K-Teepee Mtn. 81(1)A

Appendix 4 only
(3 pages)

82G/15

Teepee Mtn. 1981 Geological
Report
Shell Canada

C.L #302, 303, 370

D. Handy
S. Carreton

447

K-Teepee Mtn. 81(1)A

Volume 1

T E E P E E M O U N T A I N

1981 GEOLOGICAL REPORT

B.C. Coal Licence Numbers:

302, 303, 370

held by Shell Canada Resources Limited

operated by Crows Nest Resources Limited

Kootenay Land District, British Columbia

N.T.S. 82 G/15

Longitude: 114° 41' West

Latitude: 49° 53' North

Exploration Period: August - October, 1981.

Report Prepared by: D. Handy, Project Geologist

S. Cameron, Geologist

January, 1982.

Dave Handy

TEEPEE MOUNTAIN

TABLE OF CONTENTS

LIST OF ENCLOSURES

VOLUME 1

Numbers		Scale
1	Index map	As shown
2	Location map	As shown
3	Access map	1:50,000
4	Coal Licence map	1:50,000
5	Geology compilation map	1:50,000
6	Geological map	1:5,000
7	Geological cross-sections	1:5,000
8	Structure contour map, base seam # 9	1:5,000

VOLUME 2

Teepee Rotary Drill Hole records (drill cutting descriptions and downhole geophysical logs)

9 - 1	TP - 81R - 201	1:200
9 - 2	TP - 81R - 202	1:200
9 - 3	TP - 81R - 203	1:200
9 - 4	TP - 81R - 204	1:200
9 - 5	TP - 81R - 205 see 81(3)A	1:100
9 - 6	TP - 81R - 206	1:100
9 - 7	TP - 81R - 207	1:100
9 - 8	TP - 81R - 208	1:100
9 - 9	TP - 81R - 209	1:100
9 - 10	TP - 81R - 210	1:100

VOLUME 1

LIST OF FIGURES

VOLUME 2

LIST OF APPENDICES

1. B.C. Land Tenure Standing
2. Application to Extend Term of Licence
3. Survey Traverse Map
4. # 9 Seam Bulk Sample Washability Data.

} ss 8(1)A

Crows Nest Resources LIMITED

Eau Claire Place, 525 - 3rd Avenue S.W., Calgary, Alberta (403) 232-4355
P.O. Box 2699, Station M, Calgary, Alberta T2P 2M7 Telex 03-822505

January 31, 1982

Ministry of Energy, Mines and Petroleum Resources
Victoria, British Columbia

Dear Sirs:

Enclosed please find our report on the TeePee Mountain Project.

This report has been prepared by Mr. D. Handy and Mr. S. Cameron, both of whom are employed by Crows Nest Resources Limited as geologists.

Mr. D. Handy, Honours B.Sc., graduated in Geology from the University of Waterloo in 1977. Prior to his graduation, Mr. Handy worked as an assistant for two geotechnical companies and after graduation as a geologist for a major exploration company in Saskatchewan. Mr. Handy has been employed by Crows Nest Resources Limited as a Project Geologist since 1979.

Mr. S. Cameron, B.Sc., in Geology graduated from the University of Calgary in 1981. Prior to graduation Mr. Cameron worked as an assistant for a major exploration company in the North West Territories. He also worked for Crows Nest Resources Limited as a geological assistant in 1980. Mr. Cameron has been employed by Crows Nest Resources Limited as a Geologist since May 1981.

Their work was carried out under the supervision of our District Manager, British Columbia, Mr. Frank Martonhegyi.

In my opinion, all of these personnel are fully qualified, by training and experience to prepare this report and this account of work done under their direct supervision.

Yours very truly,

H. G. Rushton, P. Geol.
Vice-President - Exploration

mrm

Encl.

CL # 303

TP-81R-204
TP-81R-210
TP-81R-203
TP-81R-202

CL # 302

TP-81R-209
TP-81R-201

1.0 Summary

The Teepee Mountain Project is contained partially within three B.C. Coal Licences which cover 519 hectares and form Group 331. In addition, a portion of the project lies on Freehold Land - Tree Farm - Lot 2, Plan 9330. The licences are held by Shell Canada Resources Limited and operated by its wholly owned subsidiary, Crows Nest Resources Limited.

The property is located in the Crowsnest Pass area of the Rocky Mountains in southeastern British Columbia about 1150 kilometers east of Vancouver and 25 kilometers northeast of Sparwood. Teepee Mountain lies directly south of Horseshoe Ridge and is approximately 11.5 kilometers from the Line Creek preparation plant and rail loop currently under construction.

Kootenay Group - coal bearing strata have been eroded from most of Teepee Mountain except at the south end of the property where it is preserved over a small area: approximately 0.6 square kilometers. Here, roughly 55 meters of coal bearing section exists with up to four mappable coal seams of approximately 9 meters aggregate thickness. There is some coal bearing strata west of and downslope from this area, but drilling indicates its extent is limited.

1.0 Summary (continued)

The 1981 exploration program entailed geological mapping on a 1:5,000 scale. Coal showings were backhoe trenched on existing roads. Two short sections of new road were constructed to provide access to drill holes. Ten rotary holes were completed, six are located within the licences of Group 331.

Geological in place reserves are calculated to be four million tonnes at an overburden ratio of 4.39:1 bank cubic meters waste per tonne coal. 2.1 million tonnes at an overburden ratio of 1.81:1 can be placed into a Probable Category, the rest is Possible Reserves or Resources. 1980 analyses of drill hole samples indicate the coal to be of medium volatile bituminous rank (ASTM).

The total field expenditure in 1981 for the entire Teepee Mountain Project was $181,964, of which $144,174 was spent on Group # 331.

2.0 Introduction

2.1 Location and Access

Enclosure 1: Index Map

Enclosure 2: Location Map

The Teepee Mountain Project is located in the Front Ranges of the Rocky Mountains in southeastern British Columbia. Teepee Mountain is centered at approximately:

Longitude	114°	41'	West
Latitude	49°	53'	North

The licences lie immediately south of the Horseshoe Ridge Project, 11.5 kilometers from the Line Creek Preparation Plant and rail loop, both of which are presently under construction. Teepee Mountain is located between two major operating metallurgical coal mines, B.C. Coal's Harmer Ridge to the south and Fording Coal to the north.

Vehicular access into the area is via the Line Creek haul road or via the Grave Lake road from the south.

2.2 Tenure

Appendix 1: B.C. Land Tenure Standing

Enclosure 4: Coal Licence Map

Group # 331 consists of three B.C. Coal Licences (numbers: 302, 303, 370) and covers an area of 519 hectares. These licences are held by Shell Canada Resources Limited and operated by its wholly-owned subsidiary Crows Nest Resources Limited.

Group # 331 covers the south and east section of Teepee Mountain. In addition the north end of Teepee Mountain is contained within Coal Lease # 4 and the west side of Teepee Mountain lies within Freehold Land - Tree Farm - Lot 2, Plan 9330.

3.0 Work Done

3.1 Summary of Previous Work

Prior to 1978, work was conducted by Crows Nest Industries and consisted of road construction and bull-dozer trenching.

In 1980 work was conducted by CNRL and included:

- reconnaissance geological mapping (1:5000)
- detailed geological mapping (1:2000)
- construction of four road spurs
- backhoe trenching
- 7 rotary and 1 diamond drill hole

3.2 Work Done in 1981

Field operations were supervised by Dave Handy and Steve Cameron of CNRL. Exploration included:

- geological mapping (1:5000)
- construction of two road spurs
- backhoe trenching
- rotary drilling
- bulk sampling
- reclamation

Field mapping was conducted over most of the mountain with emphasis placed on establishing the contact between the Mist Mountain and Morrisey Formations. Coal showings were backhoe trenched using a Caterpillar 225 backhoe and mapped. Two road spurs totalling 1.0 kilometer were constructed to provide access for drill holes. Ten rotary drill holes were completed totalling 1174 meters using an Ingersol-Rand 1700 truck mounted drill. Six of these holes (720 meters) were drilled on the licences within Group # 331. Coal samples were sent to CNRL's Fernie Lab for analyses. A five tonne bulk sample was taken from Seam # 9 using a Caterpillar 225 backhoe and sent to Birtley Laboratory for washability tests.

The total cost of the 1981 exploration was $181,964. The total expenditure for the licences of Group # 331 was $144,174. Appendix 2 contains a copy of the Application to Extend Term of Licence which gives a detailed account of the amount and nature of the expenditures applied to Group # 331.

4.0 Geology

4.1 Regional Stratigraphy

Figure 1: Table of Formations

The Mist Mountain Formation of the Kootenay Group of Upper Jurassic - Lower Cretaceous age is the coal bearing sequence in southeastern B.C. It is a thick sequence of clastic sediments representing delta progradation over marine shales, siltstones and sandstones of the Jurassic Fernie Formation.

Deposition was initiated by an epeirogenic uplift of the source area in early phases of the Columbian Orogeny in Late Jurassic time. The Mist Mountain section thickens from east to west; the source of sediments being southwest and the shoreline on the east and northeast. Its thickness within the Upper Elk Coalfield ranges up to 1100 meters.

The Kootenay Group has been subdivided into three formations. The lower, Morrisey Formation is composed predominantly of sandstones with minor siltstones and shales. It is a prograding sequence of delta front sheet sands, barrier bars and tidal channel deposits.

4.1 Regional Stratigraphy (continued)

The cliff-forming Moose Mountain Member serves as a useful marker horizon between the Weary Ridge Member and the main coal-bearing strata of the Mist Mountain Formation.

The middle Mist Mountain Formation is generally in sharp contact with the underlying Morrisey Formation (sandstone-coal, or sandstone-bioturbated silty shale). It consists of alternating beds of sandstone, shale, siltstone and coal representing prograding delta plain environments. The Mist Mountain Formation is 74 - 665 meters thick, including 6 - 61 meters of coal in the south contained within 2 to 8 seams, and up to 90 meters of coal in 23 seams in the north.

The upper portion of the Kootenay Group, the Elk Formation consists of alternating sandstone, siltstone, shale and conglomerates with minor lenticular coal beds. It represents progradation of the alluvial plain over the delta plain coal-forming environments.

TABLE OF FORMATIONS (S.E. B.C.)

ERA	PERIOD	FORMATION	LITHOLOGY	THICKNESS (M)
MESOZOIC	Lower Cretaceous	Cadomin Fm.	non-marine: sandstone, conglomerate and shale	360 - 1980
	LOWER CRETACEOUS AND JURASSIC	KOOTENAY GROUP: Pocaterra Creek	non-marine: sandstones, conglomerate, siltstones and shales	
		KOOTENAY GROUP: ELK FORMATION	non-marine: interbedded medium to coarse grain sandstone, chert-pebble conglomerate with minor siltstone shale and uneconomic coals	28 - 488
		KOOTENAY GROUP: MIST MTN. FORMATION	non-marine and brackish: interbedded coal, siltstones, shales, and sandstones	74 - 665
		KOOTENAY GROUP: MORRISSEY FORMATION: Moose mtn.	non-marine: massive cliff-forming sandstone	4 - 36
		KOOTENAY GROUP: MORRISSEY FORMATION: Weary Ridge		5 - 55
	Jurassic	Fernie Fm.	marine: shales, siltstone, sandstone, limestone	180 - 380

(after Gibson, 1981)

FIGURE 1

4.2 Regional Structure

Coal bearing Mist Mountain Formation occurrences in the front ranges of southeastern B.C. are preserved in north-south trending synclines referred to as the Crowsnest Coalfields. The structure within the synclines is complicated to varying degrees, mostly by thrust faults and folds, but also by normal faults. This structural complexity increases towards the thinner, east side of the Coalfields where they have been thrust against underlying Paleozoics.

The Crowsnest Coalfields can be subdivided into three coal-bearing areas. From south to north they are the Flathead Coalfield, the Fernie Coalfield and the Upper Elk Coalfield. Since they are all part of the same depositional complex, their subdivision is based on erosional and structural boundaries.

4.2 Regional Structure (continued)

Upper Elk Coalfield

The Upper Elk Coalfield is an elongate basin composed of two major synclines (Greenhills and Fording) separated by an anticline and the northern extension of the Erickson normal fault. The eastern, Fording Syncline, can be traced northward from Alexander Creek to the Kananaskis Lakes. Only erosional remnants of the Kootenay Group are preserved in the southern portion of the Fording Syncline where the Teepee Mountain Project is located.

4.3 Teepee Mountain Stratigraphy - General

Kootenay Group strata occur along most of Teepee Mountain. Recessive shales (Fernie Formation) underlie the Kootenay Group and form most of the eastern slope of the mountain and lie in the valley to the west. Sandstone of the Basal or Moose Mountain Member comprise most of the mountain.

4.3 Teepee Mountain Stratigraphy - General (continued)

The Mist Mountain Formation has been eroded from a large part of the mountain. Approximately 55 meters of lower coal bearing strata have been preserved near the southern end of the mountain and cover an area of roughly 0.6 square kilometers. Four mappable coal seams have been identified with an aggregate thickness of 9.0 meters. The Teepee Mountain coal seams have been designated Basal Sandstone Seam, # 10b, # 10a, and # 9 Seam in ascending order, using Line Creek correlatable seam numbers. The upper section of the Mist Mountain Formation and the Elk Formation of the Kootenay Group are not present at Teepee Mountain.

4.3 (continued)

Coal Stratigraphy

Basal Sandstone Seam - measures 1.82 meters in outcrop but varies to 1.17 meters in drill holes;
- continuity of this seam is questionable over the pit area.

Seam 10b - lies directly above the Basal Sandstone;
- measures 1.35 meters in outcrop, but varies from 1.15 meters to 1.80 meters in drill holes;
- appears to thin and become separated from the Basal Sandstone toward the south.

Seam 10a - separated from 10b by a predominantly shaly unit;
- varies from less than 1.0 meter to 1.6 meters in drill holes.

Seam 9 - the stratigraphic interval between 10a and Seam 9 is approximately 15 to 20 meters;
- measures 4.65 meters in outcrop and varies from 5.60 to 1.60 in drill holes;
- appears to thin towards the south;
- contains the bulk of the surface mineable reserves at Teepee Mountain.

4.3 Teepee Mountain Stratigraphy - General (continued)

An additional seam of 1.25 meters was measured stratigraphically above Seam 9 in outcrop. It is not intersected by any drill hole and appears to have insignificant areal extent in the proposed pit area.

4.4 Teepee Mountain Structure

Teepee Mountain is located on the axis of the Fording River Syncline.

The mountain shows evidence of intense thrust faulting and to a lesser degree, normal faulting. An air photo interpretation of the Teepee structure was compiled by Walley Drew (Sproule and Associates Ltd.) in 1980. The Teepee Geology Map largely follows his structural interpretation. It shows both east and west dipping thrust faults, smaller thrust splays and normal faults displacing Teepee strata.

In the proposed pit area an east-west trending normal fault displaces the coal bearing strata a few meters. A fairly major thrust fault appears to define the western limit of the surface mineable coal.

4.4 Teepee Mountain Structure (continued)

The western slope of Teepee Mountain, particularly the structure west of the thrust fault mentioned above contains rocks of the Mist Mountain Formation but a lack of outcrops allows only speculation as to its extent. One coal outcrop does exist, but drilling revealed thick cover. This area was tested by a series of 5 drill holes drilled along the lower road. Four of the holes intersected 2 or 3 thin uncorrelatable coal seams. Any mineable reserve is doubtful in this area.

5.0 Mineability and Coal Reserves

Using the 1980 data, geological in place reserves are calculated to be four million tonnes at an overburden ratio of 4.39:1 (bank cubic meters waste per tonne of coal). 2.1 million tonnes at an overburden ratio of 1.8:1 can be placed into a Probable Category.

Updating the 1:2000 geological cross-sections and coal reserve calculation will take place in 1982.

6.0 Coal Quality

In 1981, Teepee Mountain coal samples were obtained from rotary drill cuttings and a bulk sample taken from # 9 Seam. Analyses of the rotary drill samples are not available at the time of writing of this report. These analyses will be included in the geological report for the next term of the licences.

The # 9 Seam bulk sample washability tests data are in Appendix 4.

Teepee Mountain coal is: Medium Volatile Bituminous by ASTM rank, of thermal grade, and of low (0.5%0) sulphur content. The following is a weighted average of the analytical (proximate) results:

Clean Coal, Air Dried Basis

Washed at S.G. 1.6

Moisture:	1.62%
Ash:	10.19%
V.M.:	21.10%
F.C.:	67.10%
K. Cal/kg.:	6717

7.0 Bibliography

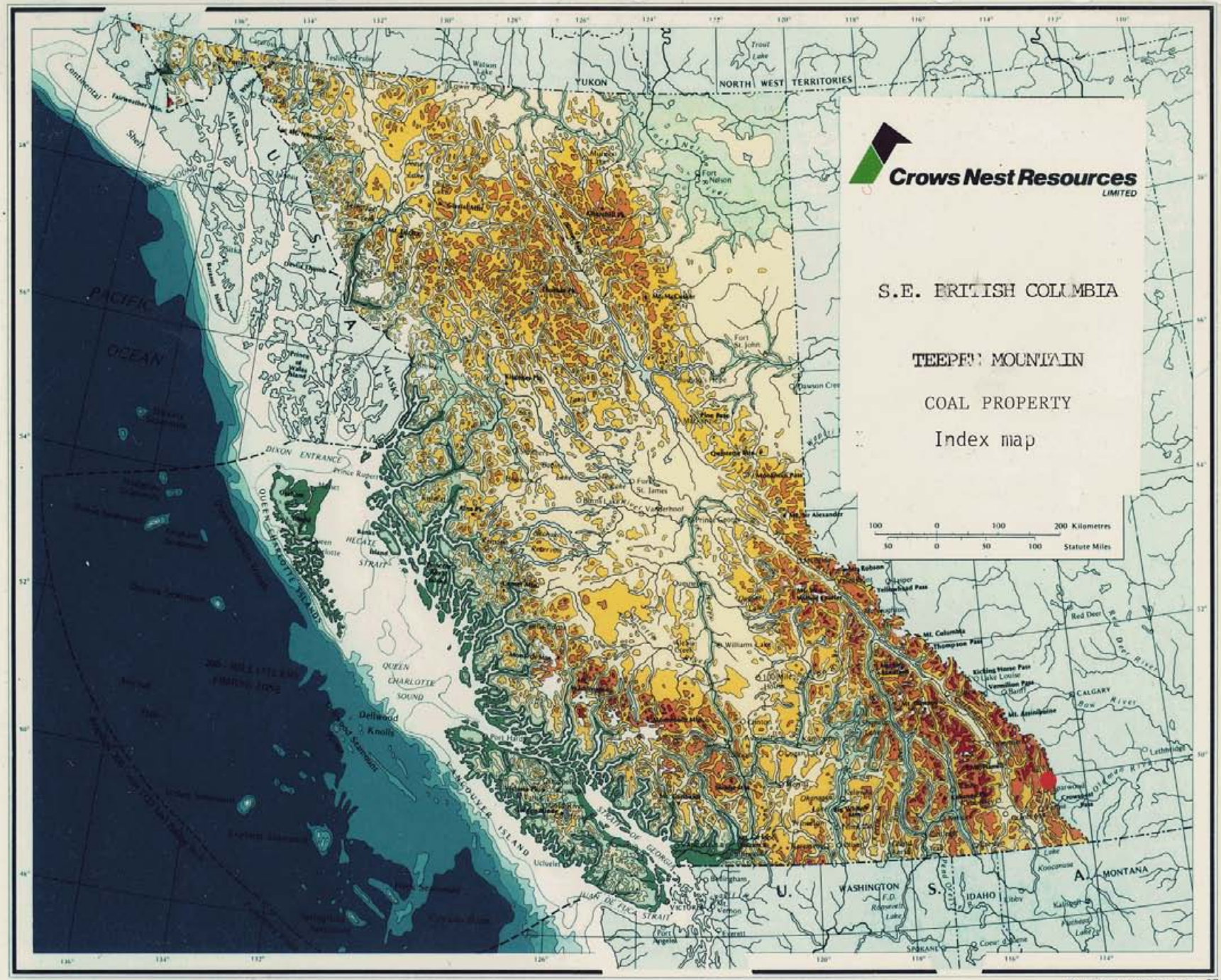
Gibson, D.W. 1979 "The Morrissey and Mist Mountain Formations; Newly Defined Litho-stratigraphic Units of the Jura-Cretaceous Kootenay Group, Alberta and British Columbia"; Bull. Canadian Petroleum Geol. V.27, No. 2, pp. 183-208

Gibson, D.W. and Hughes, J.D. 1981, "Structure, Stratigraphy, Sedimentary Environments and Coal Deposits of the Jura-Cretaceous Kootenay Group, Crowsnest Pass Area, Alberta and British Columbia"; Field Guides to Geology and Mineral Deposits, Calgary '81 GAC, MAC, CGU 1981. pp. 1-39

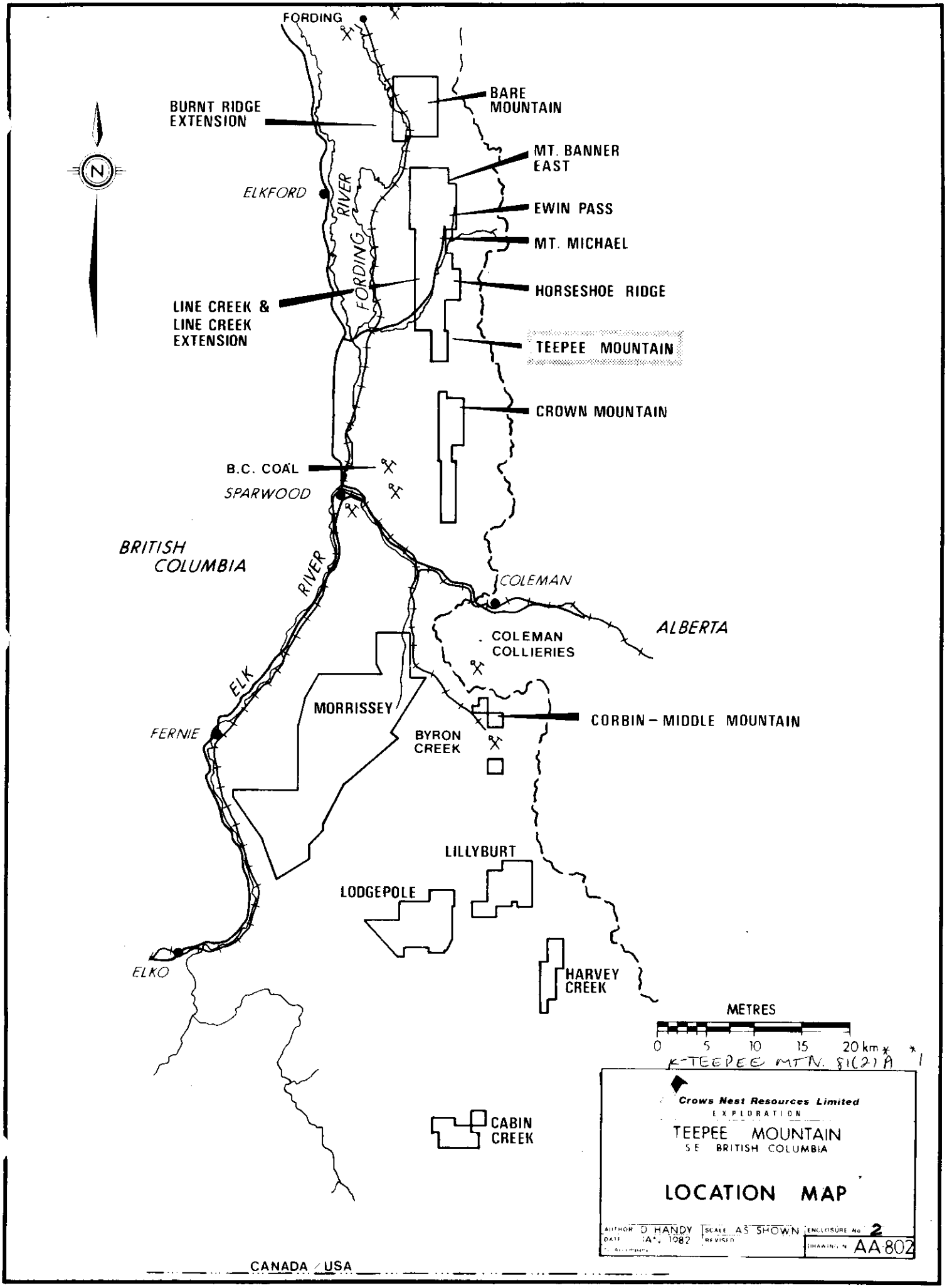
Handy, D. 1980, Geological Report - Teepee Mountain Project - Crows Nest Resources Limited

