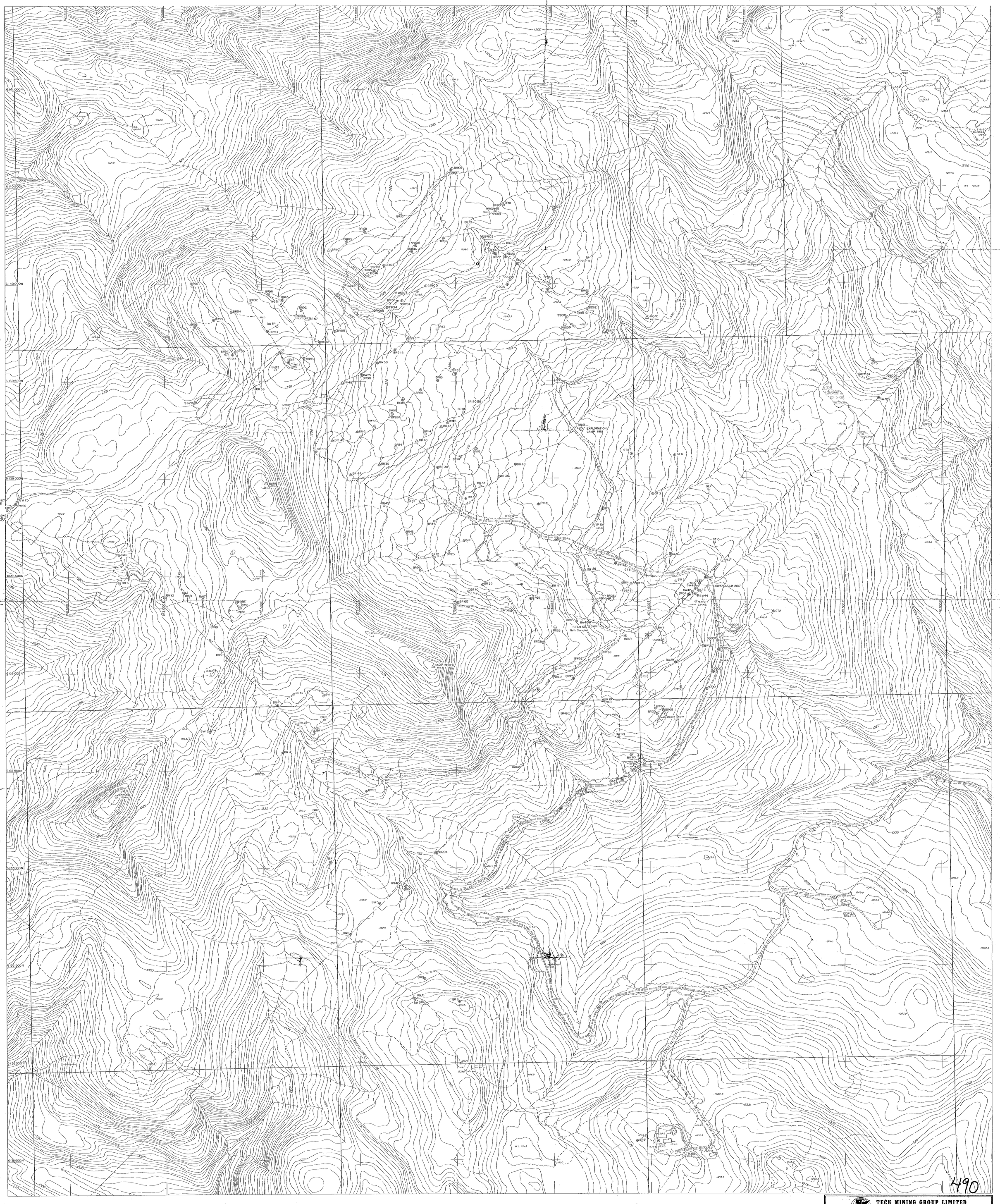


MAP COMPILED FROM AERIAL PHOTOGRAPHS TAKEN OCTOBER 2, 1980, ROLL No. BR 80057
VERTICAL DATUM - GEODETIC
GRID - U.T.M.
CONTOUR INTERVAL - 5 METRES
REVISED FROM AERIAL PHOTOGRAPHS TAKEN OCTOBER 20, 1981 ROLL No. BR81071

COMPILED BY
burnett resource survey ltd.
CARTOGRAPHERS · PHOTOGRAMMETRISTS · SURVEYORS

LEGEND

BUILDING	
ROAD - Unpaved	
TRAIL	
CUTLINE	
TREES	
STREAM - LAKE	
STREAM - Indefinite	
SWAMP	
SPOT ELEVATION	·1344.6
CONTOUR - Index	1200
- Intermediate	
- Indefinite	
CONTROL POINTS	△ KNOB
COORDINATED DRILL HOLE	△
DRILL HOLE	⊕

