

CORE DESCRIPTIONS

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CORE DESCRIPTION

HOLE ID TW82D-201
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820215
 LOG DATE 820200
 EXAMINED BY L. PETRAS

TDP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
00	53.95	53.95	OVERBURDEN			NDAT	NDAT	
53.95	58.29	4.34	SS1	SLST	VERY FINE GRAIN, INTERBEDDED WITH SILTSTONE; CARBONACEOUS STRINGERS ALONG BEDDING PLANES; CALCITE FILLED FRACTURES ALONG BEDDING PLANES	85.0	NDAT	
58.29	59.01	.72	SS2	SS1	MEDIUM GRAIN, INTERBEDDED WITH FINE GRAIN SANDSTONE; BRONW-GREEN; COAL STRINGERS ALONG BEDDING PLANES	NDAT	NDAT	
59.01	59.22	.21	SS3	SS1	COARSE GRAIN, LIGHT GREY, RIPUP CLASTS OF FINE GRAIN SANDSTONE	NDAT	NOAT	
59.22	61.64	2.42	SS2		MEDIUM GRAIN SANDSTONE, GREENISH COLOR, COALY FLECKS, CALCITE FRACTURES	NDAT	NDAT	
61.64	63.61	1.97	SS	SLST	INTERBEDDED, HAS SILTSTONE AND CARBONACEOUS SHALE BANDS THROUGHOUT; MINOR COALY STRINGERS	NDAT	NDAT	
63.61	64.91	1.30	SS2		MEDIUM GRAIN, GREENISH COLOR, ODD COAL FLECKS	NDAT	NDAT	
64.91	74.61	9.70	SS2	SLST	INTERBEDDED WITH SILTSTONE AND	90.0	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					CARBONACEOUS SHALES; ODD CALCITE FILLED FRACTURE			
74.61	75.10	.49	SS2	MINOR COAL	MEDIUM GRAIN, CALCITE FILLED FRACTURES, COAL LENSES	NDAT	NDAT	
75.10	76.90	1.80	SLST	SS1	INTERBEDDED WITH VERY FINE GRAIN SANDSTONE	NDAT	NDAT	
76.90	82.07	5.17	SS2		MEDIUM GRAIN, INTERBEDDED WITH SILTSTONE, MINOR COAL STRINGERS	NDAT	NDAT	
82.07	84.59	2.52	SS2	MINOR COAL	MEDIUM GRAIN, GREENISH, COAL LENSES	NDAT	NDAT	
84.59	86.69	2.10	SS2		MEDIUM GRAIN, LIGHT GREY	NDAT	NDAT	
86.69	88.12	1.43	SS	SLST	INTERBEDDED WITH SILTSTONE; MINOR CARBONACEOUS, TRACE CALCITE	NDAT	NDAT	
88.12	88.60	.48	SS1		FINE GRAIN, LIGHT GREY	NDAT	NDAT	
88.60	95.85	7.25	SS1	SLST	VERY FINE GRAIN, INTERBEDDED WITH SOME SILTSTONE	NDAT	NDAT	
95.85	98.78	2.93	SLST		DARK GREY	90.0	NDAT	
98.78	100.36	1.58	SS		MEDIUM GREY, GREENISH GREY, MINOR CARBONACEOUS THREADS	NDAT	NDAT	
100.36	102.56	2.20	SLST		GREY	NDAT	NDAT	
102.56	103.81	1.25	SS2	MINOR COAL	MEDIUM GRAIN, LIGHT GREY, MINOR	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
COAL LENSES								
103.81	106.39	2.58	SS	SLST; MNR COAL	SANDSTONE INTERBEDDED WITH SILTSTONE, MINOR COAL STRINGERS	NDAT	NDAT	
106.39	107.93	1.54	SS2		MEDIUM GRAIN, GREY, CALCITE FILLED FRACTURES	NDAT	NDAT	
107.93	120.90	12.97	SLST	SS; MNR COAL	DARK GREY, INTERBEDDED LIGHT GREY SANDSTONE; MINOR COALY LENSES	NDAT	NDAT	
120.90	129.40	8.50	SLST	SHALE	INTERBEDDED WITH SHALE, SOME CARBONACEOUS MATERIAL	NDAT	NDAT	
129.40	134.56	5.16	COAL		129.35-131.98 VERY HARD, FAIRLY SHINY, CLARIAN-DURAIN? VERY GOOD QUALITY, NO SPLITS; 131.98-133.27 VERY HARD DULL, FEW CALCITE FILLED FRACTURES; - RECOVERY 81%	90.0	NDAT 1	57
134.56	136.12	1.56	SS1	CARB SLST	FINE GRAIN, LIGHT GREY, INTERBEDDED WITH CARBONACEOUS SILTSTONE	NDAT	NDAT	
136.12	136.21	.09	COAL		CALCITE FILLED FRACTURES; NOT SAMPLED	NDAT	NDAT	
136.21	136.51	.30	SS1	SL CARBONACE- OUS	FINE GRAIN, MINOR CARBONACEOUS	NDAT	NDAT	
136.51	137.15	.64	COAL		HARD DULL; NOT SAMPLED	NDAT	NDAT	
137.15	138.16	1.01	SS1	CARB; FOSSILIFE- ROUS	FINE GRAIN, THINLY BEDDED, FOSSILIFEROUS, MAJOR CARBONACEOUS	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					THREADS AND STRINGERS			
138.16	138.68	.52	SS2	CARB	MEDIUM GRAIN, LIGHT GREY, COAL LENSES AND CARBONACEOUS THREAOS, THINLY BEDDED	70.0	AVG	
138.68	141.70	3.02	SS1	SLST	FINE GRAIN INTERBEDDED WITH SILTSTONE, CALCITE FILLED FRACTURES	NDAT	NDAT	
141.70	142.60	.90	COAL		HARD DULL, ABUNDANCE CALCITE FILLED FRACTURES	NDAT	NDAT	58
142.60	144.67	2.07	SS2		MEDIUM GRAIN, LIGHT GREY	NDAT	NDAT	
144.67	145.80	1.13	SS1	SL CARB	VERY FINE GRAIN, CALCITE FILLED FRACTURES, MINOR CARBONACEOUS	NDAT	NDAT	
145.80	147.22	1.42	GOUGE	FAULT	FAULT GOUGE - SLICKENSIDED	NDAT	NDAT	
147.22	154.50	7.28	SLST		MASSIVE, DARK GREY; APPEARS TO BE ALMOST IGNEOUS	NDAT	NDAT	
154.50	161.95	7.45	VOLCANICS		LIGHT RED, IGNEOUS INTRUSION	NDAT	NOAT	
161.95	162.30	.35	SLST	CARBONACEOUS	MAJOR CARBONACEOUS	NDAT	NDAT	
162.30	170.20	7.90	SS1		FINE GRAIN, MASSIVE	NDAT	NDAT	
170.20	245.67	75.47	VOLCANICS		LIGHT TO DARK RED; ABUNDANCE CALCITE FRACTURES	NDAT	NDAT	
245.67	-1.00	-1.00	UNKNOWN		TOTAL DEPTH 245.67	NDAT	NDAT	

JAN 16, 1983

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CORE DESCRIPTION

TOP	BASE	THICK	LITHDLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
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CORE DESCRIPTION

HOLE ID TW82D-202
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820217
 LOG DATE 820200
 EXAMINED BY PETRAS/CAMERON

TOP	BASE	THICK	LITHOLDGY	MIN.LITH	DESCRIPTIDN	C/B ANGLE	DEPTH SEAM	SNUM
.00	46.35	46.35	OVERBURDEN		NO DATA	NDAT	NDAT	
46.35	57.01	10.66	SS1	SLST	FINE GRAIN, MEDIUM GREY, INTERBEDDED WITH THIN BANDS SILTSTONE; FEW CALCITE FILLED FRACTURES AND CARBONACEOUS THREADS. 55.08-55.58 ABUNDANT CALCITE, OXODIZED	85.0	NDAT	
57.01	57.44	.43	COAL		56.9-57.1 HARD AND DULL, LAST 3CM CALCITE FILLED FRACTURES; - RECOVERY 67%	NDAT	NDAT 3	26
57.44	58.46	1.02	MUDSTONE	SLST	BRITTLE, INTERBEDDED WITH THIN BANDS SILTSTONE	90.0	NDAT	
58.46	59.50	1.04	COAL		58.4-59.25 HARD AND DULL, THIN PYRITIC BAND TOWARDS END OF SEAM; - RECOVERY 100%	NDAT	NDAT 3	27
59.50	60.11	.61	SHALE	CARBONACEOUS	MAJOR CARBONACEOUS	NDAT	NDAT	
60.11	60.42	.31	COAL		DULL AND VERY HARD, SILTY FOR FIRST 10CM AND LAST 10CM	NDAT	NDAT	
60.42	60.95	.53	SLST		LIGHT GREY, SOFT	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
60.95	61.25	.30	SHALE	CARBONACEOUS	MAJOR CARBONACEOUS	NDAT	NDAT	
61.25	66.10	4.85	SLST	SS1	MEDIUM GREY, INTERBEDDED WITH THIN BANDS FINE GRAIN SANDSTONE; ODD CALCITE FILLED FRACTURE, SLICKENSIDED AT END OF UNIT	NDAT	NDAT	
66.10	66.69	.59	SHALE	CARBONACEOUS	MAJOR CARBONACEOUS	NDAT	NDAT	
66.69	70.27	3.58	COAL		66.69-67.3 SOFT, DULL AND BROKEN; 67.3-69.47 DULL VERY HARD, STICK; 69.47-69.64 SILTSTONE, MINOR CARBONACEOUS; 69.64-70.27 DULL VERY HARD, STICK; - RECOVERY 65%	70.0	NDAT 2	28
70.27	86.18	15.91	SLST	SS1	VERY BRITTLE; INTERBEDDED WITH FINE GRAIN SANDSTONE	NDAT	NDAT	
86.18	86.40	.22	SS1		FINE GRAIN, LIGHT GREY, MASSIVE	NDAT	NDAT	
86.40	87.34	.94	SLST		DARK GREY, VERY BRITTLE (R1)	NDAT	NDAT	
87.34	87.62	.28	SS1		FINE GRAIN, LIGHT GREY, MASSIVE	NDAT	NDAT	
87.62	88.32	.70	SS1		FINE GRAIN, LIGHT GREY, MASSIVE	NDAT	NDAT	
88.32	93.32	5.00	SLST		DARK GREY, BRITTLE	NDAT	NDAT	

		CORE		DESCRIPTION				
TDP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
93.32	93.60	.28	SS1		FINE GRAIN, LIGHT GREY, MASSIVE; CALCITE FILLED FRACTURES	NDAT	NDAT	
93.60	94.40	.80	SLST		DARK GREY, BRITTLE (R1)	NDAT	NDAT	
94.40	94.66	.26	SS1		FINE GRAIN, LIGHT GREY, MASSIVE; CALCITE FILLED FRACTURES	NDAT	NDAT	
94.66	96.16	1.50	SLST		DARK GREY, BRITTLE (R1)	NDAT	NDAT	
96.16	96.44	.28	SS1		FINE GRAIN, LIGHT GREY, MASSIVE; 2CM CARBONACEOUS CLAST AT END OF UNIT	NDAT	NDAT	
96.44	101.70	5.26	SLST		DARK GREY, VERY BRITTLE (R1)	NDAT	NDAT	
101.70	102.85	1.15	SS2		MEDIUM GRAIN, LIGHT GREENISH GREY, MASSIVE	NDAT	NDAT	
102.85	103.25	.40	SS1		FINE GRAIN, LIGHT GREY, CALCITE FILLED FRACTURES	NDAT	NDAT	
103.25	151.47	48.22	SLST	SS1	DARK GREY, BRITTLE (R1), INTERBEDDED WITH OCCASIONAL FINE GRAIN SANDSTONE BANDS RANGING FROM 2CM-10CM IN THICKNESS; OCCASIONAL THIN BANDS OF PYRITE	NDAT	NDAT	
151.47	153.53	2.06	SS2		MEDIUM GRAIN, LIGHT GREENISH GREY, MASSIVE; CALCITE FILLED FRACTURES	NDAT	NDAT	
153.53	156.79	3.26	SLST	SS1	DARK GREY,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BRITTLE, INTERBEDDED WITH FINE GRAIN SANDSTONE BANDS			
156.79	158.57	1.78	SS2		MEDIUM GRAIN, LIGHT GREY, MASSIVE	NDAT	NDAT	
158.57	169.28	10.71	SLST	SS1	DARK GREY, BRITTLE, INTERBEDDED WITH FINE GRAIN SANDSTONE	NDAT	NDAT	
169.28	176.30	7.02	SS2	CDALY/CARB	MEDIUM GRAIN, LIGHT GREY, COAL LENSES AND CARBONACEOUS THREADS THROUGHOUT	NDAT	NDAT	
176.30	176.40	.10	SS1	FOSSILIFE- ROUS	FINE GRAIN, FOSSILIFEROUS I.E. SHELL FRAGMENTS	NDAT	NDAT	
176.40	184.79	8.39	SLST	SS1	DARK GREY, VERY BRITTLE (R1) INTERBEDDED WITH THIN BANDS FINE GRAIN SANDSTONE	NDAT	NDAT	
184.79	188.06	3.27	SLST		DARK GREY, CONTAINS SANDSTONE CLASTS, CARBONACEOUS THREADS AND CALCITE FILLED FRACTURES	NDAT	NDAT	
188.06	198.04	9.98	SS1	SLST, MINOR COAL	FINE GRAIN, LIGHT GREY, CONTAINS SILTSTONE CLASTS, CALCITE FILLED FRACTURES AND COAL LENSES	NDAT	NDAT	
198.04	220.00	21.96	SS1	SLST	FINE GRAINED, GREY BLACK, INTERBEDDED WITH SILTSTONE, SOME CALCITE FRACTURES ALONG BEDDING; OCCASIONAL BAND OF BROWN SANDSTONE;	85.0	AVG	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					OCCASIONAL COALY LENSE AND BAND; SOME SLICKENSIDES 20 DEGREES STEEPER THAN BEDDING, SOME STRIKE			
220.00	223.45	3.45	SLST	SS2/CARB SH/MNR COAL	GREY BLACK, SOME INTERBEDDING MEDIUM GRAIN SANDSTONE; ABUNDANT COALY BANDS UP TO 3CM THICK IN THIS UNIT; ALSO SOME CARBONACEOUS SHALE BANDS, CALCITE FILLED FRACTURES	82.0	NDAT	
223.45	224.40	.95	SS2	MINOR COAL	MEDIUM GRAIN, SALT AND PEPPER; ABUNDANT COALY STRINGERS, CALCITE FILLED FRACTURES; CROSS BEDDED	70.0	NDAT	
224.40	225.49	1.09	SLST	COALY/ CARB SHLE	GREY BLACK, ABUNDANT COALY AND CARBONACEOUS SHALE BANDS 5CM THICK; ABUNDANCE OF SLICKENSIDES ON HIGH ANGLE JOINTS	NDAT	NDAT	
225.49	225.70	.21	COAL		HARD BRIGHT SHALEY AT TOP; CALCITE VEINS THROUGHOUT; - RECOVERY 100%	NDAT	NDAT	
225.70	226.35	.65	SLST	CARB SHALE	GREY BLACK, INTERBEDDED WITH CARBONACEOUS SHALE	85.0	NDAT	
226.35	226.55	.20	COAL	SHALEY	INTERBEDDED WITH COALY SHALE; VISIBLE PYRITE AND CALCITE	NDAT	NDAT	
226.55	228.20	1.65	SLST	CARB SHALE	THIN COALY STRINGERS AND CALCITE FRACTURES	NDAT	NDAT	
228.20	228.55	.35	SHALE	COALY	SOME VISIBLE	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM

CALCITE								
228.55	238.40	9.85	SLST	CARB SHLE. MNR S52	GREY BLACK, INTERBEDDED CARBONACEOUS SHALE; ABUNDANCE OF CARBONACEOUS MATERIAL; SOME THIN BANDS OF MEDIUM GRAIN SANDSTONE	85.0	NDAT	
238.40	238.75	.35	SHALE	CARB/COALY	BLACK, CARBONACEOUS, COALY IN PLACES	NDAT	NDAT	
238.75	239.35	.60	SLST	CARBONACE- OUS	GREY BLACK, CARBONACEOUS MATERIAL	NDAT	NDAT	
239.35	243.40	4.05	VOLCANICS	IGNEOUS	FELSIC - THIN BANDS OF SEDIMENTS INCLUDING COAL ARE LAYERED IN THIS IGNEOUS UNIT; THIN BANDS (LAYERS) OF SEDIMENTARY ROCK AS WELL AS ANGULAR CLASTS ARE SEEN WITHIN THE UNIT. THE IGNEOUS ROCK IS VERY FINE (GREY) GRAINED; IN PLACES IT IS PORPHYRITIC. THERE ARE ALSO BANDS OF ANGULAR AGGLOMERATE WITHIN THE UNIT. DUE TO THE BANDS OF SEDIMENT ROCK IN THE UNIT, IT APPEARS TO BE A SERIES OF VOLCANIC FLOWS HOWEVER NEITHER CONTACT SHOWS ANY DISTINCT UNCONFORMITY. THE CLASTS WITHIN THE UNIT COULD BE FROM ROOF OR FLOOR	85.0	NDAT	
243.40	245.40	2.00	SLST		GREY BLACK, SOME	85.0	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					CALCITE FILLED FRACTURES			
245.40	249.30	3.90	SLST	MDST	BROWN - MUDSTONE IN PLACES, SOME IS DIFFICULT TO DETERMINE FROM A FINE GRAIN IGNEOUS ROCK; VERY HARD	NDAT	NDAT	
249.30	252.30	3.00	SLST	CARB DEBRIS	GREY BLACK; ABUNDANCE OF CARBONACEOUS MATERIAL; CALCITE FILLED FRACTURES	NDAT	NDAT	
252.30	254.75	2.45	SS4		CONGLOMERATE OR AGGLOMERATE. MATRIX DIFFICULT TO DETERMINE; BOTTOM CONTACT IS UNCONFORMABLE. CLASTS UP 5CM, CLASTS ARE VERY ANGULAR BRECCIA	NDAT	NDAT	
254.75	255.25	.50	SS2	MINOR COAL	MEDIUM GRAIN, GREY, COALY STRINGERS	NDAT	NDAT	
255.25	257.50	2.25	SLST	CARB SHALE	INTERBEDDED WITH CARBONACEOUS SHALES; SOME THIN CALCITE STRINGERS	NDAT	NDAT	
257.50	257.90	.40	COAL	SHALEY	SHALEY COAL	NDAT	NDAT	
257.90	259.80	1.90	SHALE	VERY CARB, COALY	VERY CARBONACEOUS - COALY BANDS AND LENSES	NDAT	NDAT	
259.80	261.20	1.40	SS2		MEDIUM GRAIN, GREY	NDAT	NDAT	
261.20	275.40	14.20	SLST	SS2, MINOR COAL	GREY BLACK, INTERBEDDED WITH MEDIUM GRAIN SANDSTONE. COALY BANDS AND STRINGER; CALCITE VEINS THROUGHOUT,	85.0	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					OFTEN IN COAL BANDS			
275.40	276.00	.60	SHALE	CARBONACEOUS	VISIBLE PYRITE AND CALCITE	NDAT	NDAT	
276.00	277.50	1.50	SLST		AS ABOVE; ABUNDANCE OF PYRITE (WEATHERED)	NDAT	NDAT	
277.50	278.40	.90	BRECCIA	VOLC	FLOW BRECCIA, APPEARS TO HAVE A VOLCANIC MATRIX	NDAT	NDAT	
278.40	278.80	.40	SLST	CARB DEBRIS	GREY BLACK, SOME CARBONACEOUS MATERIAL	85.0	NDAT	
278.80	300.80	22.00	VOLCANICS		BASEMENT VARIES FROM A WEATHERED RED COLOR TO WHITE TO PALE GREEN. VERY FINE GRAINED WITH SOME FELDSPAR PORPHYROBLASTS, CALCITE FILLED JOINTS	NDAT	NDAT	
300.80	-1.00	-1.00	UNKNOWN		END OF HOLE - TOTAL DEPTH 300.8	NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TW82D-204
 PROJECT TELKWA
 AREA SMITHERS
 DRIL. DATE 820222
 LOG. DATE 820300
 EXAMINED BY PETRAS/CAMERON

TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	85.98	85.98	OVERBURDEN		NO DATA	NDAT	NOAT	
85.98	96.60	10.62	SS2	SLST; MINOR SHLE	MEDIUM GRAIN, SALT AND PEPPER. WELL CROSS BEDDED MEDIUM SCALE. SANDSTONE IS INTERBEDDED WITH DARK GREY SILTSTONE, OCCASIONAL CARBONACEOUS SHALE BAND. UNIT IS EXTREMELY FRACTURED. ONE SET OF FRACTURES IS SUB-PARALLEL TO BEDDING. ANOTHER FAULT SURFACE IS APPROXIMATELY 90 DEGREES TO BEDDING. DRAGS AND OFFSETS INDICATE FAULTS ARE NORMAL FAULTS. CALCITE HAS INFILLED SOME OF THE SHEAR PLANES. THERE ARE ALSO A COUPLE OF VERY THIN 5CM BANDS OF SILTSTONE WITH BROWN SANDSTONE PEBBLES IN THEM	80.0	NDAT	
96.60	105.60	9.00	SLST	SS2	SOME INTERBEDDED MEDIUM GRAIN SANDSTONE; NOT AS EXTENSIVELY FRACTURED AS THE ABOVE. JOINTS 40 DEGREES TO CORE; JOINTS 40 DEGREES TO CORE AXIS; AZIMUTH 20 DEGREES	80.0	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
105.60	105.75	.15	CALC	FRACTURE ZONE	FRACTURED ZONE, FRACTURES 60 DEGREES TO CORE; AZIMUTH TO BEDDING 350 DEGREES	NDAT	NDAT	
105.75	126.33	20.58	SLST	FRACTURE ZONE	AS ABOVE; BECOMES MORE HEAVILY FRACTURED AT 118 METERS AND CONTINUES DOWN TO THE IGNEOUS SILL, BEDDING ANGLE RANGES FROM 40-68 DEGREES	NDAT	NDAT	
126.33	126.60	.27	SHALE	FRACTURE ZONE	EXTREMELY BROKEN AND FRACTURED	NDAT	NDAT	
126.60	135.80	9.20	VOLCANICS	IGNEOUS SILL	THE ROCK IS VERY FINE GRAIN, GREEN, ANDESITIC; DIABASE: CONTAINS INCLUSIONS OF BOTH ROOF AND FLOOR ROCKS. VERY HARD, JOINTED BUT NOT FRACTURED. THE BOTTOM CONTACT IS NOT AS SHARP AS THE TOP CONTACT	NDAT	NDAT	
135.80	137.50	1.70	SS	SLST	INTERBEDDED SANDSTONE WITH SOME SILTSTONE MUCH OF THE SANDSTONE HAS THE GREENISH COLOR OF THE ABOVE SILL. POSSIBLY SOME ALTERATION OF THE SANDSTONE DUE TO THE INTRUSION NOT FRACTURED	78.0	AVG	
137.50	137.70	.20	COAL		HARD, DULL WITH BRIGHT VITRAIN BANDS BECOMES SHALEY AT BOTTOM	NDAT	NDAT	
137.70	138.20	.50	SS	SLST	AS ABOVE	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
138.20	138.40	.20	SHALE	COALY		NDAT	NDAT	
138.40	141.64	3.24	SS1	SS2, SLST	INTERBEDDED WITH SILTSTONE AND CARBONACEOUS SHALE, GREY COLOR, FINE TO MEDIUM GRAIN	NDAT	NDAT	
141.64	150.00	8.36	SS	SLST, CARB SHALE	INTERBEDDED MEDIUM GRAIN, GREY GREEN SANDSTONE AND BROWN SILTSTONE. THE BROWN SILTSTONE CAN BE IN BANDS UP TO 5CM OR INCLUSIONS. THERE HAS BEEN SOME SOFT SEDIMENT DEFORMATION. THE MEDIUM GRAIN GREY-GREEN SANDSTONE PREDOMINATES THE UNIT. THERE IS ALSO A BLACK SHALEY SILTSTONE INTERBEDDED IN THE UNIT. IT TAKES OVER AS THE DOMINANT ROCK TYPE NEAR THE BOTTOM OF THE UNIT. THE INTERBEDS RANGE BETWEEN A FEW MM AND 10 CM	NDAT	NDAT	
150.00	186.10	36.10	SLST	CARB SHLE. MNR SS1	SHALEY CARBONACEOUS IN PLACES. HAS THIN, APPROXIMATELY 5MM BANDS OF GREENISH GREY SANDSTONE. FROM 141M THE UNIT HAS LESS AND LESS SANDSTONE AND MORE AND MORE SILTSTONE-SHALE. THERE ARE BANDS OF PYRITE AND	80.0	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					DISSEMINATED PYRITE IN THE UNIT. SOME CALCITE FILLED FRACTURES			
186.10	186.40	.30	SS2	MINOR PYRITE	MEDIUM GRAIN, SALT AND PEPPER, 3CM PYRITE BAND	NDAT	NDAT	
186.40	189.30	2.90	SHALE	SILTY, FAULT ZONE	BLACK CARBONACEOUS MATERIAL THROUGHOUT. STILL SOME VERY THIN MEDIUM GRAINED SANDSTONE BANDS. THERE IS DISSEMINATED PYRITE AND PYRITE BANDS UP TO 2CM THICK. FAULT ZONE 1 METRE LONG AT 187. SHEARS ALONG BEDDING	NDAT	NDAT	
189.30	191.50	2.20	VOLCANICS	IGNEOUS ROCK	QUARTZ-RICH, FINE GRAINED IGNEOUS ROCK - RHYOLITE; QUARTZ MONZONITE. VERY HARD, TALC FILLED FRACTURES	NDAT	NDAT	
191.50	193.24	1.74	SHALE	CARB/COALY	CARBONACEOUS TO COALY SHALE ABUNDANCE OF PYRITE. ALSO SOME TALC INFILLING FRACTURES; VERY SHEARED	NDAT	NDAT	
193.24	194.70	1.46	COAL		DULL WITH BRIGHT, VERY HARD, SHEARED AT TOP. STICK AT BOTTOM. CALCITE IN PLACES. ALSO VISIBLE PYRITE - RECOVERY 100%	NDAT	NDAT	22
194.70	199.80	5.10	SS2	SLST	SOME INTERBEDDED BLACK SILTSTONE/SANDSTONE IS MEDIUM GRAIN, GREY	78.0	NDAT	
199.80	200.30	.50	VOLCANICS	IGNEOUS	AS ABOVE,	NDAT	NDAT	

CORE		DESCRIPTION						
TDP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
				ROCK	RHYOLITE, TALC FILLED FRACTURES			
200.30	210.50	10.20	SLST	SS2, FOLD	INTERBEDDED WITH MEDIUM GRAIN GREY SANDSTONE COARSENS DDWN, VERY SHEARED AT TDP. CALCITE FILLED FRACTURES. MOSTLY PERPENDICULAR TO BEDDING. SMALL SCALE NORMAL DISPLACEMENT CAN BE SEEN ALONG SOME SHEARS	NDAT	NDAT	
210.50	210.60	.10	SHALE	CARBONACE- OUS	MODERATELY WELL SHEARED, BLACK	65.0	NDAT	
210.60	213.05	2.45	COAL		DULL AND BRIGHT, LOOKS FAIRLY CLEAN, SHEARED AND BROKEN - RUBBLE; - RECOVERY 77%	NDAT	NDAT	23
213.05	219.40	6.35	SLST	SS2	GREY BLACK - INTERBEDDED MEDIUM GRAIN GREY SANDSTONE, CALCITE FILLED FRACTURES	65.0	AVG	
219.40	220.20	.80	SS2	SLST	MEDIUM GRAIN, GREY. INCLUSIONS OF BROWN SILTSTONE	51.0	NDAT	
220.20	221.20	1.00	SHALE	CARB/COALY	CARBONACEOUS TO COALY, SHEARING IN PLACES	58.0	NDAT	
221.20	222.80	1.60	COAL		221.2-221.8 BRIGHT AND DULL, BROKEN STICK; 221.8-222.3 SHALE COAL, RUBBLE; 222.3-222.8 BRIGHT WITH DULL, STICK. AT BOTTOM COAL IN CONTACT WITH IGNEOUS ROCKS. INCLUSIONS OF COAL IN IGNEOUS - RECOVERY 73%	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
222.80	226.35	3.55	VOLCANICS	IGNEOUS ROCK	QUARTZ-RICH, FINE GRAINED IGNEOUS ROCK; TALC ALONG FRACTURES, VERY HARD. INCLUSIONS OF BOTH ROOF AND FLOOR ROCK	NDAT	NDAT	
226.35	226.70	.35	SHALE	VERY CARB	SLIGHTLY SHEARED	NDAT	NDAT	
226.70	253.80	27.10	SLST	SS2	GREY-BLACK WITH MEDIUM GRAIN, GREY SANDSTONE INTERBEDS FROM 1MM TO 5CM THICK. CALCITE ALONG FRACTURES. LESS SANDSTONE BANDS NEAR BOTTOM. PROGRESSIV- ELY SHALIER NEAR BOTTOM, SHALE IS FISSILE. SOME BROWN SANDSTONE BANDS NEAR BOTTOM	70.0	AVG	
253.80	287.92	34.12	SLST	MDST	INTERBEDDED WITH MUDSTONE. OCCASIONAL CALCITE FILLED FRACTURES; MINOR CARBONACEOUS THREADS THROUGHOUT UNIT. MUDSTONE BANDS ARE VERY BRITTLE WITH SILTSTONE IS APPROXIMATELY R3 IN HARDNESS. NUMEROUS SLICKENSIDES THROUGHOUT UNIT - RECOVERY 85%	NDAT	NDAT	
287.92	301.60	13.68	MUDSTONE		CALCITE FILLED FRACTURES; VERY BRITTLE, HARDNESS R1. 7CM FINE GRAIN SANDSTONE BAND AT 294.09 - RECOVERY 80%	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
301.60	302.40	.80	SS1		FINE GRAIN LIGHT GREY; SLICKENSIDE AT TOP AND BDTTOM OF UNIT, WEATHERED	NDAT	NDAT	
302.40	314.21	11.81	SLST		CRUMBLY, ABUNDANCE CALCITE FILLED FRACTURES AND SLICKENSIDES, UNIT HAS TALC THROUGHOUT	NDAT	NDAT	
314.21	315.47	1.26	MUDSTONE	FAULT GOUGE	HARDNESS S1 (SOFT)	NDAT	NDAT	
315.47	315.72	.25	MUDSTONE	CARBONACE- DUS	MAJOR CARBONACEOUS	NDAT	NDAT	
315.72	319.10	3.38	SLST	FAULT GOUGE	WEAK AND VERY CRUMBLY; FAULT GOUGE, VERY SOFT	NDAT	NDAT	
319.10	321.20	2.10	COAL		319.10-320.5 DULL AND HARD; 320.5-321.2 DULL AND SDFT; - RECOVERY 53%	NDAT	NDAT	24
321.20	327.72	6.52	MUDSTDNE	SLST	INTERBEDDED WITH THIN SILTSTONE BANDS, CRUMBLY	NDAT	NDAT	
327.72	328.37	.65	SS3		COARSE GRAIN, LIGHT GREY, STICK	NDAT	NDAT	
328.37	329.97	1.60	SS3	WEATHERED	COARSE GRAIN, VERY WEATHERED, SOFT	NDAT	NDAT	
329.97	330.42	.45	SHALE	CARBONACE- OUS	MAJOR CARBONACEOUS	NDAT	NDAT	
330.42	331.32	.90	SLST		DARK GREY, STRONG	NDAT	NDAT	
331.32	334.40	3.08	SS1	SLST	FINE GRAIN, LIGHT GREY, INTERBEDDED WITH THIN	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SILTSTONE BANDS TOWARDS END OF UNIT, CARBONACEOUS THREADS			
334.40	339.23	4.83	SLST		DARK GREY, SLICKENSIDED THROUGHOUT	NDAT	NDAT	
339.23	340.13	.90	SS3		VERY COARSE GRAIN, COAL THREADS AND LENSES, ABUNDANCE CALCITE	NDAT	NDAT	
340.13	345.99	5.86	SS2		MEDIUM GRAIN, LIGHT GREY, MASSIVE	NDAT	NDAT	
345.99	347.30	1.31	SS3		COARSE GRAIN	NDAT	NDAT	
347.30	347.72	.42	SLST		BRITTLE, SLICKENSIDED THROUGHOUT	NDAT	NDAT	
347.72	348.20	.48	SS1		FINE GRAIN, SLICKENSIDED THROUGHOUT	NDAT	NDAT	
348.20	356.53	8.33	SS2	FAULTED	MEDIUM TO COARSE GRAIN, FAULTED, CALCITE, FILLED FRACTURES. COAL THREADS	NDAT	NDAT	
356.53	360.70	4.17	SLST		DARK GREY, ENTIRE UNIT SLICKENSIDED	50.0	NDAT	
360.70	361.20	.50	SHALE	CARBONACE- OUS	MAJOR CARBONACEOUS	NDAT	NDAT	
361.20	374.30	13.10	SS1		FINE GRAIN, LIGHT GREY, MASSIVE, CALCITE FILLED FRACTURES; COAL LENSES THROUGHOUT	NDAT	NDAT	
374.30	376.80	2.50	SHALE	CARB, FAULTED	MAJOR CARBONACEOUS, ENTIRE UNIT FAULTED	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
376.80	381.54	4.74	SS1	SLST. MNR COAL	FINE GRAIN, LIGHT GREY, INTERBEDDED WITH THIN SILTSTONE BANDS. COAL LENSES	NDAT	NDAT	
381.54	382.00	.46	SS3		COARSE GRAIN, LIGHT GREY, HIGHLY WEATHERED	NDAT	NDAT	
382.00	386.20	4.20	SLST		VERY BRITTLE, EXTREMELY SLICKENSIDED, ABUNDANCE OF TALC	NDAT	NDAT	
386.20	391.60	5.40	SS1		FINE TO MEDIUM GRAIN, LIGHT GREY, HIGHLY FRACTURED AND SLICKENSIDED	60.0	NDAT	
391.60	400.50	8.90	SLST	FRACTURE ZONE	COMPLETELY FRACTURED AND SLICKENSIDED	NDAT	NDAT	
400.50	-1.00	-1.00	UNKNOWN		TOTAL DEPTH 400.5	NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TW82D-208
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820226
 LOG DATE 820300
 EXAMINED BY PETRAS/CAMERON

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	42.80	42.80	OVERBURDEN			NDAT	NDAT	
42.80	51.00	8.20	SLST		DARK GREY, OCCASIONAL CARBONACEOUS BAND	NDAT	NDAT	
51.00	51.25	.25	SS		LIGHT GREY INTERBEDDED WITH DARK GREY SANDSTONE	NDAT	NDAT	
51.25	64.29	13.04	SLST	SS1	GRADES OCCASIONALLY INTO FINE GRAIN SANDSTONE	NDAT	NDAT	
64.29	64.99	.70	SLST	SS1	AS ABOVE, WITH OCCASIONAL SANDSTONE CLASTS AND COAL BLEBS	NDAT	NDAT	
64.99	65.79	.80	SS2		LIGHT GREY, MEDIUM GRAIN, ABUNDANT CALCITE FRACTURES, ODD SHELL FRAGMENT	NDAT	NDAT	
65.79	67.24	1.45	SLST		DARK GREY	NDAT	NDAT	
67.24	67.54	.30	SS2		MEDIUM GRAIN, LIGHT GREY, ABUNDANT CALCITE, SHELL FRAGMENTS	NDAT	NDAT	
67.54	72.96	5.42	SLST		DARK GREY - BLACK	NDAT	NDAT	
72.96	74.06	1.10	SS		MEDIUM GREY, FINE UPWARDS	NDAT	NDAT	
74.06	84.12	10.06	SLST		AS ABOVE,	NDAT	NDAT	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					OCCASIONAL CALCITE FILLED FRACTURE				
84.12	91.71	7.59	SS2	SS3, SLST	SALT AND PEPPER, MEDIUM - COARSE GRAINED, FINES DOWNWARD, ABUNDANT COALY FLECKS BECOMES INCREASINGLY INTERBEDDED WITH SILTSTONE NEAR BOTTOM, GREENISH COLOR	NDAT	NDAT		
91.71	92.47	.76	SLST		AS ABOVE	NDAT	NDAT		
92.47	98.81	6.34	SS1	SS2	FINE TO MEDIUM GRAINED, COALY FLECKS, GREENISH CDLOR	NDAT	NDAT		
98.81	102.62	3.81	SLST		AS ABOVE, OCCASIONAL CALCITE FILLED FRACTURES	NDAT	NDAT		
102.62	107.01	4.39	SS1	SS2	AS ABOVE	75.0	NDAT		
107.01	132.01	25.00	SLST	SS	SOME INTERBEDDED BROWN SANDSTONE, ABUNDANT CALCITE ALONG JOINTS	NDAT	NDAT		
132.01	137.12	5.11	COAL		132.01-133.45 COAL DULL HARD, VITRAIN BANDS, WELL CLEATED; 133.45-133.65 SILTY SHALE, CARBONACEOUS; 133.65-137.12 COAL AS ABOVE, CALCITE FRACTURES IN COAL; - RECOVERY 59.4%	NDAT	NDAT 1	05	
137.12	142.58	5.46	SLST		GREY BLACK, ABUNDANT CALCITE FRACTURES. CORE SHEAR ANGLE 10 DEGREES. THIS IS A	90.0	NDAT		

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					LARGE HIGH ANGLE SHEAR JUST BELOW COAL SEAM				
142.58	153.78	11.20	SS1		VERY FINE GRAIN, GREY BLACK, CALCITE VEINS, COALY BLEBS THROUGHOUT	40.0	NDAT		
153.78	155.88	2.10	SLST		GREY BLACK	46.0	NDAT		
155.88	159.54	3.66	SS2	SS3	MEDIUM GRAIN TO COARSE GRAIN, GREENISH COLOR HIGH ANGLE CONVOLUTED BEDDING, ABUNDANT COAL BLEBS, ABUNDANT SLICKENSIDES AND CALCITE	60.0	NDAT		
159.54	163.14	3.60	SS1		VERY FINE GRAIN, GREY BLACK, CALCITE FILLED FRACTURES	NDAT	NDAT		
163.14	173.00	9.86	SS2	MINOR COAL	MEDIUM GRAIN, GREENISH COLOUR AS ABOVE, ABUNDANT COAL DEBRIS	65.0	NDAT		
173.00	178.14	5.14	SS1		FINE GRAIN, DARK GREY, THIN CALCITE BANDS	NDAT	NDAT		
178.14	183.50	5.36	SS2		MEDIUM GRAIN, SALT AND PEPPER, GREENISH COLOR, CONVOLUTE BEDDING, ABUNDANT COALY BLEBS	NDAT	NDAT		
183.50	184.50	1.00	SS1	SS2	DARK GREY, FINE TO MEDIUM GRAIN, GRADES OCCASIONALLY TO LIGHT GREY COLOR	NDAT	NDAT		
184.50	186.50	2.00	SS1	FOSSILIFE-ROUS	INTERBEDDING WITH SHALEY SILTSTONE	85.0	NDAT		

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					EXTREMELY FOSSILIFEROUS (BIVALVES?), ABUNDANT CALCITE FRACTURES				
186.50	217.30	30.80	SLST	SS1	INTERBEDDED WITH FINE GRAIN SANDSTONE, ABUNDANT CALCITE BANDS AND FRACTURES	85.0	NDAT		
217.30	223.50	6.20	COAL		217.30-217.7 COAL, HARD DULL WITH BRIGHT VITRAIN BANDS, CALCITE FRACTURE IN COAL; 217.7-217.8 ZONE OF SANDSTONE AND PYRITE BANDS .05CM THICK; 217.8-220.78 COAL DULL WITH BRIGHT, VERY HARD; 220.78-220.82 INTERBEDDED SANDSTONE AND SHALE BAND; 220.82-221.24 COAL BRIGHT WITH DULL, VERY HARD; 221.24-221.25 LARGE CALCITE FRACTURE; 221.25-21.78 COAL, AS ABOVE; 221.78-221.83 RED SANDSTONE BAND; 221.83-223.50 COAL, AS ABOVE; - RECOVERY 100%	NDAT	NDAT 1	06	
223.50	224.44	.94	SHALE	SLST	INTERBEDDED WITH SILTSTONE, CARBONACEOUS	90.0	NDAT		
224.44	224.82	.38	COAL		BRIGHT WITH DULL, EXTREMELY HARD, ABUNDANT CALCITE FRACTURES - RECOVERY 100%	NDAT	NDAT 1	14	
224.82	225.71	.89	SLST	CARB SHALE	INTERBEDDED WITH SHALE CARBONACEOUS	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
225.71	227.08	1.37	COAL		225.71-226.04 COAL WITH COALY SHALE, OCCASIONAL SANDSTONE BLEB; 226.04-227.00 COAL DULL WITH BRIGHT, VERY HARD; 227.00-227.08 COAL WITH SHALE BAND AND SANDSTONE BLEBS - RECOVERY 96%	NDAT	NDAT 1	07
227.08	229.80	2.72	SLST	SS1	INTERBEDDED WITH FINE GRAIN SANDSTONE	NDAT	NDAT	
229.80	230.32	.52	SS2	SS3, SS4	MEDIUM GRAIN TO COARSE GRAIN, COALY BLEBS, CONGLDMERATIC	NDAT	NDAT	
230.32	231.38	1.06	SHALE	VERY CARB, MNR SLST	BLACK, CARBONACEOUS SOME SILTSTONE BANDS, VERY CARBONACEOUS AT BOTTOM	NDAT	NDAT	
231.38	233.41	2.03	SLST	SS1	GREY, INTERBEDDED WITH FINE GRAIN SANDSTONE	70.0	NDAT	
233.41	234.41	1.00	COAL		233.5-233.9 SHALEY COAL; 233.9-234.0 COAL, DULL CONTAINS OCCASIONAL SILTSTONE BLEBS, CALCITE FRACTURES; 234.0-234.3 SHALEY COAL - RECOVERY 100%	NDAT	NDAT	13
234.41	242.00	7.59	SS1	SS2, MNR SS3	FINE GRAIN INTERBEDDED WITH MEDIUM GRAINED SANDSTONE, MEDIUM GREY IN COLOR, SOME BANDS 5CM THICK OF COARSE SANDSTONE	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
242.00	242.40	.40	COAL	SHALEY	ABUNDANT CALCITE FRACTURES	NDAT	NDAT	
242.40	244.80	2.40	SLST	SS1	GREY, INTERBEDDED WITH FINE GRAIN SANDSTONE, SOME CARBONACEOUS MATERIAL	NDAT	NDAT	
244.80	245.50	.70	COAL	SHALEY	COAL IS SHALEY WITH SOME SILTSTONE BLEBS	72.0	NDAT	
245.50	249.60	4.10	SS1	SS3	VERY FINE GRAIN DARK SANDSTONE INTERBEDDED WITH LIGHT COARSE GRAINED SANDSTONE CONTAINING COALY BLEBS; ABUNDANT CALCITE FRACTURES	NDAT	NDAT	
249.60	251.40	1.80	SLST		DARK GREY; ABUNDANT CALCITE FRACTURES	65.0	NDAT	
251.40	253.05	1.65	SS2	PYRITIC	MEDIUM GRAIN, ABUNDANT CALCITE FRACTURES, COALY BLEBS, BEDDING IS CONTORTED AND CONVOLUTE. ABUNDANCE OF DISSEMINATED PYRITE, CORE IS VERY HEAVY	75.0	NDAT	
253.05	256.90	3.85	SS4		GRAIN SUPPORTED, CALCITE ALONG FRACTURES, COALY BLEBS, WHITE COLOR	NDAT	NDAT	
256.90	258.70	1.80	SHALE	VERY CARB	VERY CARBONACEOUS, BLACK	NDAT	NDAT	
258.70	262.50	3.80	SS2		MEDIUM GRAIN, SALT AND PEPPER	NDAT	NDAT	
262.50	263.20	.70	SHALE	CARBONACEOUS	BLACK, ABUNDANCE OF SLICKENSIDES	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					ALONG FRACTURES			
263.20	271.30	8.10	SS4		CONGLOMERITIC, SCOUR MARKS, COALY BANDS, ABUNDANCE OF CALCITE VEINS, SOFT SEDIMENT DEFORMATION IS ABUNDANT. SMALL NORMAL FAULTS LATER IS FILLED WITH CALCITE	NDAT	NDAT	
271.30	273.00	1.70	MUDSTONE	COALY DEBRIS	LIGHT BROWN, CONTAINS COALIFIED PLANT DEBRIS	NDAT	NDAT	
273.00	273.30	.30	SHALE	CARBONACE- OUS	BLACK CARBONACEOUS, WELL FRACTURED, ABUNDANT SLICKENSIDES	NDAT	NDAT	
273.30	273.60	.30	COAL	SHALEY	QUITE FRACTURED	NDAT	NDAT	
273.60	279.40	5.80	SHALE	COALY	BLACK	NDAT	NDAT	
279.40	279.60	.20	SS2		MEDIUM GRAIN	60.0	NDAT	
279.60	279.70	.10	SHALE	CARBONACE- DUS	BLACK	NDAT	NDAT	
279.70	280.00	.30	COAL	VERY SHALEY	DULL HARD, OCCASIONAL BRIGHT BAND; VERY SHEARED NEAR BOTTOM	NDAT	NDAT	
280.00	282.85	2.85	SHALE	COAL IN PLACES	BLACK, SHEARED	NDAT	NDAT	
282.85	285.60	2.75	SS2		MEDIUM GRAIN, SALT AND PEPPER, COALY BLEBS	NDAT	NDAT	
285.60	292.20	6.60	MUDSTONE		LIGHT BROWN, COALY BLEBS, HEAVILY	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					FRACTURED			
292.20	294.20	2.00	SS2	SS3	MEDIUM TO COARSE GRAIN, SALT AND PEPPER	NDAT	NDAT	
294.20	300.17	5.97	SS4	SS, MNR COAL	INTERBEDDED WITH SANDSTONE, SOME COAL BANDS ALONG BEDDING	80.0	NDAT	
300.17	301.09	.92	SS2		MEDIUM GRAIN, SALT AND PEPPER, AS ABOVE	NDAT	NDAT	
301.09	301.40	.31	SS4		MICRO FAULTS, COALY BLEBS	NDAT	NDAT	
301.40	301.50	.10	SHALE	VERY CARB	BLACK	NDAT	NDAT	
301.50	308.50	7.00	SLST	CARB SHALE	INTERBEDDED WITH CARBONACEOUS SHALE	NDAT	NDAT	
308.50	310.20	1.70	VOLCANICS		VERY FINE GRAIN, LIGHT GREY, RHYOLITIC	NDAT	NDAT	
310.20	319.00	8.80	VOLCANICS	WEATHERED	RED, WEATHERED COULD BE WEATHERED PRODUCT OF THE ABOVE, ABUNDANCE OF TALC ALONG FRACTURES	NDAT	NDAT	
319.00	-1.00	-1.00	UNKNOWN		TOTAL DEPTH 319.0	NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TW82D-208A
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820916
 LOG DATE 820928
 EXAMINED BY S. CAMERON

TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	5.20	5.20	MUDSTONE	CARBONACE- OUS	GREY TO BLACK, CARBONACEOUS, EXTREMELY WEATHERED AND BROKEN	NDAT	NDAT	
5.20	5.34	.14	COAL		EXTREMELY BROKEN (RECOVERY = 45%)	NDAT	NDAT	
5.34	6.34	1.00	MUDSTONE	CARBONACE- OUS	GREY TO BLACK	NDAT	NDAT	
6.34	7.13	.79	COAL	CLEAN	DULL, HARD (RECOVERY = 40%)	NDAT	NDAT 5	356
7.13	7.30	.17	MUDSTONE	CARBONACE- OUS	GREY TO BLACK	NDAT	NDAT	
7.30	9.06	1.76	COAL		DULL, HARD	NDAT	NDAT	
9.06	9.21	.15	MUDSTONE	CARBONACE- OUS		NDAT	NDAT	
9.21	9.58	.37	COAL		DULL, HARD, OCCASIONAL BRIGHT BANDS THROUGHOUT	NDAT	NDAT	
9.58	10.33	.75	MUDSTONE	CARBONACE- OUS		NDAT	NDAT	
10.33	10.48	.15	COAL	RUBBLE	DULL, BADLY BROKEN (RECOVERY = 17%)	NDAT	NDAT	
10.48	10.68	.20	MUDSTONE	CARBONACE- OUS	GREY TO BLACK, BADLY BROKEN	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
10.68	11.28	.60	COAL	RUBBLE	DULL, BADLY BROKEN (RECOVERY 17%)	NDAT	NDAT 4	355
11.28	12.15	.87	MUDSTONE		GREY TO BLACK, BADLY BROKEN	NDAT	NDAT	
12.15	19.70	7.55	SS1		GREY, OCCASIONAL THIN INTERBEDS DF SILTSTONE AND SHALE, SDME SOFT SEDIMENT DEFORMATION AND BIOTURBATION, OCCASIONAL IRONSTONE BANDS AND CONCRETIONS, CALCITE FRACTURES THROUGHOUT BUT ARE MORE COMMON IN THE IRONSTONE	NDAT	NDAT	
19.70	20.23	.53	MUDSTONE		GREY TO BLACK, OCCASIONAL IRONSTONE CONCRETIONS	NDAT	NDAT	
20.23	25.34	5.11	SLST	SS1	INTERBEDDED SILTSTONE AND LIGHT GREY SANDSTONE, THINLY BEDDED, SOME INTERBEDDED CARBONACEOUS SHALE, SANDSTONE BECOMES MORE PREDOMINANT NEAR BOTTOM OF UNIT	NDAT	NDAT	
25.34	25.68	.34	MUDSTONE	CARBONACE- OUS	GREY TO BLACK	NDAT	NDAT	
25.68	26.10	.42	COAL	CLEAN	HARD, DULL WITH OCCASIONAL THIN BRIGHT BANDS, OCCASIONAL CALCITE ALONG CLEATS (RECOVERY = 90%)	NDAT	NDAT 3	354
26.10	26.50	.40	MUDSTONE	CARBONACE- OUS	GREY TO BLACK	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
26.50	27.08	.58	COAL	CLEAN	HARD, DULL, OCCASIONAL CALCITE FILLED FRACTURE (RECOVERY = 95%)	NDAT	NDAT 3	353	
27.08	27.28	.20	MUDSTONE	CARBONACE- OUS	GREY TO BLACK, OCCASIONAL THIN COAL BAND	NDAT	NDAT		
27.28	27.53	.25	COAL		HARD, DULL, CALCITE ALONG CLEATS	NDAT	NDAT		
27.53	31.56	4.03	MUDSTONE	CARBONACE- OUS	GREY TO BLACK, OCCASIONAL CALCITE FILLED FRACTURE, OCCASIONAL SLICKENSIDES, SOME THIN COAL BANDS	NDAT	NDAT		
31.56	31.90	.34	COAL		BROKEN, TURNS TO RUBBLE AT BOTTOM OF THE UNIT (RECOVERY = 80%)	NDAT	NDAT 2	351	
31.90	31.94	.04	MUDSTONE	CARBONACE- OUS	VERY BROKEN	NDAT	NDAT		
31.94	32.08	.14	COAL	RUBBLE	OCCASIONAL SLICKENSIDED SURFACE (RECOVERY = 80%)	NDAT	NDAT		
32.08	32.84	.76	MUDSTONE	CARBONACE- OUS		NDAT	NDAT		
32.84	33.50	.66	COAL	RUBBLE	OCCASIONAL SLICKENSIDED SURFACE (RECOVERY = 75%)	NDAT	NDAT 2	352	
33.50	33.96	.46	MUDSTONE	CARBONACE- OUS	GREY TO BLACK	NDAT	NDAT		
33.96	44.80	10.84	SLST		OCCASIONAL CARBONACEOUS FLECKS, SILTSTONE IS MICACEOUS, OCCASIONAL CALCITE	NDAT	NDAT		

CORE		DESCRIPTION						
TDP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM

FILLED FRACTURES								

CORE DESCRIPTION

HOLE.ID TW82D-210
 PROJECT TELKWA
 AREA SMITHERS
 DRIL.DATE 820228
 LOG.DATE 820300
 EXAMINED.BY PETRAS/CAMERON

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	30.90	30.90	OVERBURDEN			NDAT	NDAT	
30.90	35.00	4.10	SHALE	CARBONACE- OUS	BLACK (R 85%)	NDAT	NDAT	
35.00	35.10	.10	COAL		DULL, HARD, 1MM VITRINITE BANDS (COAL RECOVERY 100%)	85.0	NDAT	
35.10	40.12	5.02	SLST	CARB SHLE, MNR COAL	INTERBEDDED WITH CARBONACEOUS SHALE, GREY CONTAINS SMALL COAL PARTINGS AND COAL BLEBS - RECOVERY 70%	90.0	NDAT	
40.12	44.35	4.23	COAL		RECOVERY 65% - 40.12-40.45 DULL COAL; 40.45-40.48 PYRITE BAND; 40.48-42.2 DULL HARD WITH BRIGHT VITRAIN BANDS; 41.70-41.72 SANDSTONE SPLIT WITH CARBONACEOUS PLANT DEBRIS ALONG BEDDING - 41.72-42.20 COAL DULL WITH VITRAIN BANDS; 42.20-42.21 SMALL SANDSTONE SPLIT; 42.21-42.7 COAL AS ABOVE; 42.7-42.71 SMALL SANDSTONE SPLIT; 42.71-44.35 COAL AS ABOVE	80.0	NDAT 2+3	01
44.35	54.00	9.65	SLST	SS2, SS1	INTERBEDDED, OCCASIONAL	80.0	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					CARBONACEOUS SILTSTONE MEDIUM GRAIN SANDSTONE IS DOMINANT AT TOP WITH FINE GRAIN SAND AND SILTSTONE DOMINANT AT BOTTOM OF UNIT, OCCASIONAL CALCITE FILLED FRACTURES			
54.00	60.14	6.14	SLST		SILTSTONE, GREY BLACK, OCCASIONAL SANDSTONE STRINGER, SOME CALCITE FILLED FRACTURES	NDAT	NDAT	
60.14	70.40	10.26	SS1	MINOR COAL	VERY FINE GRAIN, DARK GREY, OCCASIONAL COAL LENSE - RECOVERY 90%	90.0	NDAT	
70.40	70.80	.40	SS1	FOSSILIFE-ROUS	VERY FINE GRAIN; IRON STAINING, CALCITE PRESENT THROUGHOUT	NDAT	NDAT	
70.80	73.14	2.34	SLST		DARK GREY, TRACES OF CALCITE	85.0	NDAT	
73.14	73.26	.12	SS2		MEDIUM GRAIN, LIGHT GREY	70.0	NDAT	
73.26	74.20	.94	SLST	SS1	DARK GREY INTERBEDDED WITH FINE GRAIN SANDSTONE	NDAT	NDAT	
74.20	76.60	2.40	SS1	MINOR SLST & COAL	LIGHT GREY, FINE GRAIN, OCCASIONAL SMALL BAND SILTSTONE AND ODD COAL LENSE - RECOVERY 95%	80.0	NDAT	
76.60	76.84	.24	SS1		FINE GRAIN INTERBEDDED WITH SILTSTONE, CARBONACEOUS THREADS AND COAL	80.0	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
LENSES								
76.84	77.08	.24	SS2		MEDIUM GRAIN, LIGHT GREY	NDAT	NDAT	
77.08	78.56	1.48	SS1	SLST	FINE GRAIN, LIGHT GREY INTERBEDDED WITH SILTSTONE - RECOVERY 100%	70.0	NDAT	
78.56	97.05	18.49	SS1	SLST	FINE GRAIN, CALCITE FILLED FRACTURES GRADES TO SILTSTONE IN PLACES	NDAT	NDAT	
97.05	97.10	.05	COAL		SMALL BAND CALCITE FILLED FRACTURES	NDAT	NDAT	
97.10	118.80	21.70	SS1		FINE GRAIN, SOME CARBONACEOUS PARTING, CALCITE FILLED FRACTURES	NDAT	NDAT	
118.80	132.35	13.55	SS	SLST	INTERBEDDED WITH SILTSTONE, CROSS-BEDDED, SMALL MICRO FAULTS, CALCITE FILLED FRACTURES	75.0	NDAT	
132.35	147.43	15.08	SLST		GREY BLACK, OCCASIONAL CALCITE FILLED FRACTURES	80.0	NDAT	
147.43	153.08	5.65	COAL		147.43-150.2 COAL, DULL HARD OCCASIONAL VITRAIN BAND; 150.2-150.25 SANDSTONE INTERBEDDED WITH COALY SHALE; 150.25-150.53 COAL AS ABOVE; 150.53-150.63 SHALEY COAL; 150.63-151.23 COAL, DULLER THAN ABOVE; 151.23-151.28 SILTSTONE CARBONACEOUS;	NDAT	NDAT	02

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					151.28-152.25 COAL AS ABOVE, CALCITE FRACTURES; 152.25-152.40 CARBONACEOUS SILTSTONE/SHALE; 152.40-152.80 COAL DULL, CALCITE VEIN OCCASIONAL PYRITE BAND			
153.08	155.92	2.84	SLST	SHALE	GREY BLACK, SOME SHALE, CARBONACEOUS MATERIAL	NDAT	NDAT	
155.92	157.38	1.46	SS1	SLST	FINE GRAIN, DARK GREY, INTERBEDDED WITH SILTSTONE	80.0	NDAT	
157.38	157.50	.12	SS1		FINE GRAIN, LIGHT GREY, CROSS-BEDDED - RECOVERY 90%	NDAT	NDAT	
157.50	158.30	.80	SLST	SL CARB	DARK GREY, MINDR CARBONACEOUS - RECOVERY 95%	NDAT	NDAT	
158.30	158.70	.40	COAL		158.3-158.5 DULL, HARD, CALCITE FILLED FRACTURES, OCCASIONAL VITRAIN STRINGERS; 158.50-158.70 DULL HARD, OOD VITRAIN STRINGER; - RECOVERY 66%	90.0	NDAT	03
158.70	159.39	.69	SLST	CARBONACE- OUS	BLACK, MAJOR CARBONACEOUS	NDAT	NDAT	
159.39	159.91	.52	SLST	FRIABLE	LIGHT GREY, SOFT AND CRUMBLY	85.0	NDAT	
159.91	163.83	3.92	SS2	SLST	MEDIUM GRAIN, MEDIUM GREY, INTERBEDDED WITH SILTSTONE	NDAT	NDAT	
163.83	164.43	.60	COAL		163.83-163.97 SHALEY COAL, DULL; 163.97-164.2 DULL	NDAT	NDAT	04

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					HARD VITRAIN STRINGS; 164.20-164.25 DULL HARD, CALCITE FILLED FRACTURES; 164.25-164.43 SHALEY COAL, DULL AND HARD; - RECOVERY 75%				
164.43	165.28	.85	SLST	CARBONACEOUS	BLACK, MAJOR CARBONACEOUS, SLICKENSIDE	NDAT	NDAT		
165.28	166.70	1.42	SS2	SLST	MEDIUM GRAIN, LIGHT GREY, OCCASIONAL SMALL BAND SILTSTONE, ODD COAL LENSE	NDAT	NDAT		
166.70	169.77	3.07	SS1	SLST	FINE GRAIN, LIGHT GREY, VERY WEATHERED, THIN BANDS SILTSTONE - RECOVERY 100%	NDAT	NDAT		
169.77	171.02	1.25	SHALE	CARBONACEOUS	BLACK, MAJOR CARBONACEOUS, SLICKENSIDES, VERY HARD	NDAT	NDAT		
171.02	173.90	2.88	SS1	SLST	LIGHT GREY, FINE GRAIN INTERBEDDED WITH SILTSTONE, EXTREMELY WEATHERED, CALCITE FILLED FRACTURES	NDAT	NDAT		
173.90	174.93	1.03	SS2		MEDIUM GRAIN, LIGHT GREY, ODD CARBONACEOUS THREADS	80.0	NDAT		
174.93	175.00	.07	COAL		CALCITE FILLED FRACTURES	NDAT	NDAT		
175.00	179.92	4.92	SS1	SLST	FINE GRAIN, LIGHT GREY, INTERBEDDED WITH THIN SILTSTONE BANDS, CALCITE FILLED FRACTURES - RECOVERY 100%	NDAT	NDAT		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
179.92	179.96	.04	COAL		CALCITE FILLED FRACTURES; MAJOR VITRAIN STRINGS	70.0	180.0	
179.96	183.56	3.60	SS2	SLST	MEDIUM GRAIN, LIGHT GREY, INTERBEDDED WITH THIN BANDS SILTSTONE, CALCITE FILLED FRACTURES AND CARBONACEOUS THREADS THROUGHOUT - RECOVERY 95%	NDAT	NDAT	
183.56	185.01	1.45	SHALE	CARBONACEOUS	MAJOR CARBONACEOUS, EXTREMELY WEATHERED	85.0	185.0	
185.01	186.01	1.00	SHALE	SL CARB	MINOR CARBONACEOUS, SAME OTHER CHARACTERISTICS AS LISTED ABOVE - RECOVERY 85%	NDAT	NDAT	
186.01	187.45	1.44	SHALE	CARBONACEOUS	MAJOR CARBONACEOUS, SAME AS ABOVE	NDAT	NDAT	
187.45	199.80	12.35	SS1	SLST	FINE GRAIN, LIGHT GREY, INTERBEDDED WITH SILTSTONE; UNIT IS MOSTLY WEATHERED AND CRUMBLY - RECOVERY 75%	80.0	190.0	
199.80	200.00	.20	VOLCANICS		SMALL SILL OR DYKE INTRUSION, AGGLOMERATE - PEBBLE SIZE APPROXIMATELY HALF MM	NDAT	NDAT	
200.00	202.47	2.47	SS1	SLST	FINE GRAIN, DARK GREY, CALCITE FILLED FRACTURES, INTERBEDDED WITH SILTSTONE - RECOVERY 100%	NDAT	NDAT	
202.47	203.12	.65	SS2		MEDIUM GRAIN,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					LIGHT GREY, CARBONACEOUS THREADS CALCITE FILLED FRACTURES			
203.12	203.29	.17	VOLCANICS		INTRUSION - AGGLOMERATE, LIGHT PINKISH BLUE IN COLOR	NDAT	NDAT	
203.29	203.69	.40	SS1	SLST	FINE GRAIN, LIGHT GREY, INTERBEDDED WITH VERY THIN BANDS SILTSTONE - RECOVERY 100%	80.0	203.0	
203.69	204.47	.78	SS2	SS3	MEDIUM TO COARSE GRAIN, CALCITE FILLED FRACTURES, CARBONACEOUS THREADS	NDAT	NDAT	
204.47	206.50	2.03	SHALE	CARB; SLST	MAJOR CARBONACEOUS, SOME VITRAIN STRINGERS INTERBEDDED WITH SILTSTONE, SLICKENSIDES PRESENT - RECOVERY 90%	NDAT	NDAT	
206.50	209.00	2.50	VOLCANICS		LIGHT PINKISH COLOR, AGGLOMERATE PEBBLE SIZE QUARTER MM TO 2MM	NDAT	NDAT	
209.00	209.21	.21	SS1	MNR SLST	DARK GREY, FINE GRAIN, SOME SILTSTONE PRESENT AT END OF UNIT - RECOVERY 95%	NDAT	NDAT	
209.21	211.84	2.63	VOLCANICS		LIGHT GREEN IN COLOR, INTERBEDDED WITH THIN BANDS FINE GRAIN SANDSTONE	NDAT	NDAT	
211.84	214.88	3.04	VOLCANICS		DARK REDDISH	NDAT	NDAT	
214.88	220.98	6.10	VOLCANICS		DARK PURPLE - RECOVERY 100%	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
220.98	252.02	31.04	VOLCANICS		DARK RED TO LIGHT PURPLE - RECOVERY 100%	NDAT	NDAT	
252.02	258.17	6.15	VOLCANICS		DARK PURPLE TO LIGHT GREEN - RECOVERY 100%	NDAT	NDAT	
258.17	-1.00	-1.00	UNKNOWN		TOTAL DEPTH 258.17	NDAT	NDAT	

CORE DESCRIPTION

HDLE.ID TW82D-213
 PROJECT TELKWA
 AREA SMITHERS
 DRIL.DATE 820303
 LOG.DATE 820300
 EXAMINED.BY D.HANDY

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	12.20	12.20	DVERBURDEN	80		NDAT	NDAT	
12.20	16.54	4.34	SLST	CARB/COALY	MEDIUM GREY, THIN BEDDED WITH CARBONACEOUS AND COALY VEINLETS; 12.20-14.30 EXTREMELY BROKEN, CRUMBLY; 15.71-16.05 COALY SHALE	77.0	NDAT	
16.54	19.97	3.43	COAL		16.50-17.78 DULL WITH BRIGHT, BROKEN STICK, HARD; 17.78-18.27 SLIGHTLY SHALEY COAL; 18.27-19.58 DULL WITH BRIGHT, BROKEN STICK; - RECOVERY 66%	NDAT	NDAT 2+3	29
19.97	29.00	9.03	SLST	MDST	INTERBEDDED SILTSTONE, LIGHT GREY, AND MUDSTONE, DARK GREY; THIN BEDDED, WELL DEVELOPED; OCCASIONAL BROWN SILT BED (THIN); MINOR CALCITE FILLED FRACTURES; STICK CORE; NUMEROUS MICRO,-FAULTS-HEALED	85.0	NDAT	
29.00	43.30	14.30	SLST		MEDIUM GREY, MASSIVE BEDDING, OCCASIONAL CALCITE REPLACED SHELL FRAGMENTS; STICK CORE, BROKEN CORE AT 38.7 AND 41.8	82.0	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
(.5M SECTIONS)								
43.30	50.65	7.35	SS1		TAN TO LIGHT GREY, FINE GRAINED, MASSIVELY BEDDED, MINOR CARBONACEOUS THIN BEDS; JOINTS - CALCITE HEALED; BOTTOM .5M MORE CARBONACEOUS	80.0	NDAT	
50.65	78.02	27.37	SLST	MINOR SS1	DARK GREY, MASSIVE MONOTONOUS UNIT; MINOR SANDSTONE LENSES; JOINTS - CALCITE HEALED; 67.50-67.90 FINE GRAINED SANDSTONE; NO INDICATION OF THE HIGH GAMMA PEAK AT 77M	85.0	NDAT	
78.02	92.90	14.88	SS1	MDST/SLST	MEDIUM GREY, FINE GRAINED; MASSIVE BEDDED SECTIONS AND THIN BEDDED SECTIONS OF SANDSTONE AND DARK GREY MUDSTONE/SILTSTONE; STICK CORE	80.0	NDAT	
92.90	99.30	6.40	SLST	MDST	DARK GREY/LIGHT GREY, THIN BEDDED, WELL DEVELOPED; HIGHLY FRACTURED, MICRO FAULTING CURRENT (THROUGH A FEW MM); OCCASIONAL BROWN SILT LENSE	52.0	NDAT	
99.30	113.17	13.87	SS1	SLST	FINE GRAINED, THIN BEDDED WITH DARK GREY SILTY LAYERS, OCCASIONAL MORE MASSIVE BEDDED SANDSTONE SECTIONS; FREQUENT WAVY CARBONACEOUS WISPS; SOME CALCITE HEALED JOINTS	79.0	NDAT	

		CORE DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
113.17	125.03	11.86	SLST		DARK GREY, MASSIVE, BEDDING NOT WELL DEVELOPED, STICK, CALCITE FILLED FRACTURES	78.0	NDAT		
125.03	136.85	11.82	SLST	MDST/SS1	INTERBEDDED MEDIUM GREY SILTSTONE, DARK GREY MUDSTONE, LIGHT GREY SANDSTONE; BROKEN STICK; CALCITE FILLED FRACTURES	73.0	NDAT		
136.85	137.35	.50	SHALE	COALY	CRUMBLY	NDAT	NDAT		
137.35	138.25	.90	MUDSTDNE	SLST	POORLY BEDDED, CRUMBLY	NDAT	NDAT		
138.25	139.30	1.05	SHALE	COALY		NDAT	NDAT		
139.30	140.20	.90	SLST		DARK GREY, BROKEN STICK	NDAT	NDAT		
140.20	142.20	2.00	SS1	SS2	LIGHT GREY, FINE TO MEDIUM GRAIN, STICK	70.0	NDAT		
142.20	143.90	1.70	SLST		DARK GREY, MASSIVE STICK	NDAT	NDAT		
143.90	169.80	25.90	VOLCANICS		RED ALTERED, GREEN ALTERED, LIGHT GREY AT BOTTOM; CALCITE FILLED FRACTURES, PROPHYRITIC, BROKEN STICK TO STICK	NDAT	NDAT		
169.80	-1.00	-1.00	UNKNOWN		TOTAL DEPTH AT 169.80	NDAT	NDAT		

CORE DESCRIPTION

HOLE ID TW82D-214
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820305
 LOG DATE 820300
 EXAMINED BY L.PETRAS

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	9.76	9.76	OVERBURDEN			NDAT	NDAT	
9.76	20.41	10.65	SS1	VERY FINE GRAIN	MEDIUM GREY, MASSIVE, OCCASIONAL CALCITE FILLED FRACTURE	80.0	NDAT	
20.41	64.44	44.03	SLST	SS1	DARK GREY INTERBEDDED WITH FINE GRAIN SANDSTONE BANDS. LIGHT GREY WHICH RANGE FROM 1CM TO 10CM IN THICKNESS. AVERAGE 1CM SMALL SANDSTONE CLASTS ARE VISIBLE. ENTIRE UNIT HAS OCCASIONAL CALCITE FILLED FRACTURES WITH SLICKENSIDES PRESENT AT 47.5M TO 47.9M	85.0	NDAT	
64.44	76.13	11.69	SLST		LIGHT BROWN, FEW CALCITE FILLED FRACTURES, SILTSTONE IS VERY BRITTLE	80.0	NDAT	
76.13	86.52	10.39	SLST		DARK BROWN, ALSO VERY BRITTLE. ABUNDANCE OF CALCITE FILLED FRACTURES. ALMOST HAS THE APPEARANCE OF VOLCANIC INTRUSION, BUT IS DEFINITELY SEDIMENTARY	60.0	NDAT	
86.52	87.51	.99	SS1		FINE GRAIN, LIGHT GREY, MASSIVE, HARDNESS R3	75.0	NDAT	

		CORE DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
87.51	92.50	4.88	SLST		LIGHT GREY, VERY BRITTLE, HARDNESS R1	NDAT	NDAT		
92.50	92.75	.25	SS1		FINE GRAIN, LIGHT GREY, MAJOR CALCITE FILLED FRACTURES	NDAT	NDAT		
92.75	95.31	2.56	SS1		LIGHT GREY, FINE GRAIN, MASSIVE	NDAT	NDAT		
95.31	103.36	8.05	SLST		DARK GREY, VERY BRITTLE, UNIT IS HOMOGENOUS	NDAT	NDAT		
103.36	103.78	.42	SS1		FINE GRAIN, LIGHT GREY, CALCITE FILLED FRACTURES	NDAT	NDAT		
103.78	108.90	5.12	SLST		DARK GREY, VERY BRITTLE; FIRST 1.5M OF UNIT IS BROKEN	NDAT	NDAT		
108.90	109.04	.14	SS1		FINE GRAIN, LIGHT GREY, BEDDING AT END OF UNIT IS DISTINCT 80 DEGREES	NDAT	NDAT		
109.04	123.40	14.36	SLST		DARK GREY, HOMOGENOUS, VERY BRITTLE	NDAT	NDAT		
123.40	124.37	.97	SS1	VERY FINE GRAIN	LIGHT GREY	NDAT	NDAT		
124.37	134.23	9.86	SLST		DARK GREY, VERY BRITTLE, SLICKENSIDED FROM 128M TO 128.7M. FEW CALCITE FILLED FRACTURES THROUGHOUT UNIT	NDAT	NDAT		
134.23	135.26	1.03	SS1	SLST	FINE GRAIN, LIGHT GREEN. FEW SILTSTONE BANDS AND CARBONACEOUS THREADS PRESENT	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
135.26	135.60	.34	SS2		MEDIUM GRAIN, LIGHT GREY, MASSIVE STICK. CARBONACEOUS CLASTS AND CALCITE FILLED FRACTURES	NDAT	NDAT	
135.60	138.10	2.50	SS1	SLST	FINE GRAIN, SALT AND PEPPER, INTERBEDDED WITH VERY THIN BEDS SILTSTONE	70.0	NDAT	
138.10	138.50	.40	COAL		138.10-138.23 CARBONACEOUS SHALE (MAJOR CARBONACEOUS); 138.23-138.35 COAL DULL AND HARD; - RECOVERY 63% - NO SAMPLE TAKEN	NDAT	NDAT	
138.50	149.10	10.60	SLST	SS1	SALT AND PEPPER, INTERBEDDED WITH THIN BEDS FINE GRAIN SANDSTONE, SLICKENSIDED FROM 146.5 TO 148.0	85.0	NDAT	
149.10	155.10	6.00	SLST	SS1	INTERBEDDED WITH FINE GRAIN SANDSTONE. ONLY A FEW SANDSTONE BANDS, NOT AS MANY AS ABOVE	NDAT	NDAT	
155.10	160.68	5.58	SLST		DARK GREY, VERY BRITTLE, HOMOGENOUS UNIT	NDAT	NDAT	
160.68	164.67	3.99	SS1	VERY FINE GRAIN	DARK GREEN, MAJOR PYRITE BANDS AND CLASTS THROUGHOUT UNIT, BRITTLE, HARDNESS R1	NDAT	NDAT	
164.67	169.77	5.10	SS1	SLST	FINE GRAIN, SALT AND PEPPER, INTERBEDDED WITH THIN BANDS SILTSTONE. MINOR CARBONACEOUS THREADS AND TRACES	75.0	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					OF PYRITE THROUGHOUT UNIT				
169.77	170.60	.83	SLST		DARK GREY, CARBONACEOUS THREADS THROUGHOUT AND OCCASIONAL PYRITE BANDS	NDAT	NDAT		
170.60	171.38	.78	COAL		HARD AND DULL; - RECOVERY 80% - NO SAMPLE TAKEN	NDAT	NDAT		
171.38	175.80	4.42	SS1	SLST	FINE GRAIN, SALT AND PEPPER, INTERBEDDED WITH VERY THIN BANDS SILTSTONE. CALCITE FILLED FRACTURES, COALY THREADS, SANDSTONE CLASTS AND TRACES OF PYRITE	65.0	NDAT		
175.80	178.57	2.77	SLST	SS1	DARK GREY, INTERBEDDED WITH THIN BANDS SANDSTONE. MAJOR TRACES PYRITE THROUGHOUT. ONLY A FEW CALCITE FILLED FRACTURES	NDAT	NDAT		
178.57	179.40	.83	COAL		VERY HARD AND DULL. FEW CALCITE FILLED FRACTURES AT BEGINNING AND END OF UNIT. COAL IS DIRTY AT 179.0 TO 179.05 - RECOVERY 86%	NDAT	NDAT		51
179.40	181.27	1.87	SLST		LIGHT GREY, WEATHERED, CRUMBLY (R1)	NDAT	NDAT		
181.27	181.64	.37	SS1		FINE GRAIN, LIGHT GREY, NUMEROUS CALCITE FILLED FRACTURES	NDAT	NDAT		
181.64	182.36	.72	SLST		DARK GREY, HOMOGENOUS BRITTLE	NDAT	NDAT		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
182.36	182.56	.20	SS1		FINE GRAIN, LIGHT GREY, THINLY BEDDED	85.0	NDAT	
182.56	183.58	1.02	SLST		AS ABOVE	NDAT	NDAT	
183.58	184.65	1.07	SLST	SS1	DARK GREY, INTERBEDDED WITH FINE GRAIN SANDSTONE. SANDSTONE HAS COAL LENSES AND CALCITE FILLED FRACTURES	NDAT	NDAT	
184.65	185.15	.50	COAL	DIRTY	HARD, DULL AND MUDDY IN PLACES; PYRITE BANDS AND CALCITE FILLED FRACTURES, GENERALLY POOR QUALITY AND MINIMAL QUANTITY WHICH DOES NOT WARRANT SAMPLING - RECOVERY 42%	NDAT	NDAT	
185.15	186.22	1.07	SS1	FOSSILIFEROUS	VERY FINE GRAIN, LIGHT GREY, DIRTY, FOSSILIFEROUS - I.E. CARBONACEOUS THREADS	NDAT	NDAT	
186.22	188.28	2.06	SLST	CARB. MNR COAL	DARK GREY, MAJOR CARBONACEOUS, COAL LENSES AND STRINGERS WHICH HAVE CALCITE FILLED FRACTURES	NDAT	NDAT	
188.28	190.76	2.48	COAL		188.28-189.24 DULL VERY SHALEY; 189.24-189.47 HARD DULL; 189.47-189.51 VERY FINE GRAIN SANDSTONE SPLIT; 189.51-189.84 HARD FAIRLY SHINY; 189.84-189.88 HARD DULL, MAJOR CALCITE	NDAT	NDAT 8	52

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					FILLED FRACTURES; - RECOVERY 52%			
190.76	194.30	3.54	SS1	SLST	FINE GRAIN, INTERBEDDED WITH THIN BANDS SILTSTONE, FOLDING VISIBLE AT MIDDLE OF UNIT. SLICKENSIDED FOR LAST .5M	NDAT	NDAT	
194.30	198.89	4.59	SLST	SS1	DARK GREY, MINOR CARBONACEOUS. INTERBEDDED WITH OCCASIONAL THIN BAND FINE GRAIN SANDSTONE. A FEW CALCITE FILLED FRACTURES	75.0	AVG	
198.89	205.31	6.42	SS2	SLST	MEDIUM GRAIN, LIGHT GREY WITH GREENISH TINGE, SALT AND PEPPER, INTERBEDDED WITH THIN BANDS SILTSTONE. CARBONACEOUS LENSES AND THREADS THROUGHOUT	NDAT	NDAT	
205.31	214.95	9.64	SLST	SS	DARK GREY, INTERBEDDED WITH SANDSTONE. SALT AND PEPPER. SANDSTONE CLASTS AND OCCASIONAL CALCITE FILLED FRACTURES	70.0	NDAT	
214.95	215.84	.89	SS1	SLST'	FINE GRAIN, OCCASIONAL THIN BED OF SILTSTONE, CALCITE FILLED FRACTURES AT END OF UNIT	85.0	NDAT	
215.84	216.45	.61	SLST		DARK GREY, THINLY BEDDED	80.0	NDAT	
216.45	217.05	.60	COAL		216.45-216.7 SHALEY;	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					216.7-216.85 HARD, DULL; NOT SAMPLED - RECOVERY 63%			
217.05	224.50	7.45	SLST	SS1	DARK GREY, MINOR CARBONACEOUS, INTERBEDDED WITH FINE GRAIN SANDSTONE	65.0	NDAT	
224.50	228.40	3.90	COAL		224.5-224.6 SHALEY; 224.6-225.20 VERY HARD, DULL; 225.20-225.25 HARD, DULL, PYRITIC BAND; 225.25-226.55 HARD, DULL, SHALEY FOR FIRST 5CM; 226.55-226.6 HARD DULL, PYRITIC BAND; 226.6-227.30 HARD, DULL, TRACE CALCITE; - RECOVERY 76%	75.0	NDAT 6	53
228.40	229.09	.69	SLST	CARBONACE- OUS	MAJOR CARBONACEOUS	NDAT	NDAT	
229.09	229.93	.84	SS1	V.F.G.; SL CARB	DARK GREY, MINOR CARBONACEOUS	NOAT	NDAT	
229.93	233.38	3.45	SLST	SL CARB	MINOR CARBONACEOUS, DARK GREY, FEW COAL STRINGERS THROUGHOUT UNIT	NDAT	NDAT	
233.38	233.78	.40	SHALE	CARBONACE- OUS	BLACK, MAJOR CARBONACEOUS, CALCITE FILLED FRACTURES AT END OF UNIT	NDAT	NDAT	
233.78	236.52	2.74	SLST	SS1; SL CARB	DARK GREY, MINOR CARBONACEOUS, INTERBEDDED WITH OCCASIONAL THIN BAND FINE GRAIN SANDSTONE. ABUNDANCE OF	65.0	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					CALCITE, SLICKENSIDED FOR LAST .5 METRE OF UNIT				
236.52	241.25	4.73	COAL		236.52-237.4 VERY HARD AND DULL; 237.4-237.9 VERY HARD, MAJOR CALCITE FILLED FRACTURES, ABUNDANCE OF PYRITE; 237.9-238.3 HARD, FAIRLY SHINY, VITRAIN STRINGERS; 238.3-2- 40.1 HARD, MAINLY DULL, OCCASIONAL VITRAIN STRINGER AND CALCITE FILLED FRACTURE; - RECOVERY 80%	70.0	NDAT 4+5	54	
241.25	244.88	3.63	SLST	CARB, FOSSILIFE- ROUS	DARK GREY, MAJOR CARBONACEOUS, FOSSILIFEROUS	85.0	NDAT		
244.88	245.68	.80	COAL		244.9-245.3 DULL AND HARD, CALCITE FILLED FRACTURES, - RECOVERY 80%	85.0	NDAT 3	55	
245.68	246.74	1.06	SLST		LIGHT GREY, EXTREMELY FRACTURED, MAJOR CALCITE DEPOSITS	NDAT	NDAT		
246.74	249.18	2.44	COAL		246.74-247.0 VERY SHALEY, SLICKENSIDED; 247.0-247.9 HARD, DULL, MUDDY; 247.9-248.25 SHALE, MAJOR CARBONACEOUS; 248.25-248.70 VERY HARD, DULL, NUMEROUS CALCITE FILLED FRACTURES; - RECOVERY 82%	NDAT	NDAT 2	56	
249.18	253.75	4.57	SLST		DARK GREY, THINLY	NDAT	NDAT		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
BEDDED								
253.75	255.82	2.07	SS1		FINE GRAIN, LIGHT GREY, MASSIVE CALCITE FILLED FRACTURES	NDAT	NDAT	
255.82	269.53	13.71	SS1		LIGHT GREENISH GREY, MEDIUM GRAIN, INTERBEDDED WITH SILTSTONE. NUMEROUS CALCITE FILLED FRACTURES AND FAULT ZONES	80.0	NDAT	
269.53	284.80	15.27	SS1	V.F.G. FAULTED	VERY FINE GRAIN, MASSIVE. ABUNDANCE CALCITE FILLED FRACTURES. FAULTED IN MIDDLE OF SEQUENCE	NDAT	NDAT	
284.80	288.70	3.90	SS2	SS1, MNR COAL	MEDIUM GRAINED, LIGHT GREENISH GREY. FINE GRAINED SANDSTONE CLASTS AND COAL LENSES	NDAT	NDAT	
288.70	303.30	14.60	SLST		DARK GREY, HOMOGENOUS. NUMEROUS CALCITE FILLED FRACTURES	NDAT	NDAT	
303.30	-1.00	-1.00	UNKNOWN		TOTAL DEPTH AT 303.3	NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TW82D-215
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820308
 LOG DATE 820300
 EXAMINED BY D.HANDY

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	5.60	5.60	OVERBURDEN			NDAT	NDAT	
5.60	20.50	14.90	SS1	SLST/MDST FOSSILS	MEDIUM GREY, FINE GRAINED; SILTSTONE/MUDSTONE INTERBEDS, BROKEN STICK. OCCASIONAL CARBONACEOUS FRAGMENTS; 19.00-19.20 FOSSILIFEROUS ZONE. CURVED SHELL FRAGMENTS, CALCITE REPLACED	71.0	NDAT	
20.50	22.40	1.90	SS1		MEDIUM GREY, FINE GRAINED, FAIRLY CLEAN, MASSIVE	69.0	NDAT	
22.40	40.95	18.55	SS1	MDST	MEDIUM GREY, FINE GRAINED, INTERBEDDED WITH DARK GREY MUDSTONE BEDS (VERY THIN LESS THAN 1CM); OCCASIONAL SILTY ZONE; STICK TO BROKEN STICK. 37.44-40.95 SANDSTONE AS ABOVE, FAIRLY CLEAN	74.0	NDAT	
40.95	43.90	2.95	SS1	MDST	INTERBEDDED MEDIUM GREY, FINE GRAIN SANDSTONE AND DARK GREY THIN MUDSTONE; STICK	79.0	NDAT	
43.90	53.00	9.10	SS1	MDST	AS ABOVE (22.40-40.95)	73.0	NDAT	
53.00	57.80	4.80	SS1	CARBONACE-	DARK GREY, THIN	76.0	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
				OUS	BEDDED, STICK; COALY STRINGERS TOWARD BOTTOM OF THE UNIT			
57.80	59.30	1.50	SS1	FOSSILIFE- ROUS	HIGHLY FOSSILIZED ZONE, SHELL FRAGMENTS, CALCITE REPLACED; MEDIUM GRAIN SANDSTONE, CARBONACEOUS	NDAT	NDAT	
59.30	66.10	6.80	SS1	MDST/SLST	MEDIUM GREY, FINE GRAINED, INTERBEDDED MUDSTONE/SILTSTONE AS ABOVE	73.0	NDAT	
66.10	68.22	2.12	SLST	CARBONACE- OUS	POORLY BEDDED, DARK GREY, STICK	NDAT	NDAT	
68.22	79.84	11.62	SS1	MDST/SLST	MEDIUM GREY, FINE GRAINED, INTERBEDDED MUDSTONE/SILTSTONE AS ABOVE	76.0	NDAT	
79.84	80.82	.98	COAL		BRIGHT AND DULL, HARD, STICK TO BROKEN STICK	NDAT	NDAT	25
80.82	91.79	10.97	MUDSTONE	CARB/COALY	DARK GREY TO BLACK, SOME THIN BEDDED SECTIONS (WITH INTERBEDS OF SILTSTONE); SEVERAL COALY STRINGERS. 84.70-84.95 COALY SHALE STRINGER; 86.44-86- .70 COALY SHALE STRINGER; 87.50-87.88 COALY SHALE STRINGER	82.0	NDAT	
91.79	97.90	6.11	SS1	MDST/SLST	MEDIUM TO LIGHT GREY, FINE GRAINED SANDSTONE WITH THIN INTERBEDS OF CARBONACEOUS MATERIAL, MUDSTONE AND SILTSTONE;	78.0	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					STICK CORE; OCCASIONAL COALIFIED PLANT DEBRIS OCCASIONAL MICRO-FAULT			
97.90	103.80	5.90	SS2		LIGHT GREY TO DIRTY WHITE, MEDIUM GRAINED, MASSIVE, HARD; LONG STICK (UP TO 1.0M); OCCASIONAL COALY VEINLET; 103.44 - COALY STRINGER (.05M)	67.0	NDAT	
103.80	109.22	5.42	SS	CARBONACE- OUS	DARK GREY, OVERALL POORLY BEDDED; OCCASIONAL SANDSTONE BED, COALY STRINGER	NDAT	NDAT	
109.22	110.70	1.48	SS2	SS3	MEDIUM TO COARSE GRAINED, COALIFIED PLANT DEBRIS; GRADED BEDDING	63.0	NDAT	
110.70	112.47	1.77	SLST	CARBONACE- OUS	AS ABOVE, MINOR COALY SECTION NEAR TOP OF UNIT	NDAT	NDAT	
112.47	114.30	1.83	SS2	SS3	DIRTY WHITE TO LIGHT GREY, MEDIUM TO COARSE GRAINED; MINOR COALY DEBRIS, MASSIVE, STICK	NDAT	NDAT	
114.30	142.84	28.54	SLST	MDST; MNR SS3	DARK AND LIGHT GREY INTERBEDDED SILTSTONE AND MUDSTONE; OCCASIONAL BED OF SANDSTONE; BROKEN STICK. 112.50-123.06 SANDSTONE, COARSE GRAIN, COALY FRAGMENTS	60.0	NDAT	
142.84	144.47	1.63	SS		MEDIUM GREY, MASSIVE. STICK	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
144.47	146.54	2.07	SLST	SS3, MNR COAL	DARK GREY SILTSTONE WITH INTERBEDDED COALY STRINGERS. COARSE SAND	NDAT	NDAT	
146.54	148.08	1.54	SLST		MEDIUM GREY, HOMOGENOUS, POORLY BEDDED	NDAT	NDAT	
148.08	148.84	.76	SS3		LIGHT GREY, COARSE GRAIN, MINDR COALY STRINGERS, PLANT DEBRIS; STICK	70.0	NDAT	
148.84	149.94	1.10	MUDSTONE		DARK GREY, MASSIVE	NDAT	NDAT	
149.94	152.28	2.34	SS3		AS ABOVE	55.0	NDAT	
152.28	156.70	4.42	SS3	MDST	INTERBEDDED SANDSTONE AS ABOVE AND MUDSTONE AS ABOVE	NDAT	NDAT	
156.70	157.20	.50	SLST	CARBONACE- OUS	BLACK, COALY IN PLACES; BROKEN STICK	NDAT	NDAT	
157.20	166.42	9.22	SLST	FAULT GOUGE IP	MEDIUM GREY, POORLY BEDDED, MASSIVE UNIT; FRACTURES CALCITE HEALED; SEVERAL FAULT GOUGES	NDAT	NDAT	
166.42	167.52	1.10	SS4		MULTI COLORED - PREDDMINANTLY LIGHT GREEN, TAN, OCCASIONAL RED PEBBLES; UP TO 4CM SIZED PEBBLES; ROUNDED WELL TO SUB-ANGULAR, SOME ANGULAR FRAGMENTS	NDAT	NDAT	
167.52	169.00	1.48	SS2	SS3, MNR SS4	MEDIUM TO COARSE GRAIN, MINOR CONGLOMERATE LENSES	45.0	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
169.00	170.40	1.40	SS2	SS4	INTERBEDDED SANDSTONE AS ABOVE, CONGLOMERATE AS ABOVE	NDAT	NDAT	
170.40	183.40	13.00	SLST		DARK GREY, MASSIVE, POORLY BEDDED, OCCASIONAL SANDY BED	NDAT	NDAT	
183.40	184.80	1.40	SS4	SS2	CONGLOMERATE, AS ABOVE INTERBEDDED	50.0	NDAT	
184.80	185.80	1.00	SS4	SS2	AS ABOVE	NDAT	NDAT	
185.80	187.50	1.70	SLST	SS2	DARK GREY, MASSIVE, MINOR CONGLOMERATE PEBBLES IN PLACES, GRADES INTO SANDSTONE UNIT BELOW	NDAT	NDAT	
187.50	190.00	2.50	SS2	SS3	MEDIUM TO COARSE GRAIN, GRADED BEDDING; MINOR PLANT DEBRIS (COALIFIED); GRADES INTO CONGLOMERATE BELOW	49.0	NDAT	
190.00	199.60	9.60	SS4		MULTI COLORED AS ABOVE, PEBBLES TO COBBLE SIZED CLASTS; ROUNDED TO SUB-ANGULAR; MINOR CARBONACEOUS STRINGERS, SHARP CONTACT WITH IGNEOUS BELOW	NDAT	NDAT	
199.60	209.40	9.80	VOLCANICS		DARK RED TO MAROON, WEATHERED HAZELTON VOLCANICS; SOME GREEN COLORED ALTERATION, SLIGHTLY PORPHYRITIC; STICK	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					TO BROKEN STICK; CALCITE JOINT SURFACES			
209.40	-1.00	-1.00	UNKNOWN		TOTAL DEPTH AT 209.40	NDAT	NDAT	

CORE DESCRIPTION

HOLE.ID TW82D-216
 PROJECT TELKWA
 AREA SMITHERS
 DRIL.DATE 820308
 LOG.DATE 820300
 EXAMINED.BY D.HANDY

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	15.90	15.90	OVERBURDEN			NDAT	NDAT	
15.90	19.91	4.01	MUDSTONE		DARK GREY TO CHARCOAL, VERY FRIABLE, FRACTURED, CONTAINS OCCASIONAL TINY COALY VEINS. NOT WELL LAMINATED, OCCASIONAL SILTY LENSES	70.0	NDAT	
19.91	21.05	1.14	COAL		BROKEN STICK, MAINLY DULL WITH VITRAIN BANDS, VERY HARD, HANGING WALL SLIGHTLY SHALEY	NDAT	NDAT 7	08
21.05	21.64	.59	SHALE	CARBONACE- OUS	BROKEN STICK, NOT FISSILE	80.0	NDAT	
21.64	25.55	3.91	COAL		21.64-22.80 CLEAN STICK COAL, HANGING WALL SLIGHTLY SHALEY (FIRST 10CM), DULL AND BRIGHT; 22.80-23.20 SHALEY COAL SPLIT - DISTINCT SDUR GAS SMELL; 23.20-23.78 COAL - CLEAN, STICK, HARD; 23.78-23.88 COAL WITH 2MM DIAMETER SPHERULITIC - EXTREMELY HARD (PYRITE?); 23.88-24.35 COAL CLEAN; 24.35-24.76 COAL - SHALEY,	75.0	NDAT 6	09

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MJN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					STICK; 24.76-25.55 COAL WITH COALY SHALES. STICK 3CM WITH VERTICAL CALCITE STRINGERS AT FOOTWALL; - RECOVERY 96%			
25.55	27.66	2.11	MUDSTONE		DARK GREY, FRIABLE, SOME SECTIONS ARE FISSILE	70.0	NDAT	
27.66	29.50	1.84	COAL		STICK, HARD; HANGWALL - SHALEY COAL (TOP 20CM); REST OF SEAM - DULL WITH BRIGHT - NUMEROUS VERTICAL CALCITE FILLED STRINGERS - RECOVERY 77%	NDAT	NDAT 5	10
29.50	34.91	5.41	SS1	SLST	TAN AND GREY BANDED, THINLY LAMINATED, WELL DEVELOPED, FRACTURES EASILY ALONG BEDDING PLANES, HIGHLY FRACTURED, SANDSTONE FINE GRAINED, OCCASIONAL CARBONACEOUS LENSES, PLANT FRAGMENTS	80.0	NDAT	
34.91	35.82	.91	COAL	FAULTED	DULL POWDER, ONE 8CM STICK - RECOVERY 57% - APPEARS TO BE FAULTED SEVERELY	NDAT	NDAT	
35.82	36.12	.30	SHALE	CARB/COAL- Y; FAULTED	CARBONACEOUS, CRUMBLY, SLICKENSIDED, FAULT ZONE; 35.90-36.20 COALY SHALES, MINOR PYRITE	80.0	NDAT	
36.12	37.18	1.06	COAL		STICK, HARD, DULL, SHALEY AT HANGING	NDAT	NDAT 4	11

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					WALL; BOTTOM 13CM MANY VERTICAL CALCITE STRINGERS			
37.18	37.40	.22	SHALE	CARBONACE- OUS	FRIABLE, CHARCOAL COLORED; OCCASIONAL CDALY STRINGER	NDAT	NDAT	
37.40	41.30	3.90	MUDSTONE		DARK GREY, MASSIVE, POORLY BEDDED, VERY FRIABLE, OCCASIONAL COALY LENSE	NDAT	NDAT	
41.30	44.80	3.50	MUDSTONE	SLST	INTERBEDDED MUDSTONE (AS ABOVE) AND SILTSTONE, OCCASIONAL FINE GRAIN SANDSTONE BED; BEDDING WELL DEVELOPED. FRACTURES PARALLEL BEDDING PLACES, SLICKENSIDES AT 44.80	74.0	NDAT	
44.80	48.17	3.37	SLST	CARBONACE- OUS	GRADATIDNAL CONTACT WITH ABOVE UNIT. DARK GREY SILTSTONE WITH CARBONACEOUS LENSES, PLANT FRAGMENTS AND COAL STRINGERS. 47.2-47.5 COAL STRINGER, CALCITE STRINGERS EVIDENT	80.0	NDAT	
48.17	52.13	3.96	COAL		48.17-49.30 COAL, SHALEY AT HANGWALL BECOMING CLEANER TOWARD FOOTWALL (BRIGHT AND DULL); 49.61-49.85 CARBONACEOUS MUDSTONE SPLIT; 49.85-51.80 COAL, CLEAN, HARD STICK, MINOR CALCITE VEINLETS, MINOR SILT LENSE;	78.0	NDAT 2+3	12