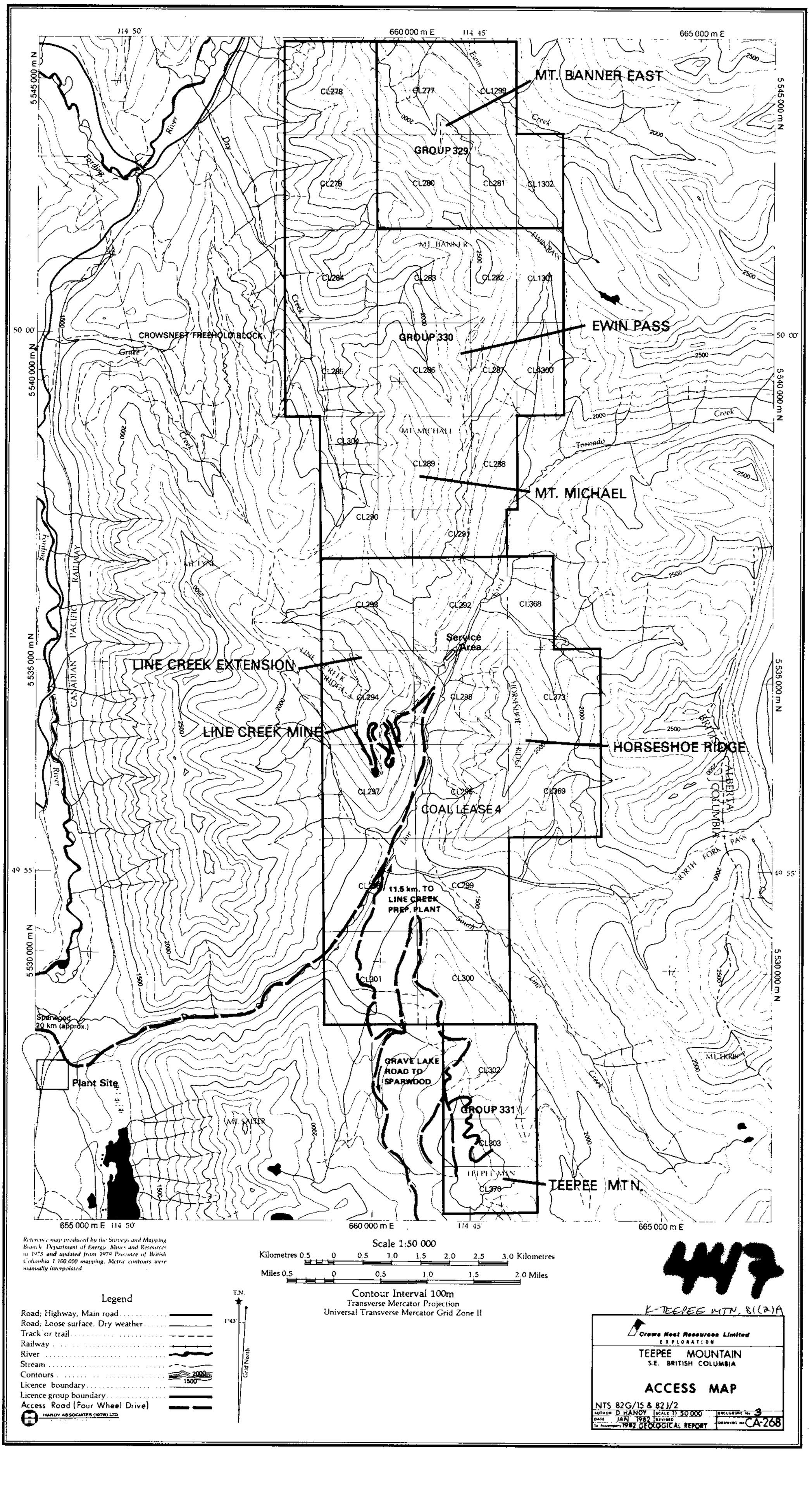
Hannah, T. 1979, Geological Report - Line Creek Coal Project - Crows Nest Resources Limited

Schlender, J. 1979, Geological Report - Horseshoe Ridge Coal Project - Crows Nest Resources Limited.



ENCLOSURE 1


FORDING
BURNT RIDGE EXTENSION
BARE MOUNTAIN
MT. BANNER EAST
ELKFORD
RIVER
FORDING
EWIN PASS
MT. MICHAEL
HORSESHOE RIDGE
LINE CREEK & LINE CREEK EXTENSION
TEEPEE MOUNTAIN
CROWN MOUNTAIN
B.C. COAL
SPARWOOD
BRITISH COLUMBIA
RIVER
COLEMAN
ALBERTA
COLEMAN COLLIERIES
ELK
MORRISSEY
CORBIN – MIDDLE MOUNTAIN
FERNIE
BYRON CREEK
LILLYBURT
LODGEPOLE
HARVEY CREEK
ELKO
CABIN CREEK
METRES
0 5 10 15 20 km
K-TEEPEE MTN. 81(2)A
Crows Nest Resources Limited
EXPLORATION
TEEPEE MOUNTAIN
SE BRITISH COLUMBIA
LOCATION MAP
AUTHOR D HANDY
DATE JAN 1982
SCALE AS SHOWN
REVISED
ENCLOSURE No. 2
DRAWING No. AA-802
CANADA / USA



Reference map produced by the Surveys and Mapping Branch Department of Energy Mines and Resources in 1975 and updated from 1979 Province of British Columbia 1 100,000 mapping. Metric contours were manually interpolated

Scale 1:50 000

Kilometres 0.5 0 0.5 1.0 1.5 2.0 2.5 3.0 Kilometres

Miles 0.5 0 0.5 1.0 1.5 2.0 Miles

Contour Interval 100m

Transverse Mercator Projection

Universal Transverse Mercator Grid Zone II

Legend

- Road; Highway, Main road
- Road; Loose surface. Dry weather
- Track or trail
- Railway
- River
- Stream
- Contours (2000, 1500)
- Licence boundary
- Licence group boundary
- Access Road (Four Wheel Drive)

HARDY ASSOCIATES (1978) LTD

T.N. 1°43' Grid North

447

K-TEEPEE MTN. 82(2)A

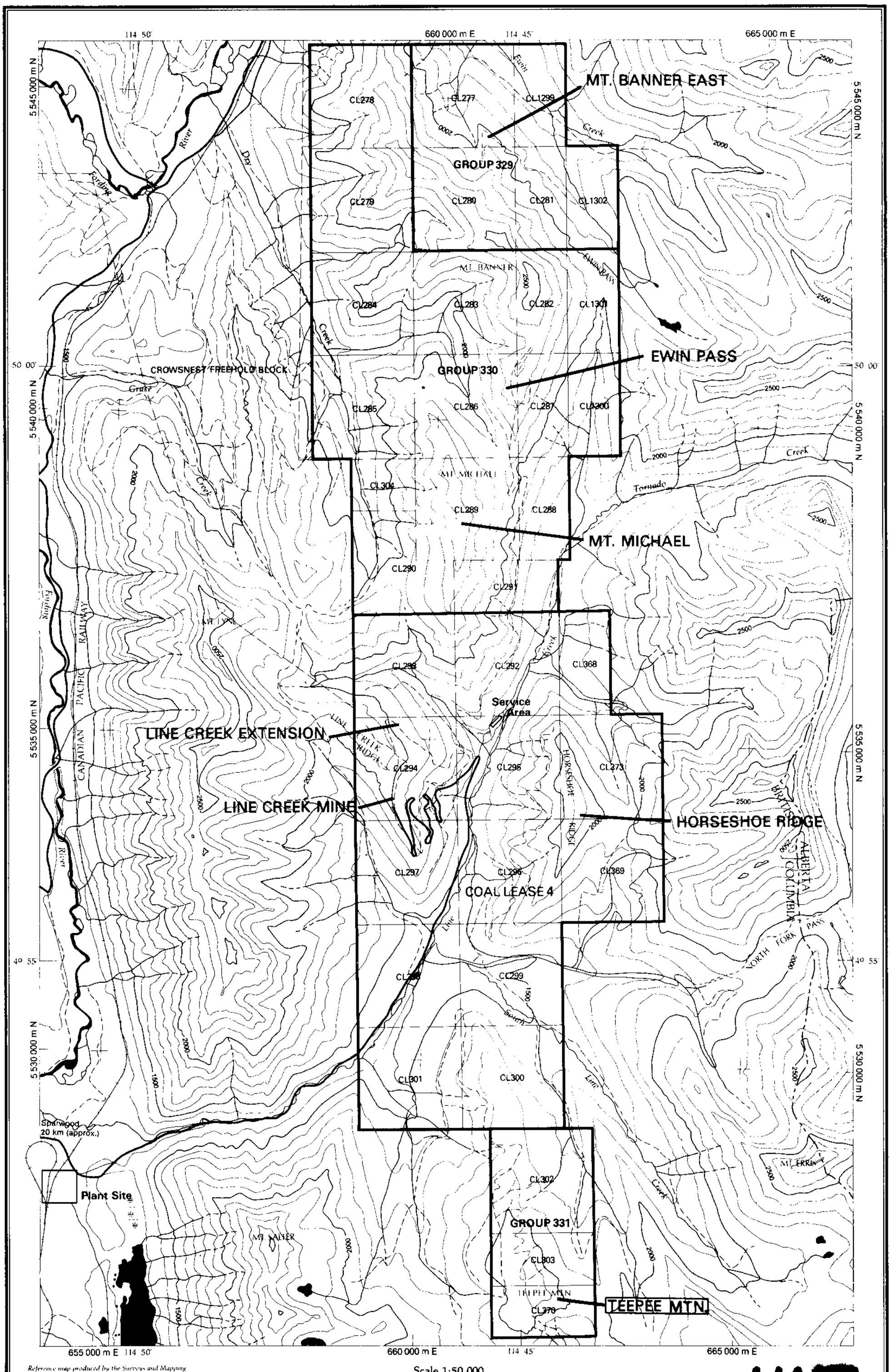
Crows Nest Resources Limited
EXPLORATION

TEEPEE MOUNTAIN
S.E. BRITISH COLUMBIA

ACCESS MAP

NTS 82G/15 & 82J/2

AUTHOR D HANDY	SCALE AS SHOWN	ENCLOSURE No. 3
DATE JAN 1982	REVISED	DRAWING No. CA-268
To Accompany 1982 GEOLOGICAL REPORT		



Reference map produced by the Surveys and Mapping Branch, Department of Energy, Mines and Resources in 1975 and updated from 1979 Province of British Columbia 1:100,000 mapping. Metric contours were manually interpolated.

Scale 1:50 000

Kilometres 0.5 0 0.5 1.0 1.5 2.0 2.5 3.0 Kilometres

Miles 0.5 0 0.5 1.0 1.5 2.0 Miles

Contour Interval 100m

Transverse Mercator Projection

Universal Transverse Mercator Grid Zone II

Legend

- Road: Highway, Main road
- Road: Loose surface, Dry weather
- Track or trail
- Railway
- River
- Stream
- Contours (2000 / 1500)
- Licence boundary
- Licence group boundary

T.N. 1°43' Grid North

HANDY ASSOCIATES (1978) LTD.

449

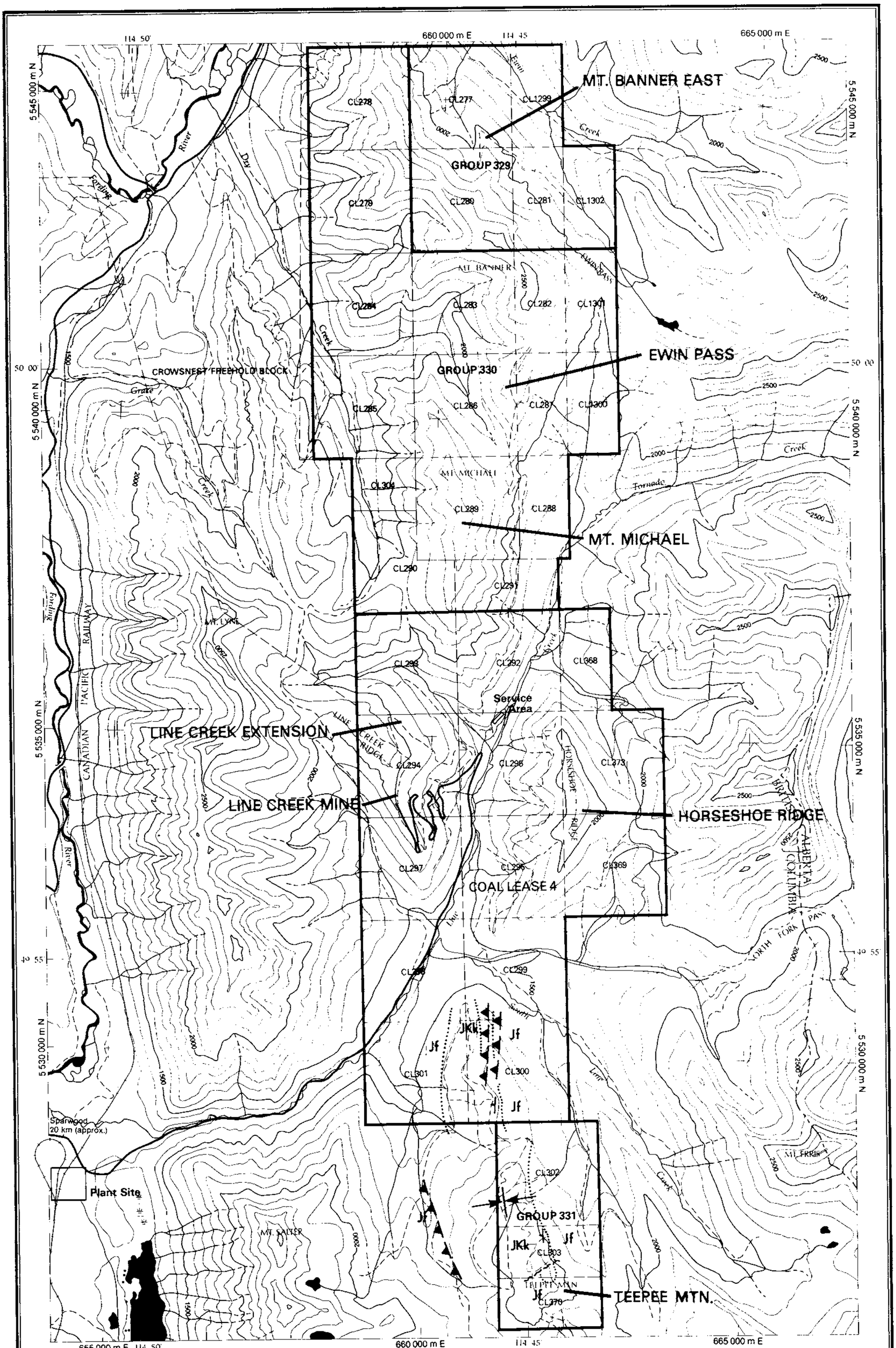
K-TEEPEE MTN 82G/1A

Crows Nest Resources Limited
EXPLORATION

TEEPEE MOUNTAIN
S.E. BRITISH COLUMBIA

COAL LICENCES

NTS 82G/15 & 82J/2
AUTHOR D. HANDY SCALE 1:50 000
DATE JAN 1982 REVISED
To Accompany 1982 GEOLOGICAL REPORT
ENCLOSURE No. 4
DRAWING No. CA269



Reference map produced by the Surveys and Mapping Branch, Department of Energy, Mines and Resources in 1975 and updated from 1979 Province of British Columbia 1:100 000 mapping. Metric contours were manually interpolated.

Scale 1:50 000

Kilometres 0.5 0 0.5 1.0 1.5 2.0 2.5 3.0 Kilometres

CONTOUR INTERVAL 100m

Legend

- Road; Highway, Main road
- Road; Loose surface, Dry weather
- Track or trail
- Railway
- River
- Stream
- Contours (2000, 1500)
- Licence boundary
- Licence group boundary

HARDY ASSOCIATES (1978) LTD

1 43' Grid North

GEOLOGICAL LEGEND

CRETACEOUS

- Kbl — Blairmore Group

JURASSIC - CRETACEOUS

- JKk — Kootenay Group
- JKe — Elk Formation
- JKmm — Mist Mountain Formation
- JKm — Morrissey Formation
- MbM — Moose Mountain Member
- WrM — Weary Ridge Member

JURASSIC

- Jf — Fernie Formation

TRIASSIC

- TSr — Spray River Group

GEOLOGICAL SYMBOLS

- Strike and dip of bedding
- Syncline
- Thrust Fault
- Inferred Fault
- Geological Contact

447

K-TEEPEE MTN 81G/1A

Crows Nest Resources Limited
EXPLORATION

TEEPEE MOUNTAIN
S.E. BRITISH COLUMBIA

GEOLOGY COMPILATION MAP

NTS 82G/15 & 82J/2

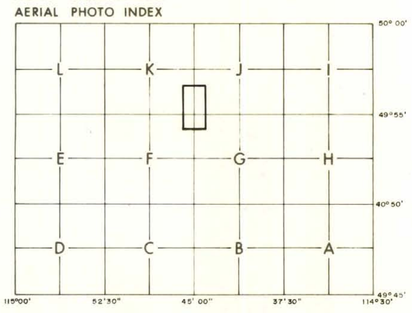
AUTHOR D HANDY	SCALE 1: 50 000	ENCLOSURE No. 5
DATE JAN 1982	REVISED	DRAWING No. CA-267
To Accompany 1982 GEOLOGICAL REPORT		

660 000 mE | 660 500 mE | 661 000 mE | 661 500 mE | 114° 45' | 662 000 mE | 662 500 mE | 663 000 mE

5 529 500 mN | 5 529 000 mN | 5 528 500 mN | 5 528 000 mN | 5 527 500 mN | 5 527 000 mN | 49° 55' | 5 526 500 mN | 5 526 000 mN | 5 525 500 mN | 5 525 000 mN

JKk
Jf
AIR PHOTO INTERPRETED
AIR PHOTO INTERPRETED
AIR PHOTO INTERPRETED
AIR PHOTO INTERPRETED CONTACT
Basal Sst Rubble
Basal Sst
Sandstone (Basal ?) Badly Broken
Basal Sandstone Rubble
Shale
Basal Sandstone Rubble
Fernie Shale
TP-81R-201 (Minor Coal)
TP-81R-209 (Minor Coal)
TP-81R-208 (No Coal)
TP-81R-207 (Coal)
TP-81R-205 (Minor Coal)
TP-81R-210 (No Coal)
TP-81R-206 (Minor Coal)
TP-81R-202
TP-81R-203
TP-81R-204 (Coal)
RDH-101
RDH-102
RDH-103
RDH-104
RDH-105
RDH-106
RDH-107
RDH-108 (Coal)
TRENCHED 3.0m Coal disappears between here and RDH-105
TRENCHED 1.7m soft wet coal, looks slumped, dips at a low angle to the east floor trenched at a
TRENCH
9 3.6cm Bulk Sample Trench
3m Coal
1.35m
1.82m
Coal 20m
Coal Bloom
Sst Boulders & Slump Blocks
Rubble & Slump Blocks
Basal Sst
Basal Sst Rubble
Black Carb-Shale Overlying Basal Sst
Basal Sst Slump Blocks
Slumped Cliff
Basal Sst Rubble
CL 302
CL 303
CL 370
CROSS SECTION 5 528 000 N
CROSS SECTION 5 527 800 N
CROSS SECTION 5 527 600 N
CROSS SECTION 5 527 400 N
CROSS SECTION 5 527 200 N
CROSS SECTION 5 527 000 N
CROSS SECTION 5 526 800 N

MAP INDEX AND AERIAL PHOTO INDEX



G.N.
T.N.

REFERENCE

MAIN ROAD
SECONDARY ROAD
TRACK OR TRAIL
RAILWAY
HEDGE FENCE
BRIDGE CULVERT
CUT FILL
SWAMP
RIVER, LAKE
INTERMITTENT RIVER
TREED AREA
LINE OF TREES
INDIVIDUAL TREES
VERTICAL INTERVAL
DEPRESSION
SPOT HEIGHT
DRILL HOLE (LOCATION APPROXIMATELY, SURVEYED)
CONTROL POINT
51 drill hole

MAP PROJECTION : UNIVERSAL TRANSVERSE MERCATOR
CENTRAL MERIDIAN REFERENCE 117° W.