TECK MINING GROUP LIMITED

BURNT RIVER PROPERTY

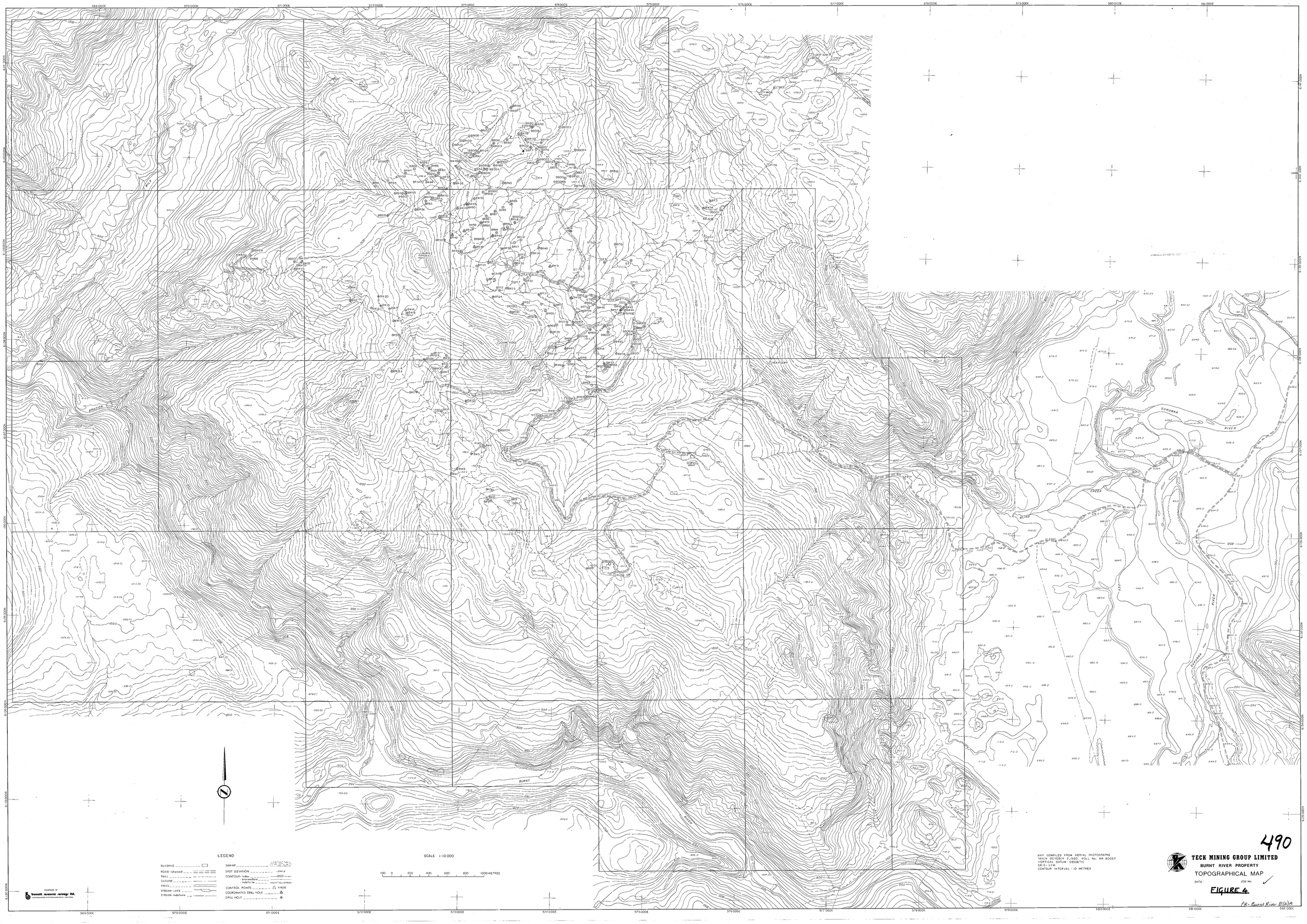
PR-Burnt River 81(2)A

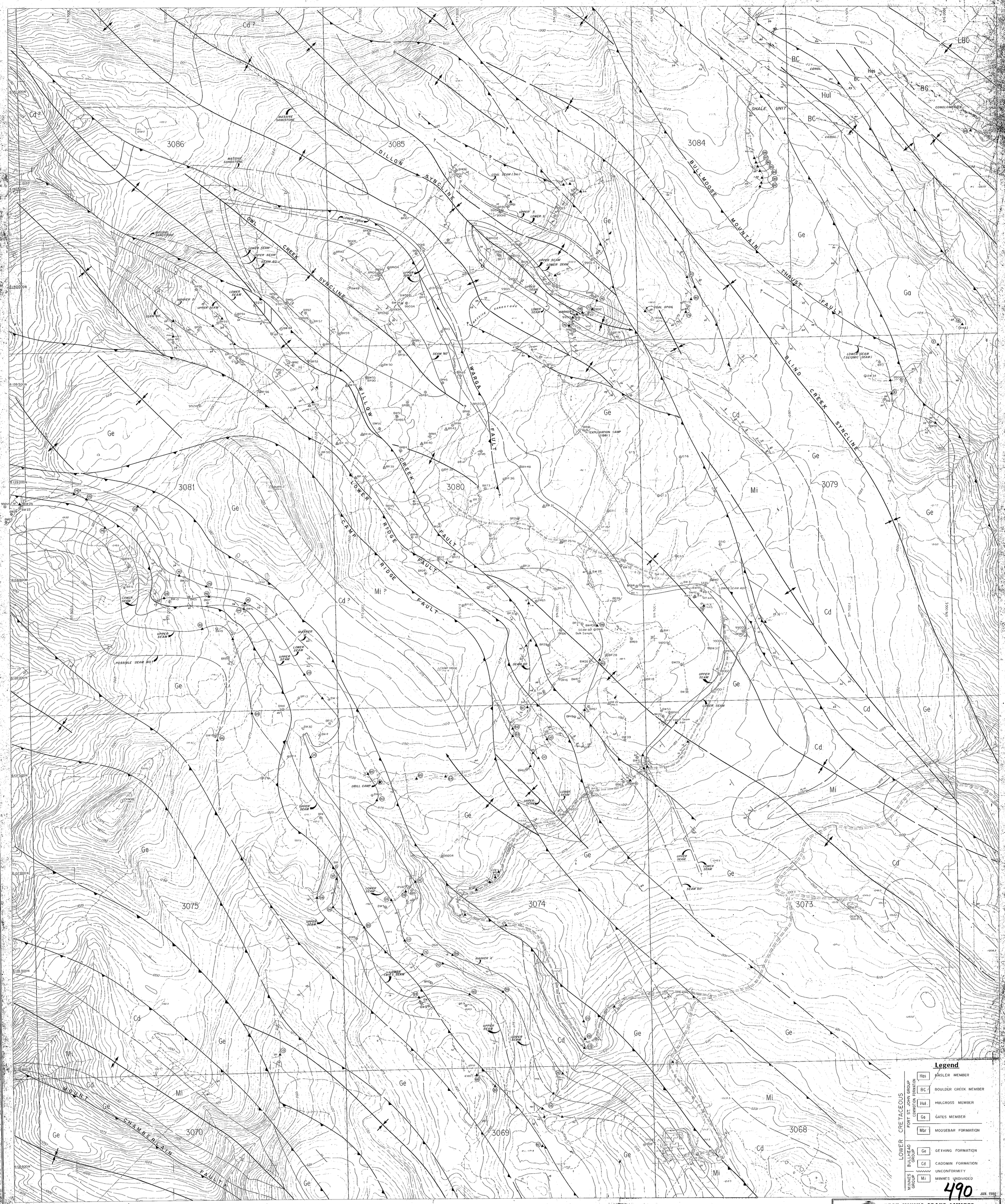
FIGURE 3

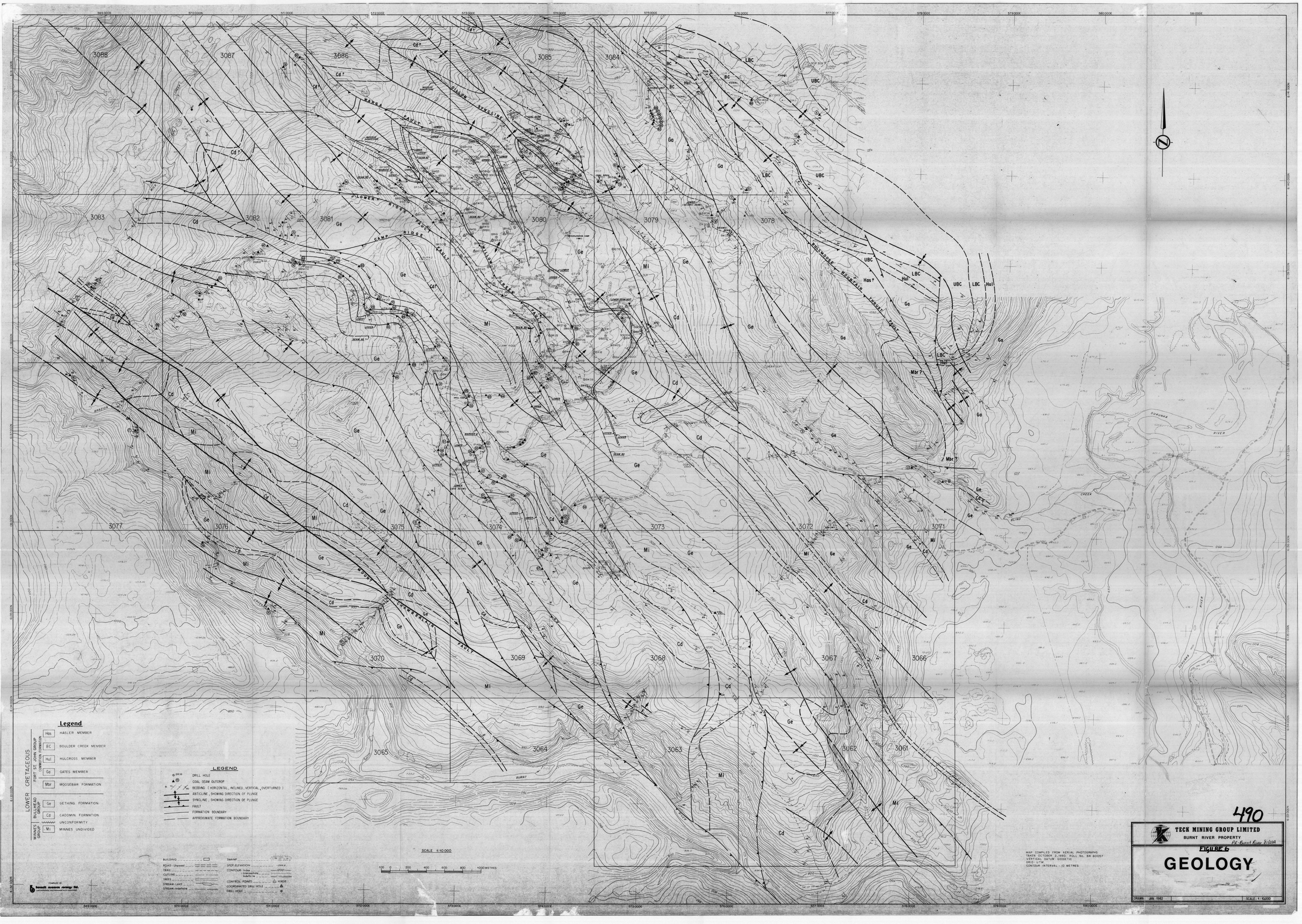
TOPOGRAPHIC MAP

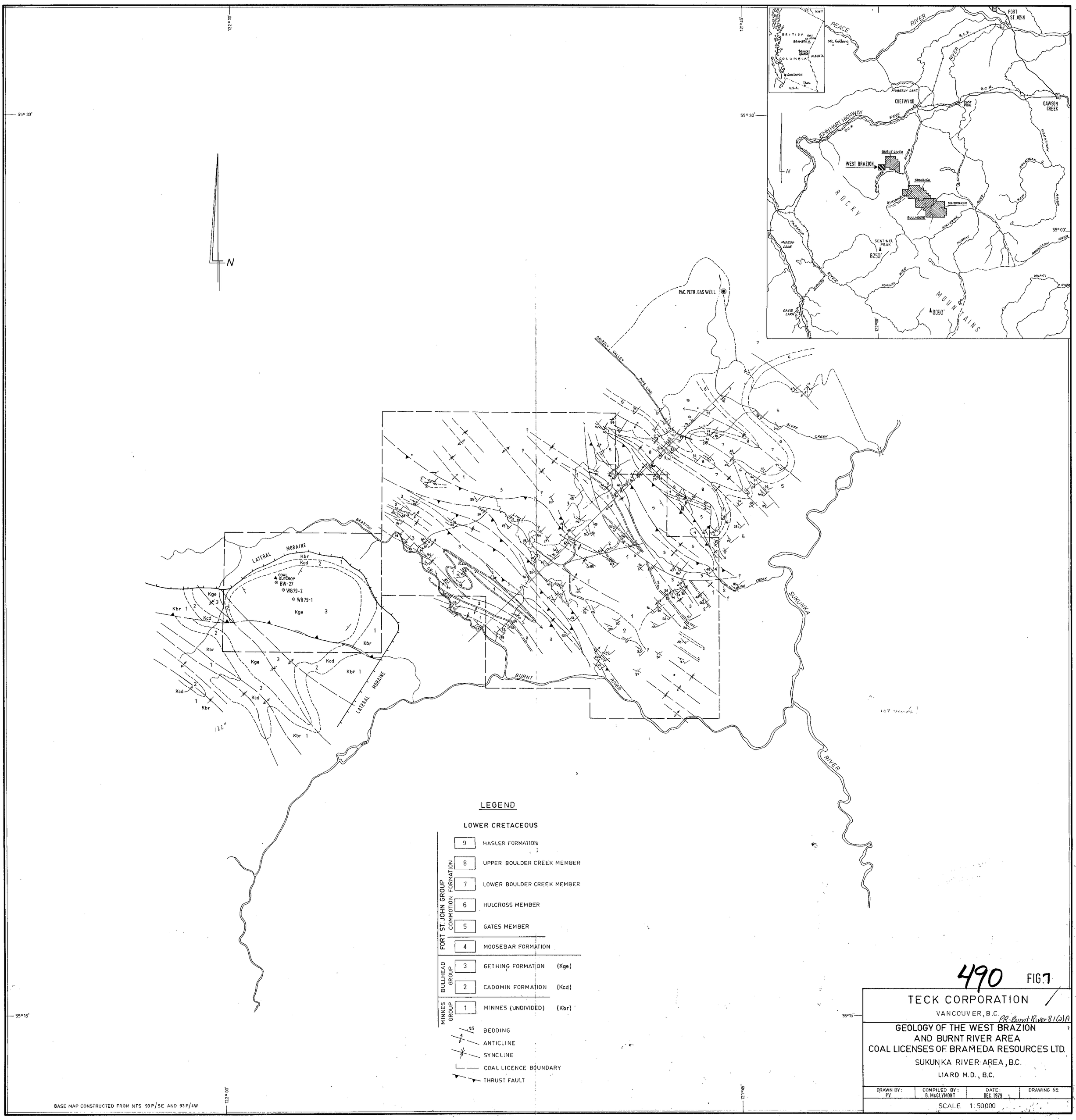
1:5000

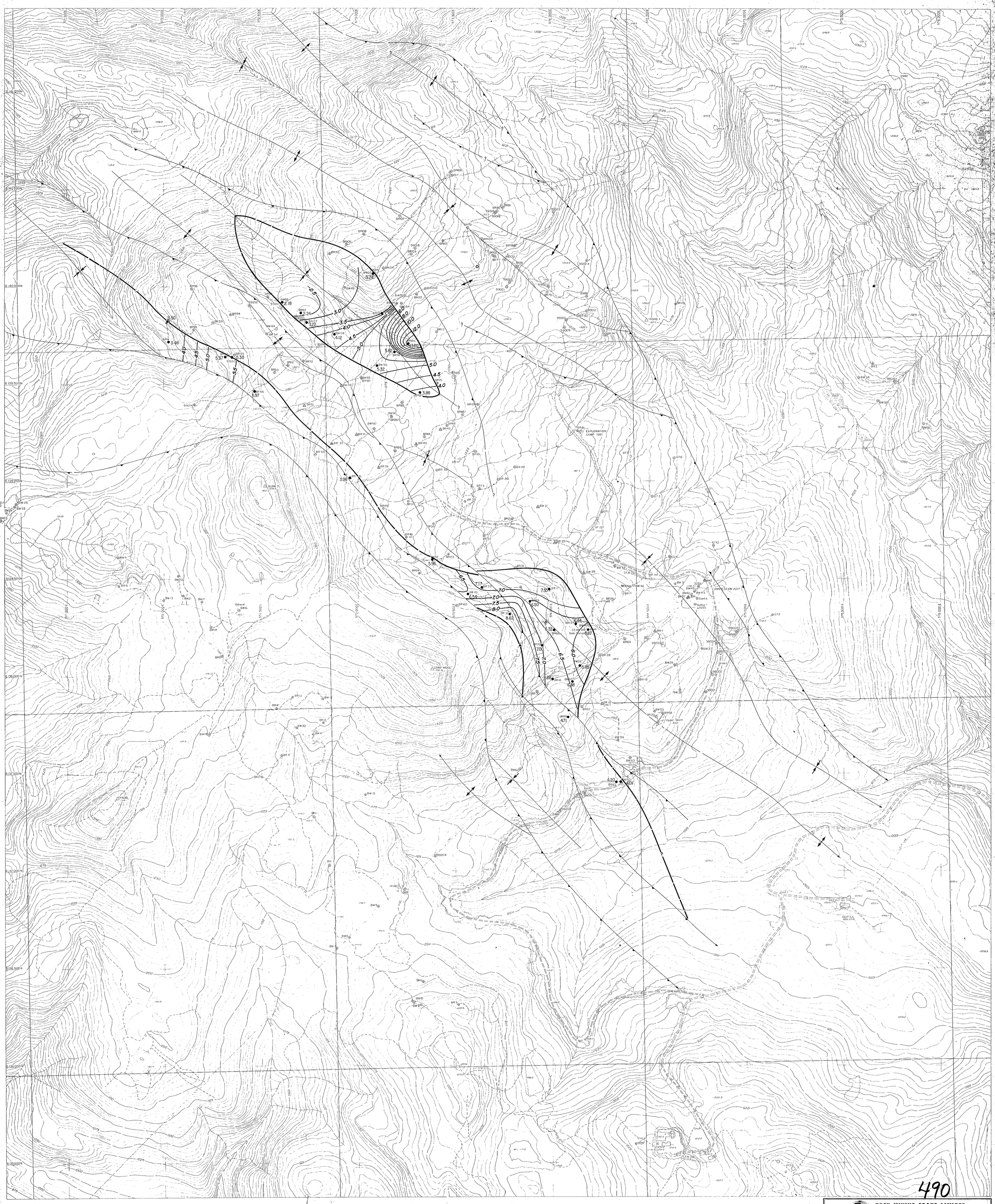
METRES 100 0 100 200 300 400 500 METRES


BURNT
RIVER
SUKUNKA
RIVER
BLIND
CREEK
CAMP RIDGE
LEGEND
BUILDING
ROAD - Unpaved
TRAIL
CUTLINE
TREES
STREAM - LAKE
STREAM - Indefinite
SWAMP
SPOT ELEVATION
CONTOUR - Index
Intermediate
Indefinite
CONTROL POINTS
COORDINATED DRILL HOLE
DRILL HOLE
SCALE 1:10 000
100 0 200 400 600 800 1000 METRES
COMPILED BY
bunnell resource survey ltd.
AEROSPACE PHOTOGRAMMETRY LIMITERS
MAP COMPILED FROM AERIAL PHOTOGRAPHS
TAKEN OCTOBER 2, 1980. ROLL No. BR 80037
VERTICAL DATUM : GEODETIC
GRID : UTM
CONTOUR INTERVAL : 10 METRES
TECK MINING GROUP LIMITED
BURNT RIVER PROPERTY
TOPOGRAPHICAL MAP
DATE:
JOB No:
FIGURE 4
490
FR- Burnt River 81(a)A


DILLON SYNCLINE
OWL CREEK SYNCLINE
WILLOW CREEK SYNCLINE
WARGA FAULT
LOWER RIDGE FAULT
CAMP RIDGE FAULT
BULLMOOSE MOUNTAIN THRUST FAULT
BLIND CREEK SYNCLINE
MOUNT CHAMBERLAIN FAULT
EXPLORATION CAMP (1981)
DRILL CAMP
SHALE UNIT
CONGL.
