

K-SHELL-TEEPEE MOUNTAIN
80(L)A

April 30/81

SHELL-TEEPEE MOUNTAIN
1980 GEOLOGICAL REPORT
SHELL CANADA RESOURCES LTD

CL# 300,302,303,370
299

82-G-15

D. Handy

446

**CONFIDENTIAL
OPEN FILE**

VOLUME 1

TEEPEE MOUNTAIN
1980 GEOLOGICAL REPORT

COAL LICENCE NO'S: 300, 302, 303, 370
KOOTENAY LAND DISTRICT, BRITISH COLUMBIA
N.T.S. 82G/15

~~LONGITUDE~~ ~~LATITUDE~~: 114° 41' NORTH
~~LATITUDE~~ ~~LONGITUDE~~: 49° 53' WEST

HELD BY SHELL CANADA RESOURCES LIMITED
OPERATED BY CROWS NEST RESOURCES LIMITED

EXPLORATION PERIOD: JULY - OCTOBER, 1980

GEOLOGICAL BRANCH
APRIL 30, 1981
ASSESSMENT REPORT
PREPARED BY: D. HANDY
OPEN FILE 46

TEEPEE MOUNTAIN

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*refer
K-Teepee
Mountain
80(3) A*

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AND DIAMOND DRILL HOLE SAMPLES *refer K-Teepee Mountain
80(4)A*
- 4 SURVEY TRAVERSE MAP *refer K-Teepee Mountain 80(2)A*

1.0 SUMMARY

The Teepee Mountain Project is contained partially within four B.C. Coal Licences which cover 778 hectares and form part of Group #263. 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 kilometres east of Vancouver and 25 kilometres northeast of Sparwood. Teepee Mountain lies directly south of Horseshoe Ridge and is approximately 11.5 km from the Line Creek preparation plant and rail loop currently under construction.

Kootenay Formation - coal bearing strata have been eroded from most of Teepee Mountain except at the south end of the property where a small area (approximately 0.6 sq. km) is preserved. Here, roughly 55 metres of coal bearing section exists with up to four mappable coal seams of approximately 9 metres aggregate thickness. There is some coal bearing strata west of and downslope from this area, but due to lack of outcrop, its extent and thickness is unknown.

1.0 Summary (continued)

The 1980 exploration program entailed reconnaissance mapping of most of the mountain on a 1:5,000 scale with detailed mapping in the proposed pit area on a 1:2,000 scale. Coal showings were backhoe trenched on existing roads. Four short sections of new road were constructed to provide access to drill holes. One diamond and seven rotary drill holes were completed.

Geological in place reserves are calculated to be four million tonnes at an overburden ratio of 4.39:1 (bank cubic metres waste per tonne coal). 2.1 million tonnes at an overburden ratio of 1.8:1 can be placed into a Probable Category, the rest is Possible Reserves or Resources. Analyses of drill hole samples indicate the coal to be of medium volatile bituminous rank (ASTM).

The total field expenditure for 1980 was \$112,944.

2.0 INTRODUCTION

2.1 Location and Access

Enclosure 1: Index and 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:

~~Long~~ Latitude 114°45' North

~~Lat~~ Longitude 49°53' West

The licences lie immediately south of the Horseshoe Ridge Project, 11.5 km 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

Enclosure 2: Coal Land Disposition Map

Enclosure 3: B.C. Land Tenure Standing

Group #263 consists of ten B.C. Coal Licences (No's: 295, 296, 299, 300, 302, 303, 368, 369, 370, 373) and covers an area of 2203 hectares. These licences are held by Shell Canada Resources Limited and operated by its wholly-owned subsidiary Crows Nest Resources Limited.

The Teepee Mountain Project is located in the southern section of Group #263 and is covered by four of the above licences (300, 302, 303, 370 totalling 778 hectares in area). The Horseshoe Ridge Project is located on the northern part of Group #263.

3.0 WORK DONE

3.1 Summary of Previous Work

Work has been conducted on Teepee Mountain by Crows Nest Industries and has consisted of road construction and bulldozer trenching.

3.2 Work Done In 1980

Field operations were supervised by Dave Handy of Crows Nest Resources Limited (CNRL). Exploration included:

- reconnaissance geological mapping (1:5,000);
- detailed geological mapping (1:2,000);
- construction of four road spurs;
- backhoe trenching;
- rotary and diamond drilling.

Field mapping was conducted over most of the mountain with emphasis placed on finding the Basal Sandstone (Moose Mountain Member) and establishing the Basal Sandstone/Coal Bearing Member contact.

3.2 Work Done in 1980 (continued)

Old road cuts (pre-1978) and bulldozer trenches were cleaned out and mapped.

Four short road spurs were constructed to provide access for drill holes.

Seven rotary drill holes were completed totalling 410.87 metres. One diamond drill hole was completed to a depth of 41.00 metres. Coal samples were sent to CNRL's Fernie lab for analyses.

The total cost of the 1980 exploration work was \$112,994. Appendix 1 contains a copy of the Application to Extend Term of Licence which gives a detailed account of the amount and nature of expenditures applied to Group #263. Appendix 2 contains a detailed account of the expenditures incurred on the Teepee Mountain Licences only.

4.0 GEOLOGY

4.1 Regional Stratigraphy

Figure 1: Table of Formations

The Kootenay Formation of Upper Jurassic - Lower Cretaceous age is the coal bearing sequence of 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 epirogenic uplift of the source area in early phases of the Columbian Orogeny in Late Jurassic time. The Kootenay 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 m.

The Kootenay Formation can be subdivided into three main units. A basal, cliff-forming "Moose Mountain Member" 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 middle, "Coal Bearing Member" is generally in sharp contact with the underlying Moose Mountain (sandstone-coal, or sandstone-bioturbated silty shale). It consists of alternating beds of sandstone, shale, siltstone and coal representing prograding delta plain environments. The Coal Bearing Member is 70 m - 610 m thick, including 6 m - 61 m of coal in the south contained within 2 to 8 seams, and up to 90 m of coal in 23 seams on the north.

The upper portion of the Kootenay Formation, the "Elk Member", 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

	PERIOD OR EPOCH	FORMATION	LITHOLOGY	THICKNESS (m)		
ERA	Lower Cretaceous	Cadomin Fm.	non-marine: sandstone, conglomerate and shale	360 - 1980		
		MESOZOIC	KOOTENAY FORMATION	Pocaterra Creek Member	non marine: sandstones, conglomerate siltstone & shale	
				ELK MEMBER	non-marine: interbedded medium to coarse grain sandstone, chert-pebble conglomerate with minor siltstone, shale and coal	30 - 490
				COAL BEARING MEMBER	non-marine & brackish: interbedded coal, siltstones, shales and sandstones	70 - 610
				BASAL SANDSTONE UNIT OR MOOSE MOUNTAIN MEMBER (MMM)	non-marine: massive, cliff-forming sandstone	20 - 60
JURASSIC	FERNIE FM.	marine: shale, siltstone, sandstone & limestone	180 - 380			

... after GIBSON 1977; PRICE 1961, 1965

FIGURE 1

4.2 Regional Structure

The Coal Bearing Kootenay Formation occurrences in the front ranges of southeastern B.C. are preserved in north-south trending synclines referred to as the Crowsnest Coalfields. High structural relief of Paleozoic rocks surrounding the Coalfields fades out in relatively incompetent rocks of the Fernie and Kootenay Formations. The structure within the synclines is complicated to varying degrees by thrust faults and their associated folds, and 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, the subdivision is based on erosional and structural boundaries.

4.1 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 Kanaskis Lakes. Only erosional remnants of the Kootenay Formation are preserved in the southern portion of the Fording Syncline where the Teepee Mountain Project is located.

4.3 Teepee Mountain Stratigraphy - General

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

4.3 Teepee Mountain Stratigraphy - General (continued)

The Coal Bearing Member has been eroded from a large part of the mountain. Approximately 55 metres of lower coal bearing strata have been preserved near the southern end of the mountain and cover an area of roughly 0.6 sq. km. Four mappable coal seams have been identified with an aggregate thickness of 9.0 metres. In accordance with the Line Creek coal stratigraphy, the Teepee coal seams have been designated Basal Sandstone Seam, #10b, #10a, and #9 Seam (going up-section). The upper section of the Coal Bearing Member and the Elk Member of the Kootenay Formation are not present at Teepee Mountain.

4.3 (continued)

Coal Stratigraphy

- Basal Sandstone Seam
- measures 1.82 m in outcrop but varies to 1.17 m in drill holes.
 - the continuity of this seam is questionable over the pit area.
- Seam 10b
- lies directly above the Basal sandstone.
 - measures 1.35 m in outcrop, but varies from 1.15 m to 1.80 m in drill holes.
 - appears to thin and become separated from the Basal Sandstone toward the south.
- Seam 10a
- separated from 10b by a predominantly shaley unit.
 - varies from less than 1.0 m to 1.6 m in drill holes.
- Seam 9
- the stratigraphic interval between 10a and Seam 9 is approximately 15 to 20 m.
 - measures 4.65 m 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 m was measured stratigraphically above Seam 9 in outcrop. It is not intersected by any drill holes and appears to have insignificant areal extent in the proposed pit area.

4.4 Teepee Mountain Structure

The G.S.C. 1 inch to 2 miles regional geology map (Map 35-1961) shows Teepee Mountain being on the axis of the Fording River syncline. The Fernie Formation/Spray River Formation are in fault contact to the west and form a more conformable contact east of Teepee Mountain.

Locally 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 structure and interpretation. It shows both east and west dipping thrust faults, smaller thrust splays and normal faults displacing the Teepee strata.

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

The western slope of Teepee Mountain, particularly the structure west of the thrust fault mentioned above contains rocks of the Kootenay Formation but a lack of outcrop prohibits speculation as to its extent. One coal outcrop exists but drilling revealed a thick amount of cover. This area will have to be tested by further drilling to establish if there is any significant amount of mineable coal in the west flank of Teepee Mountain.

5.0 MINEABILITY AND COAL RESERVES

Geologic in place reserves have been calculated using eight 1:2,000 scale east-west geologic cross-sections (Enclosures 6 and 7).

All four seams: the Basal Seam, 10b, 10a, and Seam 9, have been used in the total reserve calculation. A thickness of 1.0 metres was given to each of the lower three seams on cross-sections which have no drill hole or outcrop control.

Preliminary engineering feasibility studies indicate that only Seam 9 will be economically mineable, therefore a separate reserve calculation was done for Seam 9. Both reserve calculations follow in Tables 1 and 2.

TABLE 1

TEEPEE MOUNTAIN 1980

INSITU COAL RESERVES

CROSS-SECTION NO.	DRILL HOLE CONTROL	SEAMS INCLUDED IN CALCULATION	WASTE ROCK (m ³)	COAL (m ³)	TOTAL COAL (TONNES) m ³ x S.G. (1.5)	INSITU RATIO ($\frac{\text{m}^3 \text{ WASTE}}{\text{T COAL}}$)
5528000 mN	-	Basal, 10b,9	3,147,440	361,040	541,560	5.81/1
5527800 mN	1	Basal, 10b,9	2,352,240	354,280	531,420	4.43/1
5527700 mN	1	Basal, 10b,9	1,864,800	315,460	473,190	3.94/1
5527600 mN	1	Basal, 10b,9	1,707,600	290,505	435,757	3.92/1
5527400 mN	-	Basal, 10b,9	4,671,040	511,600	767,400	6.09/1
5527200 mN	2	Basal, 10a, 10b,9	3,014,976	503,440	755,160	3.99/1
5527000 mN	-	Basal, 10b,9	2,182,640	253,200	379,800	5.75/1
5526800 mN	-	9	225,900	130,560	195,840	1.15/1
TOTALS			19,166,636	2,720,085	4,080,127	AVERAGE 4.39/1

TEEPEE MOUNTAIN 1980#9 SEAM RESERVES

CROSS-SECTION NO.	DRILL HOLE CONTROL	WASTE ROCK (m ³)	COAL (m ³)	COAL (TONNES) m ³ x S.G. (1.5)	INSITU RATIO (m ³ WASTE) (T COAL)
5528000 mN	-	567,200	209,040	313,560	1.81/1
5527800 mN	1	795,920	214,480	321,720	2.47/1
5527700 mN	1	189,440	177,600	266,400	0.71/1
5527600 mN	1	345,720	138,180	207,270	1.67/1
5527400 mN	-	783,200	230,720	346,080	2.26/1
5527200 mN	2	789,120	177,440	266,160	2.96/1
5527000 mN	-	312,200	144,400	216,600	1.44/1
5526800 mN	-	225,900	130,560	195,840	1.15/1
TOTALS		4,008,700	1,422,420	2,133,630	AVERAGE 1.81/1

6.0 COAL QUALITY

Teepee Mountain coal samples were obtained from rotary drill cuttings and diamond drill core. The lab analysis sheets are in Appendix 3.

In holes where more than one sample was taken per seam, a weighted average for the seam has been calculated based on the sample interval. An average analysis was then calculated for the 9, 10a, and Basal Seams (no data for Seam 10b) using both rotary cuttings and core samples (clean coal only - washed to 1.6 S.G.). These analyses follow in Tables 3, 4 and 5.

The coal making up the Teepee Mountain mineable reserves can be ranked as: Medium Volatile Bituminous (ASTM), thermal grade, low sulphur (<0.5%) coal with an average proximate analysis as follows:

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
- 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

8.0 PROFESSIONAL VERIFICATION OF REPORT

Entitled: Teepee Mountain Coal Project

Kootenay Land District, B.C., 1980

B.C. Coal Licences

No. 300, 302, 303, 370

Mr. David L. Handy planned and carried out the 1980 geological field program on Teepee Mountain, B.C. Coal Licences held by Shell Canada Resources Limited and operated by Crows Nest Resources Limited. He also prepared this report. Mr. Frank Martonhegyi supervised the activity of this program under the general direction of the undersigned.

Dave 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 worked on several coal properties for Crows Nest Resources Limited in British Columbia.

Frank Martonhegyi, M.E., graduated in Mining Geological Engineering from the University of the Heavy Industry, Hungary, in 1962; and received post-graduate training at the University of Saskatchewan, Saskatoon, in 1969-1971. His experience in Western Canadian coal exploration since 1971 includes positions with:

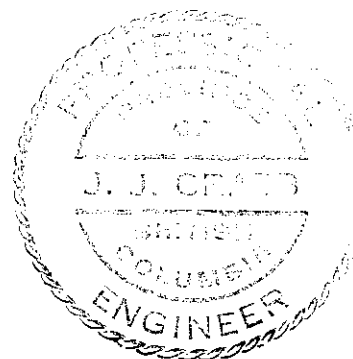
- CanPac Minerals Ltd., Calgary, Alberta
- Shell Canada Resources Limited, Calgary, Alberta
- Crows Nest Resources Limited, Calgary, Alberta

8.0 Professional Verification of Report (continued)

His prior experience includes underground coal mining geology, geotechnical engineering and geochemistry in Hungary, Austria and Canada.

He currently holds the position of District Manager - B.C. and other Canadian Coal Projects for Crows Nest Resources Limited.

I consider both the aforementioned geologists to be well qualified to undertake responsibilities they were assigned on this project. I am satisfied that the attached report dated April 30, 1981, has been competently prepared and justly represents the information obtained from this project.



J. J. Crabb
J. J. Crabb
Vice-President - Exploration

April 30, 1981



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

APPLICATION TO EXTEND TERM OF LICENCE

I, Bolton Agnew agent for Shell Canada Resources Limited
(Name) (Name)
P.O. Box 100
(Address) (Address)
Calgary, Alberta, T2P 2H7

Valid FMC No. 207568

hereby apply to the Minister to extend the term of Coal Licence(s) No(s), 295, 296, 299, 300, 302, 303, 368, 369, 370, 373; 10 Licences; 2203 Hectares

for a further period of one year.

2. Property name Horseshoe Ridge and Teepee Mountain, Group #263, 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 January 30, 1980 to
January 31, 1981 .. work to the value of at least \$ 499,673.90

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

CATEGORY OF WORK

	Licence(s) No(s).	Apportioned Cost
Geological mapping	292, 295, 296, 299, 300, 302, 303, 370	\$97,214.77
Surveys: Geophysical		
Geochemical		
Other (Location)	295, 296	12,873.17
Road construction	295, 296, 300, 302, 303, 370	153,176.34
Surface work	295, 296, 302, 303, 370	13,046.00
Underground work	296	79,992.88
Drilling	295, 302, 303	54,717.87
Logging, sampling, and testing	295, 302, 303	45,774.47
Reclamation	295, 296, 302, 303	13,094.15
Other work (specify)		
Off-property costs to date		29,784.25

5. I wish to apply \$ 499,673.90 of this value of work on Coal Licence(s) No(s)
295, 296, 299, 300, 302, 303, 368, 369, 370, 373

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 Horseshoe Ridge Geological Report '79 was submitted in April 1980, Horseshoe Ridge Geological Report '80 and Teepee Mountain Geological Report '80 will be submitted in 90 days

1981.01.28
(Date)

(Signature)

Land Supervisor
(Position)

CATEGORY OF WORK

GEOLOGICAL MAPPING

Yes No

	Area (Hectares)	Scale	Duration
Reconnaissance	3,000	1:5,000	
Detail: Surface	400	1:2,000	283 Man-Days
Underground			

*Other (specify)

Total Cost \$ 97,214.77

GEOPHYSICAL/GEOCHEMICAL SURVEYS

Yes No

Method

Grid

Topographic Location on Surveys

*Other (specify)

Total Cost \$ 12,873.17

ROAD CONSTRUCTION

Yes No

Length 6.98 km Width 5 m

On Licence(s) No(s) 295,296,302,303

Access to

Total Cost \$ 153,176.34

SURFACE WORK

Yes No

	Length	Width	Depth	Cost
Trenching	1,594.6 m	1 m	2 m	
Seam Tracing				
Crosscutting				

*Other (specify)

Total Cost \$ 13,046.00

UNDERGROUND WORK

Yes No

	No. of Adits	Maximum Length	No. of Holes	Total Metres	Cost
Test Adits	3*	64.31 m			

*Other workings

* One new adit plus two old ones extended

Total Cost \$ 79,992.88

DRILLING

Yes No

	Hole Size	No. of Holes	Total Metres	Cost
Core: Diamond				
Wireline	HQ	1	40.50	10,683.70
Rotary: Conventional	5-1/8"	6 *	594.26	44,034.17 *
Reverse circulation				

*Other (specify)

* Cost of two Rotary holes drilled on Freehold land has been deducted

Contractor Acadia, Nielsen, SDS Drilling Companies

Where is the core stored? Horseshoe Property

Total Cost \$ 54,717.87

LOGGING, SAMPLING AND TESTING

Yes No

Lithology: Drill samples	<input checked="" type="checkbox"/>	Core samples	<input checked="" type="checkbox"/>	Bulk samples	<input checked="" type="checkbox"/>
Logs: Gamma-neutron	<input checked="" type="checkbox"/>	Density	<input checked="" type="checkbox"/>		
*Other (specify) Caliper					
Testing: Proximate analysis	<input checked="" type="checkbox"/>	FSI	<input checked="" type="checkbox"/>	Washability	<input checked="" type="checkbox"/>
Carbonization	<input checked="" type="checkbox"/>	Petrographic	<input checked="" type="checkbox"/>	Plasticity	<input type="checkbox"/>

*Other (specify)

Total Cost to Date: \$ 45,774.47

OTHER WORK (specify details)

Reclamation (harrowing, fertilizing, seeding) of roads, drill and adit sites

Total Cost \$ 13,094.15

To Date	On-property costs	469,889.65
To Date	Off-property costs	29,784.25
To Date	Total Expenditures	\$ 499,673.90

1981.01.28
(Date)

M. J. K. ...
(Signature)

Manager - Accounting, CNRL
(Position)

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

TEEPEE MOUNTAIN PROJECT Part of Group #263

Application to extend term of licence for the entire group was submitted January 28th, 1981

CATEGORY OF WORK

GEOLOGICAL MAPPING

Yes No

	Area (Hectares)		Scale		Duration
Reconnaissance	1000		1:5000		86 man-days
Detail:	Surface				
	Underground				
*Other (specify)					
					Total Cost \$ 32,727.27

GEOPHYSICAL/GEOCHEMICAL SURVEYS

Yes No

Method

Grid

Topographic Location surveys

*Other (specify)

Total Cost \$ 2,800.00

ROAD CONSTRUCTION

Yes No

Length 1.38 km Width 5 m

On Licence(s) No(s) 302, 303

Access to

Total Cost \$ 10,966.76

SURFACE WORK

Yes No

	Length	Width	Depth	Cost
Trenching	1075.6 m	1 m	2 m	
Seam Tracing				
Crosscutting				
*Other (specify)				
Total Cost \$ 7,636.00				

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	HQ	1	40.50	10,683.70
Rotary:	Conventional	5 1/8"	5*	300.16	24,785.67
	Reverse circulation				
*Other (specify)					
*Two rotary holes drilled of free hold land totalling 116.44 m Deducted					
Contractor Acadia Drilling, Nielsen Drilling					
Where is the core stored? Horseshoe Ridge Property Nearby					
					Total Cost \$ 35,467.37

LOGGING, SAMPLING AND TESTING

Yes No

Lithology:	Drill samples <input checked="" type="checkbox"/>	Core samples <input checked="" type="checkbox"/>	Bulk samples <input type="checkbox"/>	
Logs:	Gamma-neutron <input checked="" type="checkbox"/>	Density <input checked="" type="checkbox"/>		
*Other (specify) Caliper				
Testing:	Proximate analysis <input type="checkbox"/>	FSI <input type="checkbox"/>	Washability <input type="checkbox"/>	
	Carbonization <input type="checkbox"/>	Petrographic <input type="checkbox"/>	Plasticity <input type="checkbox"/>	
*Other (specify)				
				Total Cost \$ 7,625.12

OTHER WORK (specify details)

Reclamation

Total Cost \$ 11,316.53

On-property costs 108,541.05

Off-property costs 4,453.35

Total Expenditures \$ 112,994.40

Original dated 1981.01.28
(Date)

ORIGINAL SIGNED BY
W. S. KOWALSKI
(Signature)

Manager - Accounting CNRL
(Position)

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

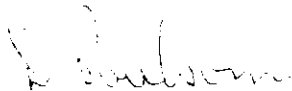
Date: DECEMBER 8, 1980
To: CROWNEST RESOURCES LIMITED (CNRL)
From: SHELTECH CANADA
Subject: TEE PEE Mtn. 4001E
S.E. BRITISH COLUMBIA

All survey control in the Tee Pee Mtn. area is based on the Crownsnest Control Network established in the spring of 1980 and using July 14, 1980 results Stations 'Pass' and 'Face' were the two used.

