SECTION A-A'

AUTHOR S. Cameron	SCALE 1:10,000	ENCLOSURE No. 12
DATE Dec. 15, 1981	REVISED	DRAWING No. HK-901
To Accompany 1981 Smithers Geological Report		



233

TK-Smithers e
81(2)A

6 of 8

GEOLOGICAL LEGEND

JKs	- U. Jurassic/L. Cretaceous Sediments
JKv	- U. Jurassic/L. Cretaceous Volcanics
	- Unconformable contact
	- Apparent dip in line of section
	- Drill hole
	Fault (arrows indicate relative movement)

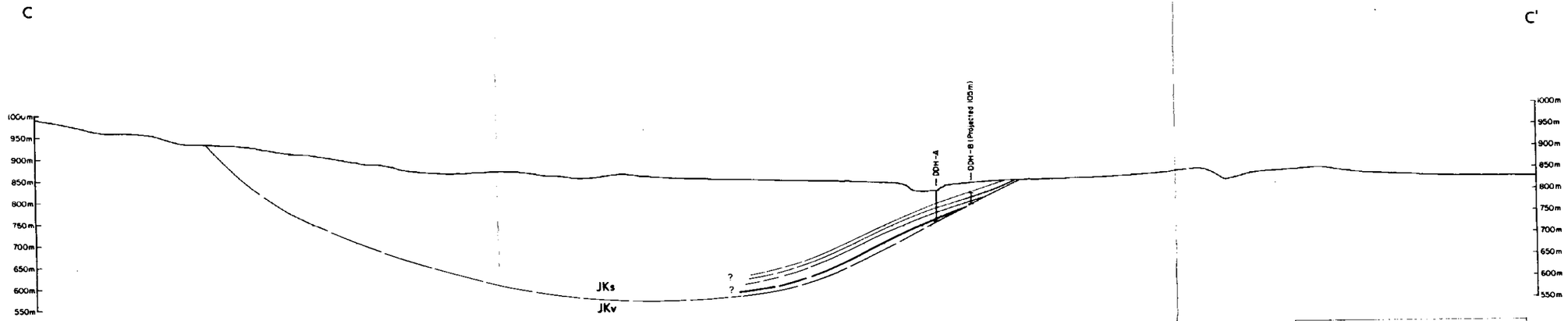
Crows Nest Resources Limited
EXPLORATION

ZYMOETZ RIVER AREA (SMITHERS PROJECT)
WEST CENTRAL, B.C.

CROSS SECTION B-B'

AUTHOR S. Cameron	SCALE 1:10,000	ENCLOSURE No. 12
DATE Dec 15, 1981	REVISED	DRAWING No. HK-90K

To Accompany 1981 Smithers Geological Report



233

TK-Smithers
81(2)A

7 of 8

GEOLOGICAL LEGEND

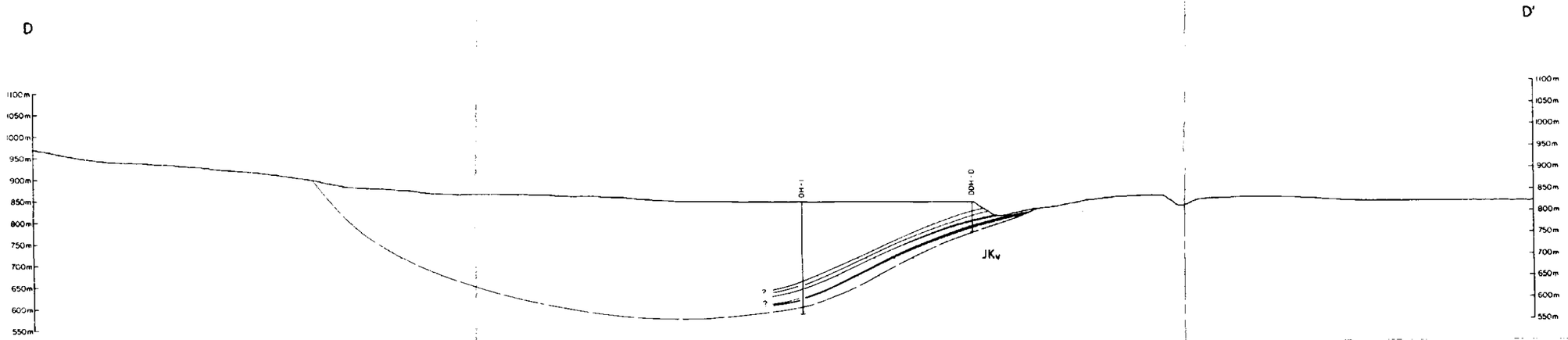
JKs	U. Jurassic/L. Cretaceous Sediments
JKv	U. Jurassic/L. Cretaceous Volcanics
	Unconformable contact
	Apparent dip in line of section
	Drill hole
	Fault (arrows indicate relative movement)

Crows Nest Resources Limited
EXPLORATION

ZYMOETS RIVER AREA (SMITHERS PROJECT)
WEST CENTRAL, B.C.

CROSS SECTION C-C'

AUTHOR S. Cameron	SCALE 1:10000	ENCLOSURE No. 12
DATE Dec. 15, 1981	REVISED	DRAWING No. HK-90 L
To Accompany 1981 Smithers Geological Report		



GEOLOGICAL LEGEND

JKs	U. Jurassic/L. Cretaceous Sediments
JKv	U. Jurassic/L. Cretaceous Volcanics
	Unconformable contact
	Apparent dip in line of section
	Drill hole
	Fault (arrows indicate relative movement)