CONGLOMERATE
COAL SEAM (3m)
MASSIVE SANDSTONE
COAL SPOIL
3086
3085
3084
3081
3080
3079
3075
3074
3073
3070
3069
3068
Cd ?
Cd
Ge
Ga
Mi
BC
Has
Hul
LBC
Legend
LOWER CRETACEOUS
FORT ST. JOHN GROUP
CORNOTON FORMATION
Has HASLER MEMBER
BC BOULDER CREEK MEMBER
Hul HULCROSS MEMBER
Ga GATES MEMBER
Mbr MOOSEBAR FORMATION
BULLHEAD GROUP
Ge GETHING FORMATION
Cd CADOMIN FORMATION
UNCONFORMITY
MINNES GROUP
Mi MINNES UNDIVIDED
490
JAN. 1982
LEGEND
BUILDING
ROAD - Unpaved
TRAIL
CUTLINE
TREES
STREAM - LAKE
STREAM - Indefinite
SWAMP
SPOT ELEVATION
CONTOUR - Index
- Intermediate
- Indefinite
CONTROL POINTS
KNOB
COORDINATED DRILL HOLE
DRILL HOLE
LEGEND
DRILL HOLE
COAL SEAM, OUTCROP
BEDDING (HORIZONTAL, INCLINED, VERTICAL, OVERTURNED)
ANTICLINE, SHOWING DIRECTION OF PLUNGE
SYNCLINE, SHOWING DIRECTION OF PLUNGE
FAULT
FORMATION BOUNDARY
APPROXIMATE FORMATION BOUNDARY
MAP COMPILED FROM AERIAL PHOTOGRAPHS
TAKEN OCTOBER 2, 1980. ROLL No. BR 80057
VERTICAL DATUM - GEODETIC
GRID: U.T.M.
CONTOUR INTERVAL: 5 METRES
REVISED FROM AERIAL PHOTOGRAPHS
TAKEN OCTOBER 20, 1981 ROLL No. BR81071
COMPILED BY
burnett resource surveys ltd.
TECK MINING GROUP LIMITED
BURNT RIVER PROPERTY
FIGURE 5
GEOLOGY
1:5000
METRES 100 0 100 200 300 400 500 METRES