PREPARED BY :
NORTH WEST SURVEY CORPORATION (YUKON) LTD.
JOB NO. 17-109

METRES 100 50 0 100 200 300 METRES
SCALE 1 : 5000

GEOLOGICAL LEGEND

CRETACEOUS
Kbl Blairmore Group

JURASSIC - CRETACEOUS
JKk Kootenay Group
JKe Elk Formation
JKmm Mist Mountain Formation
JKm Morrissey Formation
MsM Moose Mountain Member
WrM Weary Ridge Member

JURASSIC
Jf Fernie Formation

TRIASSIC
TSr Spray River Group

Sandstone (Ss) Medium Grain
Sandstone (Ss) Fine Grain
Siltstone (Sltst)
Shale (sh)
Coal
Geological Contact - defined, approx., inferred
Thrust Fault
Down Thrown Side — Normal Fault
Bedding Strike & Dip
Hand Trench
Axial Trace: Syncline, Anticline
Coal Licence Boundary

447
E-TEEPEE MTN 82J/2A

Crows Nest Resources Limited
EXPLORATION

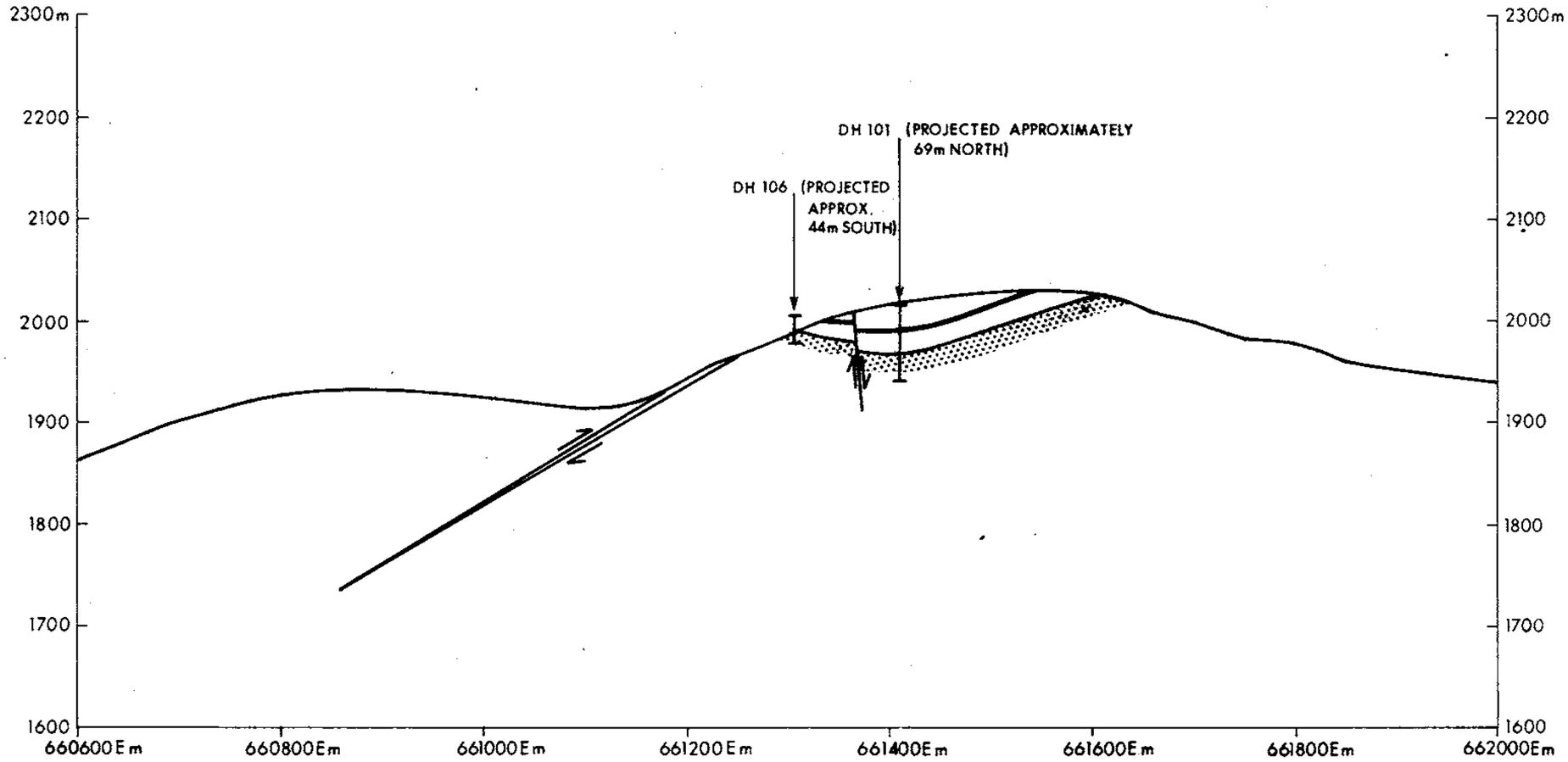
TEEPEE MOUNTAIN
S.E. BRITISH COLUMBIA

GEOLOGICAL MAP

NTS. 82 J2 — UTM ZONE 11

AUTHOR: S. CAMERON / D. HANDY	SCALE: 1:5000	ENCLOSURE No: 6
DATE: JANUARY, 1982	REVISED:	DRAWING No: HI-94
To Accompany 1981 GEOLOGICAL REPORT		

SECTION 5 527 600 NORTH



SCALE 1:5000

100 0 100 200 metres

NO VERTICAL EXAGGERATION

GEOLOGICAL LEGEND

FAULT

COAL SEAM

BASAL SANDSTONE

DRILL HOLE

447 K-TEEPEE MTN 81L21W

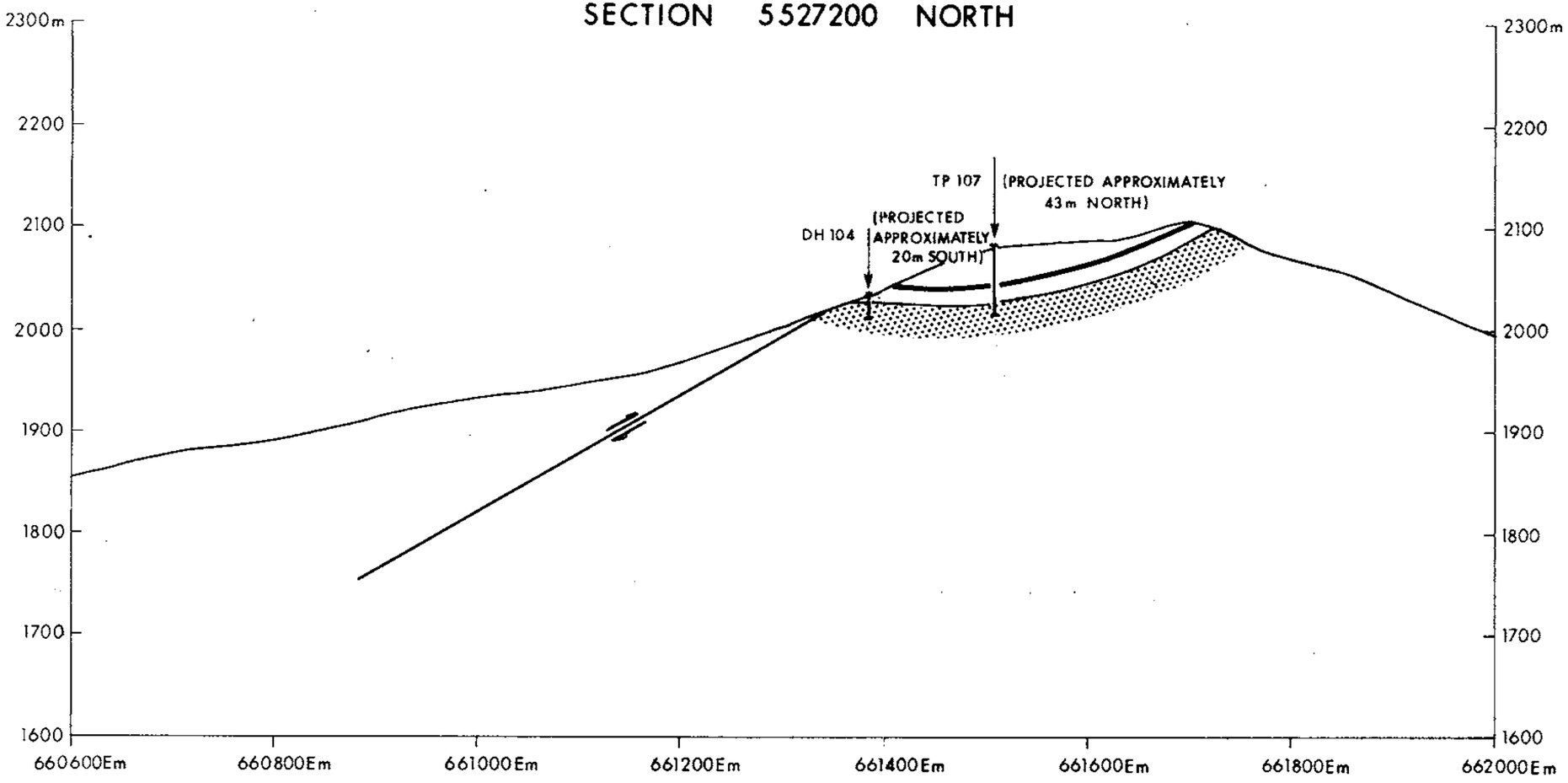
Crows Nest Resources Limited
EXPLORATION

TEEPEE MOUNTAIN
S.E. BRITISH COLUMBIA

CROSS SECTION
SECTION 5 527 600 NORTH

AUTHOR S. CAMERON SCALE 1:5000 ENCLOSURE NO. 7
DATE JAN. 1982 REVISED DRAWING NO. H1-94A
TO ACCOMPANY

SECTION 5527200 NORTH



SCALE 1:5000

100 0 100 200 metres

NO VERTICAL EXAGGERATION

GEOLOGICAL LEGEND

FAULT

COAL SEAM

BASAL SANDSTONE

DRILL HOLE

447

K-TEEPEE MTN 81(2)A

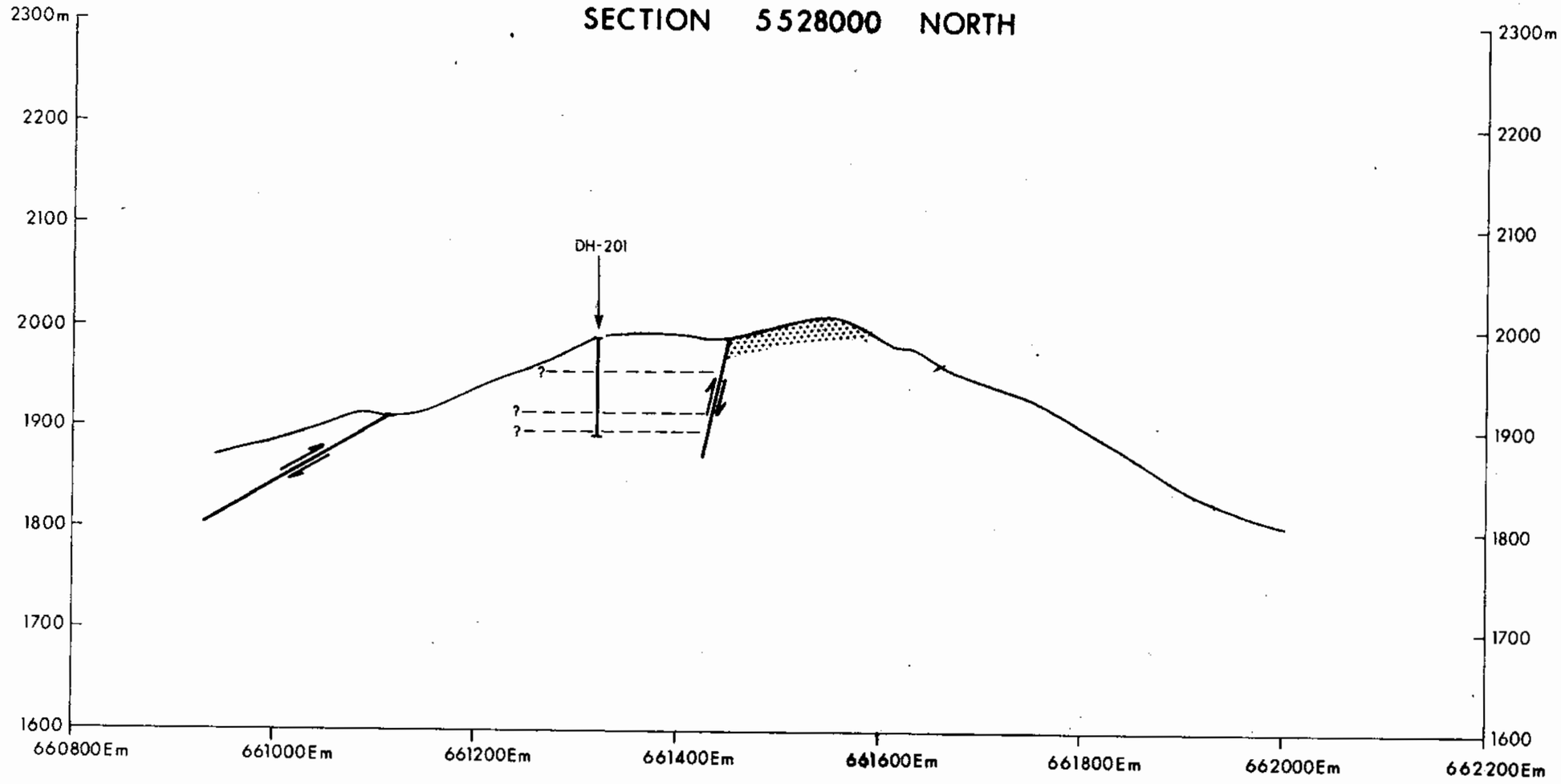
Crows Nest Resources Limited
EXPLORATION

TEEPEE MOUNTAIN
S.E. BRITISH COLUMBIA

CROSS SECTION
SECTION 5 527200 NORTH

AUTHOR S. CAMERON SCALE 1:5000 ENCLOSURE NO. 76
DATE JAN. 1982 REVISED DRAWING NO. H-94B
TO ACCOMPANY

SECTION 5528000 NORTH



SCALE 1:5000

100 0 100 200 metres

NO VERTICAL EXAGGERATION

GEOLOGICAL LEGEND

FAULT

COAL SEAM

BASAL SANDSTONE

DRILL HOLE

447

K-TEEPEE MOUNTAIN 81(1)A

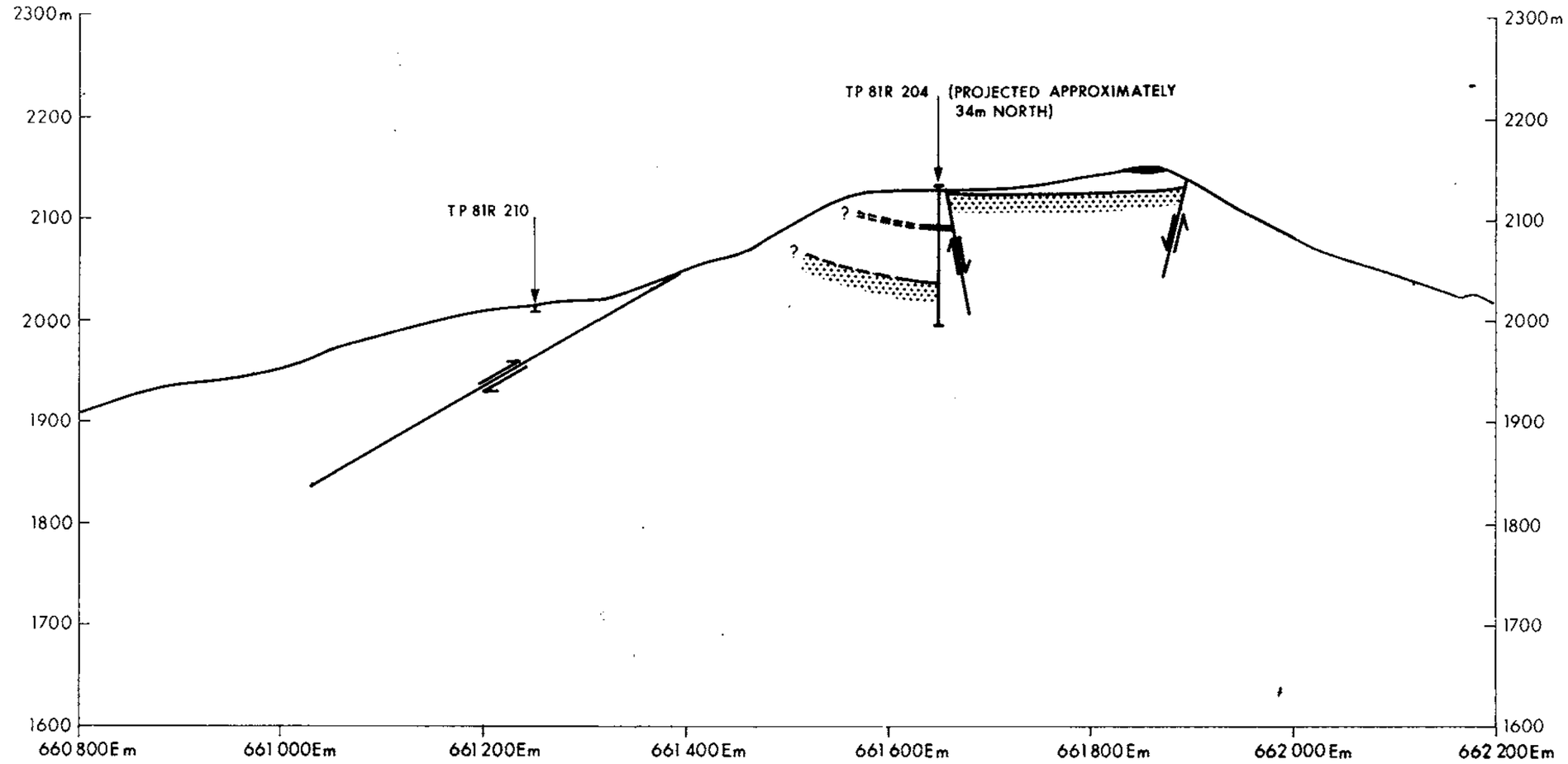
Crows Nest Resources Limited
EXPLORATION

TEEPEE MOUNTAIN
S.E. BRITISH COLUMBIA

CROSS SECTION
SECTION 5528000 NORTH

AUTHOR S. CAMERON | SCALE 1:5000 | ENCLOSURE No. 6
DATE JAN, 1982 | REVISED | DRAWING No. HI-94C
To Accompany

SECTION 5 526 800 NORTH



SCALE 1:5000

100 0 100 200 metres

NO VERTICAL EXAGGERATION

GEOLOGICAL LEGEND

FAULT

COAL SEAM

BASAL SANDSTONE

DRILL HOLE

447

K-TEEPEE MTN 81(2)A

Crows Nest Resources Limited
EXPLORATION

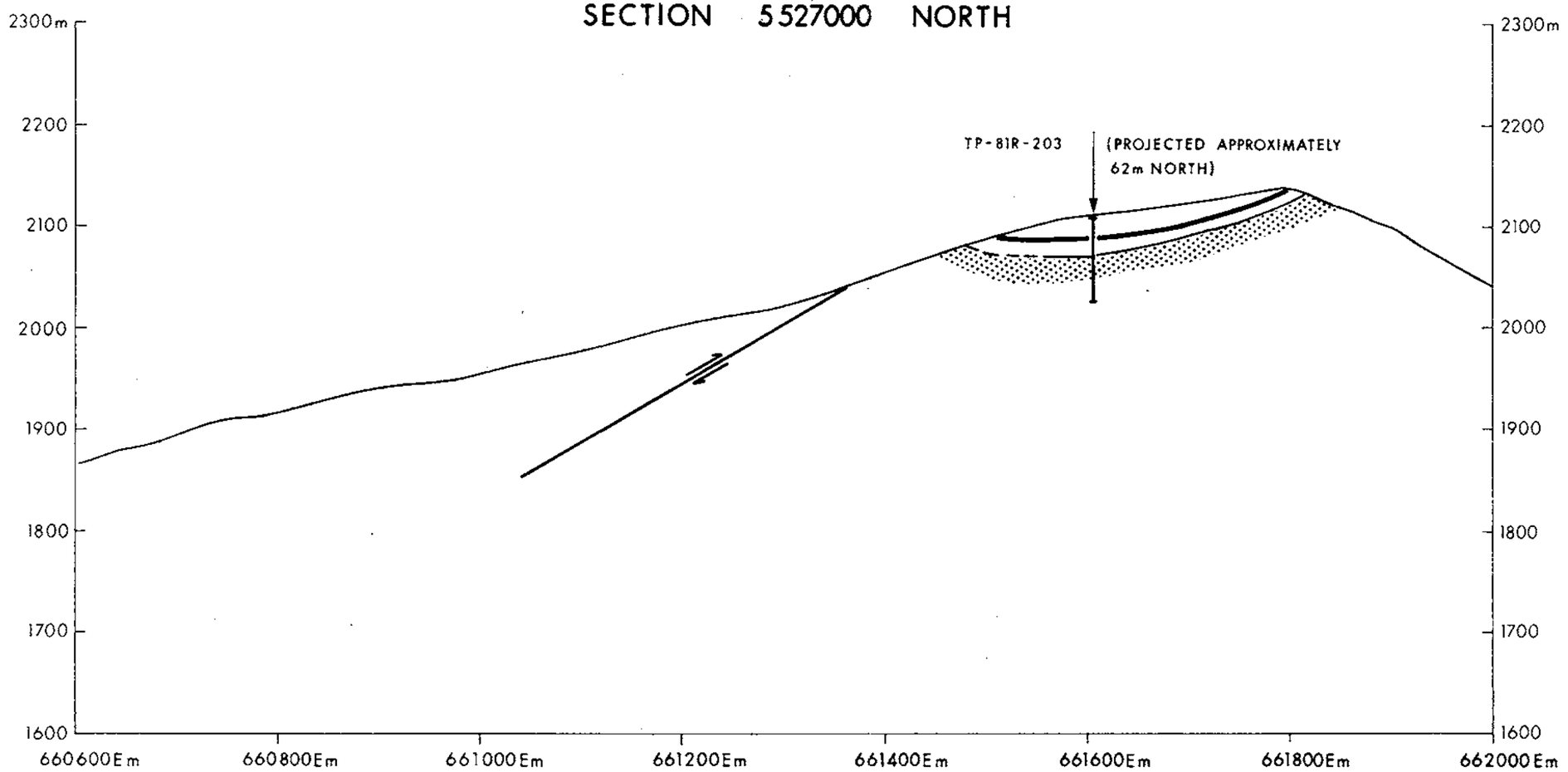
TEEPEE MOUNTAIN
S.E. BRITISH COLUMBIA

CROSS SECTION
SECTION 5 526 800 NORTH

S CAMERON 1:5000
JAN, 1982

HI-94D

SECTION 5527000 NORTH



SCALE 1:5000

100 0 100 200 metres

NO VERTICAL EXAGGERATION

GEOLOGICAL LEGEND

FAULT

COAL SEAM

BASAL SANDSTONE

DRILL HOLE

447

K-TEEPEE MTN 81(2)A

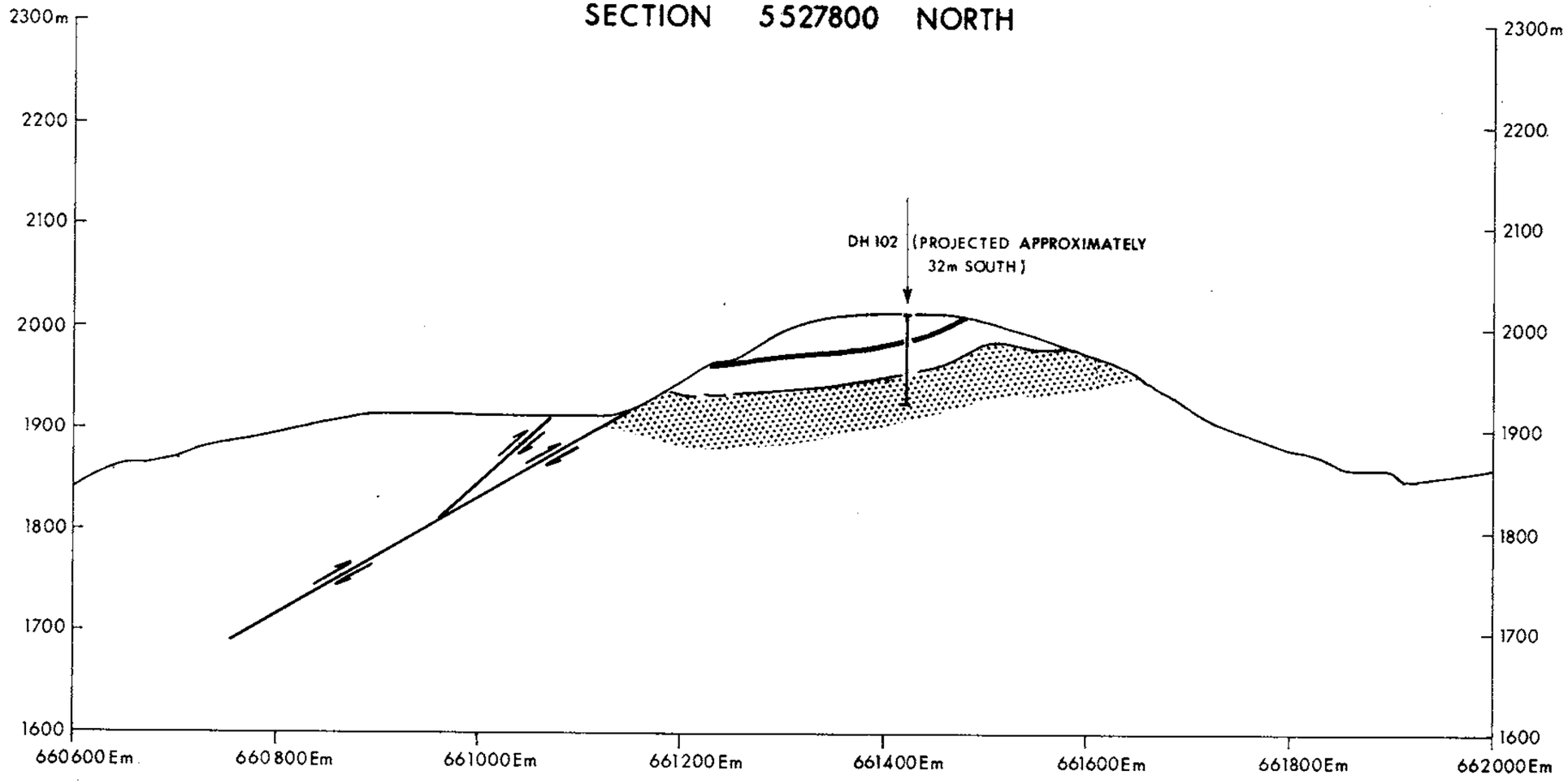
Crows Nest Resources Limited
EXPLORATION