233 9

TK-Smithers 81(2)A

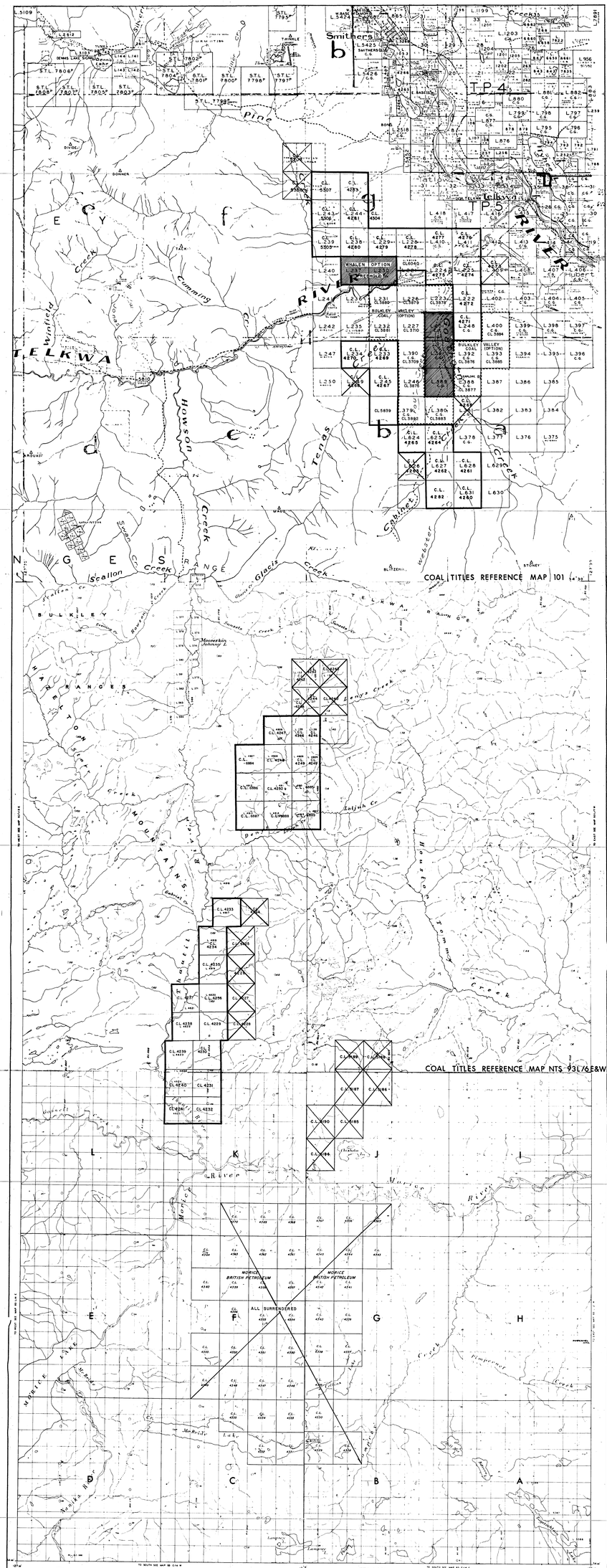
8 of 8

Crows Nest Resources Limited
EXPLORATION

ZYMOETZ RIVER AREA (SMITHERS PROJECT)
WEST CENTRAL, B.C.

CROSS SECTION D-D'

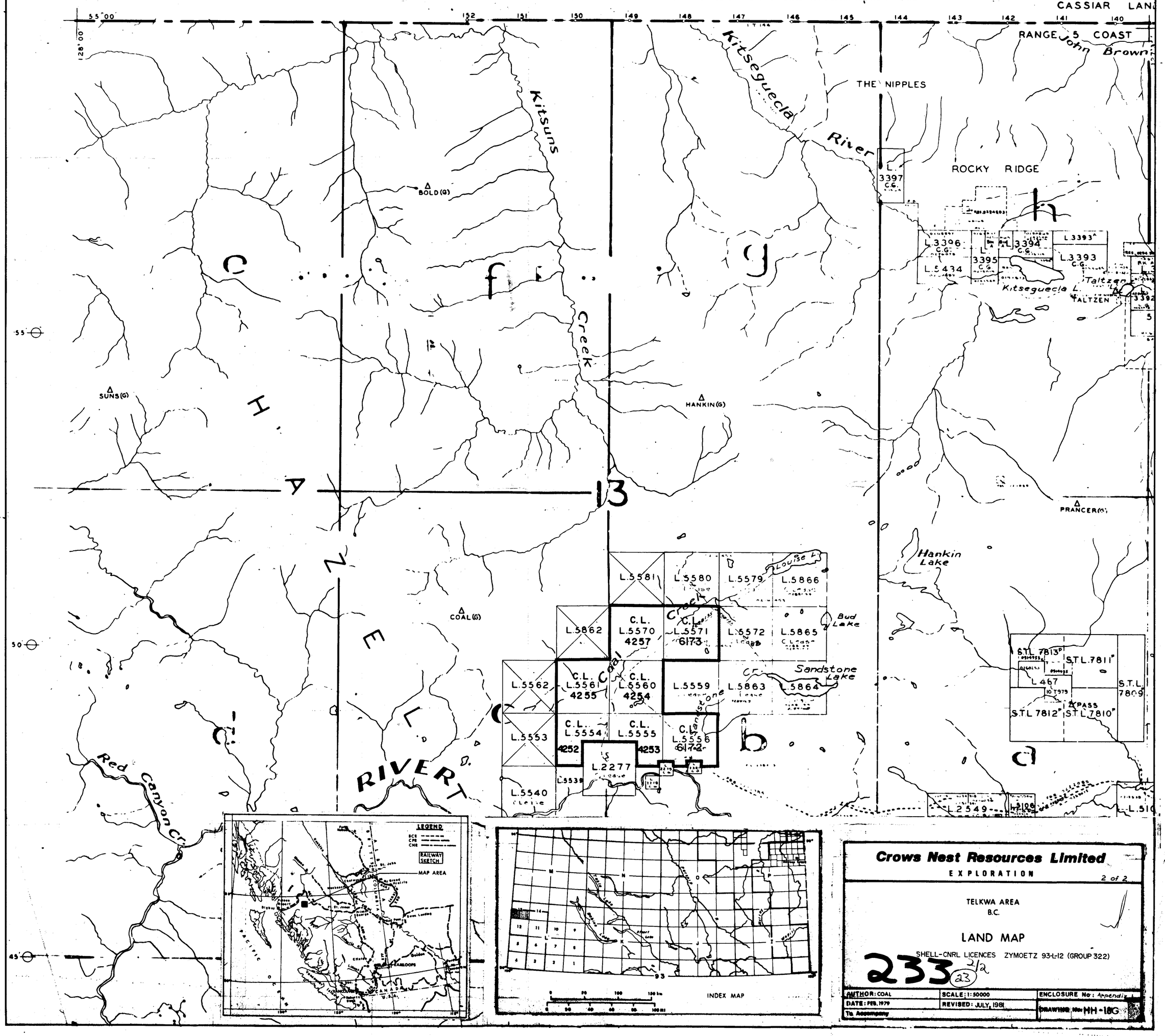
AUTHOR S. Cameron	SCALE 1:10,000	ENCLOSURE No. 12
DATE Dec. 15, 1981	REVISED	DRAWING No. HK-90J
To Accompany (08) Smithers Geological Report		


COAL TITLES REFERENCE MAP 101
COAL TITLES REFERENCE MAP NTS 93L/6E&W
Smithers
TELKWA
RIVER
Telkwa
Bulkley
Howson
Creek
Cummins
Pine
Tenas
Cabinet
Glacier
Sealton
Creek
Mountain
Johnny L.
Zelpah Cr.
Morice
River
Morice Lake
Nadina River
Lamprey
Lake
Lumpmont Creek
MORICE
BRITISH PETROLEUM
ALL SURRENDERED
WHALEN OPTION
RETENTION
BULKLEY COAL (OPTION)
VALLEY (OPTION)
TP 4
TP 5
TP 6
TP 7
TP 8
TP 9
TP 10
TP 11
TP 12
TP 13
TP 14
TP 15
TP 16
TP 17
TP 18
TP 19
TP 20
TP 21
TP 22
TP 23
TP

COAL TITLES REFERENCE MAP 101

DEPARTMENT OF MINES AND PETROLEUM RESOURCES, VICTORIA, B.C.