Legend
LOWER CRETACEOUS
FORT ST. JOHN GROUP
COMMOTION FORMATION
Has HASLER MEMBER
BC BOULDER CREEK MEMBER
Hul HULCROSS MEMBER
Ga GATES MEMBER
Mbr MOOSEBAR FORMATION
BULLHEAD GROUP
Ge GETHING FORMATION
Cd CADOMIN FORMATION
UNCONFORMITY
MINNES GROUP
Mi MINNES UNDIVIDED
LEGEND
DRILL HOLE
COAL SEAM OUTCROP
BEDDING (HORIZONTAL, INCLINED, VERTICAL, OVERTURNED)
ANTICLINE, SHOWING DIRECTION OF PLUNGE
SYNCLINE, SHOWING DIRECTION OF PLUNGE
FAULT
FORMATION BOUNDARY
APPROXIMATE FORMATION BOUNDARY
BUILDING
ROAD - Unpaved
TRAIL
CUTLINE
TREES
STREAM - LAKE
STREAM - Indefinite
SWAMP
SPOT ELEVATION
CONTOUR - Index
- Intermediate
- Indefinite
CONTROL POINTS
COORDINATED DRILL HOLE
DRILL HOLE
SCALE 1:10 000
100 0 200 400 600 800 1000 METRES
MAP COMPILED FROM AERIAL PHOTOGRAPHS
TAKEN OCTOBER 2, 1980. ROLL No. BR 80057
VERTICAL DATUM GEODETIC
GRID: UTM
CONTOUR INTERVAL: 10 METRES
COMPILED BY
bennett resource energy ltd.
CONSULTANTS
TECK MINING GROUP LIMITED
BURNT RIVER PROPERTY
FIGURE 6
GEOLOGY
DRAWN: JAN. 1982
SCALE: 1:10,000


122°00'
121°45'
55° 30'
55° 15'
55° 00'
N
PEACE RIVER
FORT ST. JOHN
B.C.R.
Mt. Gething
MOBERLY LAKE
CHETWYND
EAST PINE
DAWSON CREEK
JOHN HART HIGHWAY
PINE RIVER
KISKATINAW RIVER
BURNT RIVER
WEST BRAZION
SUKUNKA
Mt. SPIEKER
BULLMOOSE
ROCKY MOUNTAINS
SENTINEL PEAK
8250'
8050'
McLEOD LAKE
PARSNIP RIVER
DAVIE LAKE
MURRAY RIVER
REDWILLOW RIVER
WAPITI RIVER
HOMINEKA RIVER
WOLVERINE RIVER
PAC. PETR. GAS WELL
GRIZZLY VALLEY PIPE LINE
BLUFF CREEK
BLIND CREEK
BRAZION CR.
LATERAL MORAINE
COAL OUTCROP
BW-27
W879-2
W879-1
Kge
Kbr
Kcd
SUKUNKA RIVER
BRITISH COLUMBIA
ALBERTA
U.S.A.
VANCOUVER
TRAIL
BRAMEDA
PRINCE GEORGE
N.W.T.
LEGEND
LOWER CRETACEOUS
FORT ST. JOHN GROUP
COMMOTION FORMATION
9 HASLER FORMATION
8 UPPER BOULDER CREEK MEMBER
7 LOWER BOULDER CREEK MEMBER
6 HULCROSS MEMBER
5 GATES MEMBER
4 MOOSEBAR FORMATION
BULLHEAD GROUP
3 GETHING FORMATION (Kge)
2 CADOMIN FORMATION (Kcd)
MINNES GROUP
1 MINNES (UNDIVIDED) (Kbr)
BEDDING
ANTICLINE
SYNCLINE
COAL LICENCE BOUNDARY
THRUST FAULT
BASE MAP CONSTRUCTED FROM NTS 93P/SE AND 93P/4W
490
FIG.7
TECK CORPORATION
VANCOUVER, B.C.
PR: Burnt River 81(2)A
GEOLOGY OF THE WEST BRAZION
AND BURNT RIVER AREA
COAL LICENSES OF BRAMEDA RESOURCES LTD.
SUKUNKA RIVER AREA, B.C.
LIARD M.D., B.C.
DRAWN BY: P.V.
COMPILED BY: B. McCLYMONT
DATE: DEC. 1979
DRAWING Nº
SCALE 1:50000



MAP COMPILED FROM AERIAL PHOTOGRAPHS
TAKEN OCTOBER 2, 1980. ROLL No. BR80057
VERTICAL DATUM: GEODETIC
GRID: U.T.M.
CONTOUR INTERVAL: 5 METRES
REVISED FROM AERIAL PHOTOGRAPHS
TAKEN OCTOBER 20, 1981 ROLL No BR81071

COMPILED BY
burnett resource surveys ltd.
PHOTOGRAMMETRY, PHOTOGRAPHY & SURVEYING

LEGEND

BUILDING		SWAMP	
ROAD Unpaved		SPOT ELEVATION	×1246.6
TRAIL		CONTOUR - Index	1200
CUTLINE		- Intermediate	
TREES		- Indefinite	
STREAM - LAKE		CONTROL POINTS	△ KNOB
STREAM - Indefinite		COORDINATED DRILL HOLE	△
		DRILL HOLE	⊕

LEGEND

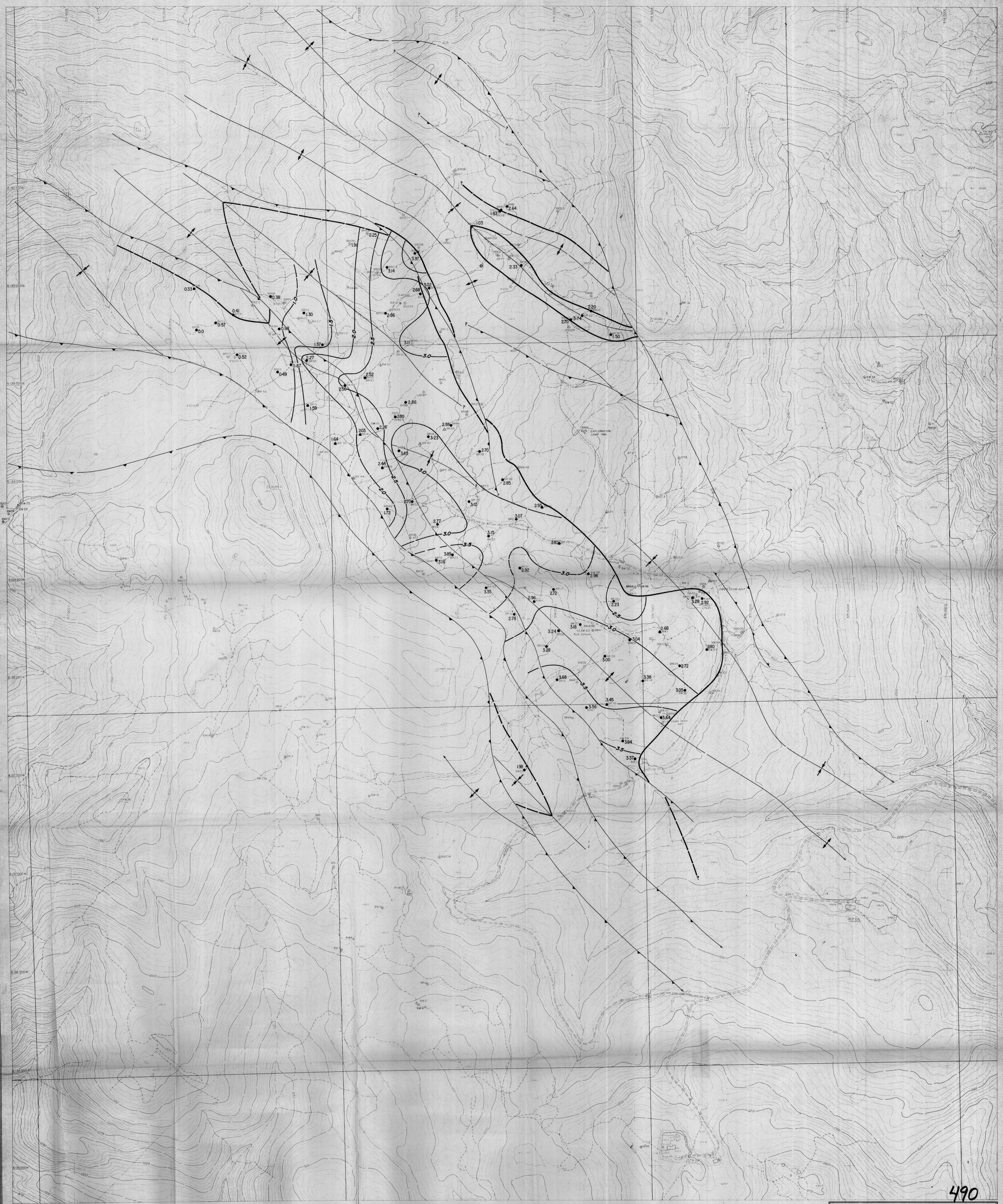
SURFACE TRACE OF UPPER SEAM
FAULT
ANTICLINE
SYNCLINE
•4.20 DEPTH OF COAL IN METERS