From these two stations 8 drill holes and 28 traverse stations to survey 1.9 km of new road were surveyed.

Conventional survey methods using both a 1" and a 20" theodolite and electronic distance measuring equipment were used to obtain the survey data. All calculations were done in the UTM system with distances being reduced to plane and bearings referenced to 117° W. The results were given to CNRL personnel in both tabular and map form.

The cost attributed to the Tee Pee Mtn area was approximately \$3,200.



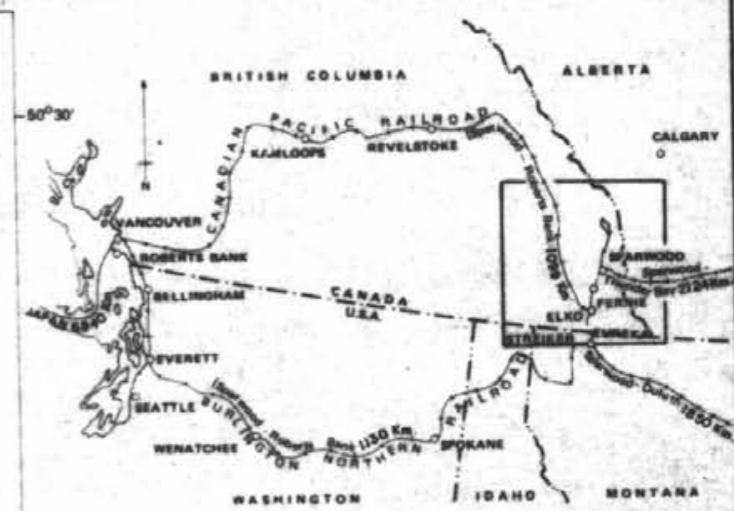
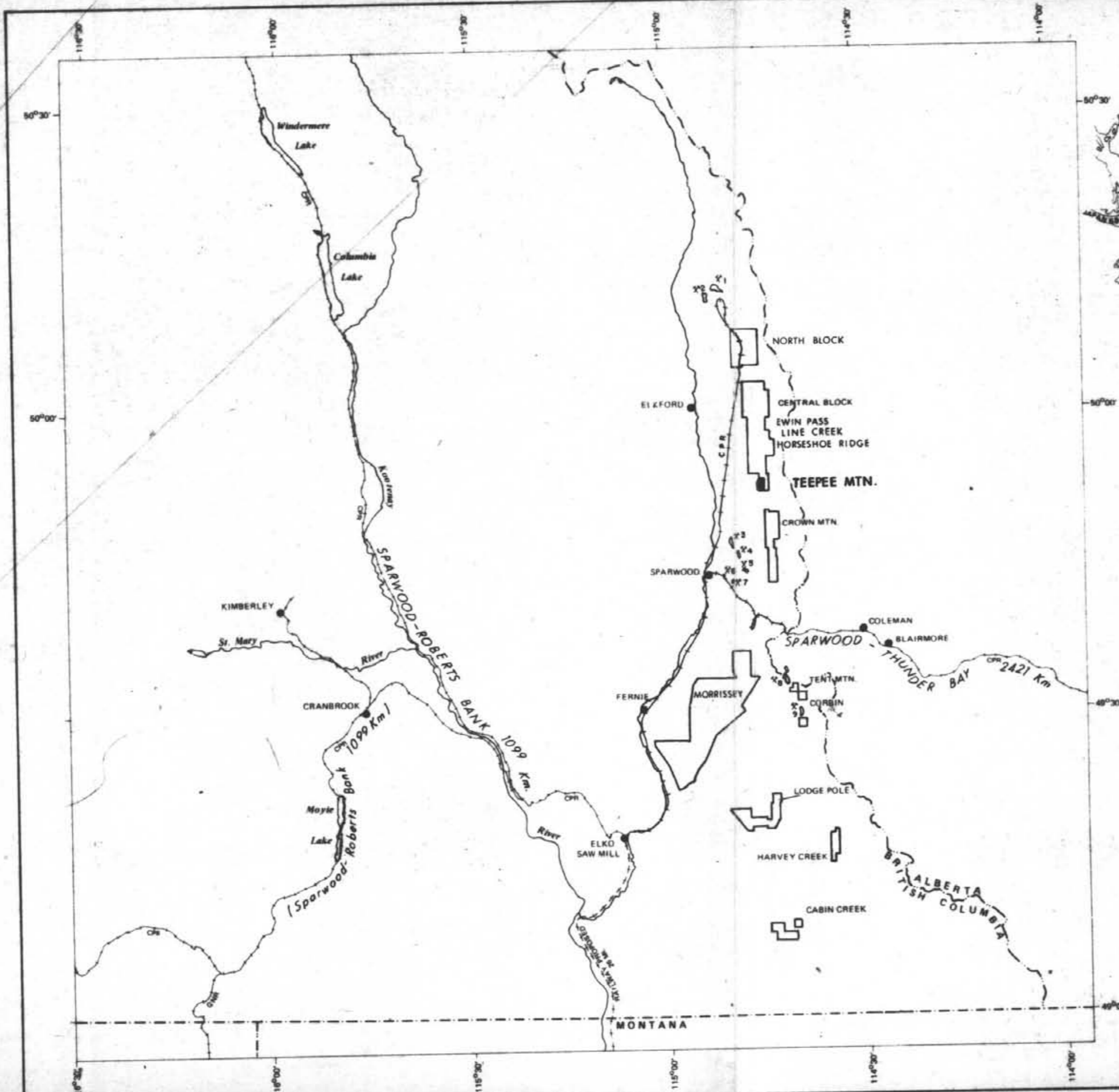
D. Poulson

EK:sm

K. SHELL-TEEPEE MT. 80(2)A

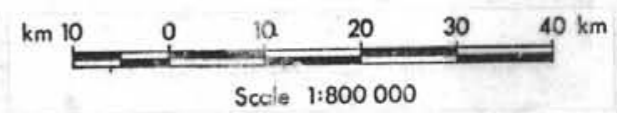
Apr. 1 30 187
TEEPEE MOUNTAIN
1980 GEOLOGICAL REPORT
SHELL CANADA RESOURCES LTD.
CL# 300, 302, 303, 370
299 MAPS D. Hand y

446



LEGEND

- OPERATING MINES**
- FORDING COAL LTD.
 - 1 CLODE PIT
 - 2 GREENHILLS PIT
 - KAISER RESOURCES LTD.
 - 3 HARMER PITS 1 & 2
 - 4 ADIT 25 PIT
 - 5 CAMP 5 & ADIT 5A PITS
 - 6 BALMER SOUTH HYDRAULIC UNDERGROUND MINE
 - 7 BALMER NORTH CONVENTIONAL UNDERGROUND MINE
 - COLEMAN COLLIERIES LTD.
 - 8 TENT MOUNTAIN PITS
 - BYRON CREEK COLLIERIES LTD.
 - 9 CORBIN PIT
- COAL RIGHT OWNED/LICENCED BY
- SHELL CORP.



Crows Nest Resources Limited
EXPLORATION

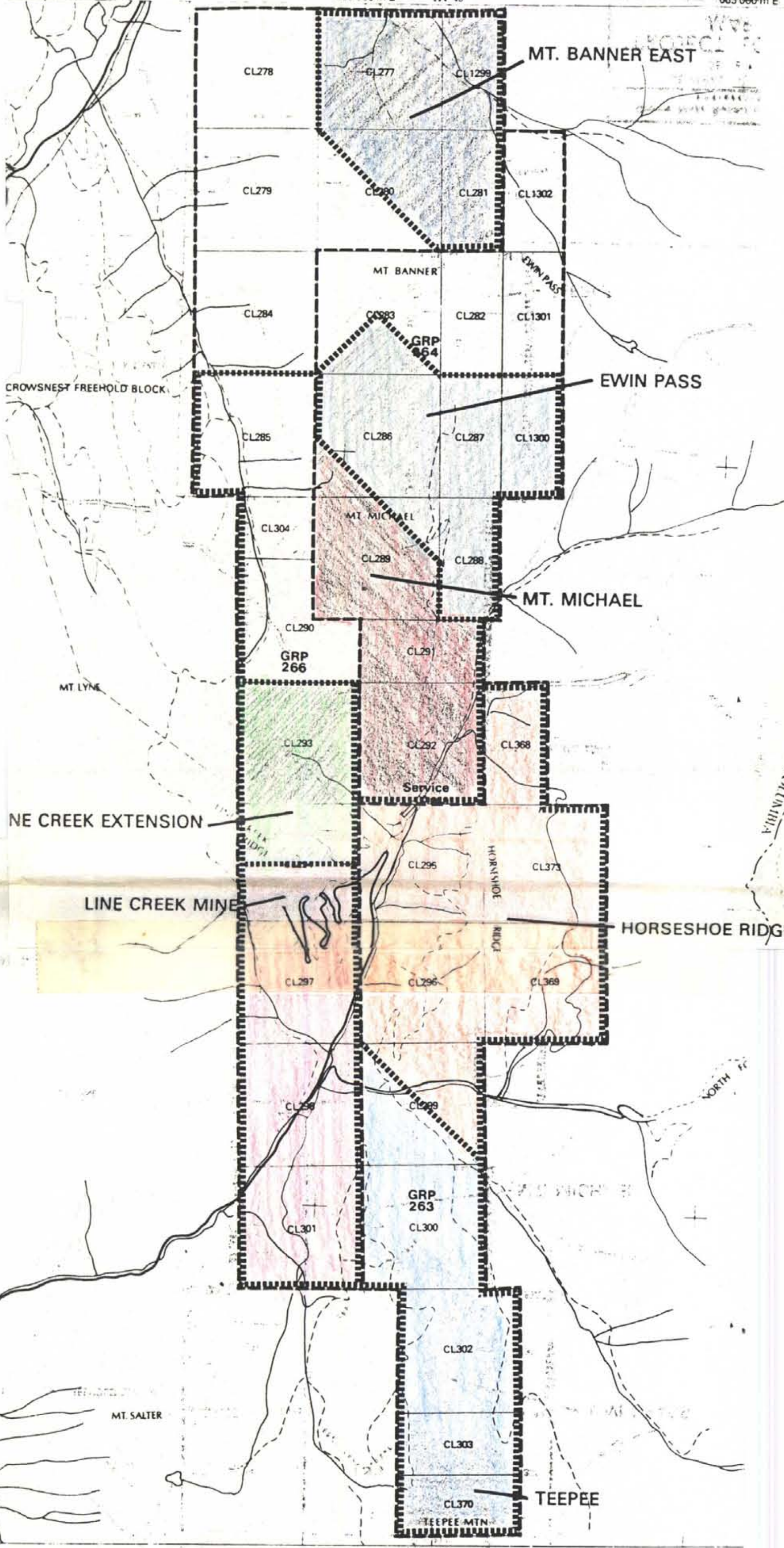
K-SHELL-TEEPEE MOUNTAIN
80(2)A

SOUTHEAST B.C.
LOCATION MAPS

FIG No. 1

AUTHOR Martonhegyi	SCALE 1:800 000	ENCLOSURE No. 1
DATE Feb. 11, 1979	REVISED	DRAWING No. BA-295
To: Accompany		

660 000 m E 114° 45' 665 000 m E

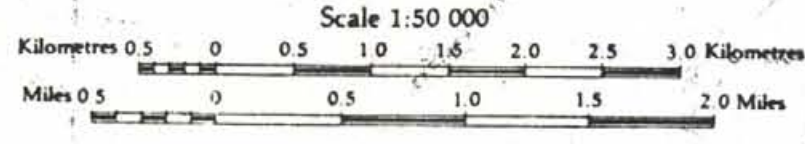


ALBERTA
BRITISH COLUMBIA

114 50

114 45

to the Survey and Mapping
Service, Mines and Resources
1979 Province of British Col
and 1980 Crown Net
drawing EC-999.12



CT PROSPECT
DARY
P. BOUNDARY

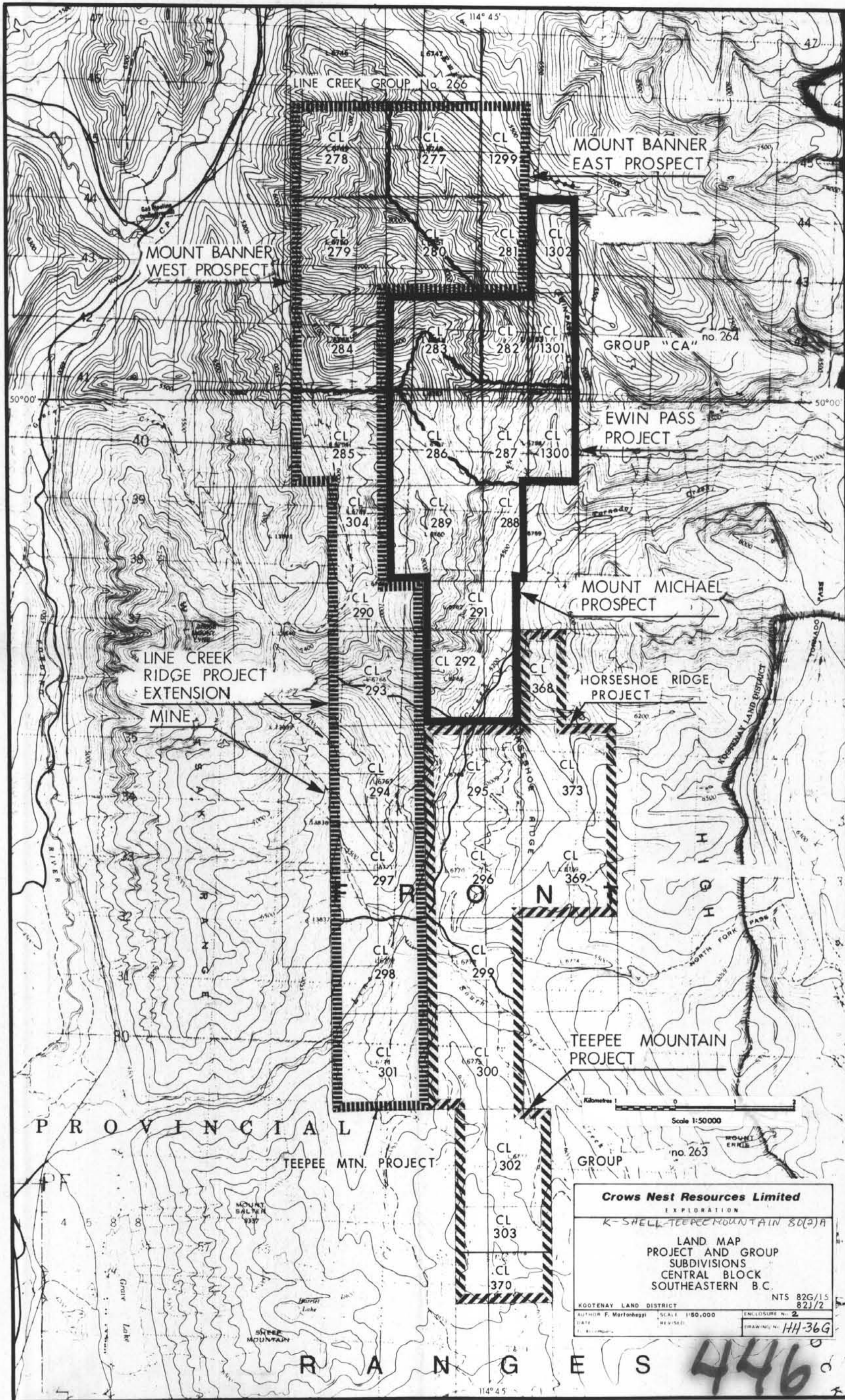
Transverse Mercator Projection
Universal Transverse Mercator Grid Zone II

Crows Nest Resources
EXPLORATION
CENTRAL BLO
SE BC
PROJECT LC
MAP

Author: R. BERRY
Date: 81/07/30
Scale: 1:50,000

446

Production only to obtain numerical values
APPROXIMATE MEAN DEVIATION 1275
Annual change decreasing 5.4



K O O T E N A Y L A N D D I S T R I C T

S O U T H E A S T E R N B . C .

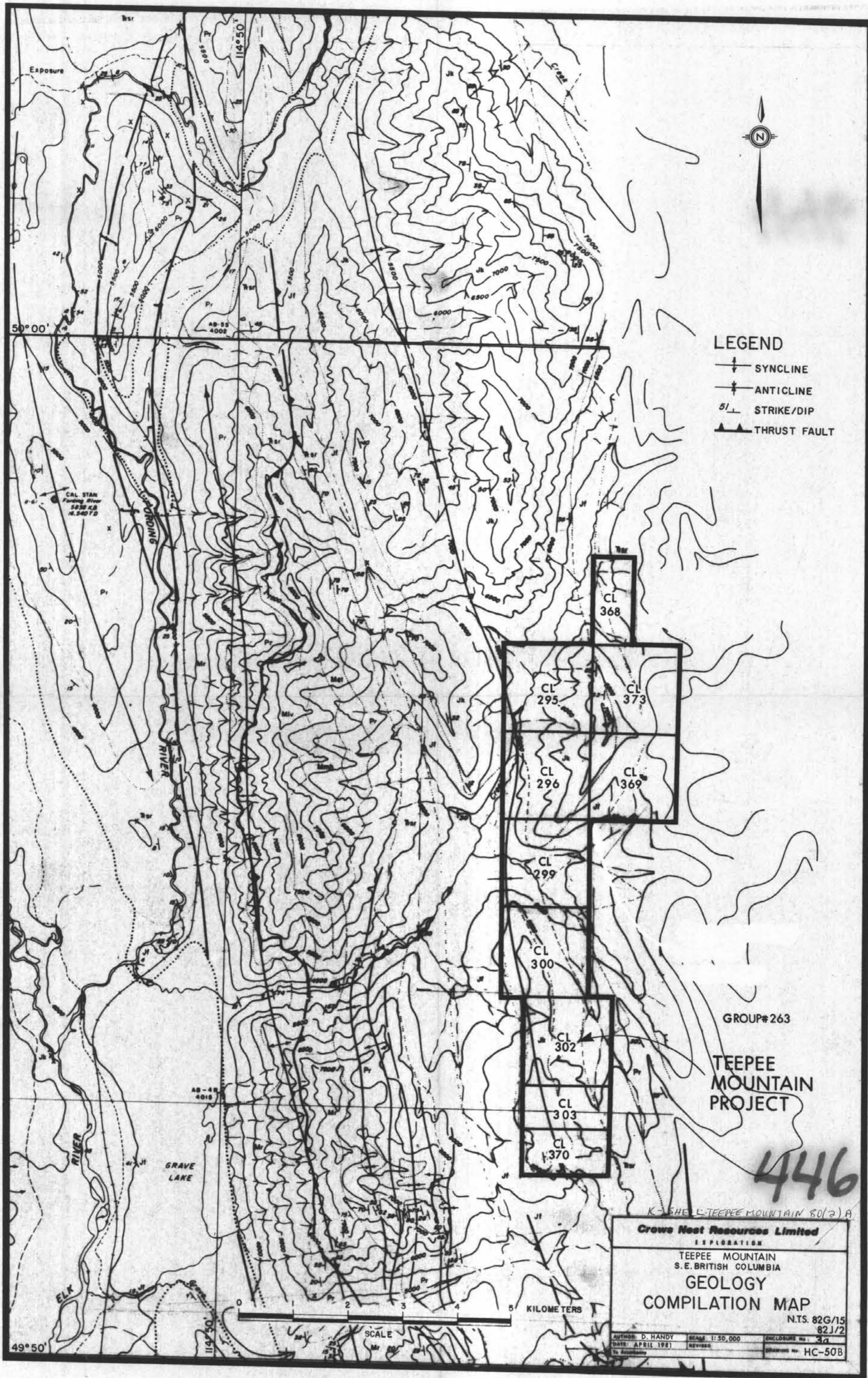
R A N G E S 446





Crows Nest Resources Limited
 EXPLORATION
 K-SHELL-TEEPEE MOUNTAIN 80(9)A

LAND MAP
 PROJECT AND GROUP
 SUBDIVISIONS
 CENTRAL BLOCK
 SOUTHEASTERN B.C.

