PR- SUKUNKA NORTH 79(3)A

Geological Technical Data.
CORE DESCRIPTIONS
+
GEOPHYSICAL LOGS.

APPENDIX B PART B-1, B-2, B-3

671

PR. SUKUNKA NORTH 79(3)A.

APPENDIX B.

PART B-1

- GEOLOGICAL + TECHNICAL DATA.

PART B-2

- CORE DESCRIPTIONS. BP-1
BP-2

PART B-3

- GEOPHYSICAL LOGS. BP-1
BP-2

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: Marathon Creek Area
PROJECT: Sukunka North DATE: 1979
LOCATION: North Eastern B.C. ELEVATION:
GEOLOGIST: R. J. Melin

R1		Siltstone, dark grey weathering medium to dark grey, minor buff color. Distinct fine small scale bedding, sharp lamination. Sparse small worm burrows minor carb. material. Non calcareous.
		53° NE/310°, 3 m section
		----------Formation Boundary ----------Hulcross ~~Gates~~
R2		Siltstone, muddy, dark grey no bedding defined, some concretions, non calcarious. Change on lithology suggests formation break from R1 to R2 46° NE/291°
		Coal bloom dirty
		Sandstone rubble as above, abundance of rootlets and carbonaceous material, very calcareous.
R3		Sandstone, medium grey grey to buff weathering. Very fine grained faint bedding, clean texture, calcareous 74 NE 294
R4		Mudstone/Sandstone carbonaceous mudstone grading up to fine grained sandstone, large amount of rootlets and carbonaceous material, calcareous.
R5		Siltstone muddy medium grey weathering buff becoming coarser grained towards base. Carbonaceous material increasing up section. Faint low angle bedding calcareous 68° SW/302
R6		Sandstone grey to buff, medium grained, flaggy appearance, fine low angle bedding, weathering into 1-2 cm sheets calcareous
		2 m section 49° NE/305°
R7		Siltstone dark grey fine, sharp, small scale cross bedding, non calcareous several small worm burrows. 30° SW/295°
R8		Siltstone same as above, R7.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R9		Sandstone, medium grey, buff weathering fine grained, flaggy low angle large scale cross bedding very calcareous. Sandstone block, not orientated.
R10		Sandstone, grey, buff weathering massive appearance, clean calcareous sandstone block not orientated.
R11		Sandstone, medium to dark grey, fine grained, large scale low angle cross bedding, very calcareous several 1-4 cm sized plecipods 59° SW/3
R12		Siltstone, medium-dark grey, minor buff weathering calcareous, no definable bedding. Dip near verticle/310°.
R13		Siltstone, medium-dark grey, minor buff weathering, no defineable bedding, some large worm burrows 46° SW/356
R14		Sandstone/siltstone, medium-dark grey, buff weathering, very fine grained, uneven, indistinct bedding, near verticle dip.
R15		Sandstone, medium grey, buff weathering, fine to medium grained, flaggy, large scale cross bedding-low angle, very calcareous, near verticle bedding.
R16		Coal bloom/mudstone, dark grey to black.
R17		Sandstone / Siltstones, medium-dark grey sandstone and dark grey siltstones, very calcareous. Dip near verticle.
R18		Sandstone, dark-medium grey, weathering buff, medium to coarse grained, large amount of plant debris carbonaceous fragments, siliceous.
R19		Sandstone, fine grained medium grey, buff weathering, flaggy, large scale cross bedding, very calcarious 39° SW/312
R20		Sandstone, fine grained, medium grey, buff weathering large scale-low angle bedding, flaggy, very calcareous 31° SW/326

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R21		Sandstone, fine-medium grained, similar to R20
		47° NE 1281°
		20 & 21 are limbs of a very tight syncline.
R22		Sandstone, medium grey, buff weathering, Fine grained
		flaggy, low angle bedding, calcarious 41° NE/335°.
R23		Siltstone, muddy, medium-dark grey, 1 cm laminations
		with mudstone, calcarious 48° NE/305°.
		---------- Thrust Fault? ----------
R24		Sandstone, medium to dark grey, medium and coarse grained
		pebbles up to 2 cm, siliceous. Conglomerate inter
		bedded with sandstones, dark grey chert pebbles with
		quartz pebbles. Pebble size up to 5 cm -
		34° SW/308
		Large outcrop as indicated and traceable on air photos.
R25		Sandstone, medium grained, distinct red weathering,
		fresh colour grey with red tint. Siliceous, low
		angle faint bedding. 48° SW 305°.
R26		Sandstone, rubble, very red weathering similar to R25.
		Underlain by sandstone, siliceous with large amount
		of plant debris - Lower Gething.
R27		Sandstone, medium to dark grey, dark grey weathering.
		Fine to medium grained, siliceous. 39° SW/325
		Underlain by mudstone on surface (rubble)
R28		Sandstone, medium to dark grey, buff grey weathering
		fine to medium grained. Indefinite bedding, calcareous,
		minor rootlets 12° SW/345°.
R29		Sandstone, Medium grey, minor buff weathering fine
		grained, calcareous 23 SW / 338.
R30		Sandstone, dark grey cleaner than above and darker grey
		fresh colour, buff weathering, fine grained large
		scale cross bedding, siliceous. 12° SW/343
		----------Formation Boundary ----------
		Cadomin

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R31		Sandstone/Conglomerate
		Sandstone, dark grey, med grained, weathering buff, siliceous with minor calcareous portions, possibly veins. Bedding undefined 40° NE/331°. Conglomerate pebbles to cobbles, .2 to 4 cm generally black cherts with quartz.
R32		Cadomin conglomerate 16° NE/316°.
R33		Sandstone, medium grey, weathering reddish buff, medium grained, good bed definiton, large scale low angle cross bedding. 28° NE 309° (2 m)
R34		Sandstone/Conglomerate
		Interbedded wedges of very coarse grained gritty sandstones and light coloured conglomerates. Poorly sorted with darker chert pebbles near base. Lenticular sequence (7 m). There is a recessive bed between 33 & 34. Cadomin --Thurst
		----------Probable Fault ---------Minnes Group
R35		Sandstone, medium - dark grey, some buff weathering, very uneven bedding, roots & plant debris, siliceous and calcareous beds (2m). Underlain by coaly mudstone to siltstone and mudstone sequences (1.5 m), back into sandstone at base 61° SW/304°.
R36		Sandstone, medium grey, weathering deep red to orange (30 cm), underlain by 2 m siltstone distinctly laminated.
		Mudstone, silty uneven bedding, strongly calcareous. Thickly laminated carb shale, siltstone and mudstone

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

		underlain by sandstone. 26° SW/320
R37		Conglomerate, quartz and dark cherts, gritty as exhibited by R34, siliceous. Near verticle 309°.
R38		Sandstone, very dark grey, cherty, fine to medium grained, hard distinct appearance. Near verticle/321°.
R39		Sandstone, medium grey, buff weathering medium grained, flaggy, calcareous 31 NE/28
R40		Sandstone, medium grey, buff weathering, dip appears NE flaggy, calcareous, orange matrix.
R41		Sandstone, medium-dark grey, weathering red, medium grained, flaggy, calcareous similar to 40, 59° SW/32P
R42		Sandstone, medium-dark grey, medium grained orange matrix, good bedding-low angle, flaggy, calcareous, 46° SW/31
R43		Sandstone, dark grey, medium to coarse grained siliceous some chert pebbles. 26° SW/319°.
R44		Siltstone, dark grey - black, carbonaceous, indefinite bedding non-calcareous.
R45		Sandstone, medium grey, buff to red weathering, non calcareous, massive appearance, minor dark grey clasts. Up section lenticular weathered iron staining in conglomerate, green cherts.
		6° SW/320°.
		NE Dip up section
		----------Boulder Creek Formation ----------
		Hulcross
R46		Siltstone, slightly muddy, dark grey definite fine bedding, cross bedded . laminae, non calcareous 81° NE/308
		Hulcross

		Gates

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R47		Sandstone, medium-dark grey, weathering grey to buff. Medium grained, large scale cross-bedding, non-calcareous 54° NE/300
R48		Sandstone, medium grey, fine-very fine grained non-calcareous overlain by siltstone, indistinct bedding, non calcareous 68 NE/314°.
R49		Siltstone, muddy, dark grey, weathering medium grey & buff. Micaceous, many medium sized flat worm burrows, similar to 48, non calcareous (possibly sukunkoid).
R50		Mudstone, silty, dark grey, no distinct bedding, minor small worm burrows, non calcareous through the matrix with small calcareous silty stringers
R51		Mudstone, silty, as 50 68° NE/314°
R52		Siltstone, dark grey, indistinct bedding, abundance of worm burrows calcareous. Similar to 50 & 51, calcite could have been lenched out of these exposures
		Sukunka
		Moose Bar
		Upper Gething
R53		Sandstone, medium grey, buff weathering, fine grained, calcareous, low angle, fine bedding flaggy. 49° NE/291
R54		Sandstone, medium grey, buff weathering, large worm burrows abundant, flaggy, calcareous, between 53 & 54 is dark grey cherty. Sandstone which is non calcareous.
R55		Sandstone, medium to dark grey, medium grained, large scale cross bedding, large worm burrows, calcareous, flaggy, carbonaceous mudstone in the rubble below. 86° SW/319°
R56		Sandstone, dark grey, weathers red, very fine grained, small scale cross bedding, some carbonaceous plant debris, dirty appearance.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R57		Sandstone rubble, medium grey, buff weathering, fine grained large scale cross bedding calcareous.
R58		44° SW/309°. Starting @ base.
		.70 m sandstone, medium grey, weathering buff, very fine grained, thinly bedded silty laminations becomes silty up section, very calcareous.
		.20 m Thinly bedded carbonaceous siltstones, low angle cross bedding.
		.05 m fine grained sandstone
		2.0 m mudstone, very carbonaceous grading to poor coal interbedded with siltstone & mudstone.
R 59		1 meter section 41° SW/304°
		Sandstone, medium grey, buff weathering, fine grained calcareous, low angle bedding, large scale, minor bands of dark grey chert pebbles.
R60		11° SW/349°
		Sandstone, medium grey, weathered reddish buff, flaggy, large worm burrows, calcareous weathers to 1 to 2 cm sheets large, scale cross bedding.
R61		Sandstone, medium grey, minor buff weathering, fine to medium grained, flaggy, large scale cross bedding, calcareous 6° NE/285°
R62		Mudstone, dark grey to black, fissile, concoital fracturing, brittle, non calcarious with minor calcite on fracture planes.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R63		Conglomerate, (Cadomin) Immediately overlying cadomin is 4 meters of medium grey, non-calcarious sandstone. Overlying this is a recessive area. Altimeter 981 m.
R64		75° SW/310° Sandstone, dark grey with definite orange colouration, flaggy, large scale cross bedding, calcareous.
R65		61° SW/323 Sandstone, dark grey with concentration of red-orange, non calcarious, medium to coarse grained, large scale cross bedding, 4 cm to .5 cm bedding sheet at base 50° dip on cross bed.
R66		51° SW/309 Sandstone, medium grained, orange flecks as previously seen. Very calcareous, forms large ridge, flaggy.
R67		26° SW/310° Sandstone, dark grey medium grained, silicous, minor chert pebbles, bedding indistinct.
R68		45° SW/319° ("Apparent" Dip) Sandstone, dark grey, very fine to fine grained, very hard, siliceous.
R69		Conglomerate, dark grey - black cherts, light coloured quartz, .2 cm - 3 cm pebbles, medium to coarse grained Sandstone matrix, Cadomin.
R70		Sandstone, rubble not in place, medium grey, buff weathering, fine grained calcareous.
R71		Sandstone, medium grey, buff weathering, fine - medium grained, flaggy, calcareous "Apparent dip" 21° SW/355
R72		Sandstone, medium grey, buff weathering, calcareous, abundant large worm burrows. Rubble not orientated.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R73		Sandstone/Siltstone, medium-dark grey, buff weathering, very defined bedding, small scale cross bedding, calcareous. Slickensides and calcite veins, minor carbonaceous material. Near verticle dip / 292° "Apparent dip".
R74		Sandstone, dark to medium grey, siliceous, medium grained not in place.
R75		Sandstone, dark grey, buff weathering, carbonaceous blume underlying. Calcareous, difficult to orientate.
R76		Sandstone, dark grey, silicous, medium-coarse grained, rubble not orientated.
R77		Sandstone, medium-dark grey, very fine grained, indistinct bedding, very hard, ridge forming, siliceous
R78		28 SW/301 Sandstone, base 50 cm dark grey, fine to very fine grained, distinct small scale bedding, minor carbonaceous plant material along bedding. Mudstone/siltstone, mudstone has indefinite bedding. Siltstone has definite small scale cross bedding carbonaceous plant material. Becoming lighter in colour, less bedded, and mudier up section, micaceous calcaceous throughout, no worm burrows located

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R79		Siltstone with very fine grained Sandstone, interbedded with mudstones, dark grey, buff weathering, definite small scale cross bedding, abundant worm burrows, calcareous mudstones are carbonaceous in part. Dip near verticle.
R80		31 SW/311° Sandstone, medium to dark grey, light red to buff weathering, medium grained, minor coarse grained, calcareous, large scale cross bedding, flaggy.
R81		Sandstone similar to R80, smaller scale cross bedding and large grain size.
R82		Sandstone (rubble uprooted by fallen tree), medium to dark grey, calcareous, low angle bedding, fine grained
R83		Sandstone (block not orientated) dark grey, fine to very fine grained, calcareous, minor carbonaceous debris.
R84		
		3m Sandstone, dark grey, buff weathering, very fine to fine grained, distinct small scale cross bedding, calcareous.
		2m Siltstone/very fine grained Sandstone, laminated with mudstone, dark grey, bedding distinct calcareous.
		6m Mudstone, dark grey, slightly silty, indistinct bedding, micareous.
		Ironstone band
		2m Mudstone as above

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R85		54 NE /299°
		Mudstone, silty/siltstone, dark grey faint to definite bedding, some irregular very thin sandy beds, calcareous.
R86		Siltstone/Sandstone 38° NE/286
		rolling bedrock
		Siltstone and Sandstone interbedded, increasing in sandstone near base; siltstone, medium to dark grey, indistinct bedding. Sandstone, small scale cross bedding, fine grained, calcareous.
R87		Sandstone base, (R86) underlain by mudstone, dark grey calcareous, traces of very small worm-burrows, silty portion near base.
		Underlain by 30 cm carbonaceous mudstone. Beneath this is 1 m of very fine grained silty sandstone, abundant plant debris, dark-medium grey, small scale cross bedding, calcareous.
		1 m siltstone base, faint bedding, dark grey calcarious minor plant debris.
R88		(4 m below 87) 59° NE/307°
		Sandstone, medium grey to dark grey, fine to medium grained faint, bedding, calcareous.
		Below this is a 3 m section of sandstone, grey, buff weathering, fine to very fine grained grading to siltstones and mudstones, calcareous.
R89		(North Limb of Anticline, coal in axis) 66° NE/334°

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

		Sandstone, medium to dark grey, small scale cross bedding, large rootlets, minor calcareous to non calcareous, grading through small section of mudstone/siltstone into coal.
R90		3 m Section 44° SW/315° Sandstone, medium grey, buff weathering, low angle - large scale cross bedding, fine grained, calcareous.
R91		7m Section 42° SW/312° Sandstone, as above, large section, very flaggy appearance, fine grained at base, increasing in grain size up section.
R92		1.5 m section 45° SW/294° Sandstone, medium/dark grey, buff weathering, fine grained flaggy, several calcite veins, calcareous.
R93		Mostly dark grey, calcareous sandstones; some dark grey siltstones; Minor muddy, siltstone layers as well. Sandstones are interbedded, fine and very fine grained. Faint bedding, no bedding in mudstone. The base sandstone is equivalent to sandstone in R92. Very fine grained, dark grey, definite small scale cross bedding immediately overlain by slightly coarser grained sandstone. This fine grained sandstone has indefinite bedding.
R94		Dark grey siltstone with abundant carbonaceous rootlets; calcareous, micaceous with uneven, indefinite bedding. Interbedded with dark grey silty sandstone, very fine grained with small scale cross bedding 55° NE/304°
R95		Dark grey, silty sandstone; very fine grained. Small scale cross bedding to uneven, indefinite bedding. Very calcareious with an abundance of carbonaceous rootlets. 50° NE/310°.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R96		Medium to dark grey sandstone with orange to red weathering; medium and fine grained. Faint large scale cross bedding and some fine grained silty sandstone at base. Large rootlets present. 33° SW/313°.
R97		Dark grey sandstone, weathering dark grey to buff; medium grained; large scale cross bedding, silicous, clean appearance, 19° SW/334°.
R98		8 meter section - base 10 cm. carbonaceous mudstone. Dark grey sandstone weathering to grey/buff. Resistant in distinct bedding. Minor beds of dark grey carbonaceous siltstone and mudstone at 1-2 meter spacings. Some very fine grained ironstone module bands, some rootlets near carbonaceous bands. Fresh surface slightly calcareous to non-calcareous at base. Silicous up section and grain size increases to fine-medium grained 50° SW/317°.
R99		Conglomerate of quartz and chert pebbles. 2-5 cm overlain by sandstone which is medium-to coarse grained. Sandstone contains medium grey silicous pebbles. R99 dips under R98.
R100		4 meter section of sandstone. Dark to medium grey sandstone with minor orange flecks. Medium grained and silicous. Indistinct, faint large scale bedding.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R101		
		A Sandstone, dark grey, very fine grained silicous several calcite veins.
		B Mudstone, dark grey, silty carbonaceous stringers included coaly partings in sandstone as well.
		C Sandstone, dark grey, faint bedding, fine grained, calcareous, abundant slickensides.
R102		Dark grey sandstone; very fine grained and calcareous. Large scale cross bedding poorly defined. A few calcite veins $55^{\circ}SW/305^{\circ}$.
R103		Dark grey siltstone, sandy in parts. Friable along bedding plane; some calcite veins. Non calcareous except near veins. Underlain by very fine grained sandstone. Underlying this is calcareous siltstone with very small worm burrows and small scale cross bedding. Carbonaceous plant material is also present in the siltstone. Underlying sandstone is dark grey, fine grained and has minor calcite veins; distinct small scale cross bedding and small layers of carbonaceous plant material $64^{\circ}SW/294^{\circ}$.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R104		Carbonaceous shale outcrop.
		Base - Dark grey mudstone, slightly carbonaceous-.6 m
		Carbonaceous mudstone with coaly partings-.4 m
		Dark grey mudstone; iron stained, slightly carbonaceous - .4 meters
		Carbonaceous, coaly mudstone - .1 meters
		Ironstone band - .25 meters
		Dark grey carbonaceous mudstone with an abundance of "poor" coal layers; small band of ironstone.
		Ironstone band - .5 meters
		Carbonaceous mudstone with coaly layers - .7 m
		Slightly carbonaceous mudstone - .55 meters
		Carbonaceous mudstone with minor poor coal .15 m
		Dark grey mudstone, slightly carbonaceous- 1.5 m
		Carbonaceous mudstone - .4 meters
		Dark grey mudstone - .5 meters
		Mudstones are calcareous and slightly silty in parts.
		Dip varies from 20 - 40° SW/275°.
		Bedding is rolling and contorted.
R105		Base - Medium grey mudstone with abundance of carbonaceous plant material - .1 meters
		Coal; vitreous, relatively clean - .45 meters
		Dark grey to black carbonaceous mudstone; abundance of coaly partings - .3 meters.
		Coal; dull, minor vitreous, relatively clean .15 meters
		Very carbonaceous mudstone with coaly stringers .35 meters
		Mudstone, carbonaceous at base, grading up to slightly carbonaceous siltstone. Ironstone band midway - .35 meters
		Medium grey siltstone; well-defined small scale cross bedding - .4 meters
		Alternating siltstones and mudstones in approximate .4 meter beds - 4.0 meters
		Carbonaceous shale, coaly (.1 meters) oberlain by dark grey mudstone, slightly carbonaceous .15 meters
		Siltstone as before (.7 meters) overlain by a sequence of mudstones, siltstones, and minor carbonaceous mudstones - 4 meters
		Large amount of coal slump on the side of the hill must originate from above.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

		Dips near horizontal; bedding is contorted.
R106		
		Sandstone, dark grey, very fine to fine grained calcareous, small scale cross bedding. Mudstone and siltstone interbedded with minor carbonaceous stringers, more coal slump near outcrop.
R107		SW limb coal section Top - Dark grey siltstone with small scale cross bedding - .3 meters Dark grey mudstone; friable grading into shaly coal - .45 meters Soft, dull, shaly coal - .3 meters Medium grey mudstone; rubbly with some carbonaceous plant material, roots; 5 cm coaly stringer near base. Coal; well consolidated, dull to vitreous, relatively clean - .5 meters. Dark grey mudstone; silty and carbonaceous .05 meters. Coal; generally bright with dull bands; small sandy stringer; hardness varies and is inconsistent throughout seam, Ends in stream, incomplete - 3.4 meters.
R107A		Up section from R107. Siltstone described in R107. Dark grey silty mudstone, non calcareous - .9 meters. Dark grey sandstone, very fine grained, non-calcareous, faint bedding - .65 meters. Dark grey, silty mudstone with uneven bedding and minor plant material - .3 meters Dark grey sandstone, silty and very fine grained; dirty and non-calcareous. Mudstone stringer going back into very fine grained sandstone, becoming calcareous up

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

		Section - .5 meters 79° SW/336°.
R108		Conglomerate; light coloured quartz and dark grey cherts with .2-4 cm diameter pebbles and cobbles. Matrix in medium to coarse grained. 5 meters section. 52° NE/278°.
R109		Medium to dark grey sandstone with buff to orange weathering; medium grained, calcarious 40° SW/320°.
R110		Dark grey sandstone with buff weathering; medium grained; small scale cross bedding. Calcareous with some carbonaceous rootlets. 48° NE/324°.
R111		Conglomerate with dark grey cherts and quartz. NE dip.
R112		Medium to dark grey sandstone; medium grained, slightly calcareous. 56° NE/438°.
R113		Conglomerate with dark grey cherts and quartz pebbles. Dark grey sandstone, silicous with small scale cross bedding. 53° SW/310°.
R114		Dark grey sandstone with red weathering. Medium grained, low angle bedding, non-calcareous. 58° SW/305°.
R115		Medium to dark grey sandstone with buff weathering. Medium to coarse grained, abundant pebbles, silicous. 75° SW/307°.
R116		Dark grey sandstone; fine grained with small scale cross bedding. Non-calcareous. 56° SW/325°.
R117		Sandstone/Conglomerate. Sandstone is medium to dark grey; medium to coarse grained with red to buff weathering. Conglomerate is gritty with small pebbles, less than .3 cm in diameter; mostly dark grey cherts and quartz. Dip varies from 50° SW to vertical/303°.
R118		Medium to dark grey sandstone with orange/red weathering;

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R119		Dark grey sandstone; fine to medium grained with low angle cross bedding; silicous 42° NE/327°.
R120		Conglomerate with chert and quartz pebbles, .4 to 4 cm in diameter. Some coarse and medium grained sandstone present. 4 meter section. 34° NE/309°.
R121		Medium to coarse grained sandstone. Numerous small pebbles, two small conglomerate bands of 10 cm. Total section is 5 meters. Sandstone illustrates very definite small scale cross bedding and is a dark to medium grey colour; silicous with some scattered large pebbles. Rolling bedrock. 23° NE/320°.
R122		Medium to coarse grained sandstone grading to sandy conglomerate; abundance of chert and quartz pebbles and cobbles. Siliocus with some carbonaceous debris. 34° NE/315°.
R123		Dark grey siltstone; indefinite, uneven bedding. Muddy, slightly carbonaceous, non-calcareous with some carbonaceous plant debris; micaceous and rubbled
R124		Rubbled Dark grey silty mudstone; uneven, indefinite bedding. Some sulfur and iron stain colouring; non-calcareous.
R125		Silty mudstone similar to R124 except for bands of well bedded siltstones. Small scale cross bedding and uneven indistinct bedding. Well defined bedding suggests Hulcross formation, non-calcareous. 12°SW/295°.
R126		Block - probably in place Conglomerate with quartz, black cherts and green cherts. Dark grey to buff sandstones; coarse grained.
R127		Dip appears to be NE Dark grey, muddy siltstone with minor, very small carbonaceous fragments, some very small worm burrows; micaceous, non-calcareous, indistinct bedding.
R128		Medium to dark grey sandstone, weathering to buff. Fine grained; flaggy with large scale cross bedding; calcareous. Rubble.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R129		Sandstone rubble, medium to dark grey; fine to very fine grained. Slightly calcareous, no distinct bedding.
R130		71° NE/307°
		3 m Conglomerate, pebbles-cobbles, predominantly dark grey cherts, some light colured quartz and minor green cherts, a coarse conglomerate.
		2 m Sandstone, medium grained, calcareous, throughout section are scattered pebbles, mostly dark grey, cherts, minor conglomerate bands.
		5 m Conglomerate similar to above.
R131		Base 1.5 sandstone medium grey, buff weathering, medium grained, flaggy, large scale cross bedding. Approximately 8 m conglomerate, coarse pebbles to cobbles, mostly black cherts with light coloured quartz, minor green cherts, calcareous. Sandstone matrix. Sandstone interbeds.
R132		Horizontal distance from R131 is 75 feet. Dark grey sandstone, very fine grained. Silicous appearance but fresh surface varies from silicous to slightly calcareous. 41° SW/296°.
		Continuous sandstone dipping into creek from 132 to 133. Sandstone from 132-133 medium to dark grey weathering to buff. Uneven to small scale cross bedding; fine grained.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R133		Very fine grained sandstone, grading to siltstone; non-calcareous, muddy; minor carbonaceous material, rootlets and plant debris. Small scale cross bedding, flaggy, dark grey colour. 35°SW/300°.
R134		Sandstone 46° SW/309° Base (2 m) sandstone, dark grey, very fine grained argillaceous, non calcareous, minor carbonaceous flecks of plant debris. (.7 m) sandstone/siltstone, dark grey uneven bedding, abundant plant material, carbonaceous stringers, non calcareous. (.7 m) Sandstone, dark grey, very fine grained flaggy, micaceous, minor plant debris, silty in part, non calcareous. (1.8 m, Top) mudstone, dark grey, uneven bedding, slightly silty, carbonaceous plant debris, overlain by sandstone (inaccessable).
R135		Dark to medium grey sandstone, fine to medium grained, non-calcareous, large scale cross bedding, dirty appearance because of plant debris.
R136		Dark grey sandstone, fine grained; fragments of plant material, non-calcareous, low angle cross bedding. 20° SW/286°.
R137		North limb of major anticline. Conglomerate (4 meter section) pebbles to cobbles, predominantly dark grey cherts; non-calcareous sandstone matrix; medium to coarse grained; numerous small sandstone beds, medium to dark grey with buff weathering; medium to coarse grained, non-calcareous. 62° NE/315°.
R138		Dark grey sandstone, medium to fine grained; well defined, large scale cross bedding, slightly calcareous.
R139		Medium to dark grey sandstone with buff to orange weathering; scattered pebbles, mostly chert, medium grained, minor coarse grained; large scale cross bedding, slightly calcareous. Interbedded with argillaceous sandstone to fine grained sandstone; calcareous, uneven bedding. Dark grey, minor conglomerate bands. 66° NE/300°

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R140		Dark grey sandstone; fine to very fine grained. Small scale cross bedding, very definite. Calcareous, wavy appearance, Well spaced silty bands. 64° NE/305°.
R141		70° NE/295°
		5 m Sandstone, dark grey, argillaceous, silty, bedding uneven, weathers rubbly, calcareous, silty and more laminated near base.
		.8 m Sandstone, medium grey fine to very fine grained, undefined bedding, rootlets.
		.8 m Mudstone. silty, dark-medium grey, calcareous
		1 m Carbonaceous mudstone/mudstone
		10 cm band of mudstone, carbonaceous, grading into
		20 cm of soft clean mudstone.
		50 cm of mudstone, silty stringers
		20 cm coal, muddy at top and base
		1.5 m Sandstone, medium to dark grey, very hard weathers orange, calcareous no distinct bedding.
		2 m Carbonaceous sequence, predominantly mudstone bedding, very contorted. Two 10 cm coal stringers near top and one 20 cm coal stringer near base.
		1.5 M Sandstone, folds over from steep north limb of anticline to shallow dipping south limb. Sandstone very fine grained, laminated with carbonaceous silt-stone/mudstone some fine to medium grained sandstone beds.
R142		.5 meter section of dark grey sandstone, poorly sorted. small scale cross bedding to uneven bedding. Very fine, (argillaceous) to fine to medium grained. Above this .5 meters of hard, dark grey sandstone weathering to red; fine grained. Both sandstones are calcareous 38° SW/324°.
R143		Medium grey sandstone; slight buff weathering non-calcareous; fine grained with small scale cross bedding 23° SW/316°.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R 144		Very fine grained sandstone; argillaceous with definite large scale cross bedding. Underlain by a similar sandstone which is dark grey, fine grained, non calcareous and contains some minor plant debris. 27° SW/290°
R145		Dark grey sandstone; very fine grained, argillaceous, slightly calcareous with uneven bedding. Abundance of rootlets. Underlain by crumbled mudstone, silty and poorly exposed, dark grey in colour.
R146		5 meter sandstone outcrop Base (2 m) Sandstone beds (30-50 cm) interbedded with 5-10 cm of carbonaceous mudstone and siltstone beds. Abundance of carbonaceous plant material in the sandstone, calcareous. Middle (1 m) Medium grey sandstone, medium grained, calcarious with no distinct bedding, clean appearance. Top (2 m) Dark grey sandstone, very siliceous, dirty in appearance with some carbonaceous plant flecks. 19° SW/296°.
R147		Mudstone, dark grey, uneven bedding, abundance of small plant material (leaves, stems, etc.) non-calcareous, concoidal fracture; minor silty portions, two iron tone bands.
R148		Sandstone, 3 meter section Medium grained sandstone with minor coarse and fine grained sandstone. Several medium to dark grey mudstone clasts; siliceous, carbonaceous plant material. Rolling bedrock. 40° SW/326°.
R149		5 meter section of sandstone and siltstone. Base - 1 meter of medium grey sandstone, buff weathering, very fine grained, calcareous, indefinite bedding. Very hard. 2 meters of interbedded, very fine grained sandstone to less resistant siltstone and muddy siltstones. Uneven to small scale cross bedding. Some of the small siltstone/mudstone beds are carbonaceous, calcareous. 2 meters of medium to dark grey 2 meters of medium to dark grey sandstone, fine grained, calcareous with small scale cross bedding. Abundant plant material in some portion

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R150		Medium to dark grey sandstone; medium and coarse grained, grading to small pebble conglomerate; silicous.
R151		Conglomerate (ridge); pebbles to cobbles; dark grey cherts with quartz. Medium to coarse grained sandstone matrix, silicous. Medium to dark grey sandstone bed, medium to coarse grained, and silicous. Ridge is 8 meters thick. 47° NE/307°.
R152		Conglomerate ridge, same as R151 57° NE/297°.
R153		Conglomerate ridge, same as R151 66° NE/295°.
R154		Medium to dark grey sandstone, medium grained with large scale cross bedding. Calcareous with minor carbonaceous plant material. 65° SW/300°.
R155		Smaller grained pebbles than previously encountered. Large percentage of light coloured quartz, dark grey and red cherts. Beds of dark grey, coarse and medium grained sandstone. 40° SW/298°.
R156		Conglomerate with large dark grey chert and quartz pebbles. Coarse to medium grained sandstone matrix, silicous. Coarse grained sandstone beds with large and small pebbles scattered throughout. Decreasing in sandstone content moving up section into conglomerate.
R157		Conglomerate ridge 53° SW/308°
R158		Dark grey sandstone, fine to medium grained. Silicous, abundance of carbonaceous mudstone clasts. Large scale cross bedding; dirty appearance. 25° W/Strike varies from 220° - 260°.
R159		Dark grey sandstone, very fine grained, well defined bedding, abundance of carbonaceous plant debris (rootlets etc.) 3 meter section; calcareous bedrock, rolling dips are variable, 20° in both directions. Strike seems to be approximately 240°.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R160		Medium to dark grey sandstone, fine to medium grained with large scale cross bedding - indefinite; calcareous. 25° NE/310°.
R161		Medium to dark grey sandstone, medium to coarse grained, to very small pebble conglomerate. Calcareous with small scale cross bedding. 25° NE/294°.
R162		Medium grey sandstone with buff weathering; fine to medium grained, indefinite bedding, slightly calcareous. 86° SW/311°.
R163		Medium to dark grey sandstone with buff weathering, medium grained, well defined bedding, large scale cross bedding, slightly calcareous. 33° NE/317°.
R164		Medium grey sandstone with buff weathering, fine to medium grained, calcareous, flaggy bedding. Large round worm burrows near base. 40° NE/308°.
R165		61 NE/313 Sukunka Fm Moose bar @ base Top, sandstone, dark grey, some medium grey/buff weathering bedding varies from very distinct to uneven and undefined. Silty laminae in part. Some carbonaceous plant material small worm burrows calcareous. This lithology grades into non calcareous dark grey very fine grained sandstone. Well defined bedding, large scale cross bedding. Dark grey siltstone with indistinct bedding, non calcareous. Downsection increasing in dark grey siltstone, minor bands of buff weathering very fine grained sandstone. Siltstone, bedding varies from indistinct to distinct small scale cross bedding. Minor mudstone clasts and small to medium sized worm burrows. Pelecypod shell. Base of section become mudstone slightly silty dark grey no bedding, small worm burrows, non calcareous.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R166		Lithology similar to R165. Lower Section
R167		Lithology similar to R165. Dark grey mudstone. No bedding.
R168		Dark grey siltstone, no distinct bedding, non calcareous, similar to above.
R169		Dark grey siltstone; very muddy, carbonaceous plant material, silty bands, non-calcareous. 41° NE/296°.
R170		Medium to dark grey sandstone, fine grained, low angle bedding, some flaggy bedding. NE dip/308°.
R171		Medium to dark grey sandstone with buff weathring, fine grained, faint low angle bedding, flaggy, calcareous. 37° SW/330°. R170-R171 limbs of anticline.
R172		Siltstone rubble, well defined bedding, silicous, dark grey, laminations thinning and thickening throughout.
R173		Dark grey siltstone; indistinct uneven bedding; non-calcareous. 11° NE/285°.
R174		Dark grey siltstone, same as R173. Some laminations. 36° NE/302°.
R175		Laminated siltstone and very fine grained sandstone, dark grey; well defined low angle bedding; non-calcareous. 52° NE/324°.
R176		Same lighology as R174, tight fold; south limb is dipping 50° NE/303°.
R177		Dark grey siltstone, laminated bedding present but not really distinct. Down section increasing to very well bedded; very fine grained, non-calcareous. 36° NE/324°.
R178		Medium grey sandstone, medium grained, non-calcareous. Clean contact with siltstone above. Extremely fine laminations of siltstone with very fine mudstone flecks along laminations. Dark grey siltstone, micaceous; uneven bedding; several pyrite flecks and some very small carbonaceous flecks. Sandstone beds are also present, and have a dirty