FEB, 1982

TECK MINING GROUP LIMITED
BURNT RIVER PROPERTY
PR-Burnt River 81(2)A

FIGURE 8
ISOPACH OF SEAM 60
1981
1:5000

METRES 100 0 100 200 300 400 500 METRES


EXPLORATION CAMP 1981
LOWER SEAM ADIT
Upper Seam Adit
SEAM 60 Bulk Sample
CAMP RIDGE
KNOB
BURN 2
ROAD 1
TH 158
TH 140
6 141 000N
6 140 500N
6 140 000N
6 139 500N
6 139 000N
6 138 500N
6 138 000N
6 137 500N
6 137 000N
6 136 500N
6 136 000N
6 135 500N
575 500E
576 000E
576 500E
577 000E
577 500E
578 000E
578 500E
579 000E
579 500E
580 000E
580 500E
581 000E
581 500E
582 000E
582 500E
583 000E
583 500E
584 000E
584 500E
585 000E

490

MAP COMPILED FROM AERIAL PHOTOGRAPHS TAKEN OCTOBER 2, 1980 ROLL No. BR 8005
VERTICAL DATUM - GEODETIC
GRID: U.T.M.
CONTOUR INTERVAL: 5 METRES
REVISED FROM AERIAL PHOTOGRAPHS TAKEN OCTOBER 20, 1981 ROLL No BR8107

COMPILED BY
bunett resource surveys ltd.
CARTOGRAPHY · PHOTOGRAMMETRY · SURVEYS

N

LEGEND

BUILDING
ROAD - Unpaved
TRAIL
CUTLINE
TREES
STREAM - LAKE
STREAM - Indefinite
SWAMP
SPOT ELEVATION ·344.6
CONTOUR Index 1200
Intermediate
Indefinite
CONTROL POINTS △ KNOB
COORDINATED DRILL HOLE
DRILL HOLE ⊕

LEGEND

SURFACE TRACE OF LOWER SEAM
FAULT
ANTICLINE
SYNCLINE
2.26 DEPTH OF COAL IN METERS

FEB., 1982

TECK MINING GROUP LIMITED
BURNT RIVER PROPERTY
PR-Burnt River 81(2)A

FIGURE 10

ISOPACH OF LOWER SEAM
1981 1:5000

METRES 100 0 100 200 300 400 500 METRES

MAP COMPILED FROM AERIAL PHOTOGRAPHS
TAKEN OCTOBER 2, 1980, ROLL No. BR 80057
VERTICAL DATUM: GEODETIC
1980 - U.T.M.
CONTOUR INTERVAL: 5 METRES
REVISED FROM AERIAL PHOTOGRAPHS
TAKEN OCTOBER 20, 1981 ROLL No BR81017

COMPILED BY
burnett resource survey ltd.
CARTOGRAPHER PHOTOGRAMMETRIST SURVEYORS

LEGEND

BUILDING	
ROAD - Unpaved	
TRAIL	
CUTLINE	
TREES	
STREAM - LAKE	
STREAM - Indefinite	
SWAMP	
SPOT ELEVATION	×1344.6
CONTOUR - Index	1200
- Intermediate	
- Indefinite	
CONTROL POINTS	△ KNOB
COORDINATED DRILL HOLE	
DRILL HOLE	
1981 DRILL HOLES	●

FEB, 1982

TECK MINING GROUP LIMITED
BURNT RIVER PROPERTY
R. Burnett 81/01/01

DRILL HOLE LOCATION MAP

FIGURE II

1:5000

METRES 100 0 100 200 300 400 500 METRES

PR-Burnt River 81(3)A

TECK CORPORATION

STRATIGRAPHIC LOG

OF

BW-58

VERTICAL SCALE: 1:100

490

PROJECT BURNT RIVER
HOLE Nº BW-58 CORE SIZE Ax
CO-ORDINATES _____ N _____ E
COLLAR ELEVATION _____ METRES
HOLE ANGLE -90° TOTAL DEPTH 47.8 M.

LOCATION SUKUNKA
DATUM GROUND LEVEL
DATE STARTED 1980
DATE FINISHED 1980
LOGGED BY BIM, AT

SERIES	FORMATION	MEMBER	DISTANCE FROM DATUM	COLUMNAR SECTION	LITHOLOGIC DESCRIPTION
LOWER CRETACEOUS	GETHING		0		
					Overburden
			5		
			7.9		Mudstone - black, carbonaceous, soft
			9.6		
			10		Siltstone - grading to fine grained silty sandstone, unit is thinly laminated, 55°-60° to core axis, coal wisps at 13.4 - 13.7 m. Bentmite - medium soft (13.7 - 13.8
			14.0		Mudstone - black, carbonaceous, soft
			15.15		
		Marker 'C'	15.18		Coal - dirty .88/10
			16.04		Mudstone - black, carbonaceous, moderately hard with some light grey, moderately soft sections
			17.2		
			17.6		Generally siltstone (grey) to mudstone mediumly interbedded 0.1 m. breccia at 21.3 m. Calcareous at 23.1 m., fine grained sandstone from 17.2 to 17.6 m, poor core recovery, core hard and blocky.
			19.75		
			20		
			23.1		Sandstone fine to medium grained, hard laminated silts, mudstone in partings, sandstone at 65° to core axis, worm burrows at 24.0 m.
			25		
			25.5		Mudstone silty in parts, grey to black in color
			26.8		
			27.2		Coal .4 clean coal, blocky, med. hard, slickenslides present .4/.2
			30		Siltstone - mudstone and siltstone thin to medium interbedded, 65-70° to core axis. Siltstone lenses evident in siltstone.
			32.6		
			35		Siltstone medium grey in color
			36.2		
			38.3		Mudstone - black, carbonaceous, coal partings
			40		
			45		Sandstone - crossbedded, fined grained, hard, thinly interbedded to laminated silts and muds, fine calcite viens, 65-70° to core axis.
			46.7		
			47.8		Mudstone - hard, carbonaceous (roof of upper seam
					End of hole
			50		
			55		

PR-Burnt River 81(3)A

TECK CORPORATION

STRATIGRAPHIC LOG

OF

BW-59

VERTICAL SCALE: 1:100

490

PROJECT BURNT RIVER
HOLE Nº BW-59 CORE SIZE Ax
CO-ORDINATES _____ N _____ E
COLLAR ELEVATION _____ METRES
HOLE ANGLE -90° TOTAL DEPTH 17.6 M.

LOCATION SUKUNKA
DATUM GROUND LEVEL
DATE STARTED JUNE 23, 1981
DATE FINISHED JUNE 25, 1981
LOGGED BY A.T. / BIM

SERIES	FORMATION	MEMBER	DISTANCE FROM DATUM	COLUMNAR SECTION	LITHOLOGIC DESCRIPTION
LOWER CRETACEOUS	GETHING FORMATION	GETHING	0		Overburden
			.6		Sandstone - clean, medium grained, dips at 45° to core axis
			1.0		Mudstone, Carbonaceous, broken to blocky
			3.62		Coal, clean, bright, and blocky, friable 82/.20
			4.44		Mudstone, very carbonaceous, coal partings 4.24–4.44
			5		
			5.16		Mudstone and siltstone thinly interbedded, mudstone - carbonaceous with coal partings Siltstone and mudstone have lenses of medium grained sandstone
			8.3		Coal reported, no recovery (geophysical log shows high ash coal)
			8.9		
			10		Mudstone grading into siltstone grading into medium grained sandstone. Sandstone at 55° to core axis
			10.8		Sandstone grading into siltstone, the siltstone then becomes thinly interbedded with mudstone
			15		Mudstone - carbonaceous
			16.3		
			17.6		End of hole
			20		No Samples
			25		
			30		
			35		
			40		
			45		

PR-Burnt River 81(3)A

TECK CORPORATION

STRATIGRAPHIC LOG

OF

BW-60

VERTICAL SCALE: 1:100

490

PROJECT BURNT RIVER

HOLE Nº BW-60 CORE SIZE Ax

CO-ORDINATES _____ N _____ E

COLLAR ELEVATION _____ METRES

HOLE ANGLE -70° TOTAL DEPTH 15.8 M.