NTS 82G/15
 82J/2

KOOTENAY LAND DISTRICT
 AUTHOR: F. Martonhegyi SCALE: 1:50,000 ENCLOSURE NO. 2
 DATE: REVISION: DRAWING NO. HH-36G



- LEGEND**
-  SYNCLINE
 -  ANTICLINE
 -  STRIKE/DIP
 -  THRUST FAULT

GROUP #263
TEEPEE MOUNTAIN PROJECT

446

K-SHE L-TEEPEE MOUNTAIN 80(2)A

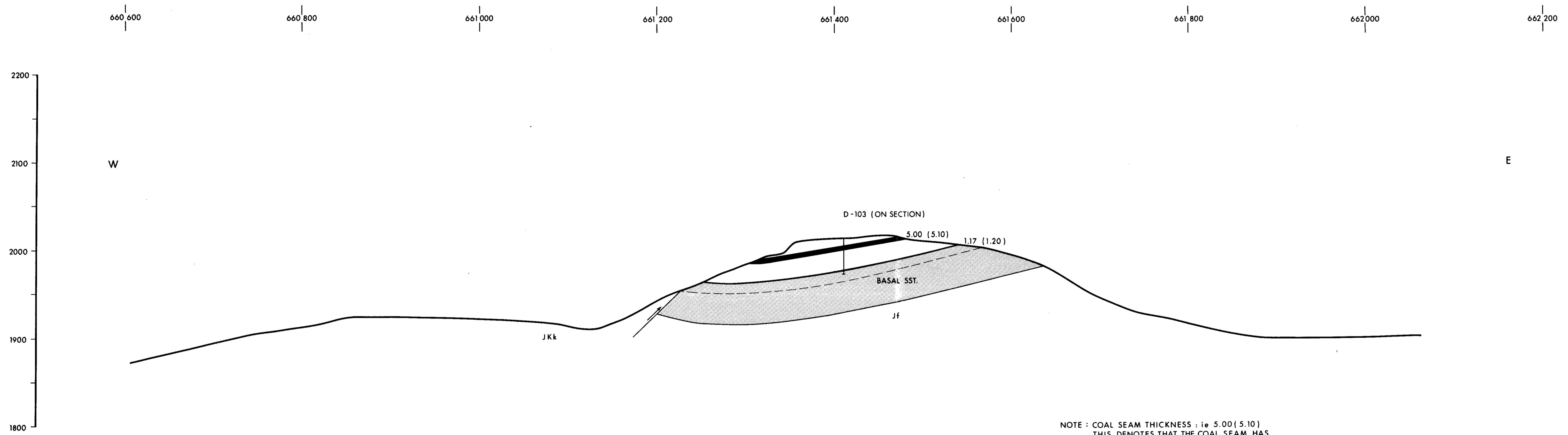
Crow's Nest Resources Limited
 EXPLORATION

TEEPEE MOUNTAIN
 S.E. BRITISH COLUMBIA

**GEOLOGY
 COMPILATION MAP**

N.T.S. 82G/15
 82J/2

AUTHOR: D. HANDY	SCALE: 1:50,000	ENCLOSURE NO: 3a
DATE: APRIL 1981	REVISED:	ISSUED BY: HC-50B

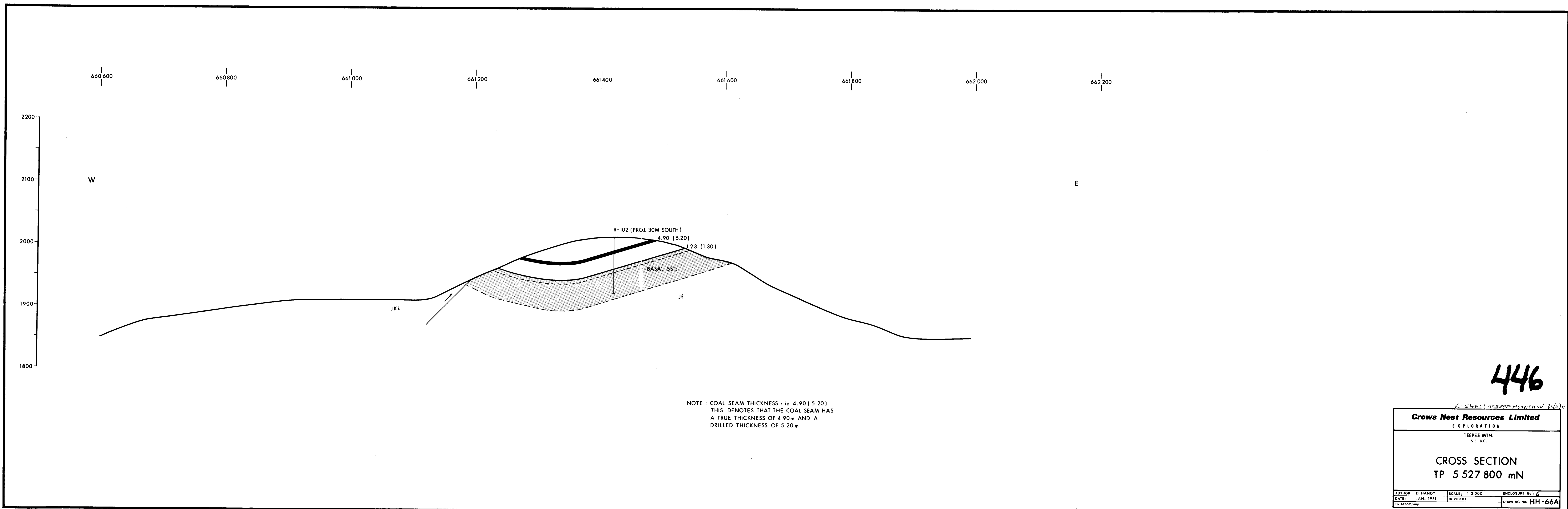


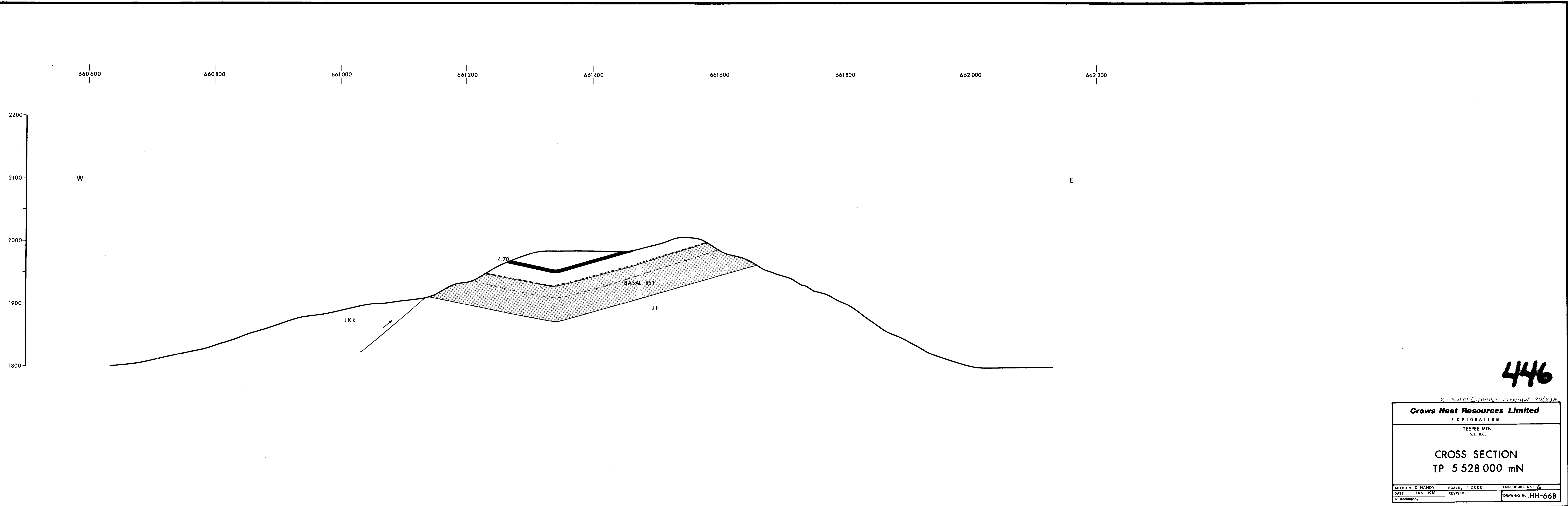
NOTE : COAL SEAM THICKNESS : ie 5.00 (5.10)
 THIS DENOTES THAT THE COAL SEAM HAS
 A TRUE THICKNESS OF 5.00m AND A
 DRILLED THICKNESS OF 5.10m.

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K-SHELL TEEPEE MOUNTAIN SQA

Crows Nest Resources Limited		
EXPLORATION		
TEEPEE MTN. S.E. B.C.		
CROSS SECTION		
TP 5 527 700 mN		
AUTHOR: D. HANDY	SCALE: 1:2 000	ENCLOSURE No: 6
DATE: JAN. 1981	REVISED:	DRAWING No: HH-66
To Accompany		

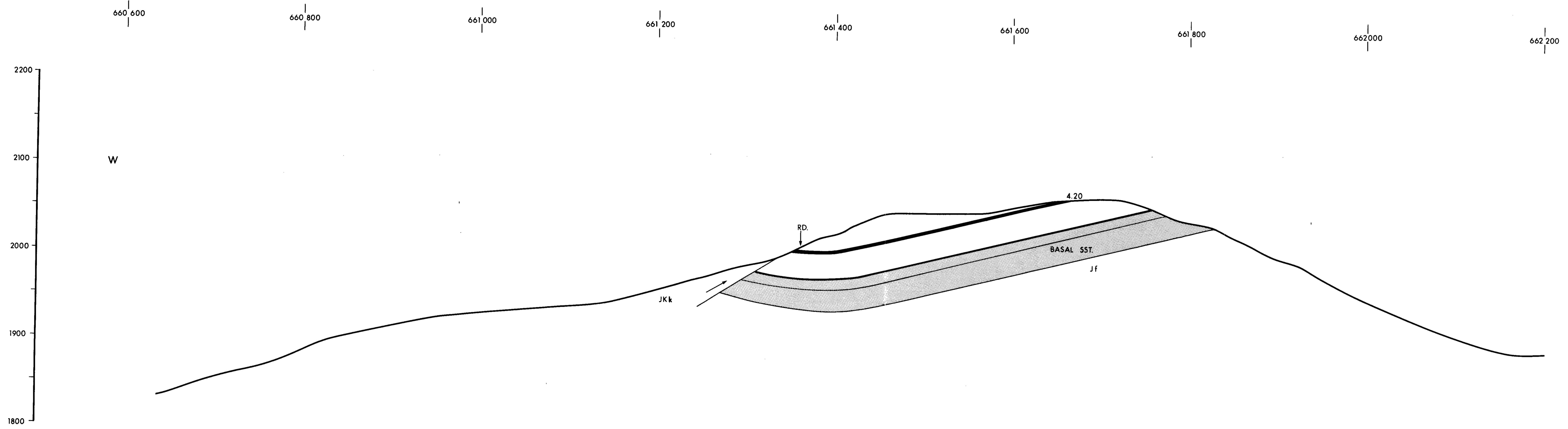




446

K-SHELL, TEEPEE MOUNTAIN 80(2)A

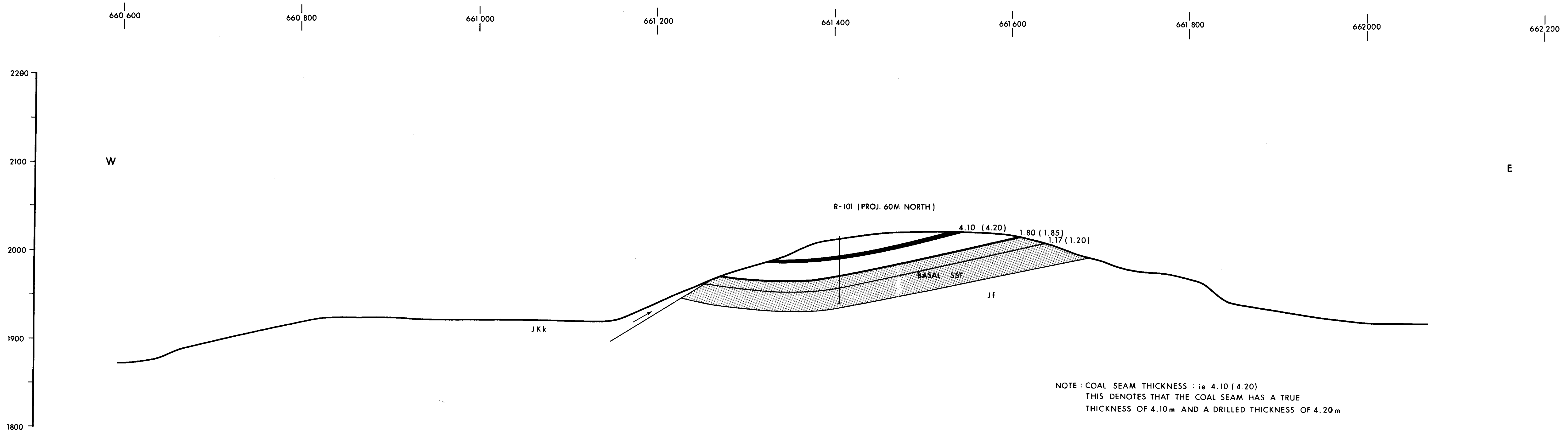
Crows Nest Resources Limited		
EXPLORATION		
TEEPEE MTN. S.E. B.C.		
CROSS SECTION		
TP 5 528 000 mN		
AUTHOR: D. HANDY	SCALE: 1:2 000	ENCLOSURE No: 6
DATE: JAN. 1981	REVISED:	DRAWING No: HH-66B
To Accompany		



446

K-SHELL TEEPEE MOUNTAIN 80(2)A

Crows Nest Resources Limited		
EXPLORATION		
TEEPEE MTN. S.E. B.C.		
CROSS SECTION		
TP 5 527 400 mN		
AUTHOR: D. HANDY	SCALE: 1:2 000	ENCLOSURE No: 7
DATE: JAN. 1981	REVISED:	DRAWING No: HG-66C
To Accompany		



NOTE: COAL SEAM THICKNESS : ie 4.10 (4.20)
 THIS DENOTES THAT THE COAL SEAM HAS A TRUE
 THICKNESS OF 4.10m AND A DRILLED THICKNESS OF 4.20m

446

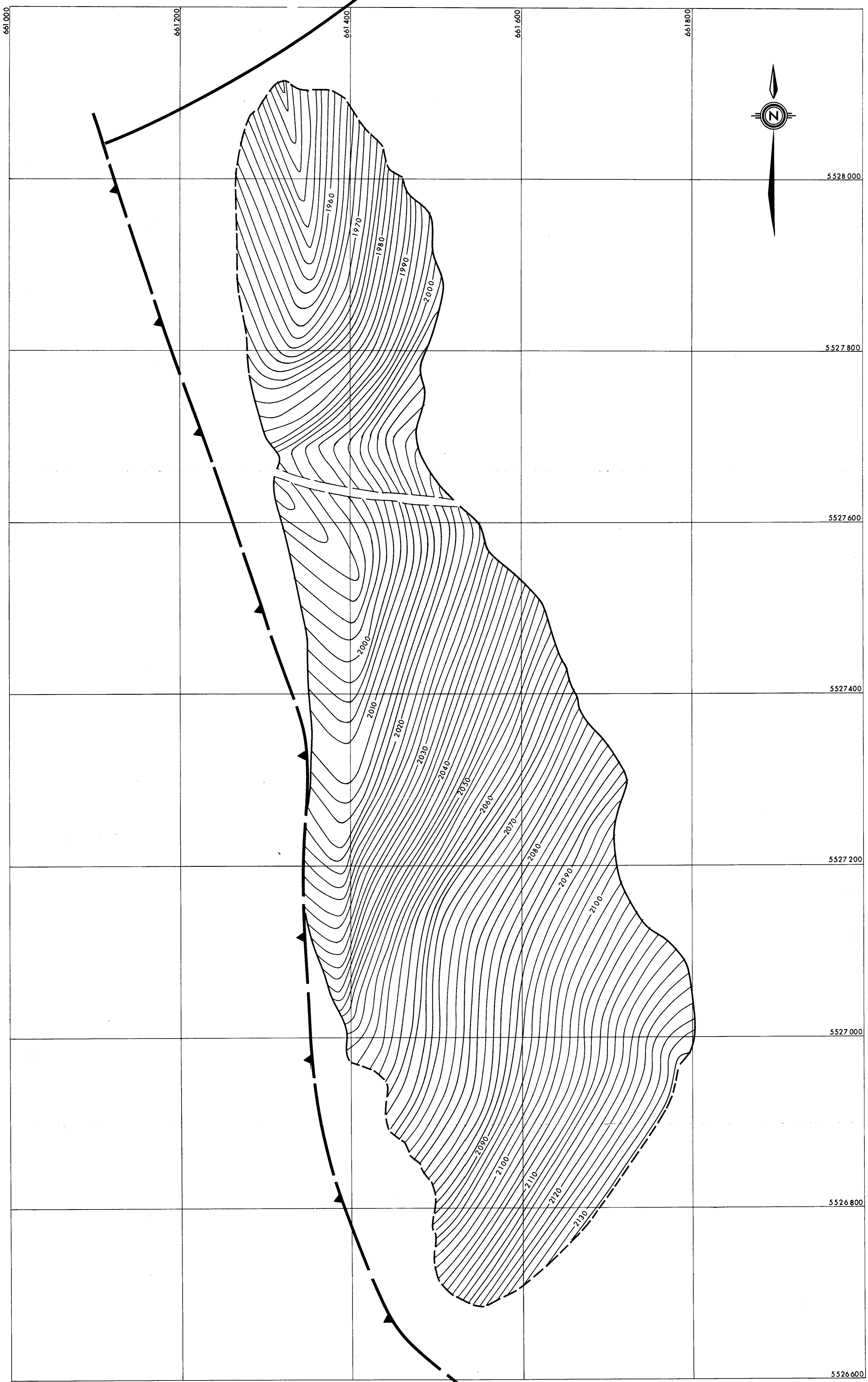
K-SHELL-TEEPEE MOUNTAIN 80(2)0

Crows Nest Resources Limited
 EXPLORATION

TEEPEE MTN.
 S.E. B.C.

CROSS SECTION
 TP 5 527 600 mN

AUTHOR: D. HANDY	SCALE: 1:2000	ENCLOSURE No: 6
DATE: JAN. 1981	REVISED:	DRAWING No: HG-66D
To Accompany		



CONTOUR INTERVAL = 2.0 m

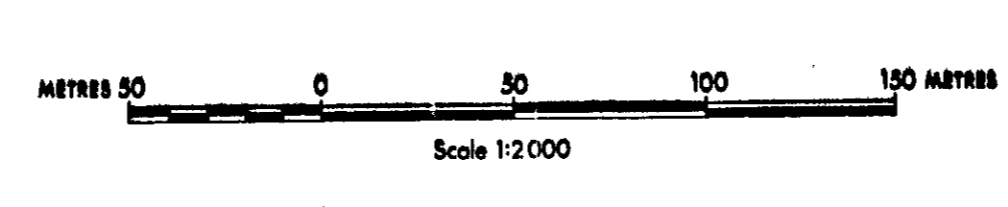
446

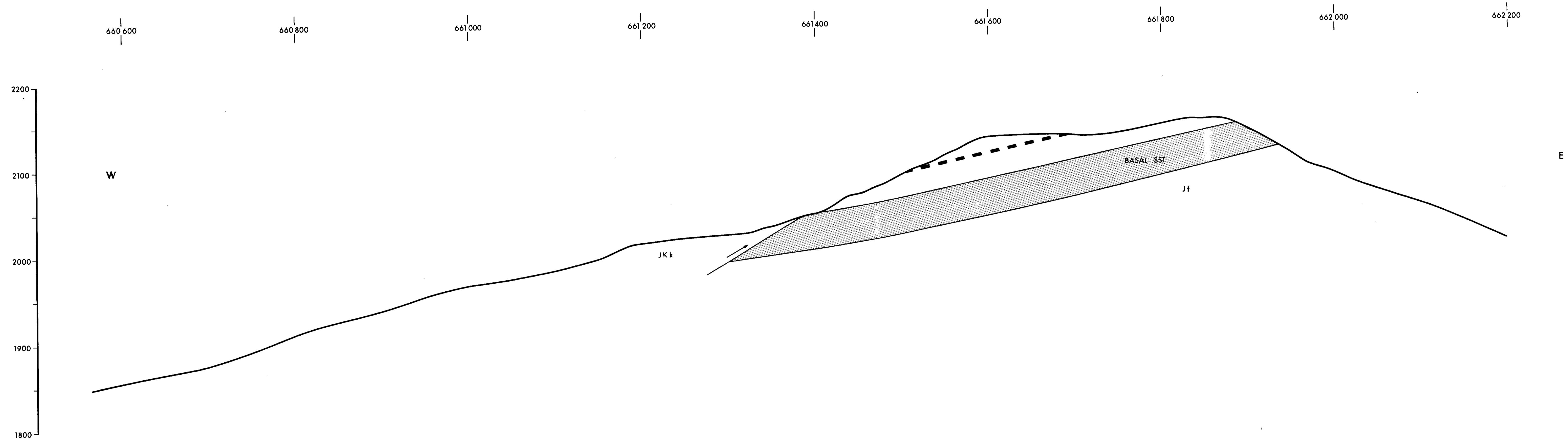
K-SHELL TEEPEE MOUNTAIN 2013/09

Crows Nest Resources Limited
 EXPLORATION
 TEEPEE MOUNTAIN
 S.E. B.C.