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____ : DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

		carbonaceous plant debris; beds of calcareous and non-calcareous sandstone.
		Overall getting into sandstone beds moving down-section. Basal sandstone has several carbonaceous rootlets; Dark grey, fine grained, calcareous.
R179		Medium to dark grey sandstone, fine grained to argillaceous; low angle bedding, some plant debris; flaggy; rootlets. 28° NE/290°.
R180		Medium to dark grey sandstone, very fine grained, argillaceous, slightly calcareous, thinly bedded; coal bloom present. 24° NE/294°
R181		Across the stream from R180 a carbonaceous shale horizon, probably is causing the coaly bloom underlying the sandstone in R180.
R182		Medium to light grey, sandstone, clean, medium grained, poorly consolidate; non-calcareous. Underlain by section of fine bedded sandstone with carbonaceous layers, very thin. 23° NE/317°.
R183		Medium grey sandstone, fine to medium grained, thinly bedded with bands of very thin carbonaceous layers, leaf and plant debris, non-calcareous. Down section to 30 meter outcrop of sandstone which is poorly consolidated; carbonaceous plant debris stringer less than 1 mm in thickness, non calcareous.
R184		Base - Dark grey sandstone, dirty in appearance; very fine grained thinly bedded, becoming muddy up section; carbonaceous debris throughout in thin layers. 33° NE/295°.
R185		Dark grey siltstone, non calcareous, uneven to laminated bedding; downsection laminations decrease and the siltstone becomes muddier. 30° NE/294°.
R186		Dark grey sandstone, very fine grained, silty, argillaceous, micaceous, non-calcareous, carbonaceous rubble below.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R187A		Medium to dark grey sandstone with red to buff weathering; medium to coarse grained grading to small pebble conglomerate, generally dark cherts. 30° NE/307°.
R187B		Medium grey sandstone beds, fine grained, calcareous; interbedded with dark grey, non-calcareous mudstones.
R188		Medium to dark grey sandstone, fine grained; low angle bedding to indistinct, calcareous. 23° NE/308°.
R189		Medium to dark grey sandstone, weathering to buff; clean; fine grained; well defined low angle bedding, slightly calcareous.
R190		Dark grey sandstone, medium and medium to coarse grained; large scale cross bedding flaggy. 11° SW/335°.
R191		Medium to dark grey sandstone; fine to medium grained. Large scale cross bedding, calcareous. 24° NE/293°.
R192		Medium to dark grey sandstone, fine to medium grained, generally low angle bedding; some muddy bands, calcareous. 22° NE/292°.
R193		Rubble, uprooted by tree Dark grey siltstone, abundance of medium to small sized worm burrows; micaceous; indistinct bedding, non-calcareous.
R194		Dark grey siltstone, indistinct bedding, some mudstone clasts and small worm burrows; calcareous. 75° NE/334°.
R195		Dark grey mudstone, silty, abundance of small worm burrows, indistinct bedding, non-calcareous. Near Vertical dip/319°.
R196		Dark grey mudstone, indistinct bedding; small to medium sized, well preserved, round worm burrows; fractureing results in concoidal to splintery rubble; some ironstone nodules.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R197		Dark grey sandstone, fine to very fine grained, flaggy bedding, calcareous. 44° SW/330°.
R198		Dark grey siltstone, indefinite bedding, slightly calcareous; minor, very small worm burrows; micaceous. 23° SW/307°.
R199		Dark grey sandstone, fine to very fine grained, slightly silty; calcareous; well defined bedding, small worm burrows across bedding; carbonaceous plant debris along bedding. 56° NE/310°.
R200		A Sandstone, dark grey, fine grained, very distinct large scale cross bedding, pelecypods in abundance 6 mm to 1 mm across. B Interbedded siltstone mudstones and very fine grained sandstones. Bedding varies from uneven to distinct small scale cross bedding in siltstone and sandstone. Predominantly calcareous, minor plant debris.
R201		Carbonaceous shale bloom; coaly.
R202		Dark grey sandstone, fine grained, siliceous, uneven to to small scale cross bedding; abundance of carbonaceous debris. 80° NE/309°.
R203		Medium grey sandstone, medium grained; clean appearance siliceous. Block, not orientated.
R204		Surface rubble. Abundance of dark grey mudstone with no evident bedding; slightly silty, non-calcareous.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R205		Dark grey siltstone, no distinct bedding, non-calcareous, small to medium sized worm burrows.
R206		Dark grey mudstone, silty, no bedding, non-calcareous.
		5 meters above R206 are some near vertical planes that could either be dip or fractures (probably fractures).
R207		Dark grey mudstone, no definite bedding, non-calcareous; 8 cm ironstone band through section dipping at 45° and not in the direction suggested by the planes in R206. Looks very similar to Moosebar. Dip appears to be southwest.
R208		Siltstone/Mudstone. One layer of siltier sequence within an otherwise homogeneous mudstone lithology; no evedient bedding; slightly calcareous (traces).
		R205 to R207 are relatively homogenous mudstones, silty and dark gery in colour, with concoidal and splinterv rubble.
R209		Dark grey mudstone, silty, non-calcareous, no bedding.
		R208 to R209 are slightly siltier in parts and traces of calcite are seen in fractures; no definite bedding.
R210		Similar lithology to R109. Dark grey mudstone, slightly silty, non-calcareous, no distinct bedding. Dip is approximately 30° W/240°.
R211		Siltstone/silty mudstone. Mudstone is dark grey. Siltstone has non-calcareous well defined bedding, calcareous with buff weatehring. Siltstone upsection is dark grey and calcareous; uneven to small scale cross bedding; small to medium sized worm burrows. 29° W/10° off North.
R212		Medium to dark grey siltstone, slightly sandy, calcareous uneven to small scale cross bedding. 20° W/20° off North
R213		Siltstone/very fine grained Sandstone laminae; minor small worm burrows. Dark grey to buff weathering, calcareous. 27° SW/340°.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R214		Dark grey siltstone, uneven bedding; bands of silty, very fine grained sandstone. Small scale cross bedding, non-calcareous. 43°NE/290°.
R215		Medium to dark grey sandstone, very fine grained; well defined, small scale cross bedding. Mudstone clasts, interbeds of mudstones and siltstones 46°NE/308°.
		Continuing up seciton from R215 is thinly bedded, flaggy sandstone. Dips increase to 80°.
R216		Conglomerate blocks, dark grey to red appearance. 1 to 4 mm grain size. Dark grey cherts and quartz. Red weathering, non-calcareous.
R217		Medium grey sandstone, medium grained, flaggy bedding, calcareous. Overlain by 30 cm of conglomerate with .3 to .5 cm pebbles; dark grey and red charts, light coloured quartz. Flaggy sandstone above conglomerate. 16°W/15° off North
R219		Large conglomerate outcrop with small pebbles and coarse grained siliceous sandstone to .5 cm pebble conglomerate. 10 meters of predominant condomerate, dark grey cherts and quartz.
R219		Medium to dark gery sandstone, predominantly coarse grained, weathers to red. Siliceous grading to fine conglomerate. 7°N/324°.
R220		Coarse grained, siliceous sandstone. Rubble, not orientated.
R221		Sandstone rubble, coaly shale to coal bloom. Not orientated.
R222		Conglomerate blocks, not orientated. Coarse sandstone grading to conglomerate. Well sorted small pebble conglomerate and poorly sorted coarse sandstone with small and large pebbles. Buff to red weathering. Predominantly dark grey cherts with light quartz and red cherts.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R223		SANDSTONE block, medium to dark gery colour, fine grained, calcareous, indistinct bedding.
R224		SANDSTONE block, medium to dark grey in colour, dirty appearance, muddy in parts, some carbonaceous clasts, calcareous.
R225		MUDSTONE, dark grey. Trace of bedding, non-calcareous.
R226		SANDSTONE, dark grey argillaceous; very fine grained, silty in parts, non-calcareous; generally uneven bedding, some cross bedding. $327^{\circ}/51^{\circ}$ SW
R227		Underlies R226 SANDSTONE, dark grey to medium grey, large scale cross bedding. $335^{\circ}/52^{\circ}$SW.
R228		CONGLOMERATE, dark grey with red weathering. Generally small conglomerate pebbles, dark grey and red cherts, and light coloured quartz.
R229		SANDSTONE, dark gery, very fine grained, calcareous, faint bedding. Rubble uprooted by a tree.
R230		SANDSTONE, medium to dark grey with buff weathering. Flaggy, low angle bedding. Fine grained, calcareous. $318^{\circ}/65^{\circ}$NE.
R231		SANDSTONE, dark grey, very fine grained. Low angle bedding, calcareous. $325^{\circ}/67^{\circ}$NE.
R232		SANDSTONE, medium to dark grey, very fine grained, silty, small scale cross bedding, some beds with bedding less distinct. Interbedded with siltstone. Slightly calcareous, minor slickenslides.
R233		SILTSTONE, dark grey, muddy; indistinct bedding, non-calcareous, intermittent beds (approximately 5 cm thick) of siltstone, medium to dark grey in colour, with buff weathering. Very distinct cross bedding, calcareous. Sandy beds, well defined small scale cross bedding. $336^{\circ}/62^{\circ}$NE.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R234		SILTSTONE, similar lithology as R233, medium to dark grey in colour, well defined cross bedding to uneven bedding. Small worm burrows, calcareous; minor calcite veins.
R235		SILTSTONE/MUDSTONE. Dark grey, uneven to indistinct bedding, non-calcareous.
R236		MUDSTONE, dark gery, silty, non-calcareous. No bedding. possible change in dip.
R237		MUDSTONE, dark grey, silty, non-calcareous, no evident bedding.
R238		MUDSTONE, dark grey, slightly silty, non-calcareous, concoidal fracture, no evident bedding.
R239		MUDSTONE, dark grey, silty, non-calcareous.
R240		MUDSTONE, dark grey, silty, non-calcareous, siltier than previous outcrop. Uneven to indistinct bedding.
R241		SANDSTONE, block. Medium grey in colour. Fine to medium grained; buff weathering, flaggy bedding, calcareous.
R242		SANDSTONE, block similar to R141. Medium grey, medium to fine grained, calcareous; buff weathering.
R243		SANDSTONE, block, medium to dark grey in colour. Medium grained, well sorted. Abundance of black chert grains; non-calcareous.
R244		SANDSTONE, medium grey, fine grained with buff weathering non-calcareous; uneven bedding, carbonaceous plant debris. Near Vertical Dip/285°.
R245		SANDSTONE, medium grey, buff weathering, calcareous, flaggy bedding, abundance of large worm burrows. 302°/75°SW

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R246		SANDSTONE, medium grey, buff weathering, calcareous flaggy, very thinly bedded. 307°/84° SW.
R247		SILTSTONE, dark grey, muddy, non-calcareous; uneven to indefinite bedding.
R248		SILTSTONE, dark grey, vey well defined bedding grading to uneven bedding; slightly calcareous. Block was trenched but it is difficult to tell if it is in place.
R249		SILTSTONE, dark grey, distinct cross beddint to uneven bedding, non-calcareous, small to medium sized worm burrows. Trenched by had. 298°/60°NE
R250		MUDSTONE/SILTSTONE, dark grey, uneven to indistinct bedding, calcareous and non-calcareous.
R251		SANDSTONE, block. Medium grey with buff weathering, fine grained, calcareous; flaggy bedding.
R252		SANDSTONE, block. Medium grey, fine grained, buff weathering, low angle bedding, calcareous.
R253		SILTSTONE/MUDSTONE. Dark grey to black in colour. Carbonaceous, non-calcareous. 70° NE to near vertical dip/315°. Overlain by dark grey sandstone, very fine grained, abundance of calcite veins, small scale cross bedding, dirty appearance, calcareous.
R254		SANDSTONE, dark grey with buff weathering, calcareous; indistinct bedding, small band of siltstone, grading into dark grey silicous sandstone with no distinct bedding. Dip near vertical slightly NE
R255		COAL BLOOM overlain by dark grey, non-calcareous, splintery mudstone.
R256		SANDSTONE, medium grey, fine to medium grained with buff weathering; low angel bedding. Near vertical dip/310°.
R257		SILTSTONE, medium to dark grey, well defined cross bedding, uneven bedding, calcareous. Some small worm burrows; grades to very fine grained sandstone. 288°/68°NE

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER.: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R258		SILTSTONE, medium to dark grey; bedding varies from uneven to small scale cross bedding; calcareous; abundance of worm burrows. Dip is NE
R259		SILTSTONE; medium to dark grey, uneven to small scale cross bedding; calcareous; grades to very fine grained sandstone. $305^{o}/76^{o}$SW
R260		SANDSTONE, medium grey, fine to medium grained with buff weathering, low angle cross bedding, calcareous. $295^{o}/40^{o}$SW
R261		CONGLOMERATE, dark grey; predominantly dark grey cherts, some light coloured quartz; silicous; large pebbles in a small pebble matrix.
R262		CONGLOMERATE, predominantly dark grey chert pebbles and light quartz pebbles; coarse sandstone matrix increasing up seciton; non-calcreous. $280^{o}/50^{o}$NE
R263		CONGLOMERATE, large outcrop (4 meters) Dark grey conglomerate, interbedded with some coarse grained, cross bedded sandstone; some red weathering; small to medium size predominantly dark grey cherts. $317^{o}/54^{o}$NE
R264		SANDSTONE, dark grey, medium grained; abundance of orange flecks; poorly defined bedding, siliceous. $300^{o}/54^{o}$NE
R265		SANDSTONE, dark grey, fine grained; mica crystals, calcareous; dirty appearance, fine carbonaceous debris. Abundance of calcite veins and slickensides rubble.
R266		SANDSTONE, dark grey, red weathering, slightly calcareous; flaggy bedding. $317^{o}/51^{o}$SW

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R267		3 meter section CONGLOMERATE, dark grey, dark grey cherts and light quartz pebbles up to 2 cm. in diameter. 315°/54°SW.
R268		SANDSTONE, medium to dark grey, medium to coarse grained with red weathering, some conglomerate bands and scattered pebbles throughout; non-calcareous. 329°/50°SW.
R269		SILTSTONE, dark grey, uneven, non-calcareous; overlain by very fine grained sandstone with well defined cross bedding. 355°/28°SW.
R270		SILTSTONE, dark grey, micaceous; non-calcareous; indistinct bedding; abundance of small and medium sized worm burrows.
R271		SANDSTONE, medium grey, fine grained; flaggy bedding, calcareous. 339°/29°SW
R272		SANDSTONE, medium grey, fine grained with buff weathering thinly bedded, flaggy; large scale cross bedding. calcareous. 335°/23°SW
R273		SANDSTONE, medium grey, flaggy, calcareous, similar to R271. 305°/33°SW.
R274		SILTSTONE, muddy, dark grey, indistinct bedding, micaceous, minor small worm burrows, non-calcareous.
R275		SILTSTONE, muddy, dark grey, some bedding, small scale cross bedding, non calcareous, medium sized worm burrows.
R276		SANDSTONE, medium to dark grey, fine to medium grained, calcareous, abundance of carbonaceous plant debris. 314°/32°SW.
R277		SANDSTONE, medium grey, buff weathering, fine to medium grained, flaggy, calcareous. 314°/48°SW.
R278		SANDSTONE, as in 277, flaggy. 304°/46°SW

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R279		SANDSTONE, medium grey, buff weathering, fine to medium grained, calcareous, flaggy
		305°/40°S@
R280		SANDSTONE, as in 279, flaggy
		303°/47°SW
R281		SANDSTONE, medium grey, buff weathering, calcareous, large scale cross bedding, flaggy
R282		SANDSTONE, medium grey, buff weathering, Calcareous flaggy, block.
R283		SILTSTONE, dark grey, grading to mudstone, some well defined bedding, some indistinct. Calcareous on bedded strata, non calcareous on muddy sequence, with indistinct bedding.
		304/39°NE
R284		CONGLOMERATE, Cadomin, medium and coarse grained siliceous sandstone, abundance of slickensides.
R285		COAL, small coal seam bloom, overlain by calcareous sandstone, containing abundance of large rootlets and plant debris.
		S.W. dip.
R286		CONGLOMERATE, bands within a large bed of Sandstone calcareous.
		322°/62°SW
R287		COAL SEAM, overlain by sandstone (classic lower gething type Sandstone, siliceous, medium grained, abundance of quartz veins in Sandstone. Seam should be detailed and sampled. (Less than 1 m)
		305°/45° SW
R288		CONGLOMERATE, siliceous, coarse grained sandstone matrix, red-dark grey weathering, predominantly dark grey cherts, .2 - 1.5 cm pebbles.
		318°/48° NE

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER.: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

R289		SANDSTONE, coarse grained, grading to small pebble conglomerate, calcareous matrix, abundant dark grey cherts.
		289°/18° NE
R290		SANDSTONE, coarse grained, grading to small pebble conglomerate, poorly sorted, dark grey cherts predominant.
R291		SANDSTONE, dark grey, siliceous, medium to coarse grained, plant debris and large rootlets.
		317°/67° SW
R292		SANDSTONE, medium to dark grey fine grained, indistinct bedding, calcareous near verticle/SW/318°.
R293		CONGLOMERATE, large massive outcrop dark grey cherts and light grey quartz.
R294		CONGLOMERATE, coarse dark grey cherts, minor light coloured quartz, predominantly siliceous, minor calcareous in part, red-dark grey weathering.
		325°/59° SW
R295		Large Conglomerate outcrop.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: Master Creek Area.
PROJECT: Sukunka North. DATE: Summer 1979.
LOCATION: Northeastern B.C. ELEVATION:.
GEOLOGIST: A. Chowdry.

A1		CONGLOMERATE/MUDSTONE-contact of Lower Gething and Middle Gething. Normal sedimentary junction characterized by irregular upper surface of the conglomerate (mainly grits and very fine pebbles) and the change to overlying mudstones (Middle Gething) is through interbedding of grits, very coarse-grained-to fine/medium grained sands and silts.
		Fine conglomerate 2.4 m
		Covered recessive 6.0 m
		Sandstone-very coarse-grained, gritty, cross-bedded 2.0 m 145/60 NE. on irregular surface of conglomerate.
A2		SANDSTONE-buff weathering, well-bedded, fine-grained, appear to be 'A/B' sandstone horizon. 310/79 NE.
A3		Measurement on orange band within dark grey 'splintry' shales and 1.2 m below this is 15 cm thick conglomerate band (? equivalent to conglomerate encountered at top of B seam south of Skeeter Creek). 320/65 NE.
A4		Between A3 and A4 are some slightly carbonaceous shales plus an exposure of very fine-grained sandstone with abundant small-scale cross-lamination. Here at A4 Coal bloom, probably a former trench site.
A5		SHALE/COAL bloom-? Trench site. Some dark grey dirty sandstone debris with abundant slickensides and mineralization.
A6		SANDSTONE-very fine-grained, strongly calcareous. This is the first observed point along this traverse where the dips swings around. 315/37 SW.
A7		SANDSTONE-here thinly-bedded (5 to 10 cm) very fine-to fine-grained sandstone with abundant shaly intercalations. At least 18 to 21 m thick sequence exposed along this road; coaly/carbonaceous bloom. This includes plant fossil site where strongly calcareous fine/medium sandstone entomb rich variety of flora, some of these in bentonitic matrix. 325/29 SW. (appears to be a former trench site).
A8		SANDSTONE/MUDSTONE-sandstone fine-grained, calcareous. Mud slightly calcareous. These underlain by coal/shale sequence. ? former trench. 305/30 SW.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: Sukunka North . DATE: Summer 1979 .
LOCATION: _____ . ELEVATION: _____ .
GEOLOGIST: _____ .

A 9		SANDSTONE-massive, fine-to medium-grained, large slabs with large worm tubes. Up dip, 6 m away, these sandstones pass to massive dark grey, argillaceous fine/medium-grained sandstone, non-calcareous. These sandstones might be equated with conglomerates/gritty sandstone of A1. Along this road, 15 m from A9 are good exposures of the Middle Gething, so A9 is approximately at the Middle Gething/Lower Gething contact.
A10		SANDSTONE-deep orange weathering, fine-grained, greenish/grey on fresh surface. Abundance of glauconite in sands strewn around which seem to result from the disintegration of glauconitic sandstone.
A11		Thinly-bedded sandstone and interbedded shales of Middle Gething. 304/22 SW.
A12		MUDSTONE-medium grey, nodular/rubbly weathering, this section represents the dominantly muddy part of the Middle Gething; (erroneously mapped Moosebar by Manalta) strongly calcareous. 322/16 SW.
A13		SANDSTONE-typical 'A/B' sandstone but sporadic patches of orange weathering with pebbles plus associated dark grey medium-grained sandstone with large amounts of carbonaceous plant debris and roots. The contact of Lower and Middle Gething in middle of the creek bed. 270/19 SE.
A14		SANDSTONE-'A/B' 277/12 SE.
A15		SILTSTONE-dark grey, argillaceous with small-scale cross-lamination, strongly calcareous. 297/16 SW. (Change of dip direction).
A16		A large amount of coal bloom along the road, apparently a former trench site.
A17		SHALES-dark grey, 'splintry', non-calcareous, overlain by buff weathering, argillaceous siltstone/very fine-grained calcareous sandstone. Some carbonaceous smudges around. 325/26 S (toward road).
A18		SANDSTONE-dark grey, very fine-grained, argillaceous, riddled with rootlets, these underlain by mudstone.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: Sukunka North. DATE: Summer 1979.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

A19		SILTSTONE/MUDSTONE-about 20 m long section along the road. All non-calcareous with abundant coaly/carby layers. Note the dip changes to N.E. (into the hill and away from road)? fold, structure. 255/18 NE and 250/24 NE. 303/47 SE. (revisited with Just on June 23). Coal 60 cm, rest clearly sandstone plus ashy mudstone.
A20		SANDSTONE-well-bedded, medium-grained, strongly calcareous, some ripple-drifting. These are exposed on south of road so shales and coals of A19 are either in core of an anticline or are thrusted by these sandstone of A20. 320/22 SW.
A21		SANDSTONE-exactly similar to A20. 313/29 SW.
A22		SANDSTONE-buff weathering, flaggy, cross-bedded sands of Upper Gething. 340/15 SW.
A23		SANDSTONE-well-bedded and thinly-bedded (5 to 10 cm thick) probably very close to Middly Gething because of apparent increase in shales. 304/19 NE.
A24		SANDSTONE-flaggy, fine-grained, dip variations appear to be due to cross-bedding 295/9 NE.
A25		SANDSTONE-grey, thinly-bedded, probably Middle Gething 282/14 NE.
A26		SANDSTONE-fine-to very fine-grained, thinly-bedded (5 to 10 cm) preponderance of shales. Definite Middle Gething 292/19 NE.
A27		SILTSTONE-steel grey to black, small-scale cross-lamination rootlets. These belong to Lower Gething but the contact (with Middle-Gething) is concealed and no manifestation of conglomerate/coarse-grained lithology as is evident elsewhere. 320/17 NE.
A28		SANDSTONE-highly dependable exposure 3 m thick, very fine-grained, buffish/yellowish grey, very thinly-bedded very small-scale cross-lamination. Lower in the Lower Gething sequence. 280/25 NE.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: Sukunka North. DATE: Summer 1979.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

A29		SANDSTONE-4.6 m thick exposure of dominantly gritty, hard, siliceous sandstone with pockets of very fine pebbles. Large tree trunk impressions. There are about 92 cm thick fine-grained, clean,siliceous, laminated sandstone. 305/30 NE.
A30		SANDSTONE-thinly bedded, generally fine-to very fine-grained, very light grey to dark grey (two distinct types), have extensive finely broken plant matter. These are 3 to 3.7 m thick, siliceous, gritty sandstone with ferruginous band underneath and 1.8 to 2.5 m thick carbonaceous/ coal zone possibly 'D' or 'E' horizon. Shaly sequence not fully exposed. 275/14 NE.
A31		SANDSTONE-dark grey, fine-grained, hard, siliceous 260/23 NE.
A32		SANDSTONE-medium grey, medium-grained, very hard and siliceous. 308/31 SW. ? anticline.
A33		SANDSTONE-dark grey, very hard siliceous, medium-grained abundant plant impressions. 327/45 SW.
A34		COAL/SHALE-1.5 m bank along road exposing (in place) carbonaceous/ coal sequence. No measurement possible.
A35		SANDSTONE-small isolated exposure, medium grey, medium-grained, hard, highly siliceous, cross-bedded. 270/16 SW.
A36		SANDSTONE-light grey, very fine-grained, argillaceous, very thinly-bedded (uneven), muddy internally-commonly seen in Lower Gething 293/15 SW.
A37		SANDSTONE-hard, fine-to medium-grained, strongly calcareous, cross-bedded, these overlain by highly silty mudstone rubbly and with rootlets, non-calcareous. Note change in dip direction-? have crossed axis of anticline or fault. 297/20 NE.
A38		SANDSTONE-this is the best and largest exposure along this stretch. Medium grey, dominantly fine-grained characterized by ubiquitous small-scale cross-lamination variable bedding but commonly ranging 15-30 cm and frequent shale intercalations with very thin coaly partings. Total thickness of this measured section 14.8

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: Sukunka North . DATE: Summer 1979 .
LOCATION: _____ . ELEVATION: _____.
GEOLOGIST: _____ .

A38		dark grey 'splintry' shales (non-calcareous) at least 2.4 m exposed but could be much thicker (judging by the recessive unexposed interval). These shales appear to be underlain by large coal float. 305/29 NE.
A39		SANDSTONE-buff weathering, thickly-bedded, large-scale horizontal to cross-bedded sequence. Typical 'A/B' sandstone. 306/26 NE.
A40		MUDSTONE-middle Gething rotten mudstone, appear in-situ but measurements not satisfactory. 285/27 NE.
A41		SANDSTONE-distinctly orange weathering, thickly-bedded with large mudstone intraclasts. There is a recessive zone below these sands probably concealing Upper/Middle Gething contact. 245/24 NE.
A42		SANDSTONE-flaggy sandstone typically of Upper Gething. There are continuous exposures between A41 and A42. 248/10 NE.
A43		SANDSTONE-flaggy, appear Upper Gething. Variable strike and dip etween 330-350 strike and dips range 2 to 5 NE.
A44		MUDSTONE-with siltstone/sandstone layers. Pelecypods abundant-typically Middle Gething. 348/12 NE.
A45		SANDSTONE-buff grey, very fine-grained sands with a mudstone band riddled with worm burrows, strongly calcareous. Typical Middle Gething 305/56 SW.
A46		SANDSTONE-orange weathering, thickly-bedded, strongly calcareous, appears 'A/B' sandstones. This is Middle/Lower Gething contact. 295/37 SW.
A47		SANDSTONE-medium grey sandstone unmistakably of A38. These are immediately underlain by dark grey 'splintry' shales. 307/57 SW.
A48		SANDSTONE-very light grey weathering, medium-grained, calcareous, richly carbonized plant debris, cross-bedded, resistant, medium-to thickly-bedded. 306/56 SW.
A49		SANDSTONE-dark grey, fine-grained, highly argillaceous with highly macerated carbonaceous matter. Lower Gething 293/58 SW.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: Sukunka North _____. DATE: Summer 1979 _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

A50		SANDSTONE-dark grey, very fine-grained, non-calcareous.
A51		SANDSTONE-50 m down the road this exposure of very dark grey, medium-grained, hard siliceous sandstone with carbonized plant matter, argillaceous (? finely-particulate carbonaceous matter in matrix). 315/47 SW.
A52		MUDSTONE-medium grey, silty with abundant plant impressions, strongly calcareous, must be lower in the Lower Gething. 315/56 SW.
A53		SANDSTONE/SHALE-sequence of very fine-grained calcareous laminated, thinly-bedded sandstone and interbedded medium grey strongly calcareous shale but with large amounts of plant debris. Total sequence 5 m thick, of which shale preponderant. 60-90 cm coal/shale beds underlying the above. 305/52 SW.
A54		CONGLOMERATE-?Cadomin, typically large chert/quartzite pebbles closely packed and somewhat wealded. Total conglomerate thickness not exceeding 15 m. There are 1.5 m thick salt-and-pepper, medium-to coarse-grained sandstone, strongly calcareous, entombed within the conglomerate beds. The upper contact of the conglomerate is with thinly-bedded, fine-grained, strongly calcareous sandstone and mudstone-these apparently are the lowest beds of Lower Gething in this region. 302/48 SW.
A55		SANDSTONE-hard, medium-grained, large amount of plant debris, strongly calcareous 300/51 SW.
A56		A large cut on the east side of road showing large amount of coal ? former trench site.
A57		MUDSTONE-thinly-bedded, silty, fine-laminated with ferruginous nodules and strongly calcareous. 280/21 NE. Note change in dip direction. These mudstones have familiar aspect.
A58		SANDSTONE-block of fine-grained strongly calcareous sandstone ? in-situ. Abundant coaly smudges up bank between A57 and A58.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: Sukunka North _____. DATE: Summer 1979 _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

A59		No rock exposed but a good deal of coal in middle of road. Also carbonaceous shales along many stretches between A58 and A59. 340/40-60 dip (measurement on carbonaceous shale not reliable).
A60		This creek named Kimo Creek - no outcrop at all
A61		No rock exposed. This creek named Bar Creek.
A62		Traversed to this point-no outcrop.
A63		MUDSTONE-rubbly, nodular Middle Gething sequence. 305/39 SW 300/34 SW. These measurements 60 cm apart.
A64		SANDSTONE-orange weathering (0.3 cm thick rind), fine-grained, 0.3 m thick and has immediately under it greenish sands-presumably this has resulted from the disintegration of orange sandstone. 280/34 SW. A glauconite band.
A65		SANDSTONE-two orange/yellow very fine-grained sandstone bands, each 10 cm thick. Rest poorly exposed mudstone, appearing Middle Gething. 285/28 SW.
A66		SANDSTONE-thinly-bedded part of the 'A/B' sandstone. Contact of Middle/Lower Gething in Gully as marked on map. 285/30 SW.
A67		SANDSTONE-medium grey, very fine-grained (1.5 m thick), slightly orangy weathering. Appear to be similar to that at A38. These sandstones have buff grey shales, 90 cm splintry shales and these in turn underlain by 2 m thick coal/carbonaceous shale zone. A good deal of coal in it, appears to be of C zone. 290/31 SW.
A68		SANDSTONE-here good number of exposures along steep slope medium grey, fine-grained, argillaceous, small-scale cross-lamination, uneven bedding. 320/38 NE, 322/44 NE 298/38 NE. (dips away from hill). Anticlinal structure
A69		SANDSTONE-buff weathering, fine-to medium-grained with a layer of small pebbles on bedding. This fits its being 'A/B' sandstone overlain by gritty/pebbly horizon-so the Middle/Lower Gething contact along this road, crossing the 'C-C' cut-line. 310/36 SW.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: Sukunka North . DATE: Summer 1979 .
LOCATION: _____ . ELEVATION: _____ .
GEOLOGIST: _____ .

A70		SANDSTONE-flaggy, Upper Gething. This seems to be just about contact of Upper/Middle Gething as this is the first resistant zone and rest below (along road) is recessive. 300/23 SW.
A71		CONGLOMERATE-9 to 12 m thick-mostly medium to small pebbles in sandy matrix. Few tiny orangy pebbles, some medium-to coarse-grained sandstone and pebbles 'floating' within. Note this is the first locality where such a thick and coarse conglomerate has been encountered within the Upper Gething sequence. 323/59 SW.
A72		SANDSTONE-buff, well-bedded to thinly-bedded and flaggy. 23 cm sandstone bed in which large 'Gates type' burrows. Upper Gething. 314/44 SW.
A73		SANDSTONE-massive, cherty, hard, somewhat akin to Chamberlain/Bird floor but clean. Associated sands medium-to coarse-grained, some with medium to small burrows akin to Bird floor but these slightly larger. Large polished and slickensided surfaces. 313/28 SW.
A74		SANDSTONE-thick-bedded, medium-to coarse-grained-all along riddled with medium burrows. 315/41 SW.
A75		SANDSTONE-thinly bedded papery sandstone. Some coaly rubble around. 300/31 SW.
A76		SANDSTONE-steel grey, massive, medium-grained, some rootlets. Good exposures between A74 and A75.
A77		SANDSTONE-flaggy, medium-grained with occasional chert pebbles. Few slabs of conglomerates but pebbles very small (some orangy) and abundant sandstone matrix 340/40 SW.
A78		SANDSTONE-distinctly ash grey weathering, fine-grained, siliceous, rootlets; abundant fucoid markings. Exposures along 40 m road stretch, uneven bedding 310/48 SW.
A79		SANDSTONE-channel lag deposits represented by gritty, hard, siliceous, uneven-bedded sandstone, ill-sorted with impressions of tree fragments. Large dip slope 310/40 SW.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: Sukunka North. DATE: Summer 1979.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

A81		SILTSTONE-similar to the ones at A80. Large amounts of rootlets. Beds distorted considerably-either a tight fold or a fault here. 302/52 NE.
A82		SANDSTONE-dark grey, fine-grained, argillaceous, carbonaceous, plant material (also large plant impressions These sandstones pass below to dark grey shales, somewhat carbonaceous-12 m thick. 308/54 SW.
A83		SANDSTONE-dark grey, fine-grained, argillaceous, carbonized plant debris. 343/43 SW.
A84		SANDSTONE-hard, fine-to very fine-grained, siliceous, clean, light/medium grey weathering, bumpy bedding, impressions of large 'woody' detritus. Between A83 and A84-a huge recessive interval representing large section of carbonaceous/coaly zone. A former trench site. 318/35 SW.
A85		SILTSTONE-well-laminated, clean, thinly-bedded, delicate very small-scale cross-lamination plus ripple lamination, non-calcareous. 275/25 SW.
A86		SANDSTONE-fine-to very fine-grained, graded, laminated, non-calcareous, lenticular bedding, some orangy weathering sandstone and calcareous. These 4.8 m thick sandstone underlain by 4.5 m thick coaly /carbonaceous shales.
A87		SANDSTONE-dark grey, hard, siliceous sandstone with abundant rootlets, large 'bark' impressions, uneven bedding. 305/23 SW.
A88		SANDSTONE-brownish weathering, thinly-bedded, very fine-grained, very small-scale cross-lamination, strongly calcareous. These underlain by carbonaceous shales with abundant rusty debris strewn over. 288/33 SW.
A89		SANDSTONE/GRITSTONE-locally, pockets of fine pebbles; siliceous, devoid of bedding, plant impressions. This is huge slumped outcrop. This sequence is not Cadomin, but belongs to Lower part of Lower Gething. 290/28 SW.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: Sukunka North _____. DATE: Summer 1979 _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

A90		SANDSTONE-thickly-bedded, very fine-grained, orange weathering, small-scale cross-lamination, strongly calcareous. These underlain by huge recessive carbonaceous/shaly zones. Rocky of A90 underlie those of A89. 292/25 SW.
A91		SILTSTONE-dark grey, clean, laminated, strongly calcareous, very poor and questionable outcrop on road. 320/26 SW.
A92		SANDSTONE-undoubtedly in-situ outcrop but has been pared down to road level. Bluish grey, medium to coarse-grained, very hard and siliceous, clean, laminated, Dip and strike difficult to make out.
A93		SANDSTONE/SILTSTONE-medium to dark grey, very fine-grained, sands-small-scale cross-lamination; non-calcareous. This is almost continuous, plane smooth surface of rock at road level. 305/11 SW.
A94		SANDSTONE/SILTSTONE-sands very fine-grained, calcareous, tiny 'cylindrical' leaf impressions. 235/22 SW. (dips away from road).
A95		SANDSTONE-deep orange yellow weathering, very fine-grained, strongly calcareous, finely broken plant matter on bedding, irregular and uneven bedding. 323/35 SW, 328/39 (7-5 m away).
A96		SANDSTONE-orange weathering, very fine-grained, calcareous, plant matter and associated with dark grey shale rubble. 320/44 SW.
A97		SANDSTONE/CONGLOMERATE-contact of coarse-grained, hard non-calcareous sandstone containing sporadic pebbles with massive conglomerate with large pebbles (some 8 cm across)- Conglomerate overlies these sandstone. Coarse-grained sandstone, clean, light and grey, light buff weathering with orange specks (visible under hand lense). Tiny sparse pebbles (there appears to be 'floating'). ?Cadomin. 325/55 SW.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: Sukunka North. DATE: Summer 1979.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

A98		MUDSTONE-Middle Gething, abundant tiny burrows. Here, there are large slabs of flaggy sandstone with large burrows. These appear erratic and follow slope of the hill. A98 might be Upper/Middle Gething contact if the flaggy sandstone adjacent to mudstone are in place. 315/42 SW, 310/38 SW. On Middle Gething.
A99		SANDSTONE-medium grey, fine to medium-grained, 'siliceous' looking but calcareous, plant debris, uneven bedding, small to medium-scale cross-lamination ? Lower Gething 295/29 SW.
A100		SANDSTONE-similar to A99. Calcareous; some distinct salt-and-pepper sandstone (1.52 m), hard. Large exposure in creek. Most sandstone unevenly bedded with carbonized plant debris. Very large recessive zone underneath these sandstone leading to this creek: could this be C coal zone?
A101		SANDSTONE-thinly-bedded, fine-grained, siliceous, rootlets riddled with fucoid markings, small-scale cross-lamination Thin films of dark grey shales on bedding. 302/34 SW.
A102		Stratigraphic sequence as follows: sandstone/siltstone with deep orange weathering. shale-calcareous, pelecypods 2.4 m shale-dark grey, carbonaceous 0.46 m Coal-carbonaceous 1.22 m shales-carbonaceous 1.06 m sandstone-fine to medium-grained 0.76 m 312/27 SW, 303/33 SW.
A103		SANDSTONE-deep orange weathering sandstones and these overlain by ocherous, orange weathering sandstone/shale rubble. These rocks (A103) definitely underlie the coal seam in A102. 322/35 SW.
A104		Sequence of gritstone, channel lag sandstone, and thick bedded, coarse-grained sandstone-a sizeable exposure. 306/37 SW.
A105		A good exposure on road, sequence as follows: Sandstone-very fine-grained with some shales 0.09 m Siltstone-medium grey with large rootlets 0.76 m

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: Sukunka North . DATE: Summer 1979 .
LOCATION: _____ . ELEVATION: _____.
GEOLOGIST: _____ .