LOCATION SUKUNKA

DATUM GROUND LEVEL

DATE STARTED JUNE 29, 1981

DATE FINISHED JUNE 30, 1981

LOGGED BY A.T. / BIM

SERIES	FORMATION	MEMBER	DISTANCE FROM DATUM	COLUMNAR SECTION	LITHOLOGIC DESCRIPTION
			0		
			.3		OVERBURDEN
					MUDSTONE WITH SANDSTONE PHASES - MUDSTONE IS BROKEN & SHOWS IRON STAINING. SANDSTONE IS FINE TO MEDIUM GRAINED, CLEAN, MINOR CALCITE BEDDING 50°-60° TO CORE (TRUE DIP 50°-60°) 4.0/2.8
			4.52		
			5		COAL INTERBEDDED WITH MUDSTONE - MUDSTONE IS CARBONACEOUS. COAL IS CLEAN, BRIGHT, BLOCKY, AND HIGH ASH CONTENT FROM 5.74 - 6.56 m 2.04/.4
			6.76		
SEAM 60 5.74 - 12.80 7.06/2.25					COAL - BRIGHT, VERY SOFT, FRIABLE 2.92/.50
			9.68		
			10		MUDSTONE - MINOR COAL .56/.05
			10.24		
		GETHING			COAL - BRIGHT, BLOCKY TO SHEARED & CRUSHED WITH MUDSTONE PARTING AT 12.8 - 13.28 m. 6 cm BONE COAL RECOVERED NEAR BOTTOM. BONE COAL WITH MINOR CLEAN COAL FROM 13.28 - 14.06 m.
			14.06		
					MUDSTONE - CARBONACEOUS, DENSE, BLACK
			15		
			15.2		SILTSTONE - GRADING TO FINE-MED. GRAINED SANDSTONE
			15.8		END OF HOLE

SAMPLED: 5.74 - 6.76 m
6.76 - 10.24 m
10.24 - 12.80 m.

PR - Burnt River 81(3)A

TECK CORPORATION

STRATIGRAPHIC LOG

OF

BW-61

VERTICAL SCALE: 1:100

490

PROJECT BURNT RIVER
LOCATION SUKUNKA
HOLE Nº BW-61 CORE SIZE Ax
DATUM GROUND LEVEL
CO-ORDINATES _____ N _____ E
DATE STARTED JULY 1, 1981
COLLAR ELEVATION _____ METRES
DATE FINISHED JULY 1, 1981
HOLE ANGLE -90° TOTAL DEPTH 9.3 M.
LOGGED BY A.T.

SERIES	FORMATION	MEMBER	DISTANCE FROM DATUM	COLUMNAR SECTION	LITHOLOGIC DESCRIPTION
			0		SILTSTONE AND MUDSTONE - THINLY INTERBEDDED, BROKEN MINOR IRON STAINING
			4.0		MUDSTONE - BROKEN, DARK GREY
	LOWER SEAM (SEAM #11)		4.12		COAL - GENERALLY BRIGHT, BROKEN TO BLOCKY, CLEAN, OXIDIZED 1.20/.64
			5		
			5.32		CLAY - HIGH ASH COAL, (.20/.01) FROM 5.32 - 5.52 m
			5.52		COAL - BROKEN, BRIGHT, CLEAN 1.12/.45
			6.64		COAL - HIGH ASH, BROKEN. .32/.10
			6.96		MUDSTONE GRADING TO SILTSTONE - MUDSTONE IS CARBONACEOUS WITH IRON STAINING, AND BLOCKY.
	MARKER "B"		8.38		COAL - HIGH ASH, .24/.07
			8.62		MUDSTONE & SILTSTONE - 6 cm. MUDSTONE DIRECTLY UNDER COAL. SILTST. REMAINDER
			9.3		END OF HOLE
		GETHING	10		SAMPLED: 4.12 - 6.96 m

PR-Burnt River 81(3)A

TECK CORPORATION

STRATIGRAPHIC LOG

OF

BW-62

VERTICAL SCALE: 1:100

490

PROJECT BURNT RIVER — LOCATION SUKUNKA

HOLE № BW 62 — CORE SIZE AX — DATUM GROUND LEVEL

CO-ORDINATES _____ N _____ E — DATE STARTED July 2, 1981

COLLAR ELEVATION _____ METRES — DATE FINISHED July 6, 1981

HOLE ANGLE -90° — TOTAL DEPTH 38.9 M. — LOGGED BY A.T. / B.I.M.

SERIES	FORMATION	MEMBER	DISTANCE FROM DATUM	COLUMNAR SECTION	LITHOLOGIC DESCRIPTION
			0		OVERBURDEN
			.6		MUDSTONE – BROKEN, MINOR IRON STAINING, CARBONACEOUS
			2.18		COAL – SEMI-BRIGHT, BLOCKY .66/.06
			2.84		SANDSTONE – COALY, SILTY, BROKEN
UPPER SEAM (OUTCROP # 101)			2.98		COAL – SEMI-BRIGHT, BLOCKY, Fe STAINING FROM 2.91 - 3.1. CLEAN, BRIGHT, BLOCKY 3.1 - 3.6
			3.58		SANDSTONE FINE GRAINED SILTY, CARBONACEOUS SANDSTONE FROM 3.58 - 3.78 m
			3.78		COAL – GEOPHYSICAL LOG INDICATES CLEAN COAL .98/0
			4.76		
			5		MUDSTONE – VERY CARBONACEOUS
			6.6		MUDSTONE – LT GREY, GRADING INTO THINLY INTERBEDDED SILTSTONE WITH FINE GRAINED SANDSTONE. SANDSTONE IS 50° TO CORE
			7.2		
					MUDSTONE – DARK GREY, MINOR CALCITE VEINING, CARBONACEOUS 8.4 - 9.2 m, HARD. 8.6 - 8.7 m COAL BANDS, COAL IS CLEAN, BRIGHT, & BLOCKY 8.7 - 9.9 m CARBONACEOUS MUDSTONE WITH COAL PARTINGS
			10		
			10.2		SILTSTONE – LARGE SCALE CALCITE VEINING, Fe STAINING
			11.8		
			15		MUDSTONE – DARK, HARD, CARBONACEOUS
			17.6		
			20		SILTSTONE – MINOR CALCITE VEINING, DARK GREY, FINE GRAINED SANDSTONE PHASES. FINE GRAINED SANDSTONE BED AT 22.3 - 22.5 m.
		GETHING	25		
			27.2		MUDSTONE – DARK, CARBONACEOUS WITH SILT PHASES
			28.08		COAL – BRIGHT, BROKEN TO BLOCKY TO CRUSHED, CLEAN. .76/.40
LOWER SEAM (OUTCROP # 11)			28.84		MUDSTONE – DARK GREY, CARBONACEOUS, COAL WISPS 1.60/1.10
			29.92 30		COAL – CLEAN, BRIGHT, BLOCKY TO BROKEN 1.38/.25
			31.30		MINOR IRON STAINING, DARK GREY, COAL PARTING @ 31.4 - 31.5 COAL IS HIGHLY POLISHED, FROM 32.4 - 33.8 m. VERY CARBONACEOUS MUDSTONE INTERBEDDED WITH COAL. COAL IS CLEAN.
			32.40		MUDSTONE –
MARKER "B"			33.80		
			34.60		
			35		SILTSTONE
			38.9		END OF HOLE
			40		

SAMPLES: 2.18 - 3.58 m
28.08 - 28.84 m.
29.92 - 31.30 m.