BASE OF SEAM CONTOUR
SEAM # 9

AUTHOR: D. HANDY	SCALE: 1:2000	ENCLOSURE No: 03
DATE: 02/12	REVISED:	DRAWING No: HA-67
To: Accompany		





446

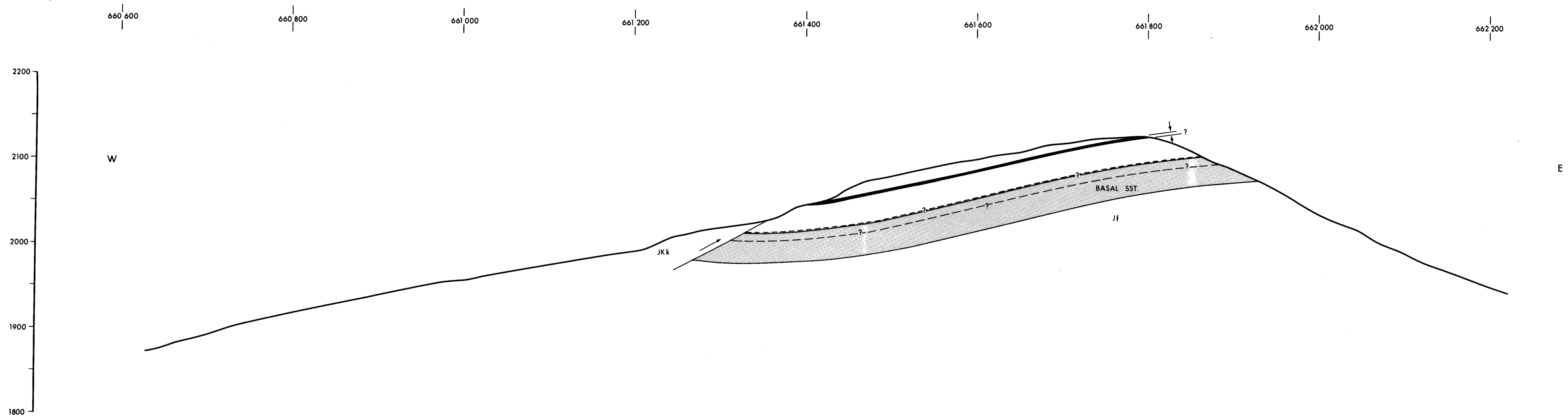
K-SHELL-TEEPEE MOUNTAIN 80(2)A

Crows Nest Resources Limited
EXPLORATION

TEEPEE MTN.
S.E. B.C.

CROSS SECTION
TP 5 526 800 mN

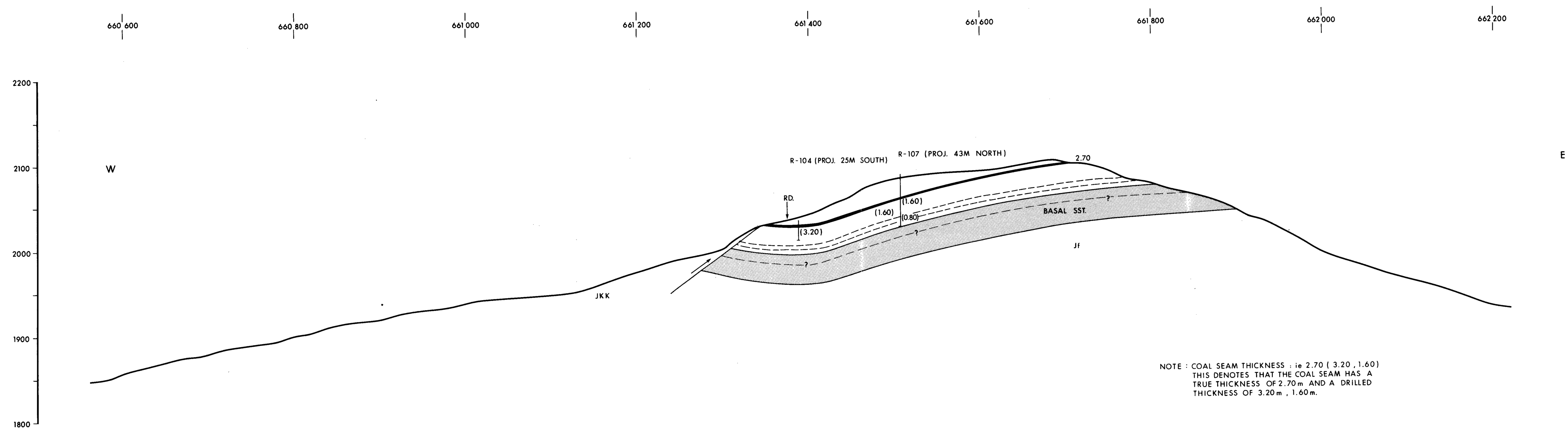
AUTHOR: D. HANDY	SCALE: 1:2 000	ENCLOSURE No.: 7
DATE: JAN. 1981	REVISED:	DRAWING No: HG-66
To Accompany		



446

K-SHELL-TEEPSEE MOUNTAIN RD(2)A

Crows Nest Resources Limited		
EXPLORATION		
TEEPSEE MTN. S.E. B.C.		
CROSS SECTION		
TP 5 527 000 mN		
AUTHOR: D. HANDY	SCALE: 1:2 000	ENCLOSURE No. 7
DATE: JAN. 1981	REVISED:	DRAWING No: HG-66A
To Accompany		

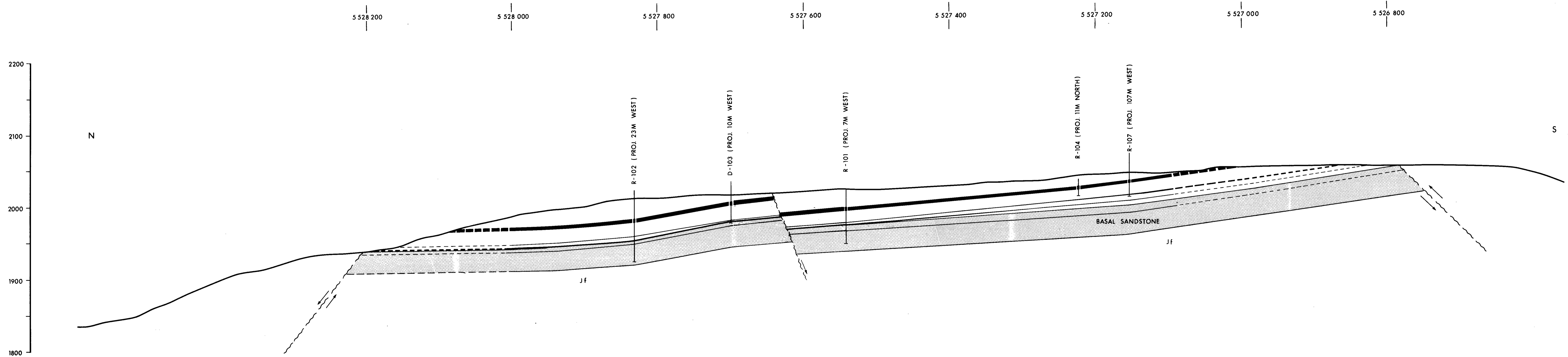


NOTE : COAL SEAM THICKNESS : ie 2.70 (3.20 , 1.60)
 THIS DENOTES THAT THE COAL SEAM HAS A
 TRUE THICKNESS OF 2.70 m AND A DRILLED
 THICKNESS OF 3.20 m , 1.60 m.

446

K-SHELL-TEEPREE MOUNTAIN 80(2)A

Crows Nest Resources Limited		
EXPLORATION		
TEEPREE MTN. S.E. B.C.		
CROSS SECTION		
TP 5 527 200 mN		
AUTHOR: D. HANDY	SCALE: 1:2 000	ENCLOSURE No: 7
DATE: JAN. 1981	REVISED:	DRAWING No: HG-66B
To Accompany		



446

K-SHELL-TEEPEE MOUNTAIN SQ(2)

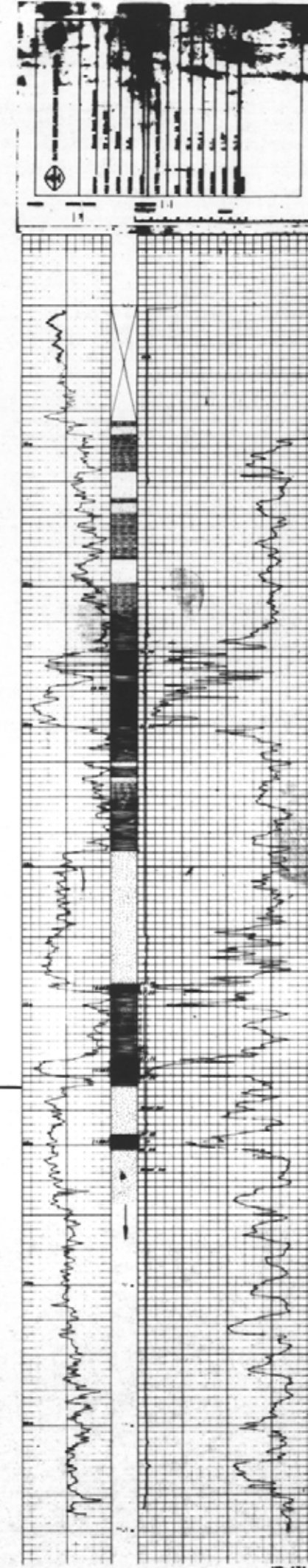
Crows Nest Resources Limited
EXPLORATION

TEEPEE MTN.
S.E. Q.C.

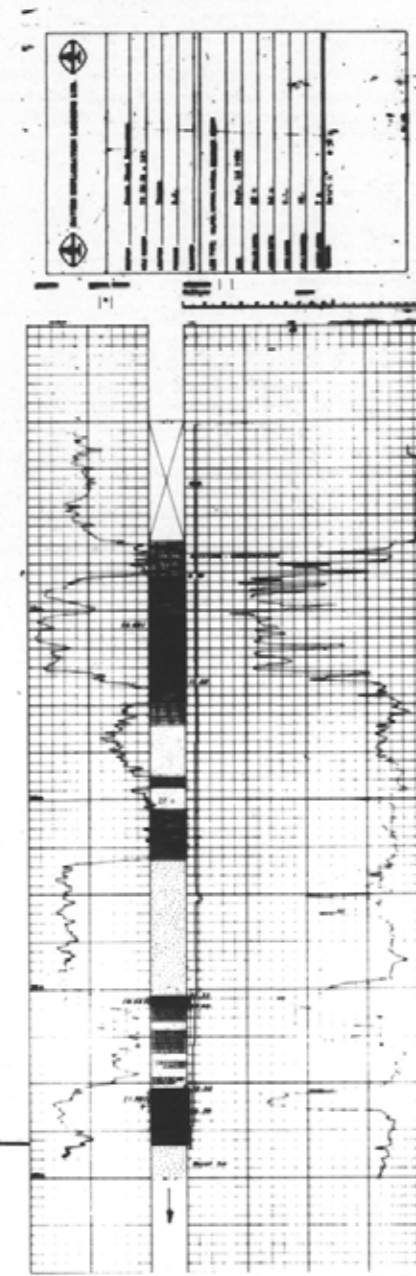
NORTH-SOUTH SECTION
661 400 mE

AUTHOR: D. HANDY	SCALE: 1:2000	ENCLOSURE No: 7
DATE: JAN. 1981	REVISED:	DRAWING No: HH-66C
To Accompany		

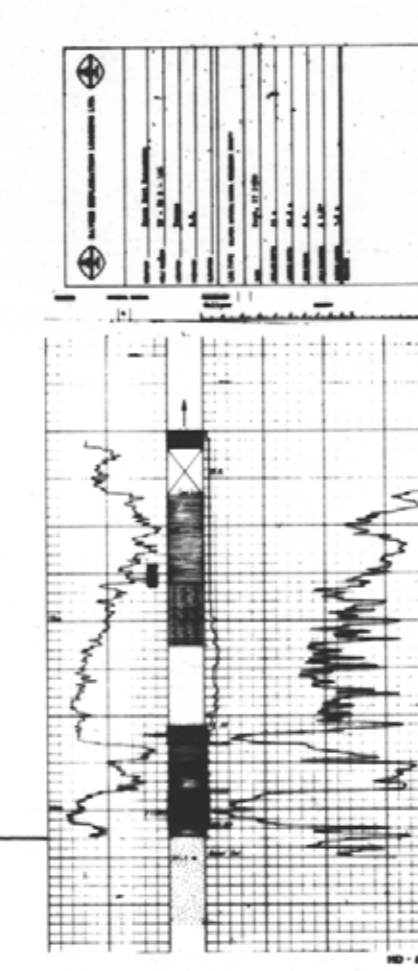
T.P. - 80R - 102
ELEV. 2012.5m
GAMMA DENSITY



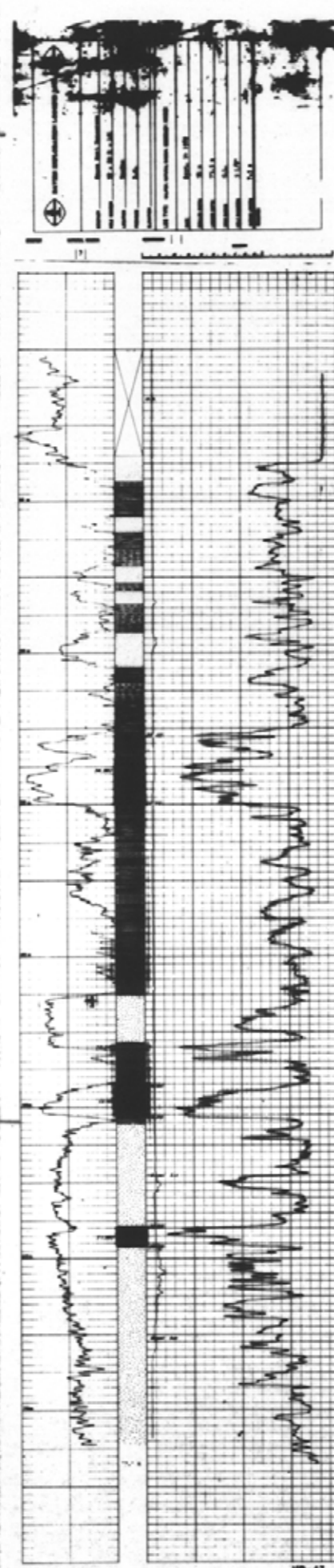
T.P. - 80D - 103
ELEV. 2016.6m
GAMMA DENSITY



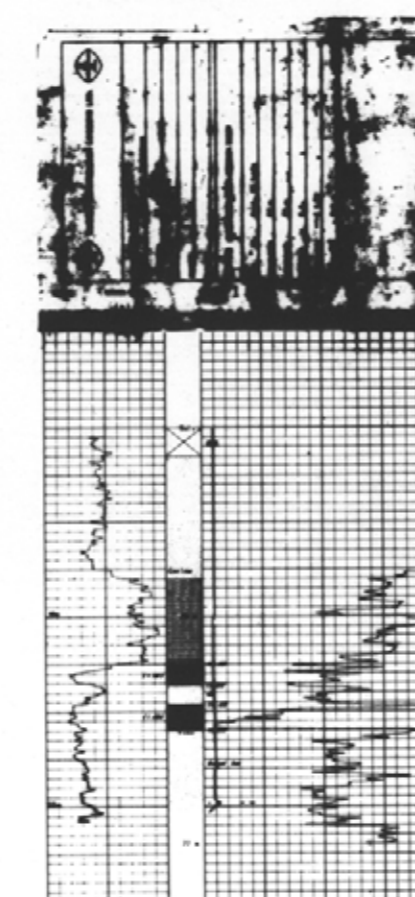
T.P. - 80R - 106
ELEV. 1989.2m
GAMMA DENSITY



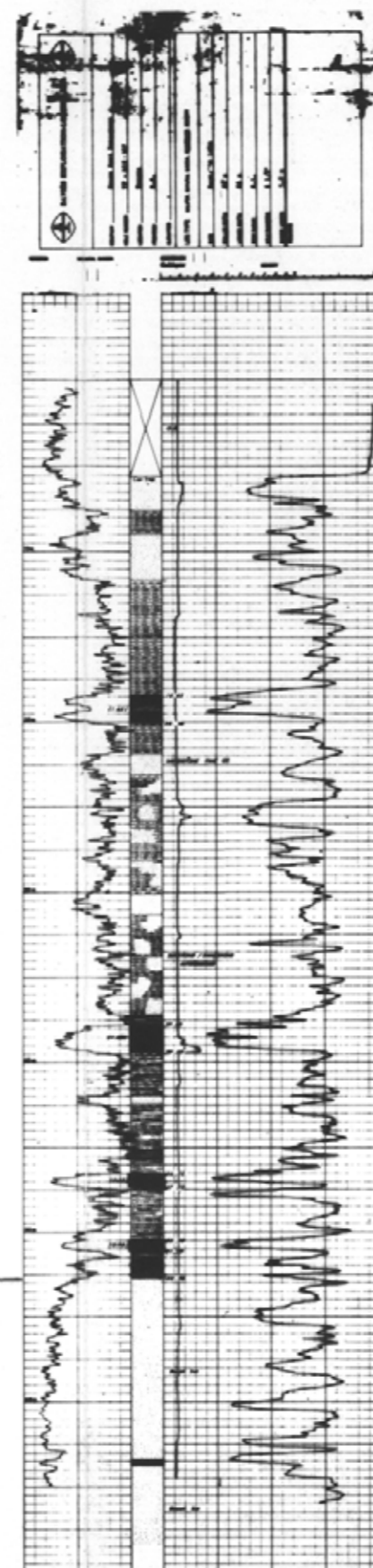
T.P. - 80R - 101
ELEV. 2020.9m
GAMMA DENSITY



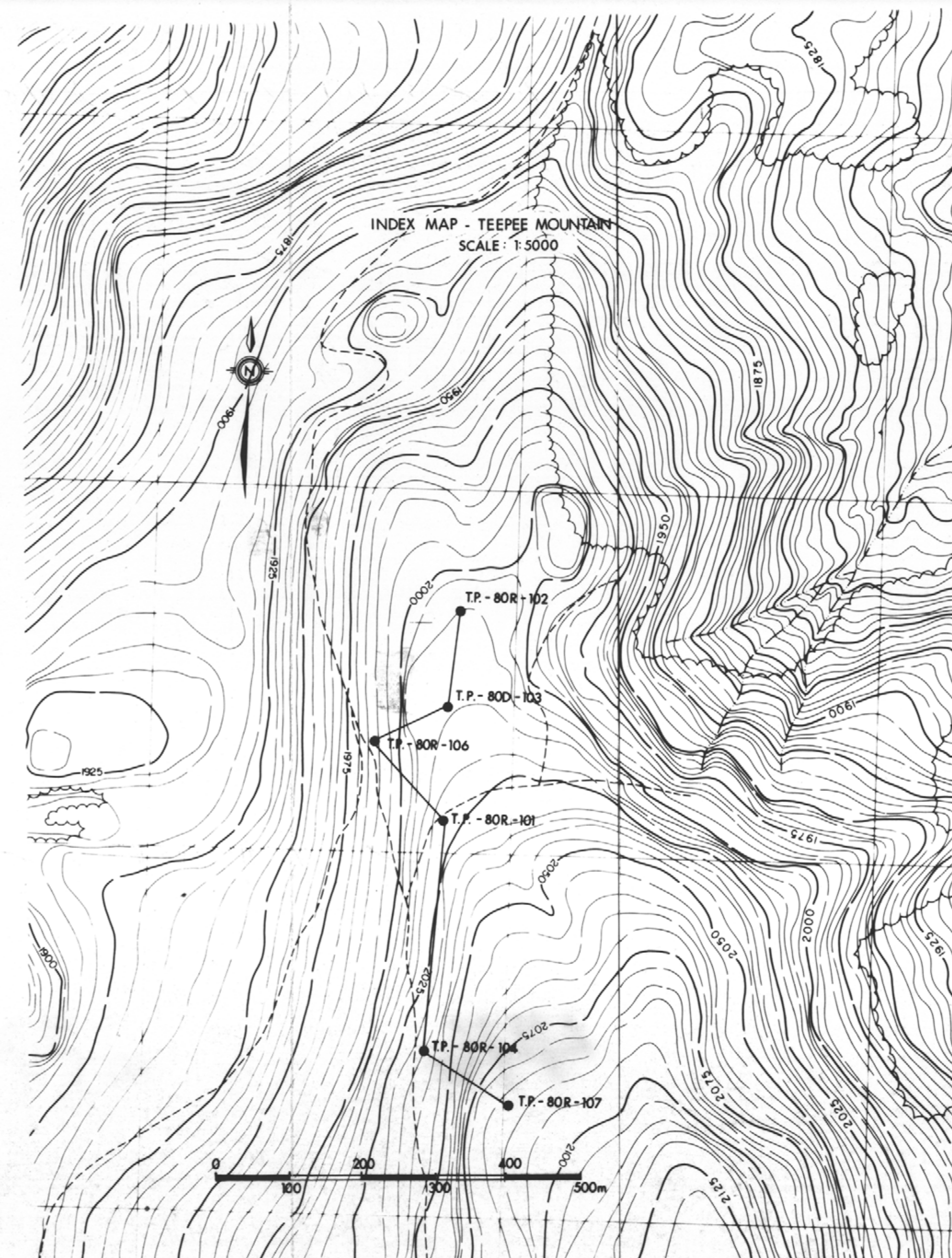
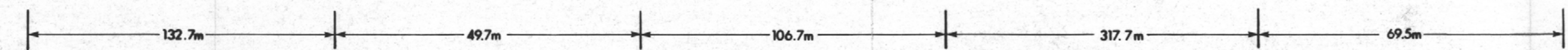
T.P. - 80R - 104
ELEV. 2033.6m
GAMMA DENSITY