		Shales-dark grey to medium grey-0.91 m
		Mudstone-massive, buff yellow weathering-2.3 m
		Shales-carbonaceous, coaly 0.46 m
		Coal-weathered, minor shale parting, about 2.5 m thick.
		Carbonaceous shale/coal - 1.52 m exposed
		This zone (entire stratigraphical package) is very reminiscent of D coal horizon. The coal at this locality was sampled by J. Stobernack. 322/30 SW, 318/27 SW.
A106		Huge dip slope exposure, two lithologies: 1, channel lag deposits 3.65 m 2, underalin by very fine-grained sandstone on coarse siltstone, brownish, lacking lamination, very thinly-bedded, strongly calcareous. 313/48 SW.
A107		SILTSTONE-a large cut along road. Very distinctive strongly rusty weathering, fresh surface dark grey; structureless, clean, calcareous. Strewn among this mostly rubble and orangy chips. Also 0.6 m thick band of strongly orangy, (fresh surface clean and medium grey) strongly calcareous siltstone. 324/30 SW; 326/26 SW.
A108		SANDSTONE-medium brownish grey, fine-grained, micaceous, small-scale ripple cross-lamination, some carbonized leaves, calcareous. Somewhat thinly-bedded and relatively clean. These types of sandstone have been observed elsewhere above the Cadomin. These calcareous-sandstone are underlain by 1.37 m of very hard, siliceous medium-to coarse-grained sandstone with impressions of large-sized plant debris, chert pebbles and chert layers ? Top of Cadomin 330/26 SW.
A109		Conglomerate-Cadomin, measurement taken during previous traverse.
A110		SANDSTONE-suspect tiny exposure; dark grey to black, fine grained, hard, siliceous, cross-lmainated. Adjacent to massive, medium-to coarse-grained sandstone, siliceous. 330/Dip near-vertical to slightly NE.
A111		SANDSTONE-buff weathering, smooth medium bedding, fine-t medium-grained, near-horizontal lamination, strongly calcareous. One 16 cm thick sandstone bed rippled with large 'Gates' type burrows. ? Gates 315/79 NE.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: Sukunka North. DATE: Summer 1979.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

A112		SANDSTONE-light yellow, massive, fine-to medium-grained 16.5 m thick; these underlain by thinly-bedded sandstone 15 m thick with frequent brownish grey shale intraclasts. 317/68 NE.
A113		SANDSTONE-thickly-bedded, fine-to medium-grained, clean, strongly calcareous. These are 3 m thick and are underlain by 18 m of thinly-bedded sandstone with shales. ? Gates. 322/80 NE.
A114		SANDSTONE-distinctly flaggy sandstone with parallel horizontal lamination. 317/31 SW. ? Upper Gething.
A115		SANDSTONE-a good exposure of flaggy sandstone 2.13 m thick. Strongly calcareous. 287/22 SW. ? Upper Gething.
A116		GRITSTONE/CONGLOMERATE-very finely pebbly siliceous, very hard conglomerate, ill-sorted. This is undoubtedly the Middle/Lower Gething contact. Total thickness 2.43 m and includes 0.6m thinly-bedded, fine-grained strongly calcareous sandstone. Middle Gething lithology eroded. 312/37 SW.
A117		SANDSTONE-massive, hard, fine-grained, siliceous, resistant as A116 but fine-grained, locally somewhat coarse-grained. 315/37 SW.
A118		325/Dip near vertical-on contact of Hulcross and massive conglomerate of Boulder Creek. Though the contact is obscure, there is a good deal of thinly-bedded sandstone debris at base of the conglomerate.
A119		SILTSTONE/SHALE-typical lithology of Hulcross-silty shale and argillaceous siltstone with sinuous (3 to 4 mm thick) dark worm trails; non-calcareous. 320/76 NE.
A120		320/77 NE. This is a very distinctive facies. Superficially it is mostly grey and produces splintry/shaly rubble. Intrinsically, it is thinly-bedded sequence of dark to medium grey, very fine-grained sand-sandstone, intricately laminated and frequently interlayered with silty shales; the whole sequence generally calcareous. Much small burrows but these do not resemble Hulcross flat sinuous burrows. Although this sequence superficially resembles Hulcross, it lacks

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: Sukunka North . DATE: Summer 1979 .
LOCATION: _____ . ELEVATION: _____ .
GEOLOGIST: _____ .

		sandstone bands have orange lamination. It would therefore appear to be a brackish/marine facies within uppermost Gates. No actual conglomerate defining Hulcross/Gates boundary has been found.
A121		SANDSTONE-although there is a good deal of buff weathering rubble between A120 and A121, this is the first exposure of Gates Sandstone, thick-bedded but with pronounced near-horizontal lamination. Tiny rusty clasts and rusty plant debris on bedding, strongly calcareous, fine-grained, clean sandstone. 330/85 NE.
A122		SANDSTONE-thick-bedded, distinctly medium-grained, calcareous, some carbonized plant leaves on bedding, but colouration is the same as in A121. i.e. rusty grey and buff. There are about 3.65 m thick sandstone exposed and underlain by dark grey silty shales, non-calcareous with few rootlets. A large recessive area between A121 and A122 and these shales appear to comprise substantial portion of it. 40 m below A122 are some carbonaceous shales, a 23 cm thick orangy, fairly pebbly conglomerate with coal streaks. 325/86 NE.
A123		SANDSTONE-dark grey, fine-grained, highly argillaceous typical 'dirty' aspect of the Lower Gething. Some coal/shale horizon underlying these sandstones. 322/83 NE.
A124		SANDSTONE-dark grey, fine-grained, Lower Gething. 304/30 SW.
A125		SANDSTONE-buff weathering, fine-to medium-grained, clean strongly calcareous, flat lamination, sporadic intraclast on bedding. These sandstones overlain by dark grey, non-calcareous shales. 315/83 NE.
A126		SHALES-silty shales with discontinuous very thin silty stringers, calcareous. This appears to be top most Gates. Contact of Gates/Hulcross taken along this dry creek bed, no pebbly/conglomerate zone seen delineating the contact 315/75 NE.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: Sukunka North. DATE: Summer 1979.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

A127		SHALES/SILTSTONE-Hulcross member.
A128		SANDSTONE-buff, well-bedded, strongly calcareous. Typical A/B sandstone. Flat lying (some of the outcrop along the road). 235/6 NE.
A129		SHALES-dark grey, splintry with hard ferruginous bands. These obviously underlie the A/B sandstone. 273/4 NE.
A130		SANDSTONE-redish grey, very fine-grained, laminated, strongly calcareous. These underlie the Splintry shales. 5/9 NE.
A131		SANDSTONE-medium grey to rusty grey,bery fine-grained, strongly calcareous. Similar to A130 but gently swing around. 312/18 SW.
A132		SANDSTONE-fine-grained, with orange/yellow lamination within dominantly grey, strongly calcareous but hard and 'siliceous' looking. Few carbonized plant impressions. Slickensiding on bedding planes but no shattering of any kind. 325/12 SW.
A133		SANDSTONE-typical A/B looking lithology. These have splintry shales under them and and also splintry shales truning over elsewhere-this completes a broad anti-clinal structure. 337/29 SW.
A134		SANDSTONE-thinly-bedded, fine-to very fine-grained, shaly, strongly calcareous, ? Middle Gething. 310/31 SW.
A135		Contact of Middle Gething with Upper Gething-abundant pelecypod shell in Middle Gething. Buff, ripple-marked slabs with abundant 'Gates' type burrows, some intra-clasts and plant debris on cantact-these typically belong to Upper Gething. 310/52 SW.
A136		306/80 SW and 7.5 away down the road the dip is to NE.but equally steep. Thinly-bedded buff sandstone with abunda shales 0.6 m thick, strongly calcareous, of Middle Gethin May be 18 to 21 m throw, as little Upper Gething present.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: Sukunka North . DATE: Summer 1979 .
LOCATION: _____ . ELEVATION: _____.
GEOLOGIST: _____ .

A137		SANDSTONE-buff, thin-bedded, fine-grained, strongly calcareous, Upper Gething. So between A136 and A137 Middle Gething present. Generally the topography between these points is flat and it accords with its being Middle Gething.
		307/22 SW
A138		SANDSTONE-buff, fine-grained, well-bedded, strongly calcareous. ? Upper Gething/A/B sandstone. 315/36 SW.
A139		SANDSTONE-buff, well-bedded, strongly calcareous slabs riddled with 'Gates' type burrows. ? Upper Gething, 310/30 SW.
A140		SANDSTONE-dark grey, fine-to medium-grained, some of the are massive-very akin to the Chamberlain floor sandstone 340/43 SW. This is the last stable dip-after this all kinds of dip variations and a lot of scattered rock with heavy calcite mineralization strewn over. Dug a small coal patch-it fits with being Lower Chamberlain horizon. 21 m from this point (in a gully) are shaly/thinly-bedded strongly calcareous sandstone with some ripple-drifting and orangy laminae. Some of these rocks resemble those at A130 and A131. Therefore a thrusted Lower Gething (slightly above C zone) on the Lower Chamberlain level.
A141		300/dip near-vertical-on shattered rocks of the nature discribed in A140 (C level zone). A 4 cm thick coal seam appears inclined to SW at high angle at this point. 295/57 SW. (on coal)
A142		SANDSTONE-very fine-grained, calcareous. 335/44 SW.
A143		SANDSTONE-very fine-grained, delicately laminated, strongly calcareous, small burrows-resembles very much with Middle Gething rubble. 312/41 SW.
A144		SANDSTONE-distinctly buff weathering, thickly-bedded, fine-grained, parallel to very low-angle cross-lamination frequently interlayered with mudstone, strongly calcareo Looks very Middle Gethingish. 307/34 SW.
A145		SANDSTONE-thinly-bedded, fine-grained, mudstone layers with abundant microchanneling, wavy lamination, strongly calcareous, typical Middle Gething. 292/37 SW.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: Sukunka North. DATE: Summer 1979.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

A146		MUDSTONE-very thinly-bedded, sandy/silty- Middle Gething 312/82 SW. thrust-faulted.
A147		SANDSTONE-medium to dark grey, very fine-to fine-grained, regularly bedded, coal intercalations, characteristic small-scale cross-lamination, calcareous. Thin sandstone resemble those at A38, therefore C coal zone should be underneath these. There is definite thrust between A146 and A147.
A148		SANDSTONE-two types: 1. fine-grained, calcareous with interval of dark grey lithology. 2. medium-to coarse-grained, siliceous sandstone (below 1). Both sandstones cross-laminated and appear to be same as encountered along cut-line D D' at its intersection with Master Creek. 290/15 SW.
A149		SANDSTONE-buff weathering, clean, well-bedded, fine-grained, strongly calcareous. ? 'A/B' sandstone 320/44 SW.
A150		SANDSTONE-buff, fine-to medium-grained, strongly calcareous. Many intraclasts on bedding planes. Appear Upper Gething. Note there is enough recessive ground between A149 and A150 to accommodate Middle Gething. There is finely broken plant matter and shell fragments on bedding planes. 302/60 SW.
A151		MUDSTONE/SANDSTONE-medium grey to buff, strongly calcareo much small burrows; marine appearance. 14 m thick total sequence. 310/44 SW.
A152		SILTSTONE/MUDSTONE-thinly-bedded, argillaceous siltstone with orange weathering very fine-grained sandstone-continuation of beds in A151. 305/67 SW. (dip seems to vary).
A153		315/78 SW on 1.27 cm thick orange weathering, fine-graine well-laminated sandstone, strongly calcareous, some veining and mineralization in blocks. Abundant dark fla burrows on some beds. Marine aspect. 315/78 SW.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____

PROJECT: Sukunka North DATE: Summer 1979

LOCATION: _____ ELEVATION: _____

GEOLOGIST: _____

A154		SANDSTONE-buff and orange weathering, fine-to medium-grained, strongly calcareous. Rubble has calcite encrustation/shearing. 3.6 m away are dark grey, non-calcareous shales overlying these sandstone. ? Splintry shales of Lower Gething. 313/77 SW.
A155		SANDSTONE-buff, flaggy, fine-to medium-grained, strongly calcareous. ? A/B sandstone 330/14 SW. 307/15 SW-27 m from A155, this measurement on unreliable bedding plane of A/B sandstone; lots of slabs of gritty conglomerate. This exposure is a large dip slope, also glacially striated Middle/Lower Gething contact.
A156		On contact of A/B sandstone with silty mudstone having tiny sinuous burrows. These would appear to represent 'marine' sequence of 'B' coal seam roof and above, before these mudstones pass to splintry shales (down below the road level). 318/17 SW.
A157		SANDSTONE-well-bedded, buff weathering, strongly calcareou fine-grained, well-laminated, (near parallel) and horizontal. Appears A/B sandstone horizon. This is about 200 m long exposure forming elongate ridge. 317/44 SW.
A158		SANDSTONE-buff, flaggy, fine-to medium-grained, strongly calcareous; A/B sandstone. 255/9 SW.
A159		SILTSTONE-medium-grey, rubbly, highly uneven bedding, strongly calcareous, occasional rootlets, finely laminated. Flat dips. This unit appears to underlie that at A158. 250/10 SW.
A160		SANDSTONE-flaggy, well-laminated, fine-to medium-grained has 15 cm thick bed riddled with 'Gates' type burrows, strongly calcareous. A/B sandstone. 308/63 SW.
A161		SILTSTONE/MUDSTONE-extremely hard, dense, medium grey or light grey, strongly calcareous. Middle Gething. 304/35 SW.
A162		MUDSTONE-silty, very rubbly, laminated, finely macerated carbonaceous matter on bedding, strongly calcareous. (dug up outcrop). 330/16 SW.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: Sukunka North. DATE: Summer 1979.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

A163		SANDSTONE-flaggy, fine-grained, A/B sandstone. These sandstone underlain by splintry shales-top of which have intertidal aspect. i.e. rapid alternation of very fine grained sandstone and dark grey mudstone, erosional boundaries, micrograding, rippling, strongly calcareous. These pass to splintry shales and have 10 cm thick orange weathering ironstone band. Enormous exposure. 292/15 SW.
A164		SANDSTONE-(below splintry shales), grey weathering, fine to very fine-grained, ripple-drifting, some plant matter, strongly calcareous. 295/10 SW; 307/27 SW on contact of splintry shales and ripple sandstone.
A165		On contact (concealed) of Moosebar and Sukunka. No measurements possible.
A166		SHALES-Moosebar Formation, dug up 'exposure' at 'Christmas' tree .
A167		SANDSTONE-medium-grey to dark grey, medium-grained, hard with pebbly layers. The exposure is patchy-4.5 m long and is the only indication of beds dipping NE. so as to make it normal but very anticline-this would allow these sandstones to be overlain by Moosebar Formation (actual contact is concealed), otherwise it would be a thrusted contact. 320/27 NE.
A168		SANDSTONE-identical to sandstone in A167. 310/35 SW.
A169		SANDSTONE-medium-to coarse-grained sandstone riddled with small burrows. 23 cm thick conglomerate with fine to medium chert pebbles. 325/16 SW.
A170		205/11 SW on faulted contact of Upper Gething sandstone with underlying Moosebar Formation. The sandstones have 23 cm thick conglomerate band as seen in A169. Shattered exposure of Moosebar (3.96 m thick) but the overlying sandstone undulate at low angles. Below Moosebar and A169 are dark grey to black sandstone of Bird floor.
A171		SANDSTONE-well-bedded, medium-grained, strongly calcareous, pebbly layers. 225/12 SW.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: Sukunka North . DATE: Summer 1979 .
LOCATION: _____ . ELEVATION: _____ .
GEOLOGIST: _____ .

A172		SANDSTONE-thick bedded, medium-grained, pebbly layers, just a sliver of coal (at point of measurement) within these sandstone. 287/26 NE. A tight anticline.
A173		SANDSTONE-medium-grained, hard, pebbly. Anticlinal flexure. 310/15 SW.
A174		SANDSTONE-thick bedded, medium-grained forming syncline These are underlain (6 m away) by 4.6 to 6 m thick Bird Marine band and sub-Bird Coal. This coal rests on dark grey sandstone floor (with small characteristic worm burrows and followed by the larger ones) identical to the Bird floor. 320/36 NE.
A175		Contact (concealed) of Lower Chamberlain dark grey sandstone floor with ? coal (there is enough recessive zone) 317/38 NE.
A176		325/15 NE. on huge exposure, bedding surface. Extensive gingerbreading.
A177		328/19 NE. on contact of well-bedded, cross-laminated sandstone with recessive silty mudstone (0.91 m thick) strongly calcareous. Marine aspect. A good proportion of this unit is very fine-grained, laminated sandstone have some sandy worm tubes, some pelecypod burrows. The immediate contact with sands (above) is riddled with medium burrows (in sandstone).
A178		SANDSTONE-similar to A176. Anticlinal swing-enough recessive concealed zone for Chamberlain marine band to repeat. 297/26 SW.
A179		Contact of Chamberlain floor sandstone (1.52 m thick) and recessive zone of Lower Chamberlain seam. Anticline. 307/26 SW.
A180		SANDSTONE-dark grey sandstone (1.13 m thick) of sub-Bird horizon. These have coal on top which in turn is overlai by Bird Marine band. 302/35 SW.
A181		SANDSTONE-buff, flaggy sandstone (12 m thick) - 10.6 m aw is a recessive zone and appears to house a thrust. 297/29 SW.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: Sukunka North _____. DATE: Summer 1979 _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

A182		SANDSTONE-sub-Bird, 1.13 m thick, these are overlain by sub-Bird coal seam, 0.3 to 0.46 m thick-highly sheared 316/30 SW.
A183		On contact of sub-Bird coal seam and Bird marine band. 305/32 SW.
A184		On well-bedded buff-weathering sandstone contact with underlying Bird marine band. 312/28 SW.
A185		SANDSTONE-buff weathering, thick-bedded, medium-grained, abundantly pebbly and some conglomerate layers. This is 100 m long outcrop and because of low dips appears thick but actually 6 m thick. 278/17 SW.
A186		SANDSTONE-buff, well-bedded, fine-grained, strongly calcareous. The dips must have swung to NE. well before A186. Just below A186 is a recessive zone and whole pile of buff sandstone with flat burrows identical to Bird Marine band. 198/19 NE.
A187		SANDSTONE-sub-Bird, black to dark grey, abundant small worm tubes. 324/67 SW (overturned, as is indicated by inverted cross-sets).
A188		323/47 NE. measured on the parting of Lower Chamberlain seam. Sequence as follows: Coal, much shearing, 0.91 m Sandstone-very fine-grained, argillaceous 0.46 m, Coal, fractured 0.91 m. Shattered laminite comprises immediate roof and strewn all over. Floor sandstone, very dark grey and clearly see
A189		318/20 SW on the limb of anticline (Lower Chamberlain coal trench and laminite roof seen below water level in water-filled quarry).
A190		SANDSTONE-glacially striated, buff, fine-to medium-grained, well-laminated (parallel), strongly calcareous. 295/11 NE.
A191		SANDSTONE-distinctly dark grey, typical floor sandstone of coal seam, thickly-bedded, non-calcareous, hard; gentle anticlinal swing. 197/15 SW.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: Sukunka North. DATE: Summer 1979.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

A192		SANDSTONE-buff, fine-grained, clean, well-laminated, would readily split into flags, strongly calcareous. 310/69 NE.
A193		SANDSTONE-thinly-bedded, buff, cross-laminated, strongly calcareous. 347/51 NE.
A194		Very thinly-bedded, dark grey sandstone overlain by abundant carbonaceous mudstone/siltstone and these have 0.40 m thick coal. 325/47 NE.
A195		SANDSTONE-medium to dark grey, very fine-grained, siliceo very hard, poorly-laminated and ill-defined bedding. ? Lower Gething. 320/42 NE.
A196		SANDSTONE-thin-to thick-bedded, fine-to very fine-grained clean, distinctly siliceous, small-scale cross-lamination Lower Gething aspect. 12 m below this is a bed of gritty conglomerate, 0.61 m thick. 310/47 NE.
A197		SILTSTONE-medium/dark grey, silty laminae, strongly calcareous, some ripple-drift lamination. Also quite sha needlelike carbonized leaves, coaly streaks; a bed of 0.6 m thick fine-grained sandstone, strongly calcareous. About 3.7 m thick carbonaceous shales below these silt-stone/sandstone. 330/34 SW.
A198		CONGLOMERATE-Cadomin, 5 to 8 cm across chert pebbles. This exposure comprises polished surface. 325/15 SW.
A199		CONGLOMERATE/SANDSTONE-Contact; sandstone light grey, clean and with occasional fine chert pebbles. This exposure of Cadomin is about 20 m from base of Skeeter Creek to top of this bluff. 310/25 SW.
A200		SANDSTONE-dark grey, medium-grained, poorly-sorted, uneven-bedded, siliceous, carbonaceous, hard, locally dark grey chert pebbles. Large 'wood' fragment impressions on bedding planes. Lower Gething. 315/21 SW.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: Sukunka North . DATE: Summer 1979.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

A201		315/32 SW-a good section along road leading into cut-line Mostly medium grey shales with some lamination, strongly calcareous, with orangy specks of plant debris. 0.91 m thick coal sample. Roof is calcareous mudstone (3.7 m thick), the coal underlain by carbonaceous shales. Above the calcareous shales are 4.6 m thick fine-to medium-grained, strongly calcareous sandstones. There are overlain by 12 m thick locally coarse-grained sandstone with carbonized plant material on bedding (simulating intraclasts). Other sandstone fine-grained, non-calcareous. Coal sample no. 201-looksupper seam of Lower Gething. 295/51 SW. (9 m away from A201).
A202		SANDSTONE-buff to orange grey, fine-to medium-grained well-laminated with rubbly mudstone of Middle Gething. Contact of Lower and Middle Gething 6 m down slope. 310/44 SW.
A203		SANDSTONE-buff, flaggy, fine-to medium-grained, strongly calcareous. Middle/Upper Gething contact concealed. 297/44 SW.
A204		SANDSTONE-buff, thinly-bedded, flaggy. 313/23 SW.
A205		SANDSTONE-buff weathering, fine-to medium-grained, strongl calcareous, Upper Gething. 313/19 SW.
A206		SANDSTONE-buff, flaggy, fine-to medium-grained, clean, laminated, strongly calcareous. 292/24 SW.
A207		SANDSTONE-as above. 298/33 SW.
A208		SANDSTONE-small exposure of buff, fine-to medium-grained sandstone with a pelecypod (5 cm long). 292/16 SW.
A209		SANDSTONE/MUDSTONE-sandstone very fine-grained, thinly-bedded, mudstone silty with tiny burrows, strongly calcareous, this exposure appears to be just at transitio of Upper/Middle Gething. 290/26 SW.
A210		SANDSTONE-buff, fine-to medium-grained, strongly calcareous, 1.52 m thick; 3 m down this road is contact of ? Upper/Middle Gething or ? Upper Gething sandstone with Bird marine band. Between A209 and A210 exposure of rubbly calcareous mudstone-? Bird marine band.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER:_____.
PROJECT: Sukunka North . DATE: Summer 1979 .
LOCATION:_____. ELEVATION:_____.
GEOLOGIST:_____.

A211		SANDSTONE-dark grey, medium-grained, rootlets, calcareous coaly bands. A block of shelly sandstone around- is Skeeter, shell or sub-Bird coal? No obvious evidence of structural disturbance. Sandstone 2.13 m thick and the coal is intercalcated. 340/40 SW.
A212		SANDSTONE-buff to grey, fine-grained, strongly calcareous 315/23 SW. This exposure is just 6 m below some carbonaceous mudstone.
A213		Laminite-comprising roof of the Lower Chamberlain 310/24 SW.
A214		Coal bloom-good coal smudge on side of the road ? Lower Chamberlain horizon.
A215		SANDSTONE-dark grey, fine-to medium-grained; hard thickly bedded, Lower Chamberlain floor. 310/16 SW.
A216		SANDSTONE-as above. 290/16 NE.
A217		Laminite of Lower Chamberlain. There is not enough roof to accommodate syncline, so the south west dips of laminite might be due to faulting. 290/35 SW.
A218		SANDSTONE-dark grey, medium-grained, thick-bedded, carbonaceous smudge above these sandstone. ? Normal/ overturned. 330/dip near-vertical but slightly to NE.
A219		SANDSTONE-distinctly flaggy (just below the road are good flaggy sandstone exposures). The sandstone has gritty/ conglomerate layers on bedding - a situation similar to exposures in flaggy sandstone on road to Master A. 195/10 E.
A220		SANDSTONE-buff, well-bedded, reliable bedding. 275/14 S.
A221		SANDSTONE-as above 195/10 ? S.E.
A222		SANDSTONE-as above. 297/24 SW.
A223		SANDSTONE-buff weathering, gritty layers on bedding, akin to A219. 300/36 SW.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: Sukunka North _____. DATE: Summer 1979 _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

A224		SANDSTONE-buff, well-bedded. This is essentially on exposure along strike and exposed for 60 m. 310/37 SW.
A225		SANDSTONE-well-bedded, buff, locally pebbly. 320/24 SW.
A226		SANDSTONE-dark grey, ? Lower Chamberlain floor, huge dip slope. Coal probably is in the recessive zone in muskeg. 317/25 SW.
A227		SANDSTONE-distinctly flaggy, cross-bedded, buff. Upper Gething. 180/9 NE. A distinct ledge formed by these sandstone, 6 m away from A227. 185/10 NE.
A228-A237		The geology of the area covered by stations A228-A237 has been revised during a subsequent traverse, therefore these stations have been discarded and have no future reference.
A238		Conglomerate-mostly fine-to medium pebbles, a good proportion of green cherts, locally well-sorted. Boulder Creek Member. 310/60 SW.
A239		CONGLOMERATE-Boulder Creek. 310/67 SW.
A240		SANDSTONE-pinkish grey, thinly-bedded, fine-to medium-grained, strongly calcareous. Widely scattered fine grit and very fine pebbles. ? Gates. 310/78 NE.
A241		SANDSTONE-a small outcrop of flaggy, buff, strongly calcareous sandstone 303/70 SW.
A242		SANDSTONE- as above. 315/75 SW.
A243		SANDSTONE-small outcrop of flaggy, buff sandstone 300/30
A244		SHALES-dark grey to black,'splintry shales', some discontinuous silty lamination, non-calcareous. A carbonaceous lithology in float. Definite ferruginous splintry lithology with 'concentric' lamination. Adjacen to this exposure (dug up) to the north is a recessive zon
A245		SANDSTONE-flaggy, strongly calcareous. 302/52 SW.
A246		SANDSTONE-flaggy rubble.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: Sukunka North. DATE: Summer 1979.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

A247		SANDSTONE-medium to dark grey, thick-bedded, fine-to medium-grained, clean, non-calcareous. ? Bird, Lower Chamberlain sandstone floor (though not the immediate flo Coal seam probably down in the swamp. This is a large and very prominent outcrop jutting out. 320/71 SW.
A248		SANDSTONE-buff, fine-to medium-grained, strongly calcareous. Syncline with its axis in the bog. 302/44 NE.
A249		SANDSTONE-thinly-bedded, pinkish grey, fine-to medium-grained, non-calcareous. Boulder Creek sandstone. These are overlain (4.6 m away) by Boulder Creek conglomerate. 312/74 NE.
A250		SANDSTONE-similar sandstone(as above) within Boulder Creek 318/64 NE.
A251		Conglomerate-Boulder Creek rubble.
A252		SANDSTONE-these beds occur below the Shell Coal. 318/18 SW.
A253		SANDSTONE-buff, flaggy, fine-to medium-grained, strongly calcareous. Just 3 m below these are highly distorted and sheared mudstones underlain by coal (? Presumed sub-Bird). A thrust zone. 338/33 SW.
A254		SANDSTONE-buff, flaggy, strongly calcaroeus. Syncline. Just 3 m below is Middle/Upper Gething contact. 318/23 NE
A255		MUDSTONE-Middle Gething. 318/23 NE.
A256		MUDSTONE-Middle Gething with distinctive orange weathering sandstone band. 310/27 NE.
A257		SANDSTONE/MUDSTONE-Middle Gething. 290/10 NE.
A258		Faulted contact of Middle Gething with ? Skeeter level coal. Roof of coal seam shaly and distorted. 182/20 NE.
A259		SANDSTONE-buff, fine-grained, ripple-drifted; these sandstones are below the fault. 330/37 NE.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: Sukunka North . DATE: Summer 1979 .
LOCATION: _____ . ELEVATION: _____.
GEOLOGIST: _____ .

A260		SANDSTONE-orange weathering with abundant plant debris This is stratigraphically below A259. 316/16 NE.
A261		SANDSTONE-dark grey, fine-to medium-grained, non-calcareous, typical floor sandstone of Lower Chamberlain 340/8 NE.
A262		SANDSTONE-buff weathering, fine-to medium-grained, Upper Gething. 325/17 NE.
A263		SANDSTONE-as above, very large outcrop along the road. 272/8 NE.
A264		Contact of flaggy sandstone and Chamberlain Marine band (0.9 m exposed). 294/13 NE.
A265		SANDSTONE-buff, flaggy. 205/5 NE.
A266		SANDSTONE-as above. 330/26 NE.
A267		SANDSTONE-buff, flaggy, fine-to medium-grained, strongly calcareous, pyrite nodules. 310/17 NE.
A268		MUDSTONE/SANDSTONE-interbedded sequence of medium grey dense strongly calcareous mudstone with worm burrows and thinly-bedded, very fine-grained sandstone-appear Middle Gething. The Upper/Middle Gething contact is close to station A267. 243/12 SW.
A269		MUDSTONE-Middle Gething mudstone with siltstone/sandstone interbedding. 318/10 SW.
A270		MUDSTONE-Middle Gething. 290/21 SW.
A271		MUDSTONE-as above. 340/13 SW.
A272		MUDSTONE-Middle Gething. 310/28 SW.
A273		MUDSTONE/SILTSTONE-Middle Gething 242/10 SE.
A274		MUDSTONE-Middle Gething; slight anticlinal structure. 340/31 SW.
A275		MUDSTONE-Middle Gething. 342/27 SW.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: Sukunka North _____. DATE: Summer 1979 _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

A276		MUDSTONE-as above. 335/20 SW.
A277		MUDSTONE/SILTSTONE-interbedded, Middle Gething. 260/12 SW.
A278		MUDSTONE/SANDSTONE-orange weathering. 320/16 SW.
A279A		MUDSTONE-medium grey, dense and completely free of coarser terrigenous detritus. Difficult to take measurement due to lack of well defined bedding, though a very large exposure.
A279B		From A279A, there is a distance of 170 m (along the road) to Mid/Lower Gething contact. The dark grey fine-to medium-grained, clean sandstones (glacially striated surface) are seen but the conglomerate defining the contact is not exposed. 312/14 SW.
A780		SANDSTONE-thinly-bedded, buff weathering, strongly calcareous with large 'Gates' type burrows, fine-to medium-grained. 335/40 SW
A281		SANDSTONE-similar to above. 330/41 SW.
A282		SANDSTONE-buffish weathering, fine-to medium-grained, finely macerated and carbonized plant debris, reddish weathering intraclasts, strongly calcareous. 327/49 SW.
A283		GRITSTONE-grading to medium conglomerates and locally passing to very coarse-grained sandstone, 1.8 to 2.4 m thick. 335/56 NE. Are these conglomerates in Gates?
A284		SILTSTONE/MUDSTONE-dark grey to medium grey, lithologies resemble Sukunka. Few flat burrows, non-calcareous, some very fine-grained sandstone laminae, vaguely laminated (presumably having survived partial bioturbation). A small dug up exposure for measurements. 317/27 SW.
A285		SANDSTONE-buff weathering, thinly-bedded, medium-grained, clean, orangy specks, strongly calcareous. ? Upper Gething. 330/80 NE.
A286		SANDSTONE-medium grey, much siltstone/mudstone laminae and large bands. Sandstone fine-to very fine-grained-the whole sequence non-calcareous and appears to resemble Sukunka. Note going uphill there is abundant scree of this lithology and forming similar slope. Therefore

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: Sukunka North _____. DATE: Summer 1979.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

		Sukunka probably started 80-100 m below station A286. Typical sinuous burrows. 312/59 SW.
A287		Contact of Gates with Sukunka. 315/55 SW.
A288		SANDSTONE-medium to dark grey, very fine-grained, unevenly-bedded, very argillaceous, very slightly carbonaceous, non-calcareous. ? Gates Sequence. 335/74 SW.
A289		SILTSTONE/SANDSTONE-very fine-grained, argillaceous lamination with abundant sinuous burrows, non-calcareous-Sukunka Member. ? a syncline or faulting. 315/83 SW.
A290		Scree slope of what appears to be Sukunka. No measurements possible due to extensive rubble.
A291		Between A290 and A291 there is very steep, rubble laden slope. No exposures but presumably recessive lithology.
A292		CONGLOMERATE/GRITSTONE-0.9 m thick brief exposure 335/40 SW.
A293		SANDSTONE-medium to dark grey, fine-to medium-grained (some coarse-grained), siliceous, argillaceous, 15 cm thick orange weathering bands. Typical Lower Gething aspect. 342/44 SW. Also 322/44 SW-18 m thick exposure and this can be traced for a distance of 50 m along the creek.
A294		SANDSTONE-buff to medium grey, fine-to medium-grained, strongly calcareous (? Upper Gething). A major thrust indicated between A293 and A294. A small exposure in stream bed.
A295		SANDSTONE-buff weathering, well-bedded, fine-to medium-grained, strongly calcareous. Upper Gething. Small exposure in stream. 332/32 SW.
A296		SANDSTONE-dark grey, fine/medium-grained, hard, non-calcareous. Typical floor sandstone of Lower Chamberlain Coal seam. 347/16 SW.
A297		SANDSTONE-buff, distinctly flaggy, low-angle cross-bedding. Exposure 40 m long and rocky 9 m thick. Upper Gething. 195/20 SW.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: Sukunka North. DATE: Summer 1979.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

A298		SANDSTONE-almost continuous exposure of distinctly flaggy, buff sandstone. 191/32 SW.
A299		SANDSTONE-flaggy, Upper Gething. 175/36 SW.
A300		Contact of Upper/Middle Gething-perfectly exposed. 180/33 SW.
A301		SANDSTONE-Middle Gething-very thinly-bedded, fine-to very fine-grained, strongly calcareous, finely laminated. 196/34 SW.
A302		MUDSTONE/SANDSTONE-Middle Gething sequence. 212/25 SW.
A303		Contact of Middle Gething (conglomerate) with Lower Gething. These are A/B sandstone. 225/29 SW.
A304		SANDSTONE-a good, laterally traceable outcrop of sandstone in this saddle; buff, well-bedded, fine-to medium-grained; strongly calcareous. Total thickness 9 m. 325/37 SW.
A305		SANDSTONE-distinctly flaggy, buff, fine-grained, strongly calcareous. A good exposure, 2.15 m exposed. 200/11 NW. and 220/13 NW. (into the hill).
A306		SANDSTONE-buff, flaggy, strongly calcareous, fine-grain 245/5 NW. (into the hill).
A307		SANDSTONE-dark grey, well-bedded, medium-grained, non-calcareous, ?Lower Gething. Location on map questionable 325/50 SW. (away from hill).

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____

PROJECT: SUKUNKA NORTH DATE: SUMMER'79

LOCATION: MARATHON CREEK AREA ELEVATION: _____

GEOLOGIST: KIWAN KIM

K1		Conglomerate:
		Sub-rounded to rounded, 1-1.5cm of chert pebbles in a coarse grained sandstone matrix, non-calcareous,
		10-15cm of medium grained sandstone intercalated, light grey weathering, iron staining, abundant plant debris.
		273-6SW
K2		Sandstone:
		Very fine grained, silty, medium grey weathering, thinly bedded, abundant small plant debris, non-calcareous.
		342-75SW
K3		Sandstone:
		Very coarse grained, medium grey, buff weathering, thickly bedded, non-calcareous, large scale of cross bedding, indistinct bedding.
K4		Sandstone:
		Very fine grained, medium grey, buff weathering, thinly bedded, very weakly calcareous, shell fossil , slightly carbonaceous, mudstone interbedded.
		292-52NE
K5		Sandstone:
		Very coarse grained, medium grey, poorly sorted, thickly bedded, large scale of cross bedding, orange weathering.
		318-82SW
K6		Siltstone:
		Dark grey, thinly bedded, non-calcareous, iron rusted on weathering surface, very fine grained sandstone in places
		330-87SW
K7		Siltstone:
		Dark grey, thinly bedded, non-calcareous, iron rusted.
		331-85SW
K8		Shale:
		Dark grey, ferrugeneous, well bedded, small scale of cross bedding.
		334-Vertical
K9		Shale:
		Dark grey, ferrugeneous, well bedded, contorted texture

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

K10		Shale:
		Same as previous station.
		321-75NE
K11		Sandstone:
		Fine grained, medium grey, well sorted, thickly bedded,
		brown weathering, strongly calcareous, small scale of
		cross bedding, abundant plant debris, large worm burrows.
		327-72SW
K12		Mudstone:
		Dark grey, carbonaceous, plant debris, non-calcareous,
		sheared.
		305-52NE
K13		Sandstone:
		Fine grained, medium grey, thickly bedded, orange
		weathering, well sorted, clean, calcareous.
		345-55SW
K14		Sandstone:
		Very fine grained, dark grey, thinly bedded, buff
		weathering, non-calcareous, well bedded.
		350-55SW
K15		Sandstone:
		Medium grained, medium grey, thickly bedded, strongly
		calcareous, orange weathering, plant debris.
		346-40SW
K16		Sandstone:
		Medium grained, medium grey, thinly bedded, flaggy,
		orange weathering, non-calcareous.
		333-39SW
K17		Sandstone:
		Medium grained, medium grey, orange weathering, thinly
		bedded, strongly calcareous.
		359-35SW
K18		Sandstone:
		Fine grained, medium grey, thinly bedded, clean, well
		sorted, non-calcareous, buff weathering.
		328-45SW

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

K19		Sandstone:
		Fine grained, medium to dark grey, very hard, thinly bedded, abundant carbonaceous material, non-calcareous, buff weathering.
		265-15NE
K20		Sandstone:
		Very fine grained, dark grey, silty, small pin burrows, thinly bedded, non-calcareous, buff weathering.
		304-76NE
K21		Siltstone:
		Dark grey, strongly calcareous, numerous calcite veinlets, abundant worm burrows, disturbed, might be fault zone. 10m west of station K21, 330-72SW, medium grained, sandstone, thickly bedded, medium grey, strongly calcareous, clean, well sorted, small scale of cross bedding, orange weathering.
		295-63SW
K22		Sandstone:
		Medium grained, medium grey, strongly calcareous, thickly bedded, orange weathering, clean, well sorted.
		330-45SW
K23		Sandstone:
		Fine grained, medium grey, strongly calcareous, orange weathering, abundant plant debris, clean, well sorted.
		335-45SW
K24		Same as K23.
K25		Sandstone:
		Medium grained, medium grey, strongly calcareous, clean, well sorted, thickly bedded, abundant worm burrows buff weathering.
		316-90°
K26		Siltstone:
		Medium grey, strongly calcareous, orange weathering, abundant pin burrows.
		308-74NE

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

K27		Coal Bloom:
		Mixed with broken coaly mudstone on bank.
K28		Mudstone:
		Interbedded siltstone, highly sheared, calcareous,
		contorted.
		328-53SW
K29		Sandstone:
		Fine grained, medium grey, thinly bedded, strongly
		calcareous, orange weathering, flaggy, abundant worm
		burrows (0.5-1cm).
		299-54SW
K30		Coal Bloom:
		Associated with dirt on bank.
K31		Coal Bloom:
		Same as station K30.
K32		Coal Bloom:
		Same as station K31.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

K60		Sandstone:
		Medium grained, grey, thinly bedded, strongly calcareous
		large worm burrows, orange weathering.
		310-43SW
K61		Sandstone:
		Medium to coarse grained, grey, thinly bedded, cal-
		careous, orange weathering.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: Sukunka North. DATE: Summer 1979.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

AK 83		SILTSTONE-(predominant)/MUDSTONE-some fine-grained sandstones. Strongly calcareous. ? Lower Gething 306/ near-vertical dip.
AK 84		Lithology as above. Some interbeds of dark grey medium-grained siliceous sandstone with plant impressions plus dark grey shales, somewhat carbonaceous 295/80 SW.
AK 85		Frequently interbedded siltstone (orange weathering) calcareous, and black papery shales. 298/72 SW.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: Sukunka North. DATE: Summer 1979.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

AK 86		SANDSTONE-medium-grained, very clean, extremely hard and siliceous; these underlain by 60 cm thick siltstone/ very fine-grained sandstone with shaly intercalations. Siliceous sandstone (2.4 to 3.0 m thick) and associated minor siltstone are underlain by distinctly carbonaceous shales, 2.4 m in thickness 298/59 SW.
AK 87		6 m thick sequence of shales with widely spaced siltstone incorporating numerous coaly intercalations each 5 to 10 cm in thickness. 295/42 SW.
AK 88		SILTSTONE-dark grey, strongly calcareous. 325/34 SW.
AK 89		SILTSTONE-dip slope of calcareous siltstone. 326/31 SW
AK 90		SILTSTONE-dark grey, abundant carbonized plant debris, thinly-bedded, rootlets, on dip slope. 300/34 NE.
AK 91		SILTSTONE-(grey, strongly calcareous) and silty mudstone. These underlie coal bloom zone, apparently the coals of AK 87 representing the other limb of the syncline. 325/23 NE.
AK 92		After AK 91, siliceous sandstone of AK 86 are encountered and these are underlain by siltstone, argillaceous, finely cross-laminated and strongly calcareous. 318/23 NE.
AK 93		SANDSTONE-very fine-grained, siliceous, very small-scale cross-lamination. These are underlain by fine-to medium-grained clean sandstone, strongly calcareous. A total of 6 m thick section explored along the cutline 287/46 SW.
AK 94		CONGLOMERATE-? Cadomin-a large dip slope. Rock exclusively composed of pebbles of all sizes-mainly cherts and quartzites. 325/27 E or NE.
AK 95		SANDSTONE-coarse to very coarse-grained, conglomerate layers, siliceous. Anticline and/or thrust. 310/52 SW.
AK 96		CONGLOMERATE-massive with coarse-grained siliceous sandstone interval in middle. 9 m thick section. 312/58 SW.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: Sukunka North . DATE: Summer 1979.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