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					- RECOVERY 96%			
52.13	60.57	8.44	SLST	MDST, SS1	INTERBEDDED LIGHT GREY TO BUFF SILTSTONE WITH DARK GREY MUDSTONE, OCCASIONAL FINE GRAIN SANDSTONE INTERBEDS IN THE UPPER PART OF THE UNIT BEDDING WELL DEVELOPED, SMALL FRACTURES DISPLACE BEDDING BY A FEW MM AND ARE REHEALED, OFTEN CALCITE FILLED	79.0	NDAT	
60.57	79.96	19.39	SLST		DARK GREY, MASSIVE, STICK; NOT WELL BEDDED, FRIABLE; OCCASIONAL COALIFIED PLANT FRAGMENT	83.0	NDAT	
79.96	83.80	3.84	SS1	SLST	FINE GRAINED, STICK; THIN BEDS OF SILTSTONE OCCASIONAL, GREYISH GREEN IN COLOR	77.0	NDAT	
83.80	136.00	52.20	SS		MEDIUM GREY, STICK, NOT HIGHLY JOINTED; VERY MONOTONOUS UNIT, OCCASIONAL SANDY LENSE, CALCITE FILLED FRACTURES, COALIFIED PLANT DEBRIS	85.0	NDAT	
136.00	137.50	1.50	SS1	SLST	LIGHT GREY, FINE GRAINED, WAVY BEDDING, THIN SILT LENSES INTERBEDDED	80.0	NDAT	
137.50	-1.00	-1.00	UNKNOWN		TOTAL DEPTH 137.50	NDAT	NDAT	

CORE		DESCRIPTION						
HOLE ID	TW82D-217							
PROJECT	TELKWA							
AREA	SMITHERS							
DRIL DATE	820310							
LOG DATE	820300							
EXAMINED BY	L.PETRAS							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	9.80	9.80	OVERBURDEN			NDAT	NDAT	
9.80	11.80	2.00	SS2		MEDIUM GRAIN, LIGHT GREEN, WEATHERED, CARBONACEOUS CLASTS AND THREADS; R4	NDAT	NDAT	
11.80	20.14	8.34	SS1		FINE GRAIN, LIGHT GREY, MASSIVE; R3; TRACE OF PYRITE	NDAT	NDAT	
20.14	21.70	1.56	SLST		DARK GREY, VERY BRITTLE; R1	NDAT	NDAT	
21.70	62.70	41.00	SLST	SS1	DARK GREY, INTERBEDDED WITH FINE GRAIN SANDSTONE; SANDSTONE BEDS RANGE FROM 1-10CM IN THICKNESS. CALCITE FILLED FRACTURES AND TRACES OF PYRITE THROUGHOUT UNIT; R2	90.0	NDAT	
62.70	68.70	6.00	SS1	SLST	FINE GRAIN, INTERBEDDED WITH THIN BANDS SILTSTONE, R3; MINOR CARBONACEOUS LENSES AND THREADS, TRACE PYRITE	70.0	NDAT	
68.70	69.58	.88	SS2		MEDIUM GRAIN, LIGHT GREY, R4; COALY LENSES AND CARBONACEOUS THREADS	85.0	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
69.58	77.59	8.01	SS1		FINE GRAIN, CARBONACEOUS THREADS AND OOD CALCITE FILLED FRACTURE, R3; TRACE PYRITE	75.0	NDAT	
77.59	78.28	.69	SS3		COARSE GRAIN, LIGHT GREY, MASSIVE, R4	NDAT	NDAT	
78.28	83.10	4.82	SS2		MEDIUM GRAIN, LIGHT GREY; TRACES OF CARBONACEOUS AND PYRITE	NDAT	NDAT	
83.10	84.40	1.30	SS1		FINE GRAIN, CARBONACEOUS STRINGERS TOWARDS END OF UNIT	NDAT	NDAT	
84.40	-1.00	-1.00	UNKNOWN		TOTAL DEPTH 84.4	NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TW82D-218
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820311
 LDG DATE 820300
 EXAMINED BY D.HANDY

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	21.10	21.10	OVERBURDEN			NDAT	NDAT	
21.10	25.76	4.66	MUDSTONE	SLST, SS1	MEDIUM GREY, MUDSTONE WITH OCCASIONAL INTERBEDDED SILTSTONE AND NARROW MEDIUM GREY SANDSTONE BEDS (10-15CM IN WIDTH); SANDSTONE INTERBEDS, SALT AND PEPPER WITH COALIFIED PLANT DEBRIS; UNIT WELL BEDDED, STICK CORE	79.0	NDAT	
25.76	25.96	.20	COAL	SHALEY	STRINGER	NDAT	NDAT	
25.96	35.15	9.19	MUDSTONE	SLST; FAULT GOUGE IP	MEDIUM GREY, THIN BEDDED, SILTY INTERBEDS; STICK CORE; 33.80-35.20 FAULT GOUGE	78.0	NDAT	
35.15	35.72	.57	COAL	SHALEY	SHALEY, STICK - RECOVERY 95%	NDAT	NDAT 6	15
35.72	45.94	10.22	MUDSTONE	FAULTED	MEDIUM GREY; TOP .5M WELL BEDDED, REMAINDER BEDDING POORLY DEVELOPED; OCCASIONAL COALIFIED PLANT DEBRIS; 36.35-36.65 SILTSTONE, MASSIVE, HARD, FRACTURED, CALCITE FILLED; 39.25- FAULT GOUGE;	82.0	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					39.25-39.90 SILTSTONE AS ABOVE; 39.90- FAULT GOUGE; 44.50- FAULT GOUGE; HANGWALL OF COAL SEAM BELOW, FAULT GOUGE			
45.94	46.84	.90	COAL	LOST CORE	RECOVERY 0%	NDAT	NDAT	
46.84	46.95	.11	SHALE	CARBONACE- OUS	LOST CORE	NDAT	NDAT	
46.95	48.37	1.42	COAL		FIRST .16M COAL WITH ROUND SPHERULITIC INCLUSIONS (NODULES), BROWN COLORED, IDENTICAL TO THAT DESCRIBED IN HOLE TW 216 - RECOVERY 74%, REMAINDER DULL WITH BRIGHT, BROKEN STICK, CLEAN	NDAT	NDAT 5	16
48.37	49.56	1.19	MUDSTONE	CARBONACE- OUS	MEDIUM TO DARK GREY, VERY THIN BEDDED, CARBONACEOUS	83.0	NDAT	
49.56	50.08	.52	COAL		BRIGHT AND DULL, STICK - RECOVERY 80%	NDAT	NDAT	17
50.08	52.82	2.74	MUDSTONE	SL CARB	MEDIUM GREY, MASSIVE, POORLY BEDDED; CARBONACEOUS AT HANGING WALL OF COAL SEAM DESCRIBED BELOW; OCCASIONAL CARBONACEOUS OR COALY STRINGER	NDAT	NDAT	
52.82	54.56	1.74	COAL		BRIGHT AND DULL, HARD, STICK, CLEAN; MINOR	NDAT	NDAT 4	18

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					VERTICAL CALCITE VEINLETS NEAR FOOTWALL - RECOVERY 80%			
54.56	54.92	.36	MUDSTONE	FAULTED	AS ABOVE, BOTTOM FAULT GOUGE	NDAT	NDAT	
54.92	56.40	1.48	SLST	FAULTED	TAN TO BUFF, POORLY BEDDED, STICK; 56.40 - 15CM OF FAULT GOUGE	NDAT	NDAT	
56.40	57.20	.80	SS1	MDST, SLST	GREYISH GREEN TO LIGHT GREY, FINE GRAINED, THICK BEDDED; OCCASIONAL MUDSTONE, SILTSTONE BEDS (< 1CM)	80.0	NDAT	
57.20	57.50	.30	SLST		AS ABOVE	NDAT	NDAT	
57.50	59.93	2.43	SS1	MDST, SLST	INTERBEDDED WITH MUDSTONE/SILTSTON- E; SANDSTONE BEDS FINE GRAINED, GREYISH, GREEN AS ABOVE. THIN INTERBEDDED DARK GREY MUDSTONE 59.7 - CARBONACEOUS/COALY LENSE (7.5CM THICK)	NDAT	NDAT	
59.93	61.32	1.39	COAL		DULL WITH BRIGHT, CLEAN, HARD, STICK; MINOR CALCITE VEINLETS; 3CM PYRITE LENSE IN IMMEDIATE HANGING WALL; - RECOVERY 95% PLUS; 60.83-61.32 COALY SHALE - COAL	NDAT	NDAT 3	19
61.32	62.08	.76	MUDSTONE		LIGHT GREY/CHARCOAL BANDED, THIN	83.0	NDAT	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					BEDDED; 2CM PYRITE BLEBS IN IMMEDIATE HANGING WALL OF COAL SEAM BELOW				
62.08	62.66	.58	COAL		DULL WITH BRIGHT, STICK, HARD, OCCASIONAL PYRITE BLEBS 2MMX1CM; OCCASIONAL CALCITE VEINLETS (VERTICAL/LATTICE-D) - RECOVERY 95% PLUS	NDAT	NDAT 3	20	
62.66	64.70	2.04	MUDSTONE	CARBONACEOUS	DARK GREY TO CHARCOAL, POORLY BEDDED; OCCASIONAL COALY STRINGER, LARGE (2X2CM) PYRITE BLEB	NDAT	NDAT		
64.70	69.50	4.80	MUDSTONE	SS1, SLST	INTERBEDDED, STICK, THIN BEDS 0-4CM; DARK GREY MUDSTONE; LIGHT GREY FINE GRAIN SANDSTONE; BROWN SILTSTONE	75.0	NDAT		
69.50	72.48	2.98	MUDSTONE		DARK GREY, STICK; POORLY BEDDED; OCCASIONAL CARBONACEOUS SECTION, COALY STRINGER	NDAT	NDAT		
72.48	76.01	3.53	COAL		BRIGHT AND DULL, HARD, STICK, FAIRLY CLEAN, CALCITE LATTICES TOWARD FOOTWALL - RECOVERY 100%	82.0	NDAT 2	21	
76.01	87.00	10.99	MUDSTONE	SLST	INTERBEDDED, STICK; THIN BEDS WELL DEVELOPED; ALTERNATING DARK GREY MUDSTONE, LIGHT GREY TO BROWN SILTSTONE	82.0	NDAT		
87.00	102.70	15.70	MUDSTONE		MEDIUM GREY, MASSIVE, POOR	85.0	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
102.70	-1.00	-1.00	UNKNOWN		TOTAL DEPTH 102.70	NDAT	NDAT	
					BEDDING, STICK, MONOTONOUS			

CORE DESCRIPTION

HOLE.ID TW82D-219
 PROJECT TELKWA
 AREA SMITHERS
 DRIL.DATE 820712
 LOG.DATE 820700
 EXAMINED.BY R.KOSTIUK

TDP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	30.90	30.90	OVERBURDEN			NDAT	NDAT	
30.90	75.25	44.35	MUDSTONE	SILTY	MEDIUM TO DARK GREY, MASSIVE, BROKEN STICK INTERVALS, HIGHLY FRACTURED TO FRIABLE, CALCITE FILLED FRACTURES, OCCASIONAL TINY COAL VEINLETS AND PYRITE, OCCASIONAL VERY HARD LIGHT BROWN MUDSTONE INTERVALS WITH CALCITE FILLED FRACTURES AT 70.9, 72.15, 72.39M	NDAT	NDAT	
75.25	77.52	2.27	SLST	SHALY	MEDIUM GREY, MASSIVE, MINOR SHALE LAMINATIONS, BROKEN STICK	NDAT	NDAT	
77.52	83.38	5.86	MUDSTONE	SILTY	MEDIUM TO DARK GREY, MASSIVE, BROKEN STICK, HIGHLY FRACTURED INTERVALS BECOMING MORE SILTY TOWARDS BASE, OCCASIONAL DARK GREY WAVY LAMINAE	NDAT	NDAT	
83.38	87.00	3.62	SLST	SHALY	MEDIUM GREY, MASSIVE, BROKEN STICK, FRACTURED, FRIABLE, VERY HARD LIGHT BROWN MUDSTONE INTERVAL WITH CALCITE FILLED FRACTURE AND SHELL FRAGMENTS AT	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					84.7M, OCCASIONAL TINY CALCITE VEINLETS			
87.00	98.60	11.60	MUDSTONE	SILTY	MEDIUM TO DARK GREY, MASSIVE, BROKEN STICK, FRACTURED, LOWER 3.5M LESS SILTY AND HIGHLY FRACTURED AND FRIABLE, MINOR COAL WISPS AND VEINLETS, MINOR PYRITE	NDAT	NDAT	
98.60	99.22	.62	SS1		GREY, MASSIVE, BROKEN STICK, UPPER .15M CALCITE INFILL FRACTURE, OCCASIONAL SHALE LAMINAE, FRACTURED AND SLICKENSIDED, .05M MUDSTONE LENSE AT 99.02	NDAT	NDAT	
99.22	99.70	.48	LOST.CORE		SUSPECT MUDSTONE	NDAT	NDAT	
99.70	101.03	1.33	MUDSTONE	SILTY	MEDIUM GREY, MASSIVE, HIGHLY FRACTURED AND FRIABLE	NDAT	NDAT	
101.03	102.12	1.09	SS1		FINE TO MEDIUM GRAINED, MEDIUM GREY, MASSIVE, BROKEN STICK, CALCITE INFILL FRACTURE AT 101.23M, TINY CALCITE VEINLETS THROUGHOUT	NDAT	NDAT	
102.12	115.47	13.35	MUDSTONE	SILTY	MEDIUM TO DARK GREY, MASSIVE WITH SILTY INTERVALS, MODERATELY HARD, BROKEN STICK WITH CALCITE INFILLED VEINS, FRACTURED THROUGHOUT, LOWER 3M HIGHLY	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					FRACTURED, MODERATELY HARD TO FRIABLE, OCCASIONAL LIGHT BROWN TO GREY, VERY HARD MUDSTONE INTERVALS, HIGHLY FRACTURED WITH ABUNDANT CALCITE INFILLED VEINS @103.7 (.30M), @105.5 (.10M), @106.30 (.20M FOSSIL SHELL FRAGMENTS), @106.55 (.20M), @113.39 (.05M), OCCASIONAL COAL WISPS, MORE SILTY TOWARDS BASE			
115.47	118.61	3.14	MUDSTONE	SILTY	MEDIUM GREY, SLIGHTLY CARBONACEOUS WITH SILTY INTERVALS, POORLY BEDDED, BROKEN, FRACTURED, SLICKENSIDED, OCCASIONAL LIGHT BROWN VERY HARD MUDSTONE LAYERS WITH ABUNDANT CALCITE VEINS, @115.93 (.10M THICK), @116.81 (.50M THICK)	NDAT	NDAT	
118.61	118.86	.25	SHALE	CARBONACE- OUS	DARK GREY, FISSILE, SLICKENSIDED, POLISHED (RECOVERED .11M)	NDAT	NDAT	
118.86	119.12	.26	COAL	SHALY	DULL WITH BRIGHT BANDS, HARD, BROKEN STICK, SLICKENSIDED, HANGWALL AND FOOTWALL SEPARATED VISUALLY AND MECHANICALLY POOR, (RECOVERY 85%)	NDAT	NDAT 5	20

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
119.12	119.48	.36	SHALE	COALY	HARD, FISSILE. BROKEN STICK, HIGHLY FRACTURED (LOWER .09M LIGHT BROWN MUDSTONE, SOFT, FRACTURED)	NDAT	NDAT	
119.48	119.60	.12	COAL		MAINLY DULL WITH BRIGHT BANDS, STICK, CALCITE VEINLETS, SEPARATION WITH ROOF GOOD, SEPARATION WITH FLOOR, POOR (RECOVERY 100%)	NDAT	NDAT	
119.60	120.16	.56	SHALE	CARBONACE- OUS	DARK GREY, MODERATELY HARD, FISSILE IN PLACES, BROKEN STICK, FRACTURED, SLICKENSIDED, POLISHED	NDAT	NDAT	
120.16	120.76	.60	COAL		DULL WITH BRIGHT BANDS, MODERATELY HARD, BROKEN, FRACTURED, SHALEY IN PLACES, SEPARATION WITH FLOOR, POOR. SEPARATION WITH ROOF ?, (RECOVERY 43%)	NDAT	NDAT 5	21
120.76	122.24	1.48	MUDSTONE	CARBONACE- OUS	DARK GREY, MASSIVE, BROKEN STICK, HIGHLY FRACTURED, SLICKENSIDED AND POLISHED, MINOR CALCITE (LOWER .30M MORE CARBONACEOUS AND DISTURBED)	NDAT	NDAT	
122.24	123.43	1.19	MUDSTONE	SILTY	GREY TO MEDIUM GREY, SLIGHTLY CARBONACEOUS WITH SILTY INTERVALS. POORLY BEDDED, FISSILE, PLATEY,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					FRIABLE, FRACTURED, SLICKENSIDED AND POLISHED, OCCASIONAL LIGHT BROWN, VERY HARD MUDSTONE CLASTS WITH CALCITE VEINLETS			
123.43	124.46	1.03	COAL		MAINLY DULL WITH BRIGHT BANDS, BROKEN STICK, FRACTURED TO POWDERY, SHEARED, POLISHED, SEPARATION WITH ROOF, FAIR, SEPARATION WITH FLOOR ?, (RECOVERY 93%)	NDAT	NDAT 4	22
124.46	125.77	1.31	SS1	SILTY/LIT- HIC	LIGHT GREY, VERY FINE GRAINED, MODERATELY HARD, THINLY BEDDED, WELL DEVELOPED, INTERBEDDED WITH SILTSTONE AND MUDSTONE, LIGHT BROWN, VERY HARD MUDSTONE INTERVAL AT 125.16M (.15M THICK) WITH CALCITE VEINS, WAVY/DISTORTED LAMINAE	NDAT	NDAT	
125.77	134.08	8.31	SLST	SANDY	LIGHT TO MEDIUM GREY, WITH VERY FINE GRAINED SANDSTONE AND MUDSTONE INTERBEDS, VERY THIN TO THINLY BEDDED, WELL DEVELOPED, SOME CROSS-BEDDING AND DISTORTED BEDDING OCCUR, OCCASIONAL CALCITE FILLED FRACTURE AND VEINS, OCCASIONAL VERY HARD MUDSTONE	75.0	127.2	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					LENSES, MINOR COARSE GRAINED SANDSTONE LAYERS				
134.08	139.39	5.31	SS1		GREY TO MEDIUM GREY, MODERATELY HARD, DIRTY, THIN BUT WELL DEVELOPED BEDDING, INTERBEDDED WITH SILTSTONE AND MUDSTONE, OCCASIONAL THIN CARBONACEOUS LAMINAE, BROKEN STICK, FRACTURED, BREAKS EASILY ALONG BEDDING PLANE, OCCASIONAL LIGHT BROWN VERY HARD MUDSTONE LENSES AND CLASTS, OCCASIONAL CALCITE VEINS	78.0	134.9		
139.39	139.85	.46	COAL		INTERBANDED WITH BRIGHT AND DULL BANDS, HARD, BROKEN, PYRITE, (RECOVERY 80%), SEPARATION WITH ROOF AND FLOOR - GOOD	86.0	139.4	3	23
139.85	141.39	1.54	MUDSTONE	SILTY	MEDIUM GREY, MASSIVE, SLIGHTLY CARBONACEOUS, UPPER HALF SILTY DECREASING TOWARDS BASE, BROKEN STICK, HIGHLY FRACTURED, COAL WISPS	NDAT	NDAT		
141.39	142.42	1.03	COAL	CLEAN	DULL AND BRIGHT, HARD, BROKEN STICK, CUBIC FRACTURE, CALCITE WISPS THROUGHOUT, PYRITE LOWER .30M (RECOVERY 100%), SEPARATION WITH ROOF VISUAL AND PHYSICAL-EXCELLEN-	NDAT	NDAT	3	24

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					T, SEPARATION WITH FLOOR VISUAL AND PHYSICAL-GOOD			
142.42	144.15	1.73	MUDSTONE		MEDIUM TO DARK GREY, MASSIVE, MODERATELY HARD TO FRIABLE, BROKEN STICK, HIGHLY FRACTURED, LOWER 40CM SLIGHTLY CARBONACEOUS, 14CM FROM TOP 2CM THICK COAL LAYER	NDAT	NDAT	
144.15	144.32	.17	COAL		MAINLY DULL WITH BRIGHT BANDS, HARD, STICK, MINOR CALCITE ALONG FRACTURES, SEPARATION WITH ROOF VISUAL AND PHYSICAL-EXCELLENT, SEPARATION WITH FLOOR VISUAL AND PHYSICAL-GOOD, CORE BEDDING ANGLE AND DEPTH WITH FLOOR IS 77 AND 144.32	74.0	144.2	
144.32	144.55	.23	MUDSTONE	CARBONACEOUS	MEDIUM GREY, MASSIVE, MODERATELY HARD TO FRIABLE, STICK; FRACTURED, PLANT FOSSIL FRAGMENTS THROUGHOUT, TOP 6CM VERY CARBONACEOUS	77.0	144.4	
144.55	144.92	.37	COAL	CLEAN	MAINLY DULL WITH BRIGHT BANDS, VERY HARD, STICK TO BROKEN STICK, CALCITE WISPS THROUGHOUT, CONCHOIDAL AND CUBIC FRACTURE (RECOVERY 100%) SEPARATION WITH ROOF VISUAL AND PHYSICAL-EXCELLENT, SEPARATION WITH	77.0	144.6	25

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					FLOOR VISUAL AND PHYSICAL-EXCELLENT, CORE BEDDING ANGLE AND DEPTH WITH FLOOR IS 78 AND 144.92			
144.92	146.58	1.66	MUDSTONE	CARBONACEOUS	LIGHT TO MEDIUM GREY, THINLY BEDDED, POORLY DEVELOPED, MODERATELY HARD TO FRIABLE, BROKEN STICK, HIGHLY FRACTURED, BREAKS ALONG BEDDING, LIGHT BROWN VERY HARD MUDSTONE INTERVALS 80CM FROM TOP, 25CM THICK, CALCITE INFILLED FRACTURES, ABUNDANT CARBONACEOUS LAMINAE THROUGHOUT	78.0	146.4	
146.58	148.46	1.88	MUDSTONE	CARBONACEOUS	MEDIUM TO DARK GREY, MASSIVE, BROKEN STICK, TOP 8CM GREEN SANDSTONE, SOFT, SHALE LAMINAE; PLANT FOSSIL THROUGHOUT; LOWER HALF VERY CARBONACEOUS TO COALY	NDAT	NDAT	
148.46	148.64	.18	COAL	DIRTY	DULL AND BRIGHT INTERBANDED, VERY HARD, STICK, CALCITE WISPS THROUGHOUT; SEPARATION WITH ROOF, VISUAL - FAIR, PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL - FAIR, PHYSICAL - FAIR	72.0	148.6	
148.64	148.78	.14	SHALE	COALY	DARK GREY, VERY HARD, MASSIVE,	NOAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SOLID STICK			
148.78	149.11	.33	COAL		DULL WITH BRIGHT BANDS, HARD. BROKEN STICK, CUBIC FRACTURE, CALCITE WISPS ALONG CLEAT, - RECOVERY 100% - SEPARATION WITH ROOF, VISUAL - FAIR, PHYSICAL - POOR; SEPARATION WITH FLOOR, VISUAL - FAIR, PHYSICAL - POOR	77.0	148.8	26
149.11	151.15	2.04	MUDSTONE	CARBONACEOUS	DARK GREY, THINLY LAMINATED THROUGHOUT, POORLY DEVELOPED, BROKEN STICK, HIGHLY FRACTURED UPPER HALF, LOWER HALF MORE CARBONACEOUS, PLANT FOSSIL AND PYRITE THROUGHOUT - RECOVERED 96%	NDAT	NDAT	
151.15	152.10	.95	COAL		(RECOVERED 50CM) DULL AND BRIGHT BANDED, HARD, BROKEN, CUBIC AND CONCHOIDAL FRACTURE, CALCITE AND PYRITE THROUGHOUT - RECOVERY 53%; SEPARATION WITH ROOF, VISUAL - POOR, PHYSICAL - POOR; SEPARATION WITH FLOOR, VISUAL - FAIR, PHYSICAL - FAIR	76.0	151.6 2	27
152.10	152.57	.47	MUDSTONE	CARBONACEOUS	DARK GREY, VERY THINLY LAMINATED, HARD, FISSILE IN PLACE, PLANT FOSSIL AND PYRITE THROUGHOUT	NDAT	NDAT	
152.57	153.68	1.11	COAL	CLEAN	RECOVERED 1.11M,	78.0	153.5 2	28

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					HARD, BLOCKY, BRITTLE BRIGHT AND DULL INTERBANDS, CUBIC FRACTURE, CALCITE WISPS THROUGHOUT. TOP 25CM HIGHER ASH CONTENT, BROKEN STICK - RECOVERY 100%; SEPARATION WITH ROOF, VISUAL - FAIR, PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL - FAIR, PHYSICAL - FAIR			
153.68	154.82	1.14	MUDSTONE	CARBONACE- OUS	RECOVERED 1.10; MEDIUM GREY, MODERATELY HARD TO FRIABLE, BROKEN STICK, FRACTURES EASILY, VERY THIN WAVY LAMINAE, PLANT FOSSIL THROUGHOUT. LOWER .20M VERY CARBONACEOUS TO COALY	NDAT	NDAT	
154.82	155.34	.52	COAL	CLEAN	RECOVERED .45; MAINLY DULL WITH SOME BRIGHT BANDS, BLOCKY, BRITTLE, MINOR PYRITE, CUBIC FRACTURE - RECOVERY 87%; SEPARATION WITH ROOF, VISUAL - FAIR, PHYSICAL - GOOD; SEPARATION WITH FLOOR, VISUAL - ?, PHYSICAL - ?	NDAT	NDAT 2	29
155.34	156.00	.66	LOST CORE		SUSPECT MUDSTONE, SLIGHTLY CARBONACEOUS/SILTY	NDAT	NDAT	
156.00	164.00	8.00	MUDSTONE	SILTY	GREY TO DARK GREY, MODERATELY HARD, MUDSTONE AND SILTSTONE INTERBEDDED, THINLY LAMINATED	80.0	160.5	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					TO THIN BEDDING, BROKEN STICK; OCCASIONAL CONVOLUTED BEDDING; OCCASIONAL LIGHT BROWN VERY HARD MUDSTONE LAYERS RANGING FROM 0.02M TO 0.15M THICK, FRACTURED WITH CALCITE VEINLETS, SLIGHTLY CALCAREOUS			
164.00	170.46	6.46	MUDSTONE		RECOVERED 6.11; DARK GREY, MODERATELY HARD, MASSIVE, FAIR TO GOOD STICK, OCCASIONAL LIGHT BROWN VERY HARD MUDSTONE LAYERS AS ABOVE; 0.03M THICK CALCITE VEIN AT 166.80 TO LOWER 0.76M BECOMING HIGHLY FRACTURED (RECOVERY 96%)	NDAT	NDAT	
170.46	185.53	15.07	SLST	LITHIC	MEDIUM GREY, MODERATELY HARD TO FRIABLE, MASSIVE, STICK, POOR TO FAIR CONSOLIDATED, UPPER HALF HIGHLY FRACTURED; OCCASIONAL CALCITE VEINLETS; TOP 0.20M VERY HARD WELL CONSOLIDATED; CLAYEY INTERVALS, PLANT FOSSILS THROUGHOUT; OCCASIONAL COAL VEINLETS; FOSSIL SHELL FRAGMENTS AT 180.09 (0.15 THICK) AND 180.44 (0.22 THICK) OCCASIONAL PYRITE	NDAT	NDAT	
185.53	185.90	.37	SS1	SILTY,LIT- HIC	KHAKI-GREY, MASSIVE,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					MODERATELY HARD TO FRIABLE, BROKEN STICK			
185.90	186.18	.28	SLST	CALCAREOUS	LIGHT GREY, VERY HARD, MASSIVE, CALCITE CEMENTING, SHELL FOSSIL REPLACED WITH CALCITE, BROWN	NDAT	NDAT	
186.18	186.46	.28	SS1	SILTY,LIT-HIC	KHAKI-GREY, MASSIVE, MODERATELY HARD TO FRIABLE, STICK TO BROKEN STICK	NDAT	NDAT	
186.46	186.97	.51	SS1	CALCAREOUS	LIGHT GREY, VERY HARD, MASSIVE, GOOD STICK, CALCITE CEMENT, WELL CONSOLIDATED, PYRITE, MICA	NDAT	NDAT	
186.97	193.80	6.83	SLST	MDST	MEDIUM GREY, MASSIVE, MODERATELY HARD TO FRIABLE, STICK TO BROKEN STICK, FRACTURED, IRONSTONE IN PLACE; OCCASIONAL LIGHT BROWN VERY HARD MUDSTONE LENS, CALCAREOUS AND CALCITE VEINLETS; OCCASIONAL COAL WISPS; FOSSIL SHELL FRAGMENTS IN TOP 45CM; COAL 2CM THICK 1.63M FROM TOP	NDAT	NDAT	
193.80	229.80	36.00	SLST	MDST	MEDIUM TO DARK GREY, MASSIVE, FRIABLE TO MODERATELY HARD, FAIR STICK, MUDSTONE INTERVALS; OCCASIONAL COAL WISPS AND CALCITE VEINS; PLANT	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					FOSSILS; OCCASIONAL VERY HARD MUDSTONE/SILTSTONE LENSE FRACTURED, CALCITE VEINLETS; MINOR PYRITE AND SHELL FRAGMENTS, VERY HARD CALCAREOUS (IRONSTONE CONCRETIONS) MUDSTONE INTERVALS AT 207.63 (.28M THICK), 209.11 (.19M THICK), 210.05 (.30M THICK), 219.57 (.30M THICK); LOWER 2M MORE CLAYEY			
229.80	233.00	3.20	SS1	MDST	KHAKI TO GREY, MASSIVE, VERY HARD; FAIR STICK CORE, WAVY MUDSTONE LAMINATIONS, SLIGHTLY CALCAREOUS, OCCASIONAL CALCITE CEMENTED SILTSTONE LENSE WITH CALCITE VEINLETS (IRONSTONE CONCRETIONS?)	NDAT	NDAT	
233.00	234.76	1.76	MUDSTONE	SLST	DARK GREY, MODERATELY HARD, BROKEN STICK, THINLY LAMINATED, POORLY DEVELOPED, CONVOLUTED, CARBONACEOUS, LOWER .5M BECOMING MORE SILTY TOWARDS BASE; TOP 10CM FOSSIL SHELL FRAGMENTS	NDAT	NDAT	
234.76	237.59	2.83	SS1	SLST,MDST	KHAKI-GREY, VERY FINE GRAIN TO FINE GRAIN, MASSIVE, HARD, FAIR TO GOOD	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					STICK, WELL CONSOLIDATED CALCITE VEIN AT 236.83 AND 237.17M. SHELL FOSSIL AT 235.26. OCCASIONAL IRONSTONE CONCRETIONS			
237.59	239.60	2.01	MUDSTONE	SLST	DARK GREY, THINLY LAMINATED, INTERBEDDED WITH SILTSTONE AND VERY FINE GRAINED SANDSTONE, SLIGHTLY CARBONACEOUS; COALY DEBRIS AND PLANT FOSSILS THROUGHOUT	NDAT	NDAT	
239.60	245.00	5.40	SLST	SS,MDST	DARK GREY, MASSIVE, HARD, SANDSTONE AND MUDSTONE INTERBEDS, BROKEN STICK TO STICK, FRACTURED UPPER HALF; IRONSTONE CONCRETION AT 240.80 (20CM THICK), CALCITE VEINLETS AT 242.7 (5CM THICK) AND CALCITE VEIN AT 243.25 (5CM THICK)	NDAT	NDAT	
245.00	258.20	13.20	SS1	SLST,MDST	LIGHT TO DARK GREY, VERY FINE GRAIN TO FINE GRAIN, HARD, MASSIVE, GOOD TO EXCELLENT STICK, CONVOLUTED CLAYEY LAMINAE THROUGHOUT; SEDIMENTARY CLASTS THROUGHOUT, CALCITE IN PLACE, SHELL FOSSIL AT 246.20M, 248.20 (20CM THICK) AND DENSE FOSSIL BED	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					AT 250.44 (30CM THICK)			
258.20	260.17	1.97	SLST	SS,MDST	LIGHT TO DARK GREY, HARD, INTERBEDDED WITH SANDSTONE AND MUDSTONE, FAIR STICK, CONVOLUTED BEDDING, CALCITE VEINLETS THROUGHOUT	NDAT	NDAT	
260.17	275.50	15.33	SS1	MDST,SLST	LIGHT TO DARK GREY; HARD TO VERY HARD, INTERBEDDED WITH SILTSTONE AND MUDSTONE LAMINAE. THINLY LAMINATED TO MASSIVE BEDDING; GOOD STICK CORE, SLIGHT CALCAREOUS PLANT FOSSIL, IRONSTONE CLASTS AND INTERVALS, BROWN VERY HARD, CALCAREOUS THROUGHOUT, OCCASIONAL CALCITE VEINS	NDAT	NDAT	
275.50	277.19	1.69	COAL	CLEAN	RECOVERED 1.69M, BRIGHT WITH DULL BANDS, HARD, BROKEN STICK, CUBIC AND CONCHOIDAL FRACTURE, CALCITE WISP IN LOWER 0.15M - RECOVERY 100%; BLOCKY, BRITTLE; SEPARATION WITH ROOF, VISUAL - EXCELLENT, PHYSICAL - EXCELLENT; SEPARATION WITH FLOOR, VISUAL - POOR, PHYSICAL - POOR	NDAT	NDAT 1	30
277.19	279.68	2.49	SHALE	COALY/CARB	RECOVERED 2.49M,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					DARK BROWN TO BLACK, HARD, MASSIVE, FAIR STICK, COALY BANDS, CALCITE WISPS THROUGHOUT, CALCITE VEIN 50CM FROM TOP, CDALY DEBRIS AND PLANT FOSSILS THROUGHOUT, PYRITE - RECOVERY 100%			
279.68	279.76	.08	COAL		RECOVERED 0.08M, HARD, BRIGHT, BROKEN, FRACTURED, SLICKENSIDED, CALCITE ALONG FRACTURE - RECOVERY 100%; SEPARATION WITH ROOF, VISUAL - POOR, PHYSICAL - POOR; SEPARATION WITH FLOOR, VISUAL - POOR, PHYSICAL - POOR	NDAT	NDAT	
279.76	280.27	.51	SHALE	CARB	RECOVERED .38M, DARK BROWN TO BLACK, HARD, MASSIVE, FRACTURED, SLICKENSIDED ALONG FRACTURE, MINOR CALCITE - RECOVERY 75% - SUSPECT LOST CORE TO BE SAME, 3CM PYRITE BAND AT BASE	NDAT	NDAT	
280.27	281.18	.91	COAL	CLEAN	RECOVERED 0.60M, DULL WITH BRIGHT BANDS, HARD, BRITTLE, BROKEN STICK - RECOVERY 66%; SEPARATION WITH ROOF, VISUAL - POOR, PHYSICAL - POOR; SEPARATION WITH FLOOR, VISUAL - ?, PHYSICAL - ?	NDAT	NDAT 1	31
281.18	281.30	.12	SHALE	COALY, PYR-	BLACK, HARD,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
				ITE	COALY, PYRITE BAND (0.04M THICK), WHITE BONE COAL			
281.30	282.07	.77	COAL	CLEAN	BRIGHT WITH DULL BANDS, HARD, BLOCKY, BRITTLE, CUBIC AND CONCHOIDAL FRACTURE, BROKEN STICK, MINOR CALCITE AND PYRITE - RECOVERY 100%; SEPARATION WITH ROOF, VISUAL - POOR, PHYSICAL - POOR; SEPARATION WITH FLOOR, VISUAL POOR, PHYSICAL - POOR	NDAT	NDAT 1	32
282.07	282.54	.47	SHALE	COALY	DARK BROWN TO BLACK, HARD, MASSIVE, FRACTURED, SLICKENSIDED, HIGHLY POLISHED, COALY	NDAT	NDAT	
282.54	282.78	.24	COAL		BRIGHT WITH DULL BANDS, HARD, BRITTLE, BROKEN, HIGHLY POLISHED ALONG BREAK, CONCHOIDAL FRACTURE - RECOVERY 100%; SEPARATION WITH ROOF, VISUAL - POOR, PHYSICAL - POOR; SEPARATION WITH FLOOR, VISUAL - GOOD, PHYSICAL - FAIR	NDAT	NDAT 1	33
282.78	283.49	.71	MUDSTONE		BROWN, VERY HARD, MASSIVE, GOOD STICK, PLANT FOSSILS THROUGHOUT	NDAT	NDAT	
283.49	284.34	.85	COAL	SHALEY	MAINLY BRIGHT WITH DULL BANDS, HARD, BRITTLE, BROKEN STICK, CUBIC AND	NDAT	NDAT 1	34

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					CONCHOIDAL FRACTURE, CALCITE ALONG FRACTURE, MINOR PYRITE, TOP 15CM HIGHER ASH UNIT, BOTTOM 25CM HIGHER ASH UNIT WITH CALCITE VEINLETS - RECOVERY 81%; SEPARATION WITH ROOF, VISUAL - FAIR, PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL - FAIR, PHYSICAL - POOR			
284.34	288.36	4.02	MUDSTONE	CARB	RECOVERED 3.45M, DARK GREY TO CHARCOAL, VERY HARD, MASSIVE, OCCASIONAL IRONSTONE LENSE AND COAL WISPS; VERY HARD BROWN MUDSTONE LENSE 1.10M FROM TOP, CALCITE IN PLACE, IRONSTONE; BOTTOM 30CM COALY - RECOVERY 86%	NDAT	NDAT	
288.36	288.52	.16	COAL	CLEAN	DULL WITH BRIGHT BANDS, HARD, BRITTLE, CONCHOIDAL FRACTURE, STICK, CALCITE VEINLETS - RECOVERY 100%; SEPARATION WITH ROOF, VISUAL - POOR, PHYSICAL - POOR; SEPARATION WITH FLOOR, VISUAL - POOR, PHYSICAL - POOR	NDAT	NDAT	
288.52	290.49	1.97	MUDSTONE	SLST	BROWN TO GREY, VERY HARD, MASSIVE, FAIR STICK, SILTY PLANT FOSSILS THROUGHOUT,	NDAT	NOAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SLIGHTLY CARBONACEOUS, BECOMING MORE SILTY TOWARDS BASE			
290.49	292.91	2.42	SS1	SLST,MDST	MEDIUM GREY, INTERBEDDED WITH SILTSTONE AND MUDSTONE. GOOD STICK. CALCITE INFILLED FRACTURES AT 90CM FROM TOP (ZONE 44CM THICK)	NDAT	NDAT	
292.91	294.08	1.17	SLST	MDST	MEDIUM GREY, HARD, MASSIVE, UPPER HALF GREATER THAN % CLAYEY	NDAT	NDAT	
294.08	295.05	.97	SS1	SS2	LIGHT GREY, HARD, MASSIVE, WELL CONSOLIDATED, CARBONACEOUS DEBRIS THROUGHOUT, MINOR CALCITE, OCCASIONAL SILTSTONE LAMINAE, WAVY, 0.02CM AT BASE COAL	NDAT	NDAT	
295.05	296.56	1.51	SS4	SS2,SS1	LIGHT GREY WITH VARICOLORED GRANULES. MASSIVE, FINING TOWARDS BASE, BOTTOM .6M MEDIUM GRAIN SANDSTONE, COALY DEBRIS THROUGHOUT	NDAT	NDAT	
296.56	297.51	.95	SLST	MDST	DARK GREY, HARD, MASSIVE, WELL CONSOLIDATED, BROKEN STICK, COALY PLANT DEBRIS, LOWER 12CM VERY HARD WITH CALCITE INFILLED FRACTURE	NDAT	NDAT	
297.51	298.55	1.04	MUDSTONE		DARK GREY, THINLY LAMINATED, POORLY DEVELOPED. BROKEN STICK, SLIGHTLY CARBONACEOUS	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
298.55	299.81	1.26	VOLCANICS	TUFF	BEIGE, VERY HARD, WELL CONSOLIDATED STICK, WELL CEMENTED, SANDY TOWARDS BASE	NDAT	NDAT	
299.81	301.91	2.10	MUDSTONE	SS1	MEDIUM GREY, VERY HARD, INTERBEDDED WITH FINE GRAIN SANDSTONE, WELL CONSOLIDATED, STICK	NDAT	NDAT	
301.91	302.88	.97	SS4	SS2,SS1	BEIGE TO BROWN, VERY HARD, GRANULE INTERBEDDED WITH MEDIUM AND FINE GRAINED SANDSTONE INTERVALS, COALY MATERIAL .5M FROM TOP	NDAT	NDAT	
302.88	303.42	.54	MUDSTONE	SS1,SLST	DARK GREY, MODERATELY HARD, MASSIVE, POORLY DEVELOPED, GRADES FROM FINE GRAINED SANDSTONE AT TOP TO SILTSTONE TO MUDSTONE TOWARDS BASE	NDAT	NDAT	
303.42	304.11	.69	SS4		BEIGE TO BRDWN, VERY HARD, MASSIVE, WELL CDNSOLIDATED, STICK, COALY DEBRIS	NDAT	NDAT	
304.11	305.85	1.74	SS2	SS1,SLST	BROWN TO GREY, VERY HARD, MASSIVE, WELL CONSOLIDATED, STICK, POORLY DEVELOPED, LOWER HALF INTERBEDDED WITH FINE GRAIN SANDSTONE AND SILTSTONE INTERVALS, WAVY CONTORTED SILTSTONE LAMINATIONS, COALY	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					DEBRIS			
305.85	307.40	1.55	SLST	SS1,MDST	GREY TO DARK GREY, MODERATELY HARD, INTERBEDDED WITH VERY FINE TO FINE GRAINED SANDSTONE AND MUDSTONE LAMINATIONS, PLANT AND COALY DEBRIS THROUGHOUT, MASSIVE, POORLY DEVELOPED	NDAT	NDAT	
307.40	308.03	.63	MUDSTONE		DARK GREY, MODERATELY HARD, SLIGHTLY SILTY, FAIR STICK, CALCITE INFILLED FRACTURE 8CM FROM TOP, PLANT FOSSIL	NDAT	NDAT	
308.03	308.83	.80	VOLCANICS	TUFF	BEIGE, VERY HARD, MASSIVE, COALY DEBRIS THROUGHOUT, EXCELLENT STICK	NDAT	NDAT	
308.83	315.40	6.57	MUDSTONE	SLST,SS1	DARK GREY TO CHARCOAL, MASSIVE, FAIR STICK, OCCASIONAL SILTY/SANDY INTERVAL; OCCASIONAL CALCITE VEIN, TOP 50CM SANDY; OCCASIONAL BENTONITE LAYER (LESS 0.03M THICK)	NDAT	NDAT	
315.40	316.18	.78	SS		BEIGE TO LIGHT GREY, VERY HARD, BROKEN STICK, CALCITE INFILLED FRACTURES THROUGHOUT, HIGHLY CONVOLUTED, WAVY SILTSTONE/MUDSTONE LAMINAE	NDAT	NDAT	
316.18	316.48	.30	VOLCANICS	TUFF	BEIGE, VERY HARD, MASSIVE, WELL CONSOLIDATED STICK	NDAT	NDAT	
316.48	317.28	.80	MUDSTONE		MEDIUM TO DARK	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					GREY, MASSIVE, HARD, SILTY, GREEN WEATHERING AT BASE			
317.28	319.28	2.00	VOLCANICS	TUFF	BROWN TO GREY, VERY HARD, MASSIVE, WELL CONSOLIDATED STICK	NDAT	NDAT	
319.28	320.65	1.37	SS1	SS3	BROWN TO GREY, VERY HARD, MASSIVE, WELL CONSOLIDATED, GOOD STICK, GRADING COARSER TOWARDS BASE, 29CM FROM BASE COARSE GRAINED SANDSTONE TO CONGLOMERATE (GRANULAR CONGLOMERATE)	NDAT	NDAT	
320.65	330.60	9.95	MUDSTONE	SLST, SS1	GREY, VERY HARD, MASSIVE, SILTSTONE AND FINE GRAIN SANDSTONE INTERBEDS, MORE SANDY TOWARDS BASE, MUDSTONE CARBONACEOUS IN PLACE, BROKEN STICK TO STICK	NDAT	NDAT	
330.60	331.92	1.32	SS2	SS1, SS3	LIGHT GREY, VERY HARD, WELL CONSOLIDATED, POORLY DEVELOPED, SLIGHT CALCAREOUS IN PLACE; 37CM FROM TOP COARSE SANDSTONE INTERVAL	NDAT	NDAT	
331.92	334.09	2.17	MUDSTONE	CARB	MEDIUM TO DARK GREY, MODERATELY HARD, MASSIVE, LOWER HALF HIGHLY BROKEN, SOFT, WEATHERED, CARBONACEOUS AND COALY MATERIAL THROUGHOUT	NDAT	NDAT	
334.09	334.45	.36	COAL	DIRTY	RECOVERED .18M, MAINLY DULL WITH	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BRIGHT BANDS, HARD, CONCHOIDAL FRACTURE - RECOVERY 50%; HIGH ASH UNIT; SEPARATION WITH ROOF, VISUAL - POOR, PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL - POOR, PHYSICAL - POOR			
334.45	340.68	6.23	MUDSTONE	COAL, SS2	MEDIUM TO DARK GREY, SOFT TO HARD, MASSIVE, COALY AND MEDIUM GRAINED SANDSTONE INTERVALS; TOP 2M COALY/CARBONACEOU- S, LOWER SECTION MEDIUM GRAINED SANDSTONE AND MUDSTONE INTERVALS BECOMING MORE SANDY TOWARDS BASE	NDAT	NDAT	
340.68	345.90	5.22	VOLCANICS		RECOVERED 3.77, RED TO GREEN, SDFT TO MODERATELY HARD, MASSIVE, WEATHERED, BROKEN STICK	NDAT	NDAT	
345.90	-1.00	-1.00	UNKNOWN		TOTAL DEPTH 345.9	NDAT	NDAT	

HOLE ID		CORE		DESCRIPTION					
PROJECT	TWB2D-220								
AREA	TELKWA								
DRIL DATE	SMITHERS								
LOG DATE	820715								
EXAMINED BY	820700								
	C.LANGILL								
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH	SEAM	SNUM
.00	26.41	26.41	OVERBURDEN			NDAT	NDAT		
26.41	29.31	2.90	MUDSTONE	SILTY	DARK GREY, MASSIVE, OCCASIONAL SILTY LENSE, BROKEN STICK UPPER 1.5M, REST IS HIGHLY FRACTURED TO FRIABLE	70.0	28.5		
29.31	33.00	3.69	VOLCANICS		DARK GREEN INTRUSIVE VOLCANIC SILL, WEATHERED, SOFT, FINE GRAINED, SHARP CONTACTS, OCCASIONAL INCLUSIONS, OCCASIONAL PYRITE BLEBS TO SPHERICALS	NDAT	NDAT		
33.00	33.46	.46	COAL		CLEAN HARD, DULL WITH BRIGHT, STICK TO BROKEN STICK, MINOR CALCITE VEINLETS AND ON CLEAT	NDAT	NDAT	10	01
33.46	33.50	.04	SULF		WAVY LENSES PYRITE, MINOR CALCITE	NDAT	NDAT	10	01
33.50	33.86	.36	COAL		DULL WITH BRIGHT, MINOR CALCITE AT THE TOP, TOTAL SEAM RECOVERY 87%	74.0	33.9	10	01
33.86	35.49	1.63	SS1		GREENISH-GREY WITH DARK GREY LAMINAE, THIN TO VERY THIN BEDDING, BROKEN STICK ALONG	73.0	35.7		