T.P. - 80R - 107
ELEV. 2086.4m
GAMMA DENSITY



BASAL SANDSTONE



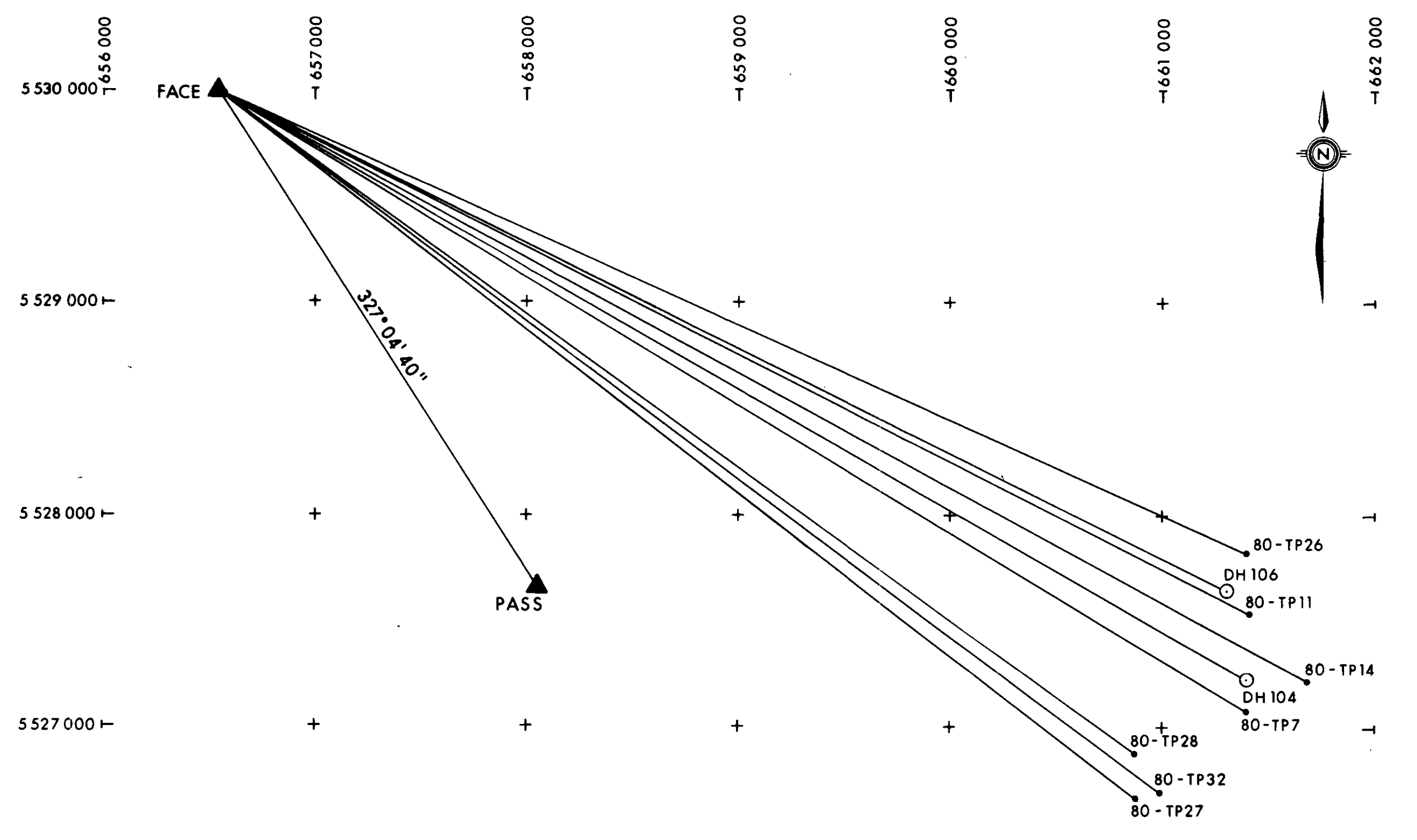
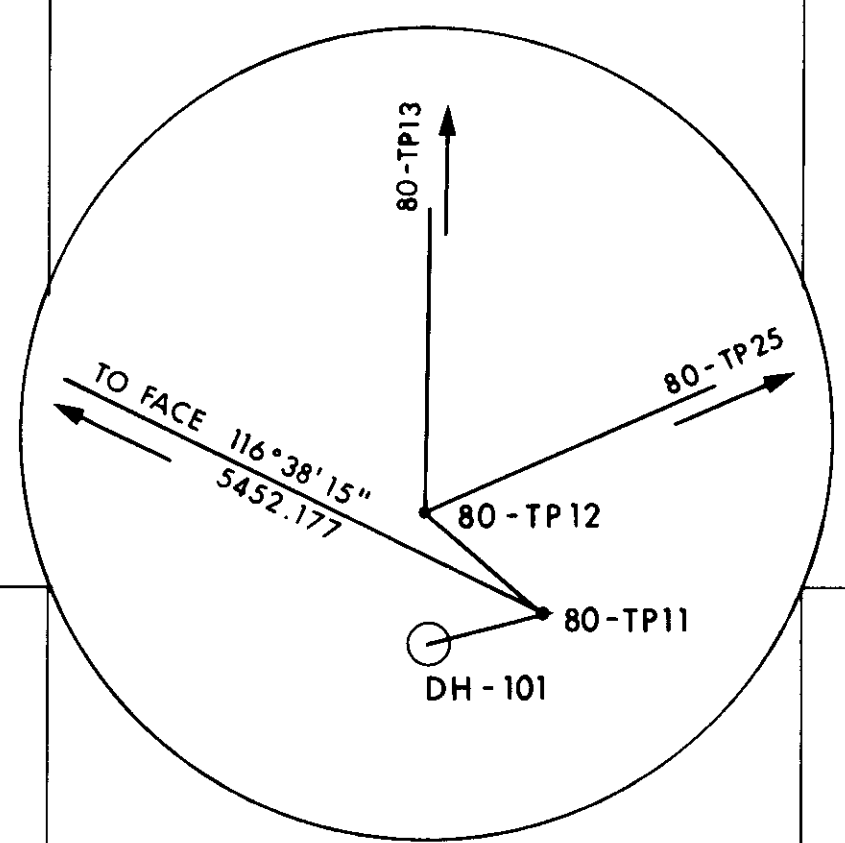
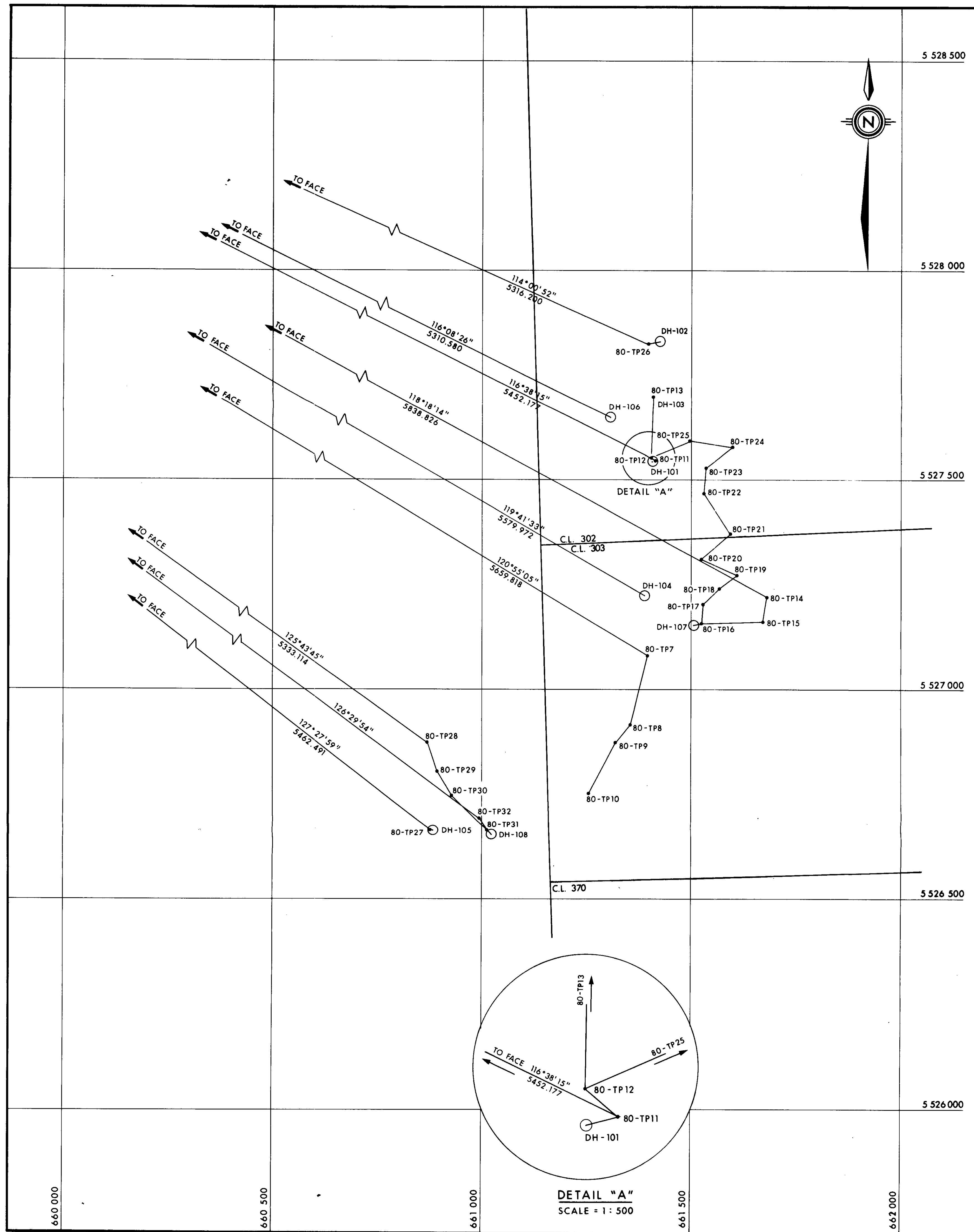
446

K-SHELL-TEEPEE MOUNTAIN 80(2)A

Crows Nest Resources Limited
EXPLORATION
TEEPEE MOUNTAIN
S.E. B.C.

**DRILL HOLE
CORRELATION CHART**

AUTHOR: D. HANDY	SCALE: 1:400 (VERTICAL)	ENCLOSURE No: 9
DATE: 81-04-15	REVISED:	DRAWING No: HD-74
To Accompany		



STATION	BEARING	DISTANCE	NORTHING	EASTING	ELEVATION
Pass			5527868.242	66060.398	
Face			5529989.328	660541.076	2206.5
80-TP 14	118-18-14		5527220.86	661881.84	2181.6
80-TP 15	189-48-00	59.565	5527162.17	661671.70	2099.0
80-TP 16	298-48-09	146.196	5527159.11	661525.54	2088.6
80-TP 17	3-19-44	47.189	5527206.20	661528.28	2082.5
80-TP 18	47-44-14	53.061	5527241.88	661567.56	2078.6
80-TP 19	53-56-12	52.899	5527272.89	661610.12	2072.6
80-TP 20	294-21-06	94.009	5527311.85	661524.48	2064.4
80-TP 21	47-58-41	92.614	5527373.65	661593.28	2067.1
80-TP 22	326-10-47	113.290	5527467.77	661530.22	2043.1
80-TP 23	5-13-22	61.418	5527529.93	661536.81	2039.2
80-TP 24	52-18-09	81.677	5527578.91	661600.41	2030.7
80-TP 25	277-18-21	103.319	5527696.05	661497.93	2027.2
80-TP 12	246-06-48	99.734	5527651.67	661408.74	2021.0
80-TP 11	131-01-34	10.292	5527644.91	661414.61	2022.8
80-TP 28			5529875.03	660870.43	1935.1
80-TP 29	180-48-00	72.872	5529806.21	660894.39	1936.6
80-TP 30	149-11-16	66.749	5529748.89	660928.58	1939.4
80-TP 31	133-42-56	118.796	5529688.79	661014.44	1950.2
80-TP 32	323-46-46	34.292	5529694.46	660994.18	1948.0
80-TP 7			5527081.25	661386.85	2044.8
80-TP 8	194-13-67	169.427	5526917.02	661386.00	2028.4
80-TP 9	218-13-46	86.817	5526873.33	661326.58	2028.8
80-TP 10	208-39-21	138.334	5526783.70	661255.20	2017.8
80-TP 13	1-38-31	147.882	5527889.31	661410.25	2016.6
80-TP 11			5527542.97	661406.90	2020.9
DH 101	255-43-19	7.851	5527226.32	661388.38	2033.8
80-TP 27			5529886.52	660876.71	1922.4
DH 105	95-19-04	8.185	5529886.86	660882.85	1922.3
DH 106			5527849.82	661308.47	1989.2
80-TP 18			5527155.83	661508.32	2086.4
DH 107	259-11-48	17.526	5527155.83	661508.32	2086.4
80-TP 31			5529853.63	661023.55	1960.5
DH 108	146-18-42	16.000	5527825.81	661397.12	2013.0
80-TP 26			5527832.01	661423.15	2012.5
DH 102	78-36-48	28.781	5527832.01	661423.15	2012.5

- LEGEND**
- ▲ — PLANT 4" NAIL
 - — 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

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.

K-SHELL-TEEPER MOUNTAIN 80(2)A

Sheltech Canada

Crows Nest Resources Limited
ENGINEERING

TEE PEE MOUNTAIN
S.E. B.C.

TRAVERSE SURVEY MAP

AUTHOR: Sheltech SCALE: 1:5 000 ENCLOSURE No:
 DATE: 80 12 08 REVISED: DRAWING No: HI-62B
 To Accompany

K-SHELL TEEPEE MT. 80(3)A

April 30/81
TEEPEE MOUNTAIN
1980 GEOLOGICAL REPORT
SHELL CANADA RESOURCES LTD.
C.L.# 300, 302, 303, 370
299 Borehole Information D Hand y

4446

CONFIDENTIAL

VOLUME 2

TEEPZEE MOUNTAIN

1980 GEOLOGICAL REPORT

COAL LICENCE NO'S: 300, 302, 303, 370

KOOTENAY LAND DISTRICT, BRITISH COLUMBIA

N.T.S. 82G/15

~~LONGITUDE~~ ~~LATITUDE~~: 114°41' NORTH

~~LATITUDE~~ ~~LONGITUDE~~: 49°53' WEST

HELD BY SHELL CANADA RESOURCES LIMITED

OPERATED BY CROWS NEST RESOURCES LIMITED

EXPLORATION PERIOD: JULY - OCTOBER, 1980


APRIL 30, 1981

PREPARED BY: D. HIND

OPEN FILE

00440

encl. 10

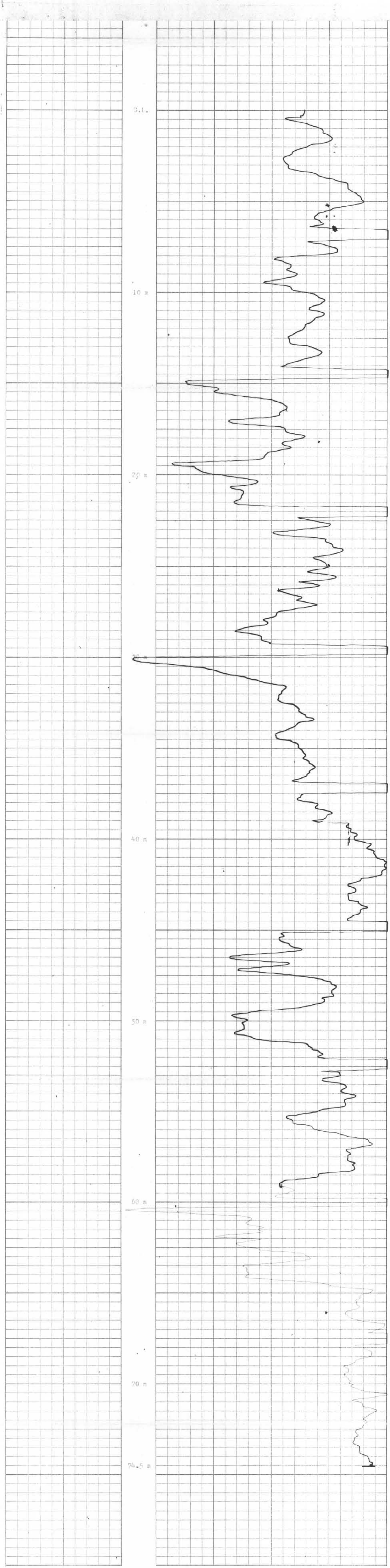
 DAVIES EXPLORATION LOGGING LTD.	
COMPANY	Cross Nest Resources
HOLE NUMBER	TP - 80R - 101
LOCATION	Teetee
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Long Spaced Density
DATE	Sept. 13 1980
DRILLED DEPTH	75 m
LOGGED DEPTH	74.5 m
ZERO DATUM	C.I.
HOLE DIAMETER	5 1/8"
CASING LENGTH	T.D.
REMARKS:	

446

K-SHELLE-TEE MOUNTAIN 80(3)A

23K L.S.D.

15K



end. 10



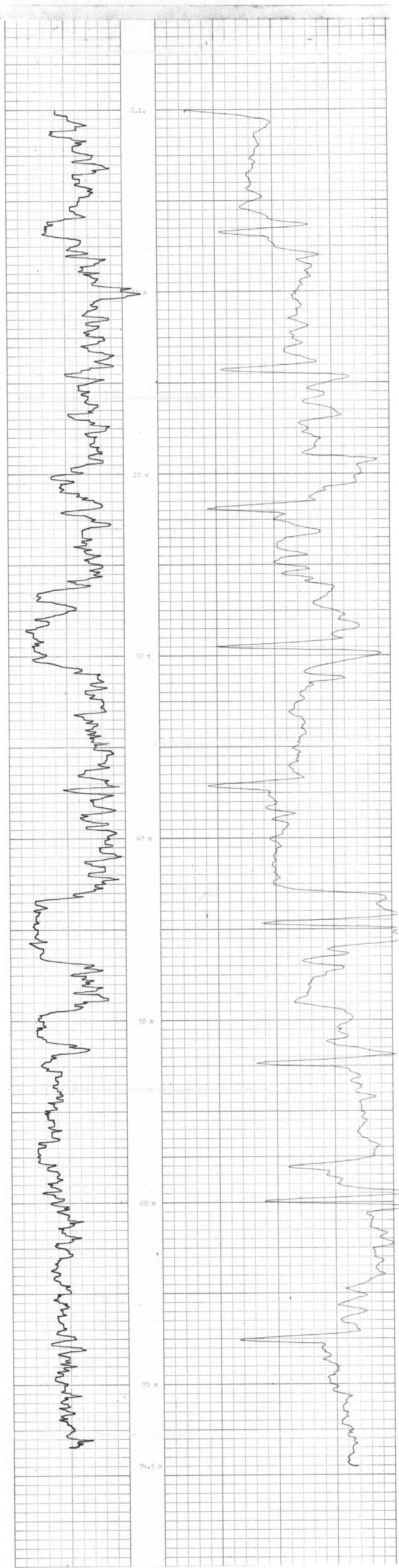
DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	TP. - 80R - 101
LOCATION	Teape
PROVINCE	B.C.
ELEVATION	
LOG TYPE	Natural Gamma & Neutron
DATE	Sept. 13 1960
DRILLED DEPTH	75 m
LOGGED DEPTH	74.5 m
ZERO DATUM	C.I.
HOLE DIAMETER	5 1/8"
CASING LENGTH	T.D.
REMARKS:	

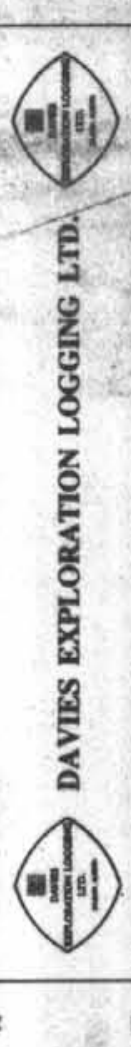
446

K-SHELL-TEAPE MOUNTAIN 80(3)A

0 Natural Gamma 20 200 Neutron 1.2



encl. 10

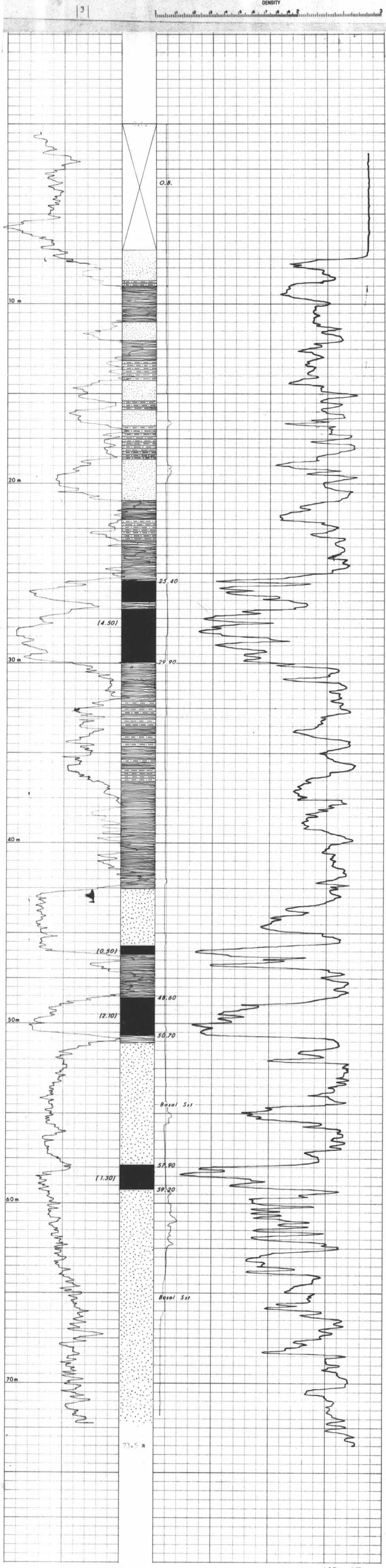


DAVIES EXPLORATION LOGGING LTD.