FOR INFORMATION AND MAP COPIES APPLY TO THE OFFICE OF THE CHIEF GOLD COMMISSIONER, VICTORIA, B.C.



Crows Nest Resources Limited

EXPLORATION

2 of 2

TELKWA AREA
B.C.

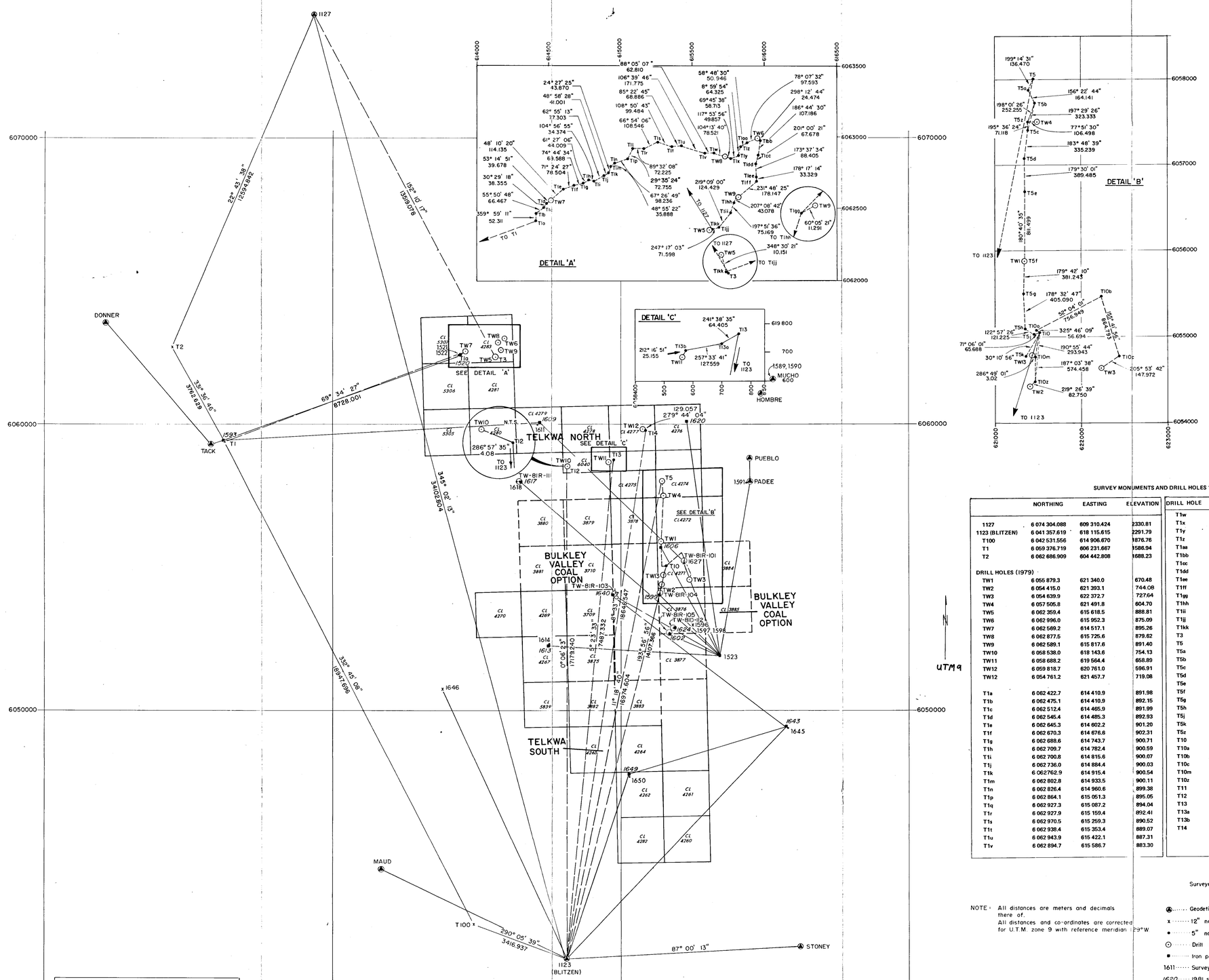
LAND MAP

SHELL-CNRL LICENCES ZYMOETZ 93-L-12 (GROUP 322)

233 2/2 (23)

AUTHOR: COAL	SCALE: 1:50000	ENCLOSURE No: Appendix
DATE: FEB. 1979	REVISED: JULY, 1981	DRAWING No: HH-18G
To Accompany		

TK-Smithers 81(2)A



SURVEY MONUMENTS AND TRAVERSE STATIONS 1981			
STATION	NORTHING	EASTING	ELEVATION
DONNER	6063531.828	602126.918	1822.704
HOMBRE	6061081.096	624895.351	531.910
MAUD	6044488.020	611661.232	1697.126
MUCHO	6061660.829	625281.207	516.928
PADRE	6058003.388	624495.062	538.992
PEUBLEO	6058819.450	624477.796	542.446
TACK	6059282.579	605766.538	1614.830
1520	6062423.89	614420.30	892.37
1523	6051910.77	623433.22	1216.59
1593	6059407.43	606217.26	1587.80
1596	6052988.32	622467.26	909.04
1599	6054074.45	621312.35	772.89
1602	6052663.49	621673.61	858.71
1606	6055695.55	621328.35	677.47
1609	6060071.79	617192.63	973.52
1613	6052262.04	617499.85	835.02
1617	6057977.30	616526.29	786.71
1620	6060123.45	622260.08	585.64
1624	6052884.06	621825.34	887.91
1627	6055163.92	622157.68	695.54
1640	6054057.31	619733.76	760.41
1643	6049400.54	625716.39	1392.76
1646	6050792.93	613762.55	1032.55
1649	6047786.72	620240.39	992.19

DRILL HOLES 1981			
DESCRIPTION	NORTHING	EASTING	ELEVATION
TW 81 R 104	6054097.81	621352.79	767.52
TW 81 R 105	6052692.33	621675.54	860.33
TW 81 R 111	6057981.22	616496.55	787.36
TW 81 R 112	6052883.17	621814.88	888.34
TW 81 R 101	6055182.92	622157.83	696.31
TW 81 R 107	6054078.42	619773.98	760.61