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
BEDDING PLANES									
35.49	36.45	.96	SS1		GREENISH-GREY AS ABOVE, THIN BEDDED, FEWER DARK GREY LAMINATIONS	NDAT	NDAT		
36.45	36.82	.37	SS1		LIGHT GREY WITH ABUNDANT DARK GREY THIN WAVY LAMINAE, BROKEN STICK, BREAKS ALONG BEDDING PLANES	74.0	36.8		
36.82	38.78	1.96	SS1		LIGHT GREY WITH OCCASIONAL DARK GREY SILTY LAMINAE, BROKEN STICK, BEDDING PLANE FRACTURES, BOTTOM 51CM IS MASSIVE STICK	70.0	38.1		
38.78	39.63	.85	SS1		LIGHT GREY WITH WAVY DARK GREY SILTY LAMINAE, MINOR CALCITE, BEDDING PLANE BREAKS, BROKEN STICK	72.0	39.3		
39.63	40.19	.56	SS1		AS ABOVE, FEWER SILTY LAMINAE	78.0	39.9		
40.19	42.35	2.16	SLST	SS1	DARK GREY WITH OCCASIONAL BANDS OF FINE GRAINED SANDSTONE, CARBONACEOUS PARTINGS ON BEDDING PLANES	75.0	40.8		
42.35	43.22	.87	COAL		HARD, BROKEN STICK, OCCASIONAL CALCITE, RARE PYRITE ON CLEATS, BRIGHT WITH DULL (COAL RECOVERY - 97.7%)	NDAT	NDAT 9	02	
43.22	44.45	1.23	MUDSTONE	SLST	MEDIUM GREY, VERY BROKEN STICK, LAMINAE OF DARK	NDAT	NDAT		

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH	SEAM	SNUM
					GREY, OCCASIONAL CARBONACEOUS PLANT FRAGMENTS				
44.45	45.30	.85	COAL		HARD, BROKEN STICK, DULL WITH BRIGHT, MINOR CALCITE ON CLEATS	NDAT	NDAT	8	03
45.30	45.32	.02	SLST	MDST	MEDIUM GREY, LAMINAE OF DARK GREY, CARBONACEOUS PARTINGS	78.0	45.2	8	03
45.32	46.24	.92	COAL		AS ABOVE	NDAT	NDAT	8	03
46.24	46.27	.03	MUDSTONE	SLST	DARK GREY, HARD	NDAT	NDAT		
46.27	46.69	.42	COAL		AS ABOVE, 44.45 - 46.69 (TOTAL RECOVERY FOR SEAM 91.3%)	NDAT	NDAT	8	03
46.69	48.50	1.81	SLST		LIGHT GREY WITH DARK GREY MUDSTONE LAMINAE IN MIDDLE, BROKEN STICK, BEDDING PLANE FRACTURES	74.0	48.2		
48.50	51.85	3.35	MUDSTONE	SLST	DARK GREY WITH ABUNDANT LIGHT GREY SILTY LAMINAE, BROKEN STICK, BEDDING PLANE FRACTURES, FINING DOWNWARDS, FEWER LAMINATIONS TOWARDS BOTTOM	76.0	49.9		
51.85	54.01	2.16	SLST	MDST	LIGHT GREY WITH OCCASIONAL DARK GREY LAMINAE. BROKEN STICK, CRUMBLER WHEN WEATHERED	NDAT	NDAT		
54.01	54.50	.49	SS2		LIGHT GREY WITH ABUNDANT SILTSTONE AND MUDSTONE	76.0	54.4		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					RIP-UP CLASTS, CARBONACEOUS LAMINAE			
54.50	55.39	.89	SLST	MDST/SS2	LIGHT GREY, BROKEN STICK, MINOR CALCITE ON FRACTURE SURFACES, MINOR CALCITE	NDAT	NDAT	
55.39	57.23	1.84	SLST	MDST/SS1	MEDIUM GREY WITH MUDSTONE AND SANDSTONE BANDS, BROKEN STICK, BEDDING PLANE FRACTURES	70.0	56.5	
57.23	59.15	1.92	SS2	SLST	LIGHT GREY SANDSTONE WITH BANDS OF SILTSTONE PLUS LAMINAE OF DARK GREY MUDSTONE	76.0	58.5	
59.15	60.49	1.34	MUDSTONE	SLST	DARK GREY WITH LAMINAE OF LIGHT GREY SILTSTONE AND OCCASIONAL BAND OF FINE GRAINED SANDSTONE, BROKEN STICK	73.0	59.7	
60.49	60.62	.13	COAL		HARD, BROKEN STICK, DULL WITH BRIGHT, CALCITE ON BROKEN SURFACES	NDAT	NDAT	
60.62	62.44	1.82	SS1	SLST	LIGHT GREY SANDSTONE WITH LAMINAE OF SILTSTONE, BROKEN STICK, BEDDING PLANE FRACTURES	79.0	61.0	
62.44	67.05	4.61	SLST	MDST	MEDIUM GREY WITH LAMINAE OF DARK GREY MUDSTONE, OCCASIONAL COAL AND CARBONACEOUS PARTINGS, BROKEN STICK, BEDDING PLANE FRACTURES, ONE 25CM THICK, INTERVAL OF FINE GRAINED SANDSTONE	74.0	65.3	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					2.48CM FROM TOP, FINING DOWNWARDS, FEW LAMINATIONS AT BOTTOM			
67.05	67.99	.94	COAL		HARD, STICK CORE, DULL WITH MINOR BRIGHT	NDAT	NDAT 7	04
67.99	68.03	.04	SLST	MDST	DARK GREY AND LIGHT GREY LAMINAE	NDAT	NDAT 7	04
68.03	68.34	.31	COAL		AS ABOVE (SEAM RECOVERY 93%)	NDAT	NDAT 7	04
68.34	70.08	1.74	SLST	MDST/SS1	MEDIUM GREY WITH LAMINAE OF DARK GREY MUDSTONE AND LIGHT GREY FINE GRAINED SANDSTONE, BROKEN STICK, BEDDING PLANE FRACTURES, MINOR CALCITE ON FRACTURES	75.0	68.6	
70.08	70.47	.39	SLST	MDST/FAULT	LAMINAE, BROKEN CORE, ABUNDANT SLICKENSIDES	NDAT	NDAT	
70.47	70.96	.49	SLST	MDST	MINOR MUDSTONE LAMINAE, BROKEN STICK	NDAT	NDAT	
70.96	71.40	.44	GOUGE	MDST/SLST	LIGHT GREY, CLAY-RICH, POWDERED, PASTY APPEARANCE, OCCASIONAL SLICKENSIDES	NDAT	NDAT	
71.40	71.86	.46	MUDSTONE		DARK GREY, MASSIVE, BROKEN CORE TO CRUMBLD, OCCASIONAL SLICKENSIDES AT BOTTOM	NDAT	NDAT	
71.86	72.04	.18	COAL		HARD, BROKEN STICK, DULL WITH BRIGHT (RECOVERY 83%)	NDAT	NDAT 6	05

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH	SEAM	SNUM
72.04	72.18	.14	MUDSTONE		DARK GREY, CRUMBLD CORE, SLICKENSIDES THROUGHOUT	NDAT	NDAT	6	05
72.18	74.19	2.01	COAL	MDST	VERY POOR RECOVERY, 14CM OF COAL IN BOX. THEREFORE 1.87M OF COAL AND MUDSTONE IS MISSING (RECOVERY 7%) RECOVERY FOR SAMPLE 05 = 18%	NDAT	NDAT	6	05
74.19	75.00	.81	SLST	MDST	MEDIUM GREY, ABUNDANT SLICKENSIDES, BROKEN CORE	NDAT	NDAT		
75.00	75.54	.54	COAL		HARD, BROKEN, DULL WITH BRIGHT (RECOVERY 52%)	NDAT	NDAT	6	06
75.54	75.60	.06	MUDSTONE	COAL	BRIGHT COAL, DARK GREY MUDSTONE, SLICKENSIDES	NDAT	NDAT		
75.60	81.94	6.34	SLST	SS1	SLICKENSIDES, MEDIUM GREY SILTSTONE, LAMINAE OF LIGHT GREEN-GREY FINE GRAINED SANDSTONE, CALCITE ON FRACTURES, CONVOLUTED AND FAULTED LAMINAE, PROBABLY SOFT SEDIMENT DEFORMATION, 6CM GOUGE ZONES AT 78.82, BROKEN CORE	58.0	79.9		
81.94	82.14	.20	MUDSTONE	GOUGE/SLST	DARK GREY MUDSTONE AND SILTSTONE, ABUNDANT SLICKENSIDES, PARTLY GOUGE	NDAT	NDAT		
82.14	83.95	1.81	COAL		HARD, BRDKEN STICK, DULL WITH BRIGHT, RARE	NDAT	NDAT	5	07

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					PYRITE ON FRACTURE SURFACE, BROKEN STICK (SEAM RECOVERY .32/1.81 = 18%)				
83.95	85.29	1.34	MUDSTONE	COAL	DARK GREY MUDSTONE, BROKEN STICK. CRUMBLLED IN TOP 29CM, MASSIVE	NDAT	NDAT		
85.29	85.62	.33	COAL		HARD, BROKEN STICK, DULL WITH BRIGHT (RECOVERY .25/.33 = 76%)	NDAT	NOAT 4	08	
85.62	85.71	.09	MUDSTONE	COAL	BLACK, VERY CARBONACEOUS, COAL FRAGMENTS, STICK	NDAT	NDAT 4	08	
85.71	86.30	.59	COAL		HARD, DULL WITH BRIGHT, BROKEN STICK, BROKEN IN MIDDLE (RECOVERY .50/.61 = 82%), TOTAL SEAM 9 RECOVERY = 82%	NDAT	NDAT 4	08	
86.30	87.12	.82	MUDSTONE	SILTY	DARK GREY, BROKEN CORE AT TOP, STICK AT BOTTOM, VAGUE LAMINAE, ABUNDANT CARBONACEOUS PLANT FRAGMENTS, FRACTURES ON BEDDING	79.0	87.0		
87.12	93.58	6.46	SLST	SS1	MEDIUM GREY SILTSTONE WITH WAVY LAMINAE OF LIGHT GREY FINE GRAINED SANDSTONE, CALCITE VEINLETS, CROSS-LAMINATION, STICK CORE, CRUMBLLED AT 36-42CM, 180-190, MASSIVE, DARK GREY SILTSTONE AT 2.97-3.71	77.0	91.6		
93.58	93.95	.37	SLST	MDST	MEDIUM GREY, CRUMBLLED CORE, MINOR	NDAT	NDAT		

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					SLICKENSIDES, CALCITE VEINS UP TO 3MM WIDE IN HARD LIGHT BROWN-GREY SILTSTONE BAND AT BOTTOM				
93.95	100.42	6.47	SLST		MEDIUM GREY, CRUMBLD TO BROKEN, HARD, MASSIVE, OCCASIONAL BANDS OF LIGHT BROWN-GREY, HARD, DENSE SILTSTONE, CALCITE FILLED FOSSIL BIVALVES AND THICK CALCITE VEINS AT 4.04-4.12, 4.55-4.70	NDAT	NDAT		
100.42	101.71	1.29	SLST	MDST	MEDIUM GREY, MASSIVE, CRUMBLD TO VERY BROKEN, VERY SOFT AND SOAPY TEXTURE IN TOP PART	NDAT	NDAT		
101.71	113.68	11.97	SLST		MEDIUM GREY, MASSIVE, HARD, STICK CORE WITH OCCASIONAL BREAKS, CRUMBLD AT 45-67CM, ZONES OF HEAVY CALCITE VEINING AT 5.0M, 7.30, 9.5 AND 10.7CM, BANDED SULPHIDE IN MUDSTONE LENSE AT 4.95CM	NDAT	NDAT		
113.68	113.74	.06	SLST		AS ABOVE, BUT CRUMBLD	NDAT	NDAT		
113.74	114.80	1.06	SS1		LIGHT GREY, VERY HARD, STICK CORE, OCCASIONAL BIVALVE FOSSILS WITH CALCITE REPLACEMENT, MINOR	78.0	114.5.		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					COAL LENSES, MINOR BANDED SULPHIDE			
114.80	119.38	4.58	SLST		MEDIUM GREY, HARD, MASSIVE, SANDY IN TOP 35CM, BROKEN STICK CORE, MINOR CALCITE FILLED BIVALVE	NDAT	NDAT	
119.38	120.44	1.06	SLST		AS ABOVE, BUT VERY BROKEN CORE	NDAT	NDAT	
120.44	135.98	15.54	SLST		MEDIUM GREY, HARD, MASSIVE, BROKEN STICK CORE, RARE COAL LENSES, CALCITE FOSSILS AND CALCITE VEINS	NDAT	NDAT	
135.98	136.48	.50	SS1	SLST	LIGHT GREY, VERY HARD, CALCITE, BROKEN STICK, MASSIVE	NDAT	NDAT	
136.48	150.98	14.50	SLST		DARK GREY, MASSIVE, HARD, BROKEN STICK, RARE THIN CALCITE VEINS, ONE .17CM BAND OF MEDIUM BROWN-GREY HARD DENSE SILTSTONE WITH CALCITE AND COAL LENSES	NDAT	NDAT	
150.98	151.54	.56	SLST		LIGHT BROWN-GREY, VERY HARD, DENSE CALCITE WITH ABUNDANT CALCITE VEINS AND OCCASIONAL COAL LENSES	NDAT	NDAT	
151.54	162.47	10.93	SLST		DARK GREY, MASSIVE, HARD, BROKEN STICK, RARE CALCITE AND RARE COAL LENSES	NDAT	NDAT	
162.47	162.78	.31	SLST	MOST	LIGHT GREY, HARD, STICK, MASSIVE	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
162.78	163.08	.30	SLST	MDST	DARK GREY, MASSIVE, CLAYEY, VERY BROKEN	NDAT	NDAT	
163.08	166.99	3.91	SLST		DARK GREY, MASSIVE, HARD, BROKEN STICK, ONE BIVALVE FOSSIL, OCCASIONAL CALCITE VEINS	NDAT	NDAT	
166.99	169.38	2.39	SS1	SLST	LIGHT GREY SANDSTONE WITH LAMINAE OF DARK GREY SILTSTONE, CALCITE VEINS, CARBONACEOUS PLANT FRAGMENTS ON BEDDING PLANE FRACTURES, SOME DISTORTED LAMINAE, SOFT SEDIMENT DEFORMATION	NDAT	NDAT	
169.38	170.86	1.48	SLST	SS1	DARK GREY SILTSTONE WITH SANDY SILTSTONE IN TOP HALF, DISTORTED LAMINAE, BROKEN CORE	NDAT	NDAT	
170.86	176.35	5.49	SLST	MDST	DARK GREY, CLAYEY SILTSTONE WITH CALCITE VEINS, OCCASIONAL SANDY BANDS, BROKEN CORE	NDAT	NDAT	
176.35	181.30	4.95	SS1		LIGHT GREY SANDSTONE WITH OCCASIONAL VAGUE SILTY LAMINAE, STICK CORE, OCCASIONAL BIVALVE FOSSILS, RARE CALCITE VEINS	NDAT	NDAT	
181.30	183.21	1.91	SS2		LIGHT GREY, MASSIVE, IRON FLECKS, CALCITE VEINS, STICK	68.0	182.9	
183.21	186.39	3.18	SS1	SLST	LIGHT GREY SANDSTONE WITH	74.0	185.6	

		CORE		DESCRIPTION				
TDP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					VAGUE LAMINAE OF DARK GREY SILTSTONE, BROKEN STICK, BEDDING PLANE FRACTURES			
186.39	195.91	9.52	SLST		DARK GREY, HARD, MASSIVE, OCCASIONAL CALCITE VEINS, OCCASIONAL BRIGHT COAL LENSES, SOME SANDY BANDS, STICK	NDAT	NDAT	
195.91	196.90	.99	SS1	SLST	LIGHT GREY SANDSTONE BECOMING SILTY TOWARDS BOTTOM, VERY HARD STICK CORE, MASSIVE, BIVALVE FOSSILS, CARBONACEOUS FRAGMENTS	NDAT	NDAT	
196.90	200.10	3.20	SLST	SS1	DARK GREY SILTSTONE, SANDY TOWARDS TOP, STICK CORE, VERY FAINT DISTORTED DARKER SILTSTONE LENSES, ABUNDANT CALCITE FOSSILS AND CALCITE VEINS AT 198.20-198.40	NDAT	NDAT	
200.10	200.63	.53	SS1	SLST	LIGHT GREY, HARD, MASSIVE, STICK, BECOMING SILTSTONE TOWARDS BOTTOM	NDAT	NDAT	
200.63	209.71	9.08	SLST		DARK GREY, SOME SANDY ZONES, OCCASIONAL CALCITE VEINS, OCCASIONAL BIVALVE FOSSILS, STICK CORE, CRUMBLD FROM 205.46 TO 205.88	NDAT	NDAT	
209.71	212.59	2.88	SS1	SILTY	LIGHT GREY, MASSIVE, HARD, STICK TO BROKEN STICK, ABUNDANT DISTORTED SILTY	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					ZONES, CALCITE VEINS, BECOMING SILTSTONE TOWARDS BOTTOM				
212.59	213.36	.77	SLST	SS1	DARK GREY, SLIGHTLY SANDY, MASSIVE, IRON SPECKS, BECOMING DARKER TOWARDS BOTTOM	NDAT	NDAT		
213.36	213.49	.13	COAL	MDST	VERY CLAYEY COAL, HEAVY, HARD, STICK, ABUNDANT CALCITE VEINS IN TOP 3CM	NDAT	NDAT		
213.49	231.20	17.71	SLST		DARK GREY SILTSTONE WITH LAMINAE OF FINE GRAINED SANDSTONE AND MUDSTONE, ABUNDANT THIN LAMINAE, SOME WAVY, SOME DISTORTED BY SOFT SEDIMENT DEFORMATION, STICK TO SEMI-STICK CORE, BUT CRUMBLLED AT 227.19-227.39 AND 228.69-228.89, BECOMING FINER AND MORE MASSIVE IN BOTTOM METER, OCCASIONAL CALCITE VEINS	76.0	224.3		
231.20	232.90	1.70	COAL		VERY HARD, CLEAN, STICK TO SEMI-STICK CORE, DULL WITH OCCASIONAL BRIGHT, CLEATED BANDS, SLICKENSIDES IN BOTTOM (RECOVERY 100%)	NDAT	NDAT 1		09
232.90	233.08	.18	MUDSTONE	COAL	VERY CARBONACEOUS, BLACK MUDSTONE, SLICKENSIDES, BROKEN CORE	NDAT	NDAT 1		09

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
233.08	235.44	2.36	COAL		HARD, DULL WITH RARE BRIGHT BANDS, RARE CALCITE SPECKS ON CLEATS, TWO SOAPY TEXTURED MEDIUM GREEN-GREY MUDSTONE BANDS, 2-3CM THICK NEAR MIDDLE (RECOVERY .72/2.36 = 31%), RECOVERY SAMPLE NO.9 2.6/4.24 = 61%	NDAT	NDAT 1	09
235.44	236.12	.68	MUDSTONE		MEDIUM GREY (BROWNISH) HARD, DENSE SEMI-STICK, OCCASIONAL SLICKENSIDES, CARBONACEOUS PLANT FRAGMENTS, SOAPY TEXTURE, MASSIVE	NDAT	NDAT	
236.12	237.22	1.10	COAL		HARD, DULL WITH ABUNDANT BRIGHT, SEMI-STICK, CALCITE VEINS (SAMPLE NO.10 RECOVERY .88/1.1 = 80%)	NDAT	NDAT 1	10
237.22	237.94	.72	MUDSTONE		DARK GREY, HARD, MASSIVE, SEMI-STICK, COAL BANDS WITH CALCITE VEINS NEAR BOTTOM	NDAT	NDAT	
237.94	238.73	.79	SLST		LIGHT GREY, MASSIVE, HARD, STICK CORE, CARBONACEOUS FRAGMENTS, OCCASIONAL CALCITE VEINS, BECOMING COARSER TOWARDS BOTTOM	NDAT	NDAT	
238.73	239.60	.87	SS1	SLST	LIGHT GREY SANDSTONE WITH BANDS OF SILTSTONE AND RIP-UP CLASTS OF MUDSTONE, CALCAREOUS MATRIX	NDAT	NDAT	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					AND CALCITE VEINS, WAVY DISTORTED LAMINAE. STICK CORE				
239.60	242.60	3.00	MUDSTONE	SLST	DARK GREY MUDSTONE, SLIGHTLY SILTY IN MIDDLE, MASSIVE. RARE COAL LENSES, SEMI-STICK, BUT CRUMBLER 240.68 TO 241.0	NDAT	NDAT		
242.60	242.80	.20	MUDSTONE		CARBONACEOUS BLACK, MASSIVE, HARD, SLICKENSIDES, COAL LENSES, 4CM LIGHT GREY MUDSTONE AT BOTTOM	NDAT	NDAT		
242.80	243.85	1.05	COAL		BROKEN CORE, DULL WITH OCCASIONAL BRIGHT, CLAYEY, SLICKENSIDES, OCCASIONAL CALCITE (RECOVERY .93/1.05 = 86%)	NDAT	NDAT 1		11
243.85	243.93	.08	MUDSTONE		DARK GREY TO BLACK, HARD, STICK	NDAT	NDAT		
243.93	245.57	1.64	SLST		MEDIUM BROWN TO GREY, MASSIVE, HARD, STICK CORE	NDAT	NDAT		
245.57	247.37	1.80	SLST	SS1	SANDY SILTSTONE, MASSIVE WITH VAGUE DISTORTED LAMINAE, BECOMING MUDSTONE NEAR BOTTOM	NDAT	NDAT		
247.37	249.32	1.95	MUDSTONE		DARK GREY, VERY CARBONACEOUS TOWARDS BOTTOM, SOME SILTY BANDS, SEMI-STICK	NDAT	NDAT		
249.32	250.40	1.08	SS1		LIGHT GREY, DISTORTED LAMINAE OF SILTSTONE	58.0	249.7		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
250.40	252.53	2.13	SLST	MDST	MUDDY SILTSTONE	NDAT	NDAT	
252.53	253.26	.73	MUDSTONE		BLACK, CARBONACEOUS, SOME COAL LENSES, MASSIVE, BROKEN STICK CORE	NDAT	NDAT	
253.26	254.76	1.50	TUFF		SILT AND CLAY SIZE APHANITIC, BROWN-GREY, VERY HARD, MASSIVE, WITH OCCASIONAL CARBONACEOUS FRAGMENTS AND VEINLETS, OCCASIONAL HARD YELLOW-GREY CONCRETIONS <3CM DIAMETER, CONCHOIDAL FRACTURE, NON-CALCAREOUS, STICK CORE, BECOMING COARSER TOWARDS BOTTOM GRADING TO SILTSTONE	NDAT	NDAT	
254.76	256.49	1.73	SLST		MEDIUM GREY, GRADING FROM TUFF ABOVE, HARD, MASSIVE, WITH MUDSTONE BANDS AT BOTTOM, STICK	NDAT	NDAT	
256.49	260.57	4.08	SLST		MEDIUM GREY WITH LAMINAE OF LIGHT GREY SANDSTONE AND DARK GREY MUDSTONE, BROKEN STICK, HARD, ABUNDANT SMALL NORMAL FAULTS, PROBABLY SOFT SEDIMENT DEFORMATION, OCCASIONAL COAL BANDS AT BOTTOM, ONE BAND COARSE GRAINED SANDSTONE	76.0	258.0	

CORE . DESCRIPTION								
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
260.57	260.90	.33	SS3	SS1/SS4	SLIGHTLY CONGLOMERATIC SANDSTONE WITH FINE GRAINED MATRIX, CLASTS ANGULAR, POORLY SORTED <1CM, CALCAREOUS, COAL LENSES, OCCASIONAL VOLCANIC CLASTS OF RED AND GREEN	NDAT	NDAT	
260.90	263.02	2.12	SLST	SS1	DARK GREY, LAMINAE IN TOP HALF WITH VERY FINE GRAINED SANDSTONE, MASSIVE IN BOTTOM HALF	74.0	260.2	
263.02	263.49	.47	SLST	TUFF	MEDIUM BROWN TO GREY, MASSIVE, HARD, DENSE, STICK, HACKLY FRACTURE, CARBONACEOUS FRAGMENTS	NDAT	NDAT	
263.49	267.31	3.82	MUDSTONE	SLST	DARK GREY MUDSTONE WITH OCCASIONAL SILTY ZONES, MASSIVE, BROKEN STICK, OCCASIONAL CALCITE VEINS, MINOR SLICKENSIDES	NDAT	NDAT	
267.31	267.59	.28	TUFF		LIGHT PINK TO GREY WITH MEDIUM GREY VEINS AND SPECKS, SOME APPARENTLY CARBONACEOUS PLANT FRAGMENTS, MASSIVE, VERY HARD, NON-CALCAREOUS, STICK, GRADATIONAL UPPER CONTACT, ABRUPT LOWER CONTACT	NDAT	NDAT	
267.59	268.06	.47	MUDSTONE		DARK GREY, CARBONACEOUS, HARD, MASSIVE, STICK, CARBONACEOUS PLANT	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
FRAGMENTS								
268.06	270.26	2.20	TUFF		AS TUFF ABOVE, GRADATIONAL UPPER CONTACT, ABRUPT LOWER	NDAT	NDAT	
270.26	270.38	.12	SLST	MDST	DARK GREEN-GREY, MASSIVE, SOFT, SMALL (1MM DIAMETER) NODULES OF YELLOW-BROWN SPHERES (CONCRETIONS), POSSIBLY OF VOLCANIC ORIGIN	NDAT	NDAT	
270.38	271.10	.72	MUDSTONE		SLIGHTLY SILTY, SOFT, SOAPY TEXTURE, CALCITE VEINS, FRIABLE, WEATHERED SURFACE OF UNCONSOLIDATED CLAY, POWDER, SLICKENSIDES, CRUMBLD DISK CORE	NDAT	NDAT	
271.10	271.41	.31	MUDSTONE		DARK GREY, CARBONACEOUS, MASSIVE, STICK WITH CALCITE NODULES AND VEINS IN BOTTOM 7CM, PYRITE MINERALIZATION	NDAT	NDAT	
271.41	273.78	2.37	TUFF		SLIGHTLY PINKISH LIGHT GREY, MASSIVE, NODULES OR CRYSTALS <5MM, LARGE ONES ARE POSSIBLY FELDSPARS, AVERAGE IS COARSE SANDSTONE SIZE, OCCASIONAL BEDS OF APHENITIC TUFF. WITH BLACK SPECKS, OCCASIONAL MUDSTONE LAMINAE AT BOTTOM	NDAT	NDAT	
273.78	284.97	11.19	SLST	MDST	DARK GREY, MASSIVE, HARD	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					(RINGING), DENSE, SEMI-STICK, BECOMING SLIGHTLY PINK-BROWNISH WITH SAND SIZE WHITE NODULES AT ABOUT 280M, STICK TO SEMI-STICK, THICK CALCITE VEINS AT 274.25			
284.97	285.77	.80	MUDSTONE	SLICKENSI- DES	DARK GREY, VERY SOFT, CRUMBLD TO POWDERED, SOME POWDERED WEATHERED SURFACES, CARBONACEOUS RARE COAL BAND	NDAT	NDAT	
285.77	287.03	1.26	SLST	MDST	DARK GREY, CLAYEY SILTSTONE, MASSIVE, BROKEN STICK, OCCASIONAL CALCITE VEINS	NDAT	NDAT	
287.03	287.99	.96	MUDSTONE		DARK GREY, CRUMBLD TO POWDERED, CARBONACEOUS IN PLACES	NDAT	NDAT	
287.99	288.77	.78	SLST		DARK GREY, CLAYEY, MASSIVE, BRDKEN STICK	NDAT	NDAT	
288.77	289.99	1.22	SLST		LIGHT AND DARK GREY LAMINAE, BECOMING FINE GRAINED SANDSTONE AT BOTTOM, BROKEN STICK, WAVY LAMINAE	66.0	289.4	
289.99	291.17	1.18	SS3		VERY CDARSE GRAINED, LIGHT GREY, HARD. STICK, ABUNDANT DULL BLUSH WHITE CLASTS (SOME ARE CALCAREOUS), SUB-ANGULAR, SUB-SPHERICAL, 25CM FINE GRAINED SANDSTONE BAND	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					NEAR MIDDLE, CALCITE FILLED FRACTURES, CRYSTALLINE CEMENT				
291.17	292.79	1.62	SS4		MODERATE TO POOR SORTING, CLASTS <1.5CM, LIGHT GREY TO WHITE, LARGE WHITE CALCAREOUS ROUNDED, SUB-SPHERICAL PEBBLE, SOLID CEMENTATION, (FRACTURES BREAK THROUGH CLASTS)	NDAT	NDAT		
292.79	293.90	1.11	SS2		LIGHT GREY, HARD, STICK CORE, OCCASIONAL SILTSTONE BANDS, CALCITE FRACTURES, VAGUE LAMINAE	66.0	293.6		
293.90	294.18	.28	SLST		DARK GREY, HARD, MASSIVE	NDAT	NDAT		
294.18	294.67	.49	MUDSTONE	SHLE	VERY CARBONACEOUS, SOME COAL LENSES, MIDDLE PART IS SHALE	NDAT	NDAT		
294.67	295.13	.46	SLST	MDST	MUDDY DARK GREY SILTSTONE, HARD, MASSIVE, STICK	NDAT	NDAT		
295.13	296.24	1.11	MUDSTONE	COAL	VERY CARBONACEOUS MUDSTONE WITH OCCASIONAL BANDS OF BRIGHT COAL, CORE IS REGROUND AND BROKEN STICK, MASSIVE, POWDERY CLAY COATING, CRUMBLER TO POWDERED AT BOTTOM 34CM	NDAT	NDAT		
296.24	309.10	12.86	SLST	MDST	DARK GREY CLAYEY MUDSTONE, MASSIVE, CORE IS STICK TO SEMI-STICK BUT CRUMBLER AT 296.61	NDAT	NDAT		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					- 296.75, 302.2 - 302.37, 303.8 - 304.36 AND 305.27 - 305.75, COAL LENSES <2CM AT 305.0			
309.10	311.68	2.58	SS1		LIGHT GREY, HARD, MASSIVE, OCCASIONAL CARBONACEOUS LENSES, SOME SILTY, SOME MEDIUM GRAINED SANDSTONE BANDS, RARE COAL LENSES <2CM THICK	NDAT	NDAT	
311.68	315.06	3.38	SLST		DARK GREY, CLAYEY, MASSIVE, STICK TO BROKEN STICK, CARBONACEOUS MUDSTONE BAND FROM 317.57 TO 318.09	NDAT	NDAT	
315.06	318.21	3.15	MUDSTONE	CDAL	DARK GREY TO BLACK, BROKEN TO POWDERED, CORE WITH BANDS OF VERY CARBONACEOUS SILTY MUDSTONE AND COAL <3CM, RARE CALCITE FILLED FRACTURES, CORE LOSS	NDAT	NDAT	
318.21	324.02	5.81	SLST		MASSIVE, DARK GREY, BROKEN STICK TO CRUMBLD CORE, SOME CLAYEY COATING AND SWOLLEN APPEARANCE, CARBONACEOUS MUDSTONE FOR 30CM AT 319M AND 20CM AT 320M, CORE LOSS	NDAT	NDAT	
324.02	324.51	.49	SS1		LIGHT GREY SANDSTONE, MASSIVE, HARD, BROKEN STICK	NDAT	NDAT	
324.51	325.24	.73	VOLCANICS	SS4	CONGLOMERATE WITH LARGE CLASTS OF ANGULAR VOLCANIC	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					ROCKS, RED AND GREEN, <5CM, CALCITE FILLED FRACTURES 2CM THICK (TOTAL DEPTH OF HOLE 325.50M)			

CORE DESCRIPTION

HOLE.ID TW82D-221
 PROJECT TELKWA
 AREA SMITHERS
 DRIL.DATE 820717
 LOG.DATE 820700
 EXAMINED.BY S.CAMERON

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	59.00	59.00	OVERBURDEN			NDAT	NDAT	
59.00	87.50	28.50	SLST		GREY, FAIRLY MASSIVE, BROKEN STICK, SILTSTONE IS DIRTY	85.0	AVG	
87.50	92.75	5.25	SS1		VERY FINE GRAINED SANDSTONE, GREY, DIRTY, FAIRLY MASSIVE, BROKEN STICK	NDAT	NDAT	
92.75	93.10	.35	SS	CALCAREOUS	HIGH SPECIFIC GRAVITY, IRON PRESENT, VERY HARD	NDAT	NDAT	
93.10	114.35	21.25	SLST	MDST	GREY/BLACK, OCCASIONAL CALCITE FILLED JOINT PLANES, MASSIVE, OCCASIONAL PLANT DEBRIS	NDAT	NDAT	
114.35	118.70	4.35	SS2		GREEN COLOR INTERBEDDED WITH THIN BANDS OF CALCAREOUS MUDSTONE, SDME CALCITE FILLED ALONG JOINT AND BEDDING PLANES, OCCASIONAL SHELL FRAGMENT (79 AND 83 DEGREES)	81.0	AVG	
118.70	122.55	3.85	SS1		GREY, INTERBEDDED MUDSTONE, COALY FLECKS, OCCASIONAL SHELL FRAGMENT	78.0	122.1	
122.55	123.20	.65	SS2		GREEN-GREY COLOR, OCCASIONAL LAYER OF VERY HARD FINE	78.0	123.0	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLDGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					GRAINED BRDWN SANDSTONE, COALY FLECKS			
123.20	133.55	10.35	SS1		VERY FINE GRAINED SANDSTONE, GREY, FAIRLY MASSIVE, OCCASIONAL CALCITE FILLED FRACTURE, SOME COALY FLECKS, CONVOLUTE BEDDING	80.0	131.2	
133.55	138.60	5.05	SS1		COALY FLECKS, GREY COLOR, CALCITE FILLED FRACTURES, THIN INTERBEDS OF MUDDY SILTSTONE	81.0	137.0	
138.60	150.70	12.10	SS2		CALCITE FILLED FRACTURES, SOME INTERBEDDED FINE GRAINED SANDSTONE AND SILTSTONE, CALCITE FILLED FRACTURES ABOUT EVERY 10CM (76, 78, 82 DEGREES), GREEN/GR-EY COLOR, COALY FLECK AND CARBONACEOUS MATERIAL	78.0	AVG	
150.70	157.55	6.85	SS1	SS2	INTERBEDS OF MEDIUM GRAIN SANDSTONE UP TO 10CM LONG; GRADATIONAL CONTACTS, CARBONACEOUS MATERIAL PRESENT, SOME VERY THIN (1MM) SILTSTONE BANDS PRESENT, OCCASIONAL CALCITE FILLED FRACTURE	NDAT	NDAT	
157.55	196.30	38.75	SLST	SS1	SANDSTONE INTERBEDS ARE PRESENT NEAR TOP OF THE UNIT, SILTSTONE IS QUITE DIRTY, OCCASIONAL	80.0	AVG	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BAND 5-8CM THICK OF EXTREMELY HARD BROWN SILTSTONE.THERE ARE SHELL FRAGMENTS THROUGHOUT AS WELL AS OCCASIONAL CALCITE FILLED FRACTURES, CARBONACEOUS PLANT MATERIAL PRESENT (79, 78, 85, 81, 79, 79, 79)			
196.30	196.44	.14	SHALE	CARBONACEOUS	THINLY LAMINATED, ABUNDANCE OF CALCITE ALONG BEDDING PLANES	83.0	196.5	
196.44	196.54	.10	COAL	CLEAN	DULL WITH BRIGHT BANDS, BRIGHT BANDS ARE WELL CLEATED, CALCITE FILLED FRACTURES NEAR BOTTOM, (RECOVERY 100%), VERY HARD	NDAT	NDAT 1	63
196.54	196.56	.02	SLST	PYRITIC		NDAT	NDAT 1	63
196.56	198.54	1.98	COAL	CLEAN	DULL WITH BRIGHT VITRAIN BANDS, BRIGHT BANDS ARE WELL CLEATED, COAL IS VERY HARD, COAL CONTAINS SMALL CALCITE STRINGERS, OCCASIONAL THIN1-2MM PYRITE BAND IN THE COAL (RECOVERY 96%)	NDAT	NDAT 1	63
198.54	198.61	.07	SLST	PYRITIC	CONTAINS SOME THIN COALY BANDS	85.0	198.6 1	63
198.61	199.10	.49	COAL		AS ABOVE (RECOVERY 96%)	NDAT	NDAT 1	63
199.10	199.15	.05	SHALE	COALY		NDAT	NDAT 1	63

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH	SEAM	SNUM
199.15	199.58	.43	COAL		AS ABOVE (RECOVERY 96%)	NDAT	NDAT	1	63
199.58	199.65	.07	COAL	SHALEY	SOME PYRTIE VISABLE (RECOVERY 96%)	NDAT	NDAT	1	63
199.65	200.14	.49	COAL	CLEAN	DULL WITH BRIGHT, HARD, SOME CALCITE VISABLE (RECOVERY 96%)	NDAT	NDAT	1	63
200.14	200.18	.04	COAL	SHALEY	PYRITE BANDS VISABLE (RECOVERY 96%)	82.0	200.1	1	63
200.18	200.37	.19	COAL	CLEAN	SOME VISABLE PYRITE, CALCITE ALONG CLEATS (RECOVERY 96%)	NDAT	NDAT	1	63
200.37	200.43	.06	SHALE	COALY	THIN COAL BANDS WITHIN THE UNIT	87.0	200.4	1	63
200.43	200.84	.41	COAL	CLEAN	SOME CALCITE VISABLE ALONG CLEATS, MINOR PYRITE (RECOVERY 96%)	NDAT	NDAT	1	63
200.84	200.91	.07	SHALE	COALY	50% COAL BAND, 50% SHALE BAND	NDAT	NDAT		
200.91	201.45	.54	SHALE	CARBONACE- OUS	SOME 1MM THICK COAL STRINGERS	NDAT	NDAT		
201.45	201.61	.16	COAL	SHALEY	VISABLE PYRITE	NDAT	NDAT		
201.61	202.60	.99	SHALE	CARBONACE- OUS	SOME 1MM THICK COAL STRINGERS	NDAT	NDAT		
202.60	202.70	.10	COAL	SHALEY		NDAT	NDAT		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
202.70	203.10	.40	COAL		OCCASIONAL SHALEY BAND (RECOVERY 85%)	NDAT	NDAT 1	64
203.10	203.15	.05	SLST	PYRITIC		NDAT	NDAT	
203.15	209.20	6.05	SLST	SHALE	VERY MUDDY SILTSTONE, COAL STRINGERS AND LENSES THROUGHOUT	NDAT	NDAT	
209.20	209.45	.25	SHALE	COALY	COALY STRINGERS THROUGHOUT	79.0	209.2	
209.45	210.25	.80	SHALE	CARBONACEOUS		NDAT	NDAT	
210.25	210.45	.20	COAL	DIRTY	CALCITE STRINGERS PRESENT (RECOVERY 94%)	NDAT	NDAT 1L	65
210.45	210.50	.05	SHALE	CARBONACEOUS	LIGHT GREY - (MARKER) - HIGH GAMMA	NDAT	NDAT 1L	65
210.50	211.12	.62	COAL	CLEAN	DULL, HARD WITH BRIGHT VITRAIN BANDS, (RECOVERY 94%)	NDAT	NDAT 1L	65
211.12	211.20	.08	COAL	SHALEY	(RECOVERY 94%)	83.0	211.1	
211.20	211.90	.70	COAL	CLEAN	DULL, HARD WITH BRIGHT VITRAIN BANDS, WELL CLEATED, (RECOVERY 94%)	NDAT	NDAT 1L	65
211.90	212.16	.26	COAL	SHALEY	BECOMES PROGRESSIVELY DIRTIER TOWARDS BOTTOM OF THE UNIT (RECOVERY 94%)	NDAT	NDAT 1L	65
212.16	213.35	1.19	SLST	CARBONACEOUS	COAL STRINGERS AND BLEBS	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH	SEAM	SNUM
213.35	213.71	.36	SS2		CHANNEL SANDSTONE, TOP OF UNIT IS GRADATIONAL WITH THE SILTSTONE ABOVE. BOTTOM OF UNIT IS AN UNCONFORMITY. RIP-UP CLASTS OF SHALE BELOW ARE FOUND IN THE SANDSTONE	81.0	213.4		
213.71	214.90	1.19	SHALE	CARBONACEOUS		NDAT	NDAT		
214.90	216.60	1.70	SLST	SS1	INTERBEDDED FINE GRAIN SANDSTONE/SILTSTONE, SOME CARBONACEOUS MATERIAL PRESENT	78.0	215.2		
216.60	217.39	.79	SS2	SHALE	INTERBEDDED THIN BANDS OF CARBONACEOUS SHALE	NDAT	NDAT		
217.39	218.60	1.21	SLST			NDAT	NDAT		
218.60	218.73	.13	COAL	DIRTY	HARD, DULL, ABUNDANCE OF CALCITE	80.0	218.6	1	66
218.73	218.76	.03	MUDSTONE	CARBONACEOUS	LIGHT GREY COLOR	NDAT	NDAT	1	66
218.76	219.10	.34	COAL	DIRTY	OCCASIONAL SHALE STRINGER (RECOVERY 88%)	NDAT	NDAT	1	66
219.10	219.16	.06	SHALE	COALY		NDAT	NDAT		
219.16	219.50	.34	COAL	CLEAN	HARD, DULL WITH BRIGHT VITRAIN BANDS, CALCITE ALONG CLEATS IN VITRAIN, (RECOVERY 88%)	NDAT	NDAT		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
219.50	220.82	1.32	SHALE	CARBONACE- OUS		83.0	220.8	
220.82	224.90	4.08	SLST	SS1		NDAT	NDAT	
224.90	226.34	1.44	SHALE	CARBONACE- OUS	COAL STRINGERS UP TO 2CM THICK THROUGHOUT, STRINGERS CONTAIN ABUNDANCE OF CALCITE	NDAT	NDAT	
226.34	227.36	1.02	SS3	SHALE/CAR- BONACEOUS	CHANNEL SANDSTONE WITH INTERBEDDED CARBONACEOUS/COALY SHALE. RIP-UPS OF SHALE IN THE SANDSTONE	NDAT	NDAT	
227.36	227.95	.59	SHALE	COALY	BRIGHT BAND 1MM THICK IN COALY SHALE	NDAT	NDAT	
227.95	228.34	.39	COAL	DIRTY	DULL WITH BRIGHT BAND, CALCITE ALONG CLEATS, SMALL 1MM SHALE STRINGERS THROUGHOUT	NDAT	NDAT	
228.34	229.14	.80	SHALE	CARBONACE- OUS	GRADES INTO SILTSTONE NEAR BOTTOM OF UNIT	NDAT	NDAT	
229.14	230.80	1.66	TUFF	VOLCANIC	LIGHT GREY COLOR, CONTAINS PLANT AND ROCK DEBRIS, COARSENS DOWNWARD. BOTTOM OF UNIT IS GRADITIDNAL CONTACT WITH SANDSTONE	NDAT	NDAT	
230.80	231.95	1.15	SS1	TUFFACEOUS	VOLCANIC TUFFACEOUS INTERBEDDED WITH LIGHT GREY SANDSTONE	NDAT	NDAT	
231.95	233.80	1.85	SLST	SS1	DARK GREY	77.0	237.0	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SILTSTONE WITH THIN INTERBEDS OF FINE GRAIN SANDSTONE NEAR BASE OF UNIT			
233.80	238.70	4.90	SHALE	SILTSTONE	GRADES INTO SILTSTONE IN PLACES, SHALE IS BLACK-CARBONACEOUS	NDAT	NDAT	
238.70	239.37	.67	SHALE	COALY	COALY SHALE WITH SOME THIN BANOS 1MM OF BRIGHT COAL	NDAT	NDAT	
239.37	239.95	.58	SHALE	CARBONACEOUS		NDAT	NDAT	
239.95	243.80	3.85	TUFF	VOLCANIC	LIGHT GREY	NDAT	NDAT	
243.80	244.35	.55	SS1		DARK GREY, VOLCANIC MATERIAL, CALCITE FILLED FRACTURES	NDAT	NDAT	
244.35	244.95	.60	CONGLOM		PEBBLES UP TO 2CM IN DIAMETER, LIGHT GREY, MAYBE AGGLOMERATE TO VOLCANIC MATRIX	NDAT	NDAT	
244.95	251.90	6.95	SS1	SS2	MAINLY LIGHT GREY FINE GRAIN SANDSTONE BUT GRADES INTO MEDIUM GRAINED SANDSTONE, ALSO SOME THIN BANDS APPROXIMATELY 2CM OF CARBONACEOUS SILTSTONE	NDAT	NDAT	
251.90	256.10	4.20	SHALE	SLST	CARBONACEOUS, BLACK, BROKEN, SLICKENSIDES ALONG JOINT PLANES, SOME CALCITE FILLED FRACTURES	NDAT	NDAT	
256.10	260.30	4.20	SS4	CONGLOMERATE	GRADES TO CONGLOMERATE IN	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLDGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					PLACES, SOME INTERBEDS 5CM THICK OF CARBONACEOUS SILTSTONE			
260.30	265.20	4.90	SLST	SS1	DARK GREY HARD SILTSTONE, OCCASIONALLY GRADES TO FINE GRAIN SANDSTONE; SOME MINOR CARBONACEOUS MATERIAL, OCCASIONAL CARBONACEOUS SHALE, BROKEN STICK	NOAT	NDAT	
265.20	270.96	5.76	VOLCANICS		RED, BASEMENT VOLCANIC WITH SOME INTERBEDDED CARBONACEOUS SILTSTONE	NDAT	NDAT	
270.96	-1.00	-1.00	UNKNOWN		TOTAL DEPTH 270.96	NDAT	NDAT	

HOLE . ID		CORE DESCRIPTION						
PROJECT AREA	TW82D-222							
DRIL . DATE	TELKWA							
LOG . DATE	SMITHERS							
EXAMINED . BY	NO . DATA							
	820700							
	D . HANDY							
TOP	BASE	THICK	LITHOLOGY	MIN . LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	3.70	3.70	OVERBURDEN			71.0	3.9	
3.70	5.00	1.30	MUDSTONE	SILTY	MEDIUM GREY MUDSTONE WITH THIN, LIGHT GREY SILTSTONE BEDS, MODERATELY WELL BEDDED, BROKEN STICK	NDAT	NDAT	
5.00	5.20	.20	MUDSTONE	FAULT GOUGE	SILTY	NDAT	NDAT	
5.20	7.05	1.85	MUDSTONE	SILTY		75.0	5.6	
7.05	8.56	1.51	SS2		LIGHT GREY, OCCASIONAL COALY LENSES AND ROUNDED SILTSTONE INCLUSIONS, OCCASIONAL THIN SILTSTONE BED, BROKEN STICK	79.0	8.6	
8.56	9.15	.59	SS1		LIGHT GREY, MASSIVE, SOFT SEDIMENT DEFDRMATION, OCCASIONAL VUG FILLED WITH WHITE POWDERY MINERAL	NDAT	NDAT	
9.15	9.95	.80	SLST	MDST	LIGHT GREY SILTSTONE WITH THIN DARK GREY INTERBEDDED MUDSTONE, BEDDING PLANES WELL DEVELOPED, MINOR THIN MEDIUM GRAINED SANDSTONE	77.0	9.7	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BEDS, BROKEN STICK			
9.95	10.45	.50	SS2	SILTY	MEDIUM GREY, OCCASIONAL SILTY LAYER, OCCASIONAL CARBONACEOUS WISPS, BEDDING POORLY DEVELOPED	77.0	10.1	
10.45	11.60	1.15	SS1	MDST	GREENISH-GREY, FINE GRAINED SANDSTONE WITH THIN INTERBEDDED DARK GREY MUDSTONE, OCCASIONAL BROWN SILTY LAYER, MICRO FAULTS EVIDENT, SOFT SEDIMENT DEFORMATION	76.0	11.6	
11.60	12.45	.85	MUDSTONE	SS1/SLST	DARK GREY MUDSTONE WITH THIN INTERBEDDED SANDSTONE (FINE GRAINED) AND SILTSTONE, THESE BEDS OCCASIDNAL LENSE	70.0	12.3	
12.45	12.51	.06	COAL		DULL WITH BRIGHT (NOT DISCERNIBLE ON LOGS)	NDAT	NDAT	
12.51	16.60	4.09	MUDSTONE	SILTY	DARK GREY MUDSTONE WITH VERY THIN SILTY INTERBEDS. FAIRLY HOMOGENOUS UNIT, STICK TO BROKEN STICK	71.0	15.9	
16.60	17.33	.73	COAL		CLEAN, DULL WITH BRIGHT, WELL DEVELOPED CLEAT, HARD, STICK TO BROKEN STICK, PYRITE VISIBLE ON CLEAT SURFACES NEAR THE SILTSTONE SPLIT BELOW	NDAT	NDAT 7	12
17.33	17.36	.03	SLST		DARK BROWN, CARBONACEOUS	NDAT	NDAT 12	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
17.36	17.66	.30	COAL		AS ABOVE, (SEAM RECOVERY - 87%)	76.0	17.7 7	12
17.66	20.85	3.19	MUDSTONE	SLTS	DARK GREY MUDSTONE WITH THIN INTERBEDDED MEDIUM GREY SILTSTONE, 19.70-20.4 - MODERATELY FRACTURED CORE, REST IS STICK TO BROKEN STICK	NDAT	NDAT	
20.85	21.82	.97	SS1		GREENISH-GREY, FINE GRAINED, MINOR DARK GREY SILTSTONE BEDS (VERY THIN), BROKEN STICK	72.0	21.7	
21.82	21.96	.14	COAL		DULL WITH BRIGHT, WELL DEVELOPED CLEAT	NDAT	NDAT	
21.96	22.23	.27	MUDSTONE		DARK GREY, FAIRLY MASSIVE, PYRITE BLEBS PRESENT (APPROXIMATELY 1CM IN DIAMETER)	NDAT	NDAT	
22.23	22.33	.10	COAL		DULL, WEATHERED, MINOR CALCITE ALONG CLEAT SURFACES	NDAT	NDAT	
22.33	22.76	.43	MUDSTONE		AS ABOVE, OCCASIONAL THIN COAL STRINGER	73.0	22.7	
22.76	22.89	.13	COAL		DULL WITH BRIGHT, WELL DEVELOPED CLEAT, HARD STICK	NDAT	NDAT	
22.89	23.78	.89	MUDSTONE		DARK GREY, MASSIVE, BROKEN STICK	71.0	23.8	
23.78	24.11	.33	COAL	SHALY	DULL, SHALY COAL, MINOR PYRITE PARALLELING BEDDING	NDAT	NDAT 6	13