AK 97		Following station AK 96 down slope there is a considerable recessive zone comprising of buff grey calcareous shales riddled with large 'worm' tubes in near vertical position. Also carbonaceous shales (0.9 m thick), somewhat coaly and associated with 0.9 m siltstone very argillaceous, strongly calcareous 325/25 SW.
AK 98		SANDSTONE-very fine-grained, siliceous. Dip slope 332/41 SW.
AK 99		SANDSTONE-as above, on the same dip slope-no gain or loss of strata. 305/32 SW.
AK 100		SANDSTONE-very fine-grained, siliceous to calcareous (dominantly), small-scale cross-lamination. ?Lower Gething. 315/29 SW.
AK 101		SANDSTONE-fine-grained, siliceous. Characterized by excessive intercalation of dark grey to black carbonaceous shales, abundant siliceous veining and surface of block quartz encrusted. These are underlain by a coal zone 1 m thick. 298/41 SW.
AK 102		SANDSTONE-synclinal limb of sandstone exposed at AKR 101 311/50 NE.
AK 103		SANDSTONE-fine-grained, siliceous, some carbonaceous shales. 305/69 NE.
AK 104		Blocks and slabs of medium to coarse-grained sandstone with large chert pebbles ? Cadomin or post Cadomin.
AK 105		CONGLOMERATE-? Cadomin, crowded with chert pebbles; some very coarse-grained abundantly pebbly and siliceous sandstone. 317/37 NE.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

WB1		Medium grey sandstone, fine to coarse grained. Very small pebbles; indistinct bedding. Siliceous. Overlain by conglomerate, distinct appearance. Medium to light coloured quartz and dark grey cherts. Crumbly, with a quartzite luster; siliceous. Flat lying outcrop suggests low dip.
WB2		Conglomerate similar to WB1. Apparent strike and dip: 280°, 12° NE.
WB3		Conglomerate and sandstone outcrop. Generally large conglomerate pebbles and cobbles in a medium grey, medium grained sandstone matrix. Pebbles and cobbles are generally light coloured quartz and some cherts. 294°, 14° NE.
WB4		Conglomerate and sandstone, same as WB3.
WB5		Medium grey conglomerate, siliceous. Predominantly small pebbles of approximatley .5 cm diameter. Some pebbles up to 1 cm. Abundance of light coloured quartz with some dark grey cherts. Low dip suspected. Similar to WB3.
WB6		Conglomerate same as WB5 except for a higher concentration of sandstone. Siliceous, becoming coarser grained down section.
WB7		15 meter conglomerate cliff. Light quartz and dark grey cherts. Small pebbles to large cobbles. Generally small minor siliceous sandstone beds. Large scale cross bedding.
WB8		Conglomerate rubble to sandstone. Sandstone is dark grey and siliceous with buff weathering and carbonaceous flecks. Sandstone blocks not in place but suggested facies change.
WB9		Dark grey sandstone, very fine grained. Argillaceous with an abundance of carbonaceous plant rootlets. Indistinct bedding; calcareous. 345°, 27° NE.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

WB10		Large South facing outcrop.
		Estimated Thickness
		291°, 47° NE
		4 meters dark grey sandstone, medium to minor coarsegrained, abundance of carbonaceous plant material Small scale cross bedding. Calcareous. Sandstone grades to mudstone.
		2 meters medium to dark grey mudstone with a coincidal fracture. Plant material and carbonaceous bands are also present.
		3 meters medium to dark grey sandstone. Silty, calcareous and very argillaceous.
		2 meters dark to medium grey mudstone with a coincidal fracture. Calcareous with carbonaceous stringers.
		10 meters dark to medium grey sandstone; argillaceous; silty with some siltstone beds. Gradational minor coaly stringers, one near the base being 10 cm thick. Distinct bedding and small scale cross bedding. Varies from non-calcareous to very calcareous.
WB11		4.5 meters of conglomerate. Dark grey cherts and light coloured quartz. Dark grey to reddish weathering. Pebbles generally less than 1 cm grading up to 3 cm. Coarse, siliceous sandstone bands. 252°, 25° SE, 300°, 31° SW.
WB12		1.5 meters dark grey sandstone with dark grey to orange weathering. Poorly sorted with large scale cross bedding. Slightly calcareous. Medium and coarse grained.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

		1.5 meters dark grey sandstone. Very coarse grained to very fine grained conglomerate. Very calcareous. Dirty appearance. Some orange weathering.
		1 meter dark grey mudstone. Indistinct bedding; calcareous; slightly micaceous. Concoidal fracture.
		3 meters very fine grained sandstone. Argillaceous. Well defined low angle bedding. Laminated in parts changing to indistinct bedding. Very hard. Calcareous. Near horizontal.
WB13		Block. Siltstone/sandstone. Sandstone is very fine grained and argillaceous with distinct low angle bedding. Platy fracturing along bedding plane. The plates have distinct vitreous surfaces and an abundance of calcite veins perpendicular to bedding.
WB13A		2 meters upstream from WB13. Dark grey sandstone, argillaceous, very fine grained. Silty and calcareous with minor plant debris. Overlain by dark grey mudstone with a concoidal fracture. No bedding. Clean black appearance. Non-calcareous. 320^{o}, 71^{o}NE. Abundance of slickenside rubbles near WB13.
WB14		Dark grey sandstone, fine to very grained. Buff weathering with well defined small scale cross bedding. Calcareous. 287^{o}, 17^{o} SW
WB15		Fine grained sandstone, dirty in appearance. Buff weathering, calcareous. Fine carbonaceous muddy Laminae present in the sandstone. Some carbonaceous plant debris. Low angle bedding. 271^{o}, 20^{o} SW
WB16		Medium to dark grey sandstone; buff weathering; indefinite bedding, abundance of carbonaceous rootlets, etc. Mudstone stringers (5cm thick) every 30 to 50 cm. Mudstone is carbonaceous in parts. 340^{o}, 85^{o} SW

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

WB17		Top - 1.5 meters medium grey siltstone, indistinct bedding. Abundance of plant debris. Calcareous, muddy base.
		.6 meters medium to dark grey mudstone. Carbonaceous to very poor coal in parts.
		5 meters dark grey silty mudstone with an abundance of fine carbonaceous material. Calcareous.
		.15 meters carbonaceous mudstone.
		.7 meters medium to dark grey siltstone. Indefinite bedding; calcareous.
		$291^{o}, 14^{o}$ NE.
WB18		Small bed of carbonaceous mudstone overlying 1 meter of dark grey, very hard siltstone which is calcareous and has an abundance of carbonaceous plant debris.
		$310^{o}, 10^{o}$ NE
WB19		Medium to dark grey siltstone/argillaceous sandstone. Low angle distinct bedding; some thinly bedded portions Calcareous
		$347^{o}, 14^{o}$ NE.
WB20		Dark grey sandstone, medium grained with some carbonaceous material. Calcareous.
WB21		Medium to dark grey siltstone. Very well defined small scale cross bedding.
		7^{o} Due north, east
WB22		Medium to dark grey sandstone, fine to medium grained. Buff weathering, calcareous. Low angle and minor flaggy bedding.
		$339^{o}, 12^{o}$NE.
WB23		Dark grey sandstone, argillaceous. Very hard, calcareous; indistinct bedding. Block: may not be in place.
WB24		Medium grey sandstone, fine grained; calcareous; small scale cross bedding.
		$354^{o}, 62^{o}$E .

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

WB25		Sandstone cliff (4 meters) Medium to dark grey in colour, medium and coarse grained; siliceous. Difficult to determine dip. Near horizontal to 8° W. Strike is 350°.
WB26		Meidum to dark grey conglomerate, predominantly dark grey cherts and light quartz. Pebbles are generally less than .2 cm in diameter. Siliceous.
WB27		Medium to dark grey sandstone; fine to medium grained, calcareous; small scale cross bedding. 285°, 10° SW.
WB28		Dark grey sandstone; fine grained; bedding varies from indistinct to large scale cross bedding. Siliceous. 2 meter section. 302°, 21° SW
WB29		Dark grey sandstone; very fine grained, laminated with siltstone. Well defined low angle bedding. Calcareous. Rubble, not in place.
WB30		3 meters of sandstone, medium grey in colour. Fine to medium grained; buff weathering. Large scale cross bedding. Calcareous. 354°, 16° SW
WB31		Top - 2 meters dark grey sandstone; fine grained. Faint bedding, appears to be large scale cross bedding. Some carbonaceous plant debris throughout. 317°, 20° SW
		2.5 meters dark grey siltstone. Undefined bedding (poorly exposed) Abundance of iron staining. Calcareous.
		.5 meters dark grey siltstone, very fine grained. Uneven bedding; calcareous; iron staining.
WB32		Siliceous sandstone and conglomerate beds (2 meters). Dark grey in colour; fine to medium grained. Indistinct bedding. Siliceous. Small pebble conglomerate, pebbles less than 1 cm in diameter. Light quartz and dark grey cherts.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

WB33		Large cliff of sandstone and conglomerate.
		Top (1m) Sandstone medium grey, medium grained siliceous ; low angle bedding; some minor conglomerate.
		Top Dip 10° S/5°N Bands and coarse grained sandstones.
		5m Conglomerate "Channel" pebbles up to 1.5 cm. light coloured quartz and some dark grey cherts.
		(.5m) Conglomerate bed underlying channel. Conglomerate bed is of similar composition to channel with minor sandstone lenses.
		(1m) Sandstone coarse grained siliceous with abundance of small gritty conglomerate lenses.
		(1.5) Sandstone dark grey medium grained siliceous small pebble conglomerate lenses in part well defined small to large scale cross bedding.
		Base Dip 352°,21° SW- 2m conglomerate base medium to dark grey. Light coloured quartz and dark grey cherts. Similar sandstone/conglomerate (5m) short distance downstream
WB34		Medium to dark grey sandstone, medium grained . Siliceous. Low angle bedding.
WB35		Conglomerate blocks, not in place. Small pebbles generally less than 1cm in diameter. Predominantly light coloured quartz with some dark grey cherts.
WB36		Conglomerate blocks similar to WB35.
		Some coarse grained, siliceous sandstone grading to conglomerate. No evident bedding.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

WB37		Dark grey sandstone blocks with distinct small scale cross bedding. Carbonaceous material along bedding and carbonaceous rootlets throughout. Fine grained, non-calcareous.
WB38		Dark grey sandstone; medium to coarse grained with some orange flecks. Abundance of dark grey cherts. Shallow westerly dip; near horizontal bedding.
WB39		Medium to dark grey sandstone with orange weathering. Medium grained to minor coarse grained; abundance of pebbles throughout. 279^{o}, 11^{o} NW. (difficult to determine)
WB40		Medium dark grey sandstone with orange to buff weathering. Low angle bedding; non-calcareous. Near horizontal dip - approximately 5^{o} NW.
WB41		Medium to dark grey sandstone with orange weathering. Medium to coarse grained; calcareous. Large scale cross bedding. Low angle bedding. 20^{o} SE, strike varies from 20^{o}E of north to 10^{o}W of North.
WB42		Medium to dark grey sandstone with buff weathering. Fine to medium grained; calcareous; some small carbonaceous rootlets. Low angle dip.
WB43		Medium to dark grey sandstone with buff to orange weathering. Small and large scale cross bedding. Fine to medium grained sandstone interbedded with medium grained sandstone. Calcareous. 222^{o}, 14^{o} SE
WB44		10 meters of Cadomin conglomerate with both small and large pebbles.
WB45		Bedding goes from vertical to near horizontal and back to vertical.
WB46		Conglomerate. Small pebbles to pebbles up to 3 cm in diameter. Does not correlate with WB44. 320^{o}, 10^{o} (dipping east).

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: July 25/79.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: R. Adamowicz & E. Bulger.

RA1		Strike: 133, Dip 17° NE , Elevation 1465 m a.s.l.
		Lithology: Sandstone; 3 meters thick
		weathering colour: Maroon to Rose to medium or dark brown and dark grey
		Fresh Colour: Medium to dark brown
		Description: Sandstone is very fine grained,
		calcareous, finely laminated and possibly small scale cross-beds are present. This lithology displays moderately high resistance against weathering and is basically a cliff former.
		Formation: Lower Gething possibly
RA2		May not be in place Elevation: 1490 m a.s.l.
		Lithology: Sandstone; 1.5 meters thick
		Weathering colour: Medium grey brown
		Description: Sandstone is medium to coarse grained (coarser than sandstone in RA1) where grain diameter ranges from 0.5 -0.25 mm, non-calcareous, iron staining is present on fresh surfaces.
RA3		No bedding is visible, Elevation: 1485 m a.s.l.
		Lithology: Coal and Overlying siltstone; 7 meters thick. Note: The location of RA3 is basically
		in a cutbank and essentially is a scree slope.
		Hence trenching had to be done in order to reach outcrop. The exposure showed three different
		lithologies; overlying siltstone, carbonaceous shale, and underlying coal.
		Descriptions:
		a) Siltstone, bedding attitude not determined,
		2 meters thick, weathering colour: Buff to medium or dark orange brown. Fresh Colour:
		Medium to light grey brown, quite calcareous, contains small inclusions of carbonaceous
		material $\pm$ 1 mm across, small cross-beds are present and bands are formed as fine
		grained and coarse grained material
		b) Shale, Bedding is undetermineable, interbeds
		30 cm thick, very carbonaceous, quite resistant and weathers to a dark brown to dark
		grey colour.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

		c) Coal, bedding indeterminable, 1 m thick, very friable, displays a vertical cleat in basically one direction and coal is intermixed with argillaceous material (high in ash therefore)
RA4		Strike - 24 Dip - 12° S.E. Elevation: 1495 m a.s.l Lithology: Sandstone and conglomerate, 2.5 m thick Description: a) Sandstone; weathering colour - medium to dark grey with a polygonal pattern of lichens covering the exposure. Fresh Colour: medium to dark brown and displays a salt & pepper texture. Description: Sandstone is medium to coarse grained and contains large scale cross-beds (forsets from 5-10 cm wide) and is non-calcareous. b) Conglomerate: weathering colour - dark to medium grey and brown. Fresh colour - medium grey brown Description: Grain diameter range from 0.5 to 5.0 mm. Note: Conglomerate displays a intertonguing relationship with the sandstone where lenses of conglomerate interfingers sandstone. This 2.5 m of exposure forms a small cliff which extends for a length of 300 meters on a bearing of 230 azimuth.
RA4-1		Strike: 285, Dip: 4°NE Elevation: 1495 Lithology - Sandstone, 2 meters thick Weathering Colour: rose-light brown Fresh Colour: medium to light grey-brown. Description: non-calcareous and medium grained, no definite bedding visible but maybe actual bedding surface present. Generally horizontally-bedded: Note: this exposure is on trend with RA4 and therefore probably represents the same rocks.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER : _____.
PROJECT : _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

RA5		Strike: 75 Dip 4° S.E., Elevation: 1500 m a.s.l Lithology: Sandstone weathering colour: patchy rose to light brown and cream (lichen) Fresh Colour: Medium grey brown Description: Medium grained sandstone with laminations present, both calcareous and non-calcareous. Streaks on freshly broken surfaces, and pebbles are present, predominantly chert and some quartz and range in size from 5 - 2 mm in diameter. Hammer ringing sandstone

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: July 26, 1979.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: R. Adamowicz & E. Bulger.

RA6		Strike: 307, Dip: 14° N.E., Elevation: 1170 m a.s.l
		Lithology: Siltstone, 1 meter thick
		~~Weathering colour: (wet) medium green-brown to darker~~ orange brown.
		Fresh Colour: Dark grey to orange brown or dark brown
		Description: Non calcareous and exposure contains vertical fracturing at orientation of 206 Azimuth.
		The low dipping strata forms a dip slope which forms a low angle spillway
		Note: Significant amounts of coal was found in float and a sample of coal float was taken
		see RA#6 coal float
		Next step was to walk up stream and check creek and upstream tributary creeks.
RA7		No rocks in place, Elevation: 1170 - 1210 m
		A variety of lithologies were found (in float) in the lower 50 meters of cutline which forms a creek at the present time.
		Lithologies found included medium to coarse grained sandstones (salt and Pepper texture), siltstone (medium brown weathering colour), and lower Gething (?) conglomerate (1 - 12 mm grain diameter; quite resistant), and pieces of quartzite (hydrothermally deposited).
		Sandstones are mildly calcareous.
		No coal was found in the float in this tributary creek The next larger was walked.
		At the base at RA7 (where cutline meets creek, a 90 cm diameter boulder at lower gething conglomerate was found.
RA8		Strike: 301 Dip: 13° N.E., Elevation: 1175 m a.s.l.
		Lithology: Coal versus shale
		a) Roof Lithology: Shale (very friable), 60cm exposed
		Weathering colour: Rusty to buff to medium grey brown
		Fresh colour: Rust to yellow orange to medium grey
		b) Floor Lithology: Shale, 90cm thick
		Weathering Colour (wet: dark chocolate brown to rusty yellow.
		Description: Shale is very irresistant (friable)

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

RA8 (Cont'd).

Note: 10 meters downstream (north) roof is much more resistant and is a more indurated lithology.

c) Coal: upper surface bound by 3cm of carbonaceous shale.

- 55cm coal, high ash content (up to 20%)
- dominantly dull coal with few bright bonds (1-2cm thick)
- cleat of coal is vertical and has an orientation of 355° and 70° with the former predominating
- bottom 10cm of this seam shows best quality
- intercalations of coal and shale (floor) are found at coal/floor contact where this coal is also of high quality
- 90cm of the floor lithology is exposed

Note: The west bank of this creek also shows coal bearing exposure where the coal is approximately 66cm thick. Therefore is would be logical to assume that this coal seam thickens as we go approximately 10 meters from station location across to other bank.

RA9

Strike: No bedding orientation, Elevation 1185m
Note: 10m above RA8 more exposure was found.
Description: Starting from base of exposure.
Lithology:

a) Shale, 3 meters thick, very calcareous shale, fissile, interbedded with 20-25cm of friable shale (non-calcareous) with a concretionary or modular type habit.
b) Shale, 3 layers 58cm, 25cm and 1.5m thick, all fissile, and choclate brown to a mild rusty (weathering) colour.
c) Shale, 2 layers, 24cm and 40cm thick of modular or concretionary like shale which ranges from a buff to dark rusty (weathering) colour.
d) Shale, 1 layer, 30cm thick, resistant, very slightl calcareous and looks to be almost massively bedded, weathers to an orange red and medium grey brown.
e) Shale, 135cm thick as above, fissile
f) Shale, 30cm thick, weathers to a red orange to buff colour, very calcareous
g) Shale, 100cm thick, as above
h) Shale, 170cm thick, very calcareous, weathers to a red to buff colour, massively bedded, flaggy appearance and contains wisps of carbonaceous debris

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

RA9 (Cont'd).		Formation: Characteristic of Lower Gething.
RA10		Strike: 315 Dip 17°NE, Elevation 1165
		Lithology:
		Siltstone, 1.25 meters thick weathering
		Colour, lime green to dark rusty brown
		Fresh Colour, dark to medium grey
		Description, very calcareous, emits large amounts of gas upon efferuesance , well laminated which seem to result from bedding (and grain size variations) but could be a result of colour variations.
		Note: This lithology looks much like thesiltstone of RA6, therefore it seems probable to assume that coal may be present above RA10.
RA11		No bedding visible, Elevation 1120
		Lithology:
		Sandstone (not in place)
		Weathering Colour, Buff
		Fresh Colour, Medium to light grey
		Description, very calcareous, several boulders were found in higher reaches of the creek bank (not fluvially transported), large boulder of sandstone (nondcule) is located here also (gravity pull seems most reasonable form of transport).
RA12		Strike: 320 Dip 21°NE, Elevation 1085
		Combination of Lithologies, 27.6 meters outcrop, ~~see~~
		Description:
		Base, 0-5m, Lithology, Mudstone, Elevation 1120
		Weathering Colour, Dark grey to black (when wet)
		Fresh Colour, Dark grey to brown
		- this lithology is very friable and is non-resistan
		contains numerous shear surfaces, basal 2 meters is generally resistant and displays a buff to rusty colour and also shows some patches which are quite friable.
		- the upper 0.75m is much the same as the basal 2m as described above.
		5-8.7m - cover
		8.7-12.6m - Slump Block, consists of dark grey to black non-calcareous slightly silty shale (well bedded) and 1m thick buff to medium grey, medium calcareous shale (also very slightly silty).

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

RA12 (Cont'd)

- both lithologies in this block are well fractured and sheared and contains carbonate infill, in fractures, slickensides are also present.

12.6-14.1m - Shale, possibly mudstone (not well bedded).

Weathering Colour, Buff to orange brown or rust coloured.

Fresh Colour, Medium to darker grey-green to grey-brown.

- this lithology is moderately calcareous and tends to look massively bedded, although bedding planes are present, there are only a few visible.
- along one or two of these bedding planes we found non-resistant non-calcareous mudstones (maximum 5cm thick)
- generally well broken (friable) near basal 1m of this intreval and becomes more resistant near top
- almost a nodular concretionary habit is present in basal 1m of this intreval
- mudcracks are also present on weathered surfaces
- fractures are also present and occur vertical to bedding at orientations of 120 and 210Azimuth

14.1-21.6m - interbedded resistant siltstone and non-resistant shales which weather to a friable appearance.

- non-resistant shale varies from 1.0-1.5m thick (3 layers) while the resistant siltstone varies from 0.5-0.75m thick

a)non-resistant shale, is generally quite friable and also resistant in alternating layers, in which the later are also quite calcareous and the former are non-calcareous

Weathering Colour, medium green-grey

Fresh Colour, medium to dark chocolate brown.

b)resistant siltstone is moderately calcareous and is a cliff forming unit.

- contains some coaly filaments which range from 2-7cm long and from 2-3mm wide.

Weathering Colour, buff to yellow orange to olive brown

Fresh Colour, medium chocolate brown

- very fine laminations are present.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

RA12 (Cont'd)

21.6-27.6 - basal 60cm of this intreval is silty shale to siltstone and is moderately calcareous.

- the remaining outcrop is predominatly sandstone, course to medium grained and also is very calcareous
- this intreval is a real cliff former (very resistant)
- laminations are quite common in this sandstone
- differential weathering was also noticed
- crossbeds are present but well preserved ones aren't commonly seen.

RA13

Bedding not present, Elevation, 1075m
Outcrop is present on the west bank of the creek and it seems to be massively bedded.
Lithology:

a) Siltstone - medium grey, mildly calcareous and is approximately one meter thick
b) Mudstone - slightly silty, very calcareous and is 30cm thick
c) Mudstone - very resistant, cliff forming unit, 4m thick, bedding seems to be opposite to that found at RA12
- Near base of slope is a 1m thick carbonaceous shale bed, which is coaly (almost) in nature but is non-calcareous.

Weathering Colour, dark brown grey (wet) to brown (dry)
Fresh Colour, medium green/grey-brown and dark grey-brown (wet)

Note: The basal 4m of the slope could be out of place, basal part of scree contains coal fragments.

- A small scale syncline was also found here, which had a fold axis which trends at 320 Azimuth and in which the south limb dips 40°SW
-

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: July 27, 1979.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: R. Adamowicz & E. Bulger.

RA14		Strike: 340, Dip 19°NE, Elevation 1425
		Top: 0-3m
		Lithology: Sandstone
		Weathering Colour: Buff to reddish brown
		Fresh Colour: Salt and Pepper to medium brown
		Description: Medium to coarse grained sandstone, very well bedded, with numerous layers present, ranging from 1-3cm in thickness (resulting from weathering).
		- unit is very calcareous near bottom
		- flaggy looking
		Base; 3-5m this intreval underlys the intreval above (0-3m) and the contact between these two represents an angular unconformity.
		- along this contact sparvy calcite can be seen (1-2cm thick).
		a) Sandstone, coarser grained than sandstone above, 60cm thick
		Weathering Colour, yellow to buff and dark grey to red or maroon.
		Fresh Colour, salt and pepper to medium or dark grey, mildly calcareous.
		- upper 30cm is more reddish coloured
		- whole 60cm contains laminations, is a medium to course grained unit.
		Note: This intreval (3-5m) has been divided into 3 separate units labelled a,6, and c.
		b) Sandstone: 10cm thick, is much like the lithology in intreval above (0-3m).
		Weathering Colour, Maroon or reddish to dark grey to orange or buff.
		Fresh Colour, Light grey brown (salt and pepper)
		Description, Sandstone contains carbonized plant fragments, highly calcareous.
RA15		Lithology: Sandstone
		Description: This lithology is much the same as that in RA14 (0-3m), weathers to a maroon to yellow-brown or buff colour. These rocks are well weathered and aren't actually in place but trenched, would prove these rocks in place.

CL 3

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER : _____.
PROJECT : _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

RA16		Strike: 340, Dip 130°NE, Elevation 1415m
		Lithology: same as RA14 (0-3m unit)
		Weathering Colour: maroon
		- Sandstone is moderately calcareous
RA17		No good bedding surfaces, Elevation 1430m
		Lithology: Sandstone, 1.5m thick
		Weathering Colour; Buff to streaks of dark grey
		Fresh Colour: Medium to dark grey-brown
		Description: This lithology displays some type of
		weathering habit as was found at RA14 (0-3m unit),
		moderate to very calcareous, weathers such that it is
		very well bedded with 1-2cm thick layers (flaggy),
		contains what may be cross-bedding.
RA18		Probably not in place, Elevation 1235m
		Lithology: Sandstone
		Weathering Colour: Dark rusty brown to red-brown
		Fresh Colour: Rust to dark or medium grey-brown (wet)
		- Moderately calcareous.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: July 29, 1979.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: R. Adamowicz & B. Robak.

RA19		Strike: 337 Dip 71°SW, Elevation 1041m
		Lithology: Shale, 1.5m thick exposed
		Weathering Colour: Dark grey to buff, to orange, to black
		Fresh Colour: Dark grey to medium grey-green
		Description: Very calcareous and is well fractured
RA20		Strike: 322 and 317, Dip 66 and 58°SW, Elevation 1028
		Lithology: Conglomerate and Sandstone, 3.5m exposed
		Weathering Colour: Patchy white (lichens) to medium grey to black
		Fresh Colour: Medium grey-brown
		Description: Conglomerate contains predominantly chert pebbles, contains less quartz pebbles and has a maximum thickness of 50-60cm thick, is medium grained (grain diameter 1-4mm), slightly calcareous. This conglomerate is interbedded with coarse grained sandstone, is iron stained on weathering surface and is also non-calcareous (40-50cm thick). Generally fine grained conglomerate interbedded with coarse grained sandstone, well fractured and is massively bedded, and is a cliff former.
RA21		Strike: 334 Dip 57°SW, Elevation 1020
		Lithology: Sandstone, 3.5m thick
		Description: Non-calcareous, moderately resistant, cliff former, fractures form parallel to bedding, layers are 15-20cm thick.
RA22		Strike: 299 Dip 46°SW, Elevation 1012
		Lithology: Sandstone 1.5m thick
		Weathering Colour: Light salt and pepper
		Fresh Colour: Medium grey brown (wet)
		Description: Very slightly calcareous, well bedded (15-25cm thick layers).
RA23		Strike: 310 Dip 46°SW, Elevation 992m
		Lithology: Siltstone 1.5m thick
		Description: Same type of siltstone as in RA22, slightly calcareous to moderately calcareous.
RA23A		Strike: 266 Dip 32°SW, Elevation 988
		Lithology: Siltstone, 1.5m exposed
		Weathering Colour: Buff to light orange-brown
		Fresh Colour: Medium to dark grey to medium brown,
		moderately calcareous, much like lithology in RA22 but RA23A is more mottled.
		Note: This station (RA23A) is located 14m below RA22.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

RA24		Strike: 305 Dip 43°SW, Elevation 985m
		Lithology: Siltstone
		Description: Same as RA21, very slightly calcareous, well laminated.
RA25		Strike: 302 Dip 35 SW, Elevation 962m Above Sea Level
		Top: a) Sandstone: Fine grained, rusty in fresh colour, contains flakes of mica (10-15%) either muscovite or phlogopite, non-calcareous, 2m thick massively bedded (70cm-100cm thick beds), fractures formed along bedding.
		Base: b) Sandstone: Weathers to a dark grey to white, and is medium grey to rusty in fresh, 2m thick, medium grained, very slightly calcareous, contains less mica, and has a different orientation than overlying sandstone (325/25°NE).
RA26		Strike: 280 Dip 27°SW, Elevation 950m
		Description: Siltstone is fine grained, mildly calcareous, well fractured 60th parallel and at angles to bedding.
RA27		Strike: 310 Dip 27°SW, Elevation 940m
		Lithology: Siltstone, 7m of exposure
		Weathering Colour: Dark orange-brown to dark chocolate brown
		Fresh Colour: Medium to light grey brown
		Description: Siltstone is slightly calcareous, is much like RA26 but lacks mica flakes, lower 2m is more calcareous, heavy iron staining present.
RA27A		Siltstone to silty shale, much like RA27.
RA28		Strike: 312 Dip 20°SW, Elevation 930m
		Lithology: Sandstone, 2m thick
		Weathering Colour: Medium grey-green to rusty brown
		Fresh Colour: Medium orange grey brown
		Description: Mica flakes can be present as in RA25 ranges from slightly calcareous to very calcareous, and contains a 50cm conglomerate band (grain diameters 1-2mm wide).
RA29		Strike: 297 Dip 20°SW (Approx.), Elevation 912m
		Lithology: Sandstone
		Description: Slightly calcareous, medium to fine grain size, outcrop forms a 2m high water fall, flaggy bedding

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

RA29 (Cont'd)		appearance, laminations are present, much like RA27.
RA30		Strike: 291, Dip 33°SW, Elevation 900m
		Lithology: Shale and mudstone interbeds, 7m thick
		a) Shale:
		Weathering Colour: Red-brown to medium chocolate brown
		Fresh Colour: Dark grey-green
		Description: Shale is very slightly silty, and can be quite resistant and is calcareous.
		b) Mudstone:
		Description: Fissile and friable, non-calcareous, and is recessive and also contains 1-20cm carbonaceous shale band.
RA31		Strike: 301, Dip 31°SW, Elevation 400m
		Lithology: Siltstone, 50cm thick
		Weathering Colour: Orange to rusty brown
		Fresh Colour: Medium grey
		Description: Siltstone is very slightly calcareous and contains some mica laminations and some well preserved cross-beds, outcrop is right side up.
RA32		Strike: 305, Dip 40°SW, Elevation 895m
		Lithology: Siltstone, 4 meters thick
		Description: Well laminated, moderately calcareous, much like RA31, and lowest 0.5m of outcrop is carbonaceous shale.
RA33		Strike: 330, Dip 31°SW
		Lithology: Siltstone, 2 meters thick
		Description: Slightly calcareous, much like RA32.
RA34		Strike: 275, Dip 26°SW, Elevation 861m
		Lithology: Siltstone, 3 meters thick
		Weathering Colour: White (lichens), to medium grey, to red
		Fresh Colour: Red to brown, to dark grey, to black
		Description: Non-calcareous, flaggy weathering habit with individual layers ranging from 50-75cm thick.
RA35		Strike: 279, Dip 35°SW, Elevation 850m
		Lithology: Interbeds of dark carbonaceous shale and slightly calcareous sandstone

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

RA35 (Cont;d)		a) Sandstone:
		Weathering Colour: Buff to red to medium grey
		Fresh Colour: Medium grey
		Description: Not very calcareous, well layered and resistant.
		b) Shale:
		Weathering Colour: Medium to dark grey
		Fresh Colour: Medium to dark grey
		Description: Friable, non-calcareous and very recessive
		Note: There is 8 meters of cover (true thickness, then 4 meters of section much like in RA35. There are numerous small scale cross-beds in the bottom 2 meters of outcrop.
RA36		Strike: 330, Dip 21°SW, Elevation 825m
		Lithology: Sandstone
		Weathering Colour: Medium salt and pepper, to rose and black spots (lichens)
		Fresh Colour: Light grey to white
		Note: 3.5m is found starting at elevation 838m
		1.0m is found at elevation 830m.
		- Cross-beds prove outcrop to be in a right side up orientation.
		- Sandstone contains abundant mica flakes, unit is a cliff former, good cross-beds are present.
RA37		Strike: 320, Dip 35°SW, Elevation 810m
		Lithology: Sandstone
		Weathering Colour: Maroon to red to light grey and brown
		Fresh Colour: Salt and pepper (speckled black and white)
		Description: Very slightly calcareous, has a very flaggy appearance, weathers to a very well bedded habit, rounded margins on outer geometry of beds is characteristic.
RA38		Strike: 0, Dip 15°W, Elevation 800m
		Note: Much the same as in RA37 (also a cliff unit) but the former is more massively bedded.
		Lithology: Sandstone
		Weathering Colour: Beautiful orange to red to salt and pepper to light grey
		Fresh Colour: Medium grey brown to salt and pepper.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: July 30, 1979.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: R. Adamowicz & R. Melin.

RA39		Strike: 372, Dip: 37°SW, Elevation: 1190
		Lithology: Sandstone
		Weathering Colour: Buff, to light grey, to rust
		Fresh Colour: Medium to dark grey
		Description: Fine grained, moderately calcareous, may
		not be in place, large scale cross-beds are present.
RA40		Strike: 330, Dip: 30°SW, Elevation: 1182m
		Lithology: Sandstone
		Note: Same as RA39
		Weathering Colour: Maroon to red to buff
		Description: Well layered, flaggy appearance
RA41		No bedding, Elevation: 1135m
		Lithology: Sandstone
		Description: Medium grained, calcareous, abundant
		carbonized plant debris, some finer grained beds
		which posses cross-beds
		(carbonized plant debris very
		abundant).
RA42		Strike: 248, Dip: 48°SE, Elevation: 1128m
		Lithology: Sandstone, 0.4m exposed
		Description: Same as RA39, well bedded, non-calcareous,
		may not be in place
		Note: 5 meters east coal bloom was discovered.
RA43		No bedding present, Elevation: 1115m
		Lithology: Mudstone
		Weathering Colour: Dark grey to black and brown
		Fresh Colour: Dark grey to grey-brown
		Description: Brittle, conchoidal, fractured, non-cal-
		careous, can weather to an orange, to buff colour.
RA43a		Strike: 335, Dip: 60°SW, Elevation: 1100m
		Lithology: Mudstone, 3 meters thick
		Weathering Colour: Buff to orange, to dark grey-brown, to
		black
		Fresh Colour: Dark grey-brown to medium brown
		Description: Non-calcareous, very friable, several
		slickensides are parallel to bedding, along which display
		orange to rust colouring
		Note: This lithology is not the same as RA43 as RA43 is
		not as brittle.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

RA44		Strike: 8°, Dip: 44°SE, Elevation: 1100m
		Lithology: Sandstone, 0.30 meters thick
		Description: Fine to very fine grained, strongly calcareous, fractures form parallel to bedding, poorly defined bedding.
RA45		No Bedding Visible, Elevation: 1095m
		Lithology: Sandstone
		Weathering Colour: Dark grey to rose or light red
		Fresh Colour: Medium to dark grey
		Description: Siliceous, medium grained, grades to conglomerate (grains 0.5cm), poorly sorted, abundant carbonized plant debris (roots, etc.).
RA46		Strike: 284, Dip: 9°SE, Elevation: 1080m
		Lithology: Sandstone intertongued with conglomerate
		a) Weathering Colour: Light grey to medium, to dark grey
		Fresh Colour: Medium rust to medium grey-brown
		Description: Predominantly coarse grained, but can be medium grained, salt and pepper.
		b) Conglomerate: Same colour scheme as mentioned as above in RA45, largely medium grey, some minor red and green cherts, some pebbles up to 1.5cm in diameter but mica diameter 0.5cm, most pebbles are quartz, some calcareous and non-calcareous bands are present (parallel to bedding), dip slope.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: July 31, 1979.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: R. Adamowicz & B. Robak.