SURVEY MONUMENTS AND DRILL HOLES 1979

	NORTHING	EASTING	ELEVATION
1127	6 074 304.088	609 310.424	2330.81
1123 (BLITZEN)	6 041 357.619	618 115.615	2291.79
T100	6 042 531.556	614 906.670	1876.76
T1	6 059 376.719	606 231.667	1586.94
T2	6 062 686.909	604 442.808	1688.23
DRILL HOLES (1979)			
TW1	6 055 879.3	621 340.0	670.48
TW2	6 054 415.0	621 393.1	744.08
TW3	6 054 639.9	622 372.7	727.64
TW4	6 057 505.8	621 491.8	604.70
TW5	6 062 359.4	615 618.5	888.81
TW6	6 062 996.0	615 952.3	875.09
TW7	6 062 569.2	614 517.1	895.26
TW8	6 062 877.5	615 725.6	879.62
TW9	6 062 589.1	615 817.6	891.40
TW10	6 058 538.0	618 143.6	754.13
TW11	6 058 688.2	619 564.4	658.89
TW12	6 059 818.7	620 761.0	596.91
TW12	6 054 761.2	621 457.7	719.08
T1a	6 062 422.7	614 410.9	891.98
T1b	6 062 475.1	614 410.9	892.15
T1c	6 062 512.4	614 465.9	891.99
T1d	6 062 545.4	614 485.3	892.93
T1e	6 062 645.3	614 602.2	901.20
T1f	6 062 670.3	614 676.6	902.31
T1g	6 062 688.6	614 743.7	900.71
T1h	6 062 709.7	614 782.4	900.59
T1i	6 062 700.8	614 815.6	900.07
T1j	6 062 736.0	614 884.4	900.03
T1k	6 062762.9	614 915.4	900.54
T1m	6 062 802.8	614 933.5	900.11
T1n	6 062 826.4	614 960.6	899.38
T1p	6 062 864.1	615 051.3	895.05
T1q	6 062 927.3	615 087.2	894.04
T1r	6 062 927.9	615 159.4	892.41
T1s	6 062 970.5	615 259.3	890.52
T1t	6 062 938.4	615 353.4	889.07
T1u	6 062 943.9	615 422.1	887.31
T1v	6 062 894.7	615 586.7	883.30

DRILL HOLE	NORTHING	EASTING	ELEVATION
T1w	6 062 896.8	615 649.4	882.26
T1x	6 062 854.2	615 769.6	877.41
T1y	6 062 874.5	615 824.7	876.54
T1z	6 062 938.0	615 834.8	877.63
T1aa	6 062 964.4	615 878.3	876.51
T1bb	6 062 984.5	615 973.9	874.04
T1cc	6 062 878.0	615 961.3	873.84
T1dd	6 062 814.8	615 937.0	874.84
T1ee	6 062 727.0	615 946.8	882.93
T1ff	6 062 693.7	615 947.8	887.25
T1gg	6 062 583.5	615 807.8	891.08
T1hh	6 062 545.2	615 788.2	891.16
T1ii	6 062 473.6	615 765.1	892.29
T1jj	6 062 377.1	615 886.5	888.48
T1kk	6 062 349.5	615 620.5	888.79
T3	6 062 348.5	615 621.5	890.23
T5	6 058 002.5	621 445.0	589.30
T5a	6 057 873.7	621 400.0	592.11
T5b	6 057 723.3	621 465.7	601.23
T5c	6 057 414.9	621 368.6	615.31
T5d	6 057 080.4	621 346.3	634.46
T5e	6 056 690.9	621 349.7	650.38
T5f	6 055 879.5	621 340.1	670.53
T5g	6 055 498.3	621 342.1	690.60
T5h	6 055 093.3	621 352.4	708.33
T5j	6 055 027.3	621 454.1	712.38
T5k	6 054 780.6	621 360.2	719.10
T5z	6 057 483.4	621 387.7	610.00
T10	6 055 049.0	621 516.3	710.96
T10a	6 055 095.8	621 484.4	709.59
T10b	6 055 561.2	622 081.4	690.13
T10c	6 054 773.0	622 437.3	721.83
T10m	6 054 760.4	621 460.6	719.04
T10z	6 054 478.9	621 445.7	736.50
T11	6 048 417.1	620 328.6	996.09
T12	6 058 536.8	618 147.5	754.13
T13	6 058 767.6	619 759.0	654.32
T13a	6 058 737.0	619 702.4	654.77
T13b	6 058 709.5	619 577.8	658.53
T14	6 059 796.9	620 888.2	593.94

SURVEY CONTROL STATIONS FOR PHOTOGRAMMETRIC MAPPING 1981			
STATION	NORTHING	EASTING	ELEVATION
1521	6,062442.84	614,407.63	892.20
1522	6,062410.45	614,392.64	892.22
1589	6,061639.78	625,336.81	517.03
1590	6,061598.82	625,299.11	516.98
1591	6,057948.38	624,410.08	544.71
1597	6,052962.63	622,507.28	909.94
1598	6,052989.97	622,406.28	907.17
1611	6,059986.70	617,163.01	945.23
1614	6,052315.13	617,515.08	834.45
1618	6,058018.63	616,447.97	790.64
1645	6,043379.20	625,726.36	1389.45
1650	6,047811.57	620,251.19	991.41

Surveyed by SHELTECH in Aug., 1979
D.E. WATSON B.C.L.S. July, 1981

NOTE: All distances are meters and decimals thereof.
All distances and co-ordinates are corrected for U.T.M. zone 9 with reference meridian 129°W.

- Geodetic monument found
- x 12" nail planted
- • 5" nail planted
- Drill hole
- Iron post
- 1611 Survey control station for mapping
- 1620 1981 survey traverse stations
- T 100 1979 survey traverse stations