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
24.11	24.43	.32	COAL		DULL WITH BRIGHT, WELL CLEATED, HARD, STICK (SEAM RECOVERY - 80%)	NDAT	NDAT		
24.43	25.70	1.27	MUDSTONE		DARK GREY, MASSIVE, OCCASIONAL PYRITE INCLUSIONS/BLEBS, BROKEN UP NEAR BOTTOM OF UNIT	NDAT	NDAT		
25.70	27.24	1.54	COAL		(RECOVERY 23%), DULL WITH BRIGHT, BROKEN, OXIDIZED	NDAT	NDAT 6	14	
27.24	27.67	.43	MUDSTONE		DARK GREY, MASSIVE, BROKEN STICK	77.0	27.5		
27.67	28.70	1.03	MUDSTONE	FAULT GOUGE	AS ABOVE	NDAT	NDAT		
28.70	33.80	5.10	MUDSTDNE	SLST	DARK GREY MUDSTONE WITH THIN INTERBEDDED LIGHT GREY SILTSTONE, WELL BEDDED, ABUNOANT MICRO STRUCTURES FROM SOFT SEDIMENT DEFORMATION	76.0	29.0		
33.80	34.17	.37	MUDSTONE	FAULT GOUGE	AS ABOVE, BROKEN TO CRUMBLY TO GOUGE MATERIAL	76.0	32.5		
34.17	37.14	2.97	COAL		DULL WITH BRIGHT, FIRST 60CM BROKEN STICK, REMAINDER CRUMBLY TO BROKEN STICK, MOST OF THE LOST CORE IS IN THIS SECTION (SEAM RECOVERY - 53%)	NDAT	NDAT 5	15	
37.14	37.84	.70	MUDSTONE		SPLIT, FRACTURED BECOMING CARBONACEOUS AT HANGWALL, 1CM LAYER OF PYRITE RIGHT OF HANGWALL	NDAT	NDAT		

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH	SEAM	SNUM
					CONTACT				
37.84	39.64	1.80	COAL		CLEAN THROUGHOUT, DULL WITH BRIGHT BECOMING DULL AND BRIGHT ON THE LAST .50M, HARD, STICK TO BROKEN STICK, MINOR PYRITE ALONG CLEAT SURFACES AT IMMEDIATE HANGWALL, (SEAM RECOVERY - 100%)	81.0	37.8	4	16
39.64	41.00	1.36	MUDSTONE		AS ABOVE	NDAT	NDAT		
41.00	44.50	3.50	SS1	SLST/MDST FAULT	FINE TO VERY FINE GRAINED SANDSTONE WITH INTERBEDDED THIN SILTSTONE AND MUDSTONE, WAVY BEDDING, SOME SOFT SEDIMENT DEFDRMATION FEATURES, BROKEN STICK, OCCASIONAL FAULT GOUGE ZONES (SEE BELOW)	80.0	41.1		
44.50	44.70	.20	SS1	SLST/MDST FAULT	AS ABOVE	NDAT	NDAT		
44.70	47.40	2.70	SS1	SLST/MDST	AS ABOVE	72.0	47.0		
47.40	47.50	.10	SS1	SLST/MDST FAULT	AS ABOVE	NDAT	NDAT		
47.50	50.40	2.90	SS1	SLST/MDST	AS ABOVE	76.0	48.6		
50.40	50.60	.20	SS1	SLST/MDST FAULT	AS ABOVE	70.0	52.1		
50.60	56.70	6.10	SS1	SLST/MDST	AS ABOVE	80.0	56.2		

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH	SEAM	SNUM
56.70	57.12	.42	COAL		CLEAN, HARD, STICK, BROKEN STICK, DULL WITH BRIGHT, MINOR PYRITE ALONG CLEAT SURFACES IN ONE SPOT (RECOVERY 100%)	79.0	56.7	3	17
57.12	58.09	.97	MUDSTONE		DARK GREY, MASSIVE, BROKEN STICK	NDAT	NDAT		
58.09	59.25	1.16	COAL		CLEAN, HARD, DULL WITH BRIGHT, CLEAT WELL DEVELOPED, PYRITE COATS CLEAT SURFACES APPROXIMATELY 25CM FROM FOOTWALL OVER A 10CM SECTION, VERY MINOR AMOUNT OF CALCITE ON CLEAT SURFACES AT IMMEDIATE FOOTWALL, STICK AND BROKEN STICK (RECOVERY - 100%)	NDAT	NDAT	3	18
59.25	59.85	.60	MUDSTONE	CARBONACEOUS	DARK GREY MUDSTONE WITH CARBONACEOUS FRAGMENTS AND PLANT DEBRIS, 13CM OF SILTSTONE MID-UNIT	NDAT	NDAT		
59.85	60.07	.22	COAL	SHALY	HARD, VEINED WITH CALCITE	NDAT	NDAT		
60.07	61.15	1.08	MUDSTONE		DARK GREY, MASSIVE BEDDING, FRACTURED TO BROKEN STICK	69.0	61.2		
61.15	61.50	.35	COAL	VERY SHALY	AS ABOVE	NDAT	NDAT		
61.50	63.20	1.70	MUDSTONE	SLST	DARK GREY/LIGHT GREY, INTERBEDDED MUDSTONE WITHIN SILTSTONE, THIN BEDDED, BROKEN	81.0	63.3		

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					STICK, SOFT SEDIMENT DEFORMATION (MICRO FAULTS - 1 OR 2MM DISPLACEMENTS)				
63.20	63.42	.22	SLST		MEDIUM BROWN, HARD, STICK	NDAT	NDAT		
63.42	64.92	1.50	MUDSTONE	SLST	AS ABOVE	79.0	64.2		
64.92	65.14	.22	SLST		AS ABOVE	NDAT	NDAT		
65.14	67.14	2.00	MUDSTONE		AS ABOVE	74.0	66.4		
67.14	69.20	2.06	COAL		CLEAN, DULL WITH BRIGHT, HARD. BROKEN STICK, VERY MINOR CALCITE ALONG CLEAT IN ONE 2CM WIDE AREA (RECOVERY - 55%) FOR THIS SEGMENT, MOST LOSS APPEARS AT HANGWALL	NDAT	NDAT 2	19	
69.20	69.32	.12	MUDSTDNE	CARBONACE- OUS	SPLIT, HARD, STICK	NDAT	NDAT		
69.32	69.99	.67	COAL		CLEAN, DULL WITH BRIGHT, GOOD CLEAT, HARD, BROKEN STICK, VERY MINOR CALCITE AT IMMEDIATE FOOTWALL (SEGMENT RECOVERY - 100%), TOTAL SEAM RECOVERY - 65%	NDAT	NDAT 2		
69.99	74.43	4.44	MUDSTDNE	SLST	DARK GREY/LIGHT GREY INTERBEDDED, THIN BEDDING, WAVY IN PLACES, SDFT SEDIMENT STRUCTURES	82.0	71.5		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
74.43	74.63	.20	COAL	SHALY	GROUND TO SMALL FRAGMENTS, NOT SHOWN ON DOWNHOLE LOGS, 2CM FRAGMENT OF CHALCOPYRITE VISIBLE	NDAT	NDAT	
74.63	75.30	.67	MUDSTONE	SLST	DARK GREY/LIGHT GREY, WELL BEDDED, END OF HOLE (TOTAL DEPTH=76.2M)	82.0	74.8	

CORE DESCRIPTION

HOLE.ID TW82D-223
 PROJECT TELKWA
 AREA SMITHERS
 DRIL.DATE NO.DATA
 LOG.DATE 820731
 EXAMINED.BY R.KDSTIUK

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	6.10	6.10	OVERBURDEN		DRILLED WITH TRI-CONE ROCK BIT - NO CORE RECOVERY	NDAT	NDAT	
6.10	14.56	8.46	SS1	SLST,MDST	LIGHT TO MEDIUM GREY, VERY FINE GRAINED SANDSTONE INTERBEDDED WITH THINLY LAMINATED SILTSTONE AND MUDSTONE; MODERATELY HARD TO FRIABLE, CROSS-BEDDING AND SOFT SEDIMENTARY DEFORMATION, HIGHLY BROKEN	75.0	AVG	
14.56	18.94	4.38	MUDSTONE	SLST	DARK GREY TO CHARCOAL, THINLY LAMINATED, INTERBEDDED WITH MEDIUM GREY SILTSTONE, MODERATELY HARD, WAVY LAMINAE, SOFT SEDIMENTARY DEFDRMATION	78.0	AVG	
18.94	22.27	3.33	COAL	MISSING CORE	DULL AND BRIGHT BANDS, HARD, FAIR STICK TO POWDERY - RECOVERY 20% - SEPARATION WITH ROOF AND FLOOR - ?	NDAT	NDAT 5	47
22.27	24.38	2.11	MUDSTONE		MEDIUM GREY, MODERATELY HARD, MASSIVE, SILTY, BROKEN, OCCASIONAL CALCITE VEINLETS	NDAT	NDAT	
24.38	25.14	.76	COAL	LC	RECOVERED <5%; SEPARATION - ?	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
25.14	26.37	1.23	MUDSTONE	SLST	MEDIUM GREY, MODERATELY HARD, INTERBEDDED WITH THINLY LAMINATED SILTSTONE, MICRO FAULTED, WAVY LAMINAE (SOFT SEDIMENTARY DEFORMATION)	NDAT	NDAT	
26.37	36.52	10.15	SS1	SLST	LIGHT GREEN TO MEDIUM GREY, HARD, THINLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH SILTSTONE AND MUDSTONE, WAVY LAMINAE TO CONVOLUTED BEDDING (SOFT SEDIMENTARY DEFORMATION); OCCASIONAL SEDIMENTARY CLASTS (IRONS-TONE), MINOR CALCAREOUS AND CALY MATERIAL; OCCASIONAL MEDIUM TO COARSE SANDSTONE LAYERS	NDAT	NDAT	
36.52	38.58	2.06	MUDSTONE		DARK GREY, MASSIVE, MODERATELY HARD, SILTY, FAIR TO BROKEN STICK, OCCASIONAL IRONSTONE CONCRETION	NDAT	NDAT	
38.58	44.96	6.38	SLST	SS1, MDST	LIGHT TO MEDIUM GREY, THINLY LAMINATED TO THIN BEDDED, INTERBEDDED WITH VERY FINE TO FINE GRAINED SANDSTONE AND MUDSTONE, MODERATELY HARD TO HARD, DISTORTED AND CONVOLUTED BEDDING	85.0	AVG	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
44.96	45.36	.40	COAL	CLEAN	MAINLY DULL WITH BRIGHT BANDS, HARD, BRITTLE, BROKEN STICK, CUBIC AND CONCHOIDAL FRACTURE - RECOVERY 100% - SEPARATION WITH ROOF, VISUAL AND PHYSICAL - GOOD; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - GOOD	NDAT	NDAT 3	48
45.36	46.00	.64	SHALE	CARB	MEDIUM TO DARK GREY, MASSIVE, MODERATELY HARD, SLIGHTLY CARBONACEOUS, BROKEN	NDAT	NDAT	
46.00	47.92	1.92	COAL	CLEAN	MAINLY DULL WITH BRIGHT BANDS, HARD, BRITTLE, FAIR STICK, CUBIC AND CONCHOIDAL FRACTURE, OCCASIONAL CALCITE ALONG CLEAT, VISIBLE PYRITE - RECOVERY 87% - SEPARATION WITH ROOF, VISUAL AND PHYSICAL - GOOD; SEPARATION WITH FLOOR, VISUAL - GOOD, PHYSICAL - FAIR	NDAT	NDAT 3	49
47.92	48.33	.41	SHALE	CARB	MEDIUM GREY, HARD, MASSIVE, FISSILE IN PLACES, CARBONACEOUS AND COALY PLANT DEBRIS THROUGHOUT	NDAT	NDAT	
48.33	48.69	.36	COAL		BRIGHT WITH DULL BANDS, HARD, BRITTLE IN PLACES, BROKEN - RECOVERY 100% - SEPARATION WITH ROOF, VISUAL	NDAT	NDAT 3	50

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					- GOOD, PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - POOR				
48.69	48.86	.17	SHALE	COALY/CARB	DARK GREY TO CHARCOAL, MODERATELY HARD, MASSIVE TO FISSILE, SLIGHTLY SILTY, COALY AND CARBONACEOUS DEBRIS THROUGHOUT	NDAT	NOAT		
48.86	49.22	.36	COAL	DIRTY	MAINLY DULL WITH MINOR BRIGHT BANDS, HARD, CONCHOIDAL FRACTURE, OCCASIONAL CALCITE - RECOVERY 100% - SEPARATION WITH ROOF, VISUAL AND PHYSICAL - POOR; SEPARATION WITH FLOOR, VISUAL - GOOD. PHYSICAL - FAIR	NDAT	NDAT		
49.22	49.80	.58	MUDSTONE	SLST	MEDIUM TO DARK GREY, MODERATELY HARD, INTERBEDDED WITH THIN BEDDED SILTSTONE, FISSILE IN PLACES, FRIABLE IN PLACES, IRONSTONE CONCRETIONS (SIDERITIC), MINOR GREEN VERY FINE GRAIN SANDSTONE, OCCASIONAL CALCITE VEINLETS, BROKEN-	82.0	AVG		
49.80	50.60	.80	SLST	SS1	LIGHT GREY, VERY HARD, THINLY LAMINATED, MINOR GREEN VERY FINE GRAIN SANDSTONE, GOOD STICK	NDAT	NDAT		
50.60	51.30	.70	MUDSTONE	SLST	MEDIUM TO DARK GREY, HARD,	NDAT	NOAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					LAMINATED WITH SILTSTONE, BROKEN			
51.30	52.80	1.50	SLST	MDST	MEDIUM TO DARK GREY, MASSIVE, HARD, CLAYEY	NDAT	NDAT	
52.80	53.76	.96	MUDSTONE		DARK GREY, MASSIVE, HARD, SLIGHTLY SILTY, SLIGHTY CARBONACEOUS	NDAT	NDAT	
53.76	54.22	.46	COAL		RECOVERED .32M; MAINLY DULL WITH DULL BANDS, HARD, CALCITE ALONG CLEATS, SLICKENSIDED - RECOVERY 70% - SEPARATION WITH ROOF AND FLOOR - ?	NDAT	NDAT	51
54.22	54.31	.09	MUDSTONE	CARB	DARK GREY, HARD, MASSIVE	NDAT	NDAT	
54.31	54.39	.08	SHALE	COALY	BLACK, HARD, PLANT FOSSIL, COALY/CARBONACEOUS	NDAT	NDAT	
54.39	55.95	1.56	MUDSTONE		MEDIUM TO DARK GREY, MODERATELY HARD, MASSIVE, COAL WISPS THROUGHOUT, FOSSIL PLANT DEBRIS THROUGHOUT, OCCASIONAL PYRITE, BROKEN; IRONSTONE CONCRETION DARK BROWN, SIDERITIC	NDAT	NDAT	
55.95	56.60	.65	COAL		MAINLY DULL WITH BRIGHT BANDS, HARD, BROKEN TO POWDERY, - RECOVERY 42% - SEPARATION WITH ROOF, VISUAL AND PHYSICAL - ?; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - FAIR	NDAT	NDAT 2	52

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
56.60	57.08	.48	SHALE		MEDIUM GREY, HARD, MASSIVE, BROKEN, COAL WISPS, SLICKENSIDED POLISHED	NDAT	NDAT	
57.08	57.40	.32	COAL		BRIGHT WITH DULL BANDS, HARD, BRITTLE, BLOCKY, CALCITE ALONG FRACTURE, BROKEN CONCHOIDAL AND CUBIC FRACTURE - RECOVERY 69% - SEPARATION WITH ROOF, VISUAL - GOOD, PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL - GOOD, PHYSICAL - FAIR	NDAT	NDAT 2	53
57.40	60.00	2.60	SLST	MDST	LIGHT TO DARK GREY, MODERATELY HARD, THINLY BEDDED, INTERBEDDED WITH MUDSTONE, DISTORTED AND CONVOLUTED BEDDING, FAIR STICK	72.0	AVG	
60.00	70.95	10.95	MUDSTONE	SHLE, SLST	DARK GREY, MODERATELY HARD, UPPER HALF INTERBEDDED WITH SILTSTONE, LOWER HALF SHALEY, MASSIVE, FISSILE	72.0	64.7	
70.95	84.10	13.15	SLST		MEDIUM GREY, MODERATELY HARD TO FRIABLE, MASSIVE, FISSILE, HIGHLY BROKEN UPPER HALF, LOWER HALF WELL CONSOLIDATED, CLAYEY THROUGHOUT, SANDY AT BASE	NDAT	NDAT	
84.10	85.10	1.00	SS2		GREEN TO GREY, MEDIUM TO FINE	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					GRAIN, VERY HARD, MASSIVE, WELL CONSOLIDATED, GOOD STICK, UPPER 20CM CLAYEY, MINOR CALCITE			
85.10	100.80	15.70	MUDSTDNE	SILTY	DARK GREY, MODERATELY HARD, MASSIVE, FISSILE IN PLACE, OCCASIONAL CALCAREOUS CALCITE VEIN .05M THICK AT 101.30 (68 DEGREE), SILTY INTERVALS	NDAT	NDAT	
100.80	102.60	1.80	SS1	SLST,MDST	MEDIUM TO DARK GREY, MODERATELY HARD, INTERBEDDED WITH SILTSTONE AND MUDSTONE, THINLY LAMINATED TO THIN BEDDED, POORLY DEVELOPED, CONVOLUTED BEDDING, TOP 20CM MEDIUM SANDSTONE WITH FOSSIL SHELLS, OCCASIONAL CALCITE VEINLETS (BIOTURBATION)	72.0	101.5	
102.60	105.56	2.96	MUDSTONE	SILTY	DARK GREY, MODERATELY HARD, FISSILE, MASSIVE, SILTY, FOSSIL PLANT AND SHELL DEBRIS	NDAT	NDAT	
105.56	106.07	.51	SS1	CARB	MEDIUM GREY, HARD, MASSIVE, WELL CONSOLIDATED, GOOD STICK, FOSSIL PLANT AND SHELL DEBRIS THROUGHOUT	NDAT	NDAT	
106.07	118.30	12.23	SS1	SLST	LIGHT TO MEDIUM GREY, VERY FINE TO FINE GRAINED, VERY HARD, MASSIVE, WELL CONSOLIDATED, WAVY MUDSTONE	68.0	117.5	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					LAMINAE, LOWER HALF INTERBEDDED WITH SILTSTONE, CLAYEY INTERVALS			
118.30	123.00	4.70	SLST	SS1, MDST	MEDIUM GREY, MODERATELY HARD TO FRIABLE, THINLY BEDDED WITH WAVY MUDSTONE LAMINAE AND VERY FINE GRAINED SANDSTONE INTERVALS, FAIR STICK, OCCASIONAL CALCITE, SHELL FOSSIL	NDAT	NDAT	
123.00	123.38	.38	SS1		KHAKI TO GREY, HARD, MASSIVE, WAVY MUDSTONE LAMINAE	NDAT	NDAT	
123.38	125.00	1.62	SLST	SS1, MDST	KHAKI TO GREY, MODERATELY HARD TO FRIABLE, THINLY BEDDED INTERBEDDED WITH VERY FINE GRAINED SANDSTONE AND MUDSTONE, POORLY DEVELOPED, MORE CLAYEY TOWARDS BASE	NDAT	NDAT	
125.00	127.65	2.65	MUDSTONE		DARK GREY, MODERATELY HARD, FISSILE IN PLACE, MASSIVE, SILTY THROUGHOUT	NDAT	NDAT	
127.65	128.85	1.20	SLST		DARK GREY, HARD, SANDY	NDAT	NDAT	
128.85	131.70	2.85	SS2	SS1	LIGHT GREY, MEDIUM GRAINED SANDSTONE WITH VERY FINE TO FINE GRAINED SANDSTONE INTERVALS, CALCITE, OCCASIONAL IRONSTONE STAIN	77.0	AVG	
131.70	139.30	7.60	SLST	SS1	DARK GREY,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					MODERATELY HARD, THINLY BEDDED TO MASSIVE INTERBEDDED WITH VERY FINE GRAIN SANDSTONE AND MUDSTONE, POORLY DEVELOPED, FAIR TO GOOD STICK; TOP 40CM ABUNDANT SHELL FOSSIL			
139.30	146.55	7.25	MUDSTONE	SLST	DARK GREY, MODERATELY HARD, THINLY BEDDED TO MASSIVE, INTERBEDDED WITH SILTSTONE, IRONSTONE CONCRETIONS, FISSILE IN PLACE, FAIR STICK	70.0	AVG	
146.55	153.80	7.25	SLST	MDST,SHLE- ,IRST	DARK GREY, HARD, MASSIVE WITH OCCASIONAL THINLY LAMINATED MUDSTONE LAYERS; IRONSTONE INTERVALS, OCCASIONAL CALCITE VEINLETS BECOMING SANDY TOWARDS BASE	NDAT	NDAT	
153.80	154.05	.25	SS1		KHAKI TO GREY, HARD, INTERLAMINATED WITH SILTSTONE AND MUDSTONE, FOSSIL PLANT DEBRIS	68.0	153.9	
154.05	154.92	.87	MUDSTONE	SLST	DARK GREY TO BLACK, MODERATELY HARD, INTERBEDDED WITH SILTSTONE, CARBONACEOUS PLANT FOSSIL	72.0	154.6	
154.92	157.16	2.24	COAL	CLEAN	MAINLY BRIGHT WITH DULL BANDS, HARD, BRITTLE, CONCHOIDAL AND CUBIC FRACTURE, MINOR CALCITE ALONG CLEAT, FAIR	62.0	AVG 1	54

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					STICK, .06M PYRITIC COAL ZONE AT 156.84M - RECOVERY 97% - SEPARATION WITH ROOF, VISUAL - GOOD, PHYSICAL - - FAIR; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - FAIR			
157.16	157.34	.18	MUDSTONE	COALY/CARB	DARK BROWN TO BLACK, HARD, FISSILE, COALY PLANT DEBRIS THROUGHOUT	NDAT	NOAT	
157.34	160.46	3.12	COAL	CLEAN	RECOVERED 3.07M; BRIGHT WITH DULL BANDS, HARD, BRITTLE, CONCHOIDAL AND CUBIC FRACTURES, MINOR CALCITE ALONG CLEATS. MINOR PYRITE - RECOVERY 98% - SEPARATION WITH ROOF, VISUAL A-ND PHYSICAL - FAIR, SEPARATION WITH FLOOR, VISUAL - GOOD, PHYSICAL - FAIR	72.0	AVG †	55
160.46	161.36	.90	MUDSTONE	CARB	DARK BROWN TO BLACK, HARD, CARBONACEOUS WITH COALY DEBRIS	NDAT	NDAT	
161.36	161.60	.24	COAL		MAINLY DULL WITH BRIGHT BANDS, HARD, MINOR CALCITE ALONG CLEATS, MINOR PYRITE (RECOVERY 100%), SEPARATION WITH ROOF, VISUAL-GOOD, PHYSICAL-FAIR, SEPARATION WITH FLOOR, VISUAL-GOOD,	74.0	161.5	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					PHYSICAL-FAIR			
161.60	162.08	.48	MUDSTDNE	CARB	DARK BROWN TO BLACK, HARD, MASSIVE, COALY/CARBONACEOUS DEBRIS THROUGHOUT	NDAT	NDAT	
162.08	162.20	.12	COAL	DIRTY	DULL WITH BRIGHT BANDS, VERY HARD, MINOR CALCITE - RECOVERY 100% - SEPARATION WITH ROOF, VISUAL AND PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL - GOOD, PHYSICAL - FAIR	NDAT	NDAT	
162.20	163.05	.85	MUDSTONE		MEDIUM GREY, HARD, MASSIVE, SILTY, COALY PLANT DEBRIS	NDAT	NDAT	
163.05	163.94	.89	COAL	CLEAN	BRIGHT AND DULL BANDED, HARD, BRITTLE, CONCHOIDAL AND CUBIC FRACTURE, BROKEN - RECOVERY 90% - SEPARATION WITH ROOF, VISUAL AND PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - POOR	NDAT	NDAT 1	56
163.94	164.56	.62	SLST		BROWN TO GREY, VERY HARD, MASSIVE, COALY DEBRIS THROUGHOUT	NDAT	NDAT	
164.56	164.95	.39	SS2		LIGHT GREY TO BROWN, VERY HARD, INTERBEDDED WITH FINE SANDSTONE, WELL CONSOLIDATED, GOOD STICK	60.0	164.7	
164.95	166.60	1.65	MUDSTDNE		DARK GREY, MODERATELY HARD, MASSIVE, WELL CONSOLIDATED,	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BECOMING SANDY TOWARDS BASE. COALY DEBRIS THROUGHOUT			
166.60	171.12	4.52	MUDSTONE	SS1,SLST	DARK BROWN TO DARK GREY, MODERATELY HARD TO VERY HARD, MASSIVE INTERBEDDED WITH FINE GRAINED SANDSTONE AND SILTSTONE, CARBONACEOUS IN PLACES; SANDSTONE BEDS ARE WAVY AND CONVOLUTED; CALCITE INFILL FRACTURE AT 168M AND 170M	NDAT	NDAT	
171.12	171.70	.58	SS1	SLST	MEDIUM GREY, HARD, VERY FINE TO FINE GRAINED SANDSTONE INTERBEDDED WITH SILTSTONE	72.0	171.4	
171.70	172.35	.65	MUDSTONE		DARK GREY, MODERATELY HARD, MASSIVE, FISSILE IN PLACE, BROKEN, SLIGHTLY SANDY	NDAT	NDAT	
172.35	172.97	.62	VOLCANICS	TUFF	BEIGE TO LIGHT GREY, VERY HARD, MASSIVE, COALY DEBRIS THROUGHOUT, GOOD STICK	NDAT	NDAT	
172.97	175.99	3.02	SS2		BROWN TO GREY, MEDIUM GRAIN, VERY HARD, THINLY TO THICK BEDDED, WELL CONSOLIDATED, GOOD STICK	65.0	175.7	
175.99	176.55	.56	MUDSTONE	SLST	DARK GREY, MODERATELY HARD, THINLY BEDDED WITH SILTSTONE LAMINAE, MICRO FAULTED	68.0	AVG	
176.55	177.35	.80	SS1	SS2,SLST	BROWN TO GREY, FINE TO MEDIUM	65.0	AVG	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					GRAIN, THINLY BEDDED WITH SANDSTONE, SILTSTONE AND MUDSTONE LAMINAE, MICRO FAULTED, GOOD STICK				
177.35	180.21	2.86	MUDSTONE	CARB	DARK GREY TO BLACK, MODERATELY HARD, MASSIVE, COALY AND CARBONACEOUS MATERIAL THROUGHOUT; LOWER .40M, LIGHT BROWN, SILTY; OCCASIONAL IRONSTONE CONCRETION LAYERS WITH CALCITE INFILL FRACTURE, GOOD STICK	NDAT	NDAT		
180.21	181.85	1.64	VOLCANICS	TUFF, SS1	LIGHT BROWN, VERY HARD, MASSIVE, EXCELLENT STICK CORE, LOWER 20CM BENTONITE. SOFT. FRIABLE	NDAT	NDAT		
181.85	183.10	1.25	SS1		BEIGE TO LIGHT GREY, VERY HARD, MASSIVE WITH COALY WAVY LAMINAE, WELL CONSOLIDATED, WELL CEMENTED, EXCELLENT STICK	60.0	AVG		
183.10	184.60	1.50	SS2	SS3, SS4	LIGHT GREY, MEDIUM TO COARSE GRAINED SANDSTONE, GRADING TO GRANULE CONGLOMERATE TOWARDS BASE, WELL CEMENTED, EXCELLENT STICK	NDAT	NDAT		
184.60	186.30	1.70	MUDSTONE		DARK GREY TO BLACK, MODERATELY HARD, MASSIVE, COALY DEBRIS THROUGHOUT, SEDIMENTARY CLASTS, VISIBLE	NDAT	NDAT		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					PYRITE, OCCASIONAL CALCITE, BENTONITE			
186.30	189.70	3.40	SS1		BROWN TO GREY, VERY HARD, VERY FINE GRAIN SANDSTONE, MASSIVE, WELL CONSOLIDATED, EXCELLENT STICK	NDAT	NDAT	
189.70	191.60	1.90	MUDSTONE		DARK GREY TO BLACK, HARD, MASSIVE, CARBONACEOUS AND SILTY, WELL CONSOLIDATED, GOOD STICK	NDAT	NDAT	
191.60	193.20	1.60	SLST	VOLC.SS1	BEIGE TO LIGHT BROWN, VERY HARD, THINLY BEDDED WITH FINE GRAIN VOLCANIC AND VERY FINE GRAIN SANDSTONE INTERBEDS, OCCASIONAL CALCITE VEINLETS	35.0	191.8	
193.20	196.24	3.04	MUDSTONE	CARB	CHARCOAL TO BLACK, HARD, MASSIVE, OCCASIONAL CALCITE VEINLETS, BROKEN STICK	NDAT	NDAT	
196.24	203.60	7.36	SS2	SS1,2,4	LIGHT BROWN TO BLACK, MEDIUM TO COARSE GRAIN SANDSTONE, INTERBEDDED WITH FINE GRAIN SANDSTONE TO PEBBLE CONGLOMERATE, POORLY DEVELOPED, WELL CONSOLIDATED, EXCELLENT STICK	NDAT	NDAT	
203.60	206.60	3.00	VOLCANICS	TUFF.SS	BEIGE TO BROWN, HARD, MASSIVE, INTERBEDDED WITH MEDIUM GRAIN SANDSTONE,	NDAT	NDAT	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					EXCELLENT STICK				
206.60	208.42	1.82	MUDSTONE		BROWN TO DARK GREY, HARD, MASSIVE, SEDIMENTARY CLASTS, INTERBEDDED WITH VOLCANIC TUFF, BROKEN TO CRUMBLY	NDAT	NDAT		
208.42	233.80	25.38	VOLCANICS	TUFF,BASAL ROCK	VARICOLORED, VERY HARD, UPPER .90M TUFF, LOWER UNIT BASAL ROCK, WEATHERED IN PLACES, HIGHLY FRACTURED WITH CALCITE AND MINERAL INFILL	NDAT	NDAT		
233.80	-1.00	-1.00	UNKNOWN		TOTAL DEPTH	NDAT	NDAT		

CORE DESCRIPTION

HOLE.ID TWB2D-224
 PROJECT TELKWA
 AREA SMITHERS
 DRIL.DATE 820719
 LOG.DATE 820700
 EXAMINED.BY C.LANGILL

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	59.45	59.45	OVERBURDEN		NO DATA	NDAT	NDAT	
59.45	59.64	.19	OVERBURDEN		IGNEOUS BOULDER, CORE APHANITIC, DARK GREEN-GREY, EXTREMELY DENSE, HARD, RINGING	NDAT	NDAT	
59.64	64.91	5.27	MUDSTONE		DARK GREY, MASSIVE, BROKEN CORE, MINOR CALCITE ON FRACTURE SURFACES	NDAT	NDAT	
64.91	65.18	.27	SLST	MDST	MEDIUM GREY, MASSIVE, EXTREMELY HARD, RINGING, LIGHT BROWN GREY ON WEATHERED SURFACE, MINOR CALCITE ON FRACTURES, STICK	NDAT	NDAT	
65.18	81.53	16.35	SLST	MDST	DARK GREY, CLAYEY SILTSTONE, MASSIVE, HARD, STICK CORE, OCCASIONAL BROKEN OR CRUMBLER, A 20CM SANDY BAND AT 75.2, A 7CM BAND OF YELLOW BROWN VERY HARD SILTSTONE WITH CALCITE VEINS AT 73.7M, OCCASIONAL CALCITE VEINS, OCCASIONAL ZONES OF SILTY MUDSTONE	NDAT	NDAT	
81.53	81.76	.23	SLST	FOSSILS/S- S1	LIGHT BROWN-GREY SILTSTONE, SLIGHTLY SANDY, VERY HARD, STICK,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					ABUNDANT BIVALVE SHELLS, CALCITE REPLACED, MASSIVE			
81.76	83.21	1.45	SLST		DARK GREY, CLAYEY SILTSTONE, MASSIVE, HARD, STICK	NDAT	NDAT	
83.21	84.01	.80	SS1		LIGHT GREY, HARD, MASSIVE, STICK ABRUPT BUT IRREGULAR CONTACT WITH SILTSTONE ABOVE EROSIONAL LOWER CONTACT, ONE BAND OF COAL AND MUDSTONE LENSES NEAR TOP	NDAT	NDAT	
84.01	87.80	3.79	SLST		AS SILTSTONE ABOVE, SOME ZONES 5 TO 10CM OF SANDY SILTSTONE, ONE BAND OF BIVALVE FOSSILS 3CM THICK, MINOR COAL STRINGERS, VAGUE DISTORTED LAMINAE NEAR BOTTOM	NDAT	NDAT	
87.80	88.97	1.17	SS1		LIGHT GREEN-GREY, MASSIVE, STICK, FRIABLE, ABUNDANT CARBONACEOUS FRAGMENTS AT TOP, BECOMING SILTSTONE TOWARDS BOTTOM	NDAT	NDAT	
88.97	121.35	32.38	SLST		DARK GREY, MASSIVE, STICK, OCCASIONAL BRDKEN, FRIABLE, 3 ZONES OF VERY HARD LIGHT BROWN-GREY SILTSTONE, MINOR ZONES OF MUDSTONE, BECOMING FINER TOWARDS BOTTOM, MINOR CRUMBED CORE, NO BEDDING ANGLES, CRUMBLES WHEN WASHED AND WEATHERED	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
121.35	122.47	1.12	SLST		DARK GREY, MASSIVE, BROKEN TO CRUMBLER, CLAYEY SURFACE COAT (SWELLING CLAYS?), OCCASIONAL COAL LENSES	NDAT	NDAT	
122.47	124.20	1.73	SLST		DARK GREY, MASSIVE, BROKEN STICK, BUT CRUMBLES AFTER WETTING, CLAYEY, 2CM BAND OF CALCITE FILLED FRACTURES AT 122.7M	NDAT	NDAT	
124.20	124.32	.12	SLST		MEDIUM BROWN-GREY, EXTREMELY HARD, DENSE, RINGING, MASSIVE, THIN CALCITE VEINS	NDAT	NDAT	
124.32	128.45	4.13	SLST	MOST	VERY MUDDY SILTSTONE, DARK GREY, MASSIVE, SEMI-STICK CORE, BUT NOW CRUMBLES, MINOR CALCITE VEINS, 18CM BAND OF HARD BROWN-GREY SILTSTONE AS ABOVE AT 125.84, CLAYEY COATING ON CORE	NDAT	NDAT	
128.45	128.69	.24	SLST		MEDIUM BROWN-GREY, EXTREMELY HARD, DENSE, RINGING, MASSIVE, CALCITE VEINS	NDAT	NDAT	
128.69	134.90	6.21	MUDSTONE	SILTY	DARK GREY, MASSIVE, SEMI-STICK TO BROKEN CORE, BUT NOW CRUMBLER AND SOFT, OCCASIONAL COAL LENSES AND STRINGERS, RARE CALCITE FRACTURES	NDAT	NDAT	
134.90	135.00	.10	SLST		MEDIUM BROWN-GREY,	NDAT	NDAT	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					EXTREMELY HARD, DENSE, RINGING, ABUNDANT CALCITE VEINS. CORE IS REGROUND				
135.00	140.26	5.26	MUOSTONE	SILTY	DARK GREY, MASSIVE, SEMI-STICK TO STICK, BUT NOW CRUMBLES, OCCASIONAL COAL LENSES AND CARBONACEOUS PARTINGS, RARE SULPHIDE (PYRITE?), TRACE OF PLANT FRAGMENTS, BECOMING MUDDY SILTSTONE TOWARDS BOTTOM, ABRUPT CONTACT WITH MEDIUM GRAINED SANDSTONE BELOW, MARKED BY BROWN-GREY SILTSTONE, 3CM THICK, WITH ABUNDANT CALCITE VEINS	NDAT	NDAT		
140.26	141.77	1.51	SS2		LIGHT GREY, MASSIVE, HARD STICK TO SEMI-STICK, ABUNDANT CARBONACEOUS FRAGMENTS AND MINOR DISTORTED MUDSTONE LAMINAE, MINOR CALCITE, ONE 10CM BAND OF BROWN-GREY VERY HARD SANDSTONE	NDAT	NDAT		
141.77	144.28	2.51	SS1		LIGHT GREY, MASSIVE, HARD SEMI-STICK, MUDSTONE AND CARBONACEOUS LAMINAE ARE VERY DISTORTED, POSSIBLY BY SOFT	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SEDIMENT DEFORMATION, CALCITE VEINS, 2 BANDS, 12CM OF HARD BROWN FINE GRAINED SANDSTONE, BECOMING SILTY TOWARDS BOTTOM			
144.28	145.21	.93	SLST	SS1	DARK GREY, MASSIVE, VERY SANDY AT TOP, BROKEN CORE	NDAT	NDAT	
145.21	145.39	.18	SS1	SS2	LIGHT GREY HARD, ABUNDANT CALCITE VEINS, AND CALCITE REPLACED BIVALVE FOSSILS, MINOR MUDSTONE AND COAL STRINGERS. STICK	NDAT	NDAT	
145.39	146.16	.77	SS2	SS1	LIGHT GREY, MASSIVE, VAGUE INTERFINGERING CONTACTS, MINOR DISTORTED MUDSTONE LAMINAE, MINOR SLICKENSIDES BECOMING FINER WITH SILTSTONE ZONE TOWARDS BOTTOM, NO BEDDING OR LAMINAE VISIBLE, SEMI-STICK BUT NOW CRUMBLES	NDAT	NDAT	
146.16	146.83	.67	SLST		MEDIUM GREY, MASSIVE, HARD, STICK CORE	NDAT	NDAT	
146.83	149.35	2.52	SS1		LIGHT GREY, HARD, OCCASIONAL DISTORTED MUDSTONE LAMINAE DISRUPTED BY FAULTING, SOFT SEDIMENT DEFORMATION, CALCITE VEINS AND FRACTURE FILLS, ZONES OF HARD LIGHT BROWN-GREY SILTSTONE AT	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					148.75 TO 149.27, SEMI-STICK TO STICK			
149.35	150.50	1.15	SS1	SLST	MEDIUM AND DARK GREY LAMINAE, VAGUE AND DISTORTED, ABUNDANT SMALL HIGH ANGLE CALCITE FILLED FAULTS, CARBONACEOUS PARTINGS, STICK CORE, NOW CRUMBLEO BECOMING FINER TOWARDS BOTDM	71.0	149.7	
150.50	151.29	.79	SLST		DARK GREY, VAGUE FINE LAMINAE, BROKEN STICK CORE, NOW CRUMBLES, NO BEDDING CAN BE MEASURED, POWDERY, CLAY COATING, BECOMING FINE GRAINED SANDSTONE TOWARDS BOTTOM, MINOR SLICKENSIDES	NDAT	NDAT	
151.29	154.50	3.21	SS1	SLST	LIGHT GREY, MASSIVE, SILTY, HARD, STICK, RARE SILTSTONE RIP-UP CLAST	NDAT	NDAT	
154.50	157.54	3.04	SLST	SS1	MEDIUM GREY WITH LIGHT GREY LAMINAE, ZONES OF MASSIVE FINE GRAINED SANDSTDNE AT 154.90 TO 155.60 AND 156.69 TO 156.96	71.0	154.7	
157.54	157.82	.28	SLST		MEDIUM BROWN-GREY, MASSIVE, EXTREMELY HARD, RINGING, ABUNDANT SUB-VERTICAL CALCITE VEINS, STICK	NDAT	NDAT	
157.82	161.20	3.38	SLST	MDST	DARK GREY, MASSIVE, CLAYEY,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					STICK CORE, NOW CRUMBLLED			
161.20	162.49	1.29	SS1		LIGHT GREY, MASSIVE, RARE VAGUE SILTSTONE LAMINAE, BROKEN STICK	76.0	162.1	
162.49	162.59	.10	SLST	MDST	LIGHT GREY-BROWN, MASSIVE, EXTREMELY HARD, RINGING, RARE CALCITE VEINS, OCCASIONAL VEINS OF SOFT NON-CALCEROUS MINERAL, ABUNDANT MAFIC FRAGMENTS, POSSIBLY FOSSIL PLANT FRAGMENTS	NDAT	NDAT	
162.59	163.40	.81	SS1		MEDIUM GREY, MASSIVE, BROKEN STICK CORE	NDAT	NDAT	
163.40	163.70	.30	SS1		LIGHT BROWN GREY, MASSIVE, EXTREMELY HARD, RINGING, CALCITE VEINS, STICK	NDAT	NDAT	
163.70	163.84	.14	SS1		MEDIUM GREY, MASSIVE, BROKEN STICK	NDAT	NDAT	
163.84	169.80	5.96	SS1		LIGHT GREY, MASSIVE, VAGUE DISTORTED LAMINAE OF SILTSTONE, OCCASIONAL BANDS OF EXTREMELY HARD, BROWN-GREY SANDSTONE WITH CALCITE VEINS	77.0	167.9	
169.80	169.92	.12	SLST	MDST/TUFF	LIGHT GREY-BROWN, MASSIVE, CRYSTALLINE APPEARANCE, ABUNDANT FELSIC VITREOUS SILTSTONE SIZE CRYSTALS(?), ABUNDANT MAFIC FLECKS, POSSIBLY	74.0	169.9	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					CARBONACEOUS FOSSIL FRAGMENTS, GRADATIONAL, LAMINATED CONTACT ABOVE AND BELOW, STICK				
169.92	173.10	3.18	SS1		LIGHT GREY MASSIVE, VAGUE SILTSTONE LAMINAE OF SILTSTONE, ESPECIALLY NEAR BOTTOM, LAMINAE ARE DISTURBED BY SMALL FAULTS, SOFT SEDIMENT DEFORMATION, WITH NODULES <5CM OF MEDIUM BROWN EXTREMELY HARD SANDSTONE, CONCRETIONS?	NDAT	NDAT		
173.10	174.30	1.20	SS2		LIGHT BROWN GREY, VERY HARD, MASSIVE, ABUNDANT CALCITE VEINS, POORLY SORTED, SILTY AND POSSIBLY TUFF MATRIX, CLASTS ARE ANGULAR, SUB-ROUNDED, MOSTLY FELSIC AND OCCASIONALLY GREEN-BLUE, STICK VERY POROUS, VUGGY, ONE LARGE SET OF VUGS IS FILLED WITH A SLIGHTLY CALCARCEOUS, WHITE MINERAL (DOLOMITE?) IN SUB-SPHERICAL SHAPE	NDAT	NDAT		
174.30	175.24	.94	SS1	SLST	MEDIUM GREY, ABUNDANT VAGUE SILTY LAMINAE DISTURBED BY MINOR CURVED VERTICAL FAULTS, BROKEN CORE	76.0	174.5		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
175.24	175.78	.54	SLST		DARK GREY, VAGUE DISTORTED LAMINAE, BROKEN STICK	NDAT	NDAT	
175.78	176.20	.42	SS1		LIGHT GREY, MASSIVE, BROKEN STICK, FRIABLE	NDAT	NDAT	
176.20	177.45	1.25	SLST	SS1	DARK GREY, MASSIVE, BROKEN STICK, BECOMING SANDY TOWARDS BOTTOM, A 10CM BAND OF EXTREMELY HARD LIGHT BROWN SILTSTONE AT MIDDLE	NDAT	NDAT	
177.45	178.65	1.20	SS1		LIGHT GREEN-GREY, MASSIVE, GRADES TO SILTSTONE ABOVE AND BELOW, BROKEN STICK	NDAT	NDAT	
178.65	180.48	1.83	SLST		DARK GREY, MASSIVE, BROKEN STICK, CORE NOW CRUMBLES	NDAT	NDAT	
180.48	181.52	1.04	SS1	SILTY	DARK GREY, MASSIVE, VAGUE LAMINAE, DISTORTED, BROKEN CORE, OCCASIONAL CALCITE VEINS	50.0	180.5	
181.52	183.27	1.75	SLST	MDST	VERY CLAYEY SILTSTONE, DARK GREY, MASSIVE STICK CORE, OCCASIONAL BANDS OF GREY-BROWN, EXTREMELY HARD SILTSTONE BECOMING MUDSTONE TOWARDS BOTTOM	NDAT	NDAT	
183.27	183.38	.11	SLST	MDST	VERY CLAYEY SILTSTONE, MEDIUM BROWN-GREY, EXTREMELY HARD, ABUNDANT SUB-VERTICAL	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					CALCITE VEINS, SOME ARE BROWN-GREY, ONE APPEARS TO BE ALTERING TO CHALK WHITE, EXTREMELY SOFT MINERAL - TALC?, ZEOLITE?, GRADES TO MUDSTONE			
183.38	188.49	5.11	SLST	MDST	DARK GREY, MASSIVE, BROKEN STICK, OCCASIONAL CALCITE VEINS, RARE COAL LENSE WITH CALCITE VEINS	NDAT	NDAT	
188.49	188.67	.18	SS1		LIGHT GREY, MASSIVE, VAGUE, DISTORTED, SILTSTONE LAMINAE, ABUNDANT CALCITE VEINS, SOME ARE BROWN AND YELLOW-WHITE, STICK	NDAT	NDAT	
188.67	191.10	2.43	SLST		DARK GREY, MASSIVE, HARD, STICK CORE, ABUNDANT CALCITE VEINS AT 189.30 TO 189.37, CRUMBLER AT BOTTOM	NDAT	NDAT	
191.10	198.09	6.99	SLST	MDST	VERY CLAYEY SILTSTONE, DARK GREY, MASSIVE, STICK CORE, ABUNDANT, SPHERICAL CONCRETIONS OF EXTREMELY HARD BROWN SILTSTONE SCATTERED THROUGHOUT 1 TO 3CM IN DIAMETER, ONE OF THESE HAS WHITE CHALKY SOFT MINERAL AT CORE, ALSO SOME BANDS OF THIS BROWN SILTSTONE <6CM THICK, RARE	NDAT	NDAT	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					CALCITE VEINS				
198.09	203.43	5.34	SLST	MDST	DARK GREY, MASSIVE, STICK CORE, WITH BANDS OF VERY HARD MEDIUM BROWN SILTSTONE	NDAT	NDAT		
203.43	203.61	.18	SLST		LIGHT BROWN-GREY, MASSIVE, VERY HARD, WITH ABUNDANT CALCITE VEINS, SOME ARE FILLED WITH WHITE CHALKY VERY SOFT MINERAL	NDAT	NDAT		
203.61	206.98	3.37	SLST		DARK GREY, MASSIVE, STICK, RARE CALCITE VEINS	NDAT	NDAT		
206.98	210.80	3.82	COAL		HARD, DULL WITH BANDS OF BRIGHT, 40% BRIGHT, RARE CALCITE VEINS, SUB-VERTICAL (RECOVERY 2.86/3.82 = 75%) CONTACT AT ROOF 3CM OF BLACK MUDSTONE, HARDER THAN THE COAL, INCLUDED IN SAMPLE, CONTACT AT FLOOR, ABRUPT WITH GREY, HARD MUDSTONE	NDAT	NDAT 1	57	
210.80	211.71	.91	MUDSTONE	SLST	DARK GREY, HARD SILTY MUDSTONE, STICK CORE, OCCASIONAL LENSES COAL	NDAT	NDAT		
211.71	211.95	.24	COAL	MDST	DULL WITH BRIGHT, DIRTY IN BOTTOM HALF (RECOVERY .17/.24 = 71%)	NDAT	NDAT		
211.95	212.28	.33	SLST	MDST	VERY CLAYEY SILTSTONE, MASSIVE, STICK CORE	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
212.28	213.25	.97	COAL		HARD, DULL WITH ABUNDANT BRIGHT (40%), BROKEN STICK CORE. 16CM FROM BOTTOM IS A 3CM BAND OF VERY PURE WHITE CALCITE, OCCASIONAL THIN CALCITE VEINS IN COAL ABOVE IT, OCCASIONAL CALCITE ON CLEATS (RECOVERY .89/.97 = 92%)	NDAT	NDAT 1	58
213.25	215.25	2.00	MUDSTONE	SLST	DARK GREY, MASSIVE, HARD, STICK CORE, RARE CALCITE VEINS	NDAT	NDAT	
215.25	215.50	.25	SLST		MEDIUM BROWN GREY, VERY HARD, MASSIVE, SUB-VERTICAL, CALCITE VEINS	NDAT	NDAT	
215.50	217.65	2.15	MUDSTONE	SLST	DARK GREY, SLIGHTLY SILTY AT TOP, MASSIVE, HARD, STICK CORE, 3CM COAL BAND AT 215.75 AND 216.17, SLICKENSIDES ON WHITE VEINED SURFACES IN LOWER COAL, WHITE MINERAL IS VERY SOFT AND SEMI VITREOUS, ON SLICKENSIDES TALC?, VERY CARBONACEOUS, BLACK AT BOTTOM 6CM	NDAT	NDAT	
217.65	218.58	.93	COAL		VERY HARD, DULL WITH BRIGHT (10%), RARE CALCITE, CRUMBLER AT TDP, SEMI-STICK, (RECOVERY .70/.93 = 75%)	NDAT	NDAT 1	59