COMPANY	Gross West Resources
HOLE NUMBER	TP - 80 B - 101
LOCATION	Tee Fee
PROVINCE	B.C.
ELEVATION	
LOG TYPE	CALIPER, NATURAL GAMMA, RESISTIVITY, DENSITY
DATE	Sept., 14 1980
DRILLED DEPTH	73 m
LOGGED DEPTH	73.5 m
ZERO DATUM	C.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	7.5 m
REMARKS:	

446

K-SHELL-TEEPE MOUNTAIN 8033A



HD-67

encl. 11



DAVIES EXPLORATION LOGGING LTD.



COMPANY Crows Nest Resources

HOLE NUMBER FP - 80R - 102

LOCATION Teepee

PROVINCE B.C.

ELEVATION _____

LOG TYPE: NATURAL GAMMA-RESISTIVITY DENSITY

DATE Sept. 14 1980

DRILLED DEPTH _____

LOGGED DEPTH _____

ZERO DATUM C.I.

HOLE DIAMETER 6 1/8"

CASING LENGTH _____

REMARKS: Detail

4446

K-SHELL-TEEPEE MOUNTAIN 80(3)A

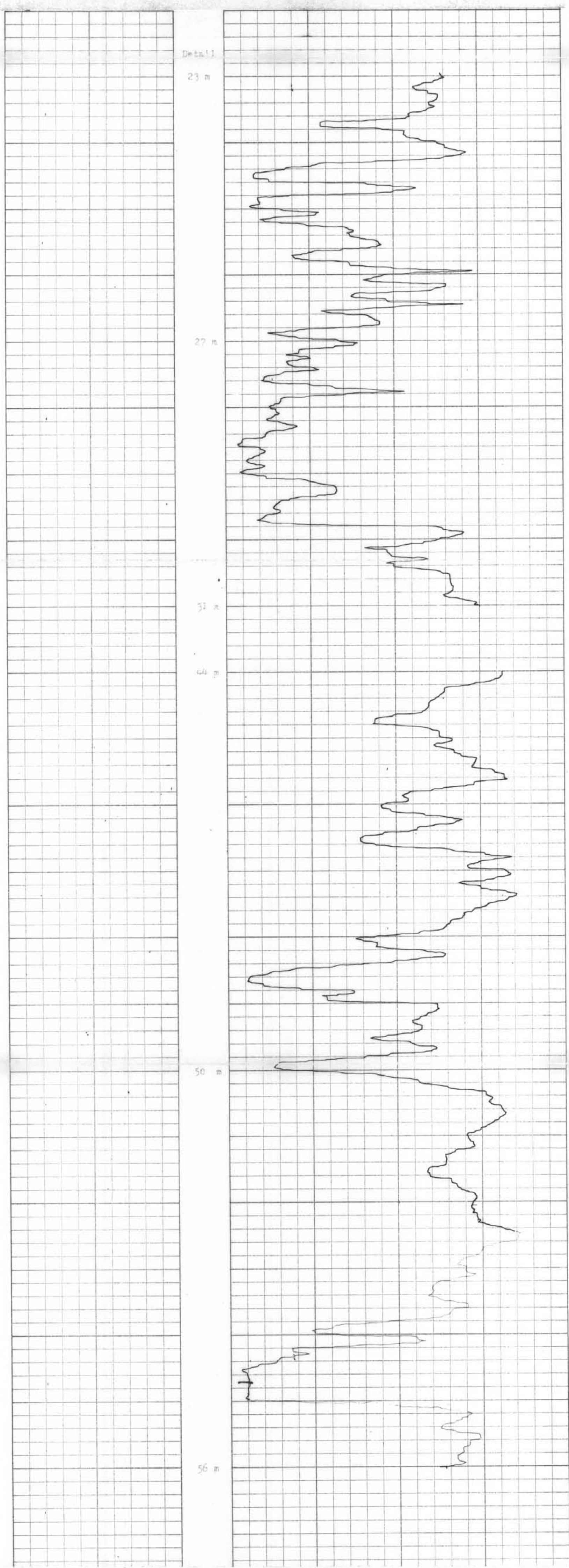
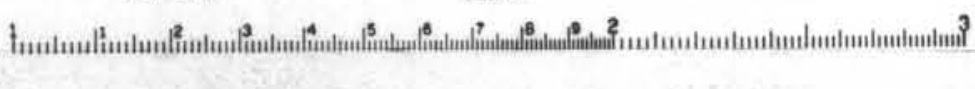
CALIPER: _____

NATURAL GAMMA

RESISTIVITY

Detail

DENSITY



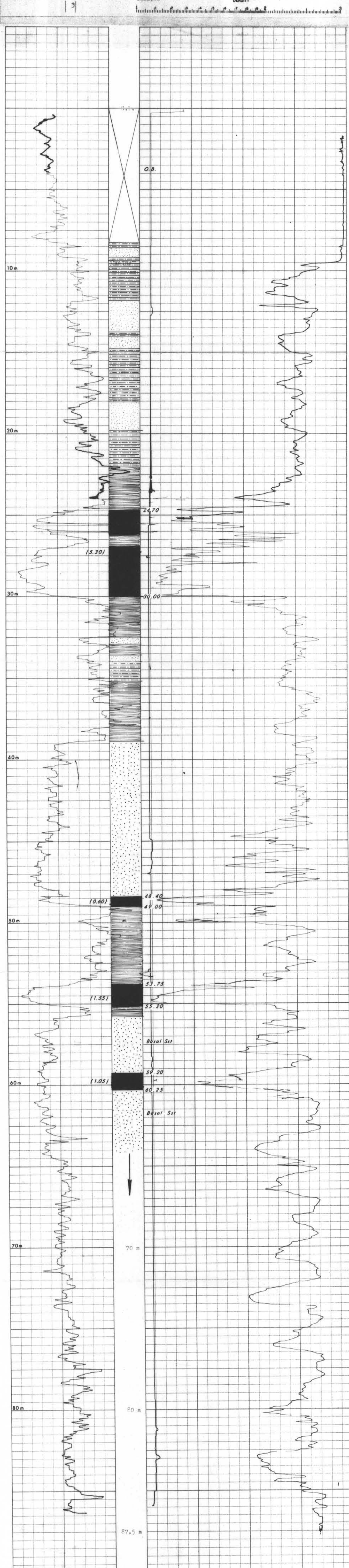
encl. 11

DAVIES EXPLORATION LOGGING LTD.

COMPANY: Cross West Resources
 HOLE NUMBER: TP - 80 B-102
 LOCATION: Teepee
 PROVINCE: B.C.
 ELEVATION: _____
 LOG TYPE: CALIPER, NATURAL GAMMA, RESISTIVITY, DENSITY
 DATE: Sept. 14 1980
 DRILLED DEPTH: 91 m
 LOGGED DEPTH: 87.5 m
 ZERO DATUM: G.L.
 HOLE DIAMETER: 6 1/8"
 CASING LENGTH: 9.5 m
 REMARKS: _____

446

K-SHELL-TEEPEE MOUNTAIN 80(3) A



encl. 12



DAVIES EXPLORATION LOGGING LTD.



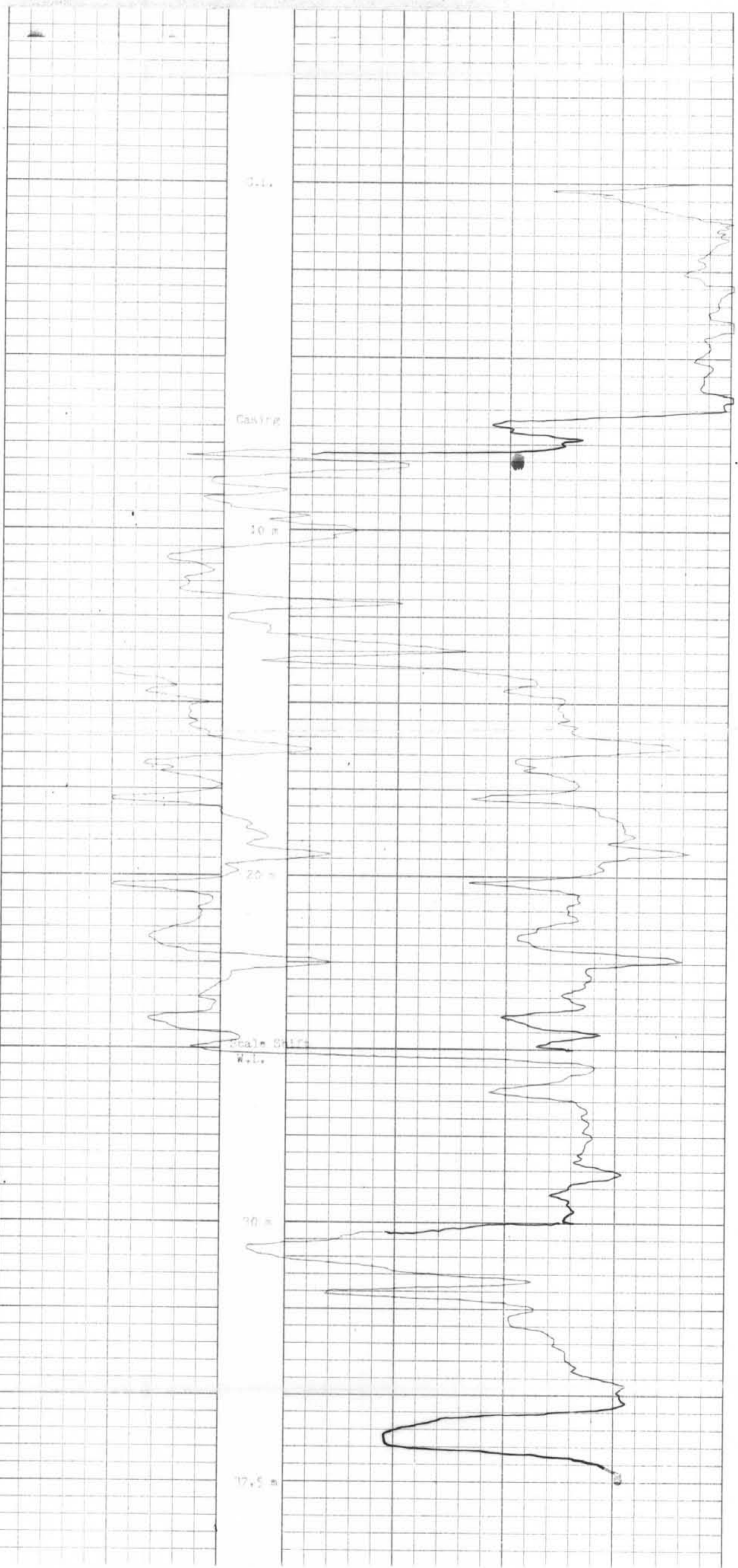
COMPANY	Crows Nest Resources
HOLE NUMBER	TP - 80 D - 103
LOCATION	Teepee
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Long Spaced Density
DATE	Sept. 16 1980
DRILLED DEPTH	38 m
LOGGED DEPTH	37.5 m
ZERO DATUM	C.L.
HOLE DIAMETER	HQ.
CASING LENGTH	6.8 m
REMARKS:	

4446



K-SHELL-TEEPEE MOUNTAIN 80(3)A

21 K 25 m to G.L.
12K 16S.D.

13K
4K



encl. 12

 DAVIES EXPLORATION LOGGING LTD. 	
COMPANY	Crows Nest Resources
HOLE NUMBER	TP - 80 D - 103
LOCATION	Teepee
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Natural Gamma & Neutron
DATE	Sept. 16 1980
DRILLED DEPTH	38 m
LOGGED DEPTH	37 m
ZERO DATUM	C.I.
HOLE DIAMETER	HC
CASING LENGTH	
REMARKS:	

4446

K-SHELL-TEEPEE MOUNTAIN 80(3)A

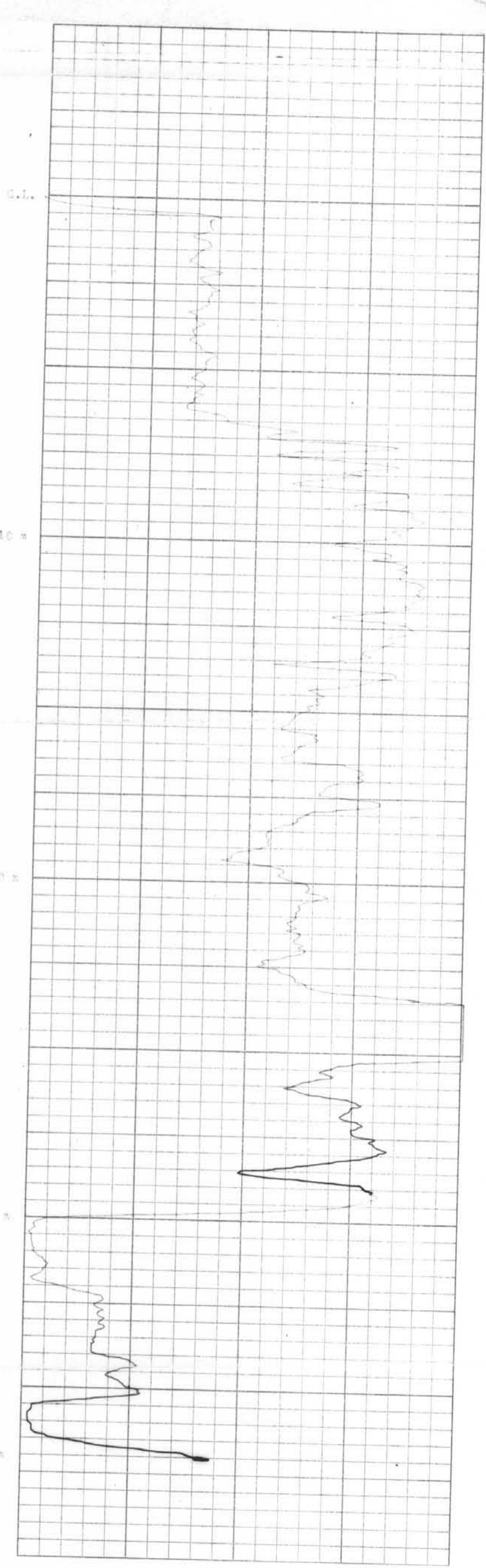
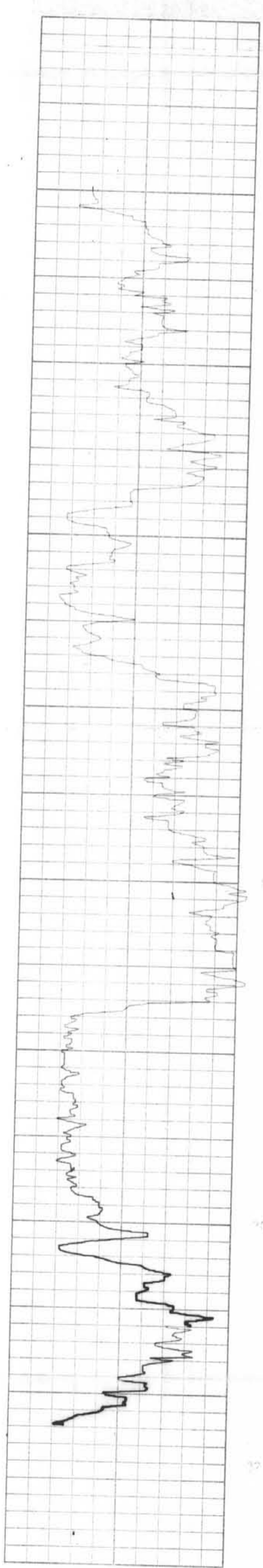
0 Natural Gamma

25

150

Neutron

1150



encl. 12



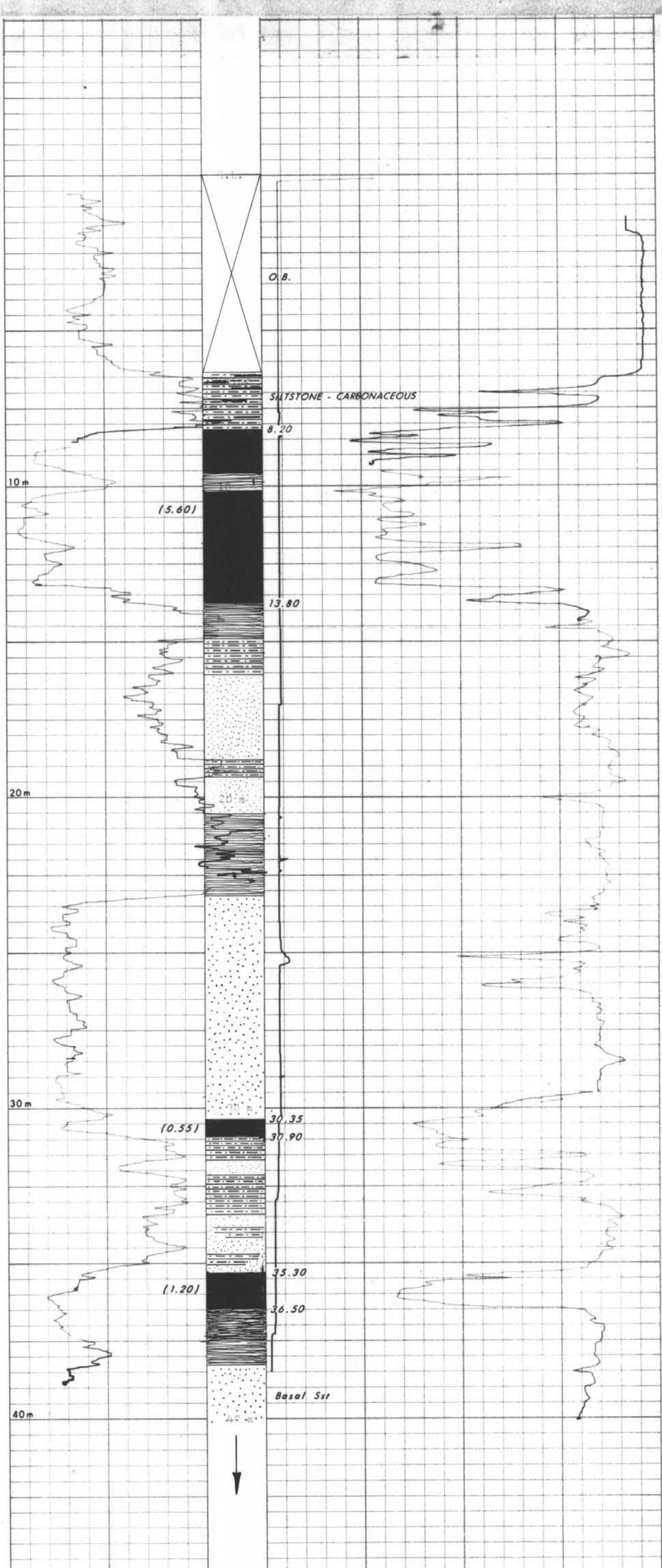
DAVIES EXPLORATION LOGGING LTD.

COMPANY	Cross West Resources
HOLE NUMBER	TP 20 B - 103
LOCATION	Teepee
PROVINCE	B.C.
ELEVATION	
LOG TYPE	CALIPER, NATURAL GAMMA, RESISTIVITY, DENSITY
DATE	Sept. 16 1980
DRILLED DEPTH	59 m
LOGGED DEPTH	40 m
ZERO DATUM	C.L.
HOLE DIAMETER	HC.
CASING LENGTH	7 m
REMARKS	Drift 1' @ 38'

4446

K-SPELL-TEEPEE MOUNTAIN 80(3)A

CALIPER NATURAL GAMMA RESISTIVITY Caliper DENSITY



HD-67B

encl. 13



DAVIES EXPLORATION LOGGING LTD.