T.E. Smithers 81(2)A

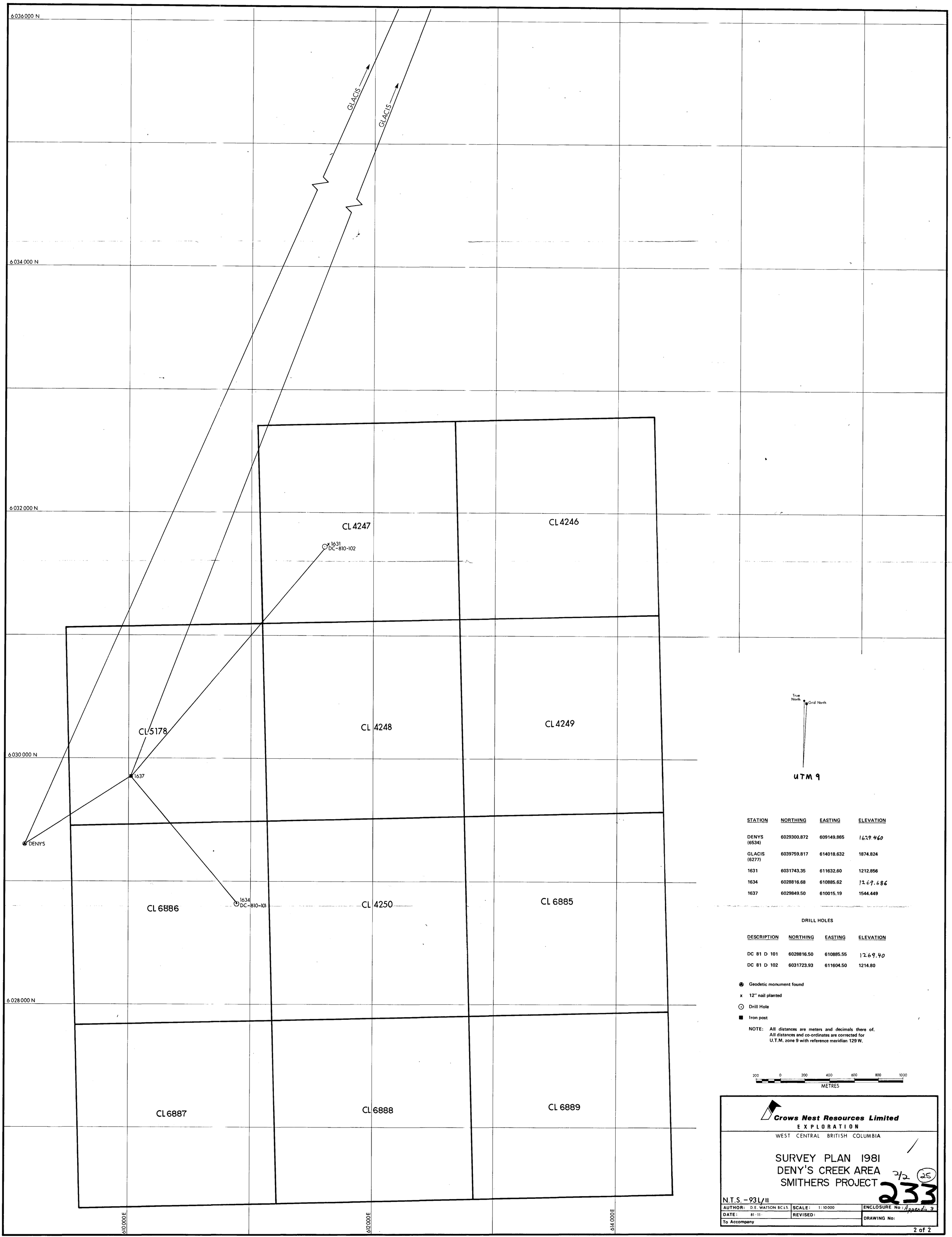
Crows Nest Resources Limited
EXPLORATION

1979 and 1981
SURVEY PLAN
OF
TELKWA PROSPECT

93L/6

AUTHOR: WATSON, SHELTECH	SCALE: VARIOUS	ENCLOSURE No: Appendix 3
DATE: 81 11 30	REVISED: 1981	DRAWING No: HC-54
To Accompany		

1 of 2



STATION	NORTHING	EASTING	ELEVATION
DENYS (6534)	6029300.872	609149.865	1639.460
GLACIS (6277)	6039759.817	614018.632	1874.824
1631	6031743.35	611632.60	1212.856
1634	6028816.68	610885.62	1269.686
1637	6029849.50	610015.19	1544.449

DRILL HOLES

DESCRIPTION	NORTHING	EASTING	ELEVATION
DC 81 D 101	6028816.50	610885.55	1269.40
DC 81 D 102	6031723.93	611604.50	1214.80

Geodetic monument found

x 12" nail planted

Drill Hole

Iron post

NOTE: All distances are meters and decimals there of. All distances and co-ordinates are corrected for U.T.M. zone 9 with reference meridian 129 W.

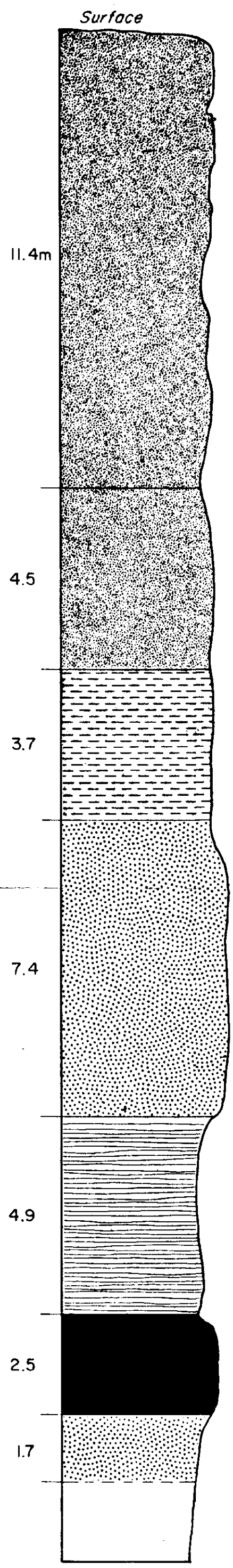
Crows Nest Resources Limited
EXPLORATION
WEST CENTRAL BRITISH COLUMBIA

SURVEY PLAN 1981
DENY'S CREEK AREA
SMITHERS PROJECT

7/2 (25) 233

N.T.S. - 93L/11

AUTHOR: D.E. WATSON B.C.L.S.	SCALE: 1:10000	ENCLOSURE No: Appendix 3
DATE: 81-11-	REVISED:	DRAWING No:
To Accompany		



Thin bedded, reddish-brown sandy siltstone. Many clinkers show that coal seam at bottom of unit has burned. Unit is resistant and forms a few cliffs

Thicker bedded tan siltstone. Beds up to 20 cm thick

Thin bedded, fissle, shaley siltstone, gray to maroon in color becoming tan at bottom

Thick bedded sandy siltstone, tan to brown color

Gray to black mudstone with a few bands of tan sandy siltstone up to 10 cm thick

Coal seam with some faulting in seam

Tan thick bedded sandy siltstone

Talus, 40 m to level of Goathorn Cr.