RA47		Strike: 328, Dip: 52°SW, Elevation: 1180m
		Lithology: Sandstone
		Weathering Colour: Buff to orange (salt and pepper)
		Fresh Colour: Dark grey speckled (pepper)
		Description: Non-calcareous and strongly calcareous, well defined large scale cross-beds, bedding shows the outcrop is orientated right side up
RA48		Strike: 324, Dip: 34°SW, Elevation: 1195m
		Lithology: Sandstone, 2 meters thick
		Weathering Colour: Medium to light grey to orange or buff
		Fresh Colour: Medium grey to dark grey
		Description: Wisps of argillaceous material (2mm thick), calcareous (sandstone) and non-calcareous (argillaceous bands), forms small water falls in creek (1 meter high steps are present), defined laminations are present.
RA49		Strike: 338, Dip: 45°SW, Elevation: 1193m
		Lithology: Sandstone, 4 meters thick
		Weathering Colour: Dark grey-green to grey-brown
		Fresh Colour: Speckled, salt and pepper.
		Description: Moderately calcareous and very resistant, argillite clast, sub-angular to sub-rounded with rusty halos (1.52cm diameters) not overly abundant, generally fine grained sandstone to siltstone (like in RA48) which was ~50cm thick and contains coal wisps (1cm lenses).
		Note: 7 meters below RA49 is outcrop which dips down and into stream. Here is predominantly siltstone which is flaggy by nature, some clasts are present (1-4cm di diameters).
RA50		Strike: 330, Dip: 59°SW, Elevation: 1185m
		Lithology: Sandstone
		Description: On trend with sandstone of RA49, and is approximately 25 meters long, and spill way is formed by lithology of RA49 as it is dip slope with 1200m above sea level being centre of spill way.
RA51		Strike: 5°, Dip: 34°NW, Elevation: 1185m
		Lithology: Shale versus Siltstone
		a) Shale:
		Weathering Colour: Orange to chocolate brown or dark grey-brown
		Fresh Colour: Orange to red to dark grey-brown

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

RA51 (Cont'd)		Description: Very calcareous, coalified plant
		fragments present (2-3mm x 4-7mm long), well broken
		up with some very friable layers present
		b) Siltstone:
		Weathering Colour: Orange to rust to buff
		Fresh Colour: Dark grey-brown
		Description: very finely laminated, coalified plant
		fragments present (rootlets and other plant debris).
		This lithology is not as well bedded as shale but is
		more resistant and is a cliff former (1.5m thick).
RA52		Strike: 327, Dip: 15°SW, Elevation: 1175m
		Lithology: Siltstone, 12 meters thick
		Weathering Colour: Light grey to buff to medium grey
		brown
		Fresh Colour: Dark grey to medium green grey to rust
		Description: Very calcareous, nodular habit, well
		broken, much like siltstone in RA51 but is not as
		friable (larger pieces) and contains some carbonized
		plant fragments.
		Note: Last 3 meters is more friable and is well bedded.
RA53		Strike: 0, Dip: 36°W, Elevation: 1170m
		Lithology: Mudstone
		Weathering Colour: Orange to dark grey
		Fresh Colour: Dark grey to black (wet), non-calcareous.
RA54		Strike: 330, Dip: 32°SW, Elevation: 1155m
		Lithology: Sandstone (fine grained, almost siltstone)
		Weathering Colour: Buff to dark brown
		Fresh Colour: Medium grey-brown
		Description: Very calcareous, strike is almost parallel
		to creek, rocks can turn to a bright rusty orange when
		wet.
RA55		Strike: 323, Dip: 31°SW, Elevation: 1150m
		Lithology: Siltstone, 1 meter thick
		Description: Moderately calcareous, weathers to a marble
		looking surface.
RA56		Strike: 337°, Dip: ?, Elevation: 1135m
		Lithology: Siltstone, 4 meters thick
		Weathering Colour: Rusty to orange to medium brown
		Fresh Colour: Dark grey brown
		Description: Moderate to very calcareous, interbeds
		of friable siltstone (40-50cm thick) and resistant

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

RA56 (Cont'd)	siltstone, and upper 1.5 meters is pure shale (non-calcareous).
RA57	Strike: 320, Dip: 40°SW, Elevation: 1125m
	Lithology: Siltstone, 2 meters thick
	Description: This lithology is very calcareous, forms a 20m thick bank wall (east) in the form of a dip slope. Same as RA54.
RA58	Same as RA56, as it is on trend.
	Elevation: 1119m
RA59	Strike: 343, Dip: 47°SW, Elevation: 1114m
	Note: Same contact as was discovered in RA58 and RA56 can be seen at this location.
RA60	At this location several large block of Lower Gething Conglomerate was found in float (clasts were less than 1.5cm across).
RA61	Strike: 330, Dip: 40°SW, Elevation: 1110m
	Lithology: Siltstone
	Description: Very calcareous and much like siltstone of RA57.
RA62	Strike: 345, Dip: 38°SW, Elevation: 1090m
	Lithology: Sandstone/Shale contact
	a) Sandstone:
	Weathering Colour: Buff to light orange-brown
	Fresh Colour: Buff to darker grey
	This sandstone is very calcareous.
	b) Shale:
	Description: Shale is very calcareous, is very silty near upper 5cm, quite friable, generally because it is very argillaceous (dirty), coaly wisps are found parallel and perpendicular to bedding (maximum thickness, 1-2cm).
	Note: Also at this location massive boulders of conglomerate were found (grain diameters range from 0-5-60cm) as large as 3 meters wide. Below a) and b) 6 meters of very calcareous siltstone can be found which displays a very flaggy nature.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

RA63		Strike: 320, Dip: 20°SW, Elevation: 1070m
		Lithology: Sandstone
		Description: Fine grained, very resistant, non-calcareous, hammer ringing sandstone and contains lenses (1mm - 4.0cm thick) of carbonaceous also non-calcareous materia.
RA64		Strike: 340, Dip: 54°SW, Elevation: 1060m
		Lithology: Sandstone, 1 meter thick
		Description: Sandstone is fine grained, non-calcareous, laminations are present and a dip slope is found (on east bank of creek).
RA65		Strike: 314, Dip: 28°SW, Elevation: 1050m
		Lithology: Siltstone
		Description: Siltstone is slightly calcareous to non-calcareous, flaggy bedding appearance, moderately resistant, argillaceous in part and also calcareous in part, in the form of thin bands.
RA66		Strike: 320, Dip: 42°NE, Elevation: 1030m
		Lithology: Interbedded siltstone and shale, 2.5m thick
		Description: Carbonized plant debris abundant, and found in the form of paper thin wisps (1-4mm thick), siltstone is non-calcareous, strike almost parallels creek.
RA67		Strike: 275, Dip: 48°N, Elevation: 1025m
		Lithology: Interbedded coarse sandstone and conglomerate 8 meters thick
		Description: Both rock types are non-calcareous, conglomerate has grain diameters of less than 2cm.
RA68		Strike: 348, Dip: 4°SW, Elevation: 995m
		Lithology: Shale, 3 meters thick
		Top: 0-2m Well bedded shale which contains several small bands of coal (1-3cm thick) with some interbeds at resistant shale (where most of the shale is non-calcareous.
		2-3m Very friable shale, massively bedded (almost mudstone) and is non-calcareous.
		3.0-3.25m Coal, bright and dull banded
		3.25-3.45m Shale, same as intreval A-2meters
		3.45-3.65 Coal, bright and dull bands.
		Base:
		Note: As we head 8 meters to the south (updip) the coal

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

RA68 (Cont'd)		seems to pinch out to a few centimeters and is interupted by a small fault (displacement is merely 1-2cm).
RA69		Strike: 12°, Dip: 12°SE, Elevation: 990m
		Lithology: Siltstone
		Description: Siltstone is flaggy in appearance (well bedded), very resistant and is also moderately calcareous.
RA70		Strike: 285°, Dip: 14°N, Elevation: 945m
		Lithology: Sandstone, 8 meters exposed
		Description: Medium to coarse grained, very calcareous, flaggy bedding (well bedded). 10-40cm thick beds, forms water falls.
RA71		Attitude not determinable E 910m
		Lithology: Much same as in RA70, 15 meters exposed
		Description: Not as well bedded as in RA70, Calcareous, more ragged, flagged appeared.
RA72		Strike: 330°, Dip: 20°SW, Elevation: 900m
		Lithology: Conglomerate, 6 meters thick
		Description: non-calcareous, overhanging cliff.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: August 2, 1979.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: R. Adamowicz & B. Robak.

RA73		Bedding unknown Elevation: 121m
		Lithology: Sandstone/Conglomerate Contact
		a) Sandstone:
		Weathering Colour: Light grey white to rose
		Description: Non-calcareous, and coarse grained.
		b) Conglomerate:
		Description: Same colour as sandstone above, chert and quartz pebbles (which range in size from 1mm - 4cm in grain diameter).
RA74		Not in place, Elevation: 1115m - Sandstone
		Weathering Colour: Very red to orange, almost purple
		Fresh Colour: Dark grey-green to orange, to ochre
		Description: Non-calcareous, coarse grained.
RA75		Bedding unknown, Elevation: 1075m
		Lithology: Sandstone
		Weathering Colour: Polygonal weather pattern, yellow-brown to medium brown.
		Fresh Colour: Medium-dark brown to ochre
		Description: Non-calcareous and coarse grained.
RA76		Strike: 345, Dip: 16°NE (Approx.), Elevation: 1070m
		Lithology: Siltstone to fine grained sandstone
		Description: Very calcareous
		Weathering Colour: Buff to orange-brown and patchy dark grey
		Fresh Colour: Dark grey to buff
		Description: Darker grey laminations are present.
RA77		Bedding not definite, Elevation: 1055m
		Lithology: Siltstone to fine grained sandstone
		Description: Very calcareous, much like siltstone of RA76

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: August 5, 1979.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: R. Adamowicz & R. Robak.

RA78		Strike: 25, Dip: 7°NW
		Lithology: Sandstone, 35 centimeters thick
		Description: Coarse grained, non-calcareous, flat lying bedding surface forms ground surface (dip-slope)
		Weathering Colour: Light grey to white or buff to orange
		Fresh Colour: Rusty to orange, salt and pepper.
RA79		Strike: 5°, Dip: 5°NE, Elevation: 1270m
		Lithology: Siltstone, 75 centimeters thick
		Description: 50cm above siltstone is a darker coloured siltstone, contains carbonized plant debris, non-calcareous.
		Weathering Colour: Dark grey to medium grey-brown
		Fresh Colour: Light to medium grey.
RA80		Strike: 360, Dip: 8°E, Elevation: 1280m
		Lithology: Conglomerate/Sandstone intertongued
		a) Conglomerate:
		Weathering Colour: Medium to dark grey
		Fresh Colour: Rose to medium grey-brown
		Description: Non-calcareous, contains quartz pebbles predominantly, which range in size from 1.0-5.0mm in grain diameter.
		b) Sandstone:
		Weathering Colour: Medium to light grey
		Fresh Colour: Medium to dark grey, salt and pepper, some orange patches are present
		Description: Non-calcareous and coarse grained
RA81		Bedding unknown, Elevation: 1282m
		Weathering Colour: Light to medium grey, salt and pepper
		Fresh Colour: Medium to dark grey to rusty
		Description: Coarse grained, contains rust coloured patches, non-calcareous, very similar to sandstone of RA78.
RA82		Strike: 250°, Dip: 9°NW, Elevation: 1290m
		Lithology: Siltstone, 0.5 meters true thickness
		Weathering Colour: Light grey-green to light orange to buff
		Fresh Colour: Dark grey-brown
		Description: This station underlys RA81 (3.5m thick), moderately calcareous, some coloured banding is present.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

RA83		Strike: 152, Dip: 24°NW, Elevation: 1275m
		Lithology: Sandstone, 0.40 meters thick x 7 meters long
		Weathering Colour: Rusty to light green, to dark grey, to orange
		Fresh Colour: Red brown specks (30%) and salt and pepper
		Description: Non-calcareous
		Note: Much like RA81.
RA84		Strike: 345, Dip: 17°W, Elevation: 1265m
		Lithology: Siltstone
		Weathering Colour: Buff to orange, to medium or darker grey
		Fresh Colour: Rust brown to darker grey
		Description: Very calcareous, much like RA82.
RA85		Strike: 346, Dip: 12°W, Elevation: 1263m
		Lithology: Conglomerate/Sandstone, 7 meters thick
		a) Conglomerate:
		Weathering Colour: Medium to dark grey, to black
		Description: Non-calcareous, very resistant, hammer ringing, grain diameter 1-6cm, sandstone inter-tongues conglomerate
RA86		Strike: 335, Dip: 15°SW, Elevation: 1270m
		Lithology: Conglomerate, 8 meters thick
		Description: Non-calcareous, contains clasts up to 7cm in diameter, is a cliff former (vertical cliff).
RA87		Conglomerate, Elevation: 1250m
RA88		Sandstone, Not in place, Elevation: 1245m
RA89		Conglomerate/Sandstone Contact, Elevation: 1240m
		Description: Very flaggy bedded sandstone and cobble bearing conglomerate, which weathers to a maroon colour, moderate to very calcareous, cliff forms 1-3m thick and approximately 150 meters long
		Formation:

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

RA90		Strike: 317°, Dip: 14°NW, Elevation: 1235m
		Lithology: Sandstone, 4 meters exposed
		Description: Maroon weathering colour
RA91		Sandstone/Conglomerate Contact, Elevation: 1210m
		Same as RA85.
RA92		No attitude taken, Elevation: 1200m
		Lithology: Sandstone/Conglomerate Contact
		Description: Very flat lying, strike runs parallel to creek here, rusty weathering colour, non-calcareous.
RA93		No bedding present, Elevation: 1190m
		Lithology: White sandstone/conglomerate.
RA94		Strike: 328°, Dip: 12°W, Elevation: 1175m
		Lithology: Sandstone
		Weathering Colour: Speckled to light grey to white
		Fresh Colour: Medium brown
		Description: Looks very similar to sandstone above, also contains some small pebbles less than 1cm in diameter found in the sandstone.
RA95		Bedding unknown, Elevation: 1160m
		Lithology: Sandstone
		Description: Calcareous, contains some carbonized plant debris
RA96		Strike: 290°, Dip: 21°W, Elevation: 1130m
		Description: Flaggy bedding character, maroon weathering colour
RA97		Bedding unknown, Elevation: 1115m
		Lithology: Sandstone/Conglomerate, 7 meters thick
		Description: At this location a fault exposes 6-7 meters of Conglomerate

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: August 6, 1979.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: R. Adamowicz & B. Robak.

RA98		Strike: 65°, Dip: 6°NW, Elevation: 1177m
		Location: RA98 is upstream from RA8
		Lithologies:
		Top: 0-49cm Shale - very calcareous, pure, contains carbonized plant debris, flaggy bedding character, quite non-resistant.
		49-83cm Coal - generally dull and contains few bright bands
		83-130cm Shale - very slightly silty, non-calcareous, generally massively bedded, quite resistant.
		Note: The coal seam thins to the south.
RA99		Couldn't determine bedding, Elevation: 1190m
		Top: 0-1.25m Shale - quite resistant, friable in parts, very calcareous, flaggy, weathers to a orange to buff to dark grey brown
		1.25-4.25m Shale - non-calcareous, friable
		4.25-4.90m Coal - very friable and non-resistant, contains high ash content
		4.90-4.9m Shale
RA100		Strike: 75°, Dip: 19°NW, Elevation: 1205m
		Note: This exposure forms a cliff which extends for a length of 25-30 meters
		Lithologies:
		Top: 0-1.2m Shale - friable, resistant deeper into outcrop, flaggy bedding character, become more silty near base, moderately calcareous
		1.2-2.2m Shale - friable
		2.2-3.0m Coal - few bright bands
		3.0-3.10m Shale - as below
		3.10-3.24m Coal - mainly dull coal
		3.24 -3.52m Cover
		3.52 -3.56m Coal
		3.56 -5.36m Shale - weathers to a orange to dark grey (much like that found in RA98,99).
		Base.
RA101		Strike: 180°, Dip: 4°W, Elevation: 1214m
		Lithology: Siltstone, 1.5m thick
		Weathering Colour: Dark chocolate brown to orange
		Description: Moderately calcareous, massively bedded, laminations are present parallel to bedding.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

RA102		Strike: 302°, Dip: 7°NE, Elevation: 1217m
		Lithology: Shale, 2.5 meters thick
		Weathering Colour: Buff to reddish brown
		Fresh Colour: Medium to dark grey
		Description: This lithology is quite resistant and forms a spillway and small (1.5m) water fall, very calcareous, basically is massively bedded, shows a cobble stone appearance on a weathered surface.
RA103		Strike: 340°, Dip: 5°NE, Elevation: 1230m
		Lithologies:
		Top: 0-5m Siltstone - weathers to a rusty to white or black colour and is medium grey on a freshly broken surface, very calcareous and is a cliff former.
		5-8m Shale - quite calcareous, contains 3 small coal stringers (20cm, 2cm, 10cm) well bedded, fissile and friable.
		8-8.75m Siltstone - resistant cliff former, very calcareous.
		8.75-10.75m Shale - non-resistant, thin stringers of coal (~2cm thick), friable.
		10.75-12.00m Shale - pure, very calcareous, massively bedded, weathers to a orange-brown to buff and is medium to dark grey brown in fresh.
		12-13m Shale - friable
		13-16m Covered intreval
		Base:
RA104		Strike: 288°, Dip: 21°NE, Elevation: 1235m
		Lithologies:
		Top: 0-4m Shale - resistant, very calcareous, massively bedded, lower 2 meters not as resistant
		4-5.5m Shale - very friable (crumbly) bedding measured here is at 80/43°E.
		5.5-7.0m Shale - massively bedded, very calcareous.
		Base
RA105		Strike: 270°, Dip: 11°N, Elevation: 1315m
		Lithology: Sandstone, 3.25 meters thick
		Weathering Colour: White to light grey, to black
		Fresh Colour: Medium brown
		Description: Non-calcareous, hammer ringing sandstone, very resistant. Above this is 2 meters of cover, then

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

RA105	(Cont'd)	10 meters of very well bedded non-calcareous sandstone (cliff former) which contains interbeds of calcareous siltstone which is also quite resistant.
RA106		Strike: 220°, Dip: 68°SE, Elevation: 1332m
		Lithologies:
		Top: 0-60m Coal - interbedded with thin stringers of carbonaceous shale
		0.6-0.85m Shale - carbonaceous
		0.85-1.65m Coal - bright, see sample 106B
		1.65-1.85m Shale - carbonaceous
		1.85-2.05m Coal - high in ash, 106A
		2.05-3.55m Siltstone - massive, non-calcareous
		Base
RA107		No bedding, Elevation: 1340m
		Lithology: Sandstone/Siltstone, 1.8m thick
		Description: Resistant cliff forming unit, very calcareous, siltstone overlys sandstone, siltstone forms a spillway in the form of a dip slope.
RA108		Conglomerate Boulder, Elevation: 1330m
		- May not be in place.
RA109		Flat Lying, Elevation: 1320m
		Lithology: Siltstone, 2 meters thick
		Description: Moderately calcareous, well bedded, basically flat lying, forms a water fall.
RA110		Strike: 62°, Dip: 15°SE, Elevation: 1430m
		Lithology: Shale, 2 meters thick
		Description: Very fissile, carbonaceous, weathers to an orange to rust to black colour, contains small wisps of coal throughout.
RA111		Strike: 280°, Dip: 18°NE; Elevation: 1432m
		Lithology: Siltstone, almost fine grained sandstone, moderately calcareous, underlain by RA110.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: August 7, 1979.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: K. Kim, R. Adamowicz, R. Almberg

RA112		Strike: 312°, Dip: 18°SW, Elevation: 1075m
		Lithology: Sandstone, 4 meters thick
		Description: Contains organic specks (black), very slightly calcareous, lower 1 meter is from buff to rust colour, includes coaly stringers (1-3mm thick), lots carbonized plant debris.
RA113		Strike: 358°, Dip: 8°SW, Elevation: 1070m
		Lithology: Siltstone
		Description: Very calcareous, contains fossil debris, right side up (cross-beds), weathers to a rust, to buff, to medium or dark grey.
RA114		Non Bedded, Elevation: 1060m
		Lithology: Siltstone
		Description: Moderately calcareous, some iron stone type looking nodules (rusty patches), weathers to a medium green-grey, much the same as the siltstone of RA113.
RA115		Strike: 339°, Dip: 4°SW, Elevation: 1055m
		Lithologies:
		Top: 0-3m Siltstone - very calcareous, almost a fine grained sandstone (much like in RA114
		0.3-1.3m Shale - carbonaceous
		1.3-1.8m Sandstone - strongly calcareous, contains coal stringers (1-2mm wide by 5-8cm long)
		1.8-2.3m Sandstone - carbonaceous, cobble looking, and contains iron stone nodules.
		Base
RA116		Strike: 266°, Dip: 12°SW, Elevation: 1045m
		Lithology: Sandstone, 8 meters thick
		Description: Siliceous, coarse grained, orange to rust coloured specks are present (salt and pepper) for the lower most 1 meter, some pebbles appear near base, which could indicate we are approaching the lower Gething or Cadomin conglomerate (intertonguing relationship of sandstone and conglomerate).

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

RA117		Strike: 351°, Dip: 12°SW, Elevation: 1045m
		Lithology: Sandstone
		Description: Moderately resistant, outcrop extends from
		RA116 10 meters upstream, slightly calcareous.
		Formation: Lower Gething.
RA118		Strike: 351°, Dip: 13°SW, Elevation: 1040m
		Lithology: Sandstone, 25 meters exposed.
		Description: Coarse grained, very slightly calcareous,
		massively bedded.
RA119		Strike: 304°, Dip: 6°SW, Elevation: 1050m
		Lithology: Intertonguing sandstone and conglomerate.
RA120		Bedding not seen, Elevation: 1012m
		Lithology: Sandstone, 5 meters exposed.
		Description: Gritty, near base of this exposure is
		conglomerate (grain diameter 1-2cm).
RA121		Strike: 306°, Dip: 14°SE, Elevation: 1010m
		Lithology: Sandstone/Conglomerate Contact, 8m.
		Description: Gradational contact between gritty sandstone
		and fine grained conglomerate (10 meters downstream of
		RA120).
RA122		Strike: 280°, Dip: 8°SE, Elevation: 1003m
		Lithology: Conglomerate/Mudstone Contact 1.9 meters thick
		Description: Abrupt contact between the 2 lithologies
		stated above, conglomerate is from 1.5 to 1.6 meters
		thick and contains pebbles which range from 0.5-4.5cm
		across, carbonaceous shale which underlys the conglomer-
		ate is approximately 40cm thick and contains some rusty
		coloured ironstone type nodules in the upper 20cm of
		this intreval.
RA123		Strike: 294°, Dip: 18°SE, Elevation: 1002m
		Lithology: Siltstone, 1 meter thick.
		Description: Very calcareous underlying mudstone is

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

RA123	(Cont'd)	found in lower 40-50cm of this exposure (location is 10 meters downstream from RA122).
RA124		Strike: 295°, Dip: 24°SW, Elevation: 997m
		Lithologies:
		Top: 0-1m Siltstone - quite friable due to high argillaceous content of siltstone, very calcareous.
		1-1.5m Shale - carbonaceous, pinches out downstream from a original thickness of 50cm in a distance of 10 meters.
		1.5-1.9m Siltstone
		1.9-4.9m Mudstone - very friable
		4.9-6.4m Siltstone - very calcareous, contains several well developed laminations, weathers from a rusty to medium grey colour, strike 300°, Dip 20°SW.
		6.4-7.4m Mudstone - friable
		7.4-8.2m Siltstone - well bedded
		8.2-8.5m Shale - friable
		8.5-13.5m Siltstone - weathers to a rusty, to yellow, to medium yellow-brown weathering colour; massively bedded.
		Note: 10 meters downstream of RA124 is a anticlinal structure in which the south limb dips 20°SW and the north limb dips 78°NE (strikes 293°).
RA125		Strike: 317°, Dip: 67°SW, Elevation: 990m
		Lithology: Siltstone, 3 meters thick
		Description: Almost vertically bedded, moderately calcareous, massively bedded.
		Formation: Nikanassin.
RA126		Strike: 105°, Dip: 32°SE, Elevation: 986m
		Lithology: Siltstone, 1 meter thick
		Description: Very Calcareous.
RA127		Strike: 308°, Dip: 21°SE, Elevation: 990m
		Lithologies:
		Top: 0.15cm Conglomerate - maximum grain diameter is 5cm.
		15-17m Siltstone - forms an abrupt contact with overlying conglomerate, very calcareous.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

RA127	(Cont;d)	Note: This exposure forms a cliff ~~which identified on~~
RA128		Strike: 298°, Dip: 14°, Elevation: 970m
		Lithologies:
		Top: 0.3m Siltstone - very calcareous, resistant
		3.3.75m Mudstone - carbonaceous
		3.75-4.75m Siltstone - resistant, contains interbeds
		of mudstone and argillaceous (well bedded)
		siltstone
		4.75-5.75m Mudstone - friable
		5.75-7.25m Siltstone - resistant.
RA129		Strike: 340°, Dip: 9°SW, Elevation: 965m
		Lithologies:
		Top: 0.2m Siltstone - very calcareous, forms a
		waterfall
		Note: 20 meters downstream at an elevation of 965m
		above sea level, 2 additional meters of siltstone was
		found which underlys that last mentioned.
		2-2.3m Shale - carbonaceous, contains 6cm bed of
		high ash coal
		Strike: 304°, Dip: 24°SW
		2.3-2.55m Siltstone
		2.55-2.61m Coal - very bright
		Note: 15-20 meters downstream and immediately below coal
		is
		2.61-5.61m Sandstone - slightly calcareous
		Strike: 86°, Dip: 2°SE
		Base
RA130		Bedding not seen, Elevation: 960m
		Lithology: Sandstone
		Description: Sandstone exposed directly in stream bed,
		massively bedded, very resistant
RA131		Strike: 245°, Dip: 15°SE, Elevation: 955m
		Lithology: Sandstone - 4 meters thick
		Description: Coarse ground, moderately calcareous, orange
		or rust coloured specks present in fresh surfaces.
RA132		Strike: 346°, Dip: 5°SE, Elevation: 900m
		Lithology: Siltstone - 3 meters thick
		Description: Very calcareous, upper 1 meter not as
		resistant as middle 1 meter, massively bedded, lower 1
		meter shows a friable, non-resistant bed.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

RA133		Strike: 332°, Dip: 21°SW, Elevation: 875m
		Lithology: Sandstone - 3 meters thick
		Description: Strongly calcareous, 75 meters long in which strike is parallel to creek, coarse grained,
RA134		Bedding not present, Elevation: 885m
		Lithology: Sandstone, 3.5 meters thick
		Description: Moderately calcareous, coarse grained, cliff forming unit.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: SUKUNKA NORTH . DATE: SUMMER'79 .
LOCATION: WEST BANK . ELEVATION: _____.
GEOLOGIST: KIWAN KIM .

1.		Sandstone:
		Medium to coarse grained, white to brownish white, quartzose, thickly bedded, siliceous, well sorted, clean, brown weathering, some plant debris, conglomeratic sandstone in place.
		260-10NW
2.		Sandstone:
		Very coarse grained, white to milky white, siliceous, massive, quartz 80%, black chert 20%, conglomeratic sandstone interfinger structure.
		315-22NE
3.		Sandstone:
		Very coarse grained, somewhat conglomeratic sandstone lithology, white to light grey, thickly bedded, poorly sorted, orange weathering, siliceous, large x-bedding, 10m thick outcrop, conglomerate (2-4cm of black chert, sub-angular to sub-rounded pebbles cemented in coarse grained sandstone matrix) in places.
4.		Conglomerate:
		2-3cm of mainly black chert, some white chert cemented with very coarse grained sandstone matrix, thickly bedded, orange weathering, non-calcareous , large x-bedding, 10-15m thick outcrop.
5.		Conglomerate:
		Dominantly 2-4cm of black chert (sub-rounded to rounded) conglomerate, abundant plant debris, non-calcareous.
6.		Sandstone:
		Medium to coarse grained, milky white to light grey, well sorted, clean 80% of quartz, 20% of chert, quartzose, orange weathering, thickly bedded, this sandstone unit inbetween conglomerate layer.
		80-11NW
		Top: 1.5m Conglomerate, gradational contact
		± 3m Sandstone
		Conglomerate, bottom unknow, gradational contact, large x-bedding in sandstone.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

7.		Sandstone:
		Very fine grained, grey to dark grey, thinly bedded,
		strongly calcareous, carbonized plant debris, rootlets,
		grey weathering, 50% of quartz, 50% black chert.
		300-15NE
8.		Sandstone:
		Medium grained, light grey, well sorted clean siliceous
		40% of black chert, 60% of quartz. Abundant orange
		specks, due to massive no measurment.
9.		Sandstone:
		Medium grained, medium grey, well sorted, clean, weakly
		calcareous massive.
10.		Sandstone:
		Very fine grained, medium grey, thickly bedded, siliceous.
		80% quartz, 20% of chert, some silickensides.
		270-8NE
11.		Conglomerate:
		Chert pebble conglomerate, 0.5-1.0cm of chert pebbles
		cemented with very coarse grained sandstone matrix,
		non-calcareous.
		10-15m thick outcrop.
		218-15NW
12.		Sandstone:
		Very fine grained, light grey, thinly bedded, strongly
		calcareous, plant debris, rootlets, orange weathering
		flaggy, x-bedding.
		290-4NE
13.		Sandstone:
		Medium grained, light grey, clean, well sorted, 80% of
		quartz, 20% of black chert. Thickly bedded, large seal
		of x-bedding, orange weathering, strongly calcareous,
		outcrop ± 6m height.
		247-20NW
14.		Conglomerate:
		2-4cm of chert pebbles in a very coarse grained sand-
		stone matrix. Iron rusted on weathering surface, 10m
		height outcrop.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

15.		Sandstone:
		Fine grained, medium grey, thinly bedded, strongly
		calcareous, orange weathering, abundant good plant
		fossil.
		325-15NE
16.		Black Dirt:
		Coal bloom?
17.		Conglomerate:
		2-4cm of rounded to sub-rounded chert pebbles in a
		very coarse grained sandstone.
		Very coarse grained sandstone interbedded, non-calcareous
18.		Sandstone:
		Fine grained sandstone, grey, thinly bedded, strongly
		calcareous, orange weathering.
19.		Conglomerate:
		0.5-1cm of black chert pebbles, white chert pebbles
		conglomerate.
		Abundant plant debris and coaly stringers, non-calcareous
20.		Sandstone:
		Medium grained, medium grey, thinly bedded, strongly
		calcareous, orange weathering.
		284-15NE
21.		Sandstone:
		Medium grained, medium grey, well sorted, orange weather
		ing, non-calcareous.
		250-15NW
22.		Sandstone:
		Very fine grained, somewhat siltstone characteristics,
		orange weathering, strongly calcareous, thinly bedded,
		rootlets. Beside this station carbonaceous dirt on
		surface.
		311-10SW
23.		Sandstone:
		Medium to coarse grained, medium grey, thickly bedded,
		siliceous, well sorted, orange weathering.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

24.		Sandstone:
		Broken coarse grained sandstone on old cutline.
25.		Sandstone:
		Medium grained, medium grey, thickly bedded, well sorted
		large scale of x-bedding, weakly calcareous.
		337-37NE
26.		Sandstone:
		Somewhat conglomeratic sandstone characteristics.
		Mainly black chert, white chert conglomeratic sandstone,
		interfinger texture, siliceous, numerous large and small
		scale of x-bedding, outcrop ± 10-15m, calcareous in sand-
		stone portion.
		145-20SE
		Top of outcrop:
		Medium grained, medium grey.
		Siliceous, numerous x-bedding.
27.		Sandstone:
		Medium grained, dark grey, abundant carbonized plant
		debris, small scale of x-bedding, lower gething type
		lithology.
		135-13NE
28.		Sandstone:
		Fine grained to medium grained, dark grey, abundant
		carbonized plant debris, small scale of x-bedding, non-
		calcareous, lower gething type sandstone.
		150-14NE
29.		Sandstone:
		Medium grained, medium to dark grey, some orange specks,
		thinly bedded, strongly calcareous, small scale of x-
		bedding, flaggy, orange weathering, large plant debris.
		129-6NE
30.		Sandstone:
		Fine grained, medium grey, thinly bedded, strongly
		calcareous, flaggy, orange weathering.
		140-8NE

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

31.		Conglomerate:
		Chert(light colored, up to 4cm in diameter) conglomerate, block might be float.
32.		Mudstone/Siltstone:
		Dark grey to medium grey mudstone and siltstone inter-bedded. Iron nodules, strongly calcareous, shell fossil.
		Tiny small pin burrows.
		311-11NE
33.		Sandstone:
		Fine grained, dark grey, thinly bedded, strongly calcareous, orange weathering, this unit is located just beneath of station 32. ± 2m thick outcrop.
		269-6SE?
34.		Sandstone:
		Fine grained, dark grey, thinly bedded, strongly calcareous, orange weathering.
		Top:
		Station 32 Mudstone/Siltstone 2-3m
		Station 33 Sandstone 2m
		Mudstone/Siltstone 3-4m
		Station 34 Sandstone
		Bottom unknown due to covered dirt.
35.		Mudstone:
		Broken, dark grey, orange weathering, some pyrite crystal iron nodules, strongly calcareous.
36.		Sandstone:
		Medium grained, medium grey, thinly bedded, strongly calcareous, abundant large worm burrows, orange weathering, badly broken outcrop, 24° direction of joint developed, disturbed ground.
		233-10NE
		133? on map
37.		Sandstone:
		Medium to coarse grained, milky white, quartzose, thickly bedded, 80% of quartz, 20% of black chert, some orange specks. Clean, well sorted, conglomeratic sandstone (25-30cm thick) interfinger structure, large and small cross bedding, non-calcareous.
		132-15NE

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

38.		Sandstone:
		Top: Coarse grained, white to light grey, thickly bedded, non-calcareous indistinct bedding, somewhat contorted, coming to bottom becomes gritty.
		Conglomeratic sandstone (.40m) 0.5cm of black, white chert pebble conglomerate and/or conglomeratic sandstone, interfinger structure.
		Bottom: Coarse grained, thickly bedded, low angle x-bedding, non-calcareous outcrop ± 10m.
		283-24NE
39.		Sandstone:
		Top: 1.2m Sandstone; Very fine grained, grey thinly bedded, orange weathering, calcareous
		2m Siltstone; Grey, thinly bedded rootlets, orange weathering, calcareous
		0.5m Mudstone; Dark grey, associated with carbonaceous material (?) some coal,
		1.5m Sandstone; Fine grained, dark grey at top, numerous plant debris, rootlets, non-calcareous
		314-8E
40.		Sandstone:
		Very course grained, white to light grey, thickly bedded non-calcareous, immediately below this outcrop where station 39 is located.
		265-7NE
41.		Sandstone:
		Coarse grained, white to light grey, gritty, conglomerat sandstone interfingered, massive, non-calcareous, low angle x-bedding.
		15-11SE
42.		Sandstone:
		Coarse grained, light grey, poorly sorted, large plant debris, thickly bedded, low angle x-bedding, orange weathering, non-calcareous, conglomeratic sandstone (0.5-1cm pebble) interfingered.
		105-16NE

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

43.		Sandstone: Fine grained, dark grey, flaggy, slightly calcareous, thinly bedded, low angle x-bedding. Immediately beneath this unit, 20cm thick conglomerate (0.5-1cm of black chert) interfinger. 109-11NE
44.		Sandstone: Coarse grained, medium grey, poorly sorted, large low angle x-bedding, thickly bedded, non-calcareous. Conglomerate (0.5-1cm of chert pebble conglomerate) interfinger. 119-14NE
45.		Sandstone: Medium grained, medium grey, thinly bedded, orange weathering, clean, well sorted, strongly calcareous, flaggy, small scale of x-bedding, abundant small plant debris. 320-47SW
46.		Sandstone: Fine grained, grey, thinly bedded, orange weathering, clean, flaggy, strongly calcareous. 328-43SW
47.		Siltstone: Dark grey, tiny worm burrows, some mudstone interbedded, strongly calcareous.
48.		Sandstone: Medium grained, grey, medium thick bedded, clean, strongly calcareous. 301-33SW
49.		Mudstone: Dark grey to black, carbonaceous, broken, non-calcareous. This unit is located immediately below the station 48.
50.		Sandstone: Medium grained, grey, moderately bedded, some plant debr Calcareous, broken outcrop.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

51.		Sandstone:
		Medium to coarse grained, light grey, 80% of quartz, 20% of black chert, siliceous, large plant debris, gritty sandstone interfingered, thickly bedded.
		330-44SW
52.		Conglomerate:
		0.5-1cm of chert pebble conglomerate (ranging angular to sub-angular), cemented with coarse grained sandstone matrix, massive, 1-1.5m outcrop.
53.		Section:
		From station 53 to Road.
		Top: 3m carbonaceous mudstone broken, dark grey, non-calcareous at bottom; Silty mudstone, dark grey, strongly calcareous, thinly bedded, plant debris at bottom
		328-27SW
		5m: Coarse grained sandstone, gritty sandstone interfinger, large plant debris, and carbonized plant debris. Some coaly material, indistinct bedding, dirty, bottom unknown.
54.		Sandstone:
		Fine grained, grey, thinly bedded, orange weathering, strongly calcareous, clean, few plant debris.
		335-33SW
55.		Sandstone:
		Medium grained, grey, thinly bedded, small scale of low angle cross-bedding non-calcareous, some carbonaceous material interfinger.
		9-32SW ~~SW~~ W
56.		Sandstone:
		Fine grained, grey, micaceous, thinly bedded, strongly calcareous, immediately below this unit, sandstone, medium grained, dark grey, carbonaceous, abundant plant debris.
		343-39SW
57.		Sandstone:
		Medium grained, grey, clean, well sorted, iron rusted on weathering surface, broken, abundant small plant debris, non-calcareous, silickensides.
		355-31SW

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

58.		Sandstone:
		Medium grained, grey, thickly bedded, 50% of quartz, 50% of black chert, numerous plant debris, buff weathering.
		346-38SW
59.		Sandstone:
		Medium to coarse grained, light grey, thickly bedded, large low angle x-bedded, non-calcareous, orange weathering.
		348-38SW
60.		Sandstone:
		Fine grained, medium grey, orange weathering, few large worm burrows, large scale of x-bedding, calcareous, flaggy, few mudstone (iron-rusted) nodule.
		345-41SW
61.		Sandstone:
		Medium grained, medium grey, thinly bedded, flaggy, orange weathering, non-calcareous, small scale of x-bedding.
		322-33SW
		Top: Sandstone
		Conglomerate; few 3-4cm of sub-rounded to rounded black chert
		Conglomerate maximum thickned
		Portion; 5cm
		Sandstone; Medium to coarse grained
		Conglomerate; Bottom Unknown
62.		Conglomerate:
		Mainly 0.5-1cm of white, black chert (sub-angular to sub-rounded) cemented with coarse grained (white siliceous) sandstone.
63.		Sandstone:
		Fine grained, quartzose (97-98% of quartz, 2% of black chert) well sorted, massive, clean, non-calcareous.
		351-55SW
64.		Sandstone:
		Fine grained, grey, siliceous, well sorted, massive, clean, very hard to get dip and strike.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

65.		Conglomerate:
		3-4cm of chert pebble (sub-rounded to rounded) conglomerate, outcrop 6-7m thick.
66.		Conglomerate:
		Angular to sub-rounded chert pebbles (0.5-1cm) cemented with gritty sandstone matrix, non-calcareous, light grey.
67.		Conglomerate:
		2-4cm of sub-rounded to rounded chert (white) pebbles cemented with very coarse grained siliceous sandstone, 8-10m thick outcrop.
68.		Sandstone:
		Medium grained, light grey, small low angle cross-bedding, strongly calcareous, thinly bedded, flaggy, orange weathering.
		148-13SW
69.		Sandstone:
		Medium to coarse grained, light grey, thickly bedded, slightly calcareous, pebbly conglomerate in places, small scale of x-bedding.
		144-17SW
70.		Sandstone:
		Medium to coarse grained, light grey, non-calcareous, thickly bedded, very hard to measurment of strike and dip.
71.		Conglomerate:
		Good cadomin conglomerate, sub-rounded to rounded chert pebble (mainly 1.5-2.5cm, seldon 2.5-4cm) conglomerate cemented with coarse grained sandstone matrix.
72.		Conglomerate:
		Same as station 71.
73.		Conglomerate:
		Cadomin conglomerate
		Same as station 72.
		135-20NE