TEEPEE MOUNTAIN
S.E. BRITISH COLUMBIA

CROSS SECTION
SECTION 5 527000 NORTH

AUTHOR S. CAMERON SCALE 1:5000
DATE JAN, 1982. REVISED
ENCLOSURE NO. 3
DRAWING NO. H1-94E

SECTION 5527800 NORTH



SCALE 1:5000

100 0 100 200 metres

NO VERTICAL EXAGGERATION

GEOLOGICAL LEGEND

FAULT

COAL SEAM

BASAL SANDSTONE

DRILL HOLE

447

K-TEEPEE MTN 81(21A

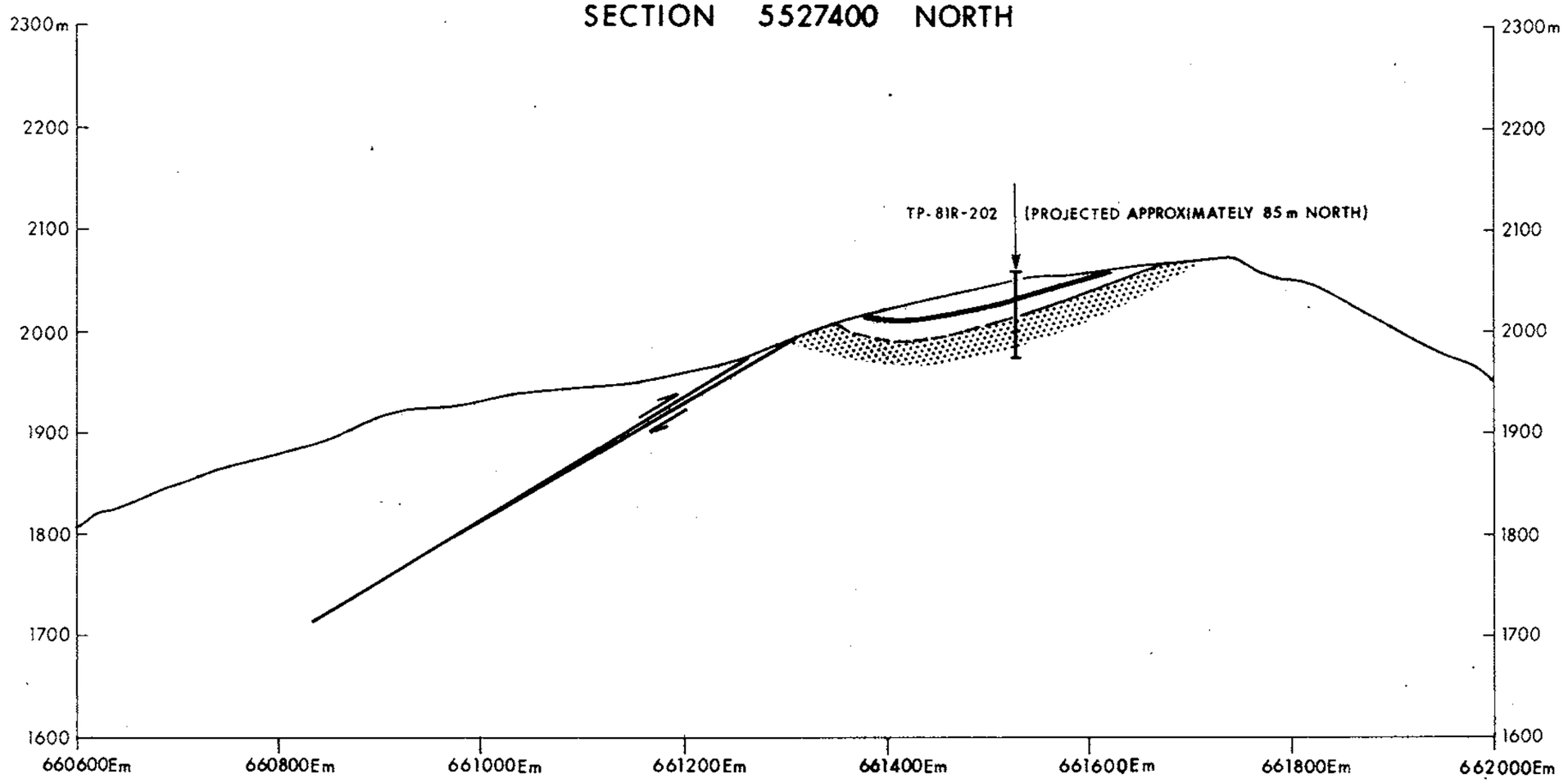
Crows Nest Resources Limited
EXPLORATION

TEEPEE MOUNTAIN
S.E. BRITISH COLUMBIA

CROSS SECTION
SECTION S 527800 NORTH

AUTHOR S CAMERON SCALE 1:5000 ENCLOSURE No. 8
DATE JAN, 1982 REVISED
to Accompany DRAWING No. HI-94F

SECTION 5527400 NORTH



SCALE 1:5000

100 0 100 200 metres

NO VERTICAL EXAGGERATION

GEOLOGICAL LEGEND

FAULT

COAL SEAM

BASAL SANDSTONE

DRILL HOLE

447 K-TEEPEE MTN 81(21)A

Crowe Nest Resources Limited
EXPLORATION

TEEPEE MOUNTAIN
S.E. BRITISH COLUMBIA

CROSS SECTION
SECTION 5527400 NORTH

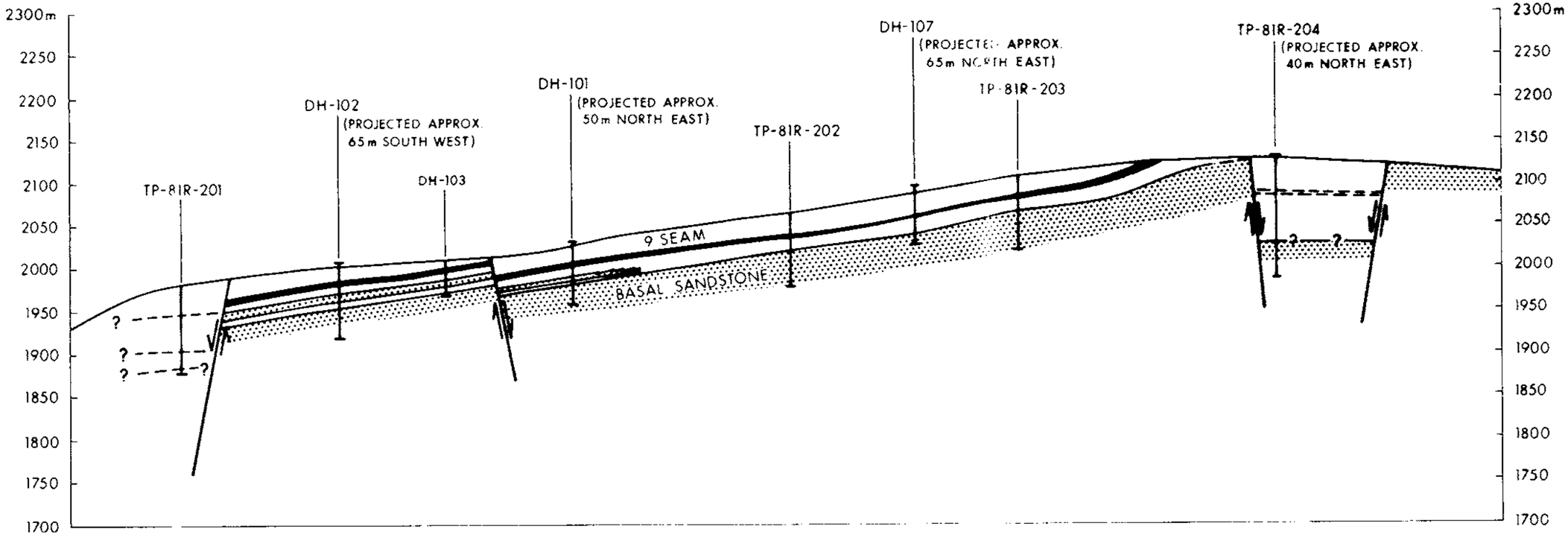
AUTHOR S CAMERON SCALE 1:5000 ENCLOSURE NO 6
DATE JAN. 1982 REVISED DRAWING NO HI-94G
To Accompany

5528 000 E m

5527 000 E m

A

A'



100 50 0 100 200 300 METRES

SCALE 1 : 5 000

LEGEND

COAL

SANDSTONE

FAULT

DRILL HOLE

K-TEEPEE MTN 82G/3A

Crows Nest Resources Limited
EXPLORATION

TEEPEE MOUNTAIN
S.E. BRITISH COLUMBIA

LENGTH SECTION
A - A'

AUTHOR: S CAMERON	SCALE: 1:5 000	ENCLOSURE No: 7
DATE: 82-01	REVISED:	DRAWING No: HI-941
To Accompany		

661000Em

661500Em

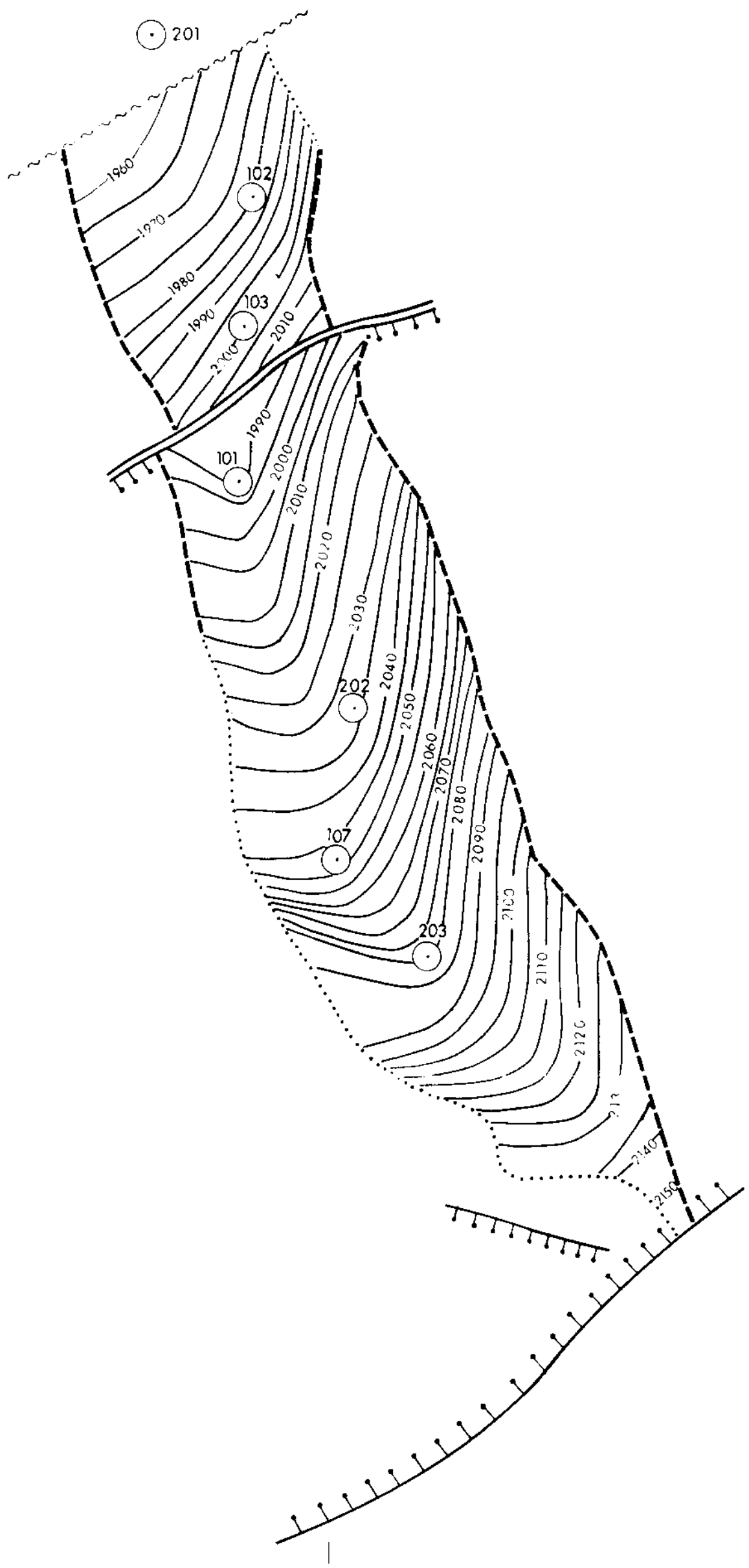
662000Em

5528000Nm

5527500Nm

5527000Nm

5526500Nm



100 50 0 100 200 300 METRES

SCALE 1 : 5 000

GEOLOGICAL LEGEND

- TRACE of #9 SEAM
- TRACE of #9 SEAM (INFERRED)
- NORMAL FAULT
- POSSIBLE FAULT
- 2000 STRUCTURE CONTOUR
- DRILL HOLE

K-TEEPEE MTN 81 G 1A

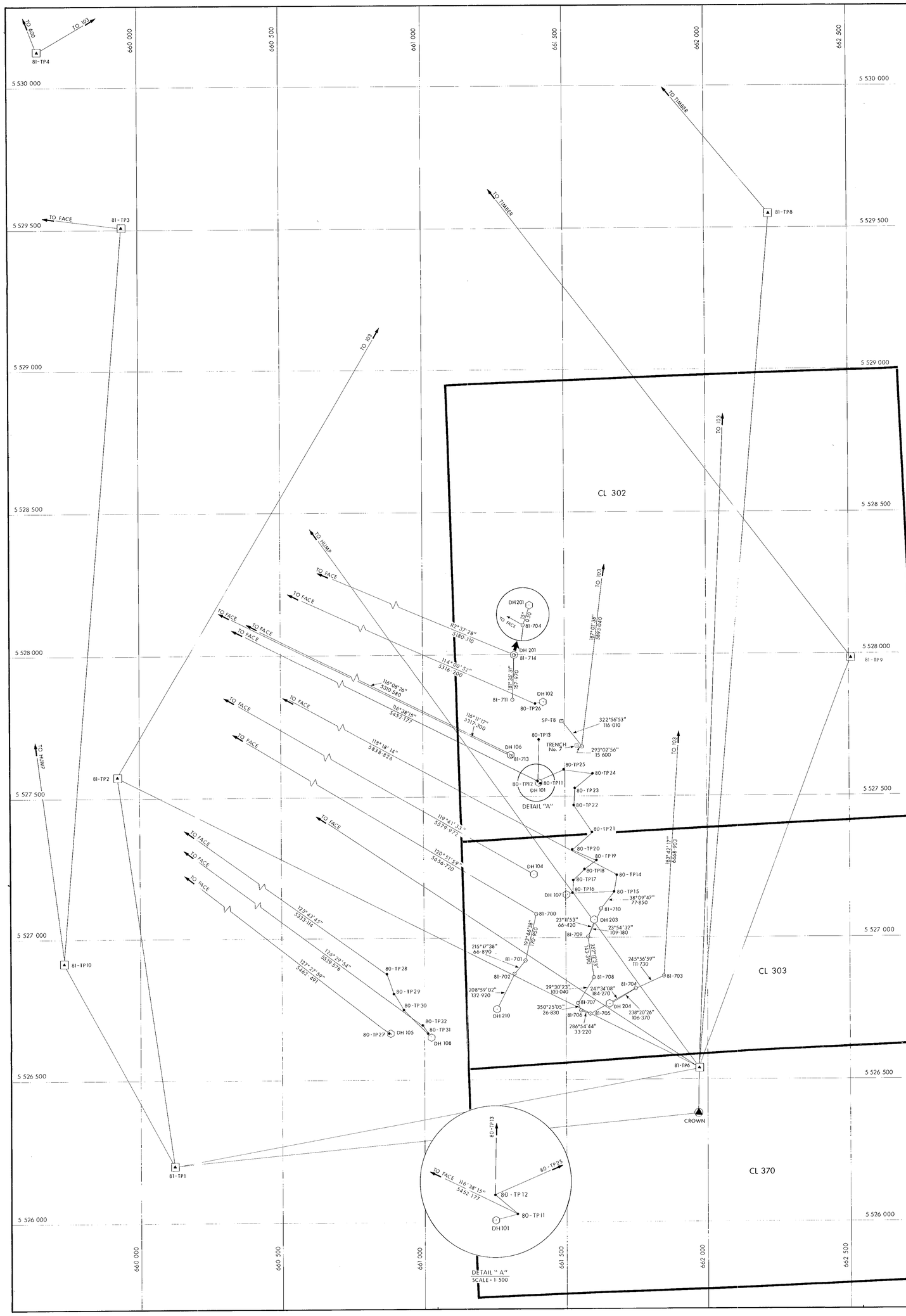
Crows Nest Resources Limited
EXPLORATION

TEEPEE MOUNTAIN
SE BRITISH COLUMBIA

STRUCTURE CONTOUR MAP

BASE of #9 SEAM

AUTHOR S CAMERON SCALE 1 : 5 000 ENCLOSURE No. 8
DATE JAN 1982 REVISED
TO Accompany DRAWING No. HI-94H



SURVEY STATIONS 1981

Station	N	E	Elev.
81-700	5527087.62	661396.13	2046.1
81-701	5526921.58	661355.42	2028.6
81-702	5526866.99	661316.78	2027.5
81-703	5526866.90	661848.07	2141.4
81-704	5526821.37	661746.04	2132.6
81-705	5526733.84	661584.00	2129.9
81-706	5526743.30	661552.21	2125.7
81-707	5526769.75	661547.75	2122.8
81-708	5526859.43	661598.50	2115.1
81-709	5527001.49	661579.07	2107.6
81-710	5527101.30	661623.32	2100.1
81-711	5527839.01	661317.87	2003.3
81-712	5527673.10	661558.02	2013.6
81-713	5527643.10	661312.08	1989.4

DRILL HOLES 1981

Station	N	E	Elev.
DH 201	5527997.40	661322.39	1992.3
DH 203	5527062.54	661605.24	2103.5
DH 204	5526765.54	661655.50	2128.8
DH 210	5526750.72	661252.37	2017.3

TRENCHES 1981

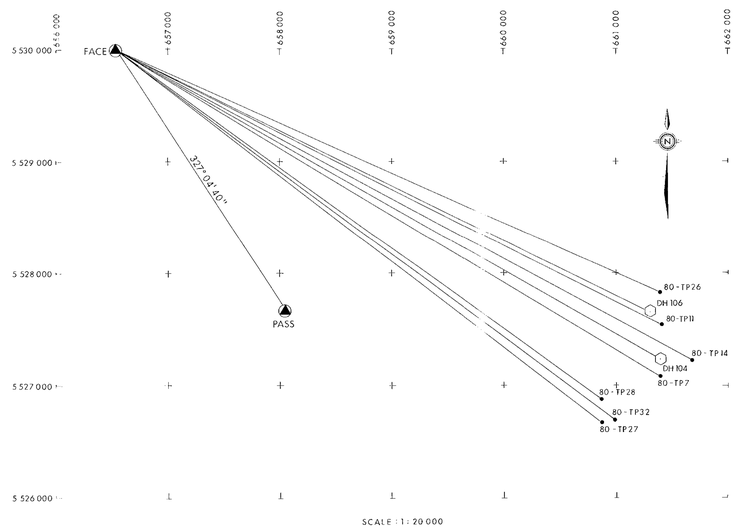
Station	N	E	Elev.
TRENCH 7	5527679.21	661543.66	2012.4
SP-T8	5527765.69	661488.11	2011.4

REFERENCES 1981

	STATION	GRID BEARING	PLANE DISTANCE	DESCRIPTION	GRID COORDINATES N	E	ELEV.
DH210	A	144.54	10.84	4" spruce	5526741.9	661258.6	2018.0
	B	209.21	15.38	10" pine	5526737.3	661244.8	
DH203	A	94.52	5.67	4" fir	5526765.1	661661.2	2128.6
	B	190.95	4.88	4" fir	5526760.7	661654.7	
81-700	A	74.55	5.18	nail in tree	5527063.9	661610.2	
	B	186.33	9.94	nail in tree	5527052.7	661604.2	2104.9
81-703	A	25.59	8.54	6" pine	5527095.3	661399.9	
	B	118.35	6.79	4" spruce	5527084.4	661402.1	2047.3
81-708	A	182.33	1.96	6" fir	5526864.9	661848.0	2142.7
	B	276.44	16.33	10" pine	5526868.8	661831.9	
81-714	A	87.29	4.87	nail in tree	5526859.6	661603.4	
	B	164.05	5.50	nail in tree	5526854.1	661600.0	2116.6
81-712	A	43.41	13.80	8" pine	5528006.9	661331.8	1993.1
	B	68.34	11.19	12" pine	5528001.0	661332.7	
	A	93.14	6.56	nail in tree	5527672.7	661564.6	
	B	124.20	5.05	nail in tree	5527670.3	661562.2	2014.6

PHOTOTARGET STATIONS 1981

STATION	GRID COORDINATES N	E	ELEV.
Crown	5526378.54	661967.21	2220.4
TP1	5526199.81	660120.82	1834.50
TP2	5527572.03	659923.77	1661.77
TP3	5529507.89	659941.76	1501.51
TP4	5530127.18	659649.70	1483.02
TP6	5526539.40	661970.26	2204.56
TP8	5529548.01	662227.90	1651.07
TP9	5527983.92	662607.68	1821.83
TP10	5528913.72	659733.44	1837.16



	STATION	BEARING	DISTANCE	NORTHING	EASTING	ELEVATION
TRAVERSES ROAD	Pass			5527658.242	658060.398	
	Face			5529989.328	656541.076	2205.5
	80-TP14	118-18-14		5527220.86	661681.84	2161.6
	80-TP15	189-48-00	59.565	5527162.17	661671.70	2099.0
	80-TP16	268-48-08	146.196	5527159.11	661525.54	2088.6
	80-TP17	3-19-44	47.169	5527206.20	661528.28	2082.5
	80-TP18	47-44-14	53.061	5527241.88	661567.55	2078.6
	80-TP19	53-56-12	52.669	5527272.89	661610.12	2072.6
	80-TP20	294-21-06	94.009	5527311.65	661574.48	2064.4
	80-TP21	47-58-41	92.614	5527373.65	661593.28	2067.1
	80-TP22	326-10-47	113.290	5527467.77	661530.22	2043.1
	80-TP23	5-13-22	61.418	5527528.93	661535.81	2039.2
	80-TP24	52-16-09	81.677	5527578.91	661600.41	2030.7
	80-TP25	277-18-21	103.319	5527585.05	661497.93	2027.2
	80-TP12	246-06-46	99.734	5527551.67	661406.74	2021.0
	80-TP11	131-01-34	10.292	5527544.91	661414.51	2022.8
	80-TP28	160-48-00	72.872	5526875.03	660870.43	1935.1
	80-TP29	149-11-16	66.749	5526806.21	660894.39	1936.6
	80-TP30	133-42-56	118.796	5526748.89	660928.58	1939.4
	80-TP31	323-46-45	34.293	5526666.79	661014.44	1950.2
	80-TP32			5526694.46	660994.18	1948.0
	80-TP7			5527081.25	661396.65	2044.8
	80-TP8	194-13-57	169.427	5526917.02	661355.00	2028.4
	80-TP9	218-13-45	55.617	5526873.33	661320.58	2026.8
	80-TP10	208-39-21	136.334	5526753.70	661255.20	2017.8
	80-TP12					
	80-TP13	1-36-31	147.682	5527699.31	661410.25	2016.6
DRILL HOLES	80-TP11					
	DH 101	255-43-19	7.851	5527542.97	661406.90	2020.9
	DH 104			5527225.32	661398.38	2033.6
	80-TP27			5526666.52	660876.71	1922.4
	DH 105	95-19-04	6.165	5526665.95	660882.85	1922.3
	DH 106			5527649.62	661308.47	1989.2
	80-TP16					
	DH 107	259-11-48	17.528	5527155.83	661508.32	2086.4
	80-TP31					
	DH 108	145-18-42	16.000	5526663.63	661022.55	1950.5
	80-TP26			5527825.81	661397.12	2013.0
	DH 102	76-35-46	26.761	5527832.01	661423.15	2012.5

LEGEND

- • — PLANT 6" NAIL
- X — PLANT 12" SPIKE
- ⊗ — FOUND 12" SPIKE
- △ — 1979 C.N.R.L. PHOTO. CONTROL
- □ — TRENCH
- ⊕ — OUTCROP
- ✦ — ADIT
- ⬡ — DRILL HOLE
- ▲ — CONTROL POINT OF NETWORK
- ● — FOUND IRON POST
- ○ — PLANTED 3' REBAR WITH CAP
- ▲ — 1981 PHOTO TARGET IRON POST
- ——— — COAL LICENCE BOUNDARY (approximate)

ALL DISTANCES HAVE BEEN REDUCED TO THE U.T.M. PLANE AND ARE IN METRES AND DECIMALS THEREOF.
ALL BEARINGS ARE REFERRED TO 117° W LONGITUDE.
SURVEY PERFORMED BY Sheltech Canada, 1980-1981.