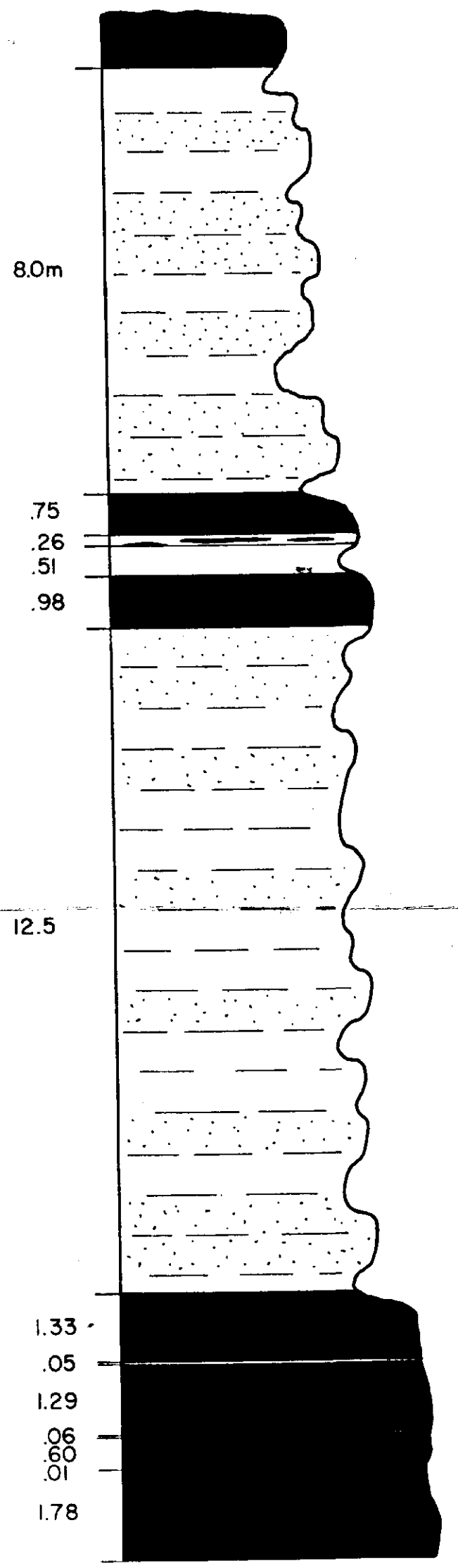
Crows Nest Resources, Ltd.
Stratigraphic Section at Goathorn Creek, 850 Meters Southeast from Four Creek Confluence, Telkwa Area, B.C.
W.D.Tompson and David Handy June, 1979

Scale, 1:100

2/2

233 (26)

HA-91B



Weathered coal seam

Thin bedded gray to tan colored mudstones, shaley mudstones and sandy mudstones

Clean coal
Dirty coal
Gray clay

Clean coal

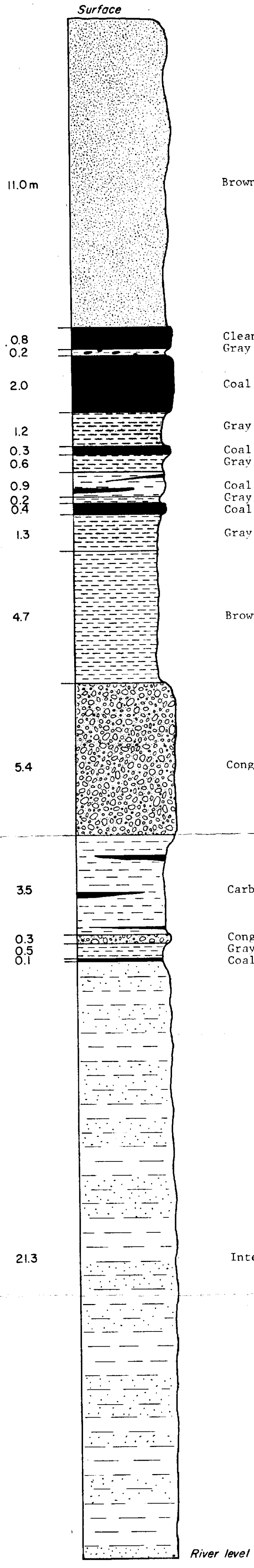
Thin bedded mudstones and sandy mudstones. Mostly tan colors with some grayish beds

Clean coal with vitrain banding
Clay band
Clean coal with vitrain banding
Sandy mudstone parting
Clean coal with vitrain banding
Muddy sandstone parting
Clean coal with vitrain banding

Crows Nest Resources, Ltd.
Stratigraphic Section at Workings of Bulkley Valley Coal, Ltd., Telkwa, B.C.
W.D.Tompson and David Handy June, 1979
Scale, 1:100

233 2/2 (27)

HA-91C



Brown arkosic sandstone

Clean coal
Gray shale with sandy beds and sandy concretions

Coal

Gray shale

Coal
Gray shale

Coal and carbonaceous shale
Gray shale
Coal

Gray shale

Brown stained gray shale

Conglomerate with 15 cm sandy beds

Carbonaceous shale with minor coal

Conglomerate
Gray shale
Coal parting

TK-Smithers 81(21)A

Interbedded brown sandstone and gray shale

233 2/2 (28)

Crows Nest Resources, Ltd.
Stratigraphic Section, 300 Meters WNW
from Aveling Mine, Telkwa River, B.C.
W.D.Tompson and David Handy June, 1979
Scale, 1:100

HA - 91 D

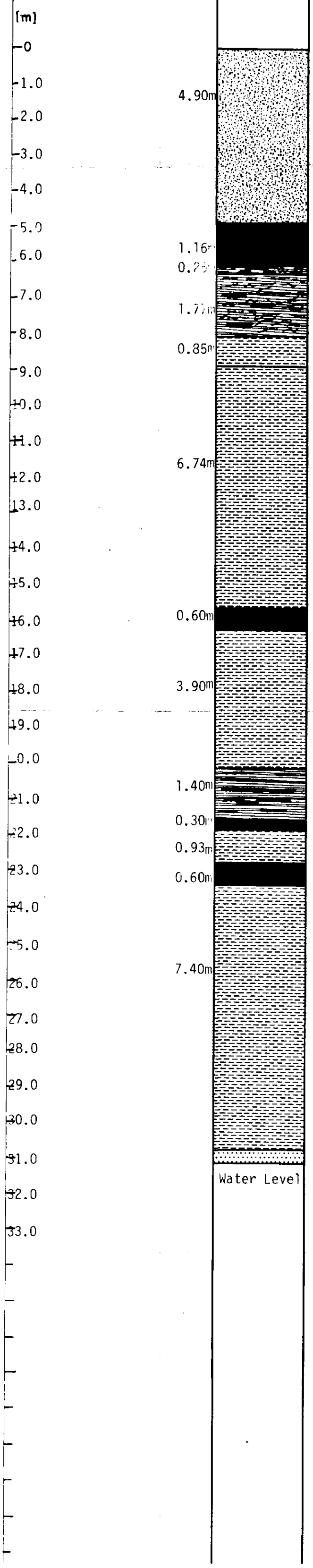
TK-Smithers 81(2)A

233 2/2 (29)

STRATIGRAPHIC SECTION

DESIGNATION:	PART 1 OF 1
PROJECT: SMITHERS	AUTHOR: D. HANDY
	DATE: 1979 JUNE
AREA: TELKWA	SOURCE OF DATA: MEASURED SECTION
LOCATION: TENAS CREEK	