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

74.		Conglomerate:
		Cadomin, getting to coarse grained sandstone facies.
75.		Conglomerate:
		Cadomin conglomerate 2m high.
76.		Conglomerate:
		Good cadomin conglomerate outcrop 12-15m high.
77.		Sandstone:
		Very fine grained, light grey, thinly bedded, flaggy,
		strongly calcareous, orange weathering.
		358-39SW
78.		Sandstone:
		Very fine grained, medium grey, thinly bedded, large
		worm burrows, orange weathering, strongly calcareous,
		flaggy.
		341-46SW
79.		Conglomerate:
		1-2.5cm of sub-rounded to rounded chert pebbles (white,
		grey and black) cemented with very coarse grained sand-
		stone.
		332-15SW
80.		Conglomerate:
		1.0-2.5cm of chert pebbles cemented with very course
		grained sandstone matrix. Coarse grained sandstone
		(40-50cm thick) interfinger structure in places, small
		scale of cross bedding.
		Immediately beneath this unit grey non-calcareous
		siltstone.
		No station from 81 to 86.
87.		Conglomerate:
		Mainly small pebble (0.5cm of chert) conglomerate,
		silicons, outcrop 2m height massive.
88.		Conglomerate:
		Large pebbles (2-4cm of chert) cemented with coarse
		grained sandstone matrix, massive.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

89.		Sandstone:
		Fine grained, medium grey, thinly bedded, small scale
		of x-bedding, strongly calcareous, orange weathering.
		305/82SW
90.		Siltstone/Mudstone:
		Broken siltstone/mudstone on road
		Mudstone: dark grey
		Siltstone: medium grey, thinly laminated, strongly calcareous, orange weathering.
91.		Sandstone:
		Medium to coarse grained, medium grey, 50% of quartz,
		50% of chert, thickly bedded, non-calcareous, large
		scale of low angle cross bedding.
		306/64SW
92.		Sandstone:
		Medium to coarse grained, medium grey, thinly bedded,
		flaggy, non-calcareous, orange weathering, large scale
		of low angle cross bedding.
		311/76NE
93.		Sandstone:
		Medium to coarse grained, medium grey, thickly bedded,
		non-calcareous, large scale of low angle cross bedding.
		317/84SW
94.		Sandstone:
		Fine grained, grey, thinly bedded, small plant debris,
		some carbonized material, strongly calcareous.
		298/70SW
95.		Sandstone:
		Very coarse grained, medium grey, thickly bedded, non-
		calcareous, numerous low angle cross bedding, grit.
96.		Conglomerate:
		Sub-angular to rounded chert
		(0.5-5cm) pebbles cemented with coarse grained sandstone
		matrix, outcrop 3.5-4m thick.
		308/33NE

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

97.		Conglomerate: Same as station 96. Some calcareous in places.
98.		Sandstone: Medium to coarse grained, medium grey, thinly bedded, numerous cross bedding, non-calcareous, large plant debris some chert pebbles (1.5-2cm) in places. 287-35NE
99.		Sandstone: Medium to coarse grained, medium grey, 50% of black chert, 50% of quartz, non-calcareous, orange specks, thinly bedded, flaggy. 310-18NE
100.		Coal: Top: Unknown, carbonaclous mudstone? 0.5m coal Bottom: Carbonaceous mudstone True thickness 0.5m.
101.		Sandstone: Medium grained, medium grey, slightly calcareous, numerous low angle cross bedding, orange to buff weathering. 285-34NE
102.		Sandstone: Top: 10m Coarse grained, medium grey, thickly bedded, numerous cross bedding, non-calcareous 0.05m Coal, weathered, pulverized 0.30m Sandstone, very fine grained, dark grey, non-calcareous, rootlets 300-32NE 1.20m Sandstone, fine grained, grey, strongly calcareous, thinly bedded, orange weathering 4.0m Sandstone, medium grained, medium grey, calcareous, orange weathering.
103.		Sandstone: Medium grained, medium grey, 50% of chert, 50% of quartz pie size pebble in places, non-calcareous, large scale of low angle cross bedding. This station is sandstone

CL 3

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

103.	(Cont'd)	and conglomerate contact.
104.		Sandstone:
		Fine to medium grained, grey, thinly bedded, flaggy, strongly calcareous.
		325-55NE
105.		Sandstone:
		Fine grained, medium grey, thinly bedded, orange weathering, strongly calcareous, between station 104 and 105 are ressessive zone.
		303-41NE
106.		Sandstone:
		Medium grained, medium grey, thickly bedded, non-calcareous.
		321-25NE
107.		Sandstone:
		Coarse grained, medium grey, 50% of black chert, 50% of quartz, well sorted, clean, slightly calcareous, thickly bedded, large scale of cross bedding, abundant carbonized plant debris.
		320-16NE
108.		Sandstone:
		Coarse grained, medium grey, poorly sorted, thickly bedded, large scale of cross bedding, non-calcareous.
		295-35NE
109.		Top: Sandstone, fine grained, grey, calcareous, thinly bedded
		0.4m Sandstone, fine grained, grey, flaggy, calcareous
		300-35NE
		0.4m Siltstone, grey, strongly calcareous, orange weathering, siltstone/mudstone interbedded at bottom.
110.		Coal:
		Roof: Sandstone, medium grained, grey, non-calcareous
		1.90m Coal, weathered, dull and bright

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

110.	(Cont'd)	Floor: Mudstone, carbonaceous, light grey, slightly calcareous at bottom.
		286-15NE
111.		Conglomerate:
		Sub-angular to sub-rounded (2-5cm) of chert pebbles cemented with coarse grained sandstone matrix. Coarse grained sandstone (40-50cm) interfinger, outcrop 4.9m high.
		292-32NE
112.		Conglomerate:
		Same as station 111, outcrop 8.5m high
113.		Conglomerate:
		Same as station 112.
		313-29NE
114.		Sandstone:
		Fine grained, light grey, siliceous, broken, orange weathering.
		285-39NE
115.		Sandstone:
		Coarse grained, light grey, gritty, quartzose, non-calcareous, large scale of cross bedding, conglomerate sandstone at bottom 0.5m.
		294-35NE
116.		Sandstone:
		Coarse grained, light grey, 50% of quartz, 50% black chert, few carbonaceous stringers. Siliceous, orange weathering, conglomeratic sandstone at bottom 0.4m.
		293-22NE
117.		Mudstone:
		Top: Carbonaceous mudstone
		Coal, weathered, dull, pulverized 1.98m
		Mudstone 0.30m
		Carbonaceous mudstone with coal stringers 0.45m
		290-14NE

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

118.		Sandstone:
		Medium grained, light grey, thickly bedded, non-calcareous, few orange specks, large scale of cross bedding, buff weathering.
		276-11NE
119.		Sandstone:
		Fine grained, grey to dark grey, thinly bedded, strongly calcareous, small scale of cross bedding, orange weathering, argillaceous, abundant plant debris.
		296-10NE
120.		Sandstone:
		Fine grained, dark grey, thinly bedded small scale of cross bedding, strongly calcareous, argillaceous, abundant plant debris, orange weathering.
		310-10NE
121.		Sandstone:
		Fine grained, dark grey, thinly bedded, silty, strongly calcareous, orange weathering, flaggy.
121A.		Top: 0.10m mudstone, carbonaceous
		1.0m coal, bright, hard
		Bottom: unknow, due to creek bottom
		325-5NE
122.		Sandstone:
		Medium grained, light grey, 50% of quartz, 50% of black chert, clean, well sorted, thickly bedded, large scale of cross bedding, non-calcareous.
123.		Sandstone:
		Fine grained, dark grey, argillaceous, thickly bedded, clean, large scale of cross bedding, non-calcareous, orange weathering.
124.		Sandstone:
		Coarse grained, dark grey, hard, siliceous, grit in places, massive, dirty, indistinct bedding.
125.		Sandstone:
		Fine grained, dark grey, argillaceous, dirty, non-calcareous, thinly bedded.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

126.		Mudstone:
		Carbonaceous, non-calcareous, 2.5m thick
		Top: Sandstone, fine grained, 2.5m mudstone carbonaceous, numerous coal stringers, rootlets
		Bottom: Sandstone, fine to medium grained, grey.
		305-26SW
127.		Sandstone:
		Coarse grained, dark grey, coaly material in places, large scale of cross bedding, dirty, calcareous.
		298-26NE
128.		Sandstone:
		Medium grained, grey, abundant coaly materials, non-calcareous, orange weathering, thickly bedded, large plant debris.
		300-25NE
129.		Sandstone:
		Very coarse, grained, grey, indistinct bedding, non-calcareous, abundant coaly materials, conglomeratic sandstone in places.
130.		Conglomeratic sandstone and/or very coarse grained sandstone:
		Grey, mainly 2-3mm of chert pebbles cemented with coarse grained sandstone matrix, thickly bedded, non-calcareous.
		275-35NE
131.		Sandstone:
		Fine grained, grey, thinly bedded, strongly calcareous, argillaceous, orange weathering.
		350-25NE
132.		Sandstone:
		Very fine grained, grey, silty, thinly bedded, carbonaceous, non-calcareous, coal, 0.20m thick, bottom unknown due to thick dirt cover.
		326-15NE

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

133.		Sandstone:
		Very fine grained, somewhat siltstone characteristics in places, dark grey, thinly bedded, strongly calcareous abundant plant debris and coaly material.
		325-9NE
134.		Sandstone:
		Fine grained, grey, thinly bedded, clean, strongly calcareous, ripple, orange weathering, small scale of cross bedding.
		312-23NE
135.		Sandstone:
		Medium grained, grey, thinly bedded, argillaceous, strongly calcareous, immediately above this unit, very coarse grained sandstone.
		313-72NE
136.		Sandstone:
		Very fine grained, grey, thinly bedded, strongly calcareous, argillaceous, orange weathering.
		303-48SW
137.		Mudstone:
		Carbonaceous, dark grey, coal stringers, numerous plant debris, coal float mixed with dirt on surface.
		337-15NE
138.		Sandstone:
		Very fine grained, light grey, thinly bedded, argillaceous, strongly calcareous, orange weathering, small scale of cross bedding.
		326-11NE
139.		Sandstone:
		Fine grained, orange weathering, thinly bedded, strongly calcareous, badly broken.
140.		Sandstone:
		Fine grained, light grey, thinly bedded, strongly calcareous, orange weathering, argillaceous, small scale of cross bedding.
		313-8NE

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

141.		Sandstone:
		Fine grained, light grey, numerous orange specks, thinly bedded, grey to whitish grey weathering, non-calcareous.
		304-6NE
142.		Sandstone:
		Fine to medium grained, light grey 80% of quartz, 20% of black chert, thickly bedded, siliceous, clean, well sorted, numerous orange specks, large scale of cross bedding, light grey weathering, large plant imprint, outcrop 15-20m high. Immediately beneath this unit, flaggy sandstone, calcareous.
		304-12NE
143.		Sandstone:
		Coarse grained, light grey, grit, non-calcareous massive indistinct bedding, orange weathering.
144.		Conglomerate:
		0.5-1.0cm of sub-angular to sub-rounded chert pebbles in a coarse grained sandstone matrix, blocky, siliceous.
		306-24NE
145.		Conglomeratic Sandstone:
		Getting to conglomerate but still conglomeratic sandstone. Very coarse grained sandstone interfinger structure, blocky, siliceous, indistinct bedding.
146.		Sandstone:
		Medium grained, light grey, 95% of quartz, 5% of black chert, well sorted, clean, thickly bedded, large scale of cross bedding, siliceons, large plant debris, conglomeratic sandstone interfinger.
		306-19NE
147.		Sandstone:
		Same as station 146.
		288-23NE
148.		Conglomerate:
		0.2-0.5cm of chert pebbles (sub-angular to sub-rounded) cemented with very coarse grained sandstone matrix, medium grained sandstone interfinger, siliceous.
		277-43NE

CL 3

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

149.		Conglomeratic Sandstone:
		2-3mm of chert pebbles in a very coarse grained sand-
		stone, medium grained sandstone interfinger, siliceous,
		thickly bedded, large seal of cross bedding.
		245-23NW
150.		Sandstone:
		Fine grained, badly weathered, orange weathering,
		thinly bedded, non-calcareous, broken.
151.		Sandstone:
		Medium grained, grey, clean, well sorted, non-calcareous
		thinly bedded, orange weathering.
		342-11SW
152.		Sandstone:
		Medium grained, grey thinly bedded, non-calcareous,
		numerous orange specks, small scale of cross bedding.
		315-5SW
153.		Sandstone:
		Fine grained, grey, thinly bedded, strongly calcareous,
		clean, well sorted, rootlet, broken.
154.		Sandstone:
		Fine grained, grey, thinly bedded, orange weathering,
		weakly calcareous, small scale of cross bedding.
		304-62SW
155.		Sandstone:
		Medium grained, light grey, numerous orange specks, non-
		calcareous, large plant debris, broken.
156.		Sandstone:
		Medium grained, grey, numerous orange specks, non-
		calcareous, thinly bedded, orange weathering, small scal
		of cross bedding.
		296-17SW
157.		Sandstone:
		Medium grained, grey, numerous orange specks, non-
		calcareous, orange weathering, large scale of cross
		bedding.
		300-17SW

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

158.		Claim Post:
		Coal Licence No.2
		To. S.E. Corner
		1970 Brameda Resources Limited
		180's 60E, July 31.
159.		Sandstone:
		Medium grained, grey, 60% of black chert, 40% of quartz,
		well sorted, non-calcareous, iron rusted on weathering
		surface, thickly bedded, large scale of cross bedding,
		outcrop 5-7m high, calcareous at bottom 1m.
		306-27SW
160.		Sandstone:
		Very fine grained, grey, thinly bedded, numerous
		flaxture, silickensides, might be disturbed ground, non-
		calcareous.
		338-76SW
161.		Sandstone:
		Fine grained, grey, thinly bedded, flaggy, orange
		weathering, strongly calcareous.
		345-75NE
162.		Siltstone:
		Grey, thinly bedded, strongly calcareous, orange
		weathering, some coaly materials.
		341-80-90SW
163.		Sandstone:
		Medium grained, medium grey, massive, indistinct bedding
		non-calcareous, orange weathering.
164.		Sandstone:
		Fine grained, grey, silty, flaggy, strongly calcareous,
		thinly bedded, orange weathering, small scale of cross
		bedding.
		340-55SW
165.		Conglomerate:
		2-3cm of sub-rounded to
		rounded chert pebbles cemented with coarse grained
		sandstone. Large plant debris in coarse grained sand-
		stone. Course grained sandstone interfinger structure.
		Outcrop 15m height.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

166.		Conglomerate:
		Grit to conglomeratic sandstone facies in places, also increasing sandstone, large scale of cross bedding, light grey weathering, non-calcareous.
167.		Sandstone:
		Medium grained, grey, well sorted, numerous orange specks, large scale of cross bedding, weakly calcareous.
		324-17NE
168.		Sandstone:
		Medium grained, grey, well sorted, numerous orange specks, large scale of cross bedding, grey weathering.
		347-8SW
169.		Sandstone:
		Medium grained, grey, clean, well sorted, numerous orange specks, non-calcareous, large scale of cross bedding.
		330-3NE
170.		Conglomerate:
		1-1.5cm of sub-rounded to rounded black, white and some green chert pebbles cemented with coarse grained sandstone matrix. Coarse grained sandstone interfinger structure, non-calcareous, large scale of cross bedding in coarse grained sandstone. Immediately south of this station, where the coarse grained sandstone.
		280-11NE
171.		Conglomerate:
		0.4m Conglomerate
		± 3m Sandstone, coarse grained, grey, clean, numerous orange specks, slightly calcareous, large scale of cross bedding flaggy.
		279-12NE
172.		Sandstone:
		Medium to coarse grained, dark grey, siliceous, hard, large scale of cross bedding, dirty, outcrop 6-7m height
		339-10NE

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

173.		Conglomerate:
		2-3cm of chert pebbles cemented with hard siliceons,
		dark grey, coarse grained sandstone matrix.
		Between station 172 and 173, ressessive zone.
		334-12NE
		Immediately south of this unit, where the conglomeratic
		sandstone, thinly bedded, non-calcareous, orange
		weathering.
174.		Conglomerate:
		0.2-0.5cm of chert pebbles cemented with cherty sand-
		stone matrix, outcrop 15-20m height,
		275-24NE
175.		Conglomerate:
		Predominantly sub-angular to sub-rounded chert pebbles
		(0.5-1cm) cemented with coarse grained cherty sandstone
		matrix, sandy characteristic at bottom outcrop 4-5m
		height.
176.		Sandstone:
		Medium grained, dark grey, clean, well sorted, strongly
		calcareous, thinly bedded, large scale of cross bedding.
		306-8NE
177.		Sandstone:
		Fine grained, dark grey, numerous plant debris and car-
		bonized plant debris, slightly calcareous, large scale o
		cross bedding, rootlets
		324-8NE
178.		Mudstone:
		Weathered, broken, carbonaceous, dark grey.
179.		Sandstone:
		Very fine grained, grey, calcareous, orange weathering,
		thinly bedded, platy.
		308-6NE
180.		Sandstone:
		Medium grained, dark grey, large scale of cross bedding,
		slightly calcareous, outcrop 7-8m height, at bottom
		pebbly.
		306, Horizontal

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

181.		Sandstone: Since station 180 to this station, same sandstone outcrop.
182.		Sandstone: Medium grained, dark grey, clean, numerous orange specks, thickly bedded, large scale of cross bedding. 304-19NE
183.		Coal Float: 20m south of station 182, coal float mixed with dirt, top and bottom are medium grained sandstone, 2m thick black dirt (might be some coal seam?).
184.		Siltstone: Top: Sandstone, medium grained, thickly bedded ± Mudstone plus coal stringers, broken Bottom: Siltstone, calcareous, orange weathering. 325-15NE
185.		Sandstone: Medium grained, dark grey, thickly bedded, large scale of cross bedding, non-calcareous, numerous orange specks 304-17NE
186.		Sandstone: Medium grained, grey, thickly bedded, clean, strongly calcareous, platy, orange weathering. 292-19NE
187.		Sandstone: Medium grained, grey, thickly bedded, large, cross bedding, non-calcareous, some coaly materials. 286-17NE
188.		Sandstone: Medium grained, dark grey, thickly bedded, strongly calcareous, large cross bedding, numerous orange specks. 328-26NE
189.		Sandstone: Medium grained, dark grey, clean, thickly bedded, slightly calcareous, large cross bedding 338-21SW

CL 3

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

190.		Sandstone:
		Medium grained, dark grey, thickly bedded, clean, non-calcareous, few orange specks.
		298-42NE
191.		Sandstone:
		Medium grained, grey, thickly bedded, slightly calcareous, orange weathering, large scale of cross bedding, outcrop 10 height.
		328-30NE
192.		Sandstone:
		Medium to coarse grained, dark grey, thickly bedded, strongly calcareous, coal stringers, large scale of cross bedding.
		352-30NE
193.		Sandstone:
		Fine grained, grey, thickly bedded, clocky, non-calcareous, orange weathering.
		60-15SE
194.		Sandstone:
		Top: Sandstone, fine grained, grey, outcrop 1.5-2m height
		4-5m Coaly mudstone, 5-10cm intervals
		2-2.5m Sandstone/mudstone
		Sandstone; fine grained, grey, rootlet.
		Bottom: Sandstone, fine grained, grey, thickly bedded, calcareous.
		60-8SE
195.		Siltstone:
		Dark grey, strongly calcareous, thinly laminated, coal stringers.
		323-35NE
196.		Sandstone:
		Very fine grained, dark grey, non-calcareous, thickly bedded, blocky.
		356-45NE
197.		Siltstone:

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

197.	(Cont'd)	Top: 3m - siltstone/mudstone (carbonaceous) few coal stringers, sheared
		340-32NE
		Bottom: Siltstone and or very fine graind sandstone rootlets, numerous carbonized plant debris, orange weathering.
198.		Sandstone:
		Fine grained, dark grey, strongly calcareous, rootlets, platy, orange weathering.
		319-75NE
199.		Sandstone:
		Fine grained, grey, thinly bedded, flaggy, strongly calcareous, orange weathering, small scale of cross bedding.
		55-4SE
200.		Sandstone:
		Fine grained, grey, thinly bedded, flaggy, strongly calcareous, orange weathering.
		74-8SE
201.		Sandstone:
		Fine grained, grey, thinly bedded, orange weathering, silty, strongly calcareous, numerous plant debris.
		95-7 SW
202.		Sandstone:
		Fine grained, grey, thinly bedded, rootlet, strongly calcareous, flaggy, orange weathering.
		304-7NE
203.		Sandstone:
		Similar sandstone as station 202
		328-11NE
204.		Sandstone:
		Medium grained, light grey, clean, well sorted, non-calcareous, orange weathering.
205.		Sandstone:
		Coarse grained, light grey, conglomeratic sandstone interfinger structure in places, slightly calcareous, large scale of cross bedding.
		328-22NE

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

206.		Conglomerate:
		2-5cm of sub-angular to sub-rounded chert pebbles in a
		coarse grained sandstone matrix, non-calcareous, between
		205-206 is ressessive zone, stratigraphycally station
		205 is top of 206. Some carbonaceous plant debris.
		325÷12NE
207.		Conglomerate:
		2-5cm of chert pebble conglomerate coarse grained sand-
		stone in places, outcrop 3m height, cadomin conglomerate.
208.		Conglomerate:
		2-5cm of chert pebble conglomerate cemented with coarse
		grained sandstone matrix, uneven weathering surface,
		322÷2NE
209.		Conglomerate:
		3-5cm of sub-rounded to rounded
		white, black chert pebbles cemented with very coarse
		grained sandstone matrix, non-calcareous.
		348÷11NE
210.		Conglomerate:
		Similar to station 209.
		10-11SE
211.		Sandstone:
		Coarse grained, light grey, very few chert pebbles in
		places, might be contact between the cadomin and the
		gething formation, large scale of cross bedding, broken,
		indistinct bedding.
212.		Sandstone:
		Fine grained, dark grey, thinly bedded, strongly
		calcareous, clean, well sorted, orange weathering, this
		unit is stratigraphycally just above station 211 sand-
		stone.
		338÷35NE
213.		Conglomerate:
		1.5-2cm of sub-rounded to rounded chert pebbles cemented
		with coarse grained sandstone matrix, coarse grained
		sandstone interfinger structure, this unit contact with
		station 212 sandstone.
		322÷30NE

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

214.		Sandstone:
		Medium grained, light grey, few black chert pebbles in places, thinly bedded, slightly calcareous, orange weathering, large scale of cross bedding.
		331÷27NE
215.		Conglomerate:
		medium to coarse grained sandstone interfinger, (30cm to 1.5m thick), large scale of cross bedding.
		4-11SE
216.		Sandstone:
		Medium grained, medium grey, large carbonized plant debris, large scale of cross bedding, numerous silickensides and calcite veinlets, siliceous, fault zone.
		315÷85SW
217.		Sandstone:
		Medium grained, grey, slightly calcareous, large scale of cross bedding.
		281÷24NE
218.		Siltstone:
		Grey, strongly calcareous, carbonaceous plant debris, orange weathering.
		328÷74NE
219.		Siltstone:
		Dark grey, thinly laminated, strongly calcareous, orange weathering.
		315÷72SW
220.		Conglomerate:
		0.5-1cm of chert pebbles cemented with coarse grained sandstone matrix.
221.		Conglomerate:
		Mainly white to milky white chert conglomerate, non-calcareous, numerous silickenside.
		305÷75SW
222.		Conglomerate:
		0.3-0.5cm of sub-angular to sub-rounded chert pebble conglomerate, non-calcareous.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: _____.
PROJECT: _____. DATE: _____.
LOCATION: _____. ELEVATION: _____.
GEOLOGIST: _____.

223.		Sandstone:
		Fine grained, dark grey, thinly bedded, strongly calcareous, small scale of cross bedding, orange weathering, rootlets, small plant debris.
		336-17SW
224.		Conglomerate:
		Angular to sub-angular chert pebble (0.5-1cm) conglomerate badly broken outcrop, non-calcareous.
225.		Sandstone:
		Fine grained, grey, thinly bedded, strongly calcareous, small scale of cross bedding, orange weathering.
226.		Sandstone:
		Medium grained, grey, thinly bedded, few chert (1-1.5cm) pebbles, non-calcareous, orange weathering.
		347-18SW
227.		Sandstone:
		Medium grained, grey, thinly bedded, moderately calcareous, calcite veinlets, broken, orange weathering.
		104-87NE
228.		Conglomerate:
		Chert pebble conglomerate, non-calcareous.
229.		Conglomerate:
		Similar to station 228.

BH No. BPM-1

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
	11.84	11.84	OVERBURDEN-depth as indicated by the drillers blocks.
25°	12.50	0.66	SANDSTONE-medium grey, fine-to very fine-grained, argillaceous, laminated, strongly calcareous, core locally weathered (top most 23 cm core with 60° dip small calcite veins at three points.
	12.70	0.20	SANDSTONE-as above but substantially more argillaceous and incorporating tiny mud intraclasts; gradational.
	13.83	1.13	MUDSTONE-dark grey/black, locally carbonaceous with thin coal seams, mostly non-calcareous, core broken.
	14.02	(0.19)	Core loss-rock.
	14.31	0.29	MUDSTONE-as above, core fragmented.
	14.47	(0.16)	Core loss-rock.
	14.63	0.16	COAL-upper half dull banded, rest dull and hard.
	15.35	0.72	MUDSTONE-dark grey, very silty, abundant rootlets, non-calcareous.
26°	18.12	2.77	MUDSTONE/SILTSTONE-medium to dark grey, dominance of mudstone, sporadically laminated, calcareous.
	18.44	(0.32)	Core loss-rock
	19.93	1.49	MUDSTONE/SILTSTONE-as above, 0.14 m very fine-grained, argillaceous sandstone interval.
	19.96	(0.03)	Core loss-rock
	20.15	0.19	MUDSTONE/SILTSTONE-as above, lower contact fragmented
	20.39	(0.24)	Core loss-rock
	20.80	0.41	SILTSTONE-creamy grey, distinctly bentonitic, broadly banded, locally with fine carbonized plant matter, abrupt contact.
	21.33	0.53	MUDSTONE-dark grey, very silty, extremely sparse lamination, calcareous. Slightly carbonaceous in top 0.15 m.
	22.69	1.36	MUDSTONE-locally very dark and rich in carbonized plant debris, sporadically calcareous.
	23.01	(0.32)	Core loss-rock

BH No. BPM-1

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
35°	24.48	1.47	MUDSTONE-as above, locally very silty and with stringers of very fine-grained sandstone.
	24.80	(0.32)	Core loss-rock
	25.77	0.97	MUDSTONE-siltier than above with more frequent lamination.
	26.04	0.27	MUDSTONE-dark grey to black, silty, roots in silty zones.
	26.12	0.08	Coal mostly muddy, fragmented, core listricated.
	26.32	(0.20)	Core loss-Coal
	26.94	0.62	MUDSTONE-as above, little or no silts, fragmented at base.
	27.00	(0.06)	Core loss-rock
	27.26	(0.26)	Core loss-coal
	28.02	0.76	MUDSTONE-dark grey silty, broken at numerous places
	28.12	(0.10)	Core loss-rock
			COAL SEAM-details as follows:
	28.27	0.15	Coal, mostly dull, muddy, hard, fragmented (Ply A)
	28.75	0.48	Coal, mixture of dull banded grading to dull and bright. (Ply B)
	28.84	(0.09)	Core loss-coal
	28.96	0.12	MUDSTONE-dark grey, carbonaceous, listricated, broken core.
	29.11	0.15	COAL/MUDSTONE-interlayered; essentially muddy coal, core badly fragmented.
	29.32	(0.21)	Core loss-coal
	29.69	0.37	MUDSTONE-medium grey, very silty, strongly calcareous, stick (broken at top)
	29.74	(0.05)	Core loss-rock
35°	30.48	0.74	SILTSTONE/SANDSTONE-medium grey to dark grey, inter bedded sequence on small-scale, rippled, sandstone very fine-grained and highly argillaceous; finely broken plant debris, occasional burrowing, calcareous, gradational.

BH No. BPM-1

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
	30.91	0.43	MUDSTONE-medium grey, very silty, sparsely laminate strongly calcareous; abrupt.
25°	31.59	0.68	SANDSTONE-light-to-medium grey, fine-grained, clean well-sorted, strongly calcareous, sporadic rippling sharp basal contact. Stick.
	31.94	0.35	MUDSTONE-medium to dark grey, very silty at top, sporadic lamination, strongly calcareous.
	33.38	1.44	MUDSTONE-dark grey to black, dense, singularly devo of silty content and any sedimentary lamination, locally canneloid, broken, bottom few centimetres have sand intercalations, sporadically calcareous, gradational to coal below.
	33.56	(0.18)	Core loss-rock
			COAL SEAM-details as follows: Total thickness: 1.20 % recovery: 96.67
	33.87	0.31	COAL-dominantly dull, submetallic lustre, some minor bright bands, hard, component, stick. (Ply A)
	34.28	0.41	COAL-dominant bright and banded, competent, stick (Ply B).
	34.36	0.08	COAL-dull hard, appears high ash, stick. (Ply C).
	34.42	0.06	MUDSTONE-dark grey, hard, carbonaceous, stick (Ply D).
	34.72	0.30	COAL-dull and bright but highly listricated and sheared, broken stick. (Ply E).
	34.76	(0.04)	Core loss-coal
	34.86	0.10	MUDSTONE-dark grey, coaly intercalations, fragmented
	36.29	1.43	MUDSTONE-black, numerous coaly zones but core broken throughout; locally laminated, non-calcareous.
	36.44	(0.15)	Core loss-rock
	37.12	0.68	MUDSTONE-upper half medium to dark grey, highly silty, rest black, very carbonaceous; gradational below. Core broken.
	37.34	0.22	COAL-upper half hard, shaly, listricated, rest bright banded; core badly fragmented.
	38.12	(0.78)	Core loss-mostly coal

BH No. BPM-1

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
	38.18	0.06	COAL-very hard and muddy.
	39.37	1.19	MUDSTONE-medium grey, locally highly silty and sporadically laminated, abundant carbonized plant matter, patchily calcareous, fragmented.
30°	40.45	1.08	SILTSTONE/MUDSTONE-medium to dark grey, about equal amounts of silt and mud, occasionally laminated, calcareous, abrupt below; core broken.
	40.83	0.38	SANDSTONE-dark grey, very fine-grained, argillaceous cross-laminated, strongly calcareous, finely macerated plant matter in matrix, few burrows (dark patches); gradational.
30°	42.30	1.47	SILTSTONE-dark grey, locally very silty; 0.28 m very fine-grained, sandstone band (with small-scale, cross-lamination and abundant carbonized plant debris); sequence generally broadly laminated, one zone with deep burrows funneling muddy lithology into sandstone, some muddy intervals; bottom 0.07 m mudstone, core broken.
	42.60	(0.30)	Core loss-rock
	43.95	1.35	MUDSTONE-medium to dark grey, broadly banded appearance due to rapid silty intercalations; top 0.35 m very silty; strongly calcareous, core broken
	44.19	(0.24)	Core loss-rock
	45.67	1.48	MUDSTONE-medium grey, sparingly silty, few ferruginous nodules, lacking lamination; strongly calcareous, core badly broken.
30°	47.20	1.53	MUDSTONE-medium grey, highly silty in middle 0.4 m and delicately laminated; one 4 cm muddy zone in which burrows grazed through and left crescentic silty laminae, few vertical fractures (no mineralization) strongly calcareous. Broken stick.
	48.26	1.06	MUDSTONE-dark grey, slightly slity, numerous fractures (clean) near-parallel to core axis, locally carbonaceous especially basal 0.25 m. Core fragmented.
	48.77	(0.51)	Core loss-rock
	49.84	1.07	MUDSTONE-as above stick.
	50.23	0.39	MUDSTONE-black, carbonaceous, coal at top (8 cm) and base (large pieces).

BH No. BPM-1

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
	50.29	(0.06)	Core loss-rock
	50.68	0.39	MUDSTONE-black, highly carbonaceous, numerous coal layers, broken stick.
	50.86	0.18	MUDSTONE-black, slightly carbonaceous, stick.
	51.26	0.40	MUDSTONE-medium grey; highly argillaceous, much blurring of laminae and mottling due to burrowing, some carbonized plant matter, non-calcareous, stick.
	51.65	0.39	MUDSTONE-medium grey, silty, non-calcareous.
	52.42	0.77	MUDSTONE-black, locally carbonaceous, structureless, lacking silts, non-calcareous, stick, basal contact fragmented.
25°	52.87	0.45	SANDSTONE-medium grey, fine-grained, salt-and-pepper look, delicately rippled throughout, much argillaceous and carbonaceous matter, non-calcareous, basal contact fragmented but appears sharp.
	53.01	0.14	MUDSTONE-black, locally concentrated carbonized plant debris, structureless and locally silty, non-calcareous, stick.
25°	54.27	1.26	SANDSTONE-dark grey, fine-to medium-grained, locally coarse-grained but the grain size variations are frequent; coal spar and tiny muddy interclasts characterize the sequence that is ubiquitously cross-laminated. Appears predominantly cherty, sporadically calcareous but mostly siliceous. Broken stick, basal contact abrupt.
	54.51	0.24	SANDSTONE-medium and dark grey, very fine-grained, argillaceous, central 7 cm vaguely laminated, non-calcareous, stick.
	54.81	0.30	SANDSTONE-identical to above but calcareous; passage below by interbedding.
	56.06	1.25	SANDSTONE-medium and dark grey, predominantly fine-grained, ubiquitous small ripping and incorporates argillaceous laminae (defining ripples), 0.09 m carbonaceous mudstone band; strongly calcareous, broken stick.

BH No. BPM-1

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
30°	57.42	1.36	SANDSTONE-light-to-medium grey, initial 0.14 m fine-grained, and bottom 0.46 m very clean, well-sorted, medium-grained and with small-scale cross-lamination and calcareous, remainder of sandstone poorly-sorted and straddle medium-to-coarse-grained boundary and is ubiquitously characterized by occurrence of coal spar (of considerable concentration). Few calcite veins in top 0.35 m, broken stick. (Channel lag deposit
	58.94	1.52	SANDSTONE/GRITSTONE-medium grey, top 0.85 m medium grained clean and well-sorted, well cross-stratifi sandstone and broadly banded; remainder very coars grained to gritty, ill-sorted with tiny shale intraclasts coal spar (tiny). Non-calcareous, broken stick. (Channel lag deposits).
30°	59.36	0.42	SANDSTONE/GRITSTONE-as above, erosional basal content. Stick.
	59.94	0.58	MUDSTONE-dark grey, sparingly silty, slightly banded, calcareous, erosional at base. Broken stick.
	60.51	0.57	SANDSTONE-medium to light grey, very fine-grained argillaceous, slightly mottled, few discrete borrows, strongly calcareous; broken stick.
	61.06	0.55	MUDSTONE/SILTSTONE-dominant medium grey sparsely laminated, many burrows, strongly calcareous, gradational, broken stick.
35°	61.78	0.72	SANDSTONE-light and dark grey, mostly very fine-grained, and highly argillaceous, rippled, small-scale cross-lamination; strongly calcareous, gradational.
30°	62.18	0.40	MUDSTONE-dark grey, very silty at top; carbonaceou at base, basal contact fragmented, broken stick.
	63.08	0.90	SANDSTONE-medium to light grey, very fine to fine-grained, locally highly argillaceous, two thin carbonaceous laminae; delicately rippled, some disturbed lamination, sporadic burrows in clean parts of sandstone, strongly to weakly calcareous, gradational below, stick.
30°	64.33	1.25	MUDSTONE-dark grey, locally very carbonaceous, som silty laminae and layers; non-calcareous, stick.
	65.27	0.94	SILTSTONE-medium grey, very argillaceous, carboniz plant matter, rooty, otherwise structureless, non-calcareous, gradational, stick.

BH No. BPM-1

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
	66.99	1.72	SANDSTONE-medium grey, mostly very fine-grained, very argillaceous, rippled, some disturbed laminae few scattered burrows, non-calcareous, transitional below, stick.
	67.86	0.87	SANDSTONE-light grey, fine-grained, rippled throughout some zones with tiny coal spars and with some mud clasts, calcareous, broken stick.
35°	68.25	0.39	SANDSTONE-continuation of above but with a much greater concentration of coal spars. Erosional at base.
	69.39	1.14	MUDSTONE-medium grey, highly silty, plant matter sporadic thin ripples of very fine-grained, sandstone, non-calcareous, passage below by interbedding; stick.
	71.31	1.92	SANDSTONE-medium grey, fine-to very fine-grained, ripple lamination and much graded sequences, on one occasion concentration of muddy well-rounded intraclasts (simulating pellets), occasional burrowing, inclusions of carbonized matter especially in bottom 0.30 m; non-calcareous, erosional at base, stick.
	71.96	0.65	MUDSTONE-black, locally very carbonaceous and developing into coal zones, broken core.
	72.66	(0.70)	Core loss-rock
	74.74	2.08	MUDSTONE-dark grey, lacking lamination, carbonaceo especially basal 0.34 m (with coal intervals) mostly stick but toward lower end broken core.
	75.75	(1.00)	Core loss-rock
	77.51	1.77	MUDSTONE-black, basal 0.50 m highly carbonaceous and some coaly zones (muddy), broken stick.
	78.61	1.10	MUDSTONE-medium grey, very silty, no lamination, rootlets in basal 0.18 m, non-calcareous.
	79.27	0.66	MUDSTONE-as above
30°	81.63	2.36	SILTSTONE-medium grey, very muddy, brief intervals of very fine-grained argillaceous sandstone, poorly laminated, few large burrows (sandstone infills in muddy matrix), calcareous, two calcite-filled fractures (45° to core axis). Broken stick.
	83.34	1.71	SILTSTONE/SANDSTONE-medium grey, dominantly argillaceous siltstone with very fine-grained

BH No. BPM-1

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
			argillaceous sandstone, locally rippled, burrowed; brief muddy bands. Strongly calcareous, broken stick
30°	85.99	2.65	SANDSTONE/GRITTY CONGLOMERATE-top 0.89 m fine_to very-fine-grained sandstone with much carbonaceous matter emphasizing lamination (wavy). Rest is illsorted assemblage of gritty conglomerates dominantly of cherts and quartzites; Appear to have several brief fining-upwared cycles (starting with fine pebbly sequence), few coal spars and muddy intraclasts siliceous, broken stick. Channel lag deposits.
	88.67	2.68	SANDSTONE-light-to-medium grey, predominantly very fine-grained but the whole sequence has a very distinctive aspect of frequently changing lithologies due to rippling of fine sandstone and siltstone much large-scale burrowing; many thin muddy layers finely macerated plant matter, non-calcareous throughout, broken stick.
	89.15	0.48	MUDSTONE-dark grey, slightly carbonaceous; fragmented rock.
	89.65	(0.50)	Core loss-rock
	90.25	0.60	SANDSTONE-medium grey, a very distinctive unit in which a large concentration of dark muddy silty intraclasts float in a sandy/silty/muddy matrix or alternatively this unit could be interpreted as a sedimentary breccia whereby recently semi-lithified sediments were ripped up from substratum and redeposited in a contiguous environment.
	90.99	0.74	MUDSTONE-medium grey, locally silty, laminated non-calcareous, broken rock.
	91.49	(0.50)	Core loss-rock
25°	94.24	2.75	SILTSTONE/MUDSTONE-rapidly interlayered lighologies, ripple lamination with occasional scoured tops, some small-scale cross-lamination, strongly calcareous throughout, erosional below, broken stick.
	95.86	1.62	SILTSTONE/SANDSTONE-medium to dark grey, top half mostly argillaceous siltstone; rest very fine-grained argillaceous sandstone with ripple lamination with few burrows; some thin muddy layers, strongly calcareous, gradational.
	97.91	2.05	MUDSTONE-dark grey, top half richly silty and sporadically mudstones with good deal of carbonized plant debris; erosional at base.