447

K-TEEPEE MTN 81(2)A

TN. GN.

100 50 0 100 200 300 400 500

SCALE 1:5000

Crows Nest Resources Limited
EXPLORATION

TEE PEE MOUNTAIN
S.E. B.C.

CENTRAL BLOCK
1980 - 1981

TRAVERSE SURVEY MAP

AUTHOR: SHELTECH	SCALE: 1:5000	ENCLOSURE No.:
DATE: 81-12-08	REVISED:	DRAWING No: HI-62B
To Accompany		

CROWS NEST RESOURCES LIMITED (Exploration)

B.C. COAL LICENCES
TENURE STANDING

BLOCK: CENTRAL BLOCK
GROUP: #331

PROJECT: TEEPEE MOUNTAIN

YEAR: 1981
DATE: JANUARY 1982

LICENCE			ACQ/ADM		RENTALS		REQUIREMENT WORK						BUDGET		EXP	POTL	REMARKS
NO.	LEGAL DESCRIPTION	AREA TOTAL AC/HA.	YEAR	FEES $ 10^3	ANNUAL $	TOTAL TO NEXT ANN. $ 10^3	EXPIRED $ 10^3	CURRENT YEAR LIC. YEAR	CURRENT YEAR $	PRE-FULFILMENT YEAR	PRE-FULFILMENT $	ANNIVERSARY DATE	CURRENT YEAR AFE	CURRENT YEAR $ 10^3	TOTAL $ 10^3	SHELL CLASS.	
3 LIC		519		4,279	2,595	15.9	42.5	7 & 8	6,400	10	103,100	JANUARY 31st	-	-	4,558.7	Y	THE LICENCES ARE
302	LOT 6777	259	75														IN GOOD STANDING
303	N ½ LOT 6778	130	75														UNTIL JAN. 31ST 1990
370	S ½ LOT 6778	130	74														UNDER THE '74 COAL
																	ACT AND UNTIL JAN
																	31ST 1992 UNDER THE
																	'78 COAL ACT
				WORK DONE		PRIOR TO 78	1978		1979		1980	1981					
				$	HORSESHOE	179,994	139,853		508,320		386,679	-					
				$	TEEPEE	-	-		-		112,994	144,174					

BA - 312

Province of British Columbia
Ministry of Energy, Mines and Petroleum Resources

APPLICATION TO EXTEND TERM OF LICENCE

I, LESLIE GRAMANTIK (Name) agent for SHELL CANADA RESOURCES LIMITED (Name)

P.O. BOX 100 (Address) CALGARY (Address)

ALBERTA T2P 2M7

Valid FMC No. 244642

hereby apply to the Minister to extend the term of Coal Licence(s) No(s). 302,303,370

3 LICENCES, GROUP NO: 331, 519 HECTARES

for a further period of one year.

2. Property name TEEPEE MOUNTAIN, KOOTENAY LAND DISTRICT

3. I am allowing the following Coal Licence(s) No(s). to forfeit N/A

4. I have performed, or caused to be performed, during the period FEBRUARY 1, 1981 to JANUARY 31, 19 82, work to the value of at least $ 144,174.00

on the location of coal licence(s) as follows:

CATEGORY OF WORK	Licence(s) No(s).	Apportioned Cost
Geological mapping	302,303,370	16,838
Surveys: Geophysical	-	-
Geochemical	-	-
Other	302,303	5,386
Road construction	302,303	21,149
Surface work	302,303	8,613
Underground work	-	-
Drilling	302,303	47,079
Logging, sampling, and testing	302,303	27,113
Reclamation	302,303	3,136
Other work (specify)	-	-
Off-property costs GEOLOGICAL REPORT		14,860

5. I wish to apply $ 144,174.00 of this value of work on Coal Licence(s) No(s). 302,303,370

6. I wish to pay cash in lieu of work in the amount of $ N/A on Coal Licence(s) No(s).

7. The work performed on the location(s) is detailed in the attached report entitled TEEPEE MOUNTAIN GEOLOGICAL REPORT WILL BE SUBMITTED IN 90 DAYS

JANUARY 27, 1982 (Date)

Gramantik (Signature)

ASSISTANT LANDMAN (Position)

(FORMS AND REPORT TO BE SUBMITTED IN DUPLICATE)

GEOLOGICAL MAPPING Yes ☒ No ☐

	Area (Hectares)	Scale	Duration
Reconnaissance	1000	1:5000	50 MAN DAYS
Detail: Surface			
Underground			
Other* (specify)			

Total Cost $ 16,838

GEOPHYSICAL/GEOCHEMICAL SURVEYS Yes ☒ No ☐

Method
Grid
Topographic
Other* (specify) GROUND CONTROL FOR PHOTOGRAMMETRIC MAPPING

Total Cost $ 5,386

ROAD CONSTRUCTION Yes ☒ No ☐

Length 1000M Width 5M
On Licence(s) No.(s) 302,303
Access to DRILL HOLES

Total Cost $ 21,149

SURFACE WORK Yes ☒ No ☐

	Length	Width	Depth	Cost
Trenching	543	1M	2M	
Seam Tracing				
Crosscutting				
Other* (specify)				

Total Cost $ 8,613

UNDERGROUND WORK Yes ☐ No ☒

	No. of Adits	Maximum Length	No. of Holes	Total Metres	Cost
Test Adits					
Other workings*					

Total Cost $

DRILLING Yes ☒ No ☐

	Hole Size	No. of Holes	Total Metres	Cost
Core: Diamond				
Wireline				
Rotary: Conventional	5 1/8"	6	720	
Reverse circulation				
Other* (specify)				

Contractor S.D.S. DRILLING LTD.
Where is the core stored?

Total Cost $ 47,079

LOGGING, SAMPLING, AND TESTING Yes ☒ No ☐

Lithology: Drill samples ☒ Core samples ☐ Bulk samples ☒
Logs: Gamma-neutron ☒ Density ☒
Other* (specify) 5 TON BULK SAMPLE

Testing: Proximate analysis ☒ FSI ☒ Washability ☒
Carbonization ☐ Petrographic ☐ Plasticity ☒
Other* (specify)

Total Cost $ 27,113

RECLAMATION Yes ☐ No ☐

Details SEEDING, FERTILIZING, LEVELING Total Cost $ 3,136

OTHER WORK (Specify details) Yes ☐ No ☒ Cost

Total Cost $

OFF-PROPERTY COSTS Yes ☒ No ☐

Details GEOLOGICAL REPORT Total Cost $ 14,860

Total Expenditures $ 144,174

Jan. 28/82 (Date)

(Signature)

MANAGER - ACCOUNTING CNRL (Position)

*A full explanation of other work is to be included.

M E M O R A N D U M

DATE : JANUARY 26, 1982

T O : CROWS NEST RESOURCES LIMITED (C.N.R.L.)

FROM : SHELTECH CANADA

SUBJECT: TEE PEE MOUNTAIN (4151-E) - S.E. BRITISH COLUMBIA

All survey control in the Tee Pee Mountain area is based on the Crows Nest Control Network, using the results established in the fall 1980. The stations used were "Crown", "103", and "Pass".

From these stations 4 drill holes, 14 traverse stations and two trenches were surveyed. Most of the drill holes and traverse stations were referenced.

Conventional survey methods using both a 1" and 20" theodolite and electronic distance measuring equipment were used to obtain survey data. All calculations were done in the UTM system with distances being reduced to plane and bearings referenced to 117°W. The relative accuracy of the traverses was 1/10,000 or better. The results were given to C.N.R.L. personnel in both tabular and map form.

A. L. Melton

RB/cm

s665

CLIENT : CROSS WEST RESOURCES LIMITED

PROJECT: LITTLE MOUNTAIN BULK SAMPLE

LAB NO. : 3906

HEAD RAW ANALYSIS

AD%	MOIST%	ASH%	VOL%	F.C.%	S%	C.V. Cal/gm	CALC BASIS
16.6	2.6	28.7	24.7	44.0	0.38	4658	a.d.b.
	18.8	23.9	20.6	36.7	0.32	3885	a.r.b.
		29.5	25.4	45.1	0.39	4782	d.b.

SIZE CONSIST ,a.d.b.; BEFORE ATTRITION

SIZE FRACTION	WT%	CUM WT%
50 mm x 25 mm	4.2	4.2
25 mm x 12	12.2	16.4
12 x 6	5.4	21.8
6 x 0.6	49.3	71.1
0.6 x 0.3	10.5	81.6
0.3 x 0.15	8.2	89.8
0.15 x 0.075	5.9	95.7
0.075 x 0	4.3	100.0

WT% + 50 mm = 0.2 crushed to pass 50 mm

SIZE AND RAW ANALYSIS, a.d.b.			AFTER ATTRITION		
SIZE FRACTION	WT%	RM%	ASH%	CUMULATIVE WT%	ASH%
50 mmx 25mm	0.2	1.6	76.7	0.2	76.7
25 x 12	1.1	2.1	69.2	1.3	70.4
12 x 6	6.1	5.3	54.0	7.4	56.9
6 x 0.6	52.6	5.8	30.7	60.0	33.9
0.6 x 0.3	10.5	6.3	18.9	70.5	31.7
0.3 x 0.15	9.5	6.7	16.9	80.0	29.9
0.15 x 0.075	10.0	7.3	16.8	90.0	28.5
0.075x 0	10.0	7.9	18.4	100.0	27.5

Birtley Coal
& Minerals Testing

CLIENT : [illegible]

PROJECT: UPPER MOOMIAIN BULK SAMPLE

LAB NO.: 906

SINK FLOAT ANALYSIS,adb:					
SG FRACTION	WT%	RM%	ASH%	CUMULATIVE WT%	CUMULATIVE ASH%
- 1.30	nil	-	-	-	-
1.30- 1.35	0.1	2.6	4.5	0.1	4.5
1.35- 1.40	0.4	2.3	6.6	0.5	6.2
1.40- 1.45	1.3	2.2	9.0	1.8	8.2
1.45- 1.50	5.6	3.5	10.6	7.4	10.0
1.50- 1.55	6.0	3.4	15.3	13.4	12.4
1.55- 1.60	3.1	3.2	20.6	16.5	13.9
1.60- 1.70	6.3	2.7	33.6	22.8	19.4
1.70- 1.80	5.3	2.6	41.1	28.1	23.5
+1.80-	71.9	2.1	70.2	100.0	57.1

SINK -FLOAT ANALYSIS,adb: 6mm x 0.6mm (Attrited)					
SG FRACTION	WT%	RM%	ASH%	CUMULATIVE WT%	CUMULATIVE ASH%
- 1.30	0.1	2.0	1.6	0.1	1.6
1.30 - 1.35	2.9	5.0	1.5	3.0	1.5
1.35 - 1.40	2.2	5.0	3.9	5.2	2.5
1.40 - 1.45	5.0	4.5	6.3	10.2	4.4
1.45 - 1.50	12.0	6.0	8.7	22.2	6.7
1.50 - 1.55	18.6	6.2	13.0	40.8	9.6
1.55 - 1.60	11.4	5.2	18.5	52.2	11.5
1.60 - 1.70	10.6	4.8	25.6	62.8	13.9
1.70 - 1.80	8.5	5.9	36.6	71.3	16.6
+1.80	28.7	5.2	63.9	100.0	30.2

CLIENT : CROWS NEST RESOURCES LIMITED

PROJECT: TEEPEE MOUNTAIN BULK SAMPLE

LAB NO.: 906

SINK-FLOAT ANALYSIS,adb: 0.6mmx0.3 mm(Attrited)

S.G. FRACTION	WT%	RM%	ASH%	CUMULATIVE WT%	CUMULATIVE ASH%
- 1.30	0.2	1.7	1.5	0.2	1.5
1.30 - 1.35	4.5	2.1	1.7	4.7	1.7
1.35 - 1.40	9.1	2.6	2.9	13.8	2.5
1.40 - 1.45	9.8	3.7	5.1	23.6	3.6
1.45 - 1.50	17.0	3.8	7.6	40.6	5.3
1.50 - 1.55	18.3	4.6	11.4	58.9	7.2
1.55 - 1.60	11.5	4.7	15.7	70.4	8.6
1.60 - 1.70	10.6	4.6	23.5	81.0	10.5
1.70 - 1.80	4.2	4.2	33.6	85.2	11.7
+ 1.80	14.8	2.8	61.1	100.0	19.0

FROTH FLOTATION TEST,adb:0.3mmx0 (Attrited)

PRODUCT	WT%	RM%	ASH%	CUMULATIVE WT%	CUMULATIVE ASH%
STAGE I	4.5	6.6	18.0	4.5	18.0
STAGE II	4.2	6.6	18.2	8.7	18.1
TAILINGS	91.3	7.2	17.6	100.0	17.6

F.F. Parameters- Pulp Density = 10%
Reagent = 4:1-Keri:MIBC
Dosage = 0.48 lb/Ton
Conditioning Time= 60 seconds
Stage I = 1st minute froth
Stage II = 2nd minute froth

Birtley Coal
& Minerals Testing

K - Teepee Mtn. 81(3)A

820115

Teepee Mtn.
Drill Hole Information

447

Volume 2

T E E P E E M O U N T A I N

1981 GEOLOGICAL REPORT

B.C. Coal Licence Numbers:

302, 303, 370

held by Shell Canada Resources Limited

operated by Crows Nest Resources Limited

Kootenay Land District, British Columbia

N.T.S. 82 G/15

Longitude: 114° 41' West

Latitude: 49° 53' North

Exploration Period: August - October, 1981.

Report Prepared by: D. Handy, Project Geologist

S. Cameron, Geologist

January, 1982.

Dave Handy

ROTARY HOLE NO. TP 201

CL 302

DATE AUGUST 26

ELEV. 1992.3

NORTHING 5,527, 997.40

EASTING 661, 322.39

TOTAL DEPTH 103.m

ANGLE 90

AZIMUTH -

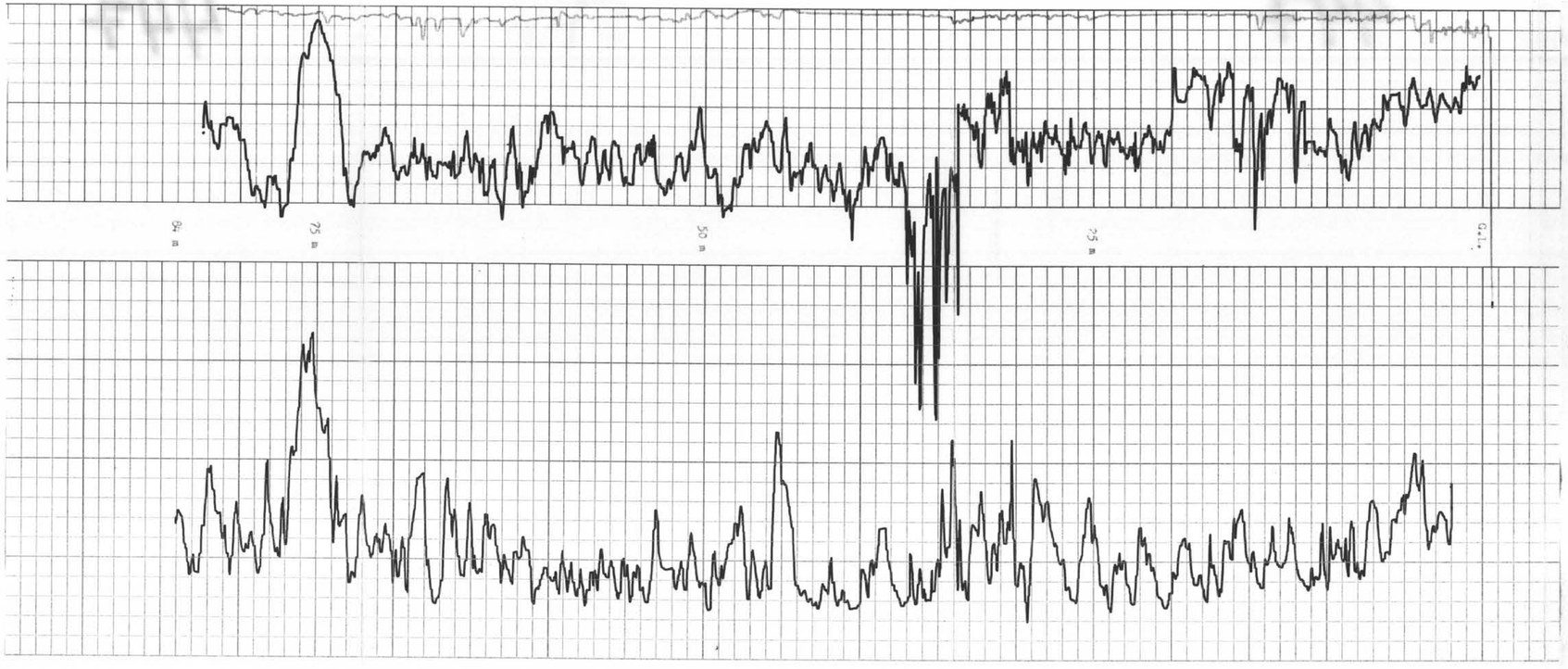
LOGS RUN NATURAL GAMMA, NEUTRON
CALIPER NATURAL GAMMA, DENSITY,
DIRECTIONAL SURVEY

Sample Depth (m)	Lithology (Chip Samples)
0-3	Sandstone - Fine grain brown to dark grey
3-6	Sandstone - Fine grain, dark grey
6-9	Sandstone - A/A
9-12	Sandstone - A/A
12-15	Sandstone - A/A
15-18	Sandstone - A/A
18-21	Sandstone - Fine grain to very fine grain, dark grey
21-24	Sandstone - A/A
24-27	Sandstone - Fine grain to very fine grain, brown to dark grey
27-30	Sandstone - A/A
33-34	COAL SAMPLE
34-35	COAL SAMPLE
35-38	Siltstone/Mudstone - Siltstone Carbonaceous dark grey to black, Mudstone - carbonaceous, black
38-41	Siltstone - A/A minor Mudstone - A/A
41-44	Siltstone - Brown to dark grey, minor coalified plant fragments
44-45	COAL SAMPLE
46-49	Siltstone - Medium to dark grey
49-52	Sandstone - Very fine grain to fine grain Medium grey to brown
52-55	Siltstone - Brown to dark grey
55-58	Siltstone/Sandstone - Siltstone - Medium grey Sandstone - very fine grain, brown to grey
58-61	Siltstone/Sandstone - A/A
51-64	Siltstone - A/A Mudstone - Black, carbonaceous
64-67	Mudstone/Siltstone - A/A
67-70	Siltstone/Mudstone - A/A
?	(COAL SAMPLE) 1 unmarked depth - coal sample
77-80	Mudstone - Black, very carbonaceous

ROTARY HOLE NO. TP - 201

Sample Depth (m)	LITHOLOGY
80-83	Sandstone - Fine grain to very fine grain, light grey
83-86	Mudstone - Black, very carbonaceous
86-89	Sandstone - Very fine grain, very dark grey
89-92	Sandstone - Fine grain to medium grain, very dark grey
94-96	COAL SAMPLE
96-99	Sandstone - Medium grain, dark grey, Minor coal fragments

447 K-TEEPEE MTN 81L/3W



DAVIES EXPLORATION LOGGING LTD.