SCALE 1:100



SCALE	CONTROL POINT	INTERVAL	LITHOLOGY	STRIKE & DIP	DESCRIPTION: MAIN	DESCRIPTION: AMPLIFIED	SAMPLE
		4.90m			Fine grained sandstone with interbedded grey mudstone and grey shale		
		1.16m			Clean coal		
		0.25m			Dark carbonaceous and coaly shale		
		1.77m			Dark grey carbonaceous shale with occasional coal stringers of thickness ≤ 2.5cm		
		0.85m			Grey shaley mudstone		
		6.74m			Grey shaley mudstone with interbedded hard crystalline layers ≤ .5m		
		0.60m			Clean coal		
		3.90m			Grey shaley mudstone (as above)		
		1.40m			Interbedded dark shale and coal		
		0.30m			Coal		
		0.93m			Grey shaley mudstone (as above)		
		0.60m			Coal		
		7.40m			Grey shaley mudstone (as above)		
					Sandstone		
		Water Level					

STRIKE N 205° E
DIP 5° W

HA - 91

TK-Smithers 51(2)A

2/2

233 (30)

STRATIGRAPHIC SECTION

DESIGNATION:

PART 1 OF 1

PROJECT: SMITHERS

AUTHOR: D. HANDY

DATE: 19 79 JULY

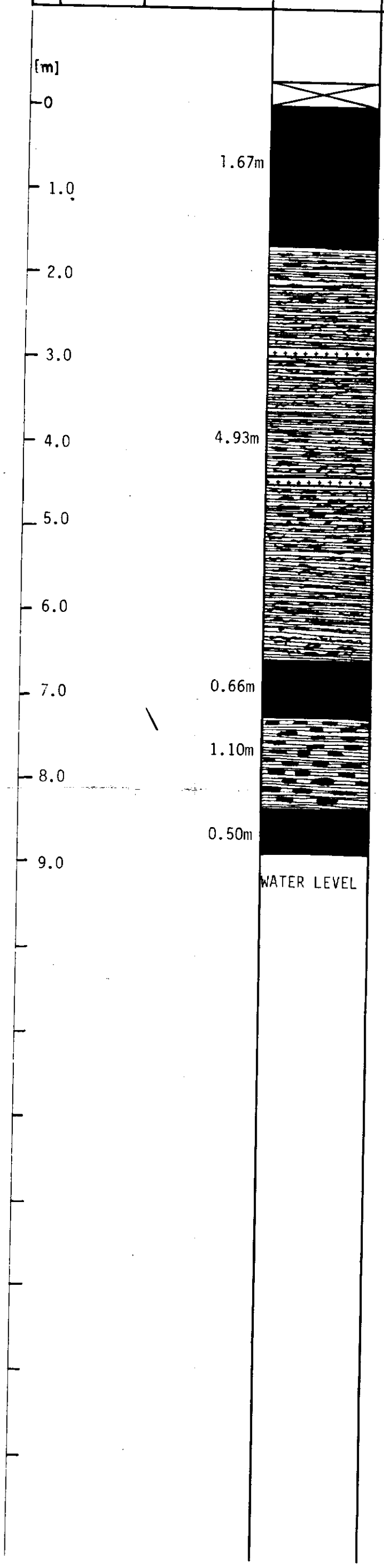
AREA: TELKWA

SOURCE OF DATA: MEASURED SECTION

LOCATION: WEBSTER CREEK/CABINET CREEK

SCALE	CONTROL POINT	INTERVAL	LITHOLOGY	STRIKE & DIP	DESCRIPTION MAIN	DESCRIPTION AMPLIFIED	SAMPLE

SCALE 1:50



Overburden

Hard bright clean coal

Black carbonaceous shale with hard crystalline partings ('0.1m in thickness)