COMPANY Cross Nest Resources

HOLE NUMBER TP - 8QR - 104

LOCATION Teepee

PROVINCE B.C.

ELEVATION

LOG TYPE: CALIBER, NATURAL GAMMA, RESISTIVITY, DENSITY

DATE Sept. 16 1980

DRILLED DEPTH 23 m

LOGGED DEPTH 22 m

ZERO DATUM C.L.

HOLE DIAMETER ~6 1/8"

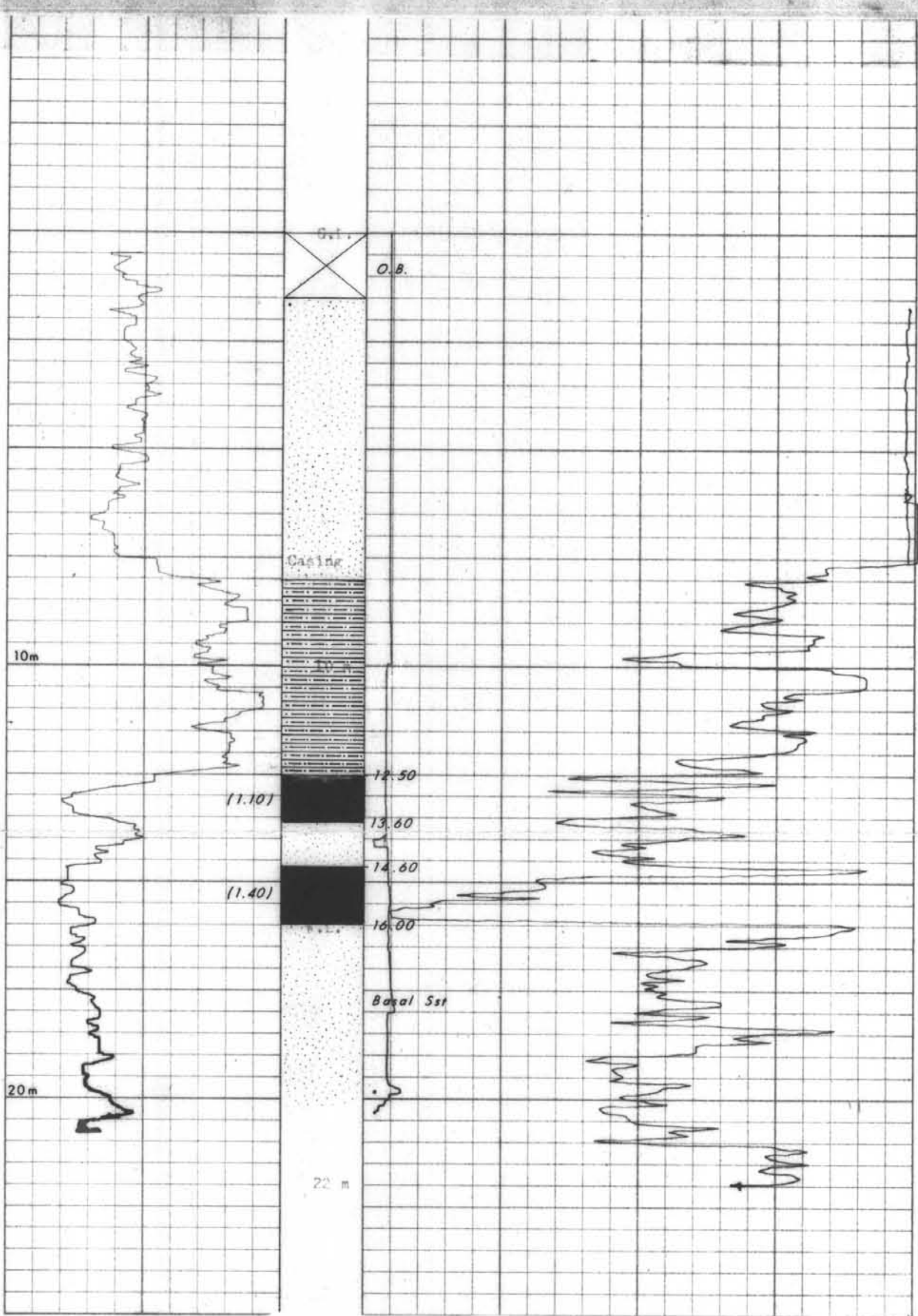
CASING LENGTH 7.7 m

REMARKS

4446

K-SPELL-TEEPEE MOUNTAIN 80(3)A

CALIBER NATURAL GAMMA RESISTIVITY Caliper DENSITY



HD-67C

encl. 14



DAVIES EXPLORATION LOGGING LTD.



COMPANY Crows Nest Resources

HOLE NUMBER TP - 80 R - 105

LOCATION Teepee

PROVINCE B.C.C.

ELEVATION

LOG TYPE: CALIPER, NATURAL GAMMA, RESISTIVITY, DENSITY

DATE Spet., 17 1980

DRILLED DEPTH 25 m

LOGGED DEPTH 24.5 m

ZERO DATUM G.L.

HOLE DIAMETER 6 1.8"

CASING LENGTH 9.5 m

REMARKS:

4446

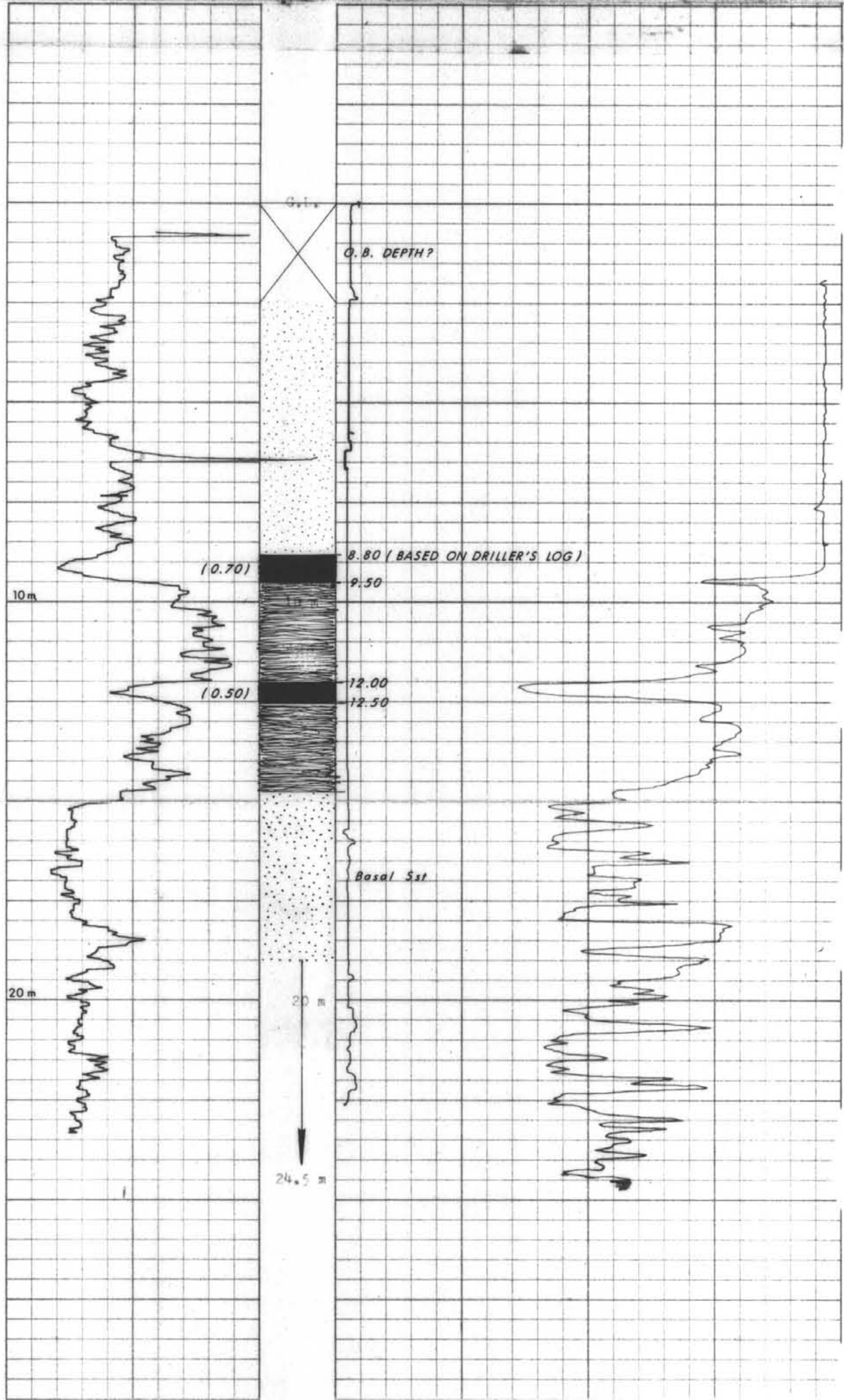
K-SHELL-TEEPEE MOUNTAIN 80(3)A

CALIPER

NATURAL GAMMA

RESISTIVITY
Caliper

DENSITY



HD-67D

encl. 15



DAVIES EXPLORATION LOGGING LTD.



COMPANY Crows Nest Resources

HOLE NUMBER TP - 80 R - 106

LOCATION Teepee

PROVINCE B.C.

ELEVATION

LOG TYPE: CALIPER, NATURAL GAMMA, RESISTIVITY, DENSITY

DATE Sept. 17 1980

DRILLED DEPTH 25 m

LOGGED DEPTH 22.5 m

ZERO DATUM C.I.

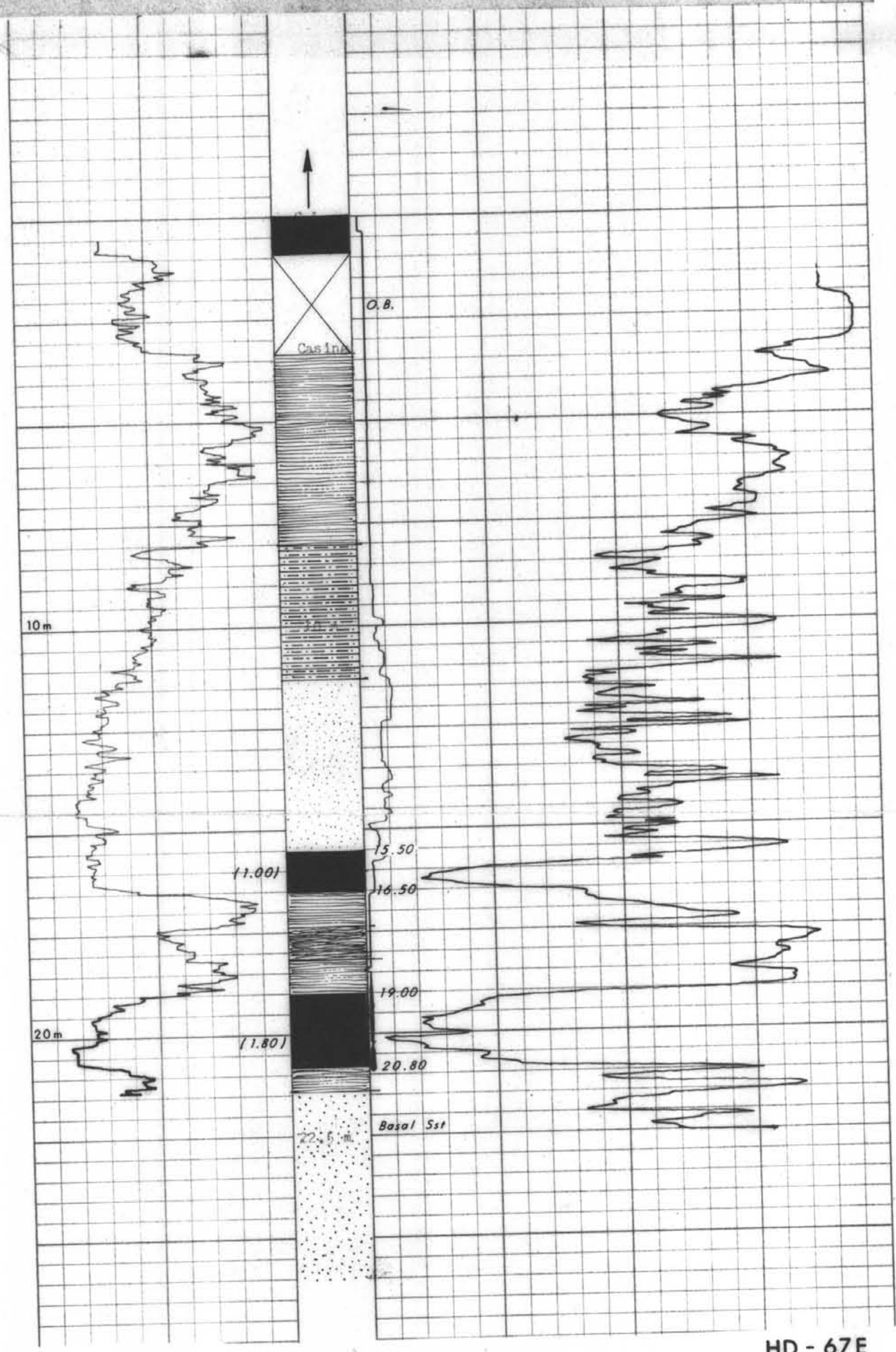
HOLE DIAMETER 6 1/8"

CASING LENGTH 3.2 m

REMARKS:



4446

K-SHELL-TEEPEE MOUNTAIN
80(3)A



HD - 67E

encl. 16

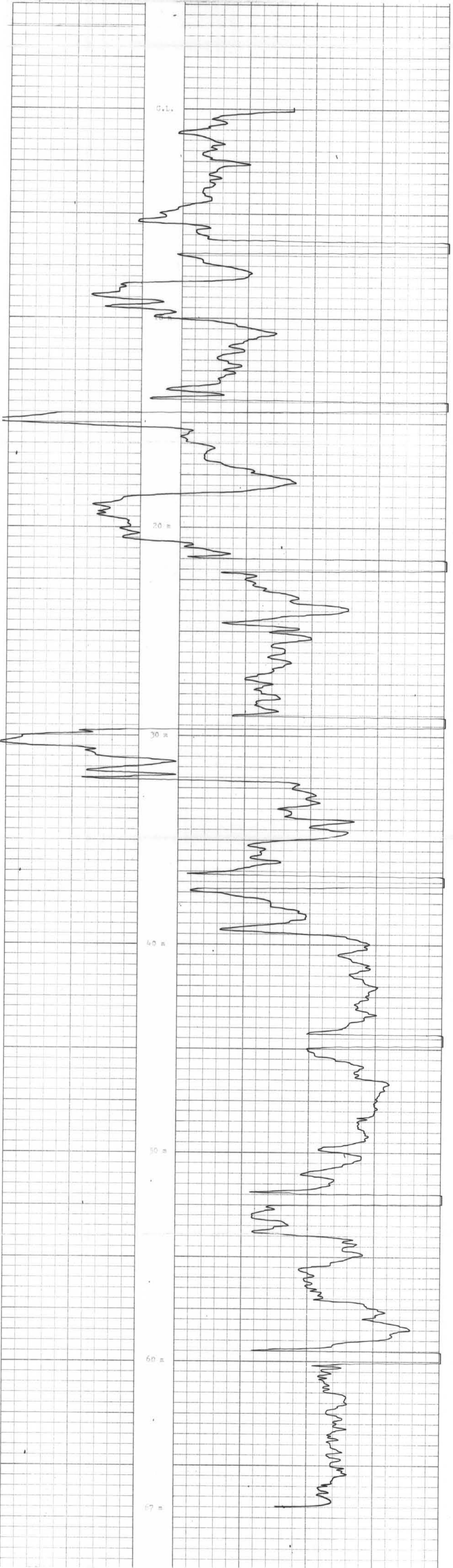
 DAVIES EXPLORATION LOGGING LTD. 	
COMPANY	Crows Nest Resources
HOLE NUMBER	TP - 80R - 107
LOCATION	Teepee
PROVINCE	B.C.
ELEVATION	
LOG TYPE	Long Spaced Density
DATE	Sept. 30 1980
DRILLED DEPTH	68 m
LOGGED DEPTH	67 m
ZERO DATUM	C.I.
HOLE DIAMETER	6 1/8"
CASING LENGTH	T.D.
REMARKS	

446

K-SHELL-TEEPEE MOUNTAIN
80L3)A

18K L.S.D.

13K



encl. 16

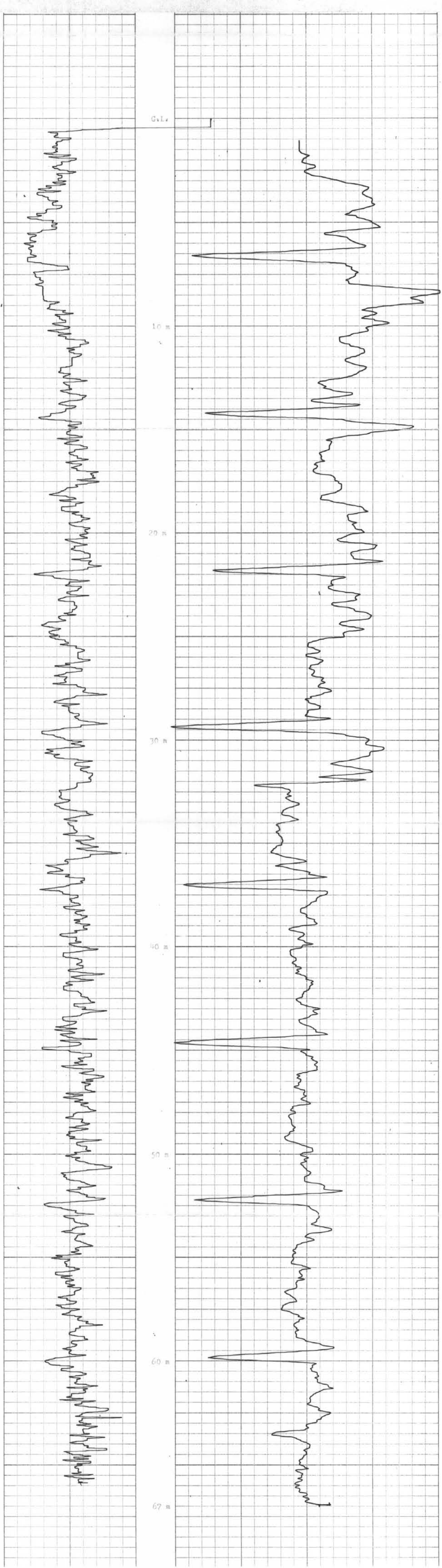


COMPANY	Crows Nest Resources
HOLE NUMBER	TP - 80R - 107
LOCATION	Teetee
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Natural Gamma & Neutron
DATE	Sept. 30 1980
DRILLED DEPTH	68 m
LOGGED DEPTH	67 m
ZERO DATUM	G.L.
HOLE DIAMETER	6 1/8"
CASING LENGTH	T.D.
REMARKS:	

446

K-SHELL-TEETEE MOUNTAIN
80(3)A

0 Natural Gamma 25 200 Neutron 1K



encl. 16



DAVIES EXPLORATION LOGGING LTD.

COMPANY: Cross Nest Resources

HOLE NUMBER: TP - 80R - 107

LOCATION: Teepee

PROVINCE: B.C.

ELEVATION

LOG TYPE: CALIPER, NATURAL GAMMA, RESISTIVITY, DENSITY

DATE: Sept. 30 1980

DRILLED DEPTH: 68 m

LOGGED DEPTH: 66 m

ZERO DATUM: G.I.L.

HOLE DIAMETER: 6 1/8"

CASING LENGTH: 5.8 m

REMARKS:

446

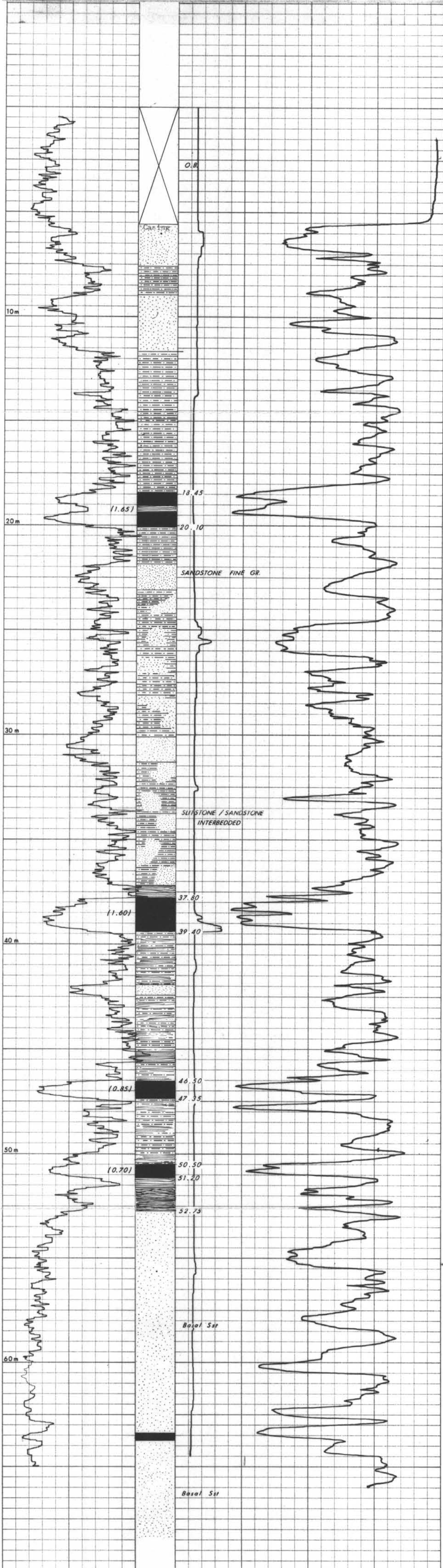
X-SHELL-TEEPEE MOUNTAIN 80(3)A

CRIPER

NATURAL GAMMA

RESISTIVITY
Caliper

DENSITY



encl. 17



DAVIES EXPLORATION LOGGING LTD.