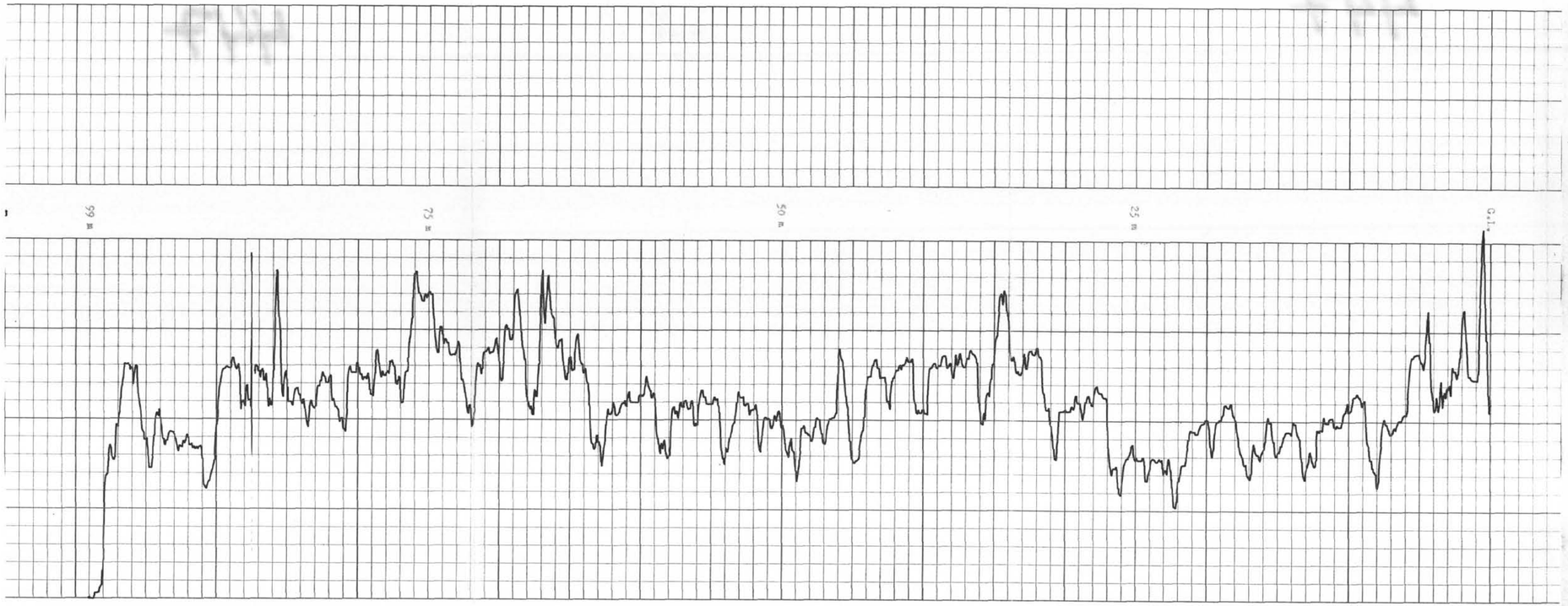
COMPANY	Crows Nest Resources
HOLE NUMBER	Tee Pee - 201
LOCATION	Tee Pee
PROVINCE	B.C.
ELEVATION	

LOG TYPE: CALIPER, NATURAL GAMMA, RESISTIVITY, DENSITY

DATE	Aug. 26 1981
DRILLED DEPTH	103 m
LOGGED DEPTH	83 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	nil

REMARKS:

447 K-TEEPEE MTN 31(3)A



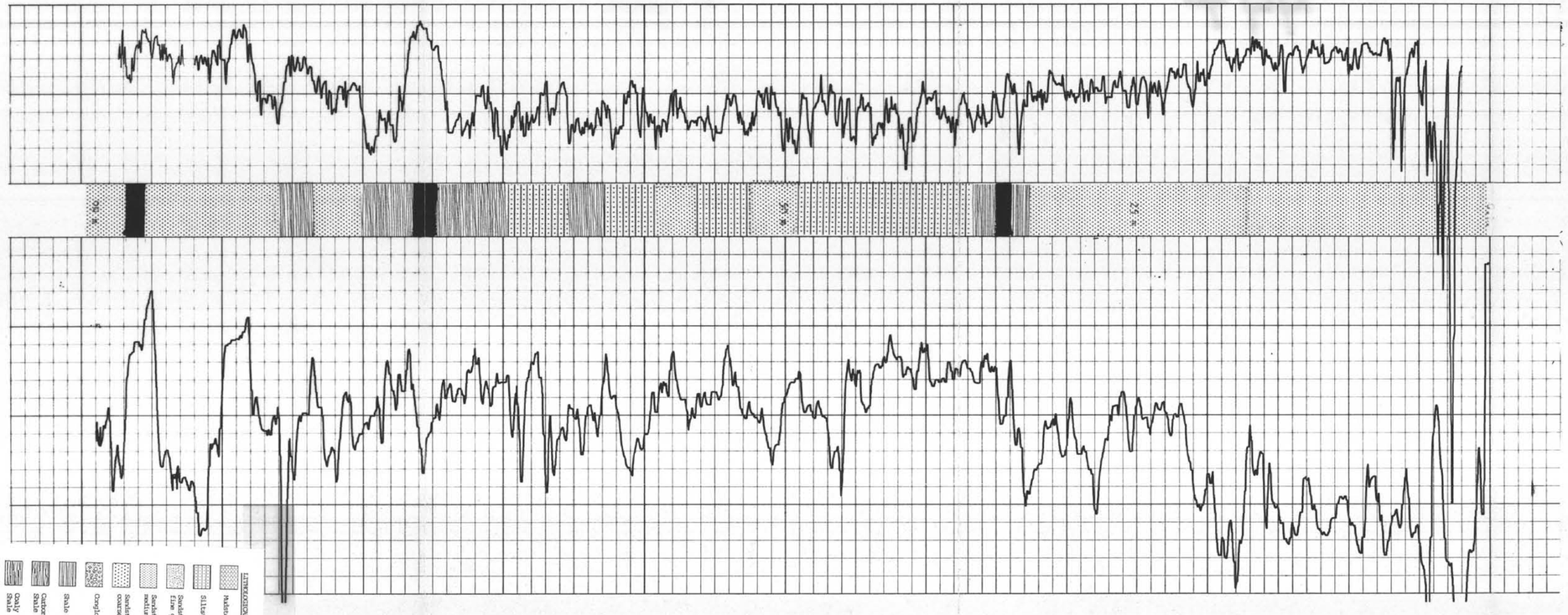
DAVIES EXPLORATION LOGGING LTD.

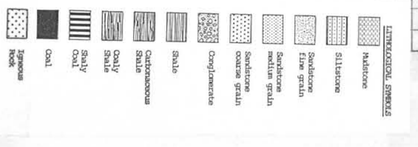
COMPANY	Crows Nest Resources
HOLE NUMBER	Tee Pee 201
LOCATION	Tee Pee
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Long Spaced Density
DATE	Aug. 26 1981
DRILLED DEPTH	103 m
LOGGED DEPTH	99 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	T.D.
REMARKS:	

1875 L.S.D. 375

K-TEEPEE MTN 81G/1A

447





DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	Tee Pee 201
LOCATION	Tee Pee
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Natural Gamma & Neutron
DATE	Aug. 26 1981
DRILLED DEPTH	103 m
LOGGED DEPTH	99 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	T.D.
REMARKS:	

ROTARY HOLE NO. TP 202

CL 303

DATE	AUGUST 22
ELEV.	2064.4
NORTHING	5,527,311.65
EASTING	661,524.48
TOTAL DEPTH	85 M
ANGLE	90
AZIMUTH	-
LOGS RUN	CALIPER, NATURAL GAMMA, DENSITY NATURAL GAMMA, NEUTRON LONG SPACED DENSITY

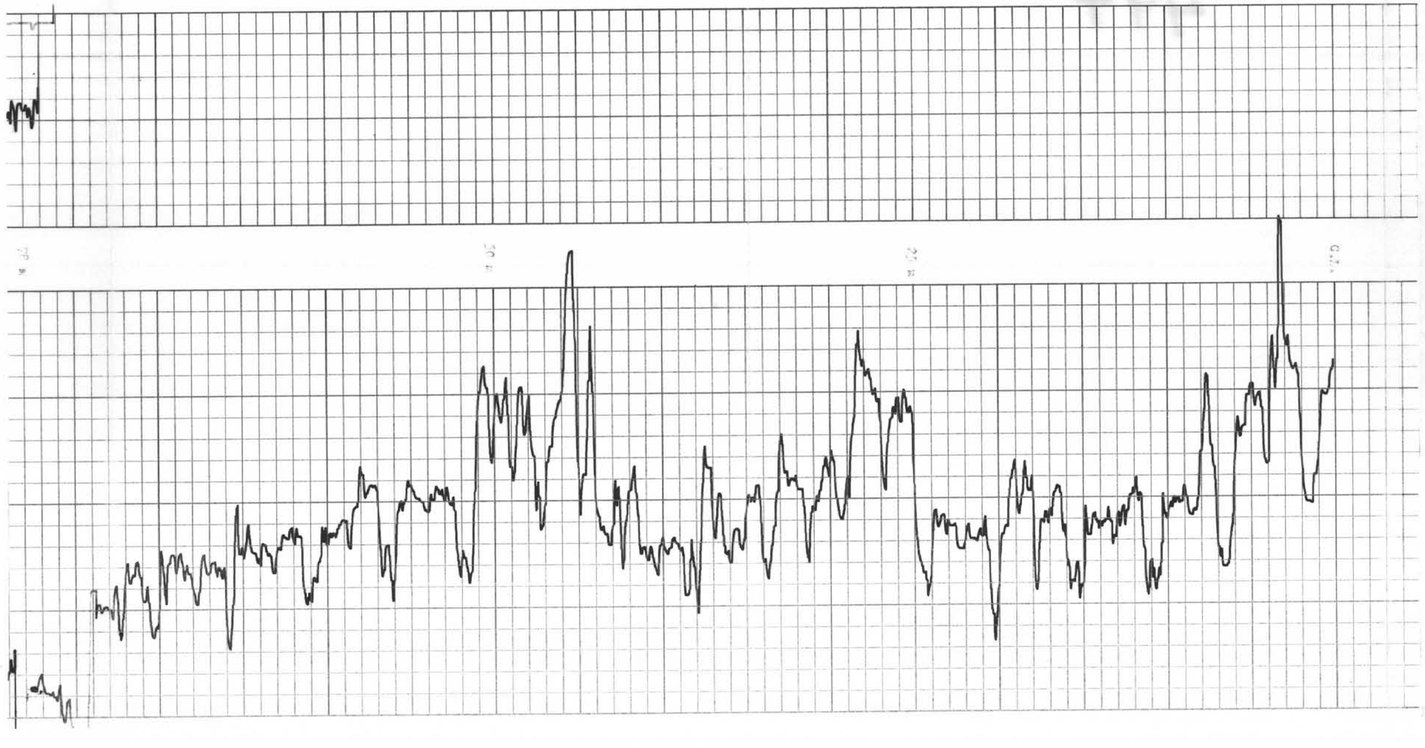
Sample Depth (m)	Lithology (Chip Samples)
0-3	COAL - Powder; Mudstone - Black, carbonaceous; Siltstone, brown
3-6	Siltstone - Medium grey
7-9	Mudstone - Medium grey
9-12	Siltstone - Brown grey; minor Mudstone - A/A
12-15	Siltstone - Medium grey
15-18	Sandstone - Fine grain, medium grey, excessive iron stain; minor Siltstone - A/A
18-21	Siltstone - Dark grey
21-24	Siltstone - A/A
25-30	COAL
30-33	Siltstone - Dark grey; Mudstone -Black Carbonaceous
31-34	Siltstone - Medium grey, iron stain (V ery small sample - representative?)
34-37	Mudstone - Black, carbonaceous
38-39	COAL
39-42	Mudstone - Black, carbonaceous,silty
41-43	COAL
43-46	Sandstone - Fine grain, very dark grey
46-49	Sandstone - Fine grain, brown to dark grey; minc Mudstone - Black, carbonaceous
49-52	Sandstone - Fine grain, very dark grey to black some iron stain; minor Mudstone - A/
55-58	Sandstone - Fine grain, dark grey
58-61	Sandstone - Very fine grain to fine grain, medium grey
61-64	Sandstone - Fine grain, brown - iron stain (very small sample)
64-67	Sandstone - Fine grain, dark grey
67-70	Sandstone - A/A

ROTARY HOLE NO. TP-202

Sample Depth (m)	LITHOLOGY
70-73	Sandstone - Fine grain, brown - grey
73-76	Sandstone - Fine grain, medium grey
76-79	Sandstone - A/A
79-82	Sandstone - Fine grain, brown - grey
82-84	Sandstone - A/A

COAL SAMPLES
6-7
25-27
27-29
29-30
38-39
41-43

447 K TEEPEE MTN 81(3)A

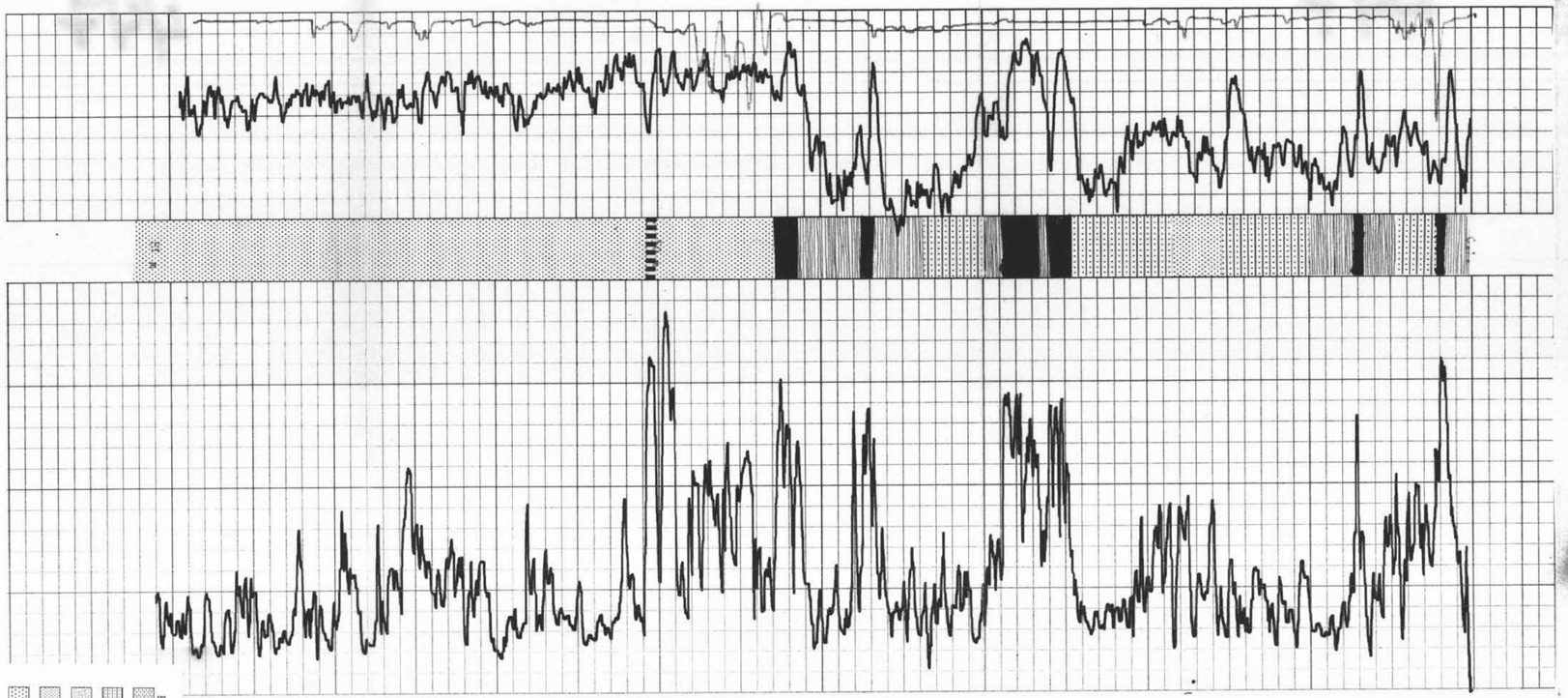


DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	Tee Pee 202
LOCATION	Tee Pee
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Long Spaced Dens ity
DATE	Aug. 27 1981
DRILLED DEPTH	85 m
LOGGED DEPTH	87 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	T.D.
REMARKS:	

447

K-TEEPEE MTN 81(3)A



DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	Tee Pee 202
LOCATION	Tee Pee
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	CALIPER, NATURAL GAMMA, RESISTIVITY, DENSITY
DATE	Aug. 27 1981
DRILLED DEPTH	85 m
LOGGED DEPTH	81 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	nil
REMARKS:	

LITHOLOGICAL SYMBOLS

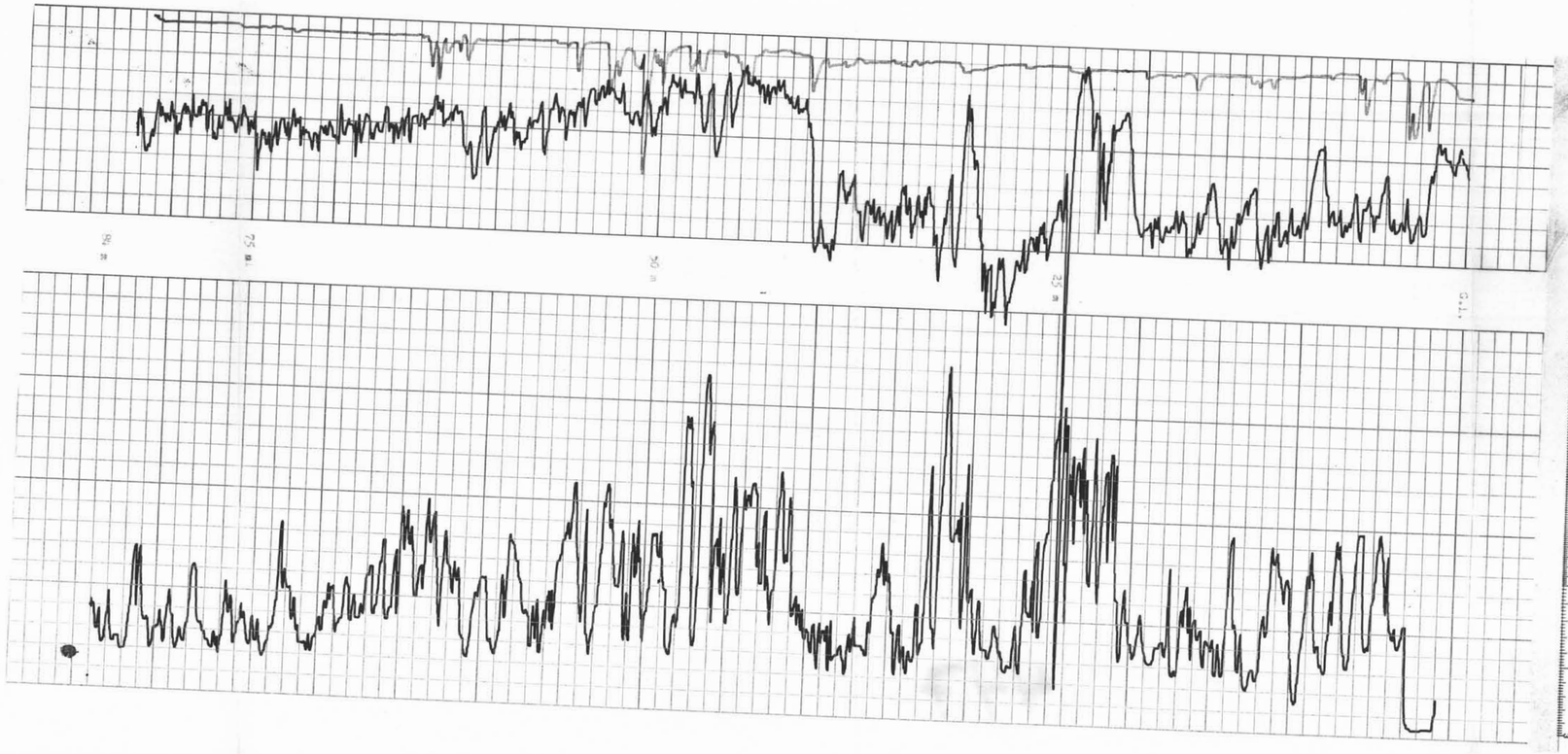
- Mudstone
- Siltstone
- Sandstone fine grain
- Sandstone medium grain
- Sandstone coarse grain
- Conglomerate
- Shale
- Carbonaceous Shale
- Oily Shale
- Shaly Coal
- Coal
- Igneous Rock

ROTARY HOLE NO. TP 203

CL 303

DATE	AUGUST 28
ELEV.	2103.5m
NORTHING	5,527,062.54
EASTING	661,605.24
TOTAL DEPTH	85m
ANGLE	90
AZIMUTH	-
LOGS RUN	CALIPER, NATURAL GAMMA, DENSITY NATURAL GAMMA, NEUTRON

Sample Depth (m)	Lithology (Chip Samples)
0-3	Mudstone - Medium grey
3-6	Mudstone - Dark grey, silty
6-9	Siltstone - Dark grey
9-12	Siltstone - A/A
12-15	Mudstone - Black, Carbonaceous
15-18	Sandstone - Fine grain to very fine grain, dark grey, iron stain; minor Mudstone A/A
18-21	Mudstone - Black, Carbonaceous
22-26	COAL
26-29	Mudstone - A/A
31-32	COAL
32-35	Mudstone - A/A, some iron stain
35-38	Mudstone - A/A, iron stain, silty
38-41	Sandstone - Black, fine grain
41-44	Sandstone - A/A
44-47	COAL - Dull; minor Sandstone - A/A
47-50	Sandstone - Fine grain, medium grey; minor COAL - A/A
50-53	Sandstone - Fine grain, dark grey to black
53-56	Sandstone - A/A
56-59	Sandstone - A/A
59-62	Sandstone - A/A, Iron stain
62-65	Sandstone - Medium grain, black, iron stain
65-68	Sandstone - Fine grain, black, iron stain
68-71	Sandstone - A/A, iron stain
71-74	Sandstone - A/A, iron stain
74-77	Sandstone - A/A, iron stain
77-80	Sandstone - A/A, iron stain
80-83	Sandstone - A/A, iron stain
22-23	
23-25	COAL SAMPLES NOT COMPLETE
25-26	
31-32	
38-40	



K-TEEPEE MTN 81(3)A

DAVIES EXPLORATION LOGGING LTD.

COMPANY: Crows Nest Resources

HOLE NUMBER: Tee Pee 203

LOCATION: Tee Pee

PROVINCE: B.C.

ELEVATION:

LOG TYPE: CALIPER, NATURAL GAMMA, RESISTIVITY, DENSITY

DATE: Aug. 28 1981

DRILLED DEPTH: 85 m

LOGGED DEPTH: 84 m

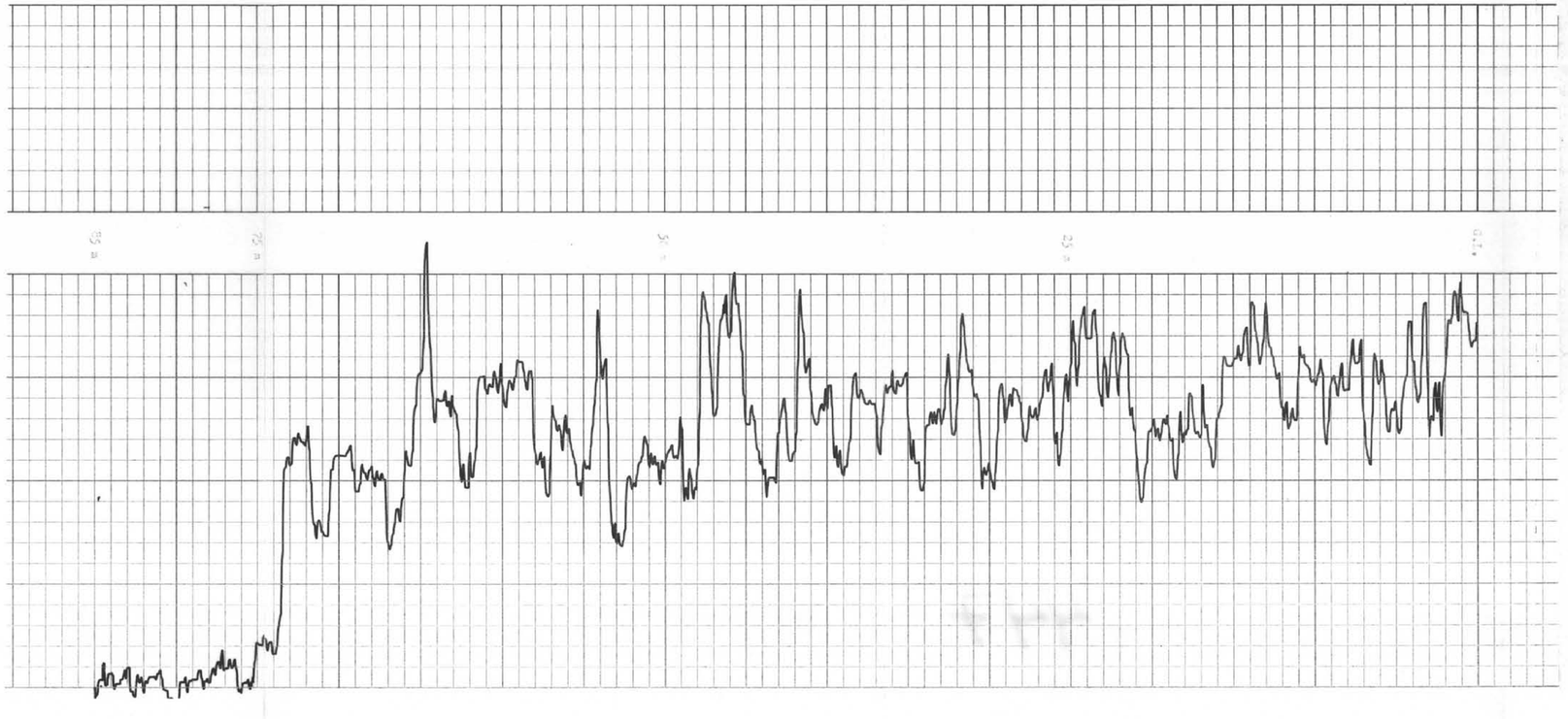
ZERO DATUM: G.L.