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH	SEAM	SNUM
218.58	218.76	.18	MUDSTONE	TALC	DARK GREY MUDSTONE WITH ABUNDANT VEINS AND SLICKENSIDE SURFACES OF TALC, APPEARANCE OF UNIT WHEN BROKEN IS LIGHT GREY TO WHITE. BROKEN CORE, (RECOVERY .17/.18 = 94%)	NDAT	NDAT	1	60
218.76	219.51	.75	COAL		HARD, DULL WITH BRIGHT (40% BRIGHT), CALCITE AND TALC ON CLEAT AND FRACTURE SURFACES	NDAT	NDAT	1	61
219.51	219.98	.47	COAL	MDST	DIRTY COAL, BLACK, HARD, DULL WITH 10% BRIGHT, WITH CALCITE VEINS (RECOVERY 1.22/1.22 = 100%)	NDAT	NDAT	1	61
219.98	220.73	.75	MUDSTONE		DARK GREY, MASSIVE, STICK CORE, OCCASIONAL CALCITE VEINS, RARE COAL LENSES	NDAT	NDAT		
220.73	220.92	.19	SLST		MEDIUM BROWN-GREY, EXTREMELY HARD, RINGING, ABUNDANT CALCITE VEINS	NDAT	NDAT		
220.92	221.51	.59	MUDSTONE	SLST	DARK GREY SILTY MUDSTONE, MASSIVE, STICK CORE	NDAT	NDAT		
221.51	221.86	.35	MUDSTONE	CARBONACEOUS	DARK GREY TO BLACK CARBONACEOUS MUDSTONE, BROKEN STICK	NDAT	NDAT		
221.86	222.57	.71	SLST	MDST/SS1	DARK GREY SILTSTONE GRADING FROM MUDSTONE ABOVE TO FINE GRAINED SANDSTONE LAMINAE BELOW, BROKEN STICK	71.0	222.5		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
222.57	223.22	.65	SS2	SS1/SLST	LIGHT GREY WITH LAMINAE OF DARK GREY MUDSTONE AND SILTSTONE. SOME ARE DISRUPTED BY HIGH ANGLE FAULTS. POSSIBLY SOFT SEDIMENT DEFORMATION, FINING DOWNWARDS TO FINE GRAINED SANDSTONE THEN SILTSTONE, 6CM BAND OF BROWN-GREY HARD SILTSTONE AT BASE	66.0	222.7	
223.22	223.80	.58	MUDSTONE		DARK GREY, MASSIVE, VERY HARD, BROKEN STICK, COAL ZONE AND 2CM SILTSTONE BAND NEAR BOTTOM	NDAT	NDAT	
223.80	224.45	.65	COAL		HARD, DULL WITH 10% BRIGHT IN .5CM BANDS, OCCASIONAL CALCITE VEINS, CONTRAST WITH ROOF GOOD, 6CM ON FLOOR IS BLACK, HARD MUDSTONE (RECOVERY .63/.65 = 97%)	NDAT	NDAT 1	62
224.45	224.71	.26	SLST		DARK GREY, COAL BANDS AT TOP, GRADING INTO SILTSTONE BELOW	NDAT	NDAT	
224.71	225.44	.73	SLST		DARK BROWN-GREY, VERY SOFT, SOAPY TEXTURED, CURVED SURFACES ON BREAKS, OCCASIONAL CARBONACEOUS FRAGMENTS, RARE BANDS OF SWELLING CLAY <4MM	NDAT	NDAT	
225.44	226.38	.94	SLST	SS1	DARK GREY SILTSTONE GRADING TO FINE GRAINED SANDSTONE AT	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					BOTTOM, ABUNDANT CALCITE VEINS IN BOTTOM 15CM, STICK				
226.38	227.11	.73	SS2	SS1/SS3/S- S4	LIGHT GREY SANDSTONE WITH BANDS OF FINE, MEDIUM AND COARSE GRAINED SANDSTONE, A 4CM BAND OF CONGLOMERATE, CLASTS <3MM, BEDDING DISRUPTED BY FAULTS AND/OR SOFT SEDIMENT DEFDRMATION, COAL LENSES <2CM THICK, STICK CDRE, ABRUPT LOWER CONTACT	NDAT	NDAT		
227.11	228.19	1.08	SLST		DARK GREY, MASSIVE, HARD, STICK CDRE, OCCASIONAL CALCITE VEINS, YELLOW	NDAT	NDAT		
228.19	229.71	1.52	SS1		LIGHT GREY SANDSTONE, VAGUE DARK GREY MUDSTONE LAMINAE, WAVY GRADES TO SILTSTONE FRDM 229.21 TO 229.51	67.0	229.1		
229.71	231.52	1.81	SLST		DARK GREY, MASSIVE, HARD, BROKEN STICK CORE, VAGUE LAMINAE DISRUPTED BY HIGH ANGLE SMALL SCALE FAULTS, 10CM MUDSTONE BAND IN MIDDLE	NDAT	NDAT		
231.52	231.74	.22	MUDSTONE	COAL	VERY COALY MUDSTONE, OCCASIONAL VITREOUS BANDS, MINOR SLICKENSIDES, STICK	NDAT	NDAT		
231.74	231.92	.18	MUDSTONE		BLACK, VERY CARBONACEOUS,	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					STICK CORE, MASSIVE, HARD			
231.92	232.05	.13	COAL		COAL HARD, STICK, ONE CALCITE VEIN, DULL WITH ABUNDANT VERY THIN LAMINAE OF BRIGHT	NDAT	NDAT	
232.05	232.19	.14	MUDSTDNE		BLACK, VERY HARD, MASSIVE, STICK	NDAT	NDAT	
232.19	232.25	.06	COAL		HARD, DULL WITH BRIGHT, STICK	NDAT	NDAT	
232.25	232.55	.30	MUDSTONE	COAL	VERY CARBONACEOUS MUDSTONE, BLACK, MASSIVE, OCCASIONAL BANDS OF BRIGHT, BROKEN STICK	NDAT	NDAT	
232.55	232.77	.22	COAL		DULL WITH RARE BRIGHT, DIRTY WITH ABUNDANT CALCITE VEINS	NDAT	NDAT	
232.77	233.01	.24	MUDSTDNE		DARK GREY, CARBONACEOUS, ESPECIALLY AT TOP	NDAT	NDAT	
233.01	235.30	2.29	SLST		LIGHT TO MEDIUM GREY, MASSIVE, HARD, STICK, OCCASIONAL MAFIC OR CARBONACEOUS FRAGMENTS, MINOR SLICKENSIDES, VAGUELY CONCHOIDAL FRACTURE SUGGESTS TUFF, VERTICAL CALCITE FILLED WAVY FRACTURE	NDAT	NDAT	
235.30	236.70	1.40	SLST	MDST	DARK GREY, HARD, BROKEN STICK, BECOMING BLACK AND MUDDY NEAR BOTTOM, ABUNDANT SAND SIZE RUST SPECKS	NDAT	NDAT	
236.70	237.06	.36	SLST		LIGHT GREY, HARD,	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					STICK, MASSIVE			
237.06	237.75	.69	SS2		LIGHT GREY, VERY POORLY SORTED, ABUNDANT MUDSTONE AND SILTSTONE LENSES AND DISTORTED LAMINAE, IRON SPECKS, STICK	NDAT	NDAT	
237.75	239.85	2.10	MUDSTONE		LIGHT GREY, OCCASIONAL YELLOWISH CALCITE FRACTURE FILLED, ALTERNATELY CRUMBLD CORE WITH POWDERY SURFACE AND HARD YELLOW-GREY STRONGLY CEMENTED STICK CORE	NDAT	NDAT	
239.85	240.70	.85	SLST		DARK GREY, VERY HARD, MASSIVE, BUT PARTS ARE VERY DISTORTED, FAULTED, SEMI-STICK, 10CM COAL BAND AT TOP	NDAT	NDAT	
240.70	241.04	.34	SLST	MDST	BLACK, MUDDY SILTSTONE, STICK CORE, MASSIVE	NDAT	NDAT	
241.04	243.16	2.12	SLST	SS1	SANDY SILTSTONE, MEDIUM GREY, VERY VAGUE LAMINAE PLUS SILTSTONE INCLUSIONS AT TOP, BECOMING LESS SANDY TOWARDS BOTTOM	50.0	241.4	
243.16	247.70	4.54	SS1		LIGHT GREY, MASSIVE, OCCASIONAL LAMINAE, DISTORTED AT BOTTOM, A SILTY ZONE FROM 246.0 TO 246.75, VERY HARD, STICK CORE, OCCASIONAL CALCITE VEINS	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
247.70	249.00	1.30	MUDSTONE	COAL	CARBONACEOUS MUDSTONE, BLACK, BROKEN WITH 18CM COAL AT TOP AND 23CM COAL AT BOTTOM, BOTH DIRTY. (TOTAL DEPTH 249.0M)	NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TW82D-225
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE NO DATA
 LOG DATE 820728
 EXAMINED BY R.KOSTIUK

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	6.10	6.10	OVERBURDEN		DRILLED WITH ROCK BIT - NO CORE RECOVERY - CASING SET AT 6.10 M	NDAT	NDAT	
6.10	7.30	1.20	LOST CORE			NDAT	NDAT	
7.30	13.62	6.32	SS1	SLST	LIGHT GREY, MODERATELY HARD, INTERBEDDED WITH SILTSTONE AND MUDSTONE INTERVALS; OCCASIONAL WAVY MUDSTONE LAMINAE, BROKEN STICK, MINOR CALCITE	72.0	9.1	
13.62	14.10	.48	COAL	CLEAN	RECOVERED .40M; BRIGHT WITH DULL BANDS, HARD, BRITTLE, BROKEN, CONCHOIDAL AND CUBIC FRACTURE - RECOVERY 83%; SEPARATION WITH ROOF, VISUAL AND PHYSICAL - GOOD; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - GOOD	NDAT	NDAT 4	35
14.10	14.55	.45	MUDSTONE	FOSSILIFEROUS	MEDIUM GREY, SOFT, MASSIVE, BROKEN, FOISSIL PLANT DEBRIS THROUGHOUT	NDAT	NDAT	
14.55	15.81	1.26	COAL	CLEAN	RECOVERED 1.20M; BRIGHT WITH DULL BANDS, HARD, BROKEN STICK, OCCASIONAL CALCITE AND PYRITE; SEPARATION WITH	76.0	15.2 4	36

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					ROOF, VISUAL AND PHYSICAL - GOOD; SEPARATION WITH FLOOR, VISUAL - FAIR, PHYSICAL - GOOD			
15.81	16.59	.78	MUDSTONE		KHAKI TO GREY, SOFT, MASSIVE, BROKEN STICK, COALY PLANT DEBRIS	NDAT	NDAT	
16.59	16.88	.29	COAL		RECOVERED .25M; BRIGHT WITH DULL BANDS, HARD, BROKEN, CONCHOIDAL AND CUBIC FRACTURE - RECOVERY 86%; SEPARATION WITH ROOF, VISUAL - POOR, PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL - POOR, PHYSICAL - FAIR	NDAT	NDAT 4	37
16.88	17.75	.87	MUDSTONE		DARK GREY, MODERATELY HARD TO SOFT, MASSIVE, BROKEN STICK, COALY PLANT DEBRIS	NDAT	NDAT	
17.75	17.89	.14	COAL	DIRTY	MAINLY DULL WITH BRIGHT BANDS, HARD, CALCITE VEINLETS THROUGHOUT, MINOR PYRITE, HIGH ASH UNIT - RECOVERY 100%; SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL GOOD	NDAT	NDAT	
17.89	22.28	4.39	MUDSTONE	CARB	MEDIUM TO DARK GREY, MASSIVE, MODERATELY HARD, SLIGHTLY SILTY; OCCASIONAL COAL WISPS, BROKEN, SHEARED AT 21.18, SLICKENSIDED	NDAT	NDAT	
22.28	22.78	.50	COAL		RECOVERED .21M;	NDAT	NDAT	38

		CORE DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					DULL WITH BRIGHT BANDS, HARD, BROKEN - RECOVERY 42%; SEPARATION WITH ROOF, VISUAL AND PHYSICAL - GOOD; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - ?				
22.78	24.37	1.59	MUDSTONE		MEDIUM TO DARY GREY, MASSIVE, MODERATELY HARD, SLIGHTLY SILTY, COAL WISPS; 40CM FROM TOP, 19CM SILTSTONE LENSE, VERY HARD; COALY PLANT DEBRIS	NDAT	NDAT		
24.37	25.22	.85	COAL		BRIGHT, SOFT, TOTALLY DISAGGREGATED, POWDERY - RECOVERY 100% - SEPARATION WITH ROOF, VISUAL AND PHYSICAL - GOOD; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - GOOD	NDAT	NDAT 3	39	
25.22	26.64	1.42	MUDSTONE		BROWN, SOFT, MASSIVE, BROKEN, COALY MATERIAL THROUGHOUT, SLIGHTLY SILTY	NDAT	NDAT		
26.64	28.84	2.20	COAL		RECOVERED .96M; BRIGHT AND DULL BANDS, HARD TO MODERATELY HARD, BROKEN BRITTLE, CONCHOIDAL AND CUBIC FRACTURE, DIRTY INTERVALS - RECOVERY 44%; SEPARATION WITH ROOF, VISUAL - GOOD, PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - ?	NDAT	NDAT 3	40	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
28.84	29.64	.80	MUDSTONE		BROWN, MODERATELY HARD TO SOFT, MASSIVE, BROKEN	NDAT	NDAT		
29.64	30.48	.84	COAL		RECOVERED .80M; BRIGHT AND DULL BANDS, HARD TO POWDERY, BRITTLE HIGHLY BROKEN, HIGH ASH INTERVAL AT 29.89 (.09CM THICK) - RECOVERY 95%; SEPARATION WITH ROOF, VISUAL - FAIR, PHYSICAL - GOOD; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - GOOD	NDAT	NDAT 2	41	
30.48	30.61	.13	MUDSTONE	BENT	BROWN, SOFT, SILTY, BENTONITIC	NDAT	NDAT		
30.61	33.07	2.46	COAL	CLEAN	RECOVERED 2.30M; MAINLY BRIGHT WITH DULL BANDS, HARD, BRITTLE IN PLACES, BROKEN TO FAIR STICK, HIGH ASH INTERVAL 31.69-32.14, CONCHOIDAL AND CUBIC FRACTURE, POWDERY IN PLACES 31.80-32.04 - RECOVERY 93%; SEPARATION WITH ROOF, VISUAL AND PHYSICAL - GOOD; SEPARATION WITH FLOOR, VISUAL - GOOD, PHYSICAL - FAIR	NDAT	NDAT 2	41	
33.07	33.68	.61	MUDSTONE		DARK GREY, MODERATELY HARD, MASSIVE, SLIGHTLY SILTY, FOSSIL PLANT DEBRIS THROUGHOUT - RECOVERY 100%	NDAT	NDAT		

		CORE DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
33.68	34.27	.59	COAL	CLEAN	RECOVERED .59M; UPPER HALF MAINLY BRIGHT WITH DULL BANDS, HARD, BRITTLE, FAIR STICK, CLEAN; LOWER HALF DULL, MODERATELY HARD, HIGHER ASH CONTENT - RECOVERY 100%; SEPARATION WITH ROOF, VISUAL AND PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - FAIR	NDAT	NOAT 2	42
34.27	41.10	6.83	SLST	MDST	MEDIUM TO DARK GREY, INTERBEDDED SILTSTONE/MUDSTON- E, MODERATELY HARD TO HARD, BROKEN STICK TO STICK; THINLY BEDDED, POORLY DEVELOPED, OCCASIONAL WAVY LAMINAE, (OCCASIONAL SOFT SEDIMENT DEFORMATION), MINOR IRONSTONE STAIN	NDAT	NDAT	
41.10	50.80	9.70	MUDSTONE	SILTY	DARK GREY, HARD, MASSIVE, BROKEN TO FAIR STICK, UPPER HALF BANDS, OCCASIONAL SILTSTONE INTERBEDS: LOWER HIGHER CLAY CONTENT; FOSSIL PLANT DEBRIS THROUGHOUT - RECOVERY 78%	NDAT	NDAT	
50.80	63.15	12.35	SLST	MDST,SS1	MEDIUM TO DARK GREY, HARD, MASSIVE, SANDSTONE AND MUDSTONE INTERBEDS, FAIR TO BROKEN STICK; OCCASIONAL VERY	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					HARD CALCAREOUS MUDSTONE LENSE, FOSSIL SHELL FRAGMENTS AND CALCITE INFILL FRACTURES			
63.15	109.08	45.93	MUDSTONE	SLST	MEDIUM TO DARK GREY, MASSIVE, HARD, PLATEY TO FISSILE IN PLACES, SLIGHTLY SILTY; OCCASIONAL VERY HARD IRONSTONE LENS, MINOR CALCITE ALONG FRACTURE AND JOINT PLANES, MINOR PYRITE AND COAL DEBRIS; PLANT AND SHELL FOSSILS THROUGHOUT; SILTY INTERVALS	NDAT	NDAT	
109.08	111.92	2.84	SS1	SLST,MDST	MEDIUM GREY, FINE GRAIN, INTERBEDDED WITH SILTSTONE AND MUDSTONE, MODERATELY HARD TO HARD, OCCASIONAL WAVY LAMINAE (SOFT SEDIMENTARY DEFORMATION), BROKEN STICK, OCCASIONAL CALCITE INFILL FRACTURE, BECOMING SILTIER TOWARDS BASE	74.0	AVG	
111.92	114.47	2.55	SLST	SS1,MDST	DARK GREY, INTERBEDDED WITH SANDSTONE AND MUDSTONE INTERVALS, MODERATELY HARD, WAVY LAMINAE (SOFT SEDIMENTARY DEFORMATION), POORLY DEVELOPED, BECOMING MUDSTONE TOWARDS BASE, BROKEN STICK	73.0	AVG	
114.47	118.19	3.72	SS1	SLST,MDST	LIGHT GREEN TO	70.0	AVG	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					LIGHT GREY, VERY FINE TO FINE GRAIN, INTERBEDDED WITH SILTSTONE AND MUDSTONE LAMINAE, OCCASIONAL VERY HARD BROWN MUDSTONE INCLUSIONS WITH CALCITE INFILL FRACTURE. IRONSTONE STAIN			
118.19	123.55	5.36	MUDSTONE	SLST	DARK GREY, HARD, MASSIVE, FAIR BROKEN STICK, OCCASIONAL CALCITE VEINLETS, OCCASIONAL VERY HARD IRONSTONE INTERVAL, PLANT FRAGMENTS	NDAT	NDAT	
123.55	124.67	1.12	SLST	SS1	MEDIUM GREY, MODERATELY HARD, INTERBEDDED WITH FINE SANDSTONE AND MUDSTONE LAMINAE, CALCITE INFILL FRACTURE .20M AND .45M FROM TOP, MINOR IRONSTONE STAIN (SOFT SEDIMENTARY DEFDRMATION)	NDAT	NDAT	
124.67	130.44	5.77	MUDSTONE	SLST	DARK GREY, MODERATELY HARD, MASSIVE, SLIGHTLY SILTY WITH SILTSTONE INTERVALS, COALY PLANT DEBRIS, OCCASIONAL CALCITE, OCCASIONAL VERY HARD IRONSTONE WITH CALCITE FRACTURE	NDAT	NDAT	
130.44	143.04	12.60	SS1	SLST,SS2	GREY TO MEDIUM GREY, THINLY BEDDED TO MASSIVE, POORLY DEVELOPED,	74.0	AVG	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					VERY HARD, COALY DEBRIS, SOME SOFT SEDIMENTARY DEFORMATION, OCCASIONAL WAVY MUDSTONE LAMINAE, OCCASIONAL CALCITE AND SHELL FRAGMENTS SILTSTONE AND MEDIUM SANDSTONE INTERBEDS			
143.04	148.05	5.01	SLST	MDST, SS1	GREY TO DARK GREY, MODERATELY HARD TO HARD, FAIR STICK, MUDSTONE AND FINE SANDSTONE INTERVALS, HIGH CLAY CONTENT	NDAT	NDAT	
148.05	151.00	2.95	MUDSTONE	SLST	DARK GREY, MODERATELY HARD, MASSIVE, SILTY, FOSSIL PLANT AND COALY DEBRIS THROUGHOUT, FOSSIL SHELLS, MORE SILTY TOWARDS BASE	NDAT	NDAT	
151.00	159.36	8.36	SS2	SS1, SLST	DARK GREY TO LIGHT GREY, HARD, MASSIVE, FINE SANDSTONE AND SILTSTONE INTERBEDS, COALY AND PLANT MATERIAL THROUGHOUT, SOFT SEDIMENTARY DEFORMATION (BIOTURBATIONS) FOSSIL SHELL FRAGMENT, VERY FINE GRAINED TO SILT TOWARDS BASE, FAIR STICK	NDAT	NDAT	
159.36	161.16	1.80	SLST	SS1	MEDIUM GREY, HARD, MASSIVE, COALY DEBRIS, PLANT AND SHELL FOSSIL REMAINS, BROKEN STICK	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
161.16	182.40	21.24	SS1	SLST	VERY FINE GRAIN TO FINE GRAIN, HARD, THIN TO MASSIVE BEDDING, POORLY DEVELOPED, WAVY, LAMINAE SILTSTONE INTERVALS, OCCASIONAL VERY HARD BROWN IRONSTONE LAYERS (CONCRETIONS), SOFT SEDIMENTARY DEFORMATION DISTORTED/CONVOLUTED BEDS, FOSSIL PLANT AND SHELL DEBRIS	NDAT	NDAT	
182.40	184.30	1.90	MUDSTONE	SLST	DARY GREY, MODERATELY HARD, MASSIVE, BROKEN, SILTY, OCCASIONAL COAL WISPS AND CALCITE VEINLETS	NDAT	NDAT	
184.30	187.93	3.63	SS1	SLST	MEDIUM TO DARK GREY, VERY HARD, INTERBEDDED WITH SILTSTONE, THINLY BEDDED, POORLY DEVELOPED, CONVOLUTED, COALY CARBONACEOUS MATERIAL	68.0	AVG	
187.93	188.19	.26	COAL	CLEAN	MAINLY BRIGHT, HARD, BROKEN, CUBIC AND CONCHOIDAL FRACTURE - RECDVERY 100%; SEPARATION WITH ROOF, VISUAL - EXCELLENT, PHYSICAL - GOOD; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - POOR	NDAT	NDAT	
188.19	190.65	2.46	SLST	MOST	DARK GREY TO BLACK, HARD, INTERBEDDED WITH MUDSTONE; THINLY	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					LAMINATED, POORLY DEVELOPED, DISTORTED WITH MICRO FAULTS; TOP 20CM CARBONACEOUS MUDSTONE				
190.65	192.77	2.12	COAL		RECOVERED 1.90M; HARD, MAINLY BRIGHT WILL DULL BANDS, BRITTLE BROKEN, POLISHED FRACTURE, BLOCKY - RECOVERY 90% - SEPARATION WITH ROOF, VISUAL - EXCELLENT, PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL - POOR, PHYSICAL - FAIR	NDAT	NDAT 1	43	
192.77	193.01	.24	SHALE	COALY/CARB	DARK BROWN TO BLACK, HARD, FRACTURED HIGHLY POLISHED, MINOR CALCITE	NDAT	NDAT		
193.01	194.34	1.33	COAL		BRIGHT AND DULL BANDED, HARD, BRITTLE, BLOCKY, HIGHLY FRACTURED AND BROKEN, SLICKENSIDED, HIGHLY POLISHED, HIGHER ASH THAN ABOVE COAL UNIT - RECOVERY 100% - SEPARATION WITH ROOF, VISUAL AND PHYSICAL - POOR, SEPARATION WITH FLOOR, VISUAL - GOOD, PHYSICAL - FAIR	NDAT	NDAT 1	44	
194.34	196.90	2.56	SLST	IRST	DARK GREY, HARD, MASSIVE, BROKEN STICK, IRONSTONE INCLUSIONS, FRACTURE WITH CALCITE, SOFT SEDIMENTARY	NDAT	NDAT		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					DEFORMATION IN PLACES			
196.90	199.46	2.56	SS1		LIGHT TO MEDIUM GREY, MEDIUM HARD TO FRIABLE, MASSIVE WITH WAVY SILTSTONE/MUDSTONE LAMINAE, FRACTURED, BROKEN STICK	NDAT	NDAT	
199.46	203.70	4.24	SLST	SL/CARB	DARK GREY TO CHARCOAL, MODERATELY HARD, MASSIVE, FRACTURED AND BROKEN, COALY PLANT DEBRIS THROUGHOUT	NDAT	NDAT	
203.70	205.12	1.42	SS1		LIGHT TO MEDIUM GREY, VERY FINE GRAIN TO FINE GRAINED, VERY HARD, THICK BEDDED WITH WAVY LAMINAE, POORLY DEVELOPED, 60CM FROM BASE HIGHLY FRACTURED ZONE WITH CALCITE INFILL, IRONSTONE STAIN, CALCAREOUS CEMENTING (SIDERITIC)	NDAT	NDAT	
205.12	215.30	10.18	SLST	SS1,MDST	DARK GREY, MODERATELY HARD, MASSIVE, INTERBEDDED WITH FINE SANDSTONE VERY FINE GRAIN AND OCCASIONAL MUDSTONE LAMINAE, OCCASIONAL CALCITE INFILL FRACTURE, FAIR TO BROKEN STICK, CALCITE FRACTURE ZONE 30CM FROM BASE (20CM THICK)	NDAT	NDAT	
215.30	222.24	6.94	MUDSTONE	SILTY	DARK GREY TO BLACK, HARD, MASSIVE, SILTY.	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					FRACTURED AND SLICKENSIDED, CALCITE VEINS, FOSSIL PLANT AND SHELL REMAINS, BROKEN STICK			
222.24	233.36	11.12	SS1	SS2	GREY, VERY FINE GRAIN TO MEDIUM GRAIN, HARD, MASSIVE, MEDIUM SANDSTONE INTERVALS, SOFT SEDIMENTARY DEFORMATION, IRREGULAR SEDIMENTARY CLASTS, ABUNDANT CALCITE INFILL FRACTURE AND IRONSTONE CONCRETIONS, GOOD STICK CORE, SLIGHTLY CARBONACEOUS, SLIGHT CALCAREOUS IN PLACE, FOSSIL SHELL FRAGMENTS	NDAT	NDAT	
233.36	236.60	3.24	MUDSTONE	SLST	DARK GREY, MODERATELY HARD, MASSIVE, SILTY, CALCITE INFILL FRACTURE AND VEINLETS	NDAT	NDAT	
236.60	238.30	1.70	SS1	SLST	MEDIUM TO DARK GREY, VERY FINE GRAIN TO FINE GRAIN, INTERBEDDED WITH SILTSTONE, POORLY DEVELOPED, OCCASIONAL CALCITE INFILL FRACTURE, FAIR STICK, CARBONACEOUS DEBRIS THROUGHOUT	NDAT	NDAT	
238.30	271.76	33.46	SLST	SS1	DARK GREY, HARD, MASSIVE, CLAYEY IN PLACES, SLIGHTLY CARBONACEOUS, FOSSIL PLANT DEBRIS, OCCASIONAL	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					CALCITE INFILL FRACTURE, OCCASIONAL IRONSTONE, GOOD STICK, VERY FINE GRAIN SANDSTONE INTERVALS			
271.76	273.86	2.10	COAL		BRIGHT AND DULL BANDED, HARD, BRITTLE, BLOCKY, BROKEN, CALCITE VEINLETS, CONCHOIDAL AND CUBIC FRACTURE - RECOVERY 100% - SEPARATION WITH ROOF, VISUAL - FAIR, PHYSICAL - POOR; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - FAIR	NDAT	NDAT	45
273.86	274.14	.28	MUDSTONE		DARK GREY, HARD, SILTY, SLIGHTLY CARBDONACEOUS	NDAT	NDAT	
274.14	274.46	.32	COAL	DIRTY	DULL WITH BRIGHT BANDS, HARD, FRACTURED AND SLICKENSIDED, CALCITE INFILL FRACTURE - RECOVERY 100% - SEPARATION WITH ROOF, VISUAL AND PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - FAIR	NDAT	NDAT	
274.46	276.12	1.66	MUDSTONE	SLST, SS1	DARK GREY TO BLACK, HARD, INTERBEDDED WITH SILTSTONE AND FINE SANDSTONE, VERY FINE GRAINED CDALY MATERIAL THROUGHOUT, OCCASIONAL CALCITE VEINLETS	NDAT	NDAT	
276.12	276.45	.33	COAL	DIRTY	MAINLY DULL WITH	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BRIGHT BANDS, HARD, CALCITE VEINLETS THROUGHOUT - RECOVERY 100% - SEPARATION WITH ROOF, VISUAL AND PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - GOOD			
276.45	278.60	2.15	VOLCANICS	TUFF,SLST	BEIGE TO BROWN TO DARK GREY, FRIABLE TO HARD, COALY DEBRIS THROUGHOUT, SILTY	NDAT	NDAT	
278.60	282.50	3.90	VOLCANICS		BROWN TO RED TO BLACK, HARD, MASSIVE, HIGH FRACTURED INFILLED WITH MINERAL	NDAT	NDAT	
282.50	-1.00	-1.00	UNKNOWN		TOTAL DEPTH	NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TW82D-226
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE NO DATA
 LOG DATE 820805
 EXAMINED BY R.KOSTIUK

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	47.00	47.00	OVERBURDEN		DRILLED WITH ROCK BIT - NO CORE RECOVERY	NDAT	NDAT	
47.00	57.80	10.80	SLST	CLAYEY	DARK GREY, MODERATELY HARD TO HARD, MASSIVE, GOOD TO EXCELLENT STICK, VISIBLE PYRITE	NDAT	NDAT	
57.80	59.10	1.30	MUDSTONE	SLST	DARK GREY, MODERATELY HARD, MASSIVE, SILTY, GOOD TO EXCELLENT STICK	NDAT	NDAT	
59.10	61.80	2.70	SLST		MEDIUM GREY, HARD, MASSIVE, GOOD TO EXCELLENT STICK, VISIBLE PYRITE	NDAT	NDAT	
61.80	62.20	.40	SLST		BEIGE TO GREY, VERY HARD, MASSIVE, WELL CONSOLIDATED, VERY WELL CEMENTED, CALCITE INFILLED FRACTURE, IRON STAIN (SIDERITIC)	NDAT	NDAT	
62.20	75.65	13.45	SLST	SS1	MEDIUM TO DARK GREY, HARD, THICKLY BEDDED WITH WAVY THINLY BEDDED VERY FINE GRAIN TO FINE GRAINED SANDSTONE, OCCASIONAL BIOTURBATED, OCCASIONAL PYRITE, OCCASIONAL CALCITE VEINLETS, GOOD STICK	NDAT	NDAT	
75.65	79.50	3.85	SS1	SLST	LIGHT TO MEDIUM	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					GREY, VERY HARD TO HARD, VERY FINE GRAIN TO FINE GRAINED SANDSTONE LAMINAE INTERBEDDED WITH WAVY SILTSTONE AND MUDSTONE LAMINAE, HIGHLY BIDTURBATED AND DISTORTED; OCCASIONAL CALCITE INFILL FRACTURE. OCCASIONAL SOFT SEDIMENTARY DEFORMATION; OCCASIONAL COALY FLECKS; OCCASIONAL IRONSTONE			
79.50	82.40	2.90	SS1	SS2, SLST	LIGHT GREY TO GREEN, HARD, FINE TO MEDIUM GRAIN, THIN TO THICKLY BEDDED WITH SILTSTONE INTERBEDS; PODRLY DEVELOPED, CONVOLUTED-TURBATED, OCCASIONAL CROSS-BEDDING, COALY FLECKS, IRONSTONE, GOOD STICK	NDAT	NDAT	
82.40	83.52	1.12	SLST	SS1	LIGHT GREY TO DARK GREY, MODERATELY HARD, THINLY LAMINATED TO THIN BEDDED, INTERBEDDED WITH THINLY BEDDED VERY FINE TO FINE GRAINED SANDSTONE, HIGHLY TURBATED, COALY DEBRIS AND BROKEN FOSSIL SHELL, GOOD STICK	NDAT	NDAT	
83.52	86.11	2.59	SS1		LIGHT GREY, VERY HARD TO HARD, FINE GRAIN, THICK BEDDED WITH WAVY BLACK SILTSTONE AND MUDSTONE	84.0	AVG	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					LAMINAE, COALY DEBRIS THROUGHOUT, OCCASIONAL CALCITE, IRONSTONE			
86.11	87.33	1.22	SLST	MDST	DARK GREY, MODERATELY HARD, THINLY LAMINATED, INTERBEDDED WITH MUDSTONE BEDDING WAVY AND CONVOLUTED, MORE CLAYEY TOWARDS BASE	NDAT	NDAT	
87.33	93.00	5.67	SS1	SLST	LIGHT TO DARK GREY, VERY FINE TO FINE GRAIN, MODERATELY HARD TO HARD, THINLY BEDDED INTERBEDDED WITH SILTSTONE AND MUDSTONE LAMINAE, OCCASIONAL CROSS-BEDDING, OCCASIONAL WAVY CONVOLUTED BEDDING, OCCASIONAL CALCITE INFILL FRACTURES, OCCASIONAL FOSSIL SHELL FRAGMENT	76.0	AVG	
93.00	94.40	1.40	SLST	MDST	DARK GREY, MODERATELY HARD, INTERBEDDED WITH THIN MUDSTONE LAMINAE, POORLY DEVELOPED, GOOD STICK	NDAT	NDAT	
94.40	96.70	2.30	SLST	SS1	LIGHT TO DARK GREY, MODERATELY HARD, INTERBEDDED WITH VERY FINE TO FINE GRAINED SANDSTONE AND MUDSTONE, WAVY LAMINAE AND CONVOLUTED BEDDING, OCCASIONAL CROSS-BEDDING, GOOD STICK	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
96.70	115.80	19.10	SS1	SS2.SLST	LIGHT TO DARK GREY, VERY FINE GRAIN TO MEDIUM GRAINED SANDSTONE INTERBEDDED WITH SILTSTONE AND MEDIUM SANDSTONE INTERVALS, BEDDING RANGE FROM CROSS-BEDDING TO CONVOLUTED AND TURBATED; OCCASIONAL VERY HARD BROWN IRONSTONE CONCRETIONAL LAYERS, OCCASIONAL CALCITE INFILL FRACTURE, OCCASIONAL FOSSIL SHELL AND TO EXCELLENT STICK	78.0	AVG		
115.80	122.31	6.51	SLST	MDST	DARK GREY, MODERATELY HARD, THINLY LAMINATED INTERBEDDED WITH WAVY MUDSTONE LAMINAE, POORLY DEVELOPED, BIOTURBATED INTERVALS, CLAYEY, OCCASIONAL CALCITE IRONSTONE, GOOD STICK	NDAT	NDAT		
122.31	145.12	22.81	MUDSTONE	SLST	DARK GREY TO BLACK, MODERATELY HARD, MASSIVE WITH SILTY INTERVALS THROUGHOUT, OCCASIONAL IRONSTONE CONCRETIONS, CALCITE VEINLETS THROUGHOUT, FAIR TO GOOD STICK, LOWER HALF HAS SILTSTONE LAMINAE	78.0	AVG		
145.12	146.28	1.16	COAL	CLEAN	MAINLY DULL WITH BRIGHT BANDS, HARD BRITTLE CONCHOIDAL	NDAT	NDAT 1	67	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLDGY	MIN.LITH	DESCRIPTIDN	C/B ANGLE	DEPTH SEAM	SNUM
					AND CUBIC FRACTURE, VISIBLE PYRITE BROKEN - RECOVERY 93% - PYRITIC BAND AT 145.39-145.42; SEPARATION WITH ROOF, VISUAL - GOOD, PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - FAIR			
146.28	146.52	.24	MUDSTONE	CARB	DARK GREY TO BLACK, HARD, MASSIVE, COALY MATERIAL THROUGHOUT	NDAT	NDAT	
146.52	146.72	.20	COAL		DULL WITH BRIGHT BANDS, HARD, CONCHOIDAL AND CUBIC FRACTURE - RECOVERY 100% - SEPARATION WITH ROOF, VISUAL AND PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - FAIR	NDAT	NDAT 1	68
146.72	147.08	.36	MUDSTONE	CARB	DARK GREY TO BLACK, VERY HARD, MASSIVE, CARBONACEOUS AND COALY MATERIAL THROUGHOUT	NDAT	NDAT	
147.08	147.76	.68	COAL		DULL WITH BRIGHT BANDS, HARD, BRITTLE, CONCHOIDAL AND CUBIC FRACTURE, BROKEN CALCITE THROUGHOUT - RECOVERY 100% - SEPARATION WITH ROOF, VISUAL AND PHYSICAL - GOOD; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - GOOD	NDAT	NDAT 1	69

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM ,
147.76	149.00	1.24	MUDSTONE	PYRITIC, COALY	DARK GREY, HARD, COALY MATERIAL THROUGHOUT. BOTTOM 44CM PYRITE	NDAT	NDAT	
149.00	149.17	.17	COAL		BRIGHT AND DULL BANDED, HARD - RECOVERY 100% - SEPARATION WITH ROOF AND FLOOR - POOR	NDAT	NDAT	
149.17	149.53	.36	MUDSTONE	COALY	BLACK, HARD, MASSIVE, COALY, VISIBLE PYRITE	NDAT	NDAT	
149.53	154.36	4.83	COAL		RECOVERED 4.35M; DULL WITH BRIGHT BANDS, HARD, BRITTLE IN PLACES, CONCHOIDAL AND CUBIC FRACTURE, HIGH ASH INTERVALS, BROKEN, VISIBLE PYRITE - RECOVERY 90% - SEPARATION WITH ROOF, VISUAL AND PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL - POOR, PHYSICAL FAIR	NDAT	NDAT 1	70
154.36	157.62	3.26	MUDSTDNE		DARK GREY, HARD, MASSIVE, SLIGHTLY CARBONACEOUS	NDAT	NDAT	
157.62	158.12	.50	COAL		DULL WITH BRIGHT BANDS, HARD, BRITTLE, CALCITE VEINLETS, MINOR PYRITE, BROKEN - RECOVERY 100% - SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL - FAIR	NDAT	NDAT 1	71
158.12	159.98	1.86	MUDSTONE	CARB	DARK GREY, MODERATELY HARD, MASSIVE, COALY FLECKS AND	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					CARBONACEOUS MATERIAL THROUGHOUT, GOOD STICK			
159.98	162.19	2.21	SLST	SS1	LIGHT TO MEDIUM GREY, HARD, INTERBEDDED WITH FINE GRAIN SANDSTONE, COALY FLECKS THROUGHOUT, MEDIUM SANDSTONE AT BASE	86.0	160.7	
162.19	164.78	2.59	MUDSTONE	CARBONACEOUS	DARK GREY TO BLACK, HARD, MASSIVE, COAL WISPS THROUGHOUT, OCCASIONAL CALCITE VEINLETS, BECOMING SILTY TOWARDS BASE	NDAT	NDAT	
164.78	165.97	1.19	SS3	SS2,SS4	WHITE TO GREY, COARSE GRAINED SANDSTONE INTERBEDDED WITH FINE TO MEDIUM GRAIN SANDSTONE AND CONGLOMERATE, COALY DEBRIS THROUGHOUT, CALCITE THROUGHOUT, CROSS-BEDDING, CONVOLUTED BEDDING, GOOD STICK	NDAT	NDAT	
165.97	166.47	.50	MUDSTONE		DARK GREY, HARD, MASSIVE, SILTY, GOOD STICK	NDAT	NDAT	
166.47	167.12	.65	SLST	SS2	MEDIUM GREY, VERY HARD, MASSIVE, WELL CONSOLIDATED, GRADING TO MEDIUM TO COARSE GRAIN SANDSTONE AT BASE	NDAT	NDAT	
167.12	168.42	1.30	MUDSTONE	CARBONACEOUS	GREY TO BLACK, MODERATELY HARD, MASSIVE, FISSILE IN PLACES, TOP HALF COALY,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BROKEN, BOTTOM .6M BECOMING SILTY, VERY HARD, WELL CONSOLIDATED			
168.42	171.54	3.12	SS1		MEDIUM TO DARK GREY, VERY HARD, INTERBEDDED WITH THIN MEDIUM GRAIN SANDSTONE AND SILTSTONE BEDS, POORLY DEVELOPED, WELL CONSOLIDATED, GOOD TO EXCELLENT STICK	82.0	AVG	
171.54	172.04	.50	SS4		WHITE TO VARICOLORED, VERY HARD, GRANULAR GRADING TO PEBBLE CONGLOMERATE AT BASE, WELL CONSOLIDATED, GOOD STICK	NDAT	NDAT	
172.04	172.64	.60	MUDSTONE		DARK GREY TO BLACK, HARD, INTERBEDDED WITH SILTSTONE BECOMING SANDY TOWARDS BASE, COALY DEBRIS THROUGHOUT, WAVY MUDSTONE LAMINAE	75.0	172.3	
172.64	173.77	1.13	SS2	SS4	WHITE TO GREY, VERY HARD, FINE GRAIN SANDSTONE GRADING TO PEBBLE CONGLOMERATE TOWARDS BASE, BOTTOM .25M MEDIUM TO COARSE GRAINED SANDSTONE, COALY DEBRIS THROUGHOUT, GOOD STICK	NDAT	NDAT	
173.77	174.65	.88	MUDSTONE	SLST	MEDIUM TO DARK GREY, MODERATELY HARD, INTERBEDDED WITH SILTSTONE AND VERY FINE TO FINE GRAINED SANDSTONE, POORLY DEVELOPED, COALY FLECKS AND	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					MINOR IRONSTONE			
174.65	178.40	3.75	SS2	SLST	WHITE TO DARK GREY, MODERATE TO VERY HARD, MEDIUM GRAIN SANDSTONE INTERBEDDED WITH FINE TO COARSE GRAIN SANDSTONE AND SILTSTONE INTERVALS, OCCASIONAL CONGLOMERATE SEQUENCE, POORLY DEVELOPED WITH CONVOLUTED AND CROSS-BEDDING, BOTTOM .34M COBBLESTONE AGGLOMERATE, COALY DEBRIS THROUGHOUT, GOOD TO EXCELLENT STICK	NDAT	NDAT	
178.40	179.60	1.20	MUDSTONE		DARK GREY, MODERATELY HARD TO FISSILE IN PLACES, MASSIVE, BROKEN	NDAT	NDAT	
179.60	185.10	5.50	SLST		BROWN TO GREY, VERY HARD, MASSIVE, CLAYEY INTERVALS, COALY DEBRIS THROUGHOUT, GOOD STICK	NDAT	NDAT	
185.10	186.70	1.60	SS1	SS2	BROWN TO GREY, FINE GRAINED SANDSTONE, MASSIVE WITH MEDIUM TO COARSE GRAIN INTERVALS, SLIGHTLY CALCAREOUS, BROKEN	NOAT	NDAT	
186.70	192.10	5.40	MUDSTONE	SLST	BROWN TO GREY, MODERATE TO VERY HARD, MASSIVE WITH SILTY INTERVALS, COALY DEBRIS THROUGHOUT, FAIR TO GOOD STICK	NDAT	NDAT	
192.10	194.00	1.90	SS1		LIGHT BROWN, FINE	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					GRAIN SANDSTONE, HARD, MASSIVE, WELL CONSOLIDATED			
194.00	194.60	.60	SS4	SS3	WHITE TO GREY, PEBBLE CONGLOMERATE INTERBEDDED WITH COARSE GRAIN SANDSTONE, VERY HARD, SLIGHTLY CALCAREOUS, CROSS-BEDDED	75.0	AVG	
194.60	198.30	3.70	SLST	SHALEY	BROWN TO BLACK, MODERATELY TO VERY HARD, MASSIVE WITH OCCASIONAL FINE GRAIN SANDSTONE AND SILTSTONE LAMINAE, COALY DEBRIS THROUGHOUT, SHALEY INTERVALS, FAIR TO GOOD STICK	NDAT	NDAT	
198.30	200.17	1.87	SS1	SS4	LIGHT BROWN TO GREY, HARD TO VERY HARD, MASSIVE, OCCASIONAL WAVY LAMINAE (COALY) BECOMING COARSER TOWARDS BASE, GRANULE-PEBBLE CONGLOMERATE .40M BASE	NDAT	NDAT	
200.17	209.18	9.01	MUDSTONE		BROWN TO DARK GREY, MODERATELY HARD, MASSIVE, COALY DEBRIS THROUGHOUT, VERY HARD SANDY INTERVALS	NDAT	NDAT	
209.18	215.50	6.32	VOLCANICS		RED TO GREEN, MODERATELY HARD, WEATHERED, BROKEN TO GOOD STICK	NDAT	NDAT	
215.50	-1.00	-1.00	UNKNOWN		TOTAL DEPTH	NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TW82D-227
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE NO DATA
 LOG DATE 820807
 EXAMINED BY R.KOSTIUK