BH No. BPM-1

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
32°	99.78	1.87	SANDSTONE-medium grey, mostly fine-to very fine-grained with frequent argillaceous laminae; ripple lamination; tiny intraclasts of dark mudstone; two discrete 0.13 m mudstone layers and these have sharp contacts with sandstone; some flowage of lamination in top 0.60 m. and within it there is a 8 cm thick zone with calcite infills (coal fractures) strongly calcareous, erosional below. Broken core.
	100.00	0.22	MUDSTONE-black, hard, non-calcareous, fragmented rock.
	100.75	(0.75)	Core loss-rock
	100.80	0.05	MUDSTONE-as above, fractured contact with coal below.
			COAL SEAM-detailed below.
	101.06	0.26	Coal, predoninantly dull with sub-matellic lustre, many listricated surfaces, large and small pieces (Ply A).
	101.15	(0.09)	Core loss-coal
	101.42	0.27	Coal similar to above, broken core (Ply B)
	101.52	(0.10)	Core loss-coal
	101.79	(0.27)	Core loss-rock
	102.07	0.28	Coal-a mixture of coal fragments (dull and some high ash) and powdered and pulverized coal (Ply C)
	102.32	0.25	Coal-mostly dull, listricated, large and small pieces (Ply D).
	102.96	0.64	MUDSTONE-black, lower half very carbonaceous, fragmented and listricated, gradational below.
	103.0	(0.04)	Core loss-rock.
	103.44	0.44	COAL-large pieces, appears to be bony coal. (Ply E)
	103.56	0.12	MUDSTONE-very carbonaceous, coal partings. (Ply F)
	103.68	0.12	COAL-dull, minor bright bands. (Ply G)
	103.76	0.08	MUDSTONE-dark grey, hard slightly carbonaceous.
30°	105.36	1.60	SANDSTONE-medium grey, very fine-grained, argillaceous, rippled, substantial amounts of silts, non-calcareous, stick.
	106.04	0.68	SANDSTONE-identical to the above.

BH No. BPM-1

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
	106.91	0.87	SANDSTONE-medium to dark grey, rippled throughout, very argillaceous, very fine-grained, sporadically calcareous. Stick.
28°	107.96	1.05	SANDSTONE-initial half light grey, fine-grained, well-laminated and rippled; rest very fine-grained and abundantly argillaceous, locally interlaminated with few cm of dark grey argillaceous component.
30°	110.47	2.51	SANDSTONE-light to medium grey, medium-grained, clean and generally well-sorted, cross-bedded, siliceous, very hard; many stylolites along carbonaceous/clay seam. Broken stick.
	114.98	4.51	GRITSTONE/SANDSTONE-very coarse-grained, medium to dark grey, dominantly cherty, some gradations; few coal spars, stylolites, siliceous, distinctly cross-stratified clean; erosional basal contact.
	115.75	0.77	SANDSTONE-dark grey, very fine-grained, richly argillaceous, sedimentary lamination seems to have been modified presumably by burrowers (some relicts of lamination and whorling), non-calcareous; stick.
	116.07	0.32	SANDSTONE-continuation of above, except here substantial amounts of black mudstone layers.
	118.56	2.49	SANDSTONE-light to medium grey, mostly fine-grained generally clean and sorted, locally passing to very fine-grained sandstones and are associated with thin muddy laminae; sequence charactarized by small-scale cross-lamination throughout; number of stylolites and deep suturing along carbonaceous matter, non-calcareous, erosional at base.
	118.64	0.08	MUDSTONE-black, very carbonaceous, fragmented.
	119.89	1.25	MUDSTONE-black, carbonaceous, locally developing into muddy coal; whole interval badly fragmented.
	120.70	(0.81)	Core loss-rock
	122.14	1.44	MUDSTONE-dark grey to black, carbonaceous, 0.21 m sandstone band (laminated and calcareous and having erosional top and bottom with mudstone); broken stick
	122.52	0.38	MUDSTONE-black, carbonaceous, as above; listricated, very transitional to coal below.
	122.67	(0.15)	Core loss-coal
	122.94	0.27	Bone coal to carbonaceous mudstone, high ash content (Ply A).

BH No. BPM-1

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
	123.20	0.26	Coal, dull with minor bright bands. (Ply B)
	123.32	0.12	MUDSTONE-black, abundance of coaly material. (Ply C)
	123.36	(0.04)	Core loss-rock
	123.52	0.16	COAL-generally dull minor bright bands; very broken to crushed. (Ply D).
	123.72	0.20	MUDSTONE-carbonaceous. (Ply E).
	123.77	0.05	COAL-dull minor bright bands, crushed (Ply F)
	123.86	(0.09)	Core loss-coal
	124.20	0.34	MUDSTONE-black, highly carbonaceous with thin coal bands, broken.
28°	125.78	1.58	MUDSTONE-dark grey to black, sporadically silty, slightly carbonaceous and calcareous, gradational.
	126.49	0.71	MUDSTONE-black carbonaceous and frequently passing to muddy coal. Broken stick.
	126.70	(0.21)	Core loss-rock
	127.00	0.30	MUDSTONE-identical to above, gradational below
	127.30	0.30	COAL SEAM-predominantly dull, hard coal (Ply A).
	127.94	0.64	MUDSTONE-dark grey to black, basal 0.15 m very carbonaceous.
	129.34	1.40	MUDSTONE-black, highly friable; basal 0.35 m coaly/carbonaceous; fragmented core, gradational below.
	129.42	0.08	SILTSTONE-medium grey, argillaceous, stick.
	130.36	0.94	SILTSTONE-medium grey, argillaceous, abundantly rooty, some muddy intervals, non-calcareous, gradational.
	130.94	0.58	SILTSTONE-medium grey, very argillaceous, relicts of sedimentary lamination; non-calcareous.
	131.36	0.42	SILTSTONE-as above, abrupt below.
30°	133.94	2.58	SANDSTONE/SILTSTONE-top half highly argillaceous siltstone, broadly banded, ripple lamination; rest very fine-grained sandstone with some coal spar in basal 0.30 m. Sporadically calcareous.

BH No. BPM-1

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
	136.84	2.90	SANDSTONE/SILTSTONE-frequently alternating bands of coarse sandstone/gritstone and fine-to-medium-grained sandstone, poorly-sorted, though generally well-washed sequence; occasional tiny coal spar (sometimes larger ones); intraclasts at some places sigmoidal slumping, non-calcareous; core broken.
	137.36	(0.52)	Core loss-rock
	140.20	2.84	SANDSTONE/GRITSTONE-as above, significantly more of gritty content of cherts, quartzites; suturing, siliceous; some black mudstone bands.
30°	143.22	3.02	SANDSTONE-light grey, medium-to-coarse-grained, extremely clean and well-sorted, strongly cross-stratified, few thin very coarse-grained intervals, very hard, and siliceous cementation.
	143.78	0.56	SANDSTONE-same as above, basal 0.24 m with substantial amount of coal spar; erosional; broken.
32°	144.76	0.98	SANDSTONE-dark to medium grey, very fine-grained, abundantly argillaceous (as regular laminae and layers), somewhat banded appearance and micrograding, calcareous; broken core.
30°	145.67	0.91	SANDSTONE-as above, basal 0.30 m has 50% muddy content; gradational below.
	146.16	0.49	MUDSTONE-black, highly carbonaceous, coal streaks, broken stick.
	146.43	0.27	COAL-muddy, some bright intervals; fragmented core.
	147.56	1.13	MUDSTONE-black, locally very carbonaceous; fragmented core.
	148.06	(0.50)	Core loss-rock
25°	150.15	2.09	SILTSTONE-dark grey, substantial muddy intervals, some very fine-grained sandstone; patchily calcareous.
	152.16	2.01	MUDSTONE-black, slightly carbonaceous, non-calcareous; abrupt below.
	153.16	(1.00)	Core loss-rock
30°	154.45	1.29	SANDSTONE-medium grey, fine-grained, clean, small-scale cross-lamination, occasional dark mudstone clasts, non-calcareous; broken stick.
	155.30	(0.85)	Core loss-rock

BH No. BPM-1

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
	157.58	2.28	SANDSTONE-medium grey, clean, medium-grained, locally coarse-grained; suturing, cross-bedding, locally tiny coal spars associated with intraclasts siliceous. Stick.
32°	159.72	2.14	SANDSTONE/GRITSTONE-well-washed, cross-bedded, poor sorting, few coaly streaks along much suturing took place, listricated basal contact.
	161.55	1.83	MUDSTONE-black, very carbonaceous and greater part of the interval has hard dirty coal; 0.14 m siltstone band 0.18 m from base. Core broken.
	162.30	(0.75)	Core loss-rock
	162.64	0.34	MUDSTONE-continuation of above; gradual below.
	163.37	0.73	SILTSTONE-medium grey, highly root disturbed and mottled, argillaceous; gradational. Basal 0.23 very richly argillaceous and extremely rooty.
	163.67	(0.30)	Core loss-rock
	165.96	2.29	MUDSTONE-black, locally carbonaceous, listricated; basal 0.25 m with numerous coaly layers.
	166.14	(0.18)	Core loss-rock
	167.73	1.59	SILTSTONE-medium grey, argillaceous, vaguely laminated, same obliteration of lamination, strongly calcareous; gradational.
	168.12	(0.39)	Core loss-rock
	170.46	2.34	MUDSTONE-dark grey, locally black, slightly carbonaceous, silty patches, patchily calcareous; gradational.
	170.86	0.40	MUDSTONE-black, very carbonaceous (approaching coal) Stick at top, badly fragmented at base.
	171.00	(0.14)	Core loss-coal/rock
			COAL SEAM, details as below:
	171.19	0.19	Coal-very hard canneloid, few bright streaks, broken stick. (Ply A)
	171.49	0.30	Coal-dull banded and brief intervals of dull and bright. Broken core. (Ply B)
	171.59	0.10	Coal-interbedded hard dull and bright coal, large pieces. (Ply C).

BH No. BPM-1

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
	171.71	0.12	Coal-dull. (Ply D).
	172.02	0.31	MUDSTONE-black, very carbonaceous and frequently significant coaly intervals (muddy). Core broken into large pieces and some ground out. (Ply E).
	172.14	0.12	COAL-dull and minor bright bands. (Ply F).
	172.51	(0.37)	Core loss-rock/coal
	173.47	0.96	MUDSTONE-black, carbonaceous, as above.
	173.31	0.84	SILTSTONE/MUDSTONE-medium to dark grey, slight dominance of dark grey mudstone; delicate ripples, non-calcareous, gradational below; broken rock.
	175.69	(1.38)	Core loss-rock
	176.37	0.68	SILTSTONE/MUDSTONE-black to medium grey, structureless, locally carbonaceous, non-calcareous, broken rock.
	177.87	(1.50)	Core loss-rock
	178.60	0.73	SANDSTONE-medium grey, very fine-grained, argillaceous, laminated, non-calcareous.
	180.74	2.14	SANDSTONE-as above,very argillaceous little or no lamination, very fine-grained grading to coarse-grained siltstones.
	181.58	0.84	SANDSTONE-medium to light grey, fine-grained, cross laminated throughout, clean, non-calcareous.
31°	184.52	2.94	SANDSTONE-medium grey to light grey, fine/medium-grained, cross-stratified, clean, siliceous, few listric surfaces, stick.
	186.92	2.40	SANDSTONE-light grey, medium-grained throughout, very clean, well-sorted, cross-laminated but locally obscure, appearing massive, siliceous to weakly calcareous; stick.
	187.90	0.98	SANDSTONE-continuation of above; erosional below
	188.39	0.49	CONGLOMERATE-medium to large chert/quartzite pebbles set in a sandstone matrix.
	188.57	0.18	CONGLOMERATE-as above, clean contact below.
	190.76	2.19	SANDSTONE-light grey, fine-to medium-grained, very clean, top 0.72 m riddled with muddy intraclasts and coal spar. Siliceous, cross-laminated, broken stick

BH No. BPM-1

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
	190.97	0.21	CONGLOMERATE-chert/quartzite pebbles (medium) in abundant medium-to coarse-grained sandstone.
	191.33	0.36	SANDSTONE-light grey, medium-grained, very clean, sorted, siliceous, cross-stratified; stick.
	191.99	0.66	CONGLOMERATE-as above, abundant sandstone matrix. (30% sandstone). Erosional below.
29°-32°	195.80	3.81	SANDSTONE-light grey, fine-to medium-grained, clean and cross-stratified, siliceous, one zone of tiny muddy clasts; stick.
	196.81	1.01	SANDSTONE-medium grey, very fine-grained, clean, cross-laminated; fragmented core.
	198.84	2.03	SANDSTONE-as above, medium-to fine-grained.
	199.64	0.80	SANDSTONE-as above, 0.05 m thick finely pebbly horizon in middle; gradational below.
			i.e. there is a gradual inclusion of pebbly matter toward bottom.
	GETHING FORMATION		
	CADOMIN FORMATION		
	200.15	0.51	CONGLOMERATE-medium-to large chert and quartzite pebbles in sandstone matrix.
	202.24	2.09	CONGLOMERATE-as above, very little sandstone in matrix.
	204.99	2.75	CONGLOMERATE-as above
	207.27	2.28	CONGLOMERATE-Cadomin
	209.63	2.36	CONGLOMERATE-as above
	210.91	(1.28)	Core loss-rock to drillers depth.

BH No. BPM-2

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
	3.00	3.00	Overburden
10°	4.75	1.75	SANDSTONE-light grey, fine-grained, very clean and well-sorted, low-angle cross-lamination, strongly calcareous, basal 0.3 m fragmented.
	5.43	0.68	SANDSTONE-as above, one 6 cm zone with dark muddy intraclasts.
	6.64	1.21	SANDSTONE-as above, one band of dark grey mudstone with erosional top and bottom.
	8.23	1.59	SANDSTONE-sandstone make up about 2/3 of sequence, rest frequently interbedded silty, dark grey mudstone having sharp contacts with sandy intercalations. Tiny burrows in mudstone-sporadically larger ones; strongly calcareous.
	8.30	0.07	SANDSTONE-fine-grained, light grey, sharp contact below.
8°	9.64	1.34	MUDSTONE/SILTSTONE/SANDSTONE-predominantly dark grey shales riddled with 'pin' burrows and interlayered with minor amounts of siltstone and sandstone laminae, minor intraclasts of shale; somewhat graded look . The whole sequence appears intertidal/marinish. Strongly calcareous. Core locally broken.
	11.24	1.60	MUDSTONE-continuation of above lithology but essentially dark grey to black and with substantially diminished coarse detritus.
	12.78	1.54	MUDSTONE-black, widely-spaced silty laminae, absence of tiny burrows, non-calcareous; (These beds have been termed as 'splintry shales' during the field mapping).
	14.24	1.46	MUDSTONE-as above, 12. cm ferruginous hard band. sporadically mudstone is carbonaceous.
	14.75	0.51	MUDSTONE-same as above, basal 0.26 m highly carbonaceous and the contact characterized by appearance of sandy matter and somewhat gradational.
	15.19	0.44	SANDSTONE-dark grey to black, richly argillaceous incorporating abundant well-rounded granules, and tiny chert pebbles, abundant carbonaceous matter in matrix, evidence of cross-bedding, non-calcareous This is a marker zone and occupies strati-graphic position equivalent to the pebbly/comglomeratic zone immediately above the B seam.

BH No. BPM-2

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
8°	15.80	0.61	SANDSTONE-medium grey, fine-to very fine-grained, argillaceous, locally with small-scale cross-bedding, some intervals appear mottled and lacking lamination. Strongly calcareous. Tiny muddy bands with erosional basal contacts.
	17.10	1.30	SANDSTONE-as above, but with numerous muddy bands.
	18.62	1.52	SANDSTONE-light to medium grey, fine-to medium-grained much carbonaceous matter with shaly zones, sporadic burrows; small-scale cross-lamination throughout, tiny ripples, strongly calcareous.
	20.12	1.50	SANDSTONE-medium grey, fine-to very fine-grained, highly argillaceous, sporadically rippled; coal spar in basal 0.30 m cutting across the bedding, strongly calcareous.
	21.54	1.42	SANDSTONE-as above, vertical coal spar in top 0.20 m, sporadic medium burrows.
8°	22.96	1.42	SANDSTONE-as above with substantial amounts of argillaceous contents.
	24.44	1.48	SANDSTONE-as above, one 0.18 m clean, medium-grained sandstone with scoured base, some burrows.
	25.90	1.46	SANDSTONE-medium grey, very fine-grained, richly argillaceous, rippled, 0.15 m dark grey mudstone, strongly calcareous, bottom 0.17 m fine-grained clean sandstone, with a vertical fracture encrusted with calcite.
5°	26.31	0.41	SANDSTONE-light grey, fine-to medium-grained, strongly cross-bedded, clean, strongly calcareous, clean vertical fractures (mineralized) traversing the entire interval, bottom contact listricated.
	27.13	0.82	MUDSTONE-dark grey, highly silty (as discrete silty laminae), strongly calcareous, gradational below, core borken.
	27.45	0.32	MUDSTONE-black, carbonaceous, somewhat canneloid, non-calcareous.
	27.90	0.45	MUDSTONE-as above, very gradational to coal below.
			COAL SEAM-detailed as below:
	27.98	0.08	COAL-hard, dull, canneloid — Ply A
	28.09	0.11	COAL-dull banded, competent, stick — Ply B
	28.20	0.11	COAL-dull with minor bright bands
	28.38	(0.18)	Core loss-rock/coal

BH No. BPM-2

Dip°	DEPTH m	THICKNESS m	DESCRIPTION	
	28.62	0.24	COAL-dull banded, very competent stick.	
	28.72	0.10	COAL-bright banded, stick	Ply C
	28.85	0.13	COAL-dull, highly sheared, listricated	Ply D
	29.12	0.27	COAL-dull highly sheared, listricated with large dirt band.	
	30.22	1.10	MUDSTONE-dark grey to black, richly carbonaceous, thin coal partings. Broken stick.	
	30.92	0.70	MUDSTONE-as above substantially more carbonaceous, broken stick.	
	31.02	0.10	COAL-dull banded, competent broken stick	
	31.05	0.04	COAL-extremely hard dull	
	31.10	0.04	COAL-bright, hard	Ply A
	31.26	0.16	COAL-dull banded with occasional bright bands, broken stick.	
	31.32	0.06	COAL-mainly dull, hard, stick.	
	31.44	0.12	COAL-predominantly bright, sheared. Large pieces.	
	31.51	0.07	COAL-dull, high ash, muddy, broken stick	Ply B
	31.59	0.08	COAL-bright, pulverised	
	31.66	0.07	COAL-hard, muddy, large fragments; contact with siltstone at base	
	31.80	0.14	SILTSTONE-very fine-grained, dark grey highly argillaceous, appears to have bentonitic clay in matrix.	Ply C
	32.09	0.29	COAL-dull, relatively easy to break, broken stick.	
	32.37	0.28	COAL-dull with some bright bands in middle, sub-metallic lustre.	Ply D
	32.42	0.05	MUDSTONE-black, very carbonaceous, broken	Ply E
	32.88	0.46	COAL-dull and bright, and bright banded highly sheared and pulverized. (Ply F).	Ply F

BH No. BPM-2

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
	32.98	0.10	COAL-highly sheared with some muddy bands, type indeterminate. Ply G
	33.23	0.25	COAL-dull, highly listricated, broken stick.
	33.50	0.27	COAL-highly pulverized type, indeterminate. Ply H
	33.70	0.20	COAL-probably dull and bright, highly listricated, broken stick.
	33.76	0.06	COAL-highly sheared, muddy, highly listricated
	33.90	0.14	COAL-highly sheared, stick, type indeterminate Ply I
	34.00	0.10	COAL-probably dull with numerous dirt partings
	34.08	0.08	COAL-dull and bright, sheared, stick.
	34.21	0.13	SILTSTONE-highly argillaceous, appears to have bentonitic clays, plant material, fractured, with calcite veins. Ply J
	34.66	0.45	COAL-dull banded, highly listricated, broken stick. Ply K
	34.74	0.08	COAL-appears high ash, highly listricated large pieces.
	34.86	0.12	COAL-highly pulverized sheared, type indeterminate. Ply L
	35.04	0.18	MUDSTONE-black, highly carbonaceous with large core partings, listricated, large pieces.
	35.40	(0.36)	Core loss-coal/rock
10°	36.45	1.05	MUDSTONE-dark grey to black, lower 0.43 m with numerous coal partings, 20 cm very fine-grained sandstone band, very argillaceous.
	36.82	0.37	MUDSTONE-dark grey, very silty (homogeneously), erosional below.
10°	37.12	0.30	SANDSTONE-dark grey, very fine-grained, very argillaceous, rippled and small-scale cross-lamination, sporadically calcareous; erosional below, stick.
	37.82	0.70	MUDSTONE-dark grey at top, basal 0.30 m, black and carbonaceous; 0.16 m hard ferruginous band, calcite mineralization.

BH No. BPM-2

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
	38.07	0.25	MUDSTONE-black, top 0.10 m coal, rest very carbonaceous, whole section fragmented into small pieces.
	38.14	(0.07)	Core loss-rock
	39.63	1.49	MUDSTONE-dark grey, silty and a discrete 0.29 m argillaceous siltstone with ripple lamination, patchily calcareous. Broken stick.
	39.99	0.36	MUDSTONE-as above, badly fragmented (not structural)
15°	40.03	(0.04)	Core loss-rock
	41.31	1.28	SANDSTONE/SILTSTONE-broadly interlaminated, very fine-grained, argillaceous sandstone with small ripples and cross-lamination, (slightly dominance of sand), siltstone dark grey, very argillaceous and delicately rippled. Basal 0.31 m silty, dark grey mudstone, strongly calcareous throughout, broken stick.
	42.71	1.40	MUDSTONE-dark grey, locally very silty, sporadically calcareous, stick.
	42.99	0.28	MUDSTONE-as above, basal contact with bentonite listricated.
	44.15	1.16	BENTONITE-cream to white grey, two discrete muddy bands with a little less bentonite content and lamination, broken stick, might contain few silt grains.
	44.24	(0.09)	Core loss-rock
	45.07	0.83	BENTONITE-with very little contamination, irregular basal contact, Occasional carbonized plant matter, broken stick.
	45.36	0.29	MUDSTONE-black, carbonaceous, broken stick.
	45.62	0.26	COAL-predominantly dull with minor bright streaks, fragmented. Ply A
	45.80	(0.18)	Core loss-coal
	45.96	0.06	MUDSTONE-black, very carbonaceous, coaly bands, broken stick. Ply B
	46.24	0.28	COAL-bright, pulverized and small pieces. Ply C
	46.28	(0.04)	Core loss-coal
	46.66	0.38	MUDSTONE-black, carbonaceous with coaly layers, broken stick.

BH No. BPM-2

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
	46.75	0.09	COAL-fragmented into small pieces.
	46.80	(0.05)	Core loss-coal
	47.20	0.40	MUDSTONE-black, carbonaceous with numerous coal bands, hairline calcite, broken stick.
	48.21	1.01	MUDSTONE-dark grey, lacking lamination; sporadic hairline calcite veins, strongly calcareous, basal 0.10 m ferruginous, locally very carbonaceous.
	49.84	1.63	MUDSTONE-dark grey, calcareous, basal 0.70 m badly fragmented and have substantial coal layers.
	50.39	(0.55)	Core loss-rock
45°	51.67	1.28	SILTSTONE/SANDSTONE-medium grey, top half highly argillaceous, sparingly laminated siltstone; the remainder very fine-grained, argillaceous sandstone with tiny ripples. Basal 0.28 m with large calcite-filled fractures, strongly calcareous, dip is undoutedly steep as indicated by delicate lamination.
45°-48°	52.68	1.01	SANDSTONE-as above, fine-to very fine-grained, rippled and with small-scale cross-lamination. This interval with numerous calcite-filled fractures. Strongly calcareous, fragmented at base. Fault is indicated at base.
	52.83	0.15	COAL-highly fragmented, listricated, appears low ash, contact with bentonite below is fragmented. Ply A
	52.90	(0.07)	Core loss-coal
	52.96	0.06	BENTONITE-cream colour to slightly yellow.
	53.07	0.11	BENTONITE-as above, stick, basal contact uneven.
	53.36	0.29	MUDSTONE-dark grey to black, weakly carbonaceous, broken stick. Stringers of bentonite in basal 0.03 m of the sequence.
			COAL-details as follows: (this coal interval appears to have been repeated-compare interval 45.36-46.80)
	53.45	0.09	COAL-powered and pulverized-type indeterminate. Ply B
	53.48	(0.03)	Core loss-coal
	53.75	0.27	COAL-dull, slightly listricated, some significant vitrinite bands, broken stick Ply C

BH No. BPM-2

Dip°	DEPTH m	THICKNESS m	DESCRIPTION	
	53.78	(0.03)	Core loss-coal	
	53.86	0.08	COAL-muddy band, stick.	Ply D
	54.16	0.30	COAL-dull banded, basal 0.15 m dull and bright, abrupt contact with mudstone below, broken stick.	Ply E
	54.58	0.42	MUDSTONE-black, locally extremely carbonaceous, one 0.04 m coal layer.	Ply F
	54.68	0.10	COAL-jumbled up small pieces.	
	54.70	(0.02)	Core loss-coal	
	55.75	1.05	MUDSTONE-dark grey, slightly silty, locally carbonized plant debris, strongly calcareous, broken rock.	
	56.39	(0.64)	Core loss-rock	
	57.59	1.20	MUDSTONE-as above, basal 0.32 m coaly mudstone and badly fragmented.	
	57.87	(0.28)	Core loss-rock	
8°-10°	59.41	1.54	SANDSTONE-medium grey, predominantly very fine-grained, highly argillaceous, rippled; 6 cm coal band at top, strongly calcareous, sands have carbonized plant matter.	
	60.95	1.54	SANDSTONE-medium to light grey, top 0.70 m fine-grained, rest fine-to medium-grained, clean, substantial cherty content, vaguely discernible cross-bedding, strongly calcareous. A thin intraclastic zone.	
	61.89	0.94	MUDSTONE/SILTSTONE-dark to medium grey, slight dominance of mudstone, sporadically laminated, some synde positional distrubance, local carbonized plant matter, strongly calcareous, stick.	
	62.78	0.89	SILTSTONE-medium grey, highly argillaceous with several discrete layers of mudstone, some disturbed laminae, strongly calcareous; gradational. Stick.	
	63.44	0.66	MUDSTONE-dark grey, highly silty (as discrete laminae) strongly calcareous, stick.	
	64.24	0.80	MUDSTONE/SANDSTONE-dark grey, broadly interbedded, equal, strongly calcareous, sandstone very fine-grained, and highly argillaceous. Stick.	

BH No. BPM-2

Dip°	DEPTH m	THICKNESS m	DESCRIPTION	
6°-8°	65.82	1.58	MUDSTONE/SANDSTONE-as above, predominantly sandy, delicately rippled, stick.	
	66.33	0.51	MUDSTONE-dark grey, slightly silty at top and calcareous, lower half very carbonaceous, stick.	
	66.58	0.25	MUDSTONE-black, mostly canneloid, fragmented, basal few cm muddy and contact-with coal sharp.	
			COAL SEAM-details as follows:	
	66.67	0.09	COAL-predominantly dull, hard, bright bands in lower half, broken stick.	Ply A
	66.94	0.27	COAL-dull with metallic lustre, some vitrinite bands, broken stick and large pieces.	
	67.19	0.25	COAL-predominantly dull, broken core	Ply B
	67.34	0.15	COAL-dull with metallic lustre, listricated, large pieces.	
	67.54	0.20	COAL-dominantly bright banded. fragmented.	Ply C
	67.64	0.10	COAL-dull and bright and some dull, highly sheared and listricated, large pieces.	
	67.75	0.11	COAL-dull, sheared and listricated	
	68.14	0.39	COAL-top 0.05 m pulverized, next 0.07 m dull with dirt bands, remainder dull banded and sheared large pieces and locally pulverized. (Basal 0.1 m bright banded).	Ply D
	68.16	(0.02)	Core loss-coal	
	68.48	0.32	COAL-mostly dull with substantial dirt bands, broken stick.	
	68.63	0.15	MUDSTONE-black, locally laminated, silty very carbonaceous, broken stick.	
	68.76	0.13	COAL-highly sheared and pulverized, indeterminate.	Ply E
	69.33	0.57	MUDSTONE-black, highly carbonaceous, coaly (very dull and hard) intervals; bottom 0.15 m friable and mostly carbonaceous mudstone. Broken stick.	

BH No. BPM-2

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
	69.44	0.11	COAL-predominantly bright, listricated, broken stick. Ply E
	69.70	0.26	COAL-dull, broken core. Ply F
	71.68	1.98	MUDSTONE-black, hard, carbonaceous, locally calcareous, lacking lamination; basal 0.50 m slightly canneloid, broken stick.
	73.20	1.52	MUDSTONE-dark grey, top half lacking lamination silts; remainder highly silty with occasional isolated lamination, and tiny sandy ripples, few dark (vertical and muddy) burrows, strongly calcareous throughout, broken stick.
	74.70	1.50	MUDSTONE-dark grey, carbonaceous, homogeneous, very similar to moosebar mudstone, few light colored mudstone bands, strongly calcareous, stick.
	76.23	1.53	MUDSTONE-as above, one pyrite nodule, strongly calcareous, stick.
	77.81	1.58	MUDSTONE-as above, 0.06 m very fine-grained sandstone. Very fine cross-bedding, bottom few light colored mudstone band, calcareous, stick.
	79.07	1.26	MUDSTONE-as above, 0.05 m coal stringers, calcareous. Numerous calcite veinlets toward base, slickensides, badly broken core.
	80.25	1.18	MUDSTONE-as above, tiny calcite specks and stringers scattered throughout section. Calcareous, some fine-grained sandstone, few coal stringers toward base of carbonceous mudstone.
	80.62	0.37	SANDSTONE-light grey fine-grained, slightly calcareous, fractures parallel to C.A, bottom 0.05 m dark grey very fine-grained sandstone, relatively more carbonaceous than above section. Broken core.
	81.07	(0.45)	Core loss-rock
	83.77	2.70	MUDSTONE-dark grey, Carbonaceous broken core throughout, slickensided 45° to C.A. Calcite stringers. Badly broken coal mixed with mudstone might be coal seam?
	83.82	(0.05)	Core loss-rock
	84.17	0.35	MUDSTONE-dark grey, locally carbonaceous, some coal stringers at base, non-calcareous, broken core.
			COAL: details below

BH No. BPM-2

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
	84.29	0.12	COAL-dull and bright, sheared, broken.
	84.31	0.02	MUDSTONE-carbonaceous, broken dark grey to black.
	84.39	0.08	COAL-dull and bright. broken stick.
	84.47	0.08	COAL-broken, sheared.
	84.52	0.05	COAL-dull, stick
	84.63	0.11	COAL-broken dull stick.
	84.74	0.11	MUDSTONE-carbonaceous broken stick.
	84.94	0.20	COAL-bright, sheared, pulverized.
	85.19	0.25	MUDSTONE-dark grey, carbonaceous, monotonous, structureless, broken core, non-calcareous.
	85.34	(0.15)	Core loss-rock
	86.61	1.27	MUDSTONE-as above, structureless, carbonaceous, few calcite stringers. Some plant material, non-calcareous. Broken rock.
	87.01	(0.40)	Core loss-rock
	88.63	1.62	MUDSTONE-same as above, slightly calcareous.
	89.88	1.25	MUDSTONE-dark grey, carbonaceous, non-calcareous. Badly broken core, fractures 50° to C.A.
	90.28	(0.40)	Core loss-rock
	91.57	1.29	MUDSTONE-as above, carbonaceous, structureless slightly calcareous, broken stick.
	92.13	0.56	MUDSTONE-as above, slightly less carbonaceous than last section.
5°	92.97	0.84	SILT/MUDSTONE-light grey, several silstone bands at irregular intervals. Top contact is gradational, calcareous, solid core.
	93.80	0.83	SILT/MUDSTONE-as above, strongly calcareous. Solid core.
	94.34	0.54	MUDSTONE-dark grey, carbonaceous, monotonous, few calcite stringers. Badly broken core and mixed with coal, slickensides, calcite stringers, non-calcareous.
	94.74	(0.40)	Core loss-rock

BH No. BPM-2

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
	95.20	0.46	MUDSTONE-dark grey, carbonaceous. Abundant coaly stringers throughout. Broken core, slickensides 45° to C.A. Calcite stringers along fracture plane, non-calcareous.
	96.06	0.86	SANDSTONE-very fine-grained, dark grey, argillaceous, abundant small coal patches throughout, locally silty. Coal stringers, slickensides 45° to C.A. Quartz and calcite veinlets filling joints, non-calcareous. Broken stick.
40°	97.46	1.40	SANDSTONE-as above, lower end of section grades into medium-grained sandstone. Broken stick. Sedimentary lamination barely seen, coal spars, several mudstone bands. Non-calcareous.
4°-5°	100.20	2.74	SANDSTONE-medium-grained, grey, well-sorted, white and black mudstone bands interbedded, small scale of cross-bedding, non-calcareous, broken stick.
	100.55	0.35	SANDSTONE-as above, bottom contact 33° with siltstone, slickensides, broken stick.
21°	102.05	1.50	SILTSTONE-dark grey, sandstone band, slickensides, calcite veinlets, non-calcareous, broken core.
34°	103.49	1.44	SILTSTONE-as above. Numerous coal patches throughout, towards base increasing sandstones, non-calcareous, fractured surfaces.
	103.92	0.43	SILTSTONE-as above
20°	105.19	1.27	SANDSTONE-medium-grained, grey to dark grey, well-sorted. Numerous dark mudstone bands and coal stringers, non-calcareous, broken stick.
10°	106.56	1.37	SANDSTONE-as above, mudstone and siltstone layers several coal stringers, few calcite veins filling joint 20° C.A., non-calcareous.
15°	107.61	1.05	SANDSTONE-as above, richly carbonaceous plus coal stringers. Badly broken core, non-calcareous.
	108.28	0.67	SANDSTONE-dark grey, getting fine-grained towards end of section, richly carbonaceous, irregular contact with mudstone below, few coal layers. Broken core.
15°	109.56	1.28	MUDSTONE-dark grey, carbonaceous, few light colored mudstone bands. Some very fine-grained sandstones, black banded mudstone, few coal stringers Badly broken core including coal.
	110.02	(0.46)	Core loss-rock

BH No. BPM-2

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
	110.23	0.21	MUDSTONE-carbonaceous, dark grey, badly broken core mixed with coal.
21°	111.53	1.30	SANDSTONE-fine-grained, grey, numerous coaly patches, calcite veins, non-calcareous. Broken core.
	111.69	0.16	SANDSTONE-as above, calcite vein, broken core.
	112.89	1.20	MUDSTONE-dark grey first 0.30 m section, fine-grained sandstone interfinger, structureless. Carbonaceous, numerous coaly patches throughout, solid stick.
	112.91	0.02	MUDSTONE-as above, carbonaceous, stick.
			COAL-detailed below.
	112.94	0.03	COAL-broken, sheared.
	113.08	(0.14)	COAL-broken, sheared, pulverised.
	113.32	0.24	COAL-dull, hard, sub-metallic lustre broken stick, high ash (?)
	113.36	0.04	COAL-bone coal, hard, dull, high ash (?) stick.
	114.26	0.90	MUDSTONE-dark grey to black, highly carbonaceous, broken core throughout. Numerous coal stringers.
	114.41	0.15	COAL-bone, dull, hard, stick. High ash (?)
	114.46	0.05	COAL-bone, dull, hard, broken stick.
	114.98	0.52	MUDSTONE-dark grey, richly carbonaceous, abrupt basal contact, stick.
18°	116.10	1.12	SANDSTONE-grey to dark grey, medium-grained, thinly bedded intercalated mudstone. Small-scale cross-bedding. Few calcite stringers, non-calcareous broken stick.
	117.45	1.35	SANDSTONE-as above, numerous calcite veinlets, numerous carbonized small plant material. Strongly calcareous, some dark grey mudstone intercalated.
	118.16	0.71	SANDSTONE-as above numerous, mudstone breccica throughout, calcareous.
	118.68	0.52	SILTSTONE-dark grey, numerous ripples, cross-bedded slightly calcareous.
17°	118.89	0.21	SANDSTONE-light grey, medium-grained, well-sorted, clean, thinly bedded, cross-bedded, solid core,