PR-Burnt River 81(3)A

TECK CORPORATION

STRATIGRAPHIC LOG

OF

BW-63

VERTICAL SCALE: 1:100

490

PROJECT BURNT RIVER
LOCATION SUKUNKA
HOLE Nº BW-63 CORE SIZE Ax
DATUM Ground Level
CO-ORDINATES _____ N _____ E
DATE STARTED July 8, 1981
COLLAR ELEVATION _____ METRES
DATE FINISHED July 9, 1981
HOLE ANGLE -90° TOTAL DEPTH 17.53 M.
LOGGED BY BIM

SERIES	FORMATION	MEMBER	DISTANCE FROM DATUM	COLUMNAR SECTION	LITHOLOGIC DESCRIPTION
GETHING			0		OVERBURDEN
			50		SANDSTONE - SILTY, FINE GRAINED. 55° TO CORE
			2.75		MUDSTONE - DARK GREY, CARBONACEOUS, Fe STAINED
	UPPER SEAM		5.08 5		COAL - GENERALLY BRIGHT, CLEAN, BLOCKY 3.92/3.18
			9.0		MUDSTONE - VERY CARBONACEOUS, BROKEN, MED. HARD .92/.60
	LOWER SEAM (PLY #1)		9.92 10		COAL - HIGH ASH SECTIONS, GENERALLY BRIGHT & BLOCKY .96/.25
			10.88		VERY CARBONACEOUS MUDSTONE - MINOR COAL, 5 cm. CRUSHED COAL & SAND
			11.36		MUDSTONE, SILTSTONE - VERY CARBONACEOUS, MINOR SANDST., 60° TO CORE
	LOWER SEAM (PLY #2)		13.28		COAL - MINOR ASH CONTENT, BRIGHT, CRUSHED TO BROKEN. .80/.30
	MARKER "B" (14.26 - 14.72)		14.08 14.72 15		MUDSTONE - VERY CARBONACEOUS, MINOR COAL, BADLY BROKEN. .64/.20
					MUDSTONE - VERY CARBONACEOUS, POOR CORE RECOVERY, BADLY BROKEN MINOR SANDSTONE 16.7 - 16.9
			17.53		END OF HOLE

SAMPLED: 5.08 - 6.08
6.08 - 9.0
9.92 - 10.88
13.24 - 14.08

PR-Burnt River 81(3)A

TECK CORPORATION
STRATIGRAPHIC LOG
OF
BW-64 (DEEPENED)

VERTICAL SCALE: 1:100

490

PROJECT	BURNT RIVER	LOCATION	SUKUNKA
HOLE Nº	BW-64 (DEEPENED) CORE SIZE A3	DATUM	GROUND LEVEL
CO-ORDINATES	N ____ E	DATE STARTED	AUG 11, 1981
COLLAR ELEVATION	____ METRES	DATE FINISHED	AUG 14, 1981
HOLE ANGLE	-90° TOTAL DEPTH 60.0 M.	LOGGED BY	A.T

SERIES	FORMATION	MEMBER	DISTANCE FROM DATUM	COLUMNAR SECTION	LITHOLOGIC DESCRIPTION
LOWER CRETACEOUS	GETHING		0		
			2.1		Overburden
			5		Mudstone - very broken to crushed, very carbonaceous from 2.44 to 3.70 m.
			7.8		Mudstone - dark carbonaceous, broken to crushed, Fe staining, 3.9/1.3
			F		Siltstone - fine grained, major calcite veins, bedding not easily identifiable (65-70° to core axis) light grey, hard. Carbonaceous sst with slickensides from 8.5 to 8.7 m. Mudstone partings from 9.9 to 10.2 m.
			9.9		
			10.2		
			11.0		
			12.4		Siltstone and Mudstone medium interbedded with sandstone phase at 11.4 to 11.6 m, calcite veining evident; mudstone - broken to blocky and siltstone hard. Both dark grey. At 12.4 m dark grey siltstone with heavy calcite veining, broken, carbonaceous to coaly, siltstone is fine grained
			13.2		Mudstone - broken, carbonaceous to coaly, dark coloured, moderately hard
			13.98		Coal - broken to chips, hard, black, semibright .6/.2
			15		
			F		Mudstone - very broken - hard, black, slickensides, 16.2 to 16.9 m. is crushed, mushy mudstone with sand → sluff ? 16.9 to 18.3 m is dark, black carbonaceous mdst
			18.06		
		UPPER SEAM	19.06		Coal - clean, bright, blocky to crushed 0.98/.55
			20		Mudstone - very carbonaceous, dark, hard, coal partings Coal band from 22.3 to 22.4 (.1/.1) minor ash, bright, blocky, from 22.4 to 23.7 mudstone - hard, calcite veining
			22.3		
			22.4		
			23.7		
			24.3		Siltstone - light grey
			25		Sandstone - fine grained, 45° to core axis, clean, minor calcite veining. Carbonaceous to coaly sandstone at 27.1 to 27.2 m underlain by fine grained sandstone having major calcite veins and slickensides.
			F		
			27.4		End of original BW-64
			30		Sandstone - fine grained, minor calcite veining, calcareous, light grey, moderately hard, slickensides, coaly sandstone partings, coal wisps, minor pyrite, convoluted bedding, lenses of medium grained sandstone at 30.1 m. Good core. At 31.0m the sandstone grades to medium → coarse grained sandstone. Major calcite veining and blebs also evident from 31.0 to 32.0.
			F		
			32.0		Mudstone - alternating with coal bands, slickensides, very broken, mudstone is black, very carbonaceous and has calcite veining
			33.1		Sandstone - medium interbedded with siltstone, coal partings, calcite veining, slickensides sandstone dark grey, 40° to core axis, hard, carbonaceous, med. grain, Siltstone - dark, hard, carbonaceous
			34.5		
			35		Sandstone - medium interbedded with dark carbonaceous siltstone bands sandstone, medium grain, salt and pepper, hard, 50° to core axis convoluted bedding evident, lenses of coarse grain sandstone, siltstone is hard, dark, 50° to core axis
			38.9		
			40		Sandstone - very fine sandstone with medium grain sandstone beds, fine grained sandstone is dark, carbonaceous, hard, has convoluted bedding, medium grained sandstone is light grey, hard, convoluted bedding, coal partings, (minor) and calcite veining.
			41.7		Siltstone - thinly bedded with med.→coarse grain sandstone, core 55° to core axis; some beds show convoluted bedding; siltstone, dark grey, carbonaceous; sst - light grey
			45		
			45.6		Siltstone and mudstone thinly interbedded, both carbonaceous
			48.5		
			49.42		Mudstone interbedded with coal bands; mudstone - very carbonaceous
			50		
		LOWER SEAM 4.28/4.66			Coal - clean, bright and blocky 5.38/4.55
			53.80		
			55.72		Coal very dirty, high ash content .90/.11
			56.66		Siltstone thinly interbedded with med. grain sandstone, both carbonaceous and 60° to C.A.
			57.02		Mudstone very carbonaceous .54/.30
			57.72		Coal - clean, bright, blocky (57.20 - 57.72) .52/.30
			58.9		Siltstone carbonaceous, coal partings, slickensides, beds 50° to core axis
					End of hole
			60		
			65		
			70		

Samples: 1) 49.42 - 54.62 m.
2) 54.82 - 55.72 m.
3) 56.66 - 57.72 m.
4) 18.06 - 19.04 m.

PR-Burnt River 81(3)A

TECK CORPORATION

STRATIGRAPHIC LOG

OF

BW-65

VERTICAL SCALE: 1:100

490

PROJECT BURNT RIVER
HOLE № BW-65 CORE SIZE Ax
CO-ORDINATES _____ N _____ E
COLLAR ELEVATION _____ METRES
HOLE ANGLE -90° TOTAL DEPTH 13.1 M.

LOCATION SUKUNKA
DATUM Ground level
DATE STARTED July 23, 1981
DATE FINISHED July 23, 1981
LOGGED BY A.T.

SERIES	FORMATION	MEMBER	DISTANCE FROM DATUM	COLUMNAR SECTION	LITHOLOGIC DESCRIPTION
			0		OVERBURDEN
			1.8		MUDSTONE: BROKEN TO BLOCKY, PHASES OF Fe-STONE, DARK BROWN IN COLOR
			3.6		
			5		SILTSTONE: EVIDENCE OF CONVOLUTED BEDDING, 55° TO CORE AXIS, MINOR Fe STAINING
			7.64		MUDSTONE: DARK, CARBONACEOUS, HARD, GEO-LOG SHOWS HIGH ASH COAL. ZERO RECOV.
			8.26		COAL: CLEAN, BRIGHT, AND BLOCKY 2.66/2.20
			10		
			10.92		SILTSTONE: COALY, DARK, MED. HARD, COAL PARTINGS SLICKENSIDES.
			11.9		COAL: CLEAN, BRIGHT, AND BLOCKY
			12.1		SILTSTONE: VERY CARBONACEOUS, COAL WISPS AND PARTINGS
			13.1		END OF HOLE
			15		

SAMPLE 8.26-10.92

PR-Burnt River 81(3)A

TECK CORPORATION

STRATIGRAPHIC LOG

OF

BW-66

VERTICAL SCALE: 1:100

490

PROJECT BURNT RIVER
HOLE Nº BW-66 CORE SIZE Ax
CO-ORDINATES _____ N _____ E
COLLAR ELEVATION _____ METRES
HOLE ANGLE -90° TOTAL DEPTH 17.5 M.

LOCATION SUKUNKA
DATUM GROUND LEVEL
DATE STARTED JULY 24, 1981
DATE FINISHED JULY 25, 1981
LOGGED BY A.T.