TOP	BASE	THICK	LITHOLOGY	MIN LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	10.35	10.35	OVERBURDEN		DRILLED WITH ROCK BIT, NO CORE RECOVERY, GRAVEL, BOULDERS, COAL, CASING SHOE AT 9.75M	NDAT	NDAT	
10.35	10.86	.51	MUDSTONE		LIGHT GREY, MODERATELY HARD, MASSIVE, FISSILE, COALY PLANT DEBRIS THROUGHOUT, BROKEN	NDAT	NDAT	
10.86	11.27	.41	COAL	DIRTY	(RECOVERED .21M), DULL WITH BRIGHT BANDS, HARD, BLOCKY, BRITTLE IN PLACES, CUBIC AND CONCHOIDAL FRACTURE, FAIR STICK, (RECOVERY 51%), SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL UNCERTAIN DUE TO CORE LOSS	NDAT	NDAT 6	76
11.27	11.73	.46	MUDSTONE		GREY, MODERATELY HARD, MASSIVE, FISSILE, SLIGHTLY SILTY, COALY PLANT DEBRIS, SUSPECT THIN HIGH COAL BAND(MISSING), BROKEN	NDAT	NDAT	
11.73	14.55	2.82	COAL		(RECOVERED 2.29M), MAINLY DULL WITH BRIGHT BANDS, HARD, BLOCKY IN PLACES, WEATHERED IN PLACES, OCCASIONAL HIGH ASH INTERVAL, CUBIC AND CONCHOIDAL	NDAT	NDAT 6	77

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					FRACTURE, MINOR CALCITE ALONG CLEAT, MINOR CALCITE WISPS, FAIR STICK (RECOVERY 81%), SEPARATION WITH ROOF VISUAL, EXCELLENT, PHYSICAL, GOOD, SEPARATION WITH FLOOR, VISUAL AND PHYSICAL, GOOD				
14.55	16.80	2.25	MUDSTONE	SLST	LIGHT TO DARK GREY, MODERATELY HARD, VERY THINLY BEDDED, INTERBEDDED WITH SILTSTONE AND VERY FINE GRAINED SANDSTONE, FISSILE, OCCASIONAL CROSS-BEDDING AND WAVY LAMINAE, MINDR SOFT SEDIMENT DEFORMATION, BROKEN	68.0	AVG		
16.80	17.10	.30	SLST		MEDIUM TO DARK GREY, VERY HARD, VERY THINLY BEDDED WITH WAVY MUDSTONE LAMINAE, SIDERITIC, WELL CONSOLIDATED, CALCITE VEINLETS, FRACTURED JOINT (35 DEGREES), MICRO FAULTS, EXCELLENT STICK	70.0	17.0		
17.10	22.62	5.52	MUDSTONE	SLST	MEDIUM TO DARK GREY, MODERATELY HARD, VERY THINLY BEDDED, INTERBEDDED WITH SILTSTONE AND VERY FINE GRAINED SANDSTONE, FISSILE, OCCASIONAL	74.0	AVG		

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					CROSS-BEDDING AND WAVY LAMINAE, MINOR SOFT SEDIMENT DEFORMATION, MICRO FAULTS, MINOR SLICKENSIDED BREAKS, BREAKS EASILY ALONG BEDDING, BROKEN TO FAIR STICK				
22.62	25.51	2.89	COAL	CLEAN	(RECOVERED 2.57M) MAINLY DULL WITH BRIGHT BANDS, HARD, BRITTLE IN PLACES, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE ALONG CLEAT, THIN BENTONITE BAND 3CM AT 23.73, HIGH ASH INTERVAL 25CM FROM BASE, FAIR STICK (RECOVERY 92%), SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL, GOOD	-74.0	23.4 5	78	
25.51	26.06	.55	MUDSTONE		(RECOVERED .40M), MEDIUM GREY, MODERATELY HARD, FISSILE, MASSIVE WITH COALY DEBRIS THROUGHOUT, SLICKENSIDED FRACTURES, BROKEN	NDAT	NDAT		
26.06	27.13	1.07	COAL	CLEAN	(RECOVERED 1.07M), MAINLY DULL WITH BRIGHT BANDS, HARD, CONCHOIDAL AND CUBIC FRACTURE, MINOR CALCITE ALDNG CLEAT, 15CM FROM TOP HAS VISIBLE PYRITE (10CM THICK), FAIR STICK (RECOVERY 100%), SEPARATION WITH ROOF, VISUAL AND	NDAT	NDAT 5	79	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					PHYSICAL, GOOD; SEPARATION WITH FLOOR VISUAL, GOOD PHYSICAL, FAIR				
27.13	29.23	2.10	MUDSTONE		MEDIUM GREY, HARD, MASSIVE, SLIGHTLY SILTY, FOSSIL PLANT REMAINS THROUGHOUT, BROKEN, 35CM FROM TOP SILTY MUDSTONE, VERY HARD, WELL CONSOLIDATED 32CM THICK (RECOVERY 88%)	NDAT	NDAT		
29.23	29.74	.51	COAL	CLEAN	(RECOVERED .51M) MAINLY DULL WITH BRIGHT BANDS, HARD, CUBIC AND CONCHOIDAL FRACTURE, FAIR STICK (RECOVERY 100%), SEPARATION WITH ROOF, VISUAL, GOOD, PHYSICAL FAIR, SEPARATION WITH FLOOR VISUAL AND PHYSICAL, GOOD	70.0	29.5 4	80	
29.74	31.40	1.66	MUOSTONE		MEDIUM TO DARK GREY, MODERATELY HARD, MASSIVE, SLIGHTLY SILTY, FOSSIL PLANT DEBRIS, FRACTURED AND SLICKENSIDED, BROKEN	NOAT	NDAT		
31.40	35.00	3.60	SS1		LIGHT TO MEDIUM GREY, VERY FINE GRAINED, MOODERATELY HARD TO FRIABLE, THINLY BEDDED, INTERBEDDED WITH SILTSTONE AND MUDSTDNE, CONVOLUTED CROSS-BEDDING AND OCCASIONAL SOFT SEDIMENT	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					DEFDRMATION, HIGH CLAY CONTENT, CALCITE INFILLED FRACTURE AT 32.83M(6CM THICK), OCCASIONAL VERY HARD BROWN SANDSTONE BAND, SLIGHTLY CALCARCEOUS WITH CALCITE VEINLETS			
35.00	38.20	3.20	SS1		LIGHT TO MEDIUM GREY, VERY FINE TO FINE GRAINED SANDSTONE THINLY BEDDED WITH THINLY BEDDED AND LAMINATED SILTSTONE AND MUDSTONE, CLAYEY, MODERATELY HARD TO FRIABLE, BROKEN THROUGHOUT, OCCASIONAL VERY HARD, VERY FINE GRAINED SANDSTONE BANOS, SLIGHTLY CALCARCEOUS, MINOR CALCITE VEINLETS, FOSSILIFEROUS, MINOR PYRITE	72.0	AVG	
38.20	61.16	22.96	SS1		LIGHT TO DARK GREY, VERY FINE TO FINE GRAINED, INTERBEDDED WITH VERY THINLY BEDDED SILTSTONE AND MUDSTONE, OCCASIONAL CONVOLUTED, OCCASIONAL VERY HARD BROWN VERY FINE GRAINED SANDSTONE BANDS, SLIGHTLY CALCARCEOUS, CALCITE VEINLETS, BROKEN	74.0	AVG	
61.16	61.51	.35	COAL		(RECOVERED .20M), MAINLY DULL WITH MINOR BRIGHT	72.0	61.2 2	81

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BANDS, HARD, FRACTURED AND BROKEN, SLICKENSIDED ALONG FRACTURE, MODERATELY POLISHED WITH VISIBLE PYRITE, MINOR CALCITE ALONG CLEAT (RECOVERY 57%), SEPARATION WITH ROOF, VISUAL, GOOD, PHYSICAL, FAIR, SEPARATION WITH FLOOR, VISUAL AND PHYSICAL, UNCERTAIN DUE TO CORE LOSS			
61.51	62.56	1.05	MUDSTONE	SLST	LIGHT TO MEDIUM GREY, MODERATELY HARD, VERY THINLY BEDDED WITH SILTSTONE INTERBEDS, OCCASIONAL WAVY MUDSTONE AND SILTSTONE LAMINAE, HIGHLY FRACTURED AND BROKEN (FAULT ZONE?), SLICKENSIDED, MINOR CALCITE	NDAT	NDAT	
62.56	62.92	.36	COAL		MISSING	NDAT	NDAT	
62.92	64.16	1.24	MUDSTONE	CARBONACE- OUS	DARK GREY TO BLACK, MODERATELY HARD, FISSILE, CARBONACEOUS WITH COALY DEBRIS THROUGHOUT, HIGHLY FRACTURED AND BROKEN, POWDERY IN PLACES (FAULT ZONE?)	NDAT	NDAT	
64.16	64.88	.72	COAL		(RECOVERED .13M), DULL AND BRIGHT BANDS, HARD, CUBIC AND CONCHOIAL	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					FRACTURE, FAIR STICK (RECOVERY 18%), SEPARATION WITH ROOF AND FLOOR, UNCERTAIN DUE TO CORE LOSS, POOR RECOVERY NOT SAMPLED			
64.88	66.18	1.30	MUDSTONE	SLST	MEDIUM TO DARK GREY, VERY THINLY BEDDED, INTERBEDDED WITH SILTSTONE, OCCASIONAL WAVY LAMINAE, MODERATELY HARD, FISSILE, BROKEN	74.0	AVG	
66.18	67.13	.95	SS1		DARK BROWN, MASSIVE, VERY HARD, WELL CONSOLIDATED WITH CALCITE INFILL FRACTURE AT 67.05 (3CM THICK), ABUNDANT CALCITE VEINLETS, SLIGHTLY SIDERITIC, EXCELLENT STICK (IRONSTONE BAND)	NDAT	NDAT	
67.13	76.30	9.17	MUDSTONE	SLST	MEDIUM TO DARK GREY, VERY THINLY BEDDED TO THINLY BEDDED, INTERBEDDED WITH SILTSTONE AND VERY FINE GRAINED SANDSTONE, OCCASIONAL BROWN VERY HARD IRONSTONE BANDS, OCCASIONAL CALCITE VEINLETS	70.0	AVG	
76.30	81.10	4.80	SHALE		DARK GREY, MODERATELY HARD TO HARD, MASSIVE, FISSILE IN PLACES, MICACEOUS, OCCASIONAL IRONSTONE BANDS, BROWN, SIDERITIC,	NDAT	NDAT	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					CALCITE VEINLETS, FAIR TO GOOD STICK				
81.10	96.97	15.87	SLST		MEDIUM TO DARK GREY, MASSIVE, HARD, WELL CONSOLIDATED, OCCASIONAL COAL WISPS WITH VISIBLE PYRITIC MINERAL, CLAYEY INTERVALS, OCCASIONAL LOW ANGLE FRACTURE, OCCASIONAL BROWN VERY HARD IRONSTONE BANDS, OCCASIONAL CALCITE INFILL FRACTURES, MINOR FOSSIL SHELL FRAGMENTS, FAIR TO GOOD STICK	NDAT	NDAT		
96.97	98.34	1.37	SS1		LIGHT GREEN TO GREY, VERY FINE TO MEDIUM GRAINED SANDSTONE, MASSIVE, VERY HARD TO HARD, WELL CONSOLIDATED, MINOR COAL WISPS WITH VISIBLE PYRITIC MINERAL, GLAUCONITIC?(VDLC- ANIC), UPPER HALF SILTY GRADING TO MEDIUM GRAINED SANDSTONE AT BASE, CALCITE CEMENT, GOOD TO EXCELLENT STICK	NOAT	NDAT		
98.34	98.80	.46	SLST		AS ABOVE SILTSTONE UNIT	NDAT	NDAT		
98.80	101.97	3.17	SS1		LIGHT GREY, VERY FINE GRAINED SANDSTONE, MASSIVE, VERY HARD TO HARD, GLAUCONITIC?(VDLC- ANIC), OCCASIONAL COAL WISP, OCCASIONAL VISIBLE	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					PYRITIC MINERAL, OCCASIONAL BROWN VERY HARD IRONSTONE BAND, SIDERITIC, CALCITE VEINLETS, GOOD TO EXCELLENT STICK			
101.97	117.10	15.13	SLST		MEDIUM TO DARK GREY, MASSIVE, HARD, CLAYEY, BROKEN, OCCASIONAL COAL WISPS, OCCASIONAL PLANT DEBRIS AND FOSSIL SHELL FRAGMENTS	NDAT	NDAT	
117.10	120.80	3.70	SLST		AS ABOVE UNIT WITH HIGHER CLAY CONTENT	NDAT	NDAT	
120.80	128.40	7.60	SLST		MEDIUM GREY, MASSIVE, HARD, CLAYEY INTERVALS, FISSILE IN PLACES, OCCASIONAL COAL WISPS, OCCASIONAL VERY HARD BROWN SILTSTONE/IRONSTO- NE BANDS, SLIGHTLY CALCAREOUS, OCCASIONAL FOSSILIFEROUS(SHE- LLS), OCCASIONAL VISIBLE PYRITIC MINERAL, BROKEN	NDAT	NDAT	
128.40	132.45	4.05	SS1		MEDIUM GREY, VERY FINE GRAINED, MASSIVE, CLAYEY INTERVALS, FAIR TO BROKEN STICK	NDAT	NDAT	
132.45	133.20	.75	SLST		MEDIUM GREY TO BROWN, MASSIVE, VERY HARD, CALCITE CEMENTED, OCCASIONAL CALCITE INFILLED FRACTURE, OCCASIONAL IRON-RICH CARBONATE, EXCELLENT STICK	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
133.20	134.60	1.40	SLST		MEDIUM GREY, MASSIVE, HARD TO MODERATELY HARD, FISSILE IN PLACES, OCCASIONAL VISIBLE PYRITIC MINERAL, OCCASIONAL FOSSIL PLANT DEBRIS, BENTONITE CLAY CONTENT?, BROKEN	NDAT	NDAT	
134.60	140.30	5.70	SLST		MEDIUM TO DARK GREY, MASSIVE, HARD TO MODERATELY HARD, FISSILE IN PLACES, CLAYEY INTERVALS, MINOR CALCITE INFILL FRACTURES, OCCASIONAL IRONSTONE/CARBONA- TE? BANDS, OCCASIONAL PYRITE MINERAL, BROKEN	NDAT	NDAT	
140.30	141.65	1.35	MUDSTONE		DARK GREY TO BLACK, MASSIVE, MODERATELY HARD, FISSILE, BROKEN	NDAT	NDAT	
141.65	146.40	4.75	SLST		AS SILTSTONE UNIT ABOVE, BECOMING SANDY TOWARDS BASE	NDAT	NDAT	
146.40	149.31	2.91	SS1		LIGHT GREY TO GREEN, FINE GRAINED, MEDIUM TO THINLY BEDDED, FINE GRAINED SANDSTONE INTERBEDDED WITH VERY FINE GRAINED SANDSTONE AND SILTSTONE, OCCASIONAL WAVY SILTSTONE LAMINAE, OCCASIONAL CONVOLUTED BEDDING (SOFT SEDIMENT DEFORMATION), BREAKS EASILY ALONG BEDDING, MODERATELY HARD TO	76.0	AVG	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					HARD, FAIR STICK			
149.31	151.25	1.94	SLST		MEDIUM GREY, VERY THINLY BEDDED, INTERBEDDED WITH VERY FINE GRAINED SANDSTONE, POORLY DEVELOPED, MODERATELY HARD, FISSILE, CLAYEY IN PLACES, BROKEN FAIR STICK	NDAT	NDAT	
151.25	154.60	3.35	SS1		GREY TO GREEN, FINE TO MEDIUM GRAINED SANDSTONE, MASSIVE WITH OCCASIONAL SILTSTONE LAMINAE, HARD, OCCASIONAL HIGH ANGLE FRACTURE, MINOR COAL WISPS, MINOR CALCITE, OCCASIONAL IRONSTONE/CARBONATE? BANDS, FOSSILIFEROUS. GOOD TO EXCELLENT STICK	NDAT	NDAT	
154.60	159.07	4.47	SLST	SS1	DARK GREY, MODERATELY HARD, INTERBEDDED WITH VERY FINE GRAINED SANDSTONE, POORLY DEVELOPED, MORE SANDY TOWARDS BASE, FISSILE, BROKEN, OCCASIONAL IRONSTONE/CARBONATE? BANDS, CALCAREOUS, CALCITE INFILL FRACTURES, FOSSILIFEROUS	NDAT	NDAT	
159.07	164.22	5.15	SLST		DARK GREY, MASSIVE, MODERATELY HARD, CLAYEY INTERVALS, FOSSILIFEROUS, OCCASIONAL IRONSTONE/CARBONATE?	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					TE? BANDS, FAIR TO GOOD STICK				
164.22	173.40	9.18	SS1	SS2	LIGHT TO MEDIUM GREY, FINE TO MEDIUM GRAINED. THINLY TO VERY THICKLY BEDDED WITH OCCASIONAL WAVY SILTSTONE LAMINAE, POORLY DEVELOPED, WELL CONSOLIDATED, OCCASIONAL LOW ANGLE FRACTURE, OCCASIONAL IRON-RICH CARBONATE BANDS, MINOR CALCITE, COALY FLECKS AND PLANT DEBRIS THROUGHOUT, VERY HARD, GOOD TO EXCELLENT STICK	76.0	AVG		
173.40	174.45	1.05	SS1	SLST	LIGHT TO MEDIUM GREY, VERY FINE GRAINED, THINLY BEDDED SANDSTONE INTERBEDDED WITH SILTSTONE, POORLY DEVELOPED, WAVY DISTORTED LAMINAE, VERY HARD, EXCELLENT STICK	76.0	NDAT		
174.45	175.03	.58	SLST		DARK GREY, MASSIVE, VERY HARD, EXCELLENT STICK	NDAT	NDAT		
175.03	176.06	1.03	SS1		MEDIUM GREY, VERY FINE GRAINED, MASSIVE, VERY HARD, COALY FLECKS AND PLANT DEBRIS THROUGHOUT, EXCELLENT STICK	NDAT	NDAT		
176.06	176.96	.90	SLST		DARK GREY, MASSIVE, VERY HARD, COALY DEBRIS THROUGHOUT, MINOR VISIBLE PYRITIC	NDAT	NDAT		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					MINERAL, EXCELLENT STICK			
176.96	178.80	1.84	SS1		MEDIUM TO DARK GREY, VERY FINE GRAINED, MASSIVE, VERY HARD, COALY DEBRIS THROUGHOUT, OCCASIONAL IRON-RICH CARBONATE BAND OR CONCRETION, MINOR CALCITE VEINLETS, EXCELLENT STICK	NDAT	NDAT	
178.80	180.98	2.18	SS1		MEDIUM GREY, FINE GRAINED, MASSIVE, MODERATELY HARD TO HARD, HIGHLY BIOTURBATED INTERVALS, GOOD STICK	NDAT	NDAT	
180.98	182.82	1.84	SLST		MEDIUM TO DARK GREY, MASSIVE, HARD, SANDY, COALY DEBRIS THROUGHOUT, MINOR PYRITE, GOOD STICK	NDAT	NDAT	
182.82	207.05	24.23	SS1	SS2	LIGHT TO MEDIUM GREY, FINE TO MEDIUM GRAINED, MASSIVE, VERY HARD, BIOTURBATED INTERVALS, OCCASIONAL FOSSIL SHELLS, OCCASIONAL IRON-RICH CARBONATE BANDS AND CLASTS, OCCASIONAL CALCITE INFILL FRACTURE AND VEINLETS, EXCELLENT STICK	NDAT	NDAT	
207.05	207.27	.22	COAL	HIGH ASH	DULL AND BRIGHT INTERBANDED, HARD, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE ALONG CLEAT, MINOR BONE COAL, HIGH ASH	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHDLDGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					UNIT, GOOD STICK (RECOVERY 100%), NOT SAMPLED				
207.27	207.82	.55	MUDSTONE	CARBONACE- OUS	DARK GREY TO BLACK, THINLY LAMINATED, INTERBEDDED WITH COALY LAMINAE, HARD, FOSSIL PLANT DEBRIS THROUGHOUT, GOOD STICK	76.0	NDAT		
207.82	218.24	10.42	SS1	SLST/MDST	LIGHT TO DARK GREY, VERY FINE TO FINE GRAINED SANDSTONE, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH SILTSTONE AND MUDSTONE, VARVED, BREAKS EASILY ALDNG BEDDING, OCCASIONAL IRON-RICH CARBDNATE BANDS AND CLASTS, COALY FLECKS AND PLANT DEBRIS THROUGHOUT, BECOMING MORE SANDY TDWARDS BASE, GOOD STICK	78.0	AVG		
218.24	220.12	1.88	CDAL	CLEAN	MAINLY BRIGHT WITH DULL BANDS, HARD, CUBIC AND CONCHOIDAL FRACTURES, MINOR CALCITE ALONG CLEAT, MINOR PYRITE, BRITTLE, BLOCKY, FAIR STICK (RECOVERY 100%), SEPARATION WITH ROOF, VISUAL-EXCELLENT, PHYSICAL-FAIR, SEPARATION WITH FLOOR, VISUAL-GOOD, PHYSICAL-FAIR	78.0	NDAT 1		82
220.12	220.65	.53	MUDSTDNE		MEDIUM TO DARK	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					GREY, MASSIVE, HARD, COALY PLANT DEBRIS, GOOD STICK			
220.65	221.04	.39	SHALE	CARBONACE- OUS	DARK BROWN TO BLACK, THINLY LAMINATED, INTERBEDDED WITH COALY LAMINAE, BECOMING COALY TOWARDS BASE, GOOD STICK	NDAT	NDAT	
221.04	221.22	.18	COAL	DIRTY	MAINLY DULL WITH BRIGHT BANDS, HARD, CONCHOIDAL AND CUBIC FRACTURE, MINOR CALCITE ALONG CLEAT, MINOR PYRITE, GOOD STICK (RECOVERY 100%), NOT SAMPLED	72.0	NDAT	
221.22	221.70	.48	SHALE	CARBONACE- OUS	DARK BROWN TO BLACK, THINLY LAMINATED, INTERBEDDED WITH COALY LAMINAE, HARD, SLICKENSIDED, VISIBLE PYRITE, BROKEN	NDAT	NDAT	
221.70	227.83	6.13	COAL		(RECOVERED 4.05M). BRIGHT AND DULL INTERBANDED, HARD, CUBIC AND CONCHOIDAL FRACTURE, BRITTLE IN PLACES, BLOCKY TO POWDERY, OCCASIONAL PYRITE BANDS, OCCASIONAL HIGH ASH INTERVALS, HIGHLY FRACTURED AND BROKEN, (RECOVERY 66%)SEPARATION WITH ROOF, VISUAL-POOR, PHYSICAL-FAIR, SEPARATION WITH FLOOR,	NDAT	NDAT 1	83

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					VISUAL-POOR, PHYSICAL-FAIR			
227.83	228.28	.45	MUDSTONE	CARB/COALY	DARK BROWN, THINLY LAMINATED, INTERBEDDED WITH COAL BANDS, HARD, BROKEN	NDAT	NDAT	
228.28	228.62	.34	COAL	DIRTY	MAINLY DULL WITH MINOR BRIGHT BANDS, HARD, BROKEN, SLICKENSIDED (RECOVERY 100%), SEPARATION WITH ROOF, VISUAL AND PHYSICAL-FAIR, SEPARATION WITH FLOOR, VISUAL-FAIR, PHYSICAL-POOR	NDAT	NDAT 1	84
228.62	228.87	.25	MUDSTONE	COALY	DARK BROWN TO BLACK, COALY/CARBONACEOU- S, HARD, CALCITE INFILLED FRACTURES .03M THICK, MINOR BONE COAL, GOOD STICK	NDAT	NDAT	
228.87	229.44	.57	MUDSTONE		BROWN, MASSIVE, COALY PLANT DEBRIS THROUGHOUT, HARD, EXCELLENT STICK	NDAT	NDAT	
229.44	230.67	1.23	COAL	CLEAN	BRIGHT AND DULL INTERBANDS, HARD, CUBIC AND CONCHOIDAL FRACTURES, MINOR CALCITE ALONG CLEAT, MINOR PYRITE, BROKEN STICK (RECOVERY 100%), SEPARATION WITH ROOF, VISUAL AND PHYSICAL-FAIR, SEPARATION WITH FLOOR, VISUAL AND PHYSICAL-POOR	74.0	NDAT 1	85
230.67	231.35	.68	MUDSTONE	CARBONACE-	DARK BROWN TO	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
				OUS	BLACK, MASSIVE, HARD, TOP HALF COALY, SLIGHTLY SILTY, BROKEN			
231.35	231.53	.18	COAL	DIRTY	MAINLY DULL WITH BONE COAL, HARD BROKEN, SLICKENSIDED (RECOVERY 100%), SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL-FAIR	NDAT	NDAT	
231.53	236.56	5.03	SLST	SS1	DARK GREY, MASSIVE, HARD, OCCASIONAL IRON-RICH CARBONATE BANDS, OCCASIONAL CALCITE INFILLED FRACTURES, COALY PLANT DEBRIS THROUGHOUT, SANDY INTERVALS CONVOLUTED BEDDING, GOOD STICK	NDAT	NDAT	
236.56	237.10	.54	COAL	DIRTY	MAINLY DULL WITH BRIGHT BANDS, HARD, CUBIC AND CONCHOIDAL FRACTURES, SLICKENSIDED, HIGHLY POLISHED, BROKEN (RECOVERY 100%), SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL-FAIR	NDAT	NDAT	86
237.10	241.72	4.62	SS1		GREY TO BROWN, VERY FINE TO FINE GRAINED SANDSTONE, MASSIVE WITH OCCASIONAL THINLY BEDDED MEDIUM GRAINED SANDSTONE, CLAYEY INTERVALS, COALY DEBRIS THROUGHOUT, IRONSTONE,	74.0	241.2	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					EXCELLENT STICK			
241.72	243.73	2.01	SLST		DARK GREY, MASSIVE, HARD, COALY BANDS, MINOR CALCITE VEINLETS, GOOD STICK	NDAT	NDAT	
243.73	245.31	1.58	VOLCANICS	TUFF	BEIGE, MASSIVE, VERY HARD, SANDY LOWER HALF, EXCELLENT STICK	NDAT	NDAT	
245.31	246.11	.80	IRONSTONE		DARK BROWN, MASSIVE, VERY HARD, IRONSTONE/IRON-RI- CH CARBONATE ROCK, OCCASIONAL CALCITE VEINLETS, EXCELLENT STICK	NDAT	NDAT	
246.11	248.60	2.49	MUDSTONE		DARK GREY TO BLACK, MASSIVE, HARD, SILTY, OCCASIONAL LOW ANGLE FRACTURE, HIGHLY POLISHED, GOOD STICK	NDAT	NDAT	
248.60	249.39	.79	SS2		LIGHT GREY, MEDIUM GRAINED SANDSTONE, CONVOLUTED BEDDING 25 DEGREES AT TOP TO 78 DEGREES AT BASE, CALCITE CEMENTED WITH CALCITE INFILLED FRACTURES, VERY HARD, EXCELLENT STICK	NDAT	NDAT	
249.39	255.10	5.71	VOLCANICS	TUFF	BROWN, MASSIVE, HARD, SANDY, EXCELLENT STICK, TOTAL DEPTH 255.1M	NDAT	NDAT	

CORE DESCRIPTION

HOLE.ID TWB2D-228
 PROJECT TELKWA
 AREA SMITHERS
 DRIL.DATE NO.DATA
 LDG.DATE 820805
 EXAMINED.BY R.KOSTIUK

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM ,
.00	49.67	49.67	OVERBURDEN		DRILLED WITH ROCK BIT - NO CORE RECOVERY	NDAT	NDAT	
49.67	57.60	7.93	SLST		MEDIUM TO DARK GREY, MODERATELY HARD, MASSIVE, CLAYEY, BROKEN - RECOVERY 71%	NDAT	NDAT	
57.60	71.10	13.50	MUDSTONE		MEDIUM TO DARK GREY, MODERATELY HARD, MASSIVE, SILTY, FISSILE IN PLACE, BROKEN STICK, 10CM BENT SANDSTONE BAND AT 60.1M	NDAT	NDAT	
71.10	71.65	.55	SLST		BEIGE, VERY HARD, MASSIVE, HIGHLY FRACTURED INFILLED WITH SOFT WHITE FEATHERY MINERAL (ZEOLITES OR ANHYDRITE/GYPSUM) SLIGHTLY CALCAREOUS MATRIX BROKEN	NDAT	NDAT	
71.65	73.60	1.95	SLST		MEDIUM TO DARK GREY, MODERATELY HARD, INTERBEDDED WITH VERY FINE TO FINE GRAINED SANDSTONE, POORLY DEVELOPED, OCCASIONAL WAVY LAMINAE, CLAYEY INTERVALS, BROKEN STICK	NDAT	NDAT	
73.60	75.50	1.90	SS1	SLST	LIGHT TO MEDIUM GREY, VERY HARD TO HARD, VERY FINE TO FINE GRAINED	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SANDSTONE INTERBEDDED WITH SILTSTONE AND MUDSTONE LAMINAE, WAVY CONVOLUTED BEDDING (BIOTURBATION SOFT SEDIMENTARY DEFDRMATION), BROKEN STICK			
75.50	78.87	3.37	SS1		LIGHT GREY TO GREEN, HARD, FINE TO MEDIUM GRAIN SANDSTONE INTERBEDDED WITH OCCASIONAL WAVY MUDSTONE AND SILTSTONE LAMINAE, COALY FLECKS, BIOTURBATION, OCCASIONAL CROSS-BEDDING, GOOD STICK	78.0	AVG	
78.87	80.40	1.53	SLST	SS1	LIGHT TO MEDIUM GREY, HARD, INTERBEDDED WITH VERY FINE TO FINE GRAINED SANDSTONE, CONVOLUTED BEDDING, MINOR FAULTS, BRDKEN STICK	NDAT	NDAT	
80.40	88.16	7.76	SS1		LIGHT GREY TO LIGHT GREEN, HARD, VERY FINE TO FINE GRAIN SANDSTONE INTERBEDDED WITH THINLY LAMINATED SILTSTONE, CLAYEY INTERVALS, CONVOLUTED BEDDING, OCCASIONAL CROSS-BEDDING, OCCASIONAL CALCITE VEINLETS, OCCASIONAL COALY DEBRIS, MINOR SHELL FOSSIL, BROKEN TO FAIR STICK	NDAT	NDAT	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
88.16	91.04	2.88	SLST		MEDIUM TO DARK GREY, HARD, MASSIVE WITH CLAYEY INTERVALS, OCCASIONAL CALCITE VEIN, TOP .25M VERY HARD BROWN SILTSTONE, FRACTURE WITH INFILL CALCITE, BROKEN STICK	NDAT	NDAT		
91.04	106.40	15.36	SS1	SLST	LIGHT TO MEDIUM GREY, HARD, FINE TO MEDIUM GRAIN THICKLY BEDDED WITH THINLY BEDDED SILTSTONE, OCCASIONAL CLAYEY INTERVALS, OCCASIONAL CONVOLUTED BEDDING AND CROSS-BEDDING, OCCASIONAL VERY HARD BROWN SILTSTONE LAYERS, HIGHLY FRACTURED WITH CALCITE INFILL, GOOD TO FAIR STICK	73.0	AVG		
106.40	111.80	5.40	SS1	SLST	MEDIUM TO DARK GREY, VERY FINE GRAIN SANDSTONE INTERBEDDED WITH SILTSTONE, THICK TO VERY THINLY BEDDED, CLAYEY INTERVALS, OCCASIONAL CONVOLUTED BEDDING, OCCASIONAL VERY THIN BANDS OF VERY HARD BRDWN SILTSTONE (IRONSTONE), FAIR STICK	74.0	108.6		
111.80	143.60	31.80	SLST	SS1,MDST	MEDIUM TO DARK GREY, MODERATELY HARD TO HARD, MASSIVE WITH SANDY	NDAT	NDAT		

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					AND CLAYEY INTERVALS, OCCASIONAL THINLY LAMINATED MUDSTONE LAYERS; OCCASIONAL BROWN VERY HARD SILTSTONE BANDS, FRACTURE WITH CALCITE INFILL. OCCASIONAL COAL WISPS, OCCASIONAL SLICKENSIDED FRACTURE, FAIR TO GOOD STICK				
143.60	145.64	2.04	COAL	CLEAN	RECOVERED 1.98M; DULL WITH BRIGHT BANDS, HARD, BRITTLE IN PLACES, CONCHOIDAL AND CUBIC FRACTURE, MINOR CALCITE ALONG CLEAT, VISIBLE PYRITE, FAIR STICK - RECOVERY 97% - SEPARATION WITH ROOF, VISUAL - GOOD, PHYSICAL - FAIR, SEPARATION WITH FLOOR, VISUAL - GOOD, PHYSICAL - FAIR, 80 DEGREES AT 145.64	80.0	AVG 1	72	
145.64	145.97	.33	MUDSTONE		DARK BROWN TO BLACK, MODERATELY HARD, MASSIVE, COALY DEBRIS THROUGHOUT, SLIGHTLY CARBONACEOUS, SLICKENSIDED, PLANT FOSSIL, BROKEN	NDAT	NDAT		
145.97	146.56	.59	COAL		RECOVERED .54M; BRIGHT AND DULL BANDED, HARD, CONCHOIDAL AND CUBIC FRACTURE, MINOR CALCITE ALONG CLEAT, MINOR PYRITE, LOWER HALF	NDAT	NDAT 1	73	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					HIGHER ASH CONTENT, BROKEN - RECOVERY 92% - SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL - FAIR			
146.56	146.73	.17	MUDSTONE		DARK BROWN, HARD, MASSIVE, COALY DEBRIS THROUGHOUT, SLIGHTLY CARBONACEOUS, SLICKENSIDED, BROKEN	NDAT	NDAT	
146.73	149.15	2.42	COAL		DULL WITH BRIGHT BANDS, HARD, CONCHOIDAL AND CUBIC FRACTURES, MINOR CALCITE ALONG CLEATS, MINOR PYRITE, OCCASIONAL HIGH ASH INTERVALS, BROKEN - RECOVERY 100% - SEPARATION WITH ROOF, VISUAL - GOOD, PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - POOR	NDAT	NDAT 1	74
149.15	150.24	1.09	MUDSTONE	COALY	DARK GREY TO BLACK, HARD, THINLY LAMINATED TO THIN BEDDED, POORLY DEVELOPED, CARBONACEOUS WITH OCCASIONAL COAL BAND, FAIR STICK	NDAT	NDAT	
150.24	151.66	1.42	COAL		RECOVERED 1.34M; BRIGHT AND DULL BANDS, HARD, CONCHOIDAL AND CUBIC FRACTURE, MINOR CALCITE ALONG CLEAT, OCCASIONAL HIGH ASH INTERVAL, BECOMING SHALEY AT BASE, FAIR STICK -	82.0	AVG 1	75

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					RECOVERY 94% - SEPARATION WITH ROOF, VISUAL AND PHYSICAL - POOR; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - FAIR			
151.66	154.90	3.24	MUDSTONE		MEDIUM TO DARK GREY; MODERATELY HARD, SILTY, COALY WISPS THROUGHOUT, MINOR CALCITE VEINLETS, FAIR STICK	85.0	AVG	
154.90	156.28	1.38	SS1	SLST	LIGHT BROWN TO LIGHT GREY, VERY HARD, THICKLY LAMINATED VERY FINE GRAIN SANDSTONE INTERBEDDED WITH SILTSTONE, MODERATELY DEVELOPED, SLIGHTLY CALCAREOUS THROUGHOUT, TOP .35M SIDERITIC WITH CALCITE INFILLED FRACTURE, OCCASIONAL CROSS-BEDDING, GOOD STICK	78.0	155.5	
156.28	156.50	.22	MUDSTONE		DARK GREY, HARD, MASSIVE, SLIGHTLY CARBONACEOUS, FOSSIL PLANT DEBRIS THROUGHOUT	NDAT	NDAT	
156.50	157.60	1.10	COAL	DIRTY	RECOVERED .60M; MAINLY DULL WITH OCCASIONAL BRIGHT BANDS, HARD, BLOCKY, MINOR CALCITE ALONG CLEAT, HIGH ASH UNIT - RECOVERY 55% - SEPARATION WITH ROOF, VISUAL - GOOD, PHYSICAL - FAIR; SEPARATION	NDAT	NDAT	

107
1.00
1.00
1.50
2.00

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					WITH FLOOR, VISUAL AND PHYSICAL - POOR			
157.60	158.78	1.18	MUDSTONE	COALY	BLACK, HARD, COALY/CARBONACEOU- S, FOSSIL PLANT DEBRIS, SLIGHTLY SILTY, MINOR CALCITE VEINLETS	NDAT	NDAT	
158.78	160.40	1.62	SS2	SS1, SLST	BROWN TO GREY, VERY HARD, MEDIUM GRAIN SANDSTONE INTERBEDDED WITH THINLY LAMINATED FINE GRAIN SANDSTONE AND SILTSTONE GRADING COARSER TOWARDS BASE, FAULT AT 159.84 45 DEGREE, GOOD STICK	72.0	159.9	
160.40	161.70	1.30	MUDSTONE	SL, CARBON- ACEOUS	MEDIUM TO DARK GREY, MODERATELY HARD, MASSIVE WITH OCCASIONAL WAVY COALY LAMINAE, MINOR CALCITE VEINLETS, LOWER 30CM SANDY, GOOD STICK	72.0	161.5	
161.70	162.54	.84	MUDSTONE	CARBONACE- OUS	BLACK, HARD, COALY/CARBONACEOU- S, MINOR CALCITE WISPS, GOOD STICK	NDAT	NDAT	
162.54	162.74	.20	COAL	DIRTY	BRIGHT AND DULL BANDS, HARD, CONCHOIDAL AND CUBIC FRACTURE, MINOR CALCITE ALONG CLEATS, GOOD STICK - RECOVERY 100% - SEPARATION WITH ROOF AND FLOOR - POOR	NDAT	NDAT	
162.74	163.67	.93	MUDSTONE	COALY	BLACK, HARD, MASSIVE, COALY/CARBONACEOU- S, MINOR CALCITE	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					WISPS, FAIR STICK			
163.67	166.47	2.80	MUDSTONE		DARK GREY, MODERATELY HARD, FISSILE IN PLACES, MASSIVE WITH SANDY INTERVALS, COALY WISPS THROUGHOUT, BROKEN TO FAIR STICK	NDAT	NDAT	
166.47	169.12	2.65	SLST		LIGHT BROWN, VERY HARD, MASSIVE, BECOMING SANDY TOWARDS BASE, OCCASIONAL FAULT (45 DEGREE)	NDAT	NDAT	
169.12	169.99	.87	MUDSTONE	CARBONACEOUS	DARK GREY TO BLACK, HARD TO MODERATELY HARD, MASSIVE, LOWER 30CM COALY, BROKEN	NDAT	NDAT	
169.99	171.72	1.73	SLST		BROWN TO GREY, VERY HARD, MASSIVE WITH COALY WISPS THROUGHOUT, WELL CONSOLIDATED, LOWER HALF SLIGHTLY CARBONACEOUS, GOOD TO EXCELLENT STICK	NDAT	NDAT	
171.72	175.82	4.10	MUDSTONE	CARBONACEOUS	MEDIUM GREY TO BLACK, MODERATELY HARD TO HARD, MASSIVE WITH COALY INTERVALS, FISSILE IN PLACE, MINOR CALCITE, SLIGHTLY BENTONITIC IN PLACES, BROKEN	NDAT	NDAT	
175.82	178.40	2.58	SLST		MEDIUM TO DARK GREY, MASSIVE, COALY WISPS THROUGHOUT, SANDSTONE INTERVALS, OCCASIONAL FAULT (40 DEGREE) SLICKENSIDED, FAIR TO GOOD STICK	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
178.40	180.70	2.30	SS4	SS1	BROWN, PEBBLE CONGLOMERATE WITH FINE GRAIN SANDSTONE LAYERS, THIN TO THICKLY BEDDED, WELL CONSOLIDATED, OCCASIONAL COALY MATERIAL, UPPER 60CM FINE GRAINED SANDSTONE, EXCELLENT STICK	70.0	AVG	
180.70	182.25	1.55	MUDSTONE		BROWN, MODERATELY HARD, SILTY IN PLACES, FISSILE IN PLACES, SLICKENSIDED, BROKEN	NDAT	NDAT	
182.25	182.79	.54	SLST		BROWN, VERY HARD, MASSIVE, WELL CONSOLIDATED, MINOR CALCITE ALONG FRACTURE, EXCELLENT STICK	NDAT	NDAT	
182.79	183.26	.47	SS4		BROWN TO GREY, COARSE GRAIN TO GRANULAR SANDSTONE, VERY HARD, WELL CONSOLIDATED, EXCELLENT STICK	72.0	183.0	
183.26	184.31	1.05	SLST		BROWN, MASSIVE, MODERATELY HARD TO HARD, FISSILE IN PLACES, CLAYEY INTERVALS, BROKEN	NDAT	NDAT	
184.31	185.28	.97	SS3		BROWN TO GREY, COARSE GRAIN TO GRANULAR SANDSTONE, THICKLY BEDDED, POORLY DEVELOPED, COALY DEBRIS, CLAYEY, LOWER .30M FINE GRAIN SANDSTONE, EXCELLENT STICK	NDAT	NDAT	
185.28	187.28	2.00	SLST		BROWN, MASSIVE,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					CARBONACEOUS IN PLACES, COALY DEBRIS THROUGHOUT, SLICKENSIDED, BROKEN TO FAIR STICK			
187.28	188.50	1.22	SS1		BROWN, FINE GRAIN SANDSTONE, THICKLY BEDDED WITH THIN BEDDED GRANULAR SANDSTONE LAYERS AT BASE, WELL CONSOLIDATED, EXCELLENT STICK	78.0	188.1	
188.50	189.07	.57	SS4		BROWN, COARSE GRAIN TO CONGLOMERATE, MEDIUM BEDDED WITH THIN LAYERS OF FINE GRAIN SANDSTONE, COALY DEBRIS, CALCITE INFILL FRACTURE, GOOD STICK	NDAT	NDAT	
189.07	192.85	3.78	MUDSTONE		LIGHT BROWN, MASSIVE, SILTY IN PLACES, CARBONACEOUS IN PLACES, FISSILE, MODERATELY HARD, BROKEN TO FAIR STICK	NOAT	NDAT	
192.85	193.99	1.14	MUDSTONE	CARBONACEOUS	DARK BROWN TO BLACK, THICKLY BEDDED CARBONACEOUS MUDSTONE, COALY IN PLACES, SLICKENSIDED, BECOMING SILTY AT BASE, BROKEN	72.0	193.1	
193.99	196.99	3.00	SLST		BROWN TO MEDIUM GREY, MASSIVE, OCCASIONAL COALY DEBRIS, OCCASIONAL VERY FINE GRAIN SANDSTONE INTERVALS, FAIR STICK	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
196.99	200.30	3.31	VOLCANICS		PURPLE TO RED, FINE GRAIN, MASSIVE, EXCELLENT STICK	NDAT	NDAT	
200.30	-1.00	-1.00	UNKNOWN		TOTAL DEPTH	NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TW82D-229
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820726
 LOG DATE 820800
 EXAMINED BY C.LANGILL

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	6.70	6.70	OVERBURDEN			NDAT	NDAT	
6.70	7.67	.97	SS1		LIGHT GREY TO GREY, ABUNDANT DISTINCT PLANAR SILTSTONE LAMINAE OF DARK GREY, BROKEN TO CRUMBLED CORE, ABUNDANT VITREOUS GRAINS OF WHITE MICA	82.0	6.7	
7.67	12.08	4.41	SLST	SS1	MEDIUM GREY SILTSTONE WITH ABUNDANT BANDS AND LAMINAE OF LIGHT GREY FINE GRAINED SANDSTONE, LAMINAE ARE VAGUE AND WAVY, OCCASIONAL SOFT SEDIMENT DEFORMATION;HIGH ANGLE FAULTS, BROKEN CORE, CRUMBLED FROM 9.4-10.7, OCCASIONAL SLICKENSIDES, RARE CALCITE VEINS	NDAT	NDAT	
12.08	12.46	.38	SS1		VERY FINE GRAIN SANDSTONE, LIGH GREY, MASSIVE, HARD, CALCITE VEINS, STICK	NDAT	NDAT	
12.46	14.66	2.20	SS1	SILTSTONE	LIGHT GREY SANDSTONE AND DARK GREY SILTSTDNE LAMINAE, LAMINAE ARE VAGUE AND WAVY, BROKEN CORE, BECOME MUDDY	67.0	13.2	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					TOWARDS BDTTDM			
14.66	20.16	5.50	MUDSTONE	SLST	SILTY, DARK GREY MUDSTONE, MASSIVE, STICK WITH SOME BROKEN CORE. VERY VAGUE WAVY LAMINAE AND LIGHT GREY CALCITE CONCRETIONS IN MIDDLE	NDAT	NDAT	
20.16	30.93	10.77	SLST	SS1	VERY FINE GRAINED SANDSTONE, DARK GREY, SLIGHTLY SANDY SILTSTONE, ABUNDANT VITREOUS GRAIN SURFACES, MASSIVE, HARD, STICK	NDAT	NDAT	
30.93	37.17	6.24	SLST	SS1	DARK GREY SILTSTONE WITH ABUNDANT LAMINAE OF MEDIUM GREY VERY FINE GRAIN SANDSTONE, HARD, STICK CORE, RARE CRUMBLED ZONES	77.0	35.6	
37.17	37.59	.42	SS1		LIGHT GREY VERY FINE GRAINED SANDSTONE, MASSIVE EXTREMELY HARD, VERY CALCAREOUS, STICK	NDAT	NDAT	
37.59	44.50	6.91	SLST	SS1	VERY FINE GRAINED SANDSTONE, DARK GREY SILTSTONE WITH OCCASIONAL WAVY LAMINAE OF LIGHT GREY SANDSTONE, CROSS LAMINATION, OCCASIONAL 5CM BANDS OF FINE GRAIN SANDSTONE BEDDING ANGLE 67-72 OCCASIONAL BANDS OF BROWN-GREY EXTREMELY HARD SILTSTONE	70.0	41.1	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
44.50	51.21	6.71	SLST	MUDSTONE	VERY CLAYEY DARK GREY SILTSTONE, MASSIVE WITH ABUNDANT LAMINAE, OCCASIONAL MEDIUM BROWN-GREY EXTREMELY HARD SILTSTONE, BROKEN CORE	NDAT	NDAT	
51.21	59.22	8.01	SLST	SS1	DARK GREY SILTSTONE WITH GRADATIONAL CHANGES TO LIGHT GREY FINE GRAIN SANDSTONE BANDS, MASSIVE, HARD, STICK CORE, OCCASIONAL MUDSTONE BANDS, (OCCASIONAL ZONES OF OIL SOAKED CORE - CRUDE OR DRILLING SPILL?)	72.0	51.4	
59.22	65.51	6.29	MUDSTONE	SILTSTONE	DARK GREY MUDSTONE WITH SILTY ZONES AND OCCASIONAL 3-6CM BANDS OF LIGHT GREY SANDSTONE, HARD, MASSIVE, STICK CORE	NDAT	NDAT	
65.51	65.80	.29	SLST	SS1	INTERBEDDED DARK GREY SILTSTONE AND LIGHT GREY SANDSTONE LAMINAE, STICK	73.0	65.8	
65.80	70.96	5.16	SLST	MUDSTONE	DARK GREY CLAYEY SILTSTONE WITH OCCASIONAL BANDS AND IRREGULAR LENSES OF LIGHT GREY FINE GRAIN SANDSTONE, MASSIVE, HARD, STICK, OCCASIONAL SPHERICAL CONCRETIONSAND BANDS OF	71.0	67.7	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BROWN-GREY EXTREMELY HARD SILTSTONE BECOMING SLIGHTLY GREENISH GREY IN BOTTOM 50CM			
70.96	71.86	.90	MUDSTONE	SILTSTONE	DARK GREY SILTY MUDSTONE, MASSIVE, HARD STICK TOP 20CM, CRUMBLD AT BOTDM WITH POWOERY CLAY COATING	NDAT	NDAT	
71.86	72.46	.60	MUDSTONE	SILTSTONE	AS ABOVE, BUT BROKEN HARD CORE, OCCASIONAL SLICKENSIDES	NOAT	NDAT	
72.46	76.19	3.73	SS2	SS1	MEDIUM GREY-GREEN, BROKEN STICK, OCCASIONAL CALCITE FILLED FRACTURES AT 37 DEGREE FRDM CORE AXIS, SILL OR DIKE, OCCASIONAL INCLUSIDNS AND LENSES OF COAL, LOWER CONTACT ABRUPT WITH COAL AND SILTSTONE, SMALL NODULES WITH PYRITE IN THIS CONTACT ZONE	NDAT	NDAT	
76.19	77.89	1.70	SLST		MEDIUM GREY, SLIGHT GREENISH, MASSIVE, HARD, SEMI STICK, VAGUE DISTORTED LAMINATION	NDAT	NDAT	
77.89	78.60	.71	MUDSTONE		DARK GREY, MASSIVE, STICK CORE, HARD, OCCASIONAL COAL LENSES	54.0	77.9	
78.60	79.20	.60	COAL		DULL WITH 10% BRIGHT, OCCASIDNAL CALCITE DN CLEATS ABRUPT VISIBLE UPPER CONTACT,	NDAT	NDAT 8	250