BH No. BPM-2

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
	118.89	0.21(Cont)	strongly calcareous.
10°	120.21	1.32	SANDSTONE-as above, numerous coaly bands and/or coaly mudstone bands intercalated. Strongly calcareous solid core.
	120.35	0.15	SANDSTONE-dark grey, medium-grained, abundant dark mudstone bands, several calcite veinlets.
	121.79	1.43	SANDSTONE-as above, strongly calcareous.
	122.01	0.22	SANDSTONE-as above, lower end of section getting darker and muddy, calcareous.
	123.23	1.22	SILTSTONE-grey to dark grey structureless, abundant small carbonized plant materials. Non-calcareous, stick core.
	123.46	0.22	SILTSTONE-as above, broken stick and some fragmented.
	123.95	(0.50)	Core loss-rock
8°	124.95	1.00	MUDSTONE-dark grey, few fine-grained sandstone bands. Light color mudstone, calcareous, coal stringers. Broken stick.
13°	126.21	1.26	MUDSTONE-as above, numerous very fine-grained sandstone bands-intercalcated. Several calcite stringers; strongly calcareous.
	126.66	(0.45)	Core loss-rock
15°	128.14	1.48	MUDSTONE-as above, some fine-grained sandstone, bioturbated, broken core with coal stringers, strongly calcareous.
	128.52	0.38	MUDSTONE-dark grey to black, slightly silty, strongly calcareous, abundant carbonaceous (shiny) surfaces to core length. Bedding is distinct. Becomes more silty near base. Broken stick.
13°	128.91	0.39	SILTSTONE-interbedded with very fine-grained argillaceous sandstone; small-scale cross-beds present. (ripples), medium to dark grey, strongly calcareous, minor carbonized plant debris, broken stick.
	129.46	0.55	MUDSTONE-slightly silty and carbonaceous near top. Calcareous at top and grades to non-calcareous near base. Stick to broken stick near base.
	129.58	(0.12)	Core loss-coal

BH No. BPM-2

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
	129.74	0.16	COAL-badly broken, dull and bright banded Ply A
	130.10	0.36	COAL-both bright and dull bands, badly broken
	130.19	0.09	MUDSTONE-very carbonaceous and abundant coaly debris.
	130.86	0.67	MUDSTONE-non-calcareous, abundant vitreous coaly stringers, minor silty lenses.
	131.26	(0.40)	Core loss-rock
	132.51	1.25	SILTSTONE-non-calcareous, dark grey, muddy at top, contains minor beds of argillaceous sandstone (maximum thickness 4 cm), bedding generally flat lying and some ripples present. Broken stick, top 5 cm badly broken. Sandy near base. Minor carbonaceous plant debris.
	132.88	0.37	SANDSTONE-medium-dark/grey, very fine-grained, and argillaceous in part, minor carbonaceous plant debris, some ripple cross-beds, slightly calcareous (Stick).
	134.32	1.44	SANDSTONE-moderately to strongly calcareous, fine-to very fine-grained, argillaceous in part, calcite vein 61 cm from base. Broken stick.
	134.40	(0.08)	Core loss-rock
	134.55	0.15	SANDSTONE-as above.
10°-15°	135.67	1.12	SANDSTONE-very fine-grained-interbedded with argillaceous sandstone and siltstone. Sandstone is medium to dark grey. Argillaceous layers are darker grey. Strongly calcareous. Large-scale cross-beds and ripples, could be laminated, stick.
	135.97	0.30	SANDSTONE-interbedded with siltstone, both very fine-grained, turbulent bedding, numerous slickensides parallel to bedding. Slightly calcareous to very slightly calcareus or nil.
	137.13	1.16	SANDSTONE-thin calcite vein near top. Top 50 cm silty stick. Sandstone is medium grey, strongly calcareous, non-calcareous at base, fine-grained and some medium-grained interbeds. Bedding near horizontal but can be undulose. Stick core.
17°	137.51	0.38	SANDSTONE-small coal band near base-broken stick. Medium grey-minor dark grey, siliceous, medium-grained, coarse-grained (minor).
	137.97	0.46	SANDSTONE-medium-grained with interbeds of argillaceous sandstone and contains some carbonaceous bands, large amounts of carbonaceous debris throughout,

BH No. BPM-2

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
			siliceous, medium dark grey color.
	138.33	0.36	SANDSTONE-medium to dark grey medium-calcareous, abundant mudstone clasts and carbonaceous debris, Broken stick. 1 cm coal stringer near base (possibly loss of core here). Very fine-grained argillaceous sandstone grading to siltstone (medium to dark grey) also contains slickensides and minor calcite veins. Broken stick. Broken carbonaceous parting at base.
	138.96	(0.63)	Core loss-rock

BH No. BPM-2

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
5°	140.25	1.29	SILTSTONE-strongly calcareous save last 10 cm (non-calcareous) stick core, contains minor beds of argillaceous material (5 cm). Minor fragments of carbonaceous plant debris (roots and plant fragments), dark grey with dark grey to black coal near base.
	140.51	0.26	SANDSTONE-medium grey very fine-grained, minor small carbonaceous plant (stick core) fragments, and non-calcareous.
	141.09	0.58	SILTSTONE-medium to dark grey, non-calcareous bedding indistinct. Core broken.
	142.10	1.01	MUDSTONE-dark grey, silty throughout and siltier near base, stick core, bedding indistinct, minor calcite veins and slickensides also, top is non-calcareous, but bottom 45 cm is more calcareous.
	142.68	0.58	SANDSTONE-fine-grained, medium to dark grey, some argillaceous bands. Stick core broken, large scale cross beds (5° to 32°) calcite veins present strongly calcareous.
	143.34	0.66	SILTSTONE-grades to argillaceous sandstone near base. Low angle bedding, 3 zones with calcite veining (approximately 5 cm thick each), 7 cm very fine-grained sandstone near base with ripple bedding. Predominantly dark grey color.
	143.55	0.21	SANDSTONE-dark argillaceous sandstone, low-angle bedding, strongly calcareous. Stick core.
	143.98	0.43	SILTSTONE-dark grey with minor calcite veins, numerous fine veins spaced 20 cm apart (hair-line), minor slickensides.
	144.54	0.56	MUDSTONE-dark grey with abundant plant debris, minor calcite veins and slickensides, with fine coal stringer (1 mm thick), moderately calcareous, broken stick.
	144.72	0.18	SILTSTONE-dark grey, indistinct bedding and minor carbonaceous plant debris, very calcareous, stick core.
	145.00	0.28	SANDSTONE/SILTSTONE-interbeds, siltstone grading to sandstone with a 10 cm muddy interval in middle, sandstones have large scale cross-beds (5° - 28° angles on forests), become muddy near base.
	145.89	0.89	MUDSTONE-dark grey, slightly silty in part (stick broken), top 30 cm silty mudstone-siltstone. (calcareous) and bottom 60 cm non-calcareous.

BH No. BPM-2

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
			Abundant, carbonaceous, rootlets and plant debris.
	146.43	0.54	MUDSTONE-as above, broken stick, increasingly carbonaceous near base.
	146.66	(0.23)	Core loss-rock
	148.19	1.53	MUDSTONE-slightly silty in parts, non-calcareous basal 20 cm (more silty also), Broken stick, carbonaceous interval near middle, and abundance of carbonaceous plant debris and roots; dark grey to black in color.
	149.62	1.43	MUDSTONE-silty in part, dark grey to black, stick generally, but broken stick near base. basal 27 cm very carbonaceous, non-calcareous. 20 cm siltier and more calcareous in middle.
	150.18	0.56	MUDSTONE-dark grey to black, plant debris and rootlets abundant, stick (broken at base), carbonaceous near base, non-calcareous.
	150.30	0.12	SHALE-(carbonaceous) to dull high ash coal.
	150.78	0.48	MUDSTONE-to carbonaceous MUDSTONE, dark grey to black. Broken stick, abundant, carbonaceous plant debris, indistinct bedding, minor slickensides. Non-calcareous.
	151.21	0.43	MUDSTONE-silty and abundant plant debris and rootlets, stick core, bedding indistinct.
	151.59	0.38	MUDSTONE-dark grey to black, abundant plant debris, very carbonaceous near top.
	152.41	0.82	MUDSTONE-silty in part, carbonaceous down section, stick (broken near base).
	152.61	0.20	COAL-thin layers (1 cm) in a dull carbonaceous mudstone matrix.
	152.82	0.21	COAL-badly broken, dull with minor bright bands, pulverized.
	153.14	0.32	MUDSTONE-dark grey to black, abundant carbonaceous plant debris and some slickensides. Stick core.
	153.33	0.19	COAL-grading into carbonaceous mudstone. Broken stick core (lost 6 cm very muddy).
	153.53	0.20	SANDSTONE/SILTSTONE-medium grey argillaceous sandstone to siltstone, Stick core, numerous carbonaceous fragments throughout. Siliceous, uneven to flat bedding plane (almost undulose bedding surface).

BH No. BPM-2

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
	153.81	0.28	SILTSTONE-muddy in part, some medium grey (siltier) Non-calcareous some light grey bands.
	154.21	0.40	MUDSTONE-dark grey to black, non-calcareous, slickensides (few) stick core, relatively a pure mudstone.
	154.30	0.09	MUDSTONE-slightly silty, abundantly carbonaceous. Stick core, non-calcareous.
6°	155.15	0.85	SANDSTONE-top 20 cm slightly calcareous (argillaceous) and rest is very calcareous, fine-grained to very fine-grained, some thin silty bands (5 cm thick), Stick core.
	155.75	0.60	MUDSTONE-dark grey to black, several hairline calcite veins, minor coaly lenses, minor carbonaceous flecks, some slickensides, non-calcareous.
	156.35	0.60	MUDSTONE-dark grey to black, stick core, abundance of carbonaceous rootlets and plant debris, large coal clasts in middle of section. Carbonaceous, non-calcareous, indistinct bedding.
	156.73	0.38	SANDSTONE-very fine-grained argillaceous siltstone gradational interbeds, medium-dark grey, slightly to moderately calcareous, stick core.
5°	157.27	0.54	SANDSTONE-medium grey, abundant dark grey argillaceous interbeds. Some coal fragments throughout, moderate to strongly calcareous, bedding uneven, rippled and minor cross-bedding.
8°	158.07	0.80	SANDSTONE-medium grey, interbedded with dark grey siltstone-argillaceous sandstone generally, fine- to very fine-grained, bedding uneven to rippled, strongly calcareous. Stick core.
	158.79	0.72	SANDSTONE-medium grey, distinct small and large cross-bedding, fine-grained, abundance of silty beds and clasts, strongly calcareous, stick core.
	160.26	1.47	SANDSTONE-as above broken stick, broken thin coal laminae near base and at mid way through core. Generally fine-to-medium-grained near top to fine-grained at base. Abundance of silty bedding throughout. Medium grey to dark grey interbedded, cross-bedding, strongly calcareous.
5°	161.44	1.18	SANDSTONE-similar to above, stick core, medium grey, fine-to medium-grained, silty dark grey interbeds, small-scale cross-bedding, broken thin coal laminae mid section. Strongly calcareous.

BH No. BPM-2

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
	161.81	0.37	SANDSTONE-top grading to siltstone near base, sandy, medium/dark grey grading to dark grey near base, abundance of carbonaceous plant debris, roots etc. calcareous throughout, stick core.
	162.39	0.58	MUDSTONE-silty, dark grey to black, broken stick core abundance of coaly laminae throughout-increasing down section. Moderately calcareous to slightly calcareous down section.
	162.77	0.38	SANDSTONE/SILTSTONE-very fine-grained to silty, 4 cm calcite vein zone at top. Strongly calcareous to moderatley calcareous at base, very silty down section, med-dark grey-darker down section, calcite and slickensides throughout, moderately calcareous.
	163.38	0.61	MUDSTONE-dark grey to black, silty, stick, broken at 2 thin coal laminae near top and base, minor hairline calcite veins, abundance of carbonaceous plant material throughout, rootlets.
	164.42	1.04	MUDSTONE-dark grey, silty in part. 40 cm very silty zone 48 cm from top. Abundance of hairline calcite veins throughout. Non-calcareous to slightly calcareous except for 40 cm silty zone which is moderately calcareous. Carbonaceous plant debris throughout, broken stick.
	164.70	0.28	MUDSTONE-grading to siltstone down section, stick, dark grey at top, medium to dark grey near base. Moderately calcareous to strongly calcareous at base, minor small carbonaceous plant debris thinly scattered throughout.
19°	165.15	0.45	MUDSTONE-grades to siltstone near base, very calcareous, Stick core, several hairline calcite veins, medium to dark grey.
11°	165.99	0.84	SANDSTONE-argillaceous and silty, grades to very fine-grained sandstone, stick; broken at base, sand becomes fine grained near base, medium and dark grey interbeds, some large-scale cross-beds.
	166.02	0.03	COAL-high ash content, dull, very broken, possibility of loss of core.
	166.42	(0.40)	Core loss-rock
10°	166.74	0.32	SILTSTONE-grades to very fine-grained sandstone near base, carbonaceous at top, strong to moderately calcareous, core stick, flat-bedded intermittent sand and silt layers.

BH No. BPM-2

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
	167.87	1.13	SANDSTONE-medium grey and minor dark grey bands, generally fine-grained, grain size increases down section, uneven ripple beds to small-scale cross-beds, strongly calcareous, broken stick core.
16°	168.14	0.27	SANDSTONE-fine-grained, generally medium grey, minor medium to dark grey, at base 1 cm carbonaceous, large-scale cross-beds near top, very calcareous. (strongly).
	168.81	0.67	SILTSTONE-medium to dark grey; dark grey near base and pyritised, generally fine siltstone interbeds with fine-grained argillaceous sandstone, strongly calcareous, broken stick, thin coal laminae (near top) 2 mm thick, carbonaceous at base.
	168.92	0.11	COAL-dull and bright bands, possibility of loss of core, core Broken stick.
	169.22	0.30	CARBONACEOUS SHALE-very coaly, dull coal to carbonaceous shale. Broken stick core.
	169.53	0.31	MUDSTONE-slightly silty in part, abundant carbonaceous plant debris. Broken stick, dark grey to black. 4 cm broken carbonaceous mudstone (very coaly) in middle of this unit. All non-calcareous, bottom 16 cm very carbonaceous and grades to coal (1 mm bright bands)
	169.61	0.08	COAL-dull, high ash content, grades to carbonaceous shale near base.
	169.97	0.36	MUDSTONE-dark grey to black, bedding indistinct, Broken stick core, very clean, non-calcareous.
	170.13	0.16	MUDSTONE-dark grey to black, similar to last mudstone, very broken, carbonaceous at base.
	170.32	0.19	SHALE-carbonaceous, grades to dull coal with minor bright bands, badly broken, black.
	170.55	0.23	MUDSTONE-carbonaceous, interbedded with dull and minor bright bands, broken core, more coaly near base, all non-calcareous.
	170.73	0.18	MUDSTONE-carbonaceous, abundant coaly material, Broken stick core, minor calcite veins (hairline).
	170.86	0.13	COAL-dull and bright banded, very broken to pulverized.
	171.06	0.20	SANDSTONE-very fine-grained argillaceous sandstone generally medium grey and (stick core), some minor dark grey bands, non-calcareous.

BH No. BPM-2

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
	171.55	0.49	SANDSTONE-very fine-grained to-fine-grained, some argillaceous bands throughout, non-calcareous, large scale cross-bedding, cross beds present, forsets angled from 5° to 24° generally medium grey to dark grey interbeds.
	171.69	0.14	SANDSTONE-similar to above, abundant quartz veins hairline to 4 mm thick throughout, Large quartz vein 3 cm thick near base of interval.
12°	171.93	0.24	SANDSTONE-very fine-grained to argillaceous, wavy or undulose to small scale cross-beds near top.
	172.29	(0.36)	Core loss-rock
	173.41	1.12	SANDSTONE-medium grey to dark grey interbeds, generally very fine-grained to fine-grained, interbeds argillaceous sandstone (5 cm thick). Non-calcareous small-scale cross-beds, stick core (broken near base), thin coal laminae near base, carbonaceous, rootlets throughout.
10°	173.88	0.47	SANDSTONE-medium grey and minor medium-dark grey beds, fine-to medium-grained (stick core) and fine-grained interbeds, slightly calcareous, hairline calcite veins (near top and near base).
	173.98	0.10	SANDSTONE-medium grey, fine-medium-grained, large quartz vein (small crystal of quartz) carbonaceous plant debris, siliceous, stick core.
	175.42	1.44	SILTSTONE-dark grey, interbedded with minor (broken stick) medium grey argillaceous sandstone, muddy at base, contains carbonaceous plant debris also near base, non-calcareous throughout.
	175.56	0.14	MUDSTONE-minor slicks, minor carbonaceous plant roots, dark grey to black, stick core.
4°	175.60	0.04	SANDSTONE-medium to dark grey, very argillaceous, ripple bedding, non-calcareous, stick core.
	176.49	0.89	MUDSTONE-dark grey, silty minor siltstone bands (2 cm thick) stick core, non-calcareous, plant debris (minor).
	176.79	0.30	COAL-dull with high ash, some minor bright bands, badly broken.
	177.02	0.23	MUDSTONE-dark grey, black, minor thin coal laminae (stick core), coaly mudstone near top.

BH No. BPM-2

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
	177.23	0.21	MUDSTONE-dark grey, slightly silty, carbonaceous (stick core), plant debris throughout, non-calcareous.
	177.30	0.07	CARBONACEOUS MUDSTONE-grades to a high ash coal with minor bright coal stringers.
	178.35	1.05	MUDSTONE-non-calcareous, slickensides, (broken stick core), some carbonaceous plant fragments, 16 cm silty in interval near top, minor coal lenses (2 cm by 4 cm).
	178.57	0.22	SANDSTONE-medium grey to dark grey, argillaceous sandstone at top to very fine-grained sandstone at base, stick core, lower 2 cm mudstone with carbonaceous plant debris, large-scale cross-beds in sandstone.
	178.64	0.07	SILTSTONE-interbedded with argillaceous sandstone (dark grey) all non-calcareous, low-angle bedding, stick core.
6°	180.02	1.38	SANDSTONE-medium grey, some medium to dark grey interbeds, small-scale cross-beds and ripples, stick core. Fine-to very fine-grained, darker grey argillaceous, (mid way in interval, 22 cm thick), very slightly calcareous.
5°	180.89	0.87	SANDSTONE-fine-grained grades to medium-grained near base, ripple bedding and large-scale cross-beds, medium grey minor dark grey silty beds (1 cm thick) slightly calcareous, cross-beds angle dip up to 12° and 10° generally.
	181.00	0.11	MUDSTONE-dark grey to black, abundant thin coal laminae (paper thin parallel to bedding),
	181.52	0.52	SANDSTONE-medium grey, medium-grained, carbonaceous mudstone laminae throughout, minor carbonaceous plant debris, stick core, large-scale cross-beds present, slightly calcareous near base.
	181.68	0.16	SANDSTONE-medium-grained, medium to dark grey, non-calcareous dirty (argillaceous) appearance, mud and coaly fragments and plant debris.
	182.29	0.61	MUDSTONE-dark grey, slightly silty and siltier near base, very carbonaceous plant debris also near base, 2 hair-line quartzite veins, non-calcareous throughout, last 14 cm of this interval is pyritic throughout, contains abundant carbonaceous plant debris, stick core.

BH No. BPM-2

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
	182.73	0.44	MUDSTONE-dark grey to black, minor small carbonaceous flecks but generally clean mudstone, stick core.
	182.87	0.14	SHALE-broken-pulverized carbonaceous shale, coaly at base, contains some minor quartz veins.
	183.02	0.15	MUDSTONE-carbonaceous, plant debris throughout, slightly silty, broken core and worn (suggests loss) non-calcareous.
	184.24	1.22	MUDSTONE-dark grey, non-calcareous, clean, minor traces of plant debris, generally clean, broken stick.
	184.52	(0.28)	Core loss-rock
	185.14	0.62	MUDSTONE-as before, carbonaceous, plant material throughout (stick core) roots, non-calcareous, base (25 cm) medium to dark grey and silty and rest at interval dark grey.
	185.81	0.67	SANDSTONE-very fine-grained-argillaceous, medium grey and medium dark grey interbeds, bedding uneven rippled, stick core.
3°-10°	185.86	0.05	MUDSTONE-dark grey to black, abundant bright coal laminae, broken.
	186.01	0.15	SANDSTONE-very fine-grained, argillaceous, medium-grained, grading to dark grey mudstone, silty, contains some coaly laminae and carbonaceous plant debris.
	187.53	1.52	SILTSTONE-dark grey, grades to medium-dark grey sandstone, non-calcareous, minor carbonaceous rootlets.
	189.06	1.53	SILTSTONE-dark grey, similar to siltstone interval above, stick core generally clean, minor carbonaceous rootlets, 22 cm mid-interval muddy with abundant carbonaceous plant debris, basal part siltstone-muddy siltstone.
	189.83	0.77	MUDSTONE-dark grey, clean, slightly silty near top, non-calcareous, stick core.
	190.67	0.84	SILTSTONE-medium grey, siliceous, minor quartz veins (very thin) near top of interval, clean, grades to argillaceous sandstone.
9°	192.37	1.70	SILTSTONE-medium to dark grey beds (10 cm thick) interbedded with very fine-grained to fine-grained sandstone (medium grey 5 cm thick) almost.

BH No. BPM-2

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
			sequential, bottom 74 cm of interval is moderately calcareous and top of interval is non-calcareous. Bedding is low-angle and has large-scale cross-beds.
	192.61	(0.24)	Core loss-rock
	194.13	1.52	SILTSTONE-repetative sequence of dark grey muddy siltstone, very fine-grained to fine-grained sandstone, broken stick core where sandstone are medium grey, beds are 5-10 cm thick each, moderately to strongly calcareous, interval is relatively clean. Badly broken at base.
11°	194.53	0.40	SILTSTONE/MUDSTONE-lithology similar to above, repetitive sequence of dark grey siltstone-mudstone to medium-grained argillaceous sandstone and very fine-grained sandstones, strongly calcareous throughout, beds generally 10 cm thick, clean.
15°	194.84	0.31	SANDSTONE-generally medium grey, fine-to very fine-grained, minor argillaceous beds, strongly calcareous very fine-grained (argillaceous) at base (last 4 cm) stick core.
	194.88	0.04	SILTSTONE-dark grey, moderately calcareous.
	195.11	(0.23)	Core loss-rock
	195.58	0.47	SILTSTONE-medium to dark grey, clean, small, lense very fine grained, medium grey near top and becomes sandy near base, moderatley to strongly calcareous broken stick core.
5°	196.23	0.65	SANDSTONE-medium to medium dark grey interbeds, fine-to very fine-grained argillaceous sandstone cross-beds to ripple-bedding.
7°	198.06	1.83	SANDSTONE/SILTSTONE-medium and medium dark grey interbeds, fine to very fine-grained. Sandstone interbed with argillaceous sandstone to siltstone, Badly broken stick core, small-scale cross-beds to ripple-bedding, carbonaceous rootlets throughout but minor near base.
	198.18	0.12	SILTSTONE-medium to dark grey, minor carbonaceous plant debris, strongly calcareous, and core is broken stick.
	199.08	0.90	SILTSTONE/ SANDSTONE-medium dark grey siltstone, grading to argillaceous sandstone, that is siltstone interbeds with very fine-grained, medium grey sandstones (10 cm thick), all very strongly calcareous, in last 15 cm interval becomes coarser-grained.

BH No. BPM-2

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
15°	199.45	0.37	SANDSTONE-interbed with argillaceous sandstone (versus fine-grained sandstone), small-scale cross-beds and ripple-bedding, strongly calcareous, broken stick.
	199.57	0.12	MUDSTONE-dark grey, silty, grading to clean siltstone near top, strongly calcareous. Broken stick core.
	199.97	0.40	SANDSTONE-medium interbedded with dark grey, generally very fine-grained grading to argillaceous and silty. Minor carbonaceous plant debris, rootlets, strongly calcareous, some slickensides and hair-line calcite veins. Broken stick.
	200.27	0.30	SANDSTONE-argillaceous to very fine-grained, strongly calcareous dark grey. Top 20 cm brecciated, structurally distorted with criss-crossing calcite veins. Carbonaceous plant debris, badly broken.
3°	200.51	0.24	SILTSTONE-medium to dark grey, carbonaceous plant debris throughout, sandy at base. Stick core.
	200.96	0.45	MUDSTONE-dark grey to black, carbonaceous, abundance of thin coaly laminae and carbonaceous plant debris throughout. Badly broken core.
	201.00	0.04	COAL-4cm near top coal broken and dull and bright bands.
	201.09	0.09	MUDSTONE-dark grey to black, abundant coaly laminae.
	201.17	0.08	COAL-dull and bright bands, bright at top.
	201.30	0.13	MUDSTONE-dark grey to black, carbonaceous, minor coaly laminae. Stick core.
	201.87	0.57	MUDSTONE-carbonaceous - 25 cm mudstone, dark grey to black, abundant coal laminae, - 3 cm bright coal - 29 cm mudstone, dark grey to black, some coaly laminae present.
	202.01	(0.14)	Core loss-rock
	202.13	0.12	COAL-dull and bright banded with minor bright bands at base, broken stick.
	203.06	0.93	MUDSTONE-carbonaceous, dark grey to black, abundant coal laminae throughout. Broken stick.

BH No. BPM-2

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
	203.24	0.18	COAL-dull, minor bright banded, bright near base, last 3 cm is high ash and very muddy. Ply A
	203.30	(0.06)	Core loss-Coal
	203.52	0.22	MUDSTONE-black Ply B
	203.64	0.12	COAL-broken at top, muddy near base. Ply C
	203.98	0.34	MUDSTONE-carbonaceous, broken stick core. Ply D
	204.28	0.30	COAL-clean appearance, metallic lustre, dull-bright, 0.45 m broken stick. Ply E
	204.42	0.14	COAL-mostly dull, hard
	204.72	0.30	COAL-metallic lustre, bright clean appearance dull in parts. Ply F
	204.77	(0.05)	Core loss-coal/rock
	204.96	0.19	MUDSTONE-coaly at top, badly broken near top. Ply G
	205.40	0.44	COAL-sequence, top 15 cm COAL, dull with minor bright bands, and numerous dirt bands, - 10 cm mudstone parting - 19 cm COAL metallic lustre, dull and bright banded, dull and muddy at base. Ply H
	205.56	0.16	MUDSTONE-carbonaceous, dark grey to black, non-calcareous, almost coal, numerous slickensided surfaces, broken stick, also contains numerous thin coal stringers (2 mm thick), becomes silty near base.
	205.65	0.09	MUDSTONE-dark grey to medium grey, non-calcareous pyritic (disseminated) throughout interval, becomes more silty near base, very argillaceous, stick core.
	206.12	0.47	SILTSTONE-medium grey bands and dark grey bands, non-calcareous, two interbeds of fine-grained sandstone: one is 25 cm from top (5 cm thick) and one is 39 cm from top, numerous small lenses (2 mm thick) are to be found near middle and base of interval, quartz vein present near base at an angle of 53° (from vertical), slickensided.
	206.37	0.25	SHALE-clean, non-calcareous, minor stilstone lense (3.5 cm) present, fractures present at 50°-35° from vertical which are actually slickensided surfaces (3), broken stick core.

BH No. BPM-2

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
	207.05	0.68	SANDSTONE-fine-grained, medium to light grey, non-calcareous, 29 cm from top is a 2 mm quartz vein which forms an angle of 20° from horizontal, fine hairline quartz veins 17 cm from base of interval. 68 cm interval can be divided into coarse-grained (near base) and fine-grained (near top of interval), stick core.
	207.27	0.22	SILTSTONE-medium grey, non-calcareous, absence of lamination or indications of bedding (stick core) sharp contact with underlying interval: 20° (from horizontal) fractures, which are slickensided surfaces.
	207.69	0.42	SANDSTONE-medium grey, non-calcareous, Upper half medium-grained, lower half coarse-grained. Lower half of interval shows good small-scale cross-bedding, becomes coarse-grained near base, found an argillaceous stringer at 20° inclination (from the horizontal); lower 3 cm shows good slickensides and are argillaceous.
	208.27	0.58	SANDSTONE-medium-coarse-grained, salt-and-pepper sandstone, lower half is coarse-grained while upper half is fine-grained, lower 39 cm contains numerous crossbeds (small-scale) and many ripples, upper 7 cm of interval shows organic rich argillaceous hairline (wisps) lenses (more argillaceous material) some thin (1 mm) argillaceous partings found near top of interval (upper 10 cm). Broken stick core.
	208.39	0.12	SILTSTONE-medium to dark grey, numerous argillaceous partings, slickensided, non-calcareous.
	209.22	0.83	SANDSTONE-medium grey and dark grey bands, 4 cm from top is a (broken stick) 3 cm or argillaceous material (3 small bands), then below this is a triangular piece missing out of the core (coal?) as a fracture 40° from horizontal is present.
	209.40	0.18	SANDSTONE-medium-to coarse-grained, non-calcareous and light to medium grey, some dark grey lenses present.
50°	209.64	0.24	SANDSTONE-medium grey, generally with intermittent black (argillaceous) streaks (3 mm thick) which seem to indicate bedding. Lower 34 cm displays a contorted wavy bedding, numerous slickensides.

BH No. BPM-2

Dip°	DEPTH m	THICKNESS m	DESCRIPTION
	209.92	0.28	SANDSTONE-light grey, medium-to coarse-grained, numerous small-scale cross-beds, lower 12 cm, looks much like sandstone above, but contains numerous mudstone clasts near contact with underlying lithology, and as well as has many coal wisps present which seem to be off-set and non-continuous. Contact with underlying siltstone is very unevern. Broken stick.
10°			
	210.69	0.77	SILTSTONE-medium to dark grey, very homogenous, non-calcareous, stick core.
	210.86	0.17	SILTSTONE-same as above, contact with underlying sandstone is such that a vertical tongue extends into it (space head) for 8 cm, also no calcite, stick core.
	212.14	1.28	SANDSTONE-generally coarse-grained, with large salt and pepper scale cross-beds present throughout medium grey top 8 cm is fine-to medium-grained with hairline quartz-filled horizontal and tangential fractures, rest of interval is clean sandstone (coarse-grained) stick core, very competent unit, very micaceous throughout.
	212.29	0.15	SANDSTONE-same as above, very flat lying bedding (salt-and-pepper) stick core.
18°	212.46	0.17	SILTSTONE-medium to dark grey, argillaceous interbeds, (1 cm thick). Lower 6 cm is coarse-grained sandstone contact with underlying coal is angular 18° dip. Broken stick core.
	212.64	0.18	COAL-generally a dull, hard coal with several bright bands and wisps. Stick core.
	212.91	0.27	MUDSTONE-very carbonaceous, dark grey to black, several coaly stringers present, numerous slickensides present on a freshly broken surface. Forms an aburpt contact with underlying siltstone, stick core, non-resist.
	213.40	0.49	SILTSTONE-dark grey, non-calcareous, numerous small flecks of carbonaceous plant debris, stick core, some small coal specks. Bottom 13 cm coarse grained, contact with underlying sandstone is gradational, numerous rootlets (carbonaceous) up to 8 cm long.
	215.09	1.69	SANDSTONE-medium to light grey, non-calcareous, first 60 cm (top) is fine-grained sandstone, bottom 109m is medium to coarse-grained, bottom 50 cm very micaceous, and also contains some carbonaceous rootlets, and is finely-laminated. Basal 1.09 m is coarse-grained with occasional small scale cross-beds, and some

Dip°	Depth m	Thickness m	DESCRIPTION
			darker argillaceous coarse-grained sandstone bands (5 cm thick) stick core, salt-and-pepper sandstone.
	216.56	1.47	SANDSTONE-medium grey (speckled), salt-and-pepper, as above, stick core. Upper 1.05 cm is essentially coarse-grained and sporadically it contains mica flecks in trace amounts. It is coarse near base of the 1.05 m unit, some quartz-filled fracture, stick core.
5°	218.18	1.62	SANDSTONE-speckled (salt-and-pepper) as above unit (105 cm of upper sandstone in 14.7 m interval). -Top 30 cm is fine-to medium-grained, with color varying from medium to dark grey, banded (only occasionally) non-calcareous. -Next 65 cm is medium-to coarse-grained and contains occasional cross-beds near top and base, -Next 32 cm is very coarse-grained and bedding seems to be almost flat lying (5°) possibly with minor small cross-beds. Very salt-and-pepper look. -Remaining 38 (basal) cm, sandstone is fine-to medium-grained.
12°	220.15	1.97	SANDSTONE-mild salt-and-pepper texture, same as last 38 cm described above (for interval 1.62 m thick), medium-grained, and may be some small-scale cross-bedding present, 80 cm from top of interval is very slightly calcareous (30 cm thick), unit which is approximately 30-88 cm from top of interval (going to base) is well cross-bedded, stick core, contact between sandstone and underlying lithology is very gradational and changes into argillaceous sandstone.
	220.23	0.08	SANDSTONE-very argillaceous, medium grey to dark grey lenses and small argillaceous clasts, a bird eye appearance is formed as numerous lenses and clast of mudstone are found here, stick core, non-calcareous, is very slightly gritty (contains few small pebbles (1 mm dia).
	220.80	0.57	SILTSTONE-predominantly, medium to dark grey non-calcareous, stick core; -After first 5 cm (below top) there is a 1.5 cm parting of mudstone with quartz pebbles embedded in it. (varying from 1.0-2.5 cm maximum pebble size). -50 cm siltstone, varies to very fine-grained sandstone and contains numerous cross-beds for upper 40 cm of this unit, bottom 10 cm can be divided into siltstone intermixed with mudstone (dark grey)

Dip°	Depth m	Thickness m	DESCRIPTION
			in form of pebbles (or clasts) and small lenses.
	221.24	0.44	SILTSTONE/SANDSTONE-interlayered alternating light grey to dark grey lenses and bands, stick core, Top: 4 cm sandstone, medium-grained, with intermixed argillaceous lenses (1-2 mm x 3-6 m) 3 cm mudstone, dark grey, almost mottled, 2 cm sandstone, medium grey with darker grey to black minature lenses of mudstone (1 m to 2 m x 2-3 mm) generally siltstone, medium grey, with mudstone partings. 14 cm siltstone; has numerous mudstone clasts (angular) and minature (micaceous) lenses (much like 2 cm just above) but the mudstone is almost sequentially dispensive (in a sequence). 13 cm sandstone, medium-grained, salt-and-pepper sandstone, some dirty mudstone clasts (angular) in middle of this unit.
18°	222.75	1.51	SANDSTONE-medium grey to light grey (banded throughout for first 1.71 m near top). Last basal 50 cm isn't banded and is quite coarse-grained. First 1.71 m contains numerous small-scale cross-beds throughout and base of this 171 cm unit is micaceous and pyritic. Just above basal 50 cm (7 cm above it) some quartz pebbles 2.3 cm across, stick core, non-calcareous, occasional slickensides.
	224.33	1.58	SILTSTONE/MUDSTONE-14 cm top mudstone, dark grey to black, many contain carbonaceous rootlets and plant debris. 7 cm - mudstone; black contains coaly partings at angle to bedding (2 cm thick), 37 cm-siltstone medium grey, quite homegenous very slightly micaceous. stick core, some thin carbonaceous mudstone layers, non-calcareous.
	225.45	1.12	SILTSTONE-medium grey to dark grey, numerous laminae present except in basal 40 cm (where lithology is not as silty and approachs a mudstone dark grey to black). 64 cm below top of interval is a thin (1 cm) coal stringer where core is broken and slickensided, siltstone can be micaceous, non-calcareous, stick core.
	225.87	0.42	SILTSTONE-medium to light grey, non-calcareous, some lamination present near top of interval (top 10 cm), becomes mottled approximately for latter part of interval, and ripples are numerous and core can be micaceous throughout, grain size increases

Dip°	Depth m	Thickness m	DESCRIPTION
			toward base, last 20 cm is very fine-grained sandstone and contains very little argillaceous material Some ripples can be seen in basal 10 cm of interval. Stick core.
	226.59	0.72	SANDSTONE-light grey, salt-and-pepper (moderately) non-calcareous, resist, stick core. Top 21.0 cm is medium-to-coarse-grained sandstone with very small-scale cross-beds and several laminations. Next is 34 cm medium-grained sandstone, with more numerous laminations (cross-beds mostly) than overlying unit just mentioned. Basal 16 cm consists of medium-to coarse-grained sandstone, and bedding is visible with underlying siltstone. From 10-15 cm above base at interval is many hairline and lensoid fractures filled with quartz. (maximum thickness 2 cm) in random orientations.
21°	229.00	2.41	SILTSTONE-dark to medium grey, banded upper 50 cm, cross-bedded in part, 18 cm from top is 10 cm muddy band dark grey to black. Next 68 cm siltstone medium grey no laminations, lower portion of 6.8 cm interval strongly calcareous. Next 74 cm light to medium grey sandstone, very fine-grained upper 50 cm of sandstone is calcareous indistinct bedding. Basal 40 cm light to moderate grey banded, non-calcareous black layers due to high argillaceous content laminae less than 1 mm thickness throughout; stick core.
	230.57	1.57	SILTSTONE-light grey to dark grey, banded beds, stick core, non-calcareous. Upper 46 cm highly argillaceous, as is the bottom 35 cm.
8°	231.98	1.41	SANDSTONE-very fine-grained, silty for top 46 cm non-calcareous throughout. Base 95 cm distinct small-scale cross-bedding throughout, stick core.
	233.56	1.58	SANDSTONE-medium-to coarse-grained. Top 20 cm medium-grained with abundant coarse beds and ripple bedding slightly calcareous. Lower 69 cm coarse-grained, fewer cross-beds, minor argillaceous wisps throughout, stick core.
	234.28	0.72	SANDSTONE-as above medium-to coarse-grained, cross-beds. Sandstone forms abrupt contact with underlying conglomerate. Slightly calcareous, stick core.

Dip°	Depth m	Thickness m	DESCRIPTION
	235.36	0.78	CONGLOMERATE-color white to light grey matrix, matrix coarse-grained sandstone, pebbles white, medium grey, black predominantly dark cherts, light colored quartz, cherts maximum pebble size 5 cm across, stick core. pebbles rounded/subrounded.
	236.82	1.76	CONGLOMERATE-as above cadomin
			236.82 (drillers depth T.D.)