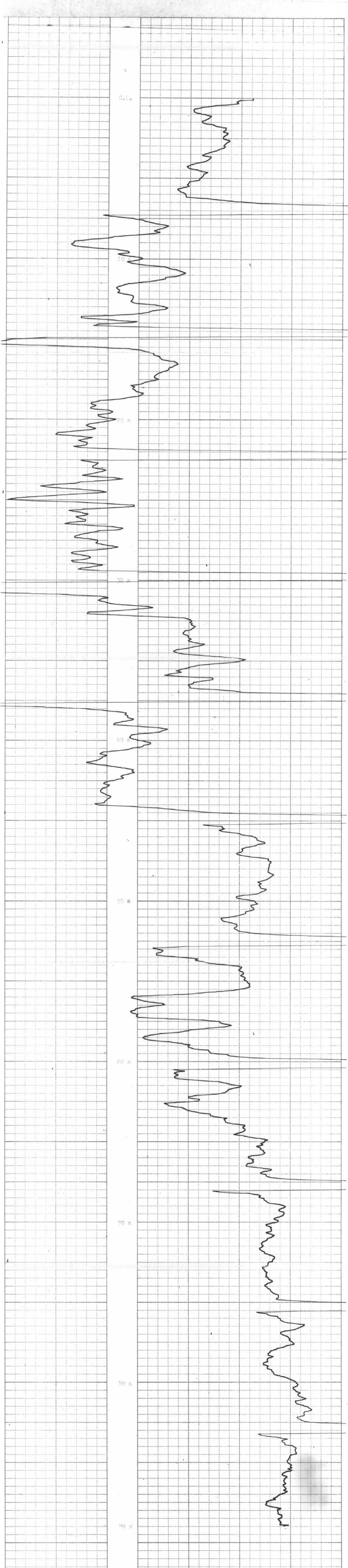
COMPANY	Crows Nest Resources
HOLE NUMBER	TP - 108
LOCATION	Teepee
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Long Spaced Density
DATE	Oct. 1 1980
DRILLED DEPTH	91 m
LOGGED DEPTH	89 m
ZERO DATUM	C.I.
HOLE DIAMETER	6 1/8"
CASING LENGTH	T.D.
REMARKS:	

446

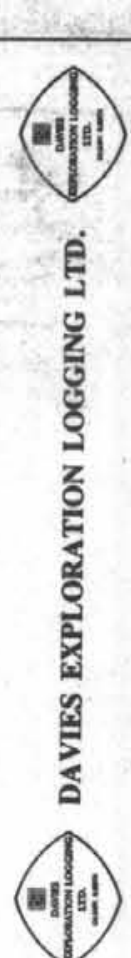
K-SHELL-TEEPEE MOUNTAIN
80(3)A

18X L.S.D.

131



encl. 17



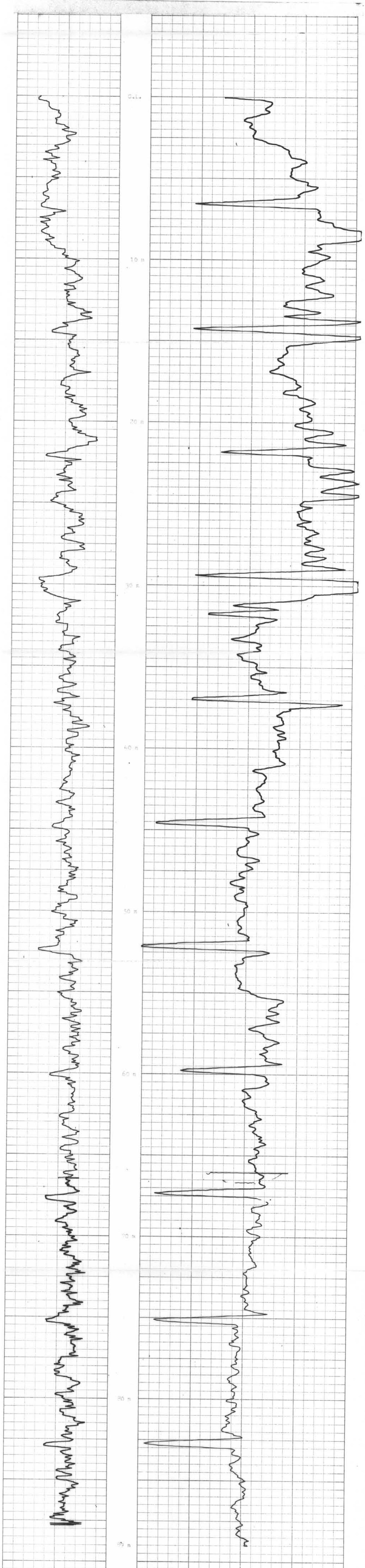
DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	TF - 80R - 108
LOCATION	Teepee
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Natural Gamma & Neutron
DATE	Oct. 1 1980
DRILLED DEPTH	93 m
LOGGED DEPTH	89 m
ZERO DATUM	C.I.
HOLE DIAMETER	6 1/8"
CASING LENGTH	T.D.
REMARKS:	

446

K-SHELL-TEEPEE MOUNTAIN 80(3)A

0 Natural Gamma 25 200 Neutron 1K



encl. 17

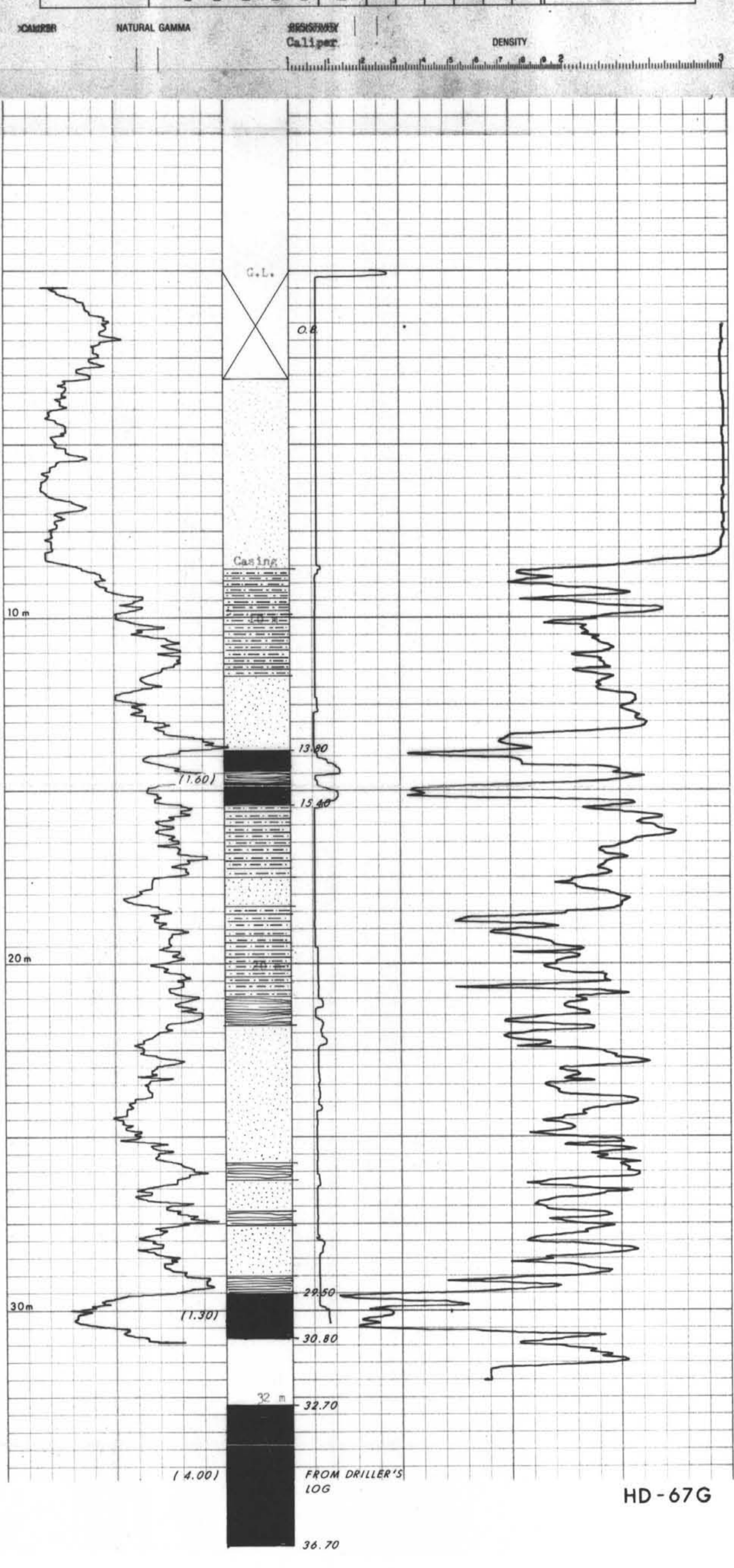


DAVIES EXPLORATION LOGGING LTD.

COMPANY Croms West Resources
 HOLE NUMBER TP - 80R-108
 LOCATION Teepes
 PROVINCE B.C.
 ELEVATION _____
 LOG TYPE: CALIPER, NATURAL GAMMA, RESISTIVITY, DENSITY
 DATE Oct. 1 1980
 DRILLED DEPTH 92 m
 LOGGED DEPTH 32 m
 ZERO DATUM G.L.
 HOLE DIAMETER 6 1/8"
 CASING LENGTH 8 m
 REMARKS _____

446

K-SHELL-TEEPES MOUNTAIN 80(3)A



HD-67G

446

K-SHELL-TEEPEE MOUNTAIN 80(3)A

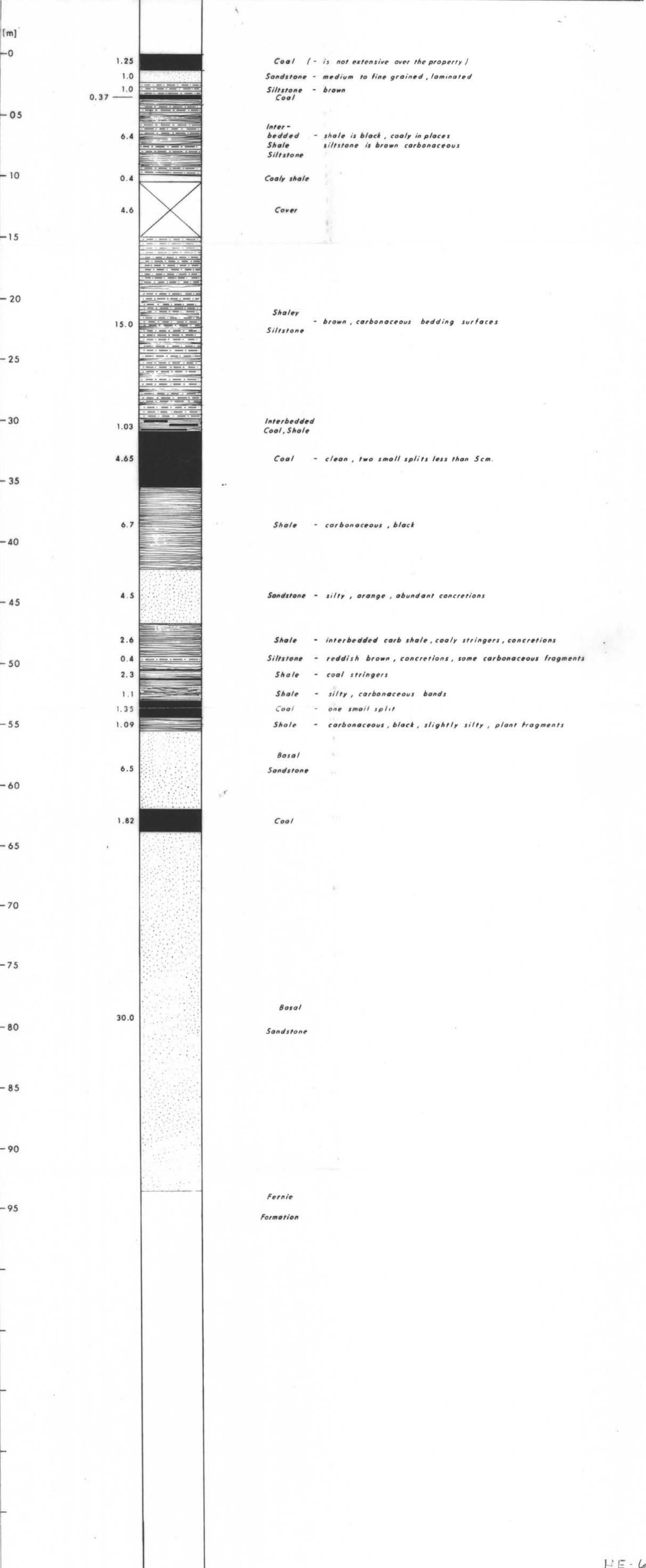
STRATIGRAPHIC SECTION

DESIGNATION:

PROJECT: TEEPEE MOUNTAIN
 AREA: SOUTHEAST B. C.
 LOCATION: SEE GEOLOGICAL MAP

80 - 01	PART _____ OF _____
AUTHOR: S. CARR	DATE: 19 80 11 13
SOURCE OF DATA: MEASURED BACKHOE TRENCH	

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



446

K - SHELL-TEEPEE MOUNTAIN 80(3)A

STRATIGRAPHIC SECTION

DESIGNATION: 80 - 02 PART _____ OF _____

PROJECT: TEEPEE MOUNTAIN

AUTHOR: D. HANDY DATE: 1981 · 02 · 19

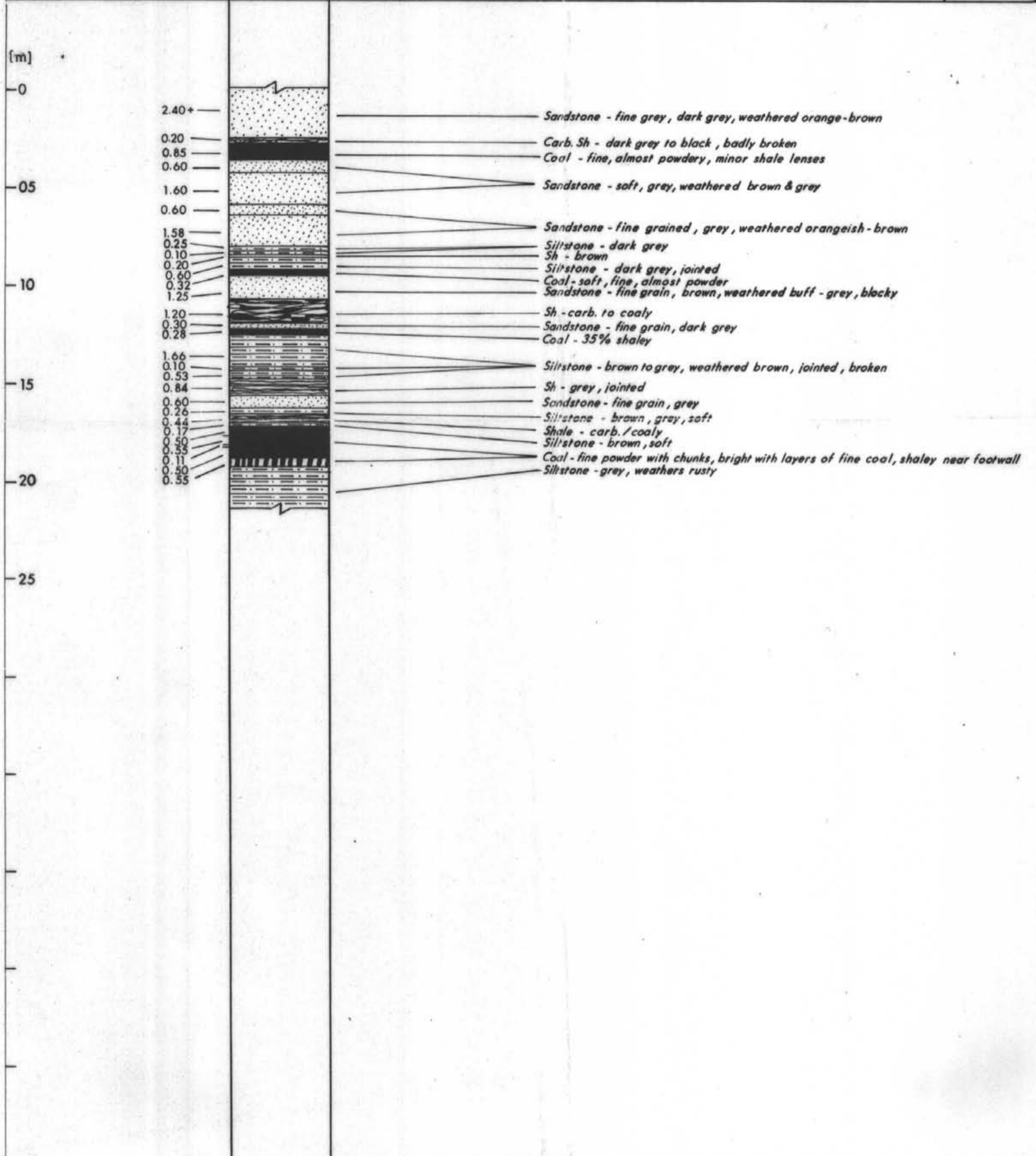
AREA: S.E. BRITISH COLUMBIA

SOURCE OF DATA:

LOCATION: SEE GEOLOGICAL MAP

MEASURED BACKHOE TRENCH

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



K-SHELL-TEEPEE MT. 80(4)A

April 30/81

TEEPEE MOUNTAIN
1980 GEOLOGICAL REPORT
SHELL CANADA RESOURCES LTD.

C.L.# 300, 302, 303, 370

299

COAL QUALITY DATA

D. Handy

446

TEEPEE MOUNTAIN 1980

SEAM 9 Main

SAMPLED IN HOLE	SAMPLE INTERVAL	DRILL BASIS	MOISTURE (%)	ASH (%)	V.M. (%)	F.C. (%)	FSI	SULPHUR (%)	YIELD (%)	BTU/LB
TP-80R-101 (drill cuttings)	25.15 - 31.30 (6.15)	1.6 float	1.58	10.26	20.46	67.70	0		46.89	
TP-80R-102 (drill cuttings)	24.81 - 30.05 (5.24)	1.6 float	1.66	9.98	22.51	65.85	0		58	
TP-80D-103 (drill core)	8.20 - 13.70 (5.50)	1.6 float	1.73	10.06	21.60	66.61	0	0.42	58	6717
TP-80R-104 (drill cuttings)	12.50 - 15.70 (3.20)	1.6 float	1.49	10.45	19.81	68.25				
Average		1.6 float	1.62	10.19	21.10	67.10	0			

CONFIDENTIAL

CONFIDENTIAL

776
BRANCH REPORT

CONFIDENTIAL

K-TEEPEE MOUNTAIN SEC (4) H

TEEPEE MOUNTAIN 1980Seam 10a

SAMPLED IN HOLE	SAMPLE INTERVAL	AIR DRIED BASIS	MOISTURE (%)	ASH (%)	V.M. (%)	F.C. (%)	FSI	SULPHUR (%)	YIELD (%)	KCAL/ KG
TP-80R-101 (drill cuttings)	48.80 - 50.60 (1.85)	1.6 float	1.68	12.54	21.92	63.86	0		0.75	

TEEPEE MOUNTAIN 1980BASAL SEAM

SAMPLED IN HOLE	SAMPLE INTERVAL	AIR DRIED BASIS	MOISTURE (%)	ASH (%)	V.M. (%)	F.C. (%)	FSI	SULPHUR (%)	YIELD (%)	FCAL/ FC
TP-80R-101 (drill cuttings)	58.00 - 59.20 (1.20)	1.6 float	1.53	13.42	21.88	63.17	0		49	
TP-80D-103 (drill core)	30.4 - 31.4 (1.0)	1.6 float	2.95	9.75	26.19	61.11	0	0.62	38	6260
	35.3 - 36.8 (1.5)	1.6 float	2.11	11.47	25.46	60.96	0	0.47	84	6039
	Weighted Average	1.6 float	2.45	10.78	25.75	61.02	0	0.53	66	6127
Average from holes 101 and 103		1.6 float	1.99	12.10	23.82	62.10	0		58	