HOLE DIAMETER: 5 1/8"

CASING LENGTH:

REMARKS:

447



1.9k L.S.D.

500

E-TEEPEE MTN 81(3)A

DAVIES EXPLORATION LOGGING LTD.

COMPANY Crows Nest Resources

HOLE NUMBER Tee Pee - 203

LOCATION - Tee Pee

PROVINCE B.C.

ELEVATION

LOG TYPE: Long Spaced Density

DATE Aug. 28 1981

DRILLED DEPTH 85 m

LOGGED DEPTH 85 m

ZERO DATUM G.L.

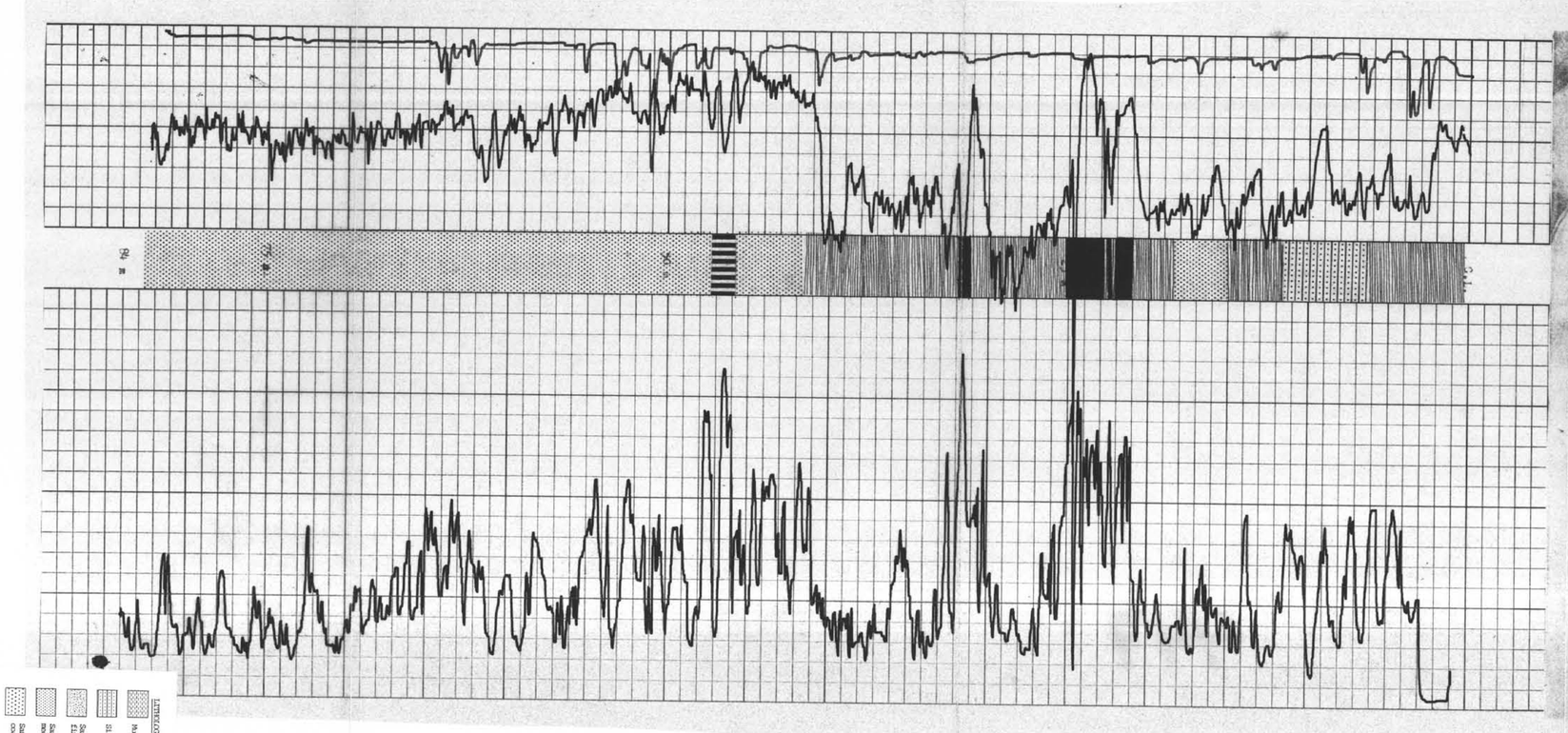
HOLE DIAMETER 5 1/8"

CASING LENGTH T.D.

REMARKS:

447

K-TEEPEE MTN 81(3)A



CALIPER

NATURAL GAMMA

RESISTIVITY

DENSITY

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	Tee Pee 203
LOCATION	Tee Pee
PROVINCE	B.C.
ELEVATION	

LOG TYPE: CALIPER, NATURAL GAMMA, RESISTIVITY, DENSITY

DATE	Aug . 28 1981
DRILLED DEPTH	85 m
LOGGED DEPTH	84 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	

REMARKS:

447

LITHOLOGICAL SYMBOLS

- Igneous Rock
- Coal
- Shaly Coal
- Shaly Shale
- Carbonaceous Shale
- Shale
- Conglomerate
- Sandstone coarse grain
- Sandstone medium grain
- Sandstone fine grain
- Siltstone
- Mudstone

ROTARY HOLE NO. TP 204

CL 303

DATE AUGUST 29,

ELEV. 2128.8

NORTHING 5,526,765.54

EASTING 661,655.50

TOTAL DEPTH 140 m

ANGLE 90

AZIMUTH -

LOGS RUN NATURAL GAMMA, NEUTRON
LONG SPACED DENSITY

Sample Depth (m)	Lithology (Chip Samples)
0-3	Siltstone - Dark grey; Sandstone - Fine grain, dark grey, iron stain
3-6	Sandstone - Fine grain to very fine grain, dark grey, iron stain
6-9	Siltstone - Dark grey,
9-12	Silstone - A/A
12-15	Sandstone - Fine grain, medium grey, Iron stain; Siltstone - A/A
15-18	Sandstone - Medium grain, dark grey
18-21	Mudstone - Dark grey, silty
21-24	Mudstone - Dark grey to black, carbonaceous
24-27	Mudstone - A/A
27-30	Sandstone - Very fine grain, medium grey; siltstone - medium grey
30-33	Sandstone - A/A; Minor Siltstone - A/A
33-36	Sandstone - Very fine grain to fine grain, medium grey, iron stain
38-40	COAL SAMPLE
40-43	Mudstone - Black, carbonaceous
43-44	COAL SAMPLE
44-47	Siltstone - Medium grey; minor Mudstone - A/A
47-50	Siltstone - Medium to dark grey
52-53	COAL SAMPLE
53-56	Siltstone - A/A, iron stain; Mudstone - Black carbonaceous
56-59	Sandstone - Very fine grain, medium grey, iron stain
59-62	Sandstone - A/A
62-65	Sandstone - A/A
65-66	COAL SAMPLE
66-68	Siltstone - Medium grey; Mudstone - Black coaly
68-71	Siltstone - A/A; Mudstone A/A

ROTARY HOLE NO. TP-204

Sample Depth (m)	LITHOLOGY
71-74	Siltstone - Dark grey to black; Sandstone Very fine grain., medium grey, iron stain
74-77	Siltstone - A/A Sandstone - A/A
77-8-	Siltstone - A/A
80-83	Siltstone - Medium to dark grey, minor Mudstone - Black, silty
83-86	Mudstone - Black, coaly
86-80	Sandstone - Fine grain, Black
89-92	Mudstone - Black, carbonaceous
92095	Mudstone - A/A
95-98	Mudstone - A/A; Sandstone - Fine grain, medium grey, Iron stain
98-101	Sandstone - Fine grain, medium grey, iron stain
101-104	Sandstone - Fine grain, light grey, iron stain
104-107	Sandstone - A/A
107-110	Sandstone - A/A
110-113	Sandstone - Very fine grain, light grey, iron stain, calcite
113-116	Siltstone - Medium grey
116-119	Mudstone - Black, carbonaceous; Sandstone - fine grain, medium grey, iron stain
119-122	Sandstone - A/A
122-125	Sandstone - A/A, Calcite
125-128	Sandstone - Dark grey, very fine grain, calcite
128-131	Sandstone - A/A
131-134	Sandstone - A/A
134-137	Sandstone - A/A
137-140	Sandstone - A/A

K-TEENEE WITH SICJA

DAVIES EXPLORATION LOGGING LTD.

COMPANY: Crows Nest Resources

HOLE NUMBER: Tse Tse - 204

LOCATION: Tse Tse

PROVINCE: B.C.

ELEVATION:

LOG TYPE: Long Spaced Density

DATE: Aug. 29.1981

DRILLED DEPTH: 150. m

LOGGED DEPTH: 140. m

ZERO DATUM: G.L.

HOLE DIAMETER: 5 1/8"

CASING LENGTH: T.D.

REMARKS:

444

1900 L.S.D. 700

G.L.

25 m

50 m

75 m

100 m

125 m

140 m

K-TSEE MTN 81C/9

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Cyprus Anvil Resources
HOLE NUMBER	Tea Tree - 249
LOCATION	Tea Tree
PROVINCE	B.C.
ELEVATION	
LOG TYPE	Natural Gamma & Neutron
DATE	Augs. 29 1981
DRILLED DEPTH	140 m
LOGGED DEPTH	139 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	T.D.
REMARKS	

0 Natural Gamma A 25 130 Neutron 1330

LITHOLOGICAL SYMBOLS

- Mudstone
- Siltstone
- Sandstone fine grain
- Sandstone medium grain
- Sandstone coarse grain
- Conglomerate
- Shale
- Carbonaceous Shale
- Coaly Shale
- Shaly Coal
- Coal
- Igneous Rock

139 m

ROTARY HOLE NO. TP - 205

DATE AUGUST 30, 1981

ELEV. APPROX. 1935

NORTHING APPROX 5,526,909

EASTING APPROX 660,867

TOTAL DEPTH 93 m

ANGLE 90

AZIMUTH -

LOGS RUN NATURAL GAMMA, NEUTRON
LONG SPACED DENSITY

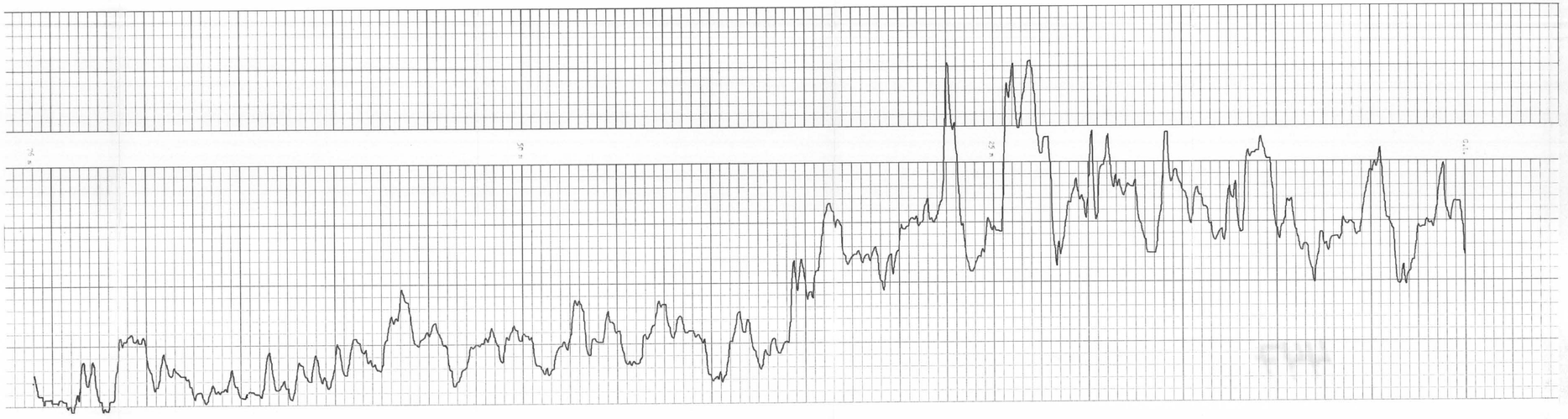
Sample Depth (m)	Lithology (Chip Samples)
0-3	Sandstone - Medium Grey, Medium grain
3-6	Sandstone - Medium grain, dark grey, iron stain
6-9	Sandstone - A/A
9-12	Sandstone - Fine grain to medium grain, dark grey
12-15	Sandstone - Dark grey, fine grain
15-18	Sandstone - A/A
18-21	Sandstone - A/A
21-24	Sandstone - Fine grain to medium grain, dark grey
24-27	Sandstone - A/A
27-30	Sandstone - Coarse grain, medium grey
30-33	Sandstone - Medium grain, dark grey
33-36	Sandstone - Medium grain to coarse grain, dark grey
36-37	COAL SAMPLE
37-40	Sandstone - A/A,; Siltstone - Dark grey
40-43	Siltstone - A/A iron stain; minor Sandstone A/A
43-46	Siltstone - A/A; Mudstone - Black carbonaceous
46-47	Siltstone - Medium grey
47-48	COAL SAMPLE
49-52	Siltstone - A/A

55-57	Siltstone - A/A; Sandstone - Very fine grain, ligh grey, iron stain
57-59	Sandstone - A/A; Mudstone - Black, carbonaceous
59-61	Siltstone - Dark grey
61-63	Sandstone - Very fine grain, light grey; Mudstone Medium to dark grey
63-67	Sandstone - Very fine grain to medium grain; Medium grey; Mudstone - dark grey to black, carbonacous
67-70	Sandstone - A/A; Mudstone A/A

ROTARY HOLE NO. TP-205

Sample Depth (m)	LITHOLOGY
70-73	Mudstone - A/A; Minor Sandstone - A/A
73-76	Mudstone - A/A; Sandstone - A/A
76-79	Mudstone - A/A
79-82	Sandstone - Fine grain to coarse grain, Iron stain, medium grey;Mudstone - A/A
82-85	Mudstone - Black; very carbonaceous
85-88	Sandstone - Fine grain to medium grain, red to black
88-91	Sandstone - A/A

K-TEEPEE MTN 82L/3/A



DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	Tee Pee - 205
LOCATION	Tee Pee
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Longs Spaced Density
DATE	Aug. 1981
DRILLED DEPTH	93 m
LOGGED DEPTH	76 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	T.D.
REMARKS:	

447

L-TEEPEE MTN 91L/3 YA

DAVIES EXPLORATION LOGGING LTD.

COMPANY: Crest Res. Resources
HOLE NUMBER: Tee Pee 205
LOCATION: Tee Pee
PROVINCE: B.C.
ELEVATION:

LOG TYPE: Meter-1 Gamma & Neutron

DATE: Sept. 30, 1981
DRILLED DEPTH: 93 m
LOGGED DEPTH: 76 m
IRON NATION: Gas
HOLE DIAMETER: 5 1/8"
CASING LENGTH: T.D.
REMARKS:

747

0 Natural Gamma 25 130 Neutron 1330

LITHOLOGICAL SYMBOLS

- Mudstone
- Siltstone
- Sandstone fine grain
- Sandstone medium grain
- Sandstone coarse grain
- Conglomerate
- Shale
- Carbonaceous Shale
- Oxaly Shale
- Shaly Coal
- Coal
- Igneous Rock

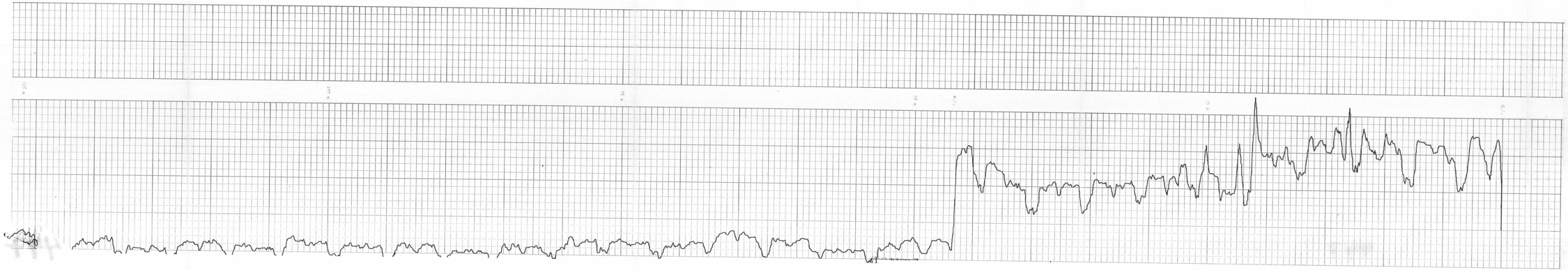
ROTARY HOLE NO. TP - 206

DATE	AUGUST 30, 1981
ELEV.	APPROX. 1922
NORTHING	APPROX 5,526,670
EASTING	APPROX. 660,871
TOTAL DEPTH	126 m
ANGLE	90 m
AZIMUTH	-
LOGS RUN	NATURAL GAMMA, NEUTRON LONG SPACED DENSITY

Sample Depth (m)	Lithology (Chip Samples)
0-3	Siltstone - Dark grey
3-6	Siltstone - A/A minor coal
6-9	Siltstone - A/A minor coal
9-12	Mudstone - Light grey; coal
12-13	COAL SAMPLES
15-16	
16-19	Sandstone - Fine grain, medium grey
19-22	Sandstone - A/A
22-25	Sandstone - A/A
25-28	Mudstone - Black, Carbonaceous
28-30	Mudstone - A/A
30-33	Mudstone - A/A; minor Siltstone - green-grey
33-36	Mudstone - A/A, Silty
36-39	Mudstone - A/A, Silty
39-42	Mudstone - A/A
42-45	Mudstone - A/A
45-48	Mudstone - A/A, Silty
48-51	Mudstone - A/A, Silty, minor pyrite
51-54	Mudstone - A/A
54-57	Mudstone - A/A
57-60	Mudstone - A/A
60-63	Mudstone - A/A; minor calcite
63-66	Mudstone - A/A
66-69	Mudstone - A/A; minor calcite and pyrite
69-72	Mudstone - A/A
72-75	Mudstone - A/A; Calcite
75-78	Mudstone - A/A; Pyrite
78-81	Mudstone - A/A; Calcite
81-84	Mudstone - A/A
84-87	Mudstone - A/A; Calcite and Pyrite
87-90	Mudstone - A/A
90-93	Mudstone - A/A
93-96	Sandstone - Green-black, fine grain, Siltstone - Medium grey

ROTARY HOLE NO. TP - 206

Sample Depth (m)	LITHOLOGY
96-99	Siltstone - Medium grey; calcite
99-102	Mudstone - Medium grey, Silty; Calcite
102-105	Mudstone - A/A; Calcite
105-108	Mudstone - A/A; Calcite
108-111	Mudstone - A/A
111-114	Mudstone - Medium grey to dark grey; calcite
114-117	Mudstone - A/A
117-120	Mudstone - Light grey to medium grey; Calcite
120-123	Siltstone - Medium grey; calcite
123-126	Mudstone - Medium grey



NW-TEE PEE MTN 91(8)A

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	Tee Pee 306
LOCATION	Tee Pee
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Long Spaced Density
DATE	Aug. 30 1991
DRILLED DEPTH	126 m
LOGGED DEPTH	126 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	7.62m
REMARKS	

447

K-TEEPEE MTN 81(3)A

447

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	Tee Pee 206
LOCATION	Tee Pee
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Natural Gamma & Neutron
DATE	Aug. 30 1981
DRILLED DEPTH	126 m
LOGGED DEPTH	126 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	T.D.
REMARKS:	

0 Natural Gamma 25 | 130 Neutron 1330

ROTARY HOLE NO. TP 207

DATE	AUGUST 31, 1981
ELEV.	
NORTHING	5,527,055
EASTING	660,432
TOTAL DEPTH	118 m
ANGLE	90
AZIMUTH	-
LOGS RUN	CALIPER, NATURAL GAMMA, DENSITY NATURAL GAMMA, NEUTRON

Sample Depth (m)	Lithology (Chip Samples)
0-3	Sandstone - Medium grain; dark grey
3-6	Sandstone - A/A
6-9	Sandstone - Very fine grain to medium grain, medium grey
9-12	Sandstone - Fine grain to medium grain, dark grey
12-15	Sandstone - A/A
15-18	Siltstone - Medium grey
18-21	Siltstone - A/A; Sandstone - Fine grain, dark grey
21-24	Sandstone - A/A
24-27	Sandstone - Medium grain, dark grey
27-30	Sandstone - A/A
30-33	Sandstone - A/A
33-36	Sandstone - Fine grain,medium grey, some iron stain
36-39	Sandstone - Medium grain, medium grey
41-45	COAL SAMPLES
45-48	Mudstone - Black, carbonaceous; Sandstone - very fine grain, medium grey, iron stain
48-51	Mudstone - A/A; Sandstone - A/A
51-54	Mudstone - Black carbonaceous
54-57	mudstone - A/A; Sandstone - medium grain, medium grey
57-60	Siltstone - dark grey, Sandstone - fine grain medium grey
60-63	Siltstone - A/A; Sandstone - A/A
63-66	Sandstone - Very fine grain to fine grain, dark grey
66-69	Siltstone - dark grey; Mudstone - Black, carbonaceous
69-72	Siltstone - A/A; Mudstone - A/A

ROTARY HOLE NO. TP 207

Sample Depth (m)	LITHOLOGY
72-75	Siltstone - Black; Sandstone - very fine grain, iron stain
75-78	Siltstone - Dark grey to black
78-81	Sandstone - Very fine grain to fine grain, dark grey; mudstone - black carbonaceous
81-84	Sandstone - Fine grain to medium grain, dark grey; Siltstone - medium to dark grey
84-87	Sandstone - A/A
87-90	Sandstone - A/A; minor Mudstone - Black carbonaceous
90-93	Sandstone - Medium grain, dark grey
93-96	Sandstone - A/A; Minor Mudstone - Black carbonaceous
96-99	Sandstone - A/A; minor Mudstone - A/A
99-102	Sandstone - Fine grain, medium grey; minor Mudstone - A/A
102-105	Sandstone - A/A; minor Mudstone - A/A
105-107	Siltstone - Medium to dark grey; minor Sandstone - A/A; minor Mudstone - A/A
107-111	Siltstone - A/A; Calcite; minor Sandstone - A/A
111-113	Siltstone - A/A; Mudstone - Black; Calcite
113-116	Siltstone - A/A; Mudstone - A/A; Calcite