SERIES	FORMATION	MEMBER	DISTANCE FROM DATUM	COLUMNAR SECTION	LITHOLOGIC DESCRIPTION
LOWER CRETACEOUS	GETHING		0		Siltstone - thinly interbedded with fine grained sandstone beds at 60° to core axis, hard, light, grey
			4.4		Siltstone - carbonaceous, hard, dense, black Coal reported by driller at 4.4 - 4.5 m. and 4.8 to 5.12 but geolog denies it.
			5		
			5.12		Mudstone - carbonaceous, hard, dark grey, coal partings. Coal reported by driller from 6.0 to 6.1 m. but geolog denies it.
			7.6		Siltstone - and med. grained sandstone thinly interbedded Fe staining, 65° to core axis, minor calate veining
			9.9		
			10		Siltstone - grey, Fe staining
			12.8		
			15		Mudstone - dark grey, coal partings, med grained sandstone phases at 12.9 to 13.2 m. and 15.1 to 15.5 m.
			17.5		End of hole
			20		
			25		
			30		
			35		
			40		
			45		

PR-Burnt River 81(3)A

TECK CORPORATION

STRATIGRAPHIC LOG

OF

BW-67

VERTICAL SCALE: 1:100

490

PROJECT BURNT RIVER
HOLE Nº BW-67 CORE SIZE Ax
CO-ORDINATES _____ N _____ E
COLLAR ELEVATION _____ METRES
HOLE ANGLE -90° TOTAL DEPTH 16.7m M.

LOCATION SUKUNKA
DATUM GROUND LEVEL
DATE STARTED JULY 27, 1981
DATE FINISHED JULY 28, 1981
LOGGED BY A.T.

SERIES	FORMATION	MEMBER	DISTANCE FROM DATUM	COLUMNAR SECTION	LITHOLOGIC DESCRIPTION
			0		
					OVERBURDEN
			3.26		COAL - CLEAN, BRIGHT & BLOCKY .34/.28 (REPORTED BY GEOPHYSICAL LOG)
			3.60		
			4.18		MUDSTONE - CARBONACEOUS, COAL PARTINGS, COAL WISPS, BROKEN 1.0/.20
	BIG SEAM (LOWER SEAM)		5		COAL - CLEAN, BRIGHT & BLOCKY 2.50/1.40
			6.68		MUDSTONE - COAL PARTINGS, DARK, CARBONACEOUS, MEDIUM HARD. VERY CARBONACEOUS MUDSTONE REPORTED FROM 7.94 - 8.34
		B 2	7.94		
			8.34		SILTSTONE - SANDSTONE BEDS. BEDDING 70° TO CORE. SILTSTONE IS DARK GREY, HARD. SANDSTONE IS MEDIUM GRAINED, LT. GREY, CLEAN. SANDSTONE BEDS @ 8.9 - 9.0, 9.7 - 9.9, & 10.7 - 10.9
			10		
			11.0		MUDSTONE - DARK GREY, MED. HARD, CARBONACEOUS
			13.1		
		B 1	13.6		COAL - BROKEN, SEMI-BRIGHT, UNDERLAIN BY DIRTY COAL (REPORTED BY DRILLER) .50/.15
			13.8		
			15		SILTSTONE & SANDSTONE - LT. GREY SILTSTONE, WITH THINLY INTERBEDDED CLEAN MEDIUM GRAINED SANDSTONE.
			16.7		END OF HOLE

SAMPLES ① ~~3.26 - 3.50 m~~
② 4.18 - 6.66 m

PR-Burnt River 81/31A

TECK CORPORATION

STRATIGRAPHIC LOG

OF

BW-68

VERTICAL SCALE: 1:100

490

PROJECT BURNT RIVER
HOLE № BW-68 CORE SIZE Ax
CO-ORDINATES _____ N _____ E
COLLAR ELEVATION _____ METRES
HOLE ANGLE -90° TOTAL DEPTH 23.4 M.

LOCATION SUKUNKA
DATUM GROUND LEVEL
DATE STARTED July 28, 1981
DATE FINISHED July 29, 1981
LOGGED BY A.T.

SERIES	FORMATION	MEMBER	DISTANCE FROM DATUM	COLUMNAR SECTION	LITHOLOGIC DESCRIPTION
LOWER CRETACEOUS	GETHING	LOWER SEAM 5.04-10.16	0		Sst - medium grained calcareous, 65° to core axis, minor convoluted bedding, clean, light grey
			2.60		Siltstone - dark colored, Fe staining, very broken
			4.10		Sandstone - medium grained, very broken, clean, light grey
			5		Coal - dirty .36 /≤ 1 cm. recovery
			5.04		Mudstone - very broken, carbonaceous
			5.44		
			5.61		Coal - clean, bright, broken. 1.0/.40
			6.84		Mudstone - carbonaceous, very black, hard, dense
			7.15		Coal - clean, bright and very broken to chips 2.39/50
			9.54		Coal, high ash, bone
			10		
			10.16		Mudstone - very black, hard, good core recovery, very carbonaceous from 9.5 to 10.1 m.
			10.90		Coal, very high ash. Marker B_2
			11.26		Sandstone - fine to medium grain, 70° to core axis, clean
			15		Siltstone - dense, black, carbonaceous
		MARKER B	15.70		Coal - clean, bright, and blocky .5/.3
			16.20		Mudstone - very carbonaceous 3/1
			16.50		Sandstone - fine grained grading into coarse grained convoluted bedding evident, calcite filling fractures, coal partings
			20		
			21.30		Sandstone - fine grained, black, dense
			23.40		End of hole
			25		
			30		
			35		
			40		

Samples
1) 5.61 - 6.84 m
2) 7.15 - 9.54 m.
3) 15.7 - 16.2 m.

PR-Burnt River 81(3)A

TECK CORPORATION

STRATIGRAPHIC LOG

OF

BW-69

VERTICAL SCALE: 1:100

490

PROJECT BURNT RIVER
HOLE Nº BW-69 CORE SIZE Ax
CO-ORDINATES _____ N _____ E
COLLAR ELEVATION _____ METRES
HOLE ANGLE -90° TOTAL DEPTH 10.1 M.

LOCATION SUKUNKA
DATUM GROUND LEVEL
DATE STARTED AUG 1, 1981
DATE FINISHED AUG 2, 1981
LOGGED BY A.T.

SERIES	FORMATION	MEMBER	DISTANCE FROM DATUM	COLUMNAR SECTION	LITHOLOGIC DESCRIPTION
			0		
			.6		OVERBURDEN
					MUDSTONE - CRUSHED, DARK, SOFT, CARBONACEOUS 4.1/.2 m GEOPHYSICAL LOG REPORTS COAL FROM 2.6 - 3.1 m ZERO RECOVERY
			4.6		
	MARKER A(?)		5		COAL - DIRTY, HIGH ASH, SEMI BRIGHT, BLOCKY .9/.10
			5.5		MUDSTONE - COALY, BROKEN TO CRUSHED, COAL PARTINGS .3/.1
			5.9		SILTSTONE & SANDSTONE - FINE GRAINED MEDIUM INTERBEDDED. BEDS 65° TO CORE SANDSTONE IS CLEAN, LIGHT GREY, CALCAREOUS. SILTSTONE IS LT. GREY 1.8/1.8
			7.7		MUDSTONE - PHASE, DARK, DENSE, CARBONACEOUS, CALCITE VIENING, MED. HARD.
			7.9		SANDSTONE - SILTY, FINE TO MEDIUM GRAINED
			8.4		
			8.8		MUDSTONE - COAL BANDS FROM 8.3 to 8.8 m CARBONACEOUS MUDSTONE WITH COAL PARTINGS FROM 9.0 to 10.0 m.
			10		END OF HOLE
			15		

Pr. Burnt River 81(3)A

TECK CORPORATION

STRATIGRAPHIC LOG

OF

BW-70

VERTICAL SCALE: 1:100

490

PROJECT BURNT RIVER
LOCATION SUKUNKA
HOLE Nº BW-70 CORE SIZE Ax
DATUM GROUND LEVEL
CO-ORDINATES _____ N _____ E
DATE STARTED AUG 3, 1981
COLLAR ELEVATION _____ METRES
DATE FINISHED AUG 5, 1981
HOLE ANGLE -90° TOTAL DEPTH 15.5 M
LOGGED BY A.T.

SERIES	FORMATION	MEMBER	DISTANCE FROM DATUM	COLUMNAR SECTION	LITHOLOGIC DESCRIPTION
LOWER CRETACEOUS	GETHING		0		
			1.5		Overburden
			5		Sst - very fine grained, dark, hard 4.8/3.2, beds 25° to core axis (steep dips throughout core)
			6.4		Sst - light grey, clean, medium grained, calcareous, beds 25° to core axis
			9.3		
			10		Sst - with convoluted bedding, coal wisps, slickensides present, lenses of fine grain sst, clean, light grey, medium to coarse grain.
			10.6		Sst - fine to medium grain, hard, dark grey in color 15/14
			12.2		Sst - coarse grain, clean, light grey, calcareous, coal wisps, coaly partings, beds 20° to CA.
			13.3		Sst - coarse grain, light grey with a high amount of coal partings, convoluted bedding
			14.0		Sst - medium grain, well bedded, dark grey, hard, beds, 20° to core axis
			15		Sst - coarse grain, light grey, carbonaceous bands, fractured
			15.2		
			15.5		End of hole
			20		
			25		
			30		
			35		