Ironstone

Ironstone

Hard clean coal

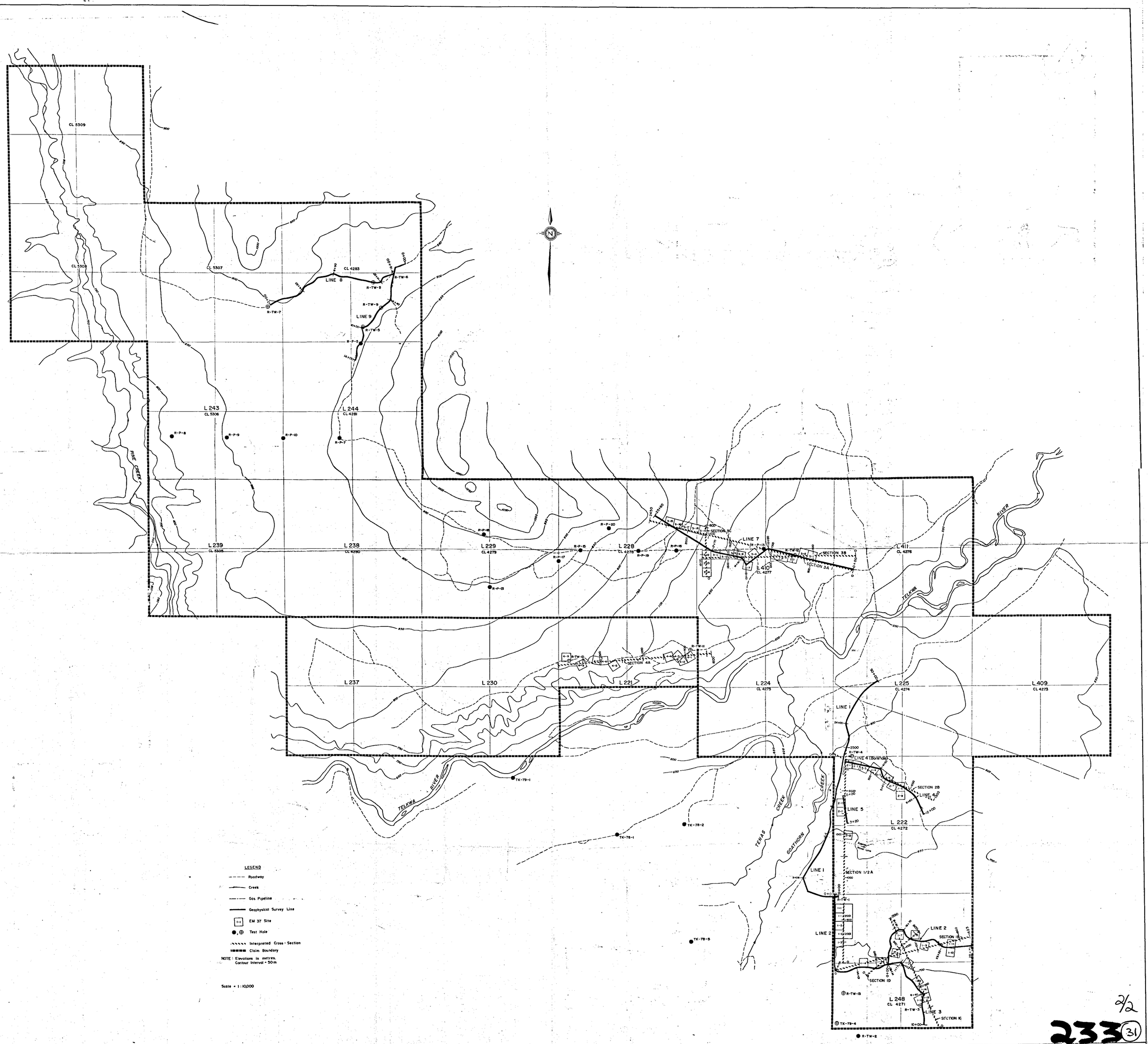
Coaly shale

Hard clean coal

STRIKE N 2° E

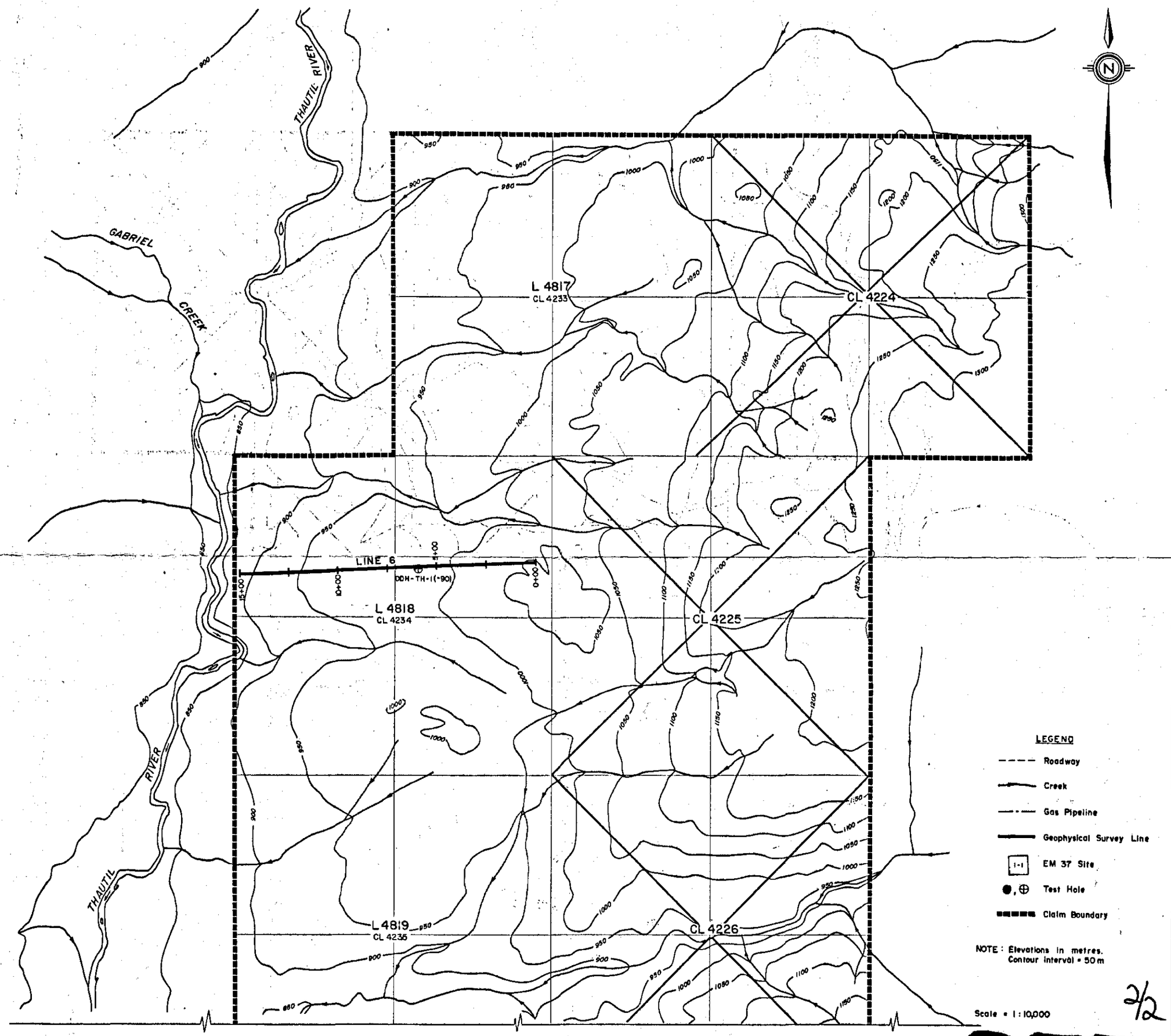
DIP 29° W

HA - 91A


CL 5309
CL 5308
CL 5307
CL 4283
LINE 8
R-TW-6
R-TW-8
R-TW-7
R-TW-9
LINE 9
R-TW-5
R-P-5
L 243
CL 5306
L 244
CL 4281
R-P-8
R-P-9
R-P-10
R-P-7
PINE CREEK
R-P-20
R-P-18
R-P-15
R-P-17
R-P-19
R-P-16
R-P-25
L 239
CL 5305
L 238
CL 4280
L 229
CL 4279
L 228
CL 4278
SECTION 3C
LINE 7
R-P-13
R-TW-12
SECTION 3B
SECTION 3A
L 410
CL 4277
L 411
CL 4276
RIVER
TELKWA
R-TW-10
SECTION 4A
R-TW-11
L 237
L 230
L 221
L 224
CL 4275
L 225
CL 4274
L 409
CL 4273
LINE 1
R-TW-4
LINE 4 (Borehole)
SECTION 2B
LINE 4
LINE 5
L 222
CL 4272
TK-79-1
TK-78-2
TK-78-1
TENAS CREEK
GOATHORN CREEK
SECTION 1/2A
R-TW-1
LINE 2
SECTION 1
SECTION 1D
R-TW-13
L 248
CL 4271
R-TW-3
LINE 3
SECTION 1C
TK-79-4
TK-78-5
R-TW-2
LEGEND
Roadway
Creek
Gas Pipeline
Geophysical Survey Line
EM 37 Site
Test Hole
Interpreted Cross-Section
Claim Boundary
NOTE: Elevations in metres.
Contour Interval = 50m
Scale = 1:10,000
GEOPHYSICON
ENGINEERING GEOPHYSICAL CONSULTANTS
LOCATION MAP - GEOPHYSICAL LINES
TELKWA AREA
CROWS NEST RESOURCES LTD.
81-20
Figure 15

2/2

233 (31)



2/2

233 (32)

GEO-PHYSI-CON
ENGINEERING GEOPHYSICAL CONSULTANTS

LOCATION MAP - GEOPHYSICAL LINES
THAUTIL RIVER
CROWS NEST RESOURCES LTD.

81-20 Figure 16