K-TEEPEE MTN 81(3)A

447

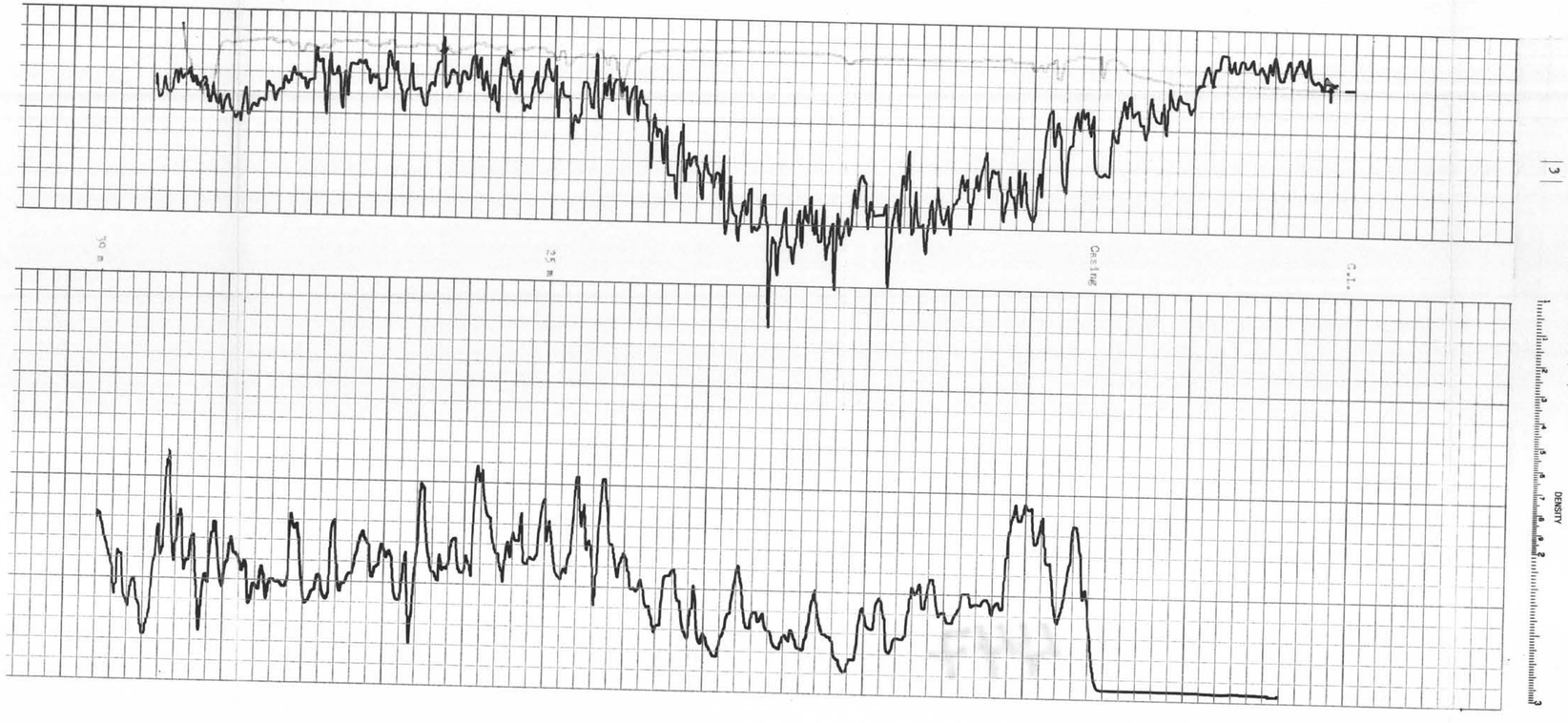
DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	Tee Pee 207
LOCATION	Tee Pee
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Long Spaced Density
DATE	Aug. 31 108 1
DRILLED DEPTH	118 m
LOGGED DEPTH	117 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	T.D.
REMARKS:	

5700 L.S.D.

500

K-TEEPEE MTN 81(3)A



CALIPER | 3 | NATURAL GAMMA | RESISTIVITY | DENSITY

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	TEE PEE 207
LOCATION	TEE PEE
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	CALIPER, NATURAL GAMMA, RESISTIVITY, DENSITY
DATE	Aug. 31 1981
DRILLED DEPTH	118 m
LOGGED DEPTH	39 m
ZERO DATUM	C.I.
HOLE DIAMETER	5 1/8"
CASING LENGTH	8 m
REMARKS:	

447

K-TEEPEE MTN 81(3)A

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	Tee Pee 207
LOCATION	Tee Pee
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Natural Gamma & Neutron
DATE	Aug. 31 1981
DRILLED DEPTH	118 M
LOGGED DEPTH	117 m
ZERO DATUM	G.I.
HOLE DIAMETER	5 1/8"
CASING LENGTH	T.D.
REMARKS:	

447

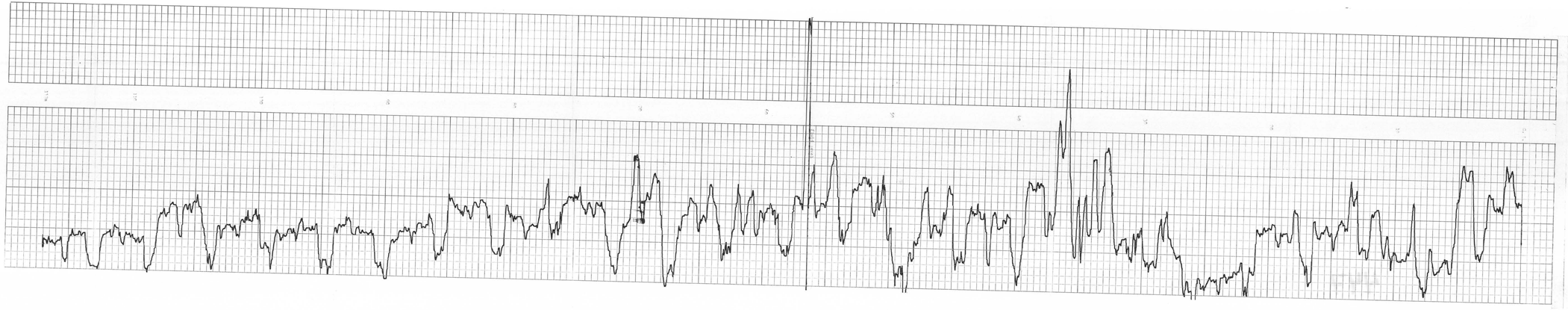
ROTARY HOLE NO. TP - 208

DATE	SEPTEMBER 1, 1981
ELEV.	APPROX 1952 m
NORTHING	APPROX 5,527,185 m
EASTING	661,125 m
TOTAL DEPTH	117 m
ANGLE	90
AZIMUTH	-
LOGS RUN	NATURAL GAMMA, NEUTRON LONG SPACED DENSITY

Sample Depth (m)	Lithology (Chip Samples)
0-3	Sandstone - Fine grain, dark grey
3-6	Sandstone - A/A
6-9	Sandstone - A/A
9-12	Sandstone - A/A
12-15	Sandstone - A/A
15-18	Sandstone - Medium grain, dark grey
18-24	Sandstone - A/A
21-24	Sandstone - Very fine grain to medium grain; dark grey
24-27	Sandstone
27-30	Sandstone - Medium grain, dark grey
30-33	Sandstone - A/A
33-36	Sandstone - A/A
36-39	Mudstone - Black;minor Sandstone A/A
39-42	Sandstone Very fine grain, dark grey
42-45	Siltstone - Black
45-48	Siltstone - A/A
48-51	Siltstone - A/A
51-54	Siltstone - A/A; Sandstone - medium grain, dark grey.
54-57	Sandstone - Dark grey, fine grain to medium grain
57-60	Sandstone - Very fine grain; dark grey, abundant Iron stone
60-63	Sandstone - A/A; Siltstone - Dark grey
63-66	Sandstone - A/A; Minor siltstone - A/A
66-69	Mudstone - Black
69-72	Siltstone - Brown grey, Iron stain; minor mudstone A/A
72-75	Siltstone - A/A; minor mudstone A/A
75-78	Siltstone - Black; Calcite
78-81	Siltstone - A/A; Calcite
81-84	Sandstone - Dark brown grey, fine grain to very fine grain; mudstone - black

ROTARY HOLE NO. TP-208

Sample Depth (m)	LITHOLOGY
84-87	Sandstone - A/A; Mudstone - A/A
87-90	Siltstone - Dark grey; mudstone - A/A; Calcite
90-93	Mudstone - Silty, black; Calcite
93-96	Mudstone - A/A; Calcite
96-99	Siltstone - Black; Calcite
99-102	Sandstone - Dark grey, fine grain Mudstone - Black
102-105	Siltstone - Black
105-108	Siltstone - A/A; Calcite
108-111	Siltstone - A/A; Sandstone - fine grain, dark brown - grey; Calcite
111-114	Siltstone - A/A; Calcite



K-TREE MTN 3(S)A

DAVIES EXPLORATION LOGGING LTD.

COMPANY	CROWNEST RESOURCES LIMITED
HOLE NUMBER	TP - 76S
LOCATION	TYE PEE MOUNTAIN
PROVINCE	B. C.
ELEVATION	
LOG TYPE:	Long Spaced Density
DATE	Sept. 1, 1976
DRILLED DEPTH	117m
LOGGED DEPTH	117m
ZERO DATUM	G. L.
HOLE DIAMETER	5½"
CASING LENGTH	T.D. (Double wall pipe)
REMARKS	

447

K-TEEPEE MTN 81(3)A

DAVIES EXPLORATION LOGGING LTD.

COMPANY	CROWSNEST RESOURCES LIMITED
HOLE NUMBER	TP - 209
LOCATION	Tee Pee Mountain
PROVINCE	B. C.
ELEVATION	
LOG TYPE:	Natural Gamma & Neutron
DATE	Sept. 1, 19[illegible]
DRILLED DEPTH	117m
LOGGED DEPTH	117m
ZERO DATUM	G. L.
HOLE DIAMETER	5½"
CASING LENGTH	T.D. (Double wall pipe)
REMARKS:	

447

ROTARY HOLE NO. TP - 209

CL 302

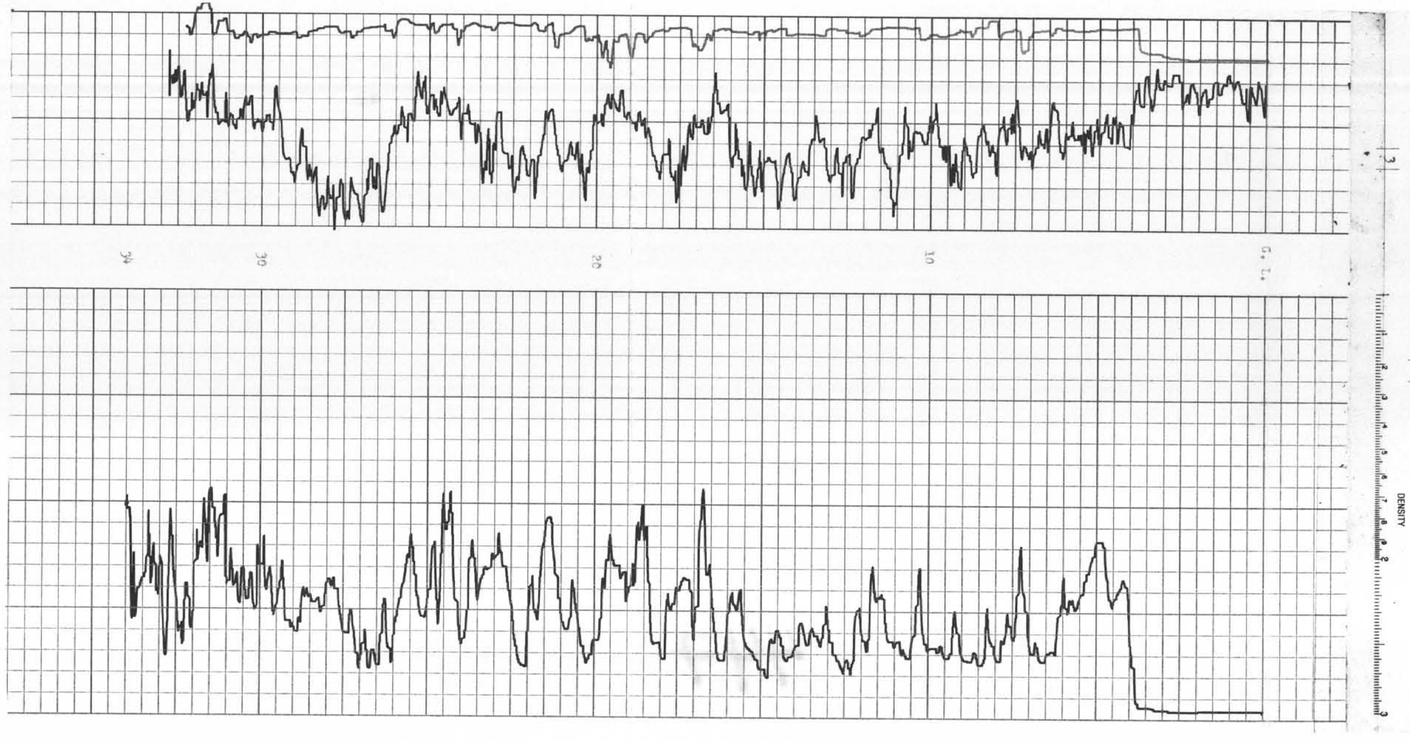
DATE	SEPTEMBER 2
ELEV.	APPROX. 1968 M
NORTHING	APPROX. 5,527,421 m
EASTING	APPROX. 661,231 m
TOTAL DEPTH	153m
ANGLE	90
AZIMUTH	-
LOGS RUN	NATURAL GAMMA NEUTRON LONG SPACES DENSITY

Sample Depth (m)	Lithology (Chip Samples)
0-3	Sandstone - Fine grain to medium grain, medium grey
3-6	Sandstone - Fine grain, medium grey
6-9	Sandstone - A/A
9-12	Sandstone A/A
12-15	Sandstone - Very fine grain to fine grain medium grey, iron stain
15-18	Sandstone - Fine grain, dark grey
18-21	Sandstone - A/A
21-24	Sandstone - Very fine grain to fine grain, dark grey
24-27	Sandstone - Fine grain, dark grey
27-30	Sandstone - Very fine grain, dark grey; Siltstone - dark grey
30-33	Sandstone - Fine grain, dark grey
33-36	Sandstone - medium grain, dark grey
37-39.5	COAL SAMPLES
40-43	Sandstone - Vergy fine grain, iron stain; Mudstone - Black, carbonaceous
43-44	COAL SAMPLE
44-47	Mudstone - Black, carbonaceous; Siltstone - Medium grey, Iron stain
47-50	Siltstone - A/A
51-52	COAL SAMPLE
52-55	Siltstone - A/A; minor mudstone - black, carbonaceous
55-58	Siltstone - A/A
58-61	Siltstone - A/A; Mudstone - Black carbonaceous
61-64	Siltstone - Black
64-67	Siltstone - A/A
67-70	Siltstone - A/A
70-73	Siltstone - A/A
73-76	Siltstone - A/A

ROTARY HOLE NO. TP - 209

Sample Depth (m)	LITHOLOGY
76-79	Siltstone - A/A
79-82	Mudstone - Black
82-85	Siltstone - Black; calcite
85-88	Siltstone - Black; Calcite
88-91	Siltstone - A/A; Calcite
91-94	Siltstone - A/A; Calcite
94-97	Siltstone - A/A; Calcite
97-100	Siltstone - A/A; Calcite
100-103	Siltstone - A/A
103-106	Siltstone - A/A
106-109	Siltstone - A/A
109-112	Siltstone - A/A
112-115	Siltstone - A/A; Calcite
115-118	Siltstone - A/A; Calcite
118-121	Siltstone - A/A
121-124	Mudstone - Black, silty
124-127	Mudstone - A/A
127-130	Siltstone - Black; Calcite
130-133	Siltstone - A/A, Calcite
133-136	Siltstone - A/A
136-139	Mudstone - Black, silty; Calcite
139-142	Siltstone - Black
142-145	Siltstone - A/A; Calcite
145-148	Siltstone - A/A; Calcite
148-151	Mudstone - Black, silty; Calcite; pyrite

K-TEEPEE MTN 81C/3A



DAVIES EXPLORATION LOGGING LTD.

COMPANY CROWSNEST RESOURCES LIMITED

HOLE NUMBER TF - 209

LOCATION Tee Pee Mountain

PROVINCE B. C.

ELEVATION

LOG TYPE: CALIPER, NATURAL GAMMA, RESISTIVITY, DENSITY

DATE Sept. 2, 1981

DRILLED DEPTH 153m

LOGGED DEPTH 34m

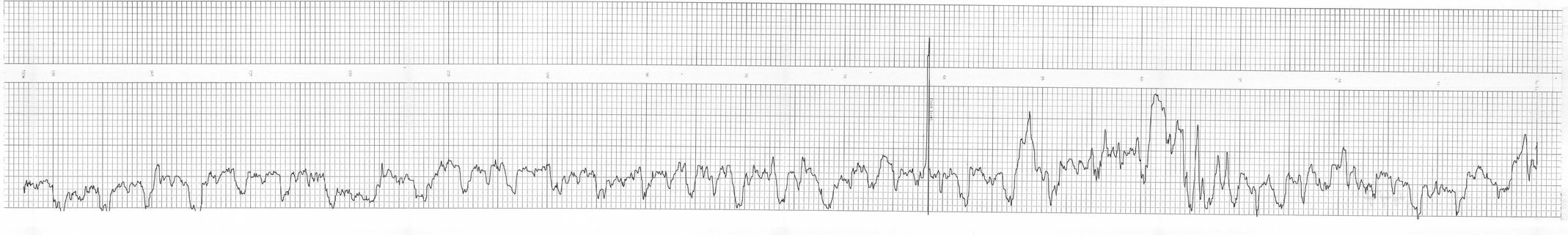
ZERO DATUM G. L.

HOLE DIAMETER 5 1/8"

CASING LENGTH 4m

REMARKS:

447



K-TEERE MIN 'K(T)A

DAVIES EXPLORATION LOGGING LTD.

COMPANY	CONSTRUCTS RESOURCES LIMITED
HOLE NUMBER	TT - 006
LOCATION	Tea Tea Mountain
PROVINCE	B. Co.
ELEVATION	
LOG TYPE:	Long Spaced Density
DATE	Sept. 9, 1984
DRILLED DEPTH	457m
LOGGED DEPTH	457m
ZERO DATUM	G.L.
HOLE DIAMETER	4¾"
CASING LENGTH	T.D. (Double wall string)
REMARKS	

447

K-TEEPEE MTN 81(3)A

DAVIES EXPLORATION LOGGING LTD.

COMPANY	CROWSNEST RESOURCES LIMITED
HOLE NUMBER	TP - 20?
LOCATION	Tee Pee Mountain
PROVINCE	B. C.
ELEVATION	
LOG TYPE:	Natural Gamma & Neutron
DATE	Sept. 2, 1981
DRILLED DEPTH	153m
LOGGED DEPTH	153m
ZERO DATUM	G. L.
HOLE DIAMETER	5¼"
CASING LENGTH	T. D. (Double wall pipe)
REMARKS:	

447

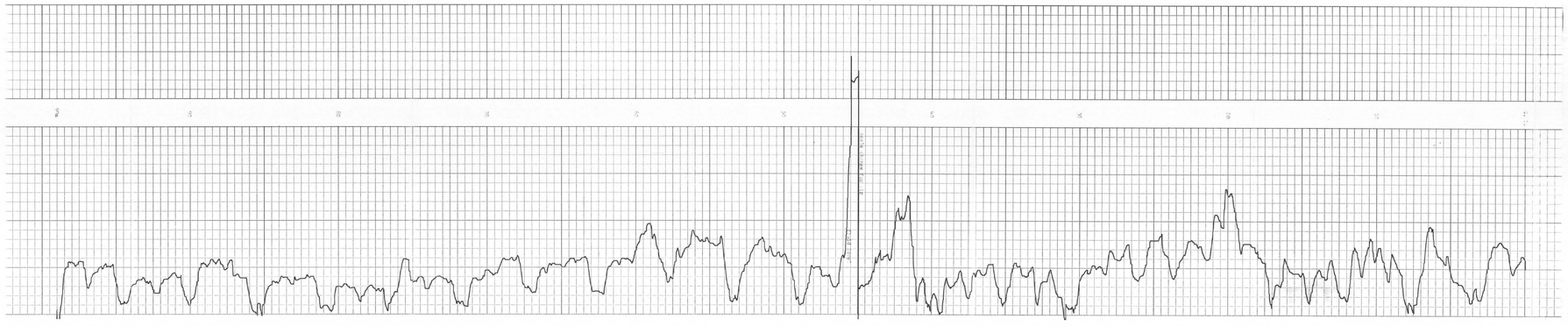
ROTARY HOLE NO. TP - 210

CL 303

DATE	SEPTEMBER 3, 1981
ELEV.	2017.3
NORTHING	5,526,750.72
EASTING	661,252.37
TOTAL DEPTH	100m
ANGLE	90
AZIMUTH	-
LOGS RUN	NATURAL GAMMA, NEUTRON LONG SPACED DENSITY

Sample Depth (m)	Lithology (Chip Samples)
0-3	Overburden
3-6	↓
6-9	
9-12	
12-15	
15-18	Sandstone - Coarse to medium grain, iron staining (oxidation)
18-21	Sandstone - Coarse to medium grain, salt and pepper basal
21-24	A/A
24-27	A/A
27-30	Sandstone - Interbedded with dark grey siltstone
30-33	A/A
33-36	Sandstone - Coarse to medium grain, salt and pepper
36-39	Sandstone - With dark grey siltstone and black shale
39-42	Siltstone - With black shale, occassional medium grain sandstone
42-45	A/A
45-48	A/A
48-51	Shale - Black, abundance of calcite veins
51-54	Shale - Black, occassional siltstone
54-57	Shale - Black, abundance of calcite veins
57-60	A/A
60-63	A/A
63-66	A/A
66-69	A/A
69-72	A/A
72-75	A/A
75-78	A/A
78-81	A/A
81-84	A/A
84-87	A/A

K-TEEPEE MTN 5(83)A

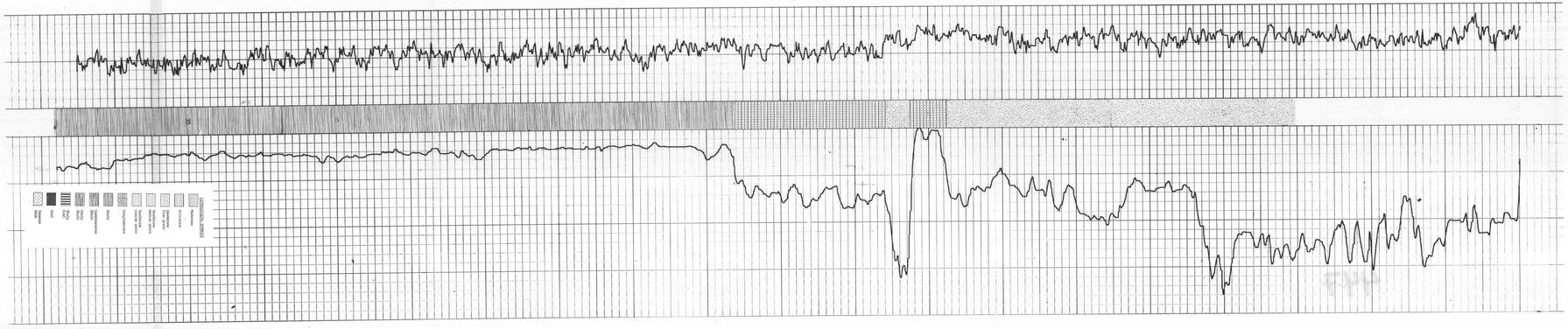


DAVIES EXPLORATION LOGGING LTD.

COMPANY	CHEVRON RESOURCES LIMITED
HOLE NUMBER	TP - 710
LOCATION	Tee Pee Mountain
PROVINCE	B. C.
ELEVATION	
LOG TYPE:	Ions Spectr Density
DATE	Sept. 3, 1984
DRILLED DEPTH	177m
LOGGED DEPTH	60m
ZERO DATUM	G. L.
HOLE DIAMETER	5"
CASING LENGTH	T. D. (Double with stub)
REMARKS:	

447

K TEE REGION 3(C3)A



DAVIES EXPLORATION LOGGING LTD.

COMPANY	CALVERT PET[illegible] LIMITED
HOLE NUMBER	TP - 10
LOCATION	Tee Pee [illegible]
PROVINCE	N.T.
ELEVATION	
LOG TYPE:	Natural Gamma [illegible]
DATE	Sept. [illegible]
DRILLED DEPTH	1700m
LOGGED DEPTH	60m
ZERO DATUM	G.L.
HOLE DIAMETER	4"
CASING LENGTH	G.L. (Cable suspended)
REMARKS	

447