CORE		DESCRIPTION						
TOP	BASE	THICK'	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					GRADATIONAL UPPER CONTACT FOR 3CM INTO MUOSTONE; RECOVERY 100%			
79.20	79.45	.25	MUDSTONE		DARK GREY, MASSIVE, BROKEN CORE, VERY CARBNACEOUS IN TOP 3CM	NDAT	NDAT	
79.45	83.77	4.32	SS1	SLST/MDST	LIGHT GREY SANDSTONE WITH ABUNDANT LAMINAE OF DARK GREY SILTSTONE AND MUDSTONE, LAMINATIONS ARE DISTINCT AND PLANAR, BUT OCCASIONALLY DISTORTED AND WAVY, OCCASIONAL CROSS-LAMINATIONS, OCCASIONAL BANDS OF MASSIVE SANDSTONE UP TO 20CM THICK, OCCASIONAL BANDS OF LIGHT BROWN, EXTREMELY HARD SILTSTONE UP TO 3CM THICK, BEDDING ANGLES 63, 79, 71, 72, 71, 74	72.0	81.0	
83.77	85.57	1.80	SLST	SS1	DARK GREY SILTSTONE LAMINAE WITH LIGHT GREY VERY FINE GRAIN SANDSTONE, ABUNDANT VERY THIN WAVY LAMINAE, FEWER AND THINNER LAMINATIONS TOWARDS BOTTOM, STICK CORE	NDAT	NDAT	
85.57	85.99	.42	MUDSTONE		DARK GREY, CARBNACEOUS, LAMINATIONS, HARD, OCCASIONAL COAL LENSES < .5CM THICK, SLIGHTLY	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SILTY, STICK, RARE CURVED SLICKENSIDES			
85.99	87.13	1.14	COAL		VERY CLEAN, DULL WITH 20% BRIGHT, HARD, SEMI-STICK CORE ABRUPT VISIBLE CONTACTS: RECOVERY 1.00/1.14 = 88%	NDAT	NDAT 7	251
87.13	89.07	1.94	SS1	SLST	LIGHT GREY WITH ABUNDANT VAGUE LAMINAE OF DARK GREY SILTSTONE, MOSTLY DISTORTED BY SOFT SEDIMENT DEFORMATION, OCCASIONAL CARBONACEOUS PARTINGS	71.0	88.0	
89.07	92.67	3.60	MUDSTONE	SLST	DARK GREY SILTY MUDSTONE WITH ABUNDANT VERY THIN LAMINAE, BECOMING SILTIER TOWARDS BOTTOM, BROKEN STICK	72.0	89.4	
92.67	94.88	2.21	COAL		DULL WITH <10% BRIGHT 3CM BAND OF PYRITE RICH COAL AT 11CM FROM TOP. VERY HARD, BROKEN STICK, ONE SPECK OF PYRITE ON FRACTURE SURFACE <.5CM; RECOVERY 1.45/2.21 = 66%	NDAT	NDAT 6	252
94.88	96.35	1.47	SS1		LIGHT GREY, OCCASIONAL VAGUE LAMINAE OF DARK GREY SILTSTONE, FRIABLE, BROKEN CORE, OCCASIONAL VERY HARD BROWN-GREY BANDS WITH CALCITE FILLED FRACTURES, OCCASIONAL CURVED SLICKENSIDES	78.0	95.3	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
96.35	96.65	.30	SLST	MDST/SS1	MEDIUM GREY SILTSTONE WITH RHYTHMIC LAMINATIONS OF DARK GREY MUDSTONE AND OCCASIONAL LAMINATIONS OF LIGHT GREY VERY FINE GRAINED SANDSTONE, VERY THIN LAMINATIONS, SOME CROSS-LAMINATION, PLANAR MIRROR SURFACED SLICKENSIDES. SEMI STICK CORE	72.0	96.8		
96.65	96.80	.15	SLST	SS1	SANDY SILTSTONE, MEDIUM GREY, MASSIVE, EXTREMELY HARD ABUNDANT CALCITE FILLED FRACTURES	NDAT	NDAT		
96.80	97.31	.51	SLST		MEDIUM GREY CLAYEY SILTSTONE LAMINAE, BROKEN CORE, ABUNDANT CURVED MINOR SLICKENSIDES, OCCASIONAL CALCITE FILLED FRACTURES, BROKEN CORE	NDAT	NDAT		
97.31	97.56	.25	SLST	CLAYSTONE	AS ABOVE BUT CORE CRUMBLED	NDAT	NDAT		
97.56	97.94	.38	COAL		DULL WITH <10% BRIGHT, VERY HARD, STICK CORE; RECOVERY .13/.40 = 34%	NDAT	NDAT		253
97.94	98.18	.24	MUDSTONE		DARK GREY, MASSIVE, ABUNDANT CURVED SLICKENSIDES, OCCASIONAL CDAL LENSE. VERY BROKEN, 1CM THICK BAND OF CALCAREOUS	NDAT	NDAT		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					FINE GRAINED SANDSTONE WITH ABUNDANT PYRITE AT BOTTOM			
98.18	99.43	1.25	COAL		DULL WITH BRIGHT BANDS, SOME SLICKENSIDES, HARD, BROKEN STICK; RECOVERY .56/1.26 = 45%	NDAT	NDAT	254
99.43	99.65	.22	MUDSTONE		MEDIUM GREY, CRUMBLER, SOFT, ABUNDANT SMALL SLICKENSIDES, CARBONACEOUS AT BOTTOM 3CM	NDAT	NDAT	
99.65	100.01	.36	MUDSTONE	SILTSTONE	DARK GREY, CARBONACEOUS, BECOMING DARK GREY SILTSTONE AT BOTTOM HALF, BROKEN STICK	66.0	99.7	
100.01	100.13	.12	COAL		DULL WITH OCCASIONAL BRIGHT, BROKEN CORE, OCCASIONAL CALCITE	NDAT	NDAT	
100.13	100.68	.55	MUDSTONE		DARK GREY, MASSIVE, CRUMBLER ABUNDANT SMALL SLICKENSIDES	NDAT	NDAT	
100.68	101.71	1.03	MUDSTONE		DARK GREY, MASSIVE, BROKEN CORE, WITH OCCASIONAL LARGE CURVED AND PLANAR SLICKENSIDES WITH MIRROR SURFACES, VERY FINE LAMINATIONS TOWARDS BOTTOM	NDAT	NDAT	
101.71	103.28	1.57	SLST	MDST	VERY THIN LAMINAE OF DARK GREY MUDSTONE AND LIGHT GREY SANDY SILTSTONE, RHYTHMIC LAMINAE PLANAR,	67.0	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					CARBONACEOUS PARTINGS ON BEDS, BROKEN STICK, RARE CURVED SLICKENSIDES				
103.28	103.50	.22	SS1		VERY FINE GRAINED SANDSTONE, LIGHT GREY, HARD, STICK, VAGUE LAMINAE OF MEDIUM GREY SILTSTONE, STICK, MINOR CROSS-LAMINATIONS	67.0	NDAT		
103.50	104.81	1.31	MUDSTONE		LOST CORE, POSSIBLY MUDSTONE AT BASE OF FINE GRAINED SANDSTONE	NDAT	NDAT		
104.81	105.06	.25	SLST	MDST	DARK GREY CLAYEY SILTSTONE, MASSIVE, HARD, BROKEN STICK	NDAT	NDAT		
105.06	107.90	2.84	COAL		BROKEN CORE, HARD, DULL WITH OCCASIONAL BRIGHT BANDS; RECOVERY .91/2.84 = 32%	NDAT	NDAT 5		255
107.90	108.29	.39	MUDSTONE		BLACK, SOFT, SMALL CURVED SLICKENSIDES, CARBONACEOUS IN TOP 15CM, BECOMING MEDIUM GREY AND SLIGHTLY SILTY TOWARDS BOTTOM, CRUMBLD	NDAT	NDAT		
108.29	109.26	.97	MUDSTONE		LOST CORE, POSSIBLE MUDSTONE AS ABOVE	NDAT	NDAT		
109.26	109.55	.29	COAL		HARD, DULL WITH BRIGHT, BROKEN; RECOVERY .23/.29 = 79%	NDAT	NDAT 5		256
109.55	109.76	.21	MUDSTONE		DARK GREY, CRUMBLD, ABUNDANT SMALL CURVED SLICKENSIDES	NDAT	NDAT		

		CORE DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
109.76	110.08	.32	COAL		HARD, DULL WITH OCCASIONAL BANDS OF BRIGHT BROKEN CORE; RECOVERY .23/.32 = 72%	NDAT	NDAT 5	257
110.08	111.94	1.86	MUDSTONE		DARK GREY, CARBONACEOUS, MASSIVE, BROKEN CORE, 4CM BAND OF COAL 12CM FROM TOP, VAGUE MEDIUM GREY LAMINAE OF SILTSTONE NEAR BOTTOM, RARE SLICKENSIDES THROUGHOUT, LAMINAE PLANAR AND VERY THIN, 13CM OF CRUMBLD CORE NEAR BOTTOM	NDAT	NDAT	
111.94	115.25	3.31	SLST	SS1	DARK GREY SILTSTONE WITH VERY THIN LAMINATION OF MEDIUM TO LIGHT GREY FINE GRAIN SANDSTONE, BECOMING COARSER TOWARDS BOTTOM, LAMINATION AND BANDS ARE WAVY, DISCONTINUOUS AND FREQUENTLY DISRUPTED, PROBABLE SOFT SEDIMENT DEFORMATION, OCCASIONAL CARBONACEOUS PLANT FRAGMENTS, CALCITE VEINS IN MIDDLE, BROKEN CORE	NDAT	NDAT	
115.25	115.34	.09	GOUGE		CLAYEY WITH CLASTS OF SILTSTONE	NDAT	NDAT	
115.34	119.01	3.67	SS1		MEDIUM SLIGHTLY GREENISH GREY WITH OCCASIONAL LAMINAE OF DARK GREY	NDAT	NDAT	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					SILTSTONE, RARE BANDS OF MEDIUM BROWN EXTREMELY HARD SILTSTONE, BROKEN STICK FRIABLE				
119.01	119.29	.28	SS1	COAL	LIGHT GREENISH-GREY SANDSTONE WITH ABUNDANT CLASTS (<2MM) OF COAL, LAMINATIONS ARE WAVY AND SUB-VERTICAL, STICK	NDAT	NOAT		
119.29	119.81	.52	SLST		DARK GREY, CARBONACEOUS PARTINGS AND PLANT FRAGMENTS CRUMBLD IN TOP, OCCASIONAL SLICKENSIDES, EXTREMELY HARD 12CM BAND OF BROWN SILTSTONE WITH 7MM THICK CALCITE VEIN	NDAT	NDAT		
119.81	122.39	2.58	SLST	SS1/MDST	LIGHT BROWNISH GREY, SLIGHTLY SANDY, ABUNDANT VERY THIN LAMINATION OF DARK GREY MUDSTONE, VERY SOFT, STICK CORE BUT NOW CRUMBLES	NDAT	NDAT		
122.39	123.74	1.35	COAL		DULL WITH 10% BRIGHT COAL IN THIN BANDS, HARD, STICK CORE; RECOVERY 1.35/1.35 * 100%	NDAT	NDAT 5		258
123.74	123.93	.19	MUDSTONE		MEDIUM GREY, MASSIVE, PLANAR SLICKENSIDES, VERY BROKEN CORE	NDAT	NDAT 5		259
123.93	126.48	2.55	COAL		DULL WITH OCCASIONAL BRIGHT BANDS, OCCASIONAL SMALL CURVED	NDAT	NDAT 5		260

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					SLICKENSIDES, RARE CALCITE VEINLETS .13M OF DARK GREY MUDSTONE AT 125.37 INCLUDED IN SAMPLE; RECOVERY 2.46/2.55 = 96%				
126.48	127.02	.54	SLST	MDST	MEDIUM GREY CLAYEY SILTSTONE, LAMINAE, CRUMBLD LIGHT GREY, POWDERY WEATHERED SURFACE	NDAT	NDAT		
127.02	128.04	1.02	SLST	MUDSTONE	LIGHT GREY, CLAYEY, THIN PLANAR LAMINAE OF DARK GREY MUDSTONE, BROKEN CORE	NDAT	NDAT		
128.04	128.55	.51	SS1	MUDSTONE	LIGHT GREEN-GREY WAVY VERY PLANAR THIN LAMINAE OF CARBONACEOUS MUDSTONE AND COAL, OCCASIONAL HARD BROWN SILTSTONE BANDS, FINING ODWNWARDS	NDAT	NDAT		
128.55	130.80	2.25	MUDSTONE		MEDIUM GREY, VAGUE LAMINAE, STICK CORE NOW CRUMBLES, SOFT, RARE CALCITE VEINS	NDAT	NDAT		
130.80	131.01	.21	COAL		VERY SHALEY, BROKEN STICK	NDAT	NDAT		
131.01	131.36	.35	MUDSTONE		AS ABOVE WITH ABUNDANT CARBONACEOUS LAMINATIONS	NDAT	NDAT		
131.36	132.55	1.19	COAL		HARD, DULL WITH 25% BRIGHT, OCCASIONAL CURVED SLICKENSIDES, STICK; RECOVERY 1.11/1.19 = 93%	NDAT	NDAT 4	261	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
132.55	132.68	.13	MUDSTONE	COAL	VERY CARBONACEOUS, BLACK, SLICKENSIDES, BROKEN	NDAT	NDAT	
132.68	132.87	.19	SLST		MEDIUM GREY, CARBONACEOUS STRINGERS, SOFT, SEMI-STICK	NDAT	NDAT	
132.87	133.64	.77	MUDSTONE		EXTREMELY CARBONACEOUS, BLACK, BROKEN, ABUNDANT CURVED SMOOTH SLICKENSIDES, RARE CALCITE	NDAT	NDAT	
133.64	135.03	1.39	SLST		MEDIUM GREY, MASSIVE, HARD, OCCASIONAL CALCITE VEINS ONE 25CM LONG SMOOTH WAVY FRACTURE WITH WHITE POWDERY INFILL (ZEOLITE)	NDAT	NDAT	
135.03	136.70	1.67	MUDSTONE	SLST/SS1	DARK GREY, CARBONACEOUS, MASSIVE, BROKEN, BECOMING SILTY AND THEN FINE GRAIN SANDSTONE TOWARDS BOTTOM, EROSIONAL CONTACT AT BASE, CALCITE FILLED VEINS	NDAT	NDAT	
136.70	137.05	.35	MUDSTONE		EXTREMELY CARBONACEOUS, BLACK, VERY BROKEN TO CRUMBLD, OCCASIONAL COAL STRINGERS, A LENSE OF BROWN SILTSTONE 2CM THICK NEAR BOTTOM, ABUNDANT SLICKENSIDES	NDAT	NDAT	
137.05	137.41	.36	MUDSTONE		DARK GREY, CARBONACEOUS WISPS, CRUMBLD, SWOLLEN APPEARANCE	NDAT	NDAT	

		CORE DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
137.41	140.48	3.07	MUDSTONE		SLIGHTLY SILTY, MASSIVE, DARK GREY, BROKEN TO CRUMBLD, OCCASIONAL WHITE AND RUST COLORED POWDERY COATING ON SLICKENSIDES (TALC? ZEOLITE), CARBONACEOUS AND SLICKENSIDED IN BOTTOM 18CM	NDAT	NDAT		
140.48	140.75	.27	COAL		DULL WITH OCCASIONAL BRIGHTS, VERY HARD, STICK, RARE CALCITE VEINLETS ARE PERPENDICULAR TO BEDDING	NDAT	NDAT		
140.75	142.47	1.72	MUDSTONE		DARK GREY, ABUNDANT STICK, POWDER TO CRUMBLD, CARBONACEOUS AT BOTTOM 3CM AND AT AN 8CM BAND IN MIDDLE; SLICKENSIDES ARE CURVED AND OCCASIONALLY COATED WITH CALCITE OR SIDERITE	NDAT	NDAT		
142.47	144.79	2.32	COAL		DULL WITH RARE BRIGHT, HARD, VERY BROKEN, ROUNDED CHUNKS, OCCASIONAL SLICKENSIDES - RECOVERY .85/2.32 = 37%	NDAT	NDAT 3	262	
144.79	145.17	.38	SLST		LIGHT GREY, MASSIVE, HARD, UNBROKEN	NDAT	NDAT		
145.17	145.40	.23	COAL		DULL WITH 20% BRIGHT IN THIN BANDS, HARD, BROKEN CORE - RECOVERY 100% -	NDAT	NDAT		

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNJM	
					OCCASIONAL PYRITE				
145.40	145.76	.36	MUDSTONE	COAL	EXTREMELY CARBONACEOUS, DARK GREY, HARD, SOME COAL BROKEN DULL WHITE ZEOLITE OR TALC COAT ON SLICKENSIDES	NDAT	NDAT		
145.76	146.78	1.02	COAL		DULL WITH OCCASIONAL THIN BRIGHT BANDS, HARD SEMI-STICK, ABRUPT UPPER CONTACT - RECOVERY 1.02/1.02 = 100%	NDAT	NDAT 2	263	
146.78	149.20	2.42	MUDSTONE	SLST	LIGHT GREY, SLIGHTLY SILTY, BROKEN CORE, RARE CALCITE COATED, PLANAR SLICKENSIDES, SILTSTONE LAMINAE LIGHT GREY, WAVY, OCCASIONAL SMALL FAULTS, OCCASIONAL BANDS OF EXTREMELY HARD BROWN SILTSTONE WITH VERTICAL CALCITE VEINS	NDAT	NDAT		
149.20	150.07	.87	SS1		SLIGHTLY GREENISH GREY, ABUNDANT DISTORTED LAMINAE OF DARK GREY MUDSTONE, BROKEN	NDAT	NDAT		
150.07	153.81	3.74	SLST	SS1	DARK GREY SILTSTONE WITH BANDS AND LAMINAE OF MEDIUM GREY FINE GRAINED SANDSTONE, OCCASIONAL CALCITE FILLED VEINS, BROKEN	NDAT	NDAT		
153.81	154.45	.64	SS1		LIGHT GREY, RARE LAMINAE OF CARBONACEOUS FRAGMENTS, STICK	NDAT	NDAT		

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
154.45	159.42	4.97	SS1	SLST	LIGHT GREY, OCCASIONAL LAMINAE OF DARK GREY SILTSTONE, OCCASIONAL CALCITE VEINS, BROKEN, SMALL HIGH ANGLE FRACTURES	NDAT	NDAT		
159.42	162.29	2.87	MUDSTONE	SLST	MEDIUM GREY SILTY MUDSTONE WITH LAMINAE OF SILTSTONE, BROKEN TO CRUMBLED, ONE 29CM BAND OF EXTREMELY HARD SILTSTONE WITH SUB VERTICAL CALCITE VEINS <1CM THICK	NDAT	NDAT		
162.29	163.32	1.03	COAL		DULL WITH <10% BRIGHT, HARD, RARE CALCITE ON FRACTURES, RARE CALCITE VEINLETS, BROKEN STICK - RECOVERY .81/1.03 = 78.6%	NDAT	NDAT 5	264	
163.32	163.64	.32	MUDSTONE		CARBONACEOUS, BLACK, HARD, BROKEN, MASSIVE, RARE STAINS OF PINKISH RUST, SIDERITE	NDAT	NDAT		
163.64	163.95	.31	COAL		HARD, DULL, BROKEN - RECOVERY .20/.31 = 65%; OVERALL RECOVERY 162.29-163.95 = 80%	NDAT	NDAT 5	265	
163.95	167.42	3.47	MUDSTONE		DARK GREY, MASSIVE, VERY BROKEN TO CRUMBLED, OCCASIONAL CALCITE VEINS, RARE COAL WISPS	NDAT	NDAT		
167.42	167.94	.52	SS1		LIGHT GREY, MASSIVE, HARD,	NDAT	NDAT		

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					BROKEN STICK, RARE SILTSTONE LAMINAE, RIP-UP CLASTS AT BASE, RARE SLICKENSIDES				
167.94	170.48	2.54	SLST		MEDIUM GREY WITH VAGUE LAMINAE OF DARK GREY MUDSTONE, SMALL SCALE FAULTING, POSSIBLE SOFT SEDIMENT, OCCASIONAL CALCITE FILLED FRACTURES, BROKEN, CRUMBLD	NDAT	NDAT		
170.48	170.77	.29	MUDSTONE		DARK GREY, ABUNDANT CURVED MIRRROED SLICKENSIDES, CRUMBLD, CARBONACEOUS	NDAT	NDAT		
170.77	171.30	.53	COAL		DULL WITH 20% BRIGHT, SEMI-STICK OCCASIONAL SLICKENSIDES, RARE CALCITE ON FRACTURES, CRUMBLD AT BOTTOM BCM, EXTREMELY HARD - RECOVERY .30/.53 = 57%	NDAT	NDAT		266
171.30	172.38	1.08	SLST	MDST/FAULT	VERY THINLY LAMINATED, MEDIUM GREY SILTSTONE AND DARK GREY MUDSTONE, HIGH BEDDING ANGLE FOR THIS INTERVAL ONLY, SEMI-STICK, ABUNDANT PLANAR SLICKENSIDES	23.0	171.7		
172.38	173.27	.89	MUDSTONE		DARK GREY, MASSIVE, PERVASIVE SLICKENSIDES, POLISHED SURFACE, CURVED, OCCASIONAL LAMINATION NEAR BOTTOM	NDAT	NDAT		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
173.27	174.89	1.62	COAL		DULL, <10% BRIGHT VERY HARD, BROKEN - RECOVERY .73/1.93 = 38%	NDAT	NDAT 4	267
174.89	179.83	4.94	SLST	SS1	THIN PLANAR LAMINAE OF LIGHT GREY FINE GRAINED SANDSTONE AND MEDIUM GREY SILTSTONE, OCCASIONAL BANDS OF FINE SANDSTONE <10CM, OCCASIONAL HARD BROKEN BANDS WITH CALCITE, SEMI-STICK	NDAT	NDAT	
179.83	180.74	.91	SLST	MDST	MEDIUM GREY SILTSTONE WITH LAMINAE OF DARK GREY MUDSTONE, BROKEN, OCCASIONAL SLICKENSIDES	NDAT	NDAT	
180.74	180.91	.17	COAL		HARD, DULL STICK, OCCASIONAL CALCITE COATINGS	NDAT	NDAT	
180.91	181.09	.18	SLST	MDST	AS ABOVE	NDAT	NDAT	
181.09	181.31	.22	SLST		EXTREMELY HARD, LIGHT BROWN-GREY WITH ABUNDANT THICK (<4CM) CALCITE VEINS	NDAT	NDAT	
181.31	182.59	1.28	SLST	MDST	MEDIUM GREY SILTSTONE WITH LAMINAE OF DARK GREY MUDSTONE, BROKEN, ABUNDANT SLICKENSIDES AT BOTTOM 30CM	NDAT	NDAT	
182.59	182.92	.33	COAL		BRIGHT, POWDERED, SLICKENSIDES, 1CM BAND OF WHITE-GREY CLAY IN MIDDLE - RECOVERY 100%	NDAT	NDAT 3	268

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
182.92	183.14	.22	COAL		DULL WITH POLISHED SLICKENSIDES, HARD, SEMI-STICK - RECOVERY 100%	NDAT	NDAT 3	268
183.14	183.54	.40	MUDSTONE		CRUMBLED DARK GREY, SLICKENSIDES	NDAT	NDAT	
183.54	183.70	.16	MUDSTONE	CARBONACEOUS	SLICKENSIDES THROUGHOUT, POLISHED, SMALL, CURVED, BLACK - RECOVERY 100%	NDAT	NDAT 3	269
183.70	184.36	.66	COAL	CLAYSTONE	CRUMBLED TO SHATTERED POWDER, TOP THIRD IS COMPLETELY SLICKENSIDES (AS ABOVE); MIDDLE THIRD INCLUDES DISCS <1.5CM THICK OF HARD CARBONACEOUS MUDSTONE WITH UNCONSOLIDATED COAL POWDER, BOTTOM 10CM IS ROUNDED CHUNKS OF COAL - RECOVERY 95%	NDAT	NDAT 3	270
184.36	184.51	.15	MUDSTONE		DARK GREY, HARD, CRUMBLED, SMALL POLISHED SLICKENSIDES THROUGHOUT (50CM)	NDAT	NDAT	
184.51	184.88	.37	MUDSTONE	COAL	EXTREMELY CARBONACEOUS CRUMBLED CORE, SLICKENSIDES THROUGHOUT, POSSIBLY PART OF SEAM BELOW	NDAT	NDAT 3	271
184.88	185.04	.16	COAL		CRUMBLED TO POWDERED BY POLISHED SLICKENSIDES, CONTRAST WITH MUDSTONE/COAL	NDAT	NDAT 3	272

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					ABOVE VERY POOR			
185.04	185.20	.16	COAL		HARD DULL WITH BRIGHT, SEMI-STICK	NDAT	NDAT 3	272
185.20	185.84	.64	COAL		DULL WITH BRIGHT, MIXED POWDER AND ANGULAR LARGE CHUNCKS	NDAT	NDAT 3	272
185.84	186.17	.33	LOST CORE		CORE LOSS	NDAT	NDAT	
186.17	186.30	.13	COAL		DULL, SLICKENSIDES, POWDERED - RECOVERY 1.09/1.42 = 77%	NDAT	NDAT 3	272
186.30	188.50	2.20	MUDSTONE		DARK BROWN-GREY, MUDSTONE IS SLICKENSIDED (32CM BAND IN MIDDLE IS CRUMBLD BY SLICKENSIDES AND IS CARBONACEOUS), MASSIVE, QUITE HARD, BROKEN CORE	NDAT	NDAT	
188.50	189.56	1.06	CDAL		DULL WITH <10% BRIGHT BROKEN CORE, CRUMBLD AT BOTTOM 10CM - RECOVERY .53/1.06 = 50%	NDAT	NDAT 2	273
189.56	190.14	.58	MUDSTONE	SILTY	MASSIVE SILTY MUDSTONE, MEDIUM GREY, SEMI-STICK	NDAT	NDAT	
190.14	190.90	.76	COAL		DULL WITH 10% BRIGHT BROKEN CORE, 9CM BAND IN MIDDLE IS CRUMBLD - RECOVERY .45/.76 = 59%	NDAT	NDAT 2	274
190.90	195.20	4.30	MUDSTONE	SILTSTONE	DARK GREY, SLIGHTLY SILTY MUDSTONE, MASSIVE, STICK CORE NOW CRUMBLES,	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					OCCASIONAL CARBONACEOUS PLANT FRAGMENTS, ZONES OF EXTREMELY HARDBROWN GREY WITH CALCITE VEINS AT 194.16-194.42 AND 193.04-193.39				
195.20	195.35	.15	COAL		DULL WITH 20% WHITE EXTREMELY HARD, BROKEN STICK, VERY CLEAN	NDAT	NDAT		
195.35	197.44	2.09	SLST	MDST	CLAYEY SILTSTONE, MEDIUM GREY, VERY THIN VAGUE LAMINAE FRIABLE, POWDERY, WEATHERED APPEARANCE, RUST COLOURED STAIN, SIDERITE	NDAT	NDAT		
197.44	203.30	5.86	SLST	SS1/MDST	MEDIUM GREY WITH LAMINATION OF FINE GRAINED SANDSTONE IN TOP 1.5M GRADING FINER DOWNWARDS TO LAMINATION OF MUDSTONE/SILTSTONE IN BOTTOM, OCCASIONAL BANDS OF EXTREMELYHARD BROWN-GREY SILTSTONE, RARE THICK (2CM) CALCITE VEINS, LAMINATIONS AT TOP ARE WAVY AND SLIGHTLY DISTORTED, BECOMING MORE PLANAR AND THINNER AT BOTTOM	NDAT	NDAT		
203.30	206.30	3.00	SLST	MUDSTONE	DARK GREY CLAYEY SILTSTONE WITH VERY THIN PLANAR LAMINAE OF MEDIUM GREY, STICK CORE NOW CRUMBLES, ONE 7CM BAND OF EXTREMELY HARD	NDAT	NDAT		

CORE		DESCRIPTION							
TDP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					BROWN-GREY SILTSTONE WITH 2CM THICK CALCITE VEIN				
206.30	211.02	4.72	MUDSTONE	SILTSTONE	DARK GREY, SLIGHTLY SILTY MUDSTONE, MASSIVE, STICK CORE NOW BROKEN TO CRUMBLED GRADING TO SILTSTONE TOWARDS BOTTOM	NDAT	NDAT		
211.02	219.37	8.35	SLST	MDST/SS1	VERY FINE GRAIN SANDSTONE, DARK GREY, MASSIVE, STICK CORE NOW CRUMBLES, OCCASIONAL PIECES UP TO 1M HAVE REMAINED HARD STICK	NDAT	NDAT		
219.37	219.59	.22	SLST		ONE 19CM THICK BAND OF MEDIUM BROWN GREY WITH CALCITE INFILL 3CM THICK (POSSIBLY FOSSILIFEROUS) AND THIN COAL WISPS	NDAT	NDAT		
219.59	226.30	6.71	SLST	SS1	VERY FINE GRAIN SANDSTONE, DARK GREY MASSIVE, STICK CORE, NOW CRUMBLES, GRADES FROM SILTSTONE/MUDSTONE ABOVE TO SILTSTONE/FINE GRAINED SANDSTONE BELOW	NDAT	NDAT		
226.30	226.88	.58	SS2		LIGHT GREY, MASSIVE, RARE MUDSTONE LAMINAE GRADES TO FINE GRAINED SANDSTONE ABOVE, ABRUPT CONTACT BELOW, HARD STICK CORE, OCCASIONAL CARBONACEOUS GRAINS	NDAT	NDAT		

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
226.88	227.02	.14	SLST		MEDIUM GREY, MASSIVE, CRUMBLD	NDAT	NDAT		
227.02	227.22	.20	SS1		LIGHT GREY, MASSIVE WITH CLASTS OF CLAYSTONE	NDAT	NDAT		
227.22	232.70	5.48	SLST	CLAYEY	MEDIUM DARK GREY, MASSIVE, STICK CORE NOW CRUMBLES, GRADES GRADUALLY TO MUDSTONE BELOW	NDAT	NDAT		
232.70	237.92	5.22	MUDSTONE	SLST	DARK GREY SILTY MUDSTONE, MASSIVE, STICK CORE NOW CRUMBLES	NDAT	NDAT		
237.92	238.04	.12	SLST		MEDIUM BROWN-GREY, EXTREMELY HARD, MINOR CALCITE VEINS	NDAT	NDAT		
238.04	241.83	3.79	MUDSTONE	SLST	DARK GREY SILTY MUDSTONE, MASSIVE, STICK CORE NOW CRUMBLES	NDAT	NDAT		
241.83	241.93	.10	SS1		LIGHT GREY, MASSIVE, VERY CALCAREOUS, ABUNDANT CALCITE VEINS, VERY HARD	NDAT	NDAT		
241.93	248.71	6.78	MUDSTONE	SILTSTONE	DARK GREY SILTY MUDSTONE, MASSIVE, BROKEN STICK CORE NOW CRUMBLD IN ZONES <1M THICK	NDAT	NDAT		
248.71	248.97	.26	SS2		LIGHT GREY, MASSIVE, VERY HARD, GRADES TO FINE GRAINED SANDSTONE AT TOP AND BOTTOM, ABRUPT CONTACT WITH SILTSTONE BELOW	NDAT	NDAT		
248.97	253.34	4.37	SLST	MUDSTONE	MEDIUM TO DARK GREY CLAYEY	NDAT	NDAT		

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					SILTSTONE, MASSIVE, OCCASIONAL CALCITE VEINS. ONE 8CM LENSE OF MEDIUM BROWN-GREY EXTREMELY HARD SILTSTONE NEAR BOTTOM				
253.34	253.65	.31	SS2		LIGHT GREY, MASSIVE, VERY HARD, OCCASIONAL COAL STRINGERS, ABRUPT UPPER AND LOWER CONTACTS	NDAT	NDAT		
253.65	264.27	10.62	SLST	MUDSTONE	MEDIUM GREY CLAYEY SILTSTONE, MASSIVE, STICK CORE, OCCASIONAL ZONES OF CRUMBED CORE, OCCASIONAL COAL STRINGERS <3MM THICK	NDAT	NDAT		
264.27	277.06	12.79	MUDSTONE	SILTSTONE	MEDIUM GREY SILTY MUDSTONE. MASSIVE. STICK CORE NOW OCCASIONAL CRUMBLE ZONES. ONE 2CM CALCITE VEIN AT TOP GRADES TO CLAYEY SILTSTONE AT BOTTOM HALF, RARE CALCITE VEINS	NDAT	NDAT		
277.06	279.80	2.74	SS1	SLST	MEDIUM GREY SANDSTONE, SLIGHTLY GREENISH, SILTY. GRADES FROM SILTSTONE ABOVE, VAGUE LAMINAE OF DARK GREY IN TOP 40CM, ABRUPT LOWER CONTACT HARD, STICK CORE	NDAT	NDAT		
279.80	282.05	2.25	SLST	SS1	VERY SANDY SILTSTONE. MEDIUM GREY, VAGUE LAMINAE, MASSIVE AT BOTTOM, SEMI-STICK CORE,	NDAT	NDAT		

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					ONE CALCITE LENSE AT LEAST 20CM THICK AND 12CM LONG 48CM FROM BOTTOM				
282.05	282.72	.67	SS1		LIGHT GREY, MASSIVE, HARD, ABUNDANT THICK CALCITE VEINS AND LENSES	NDAT	NDAT		
282.72	284.89	2.17	SS1	SLST	LIGHT GREY, MASSIVE, VAGUE LAMINAE OF CARBONACEOUS FRAGMENTS, SEMI-STICK, GRADES TO SILTSTONE BELOW	NDAT	NDAT		
284.89	286.03	1.14	SLST	SS1	MEDIUM GREY SANDY SILTSTONE, MASSIVE, HARD, OCCASIONAL CALCITE VEINS GRADES TO SILTSTONE BELOW	NDAT	NDAT		
286.03	289.69	3.66	SLST	MUDSTONE	MEDIUM GREY, MASSIVE, BROKEN CORE, OCCASIONAL CALCITE VEINS GRADES TO SANDY SILTSTONE IN BOTTOM 1.05M	NDAT	NDAT		
289.69	294.40	4.71	SLST		MEDIUM GREY, MASSIVE, CRUMBLLED TO BROKEN, 20CM FINE GRAINED SANDSTONE BAND AT 292.90	NDAT	NDAT		
294.40	-1.00	-1.00	UNKNOWN		TOTAL DEPTH	NDAT	NDAT		

CORE DESCRIPTION

HOLE.ID TW82D-230
 PROJECT TELKWA
 AREA SMITHERS
 DRIL.DATE NO.DATA
 LOG.DATE 820815
 EXAMINED.BY R.KOSTIUK

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	23.65	23.65	OVERBURDEN		SAND, GRAVEL, BOULDERS, DRILLED WITH ROCK BIT, NO CORE RECOVERY	NDAT	NDAT	
23.65	26.10	2.45	MUDSTONE		MEDIUM GREY, MASSIVE, HARD, HIGHLY FRACTURED AND BROKEN, SLICKENSIDED, MINOR CALCITE ALONG BREAKS, MINOR PYRITE	NDAT	NDAT	
26.10	51.90	25.80	SLST		MEDIUM GREY, MASSIVE, HARD, ABUNDANT FRACTURES WITH CALCITE INFILL, OCCASIONAL IRON CLAYSTONE/CARBONA- TE BANDS, FOSSIL PLANT DEBRIS, OCCASIONAL SLICKENSIDED FRACTURES, FISSILE IN PLACE, MINOR COAL WISPS, MINOR PYRITE, CLAYEY INTERVALS, FAIR TO GOOD STICK	NDAT	NDAT	
51.90	52.00	.10	BENTONITE		BEIGE, FISSILE, SOFT WITH HARD CALCITE VEINS THROUGHOUT	NDAT	NDAT	
52.00	61.46	9.46	SLST	SS1	MEDIUM TO DARK GREY, MASSIVE WITH OCCASIONAL IRON CLAYSTONE/CARBONA- TE BANDS, ALSO VERY FINE GRAINED SANDSTONE LAMINAE TOWARDS BASE, OCCASIONAL CALCITE	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					INFILLED FRACTURES, MINOR FOSSIL SHELLS, FAIR TO GOOD STICK			
61.46	65.42	3.96	SS1	SLST	LIGHT TO MEDIUM GREY, VERY FINE GRAINED SANDSTONE VERY THINLY BEDDED WITH SILTSTONE. INTERBEDS, POORLY DEVELOPED, DISTURBED BEDDING (SOFT SEDIMENT DEFORMATION), HARD, OCCASIONAL IRON CLAYSTONE BANDS WITH CALCITE INFILLED FRACTURES, MINOR SHELL FOSSILS, OCCASIONAL CLAYEY INTERVALS, GOOD STICK	74.0	AVG	
65.42	67.76	2.34	SS1	SS2/SLST	LIGHT GREY, FINE TO MEDIUM GRAINED SANDSTONE, THICKLY BEDDED, INTERBEDDED WITH SILTSTONE AND MUDSTONE LAMINAE, POORLY DEVELOPED, HARD, WELL CONSOLIDATED, GOOD TO EXCELLENT STICK	77.0	AVG	
67.76	69.52	1.76	SS1		MEDIUM TO DARK GREY, VERY FINE GRAINED SANDSTONE, THICKLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH SILTSTONE LAMINAE, CLAYEY INTERVALS, DISTURBED BEDDING, OCCASIONAL IRON CLAYSTONE BAND, MINOR CALCITE VEINLETS, GOODSTICK	NDAT	NDAT	
69.52	70.80	1.28	SS2		LIGHT GREY, FINE	72.0	AVG	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					TO MEDIUM GRAINED SANDSTONE, MASSIVE, VERY HARD TO HARD, WELL CONSOLIDATED, COALY FLECKS, IRONSTONE NODULES AND BANDS, FINER GRAINED SANDSTONE AT BASE, INTERLAMINATED WITH SILTSTONE, EXCELLENT STICK				
70.80	72.28	1.48	SLST		DARK GREY, THICKLY BEDDED WITH VERY FINE GRAINED SANDSTONE LAMINAE, HARD, WELL CONSOLIDATED, GOOD STICK	NDAT	NDAT		
72.28	74.48	2.20	SS1	SLST	LIGHT TO DARK GREY, VERY FINE GRAINED, THINLY LAMINATED TO THINLY BEDDED INTERBEDDED WITH SILTSTONE AND MUDSTONE LAMINAE, DISTORTED BEDDING, MODERATELY HARD TO HARD, MINOR CALCITE VEINLETS, TOP .30M VERY HARD BROWN IRONSTONE BAND, SLIGHTLY CALCAREOUS WITH CALCITE INFILLED FRACTURES AND FOSSIL SHELL FRAGMENTS, GOOD STICK	72.0	NDAT		
74.48	76.85	2.37	SS1		LIGHT GREY TO BROWN, FINE GRAINED SANDSTONE, MEDIUM BEDDED WITH WAVY SILTSTONE LAMINAE, POORLY DEVELOPED, HARD, MINOR CALCITE VEINLETS, MINOR IRONSTONE BANDS,	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					GOOD STICK			
76.85	78.40	1.55	SLST		MEDIUM TO DARK GREY, MASSIVE WITH OCCASIONAL VERY FINE GRAINED SANDSTONE LAMINAE, SANDY, GOOD STICK	NDAT	NDAT	
78.40	84.68	6.28	SS1	SS2	LIGHT GREY TO BEIGE, FINE TO MEDIUM GRAINED SANDSTONE, THINLY TO THICKLY BEDDED, INTERBEDDED WITH WAVY MUDSTONE/SILTSTONE LAMINAE, HIGHLY CONVOLUTED BEDDING, BIOTURBATED, CLAYEY INTERVALS, MINOR CALCITE, MINOR FOSSIL SHELLS, EXCELLENT STICK	NDAT	NDAT	
84.68	84.92	.24	MUDSTONE	CARBONACEOUS	BLACK, VERY THINLY LAMINATED WITH COALY LAMINAE, FISSILE, MODERATELY HARD, SLIGHTLY SILTY, BROKEN	78.0	84.8	
84.92	85.65	.73	SLST	SS1	DARK BRDWN TO DARK GREY, MASSIVE, HARD, SLIGHTLY CARBONACEOUS, INTERBEDDED WITH VERY FINE GRAINED SANDSTONE LAMINAE TOWARDS BASE, MICRO FAULTED, MINOR CALCITE, FOSSIL PLANT DEBRIS, GOOD STICK	NDAT	NDAT	
85.65	89.00	3.35	SS1		LIGHT GREY, FINE TO MEDIUM GRAINED, THICKLY BEDDED WITH WAVY SILTSTONE/MUDSTONE LAMINAE, POORLY	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					DEVELOPED, CONVOLUTED BEDDING, BIOTURBATED?, OCCASIONAL IRON CLAYSTONE/CARBONA- TE BANDS, MINOR CALCITE VEINLETS, EXCELLENT STICK				
89.00	90.82	1.82	SS1	SLST	DARK GREY, VERY FINE GRAINED SANDSTONE, VERY THINLY LAMINATED, INTERBEDDED WITH SILTSTONE, POORLY DEVELOPED, HARD, MINOR CALCITE INFILLED FRACTURES, GOOD STICK	NDAT	NDAT		
90.82	94.80	3.98	SS1	SLST	LIGHT TO MEDIUM GREY, FINE TO MEDIUM GRAINED SANDSTONE, THINLY BEDDED TO THINLY LAMINATED, INTERBEDDED WITH SILTSTONE AND MINOR MUDSTONE LAMINAE, POORLY DEVELOPED BEDDING, CONVOLUTED, OCCASIONAL BIOTURBATION, OCCASIONAL IRON CLAYSTONE/CARBONA- TE BANDS, WITH CALCITE VEINLETS AND FOSSIL SHELL FRAGMENTS, SANDSTONE GRADING TO VERY FINE GRAINED TOWARDS BASE, EXCELLENT STICK	NDAT	NDAT		
94.80	97.54	2.74	SS1		DARK GREY, VERY FINE GRAINED, MASSIVE, VERY HARD, WELL CONSOLIDATED, EXCELLENT STICK	NDAT	NDAT		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
97.54	108.70	11.16	SLST		DARK GREY, MASSIVE, HARD, OCCASIONAL IRON CLAYSTONE/CARBONA- TE BAND/NODULE, MINOR CALCITE VEINLETS AND FOSSIL SHELL FRAGMENTS, WELL CONSOLIDATED, GOOD TO EXCELLENT STICK	NDAT	NDAT	
108.70	108.85	.15	SHALE	COALY	BLACK, COALY, HARD, CALCITE VEINLETS	NDAT	NDAT	
108.85	109.23	.38	MUDSTONE		BROWN TO DARK GREY, MASSIVE, HARD, SLIGHTLY CARBONACEOUS, COALY PLANT DEBRIS THROUGHOUT, GOOD STICK	NDAT	NDAT	
109.23	111.49	2.26	SLST		DARK BROWN TO DARK GREY, MASSIVE, HARD, SLIGHTLY CARBONACEOUS, COALY PLANT DEBRIS, MINOR SANDSTONE INTERVALS, GRADING TO SANDSTONE AT BASE, OCCASIONAL LOW ANGLE FRACTURE, SLICKENSIDED, GOOD STICK	NDAT	NDAT	
111.49	112.59	1.10	SS3		BROWN, FINE TO COARSE GRAINED SANDSTONE, THICKLY BEDDED, CONVOLUTED, COALY DEBRIS THROUGHOUT, EXCELLENT STICK	NDAT	NDAT	
112.59	112.70	.11	MUDSTONE		BROWN, MASSIVE, HARD, SILTY, SLIGHTLY CARBONACEOUS, COALY DEBRIS THROUGHOUT, GOOD	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					STICK				
112.70	113.20	.50	COAL	DIRTY	MAINLY DULL WITH MINOR BRIGHT BANDS, MOERATELY HARD, MINOR CALCITE ALONG CLEAT, SLICKENSIDED IN PLACES, BROKEN, NOT SAMPLED	NDAT	NDAT		
113.20	113.38	.18	SHALE	COALY	BLACK, COALY, HARD, CALCITE VEINLETS, BROKEN, (RECOVERED .18M)	NDAT	NDAT		
113.38	114.26	.88	SLST		DARK GREY, MASSIVE, VERY HARD TO HARD, COALY PLANT DEBRIS, SANDY IN PLACES, EXCELLENT STICK	NDAT	NDAT		
114.26	115.20	.94	MUDSTONE		DARK GREY TO BLACK, MASSIVE, HARD, SLIGHTLY CARBONACEOUS, COALY PLANT DEBRIS THROUGHOUT, BECOMING SILTY TOWARDS BASE, SLICKENSIDED, POLISHED, GOOD STICK	NDAT	NDAT		
115.20	116.38	1.18	SS1		BROWN, VERY FINE TO FINE GRAINED SANDSTONE, MASSIVE, HARD, WELL CONSOLIDATED, OCCASIONAL BROWN IRON CLAYSTONE BAND, MINOR IRONSTONE, CLAYEY IN PLACES, OCCASIONAL SLICKENSIDED FRACTURES, GOOD TO EXCELLENT STICK	NDAT	NDAT		
116.38	118.20	1.82	SLST		BLACK, MASSIVE, VERY HARD TO HARD, CARBONACEOUS,	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					OCCASIONAL COAL WISPS, MINOR SANDSTONE INTERVALS, GOOD STICK			
118.20	118.52	.32	MUDSTONE	COALY	BLACK, MASSIVE, MODERATELY HARD, FISSILE IN PLACES, COAL LAMINAE, BROKEN	NDAT	NDAT	
118.52	119.48	.96	SLST		DARK GREY TO BLACK, MASSIVE, HARD, CARBONACEOUS IN PLACES, COALY PLANT DEBRIS, BECOMING SANDY TOWARDS BASE, GOOD STICK	NDAT	NDAT	
119.48	120.15	.67	SS2		BROWN TO GREY, MEDIUM TO COARSE GRAINED, CONVOLUTED, EXCELLENT STICK	NDAT	NDAT	
120.15	121.84	1.69	SS1		BROWN, VERY FINE GRAINED, MASSIVE, WELL CEMENTED, OCCASIONAL IRDN CLAYSTONE BAND, MINOR CALCITE VEINLETS, EXCELLENT STICK, GRANULAR SANDSTONE AT BASE	NDAT	NDAT	
121.84	122.08	.24	SS1		BROWN TO BLACK, FINE GRAINED SANDSTONE, INTERBEDDED WITH COALY MUDSTONE, MODERATELY HARD, GOOD STICK	68.0	121.9	
122.08	122.61	.53	SS4		LIGHT BROWN, VARIEGATED PEBBLE CONGLOMERATE, WELL CEMENTED WITH FINE GRAINED SANDSTONE, COALY WISPS THROUGHOUT, VERY HARD, EXCELLENT	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					STICK			
122.61	124.53	1.92	VOLCANICS	TUFF	BEIGE, MASSIVE, VERY HARD, OCCASIONAL SLICKENSIDED FRACTURE, SANDY TOWARDS BASE, EXCELLENT STICK	NDAT	NDAT	
124.53	124.89	.36	MUDSTONE		BROWN, CARBONACEOUS, FISSILE, SLICKENSIDED, HIGHLY FRACTURED, BROKEN	NDAT	NDAT	
124.89	125.47	.58	SLST		BROWN TO DARK GREY, MASSIVE, CARBONACEOUS, BROKEN	NDAT	NDAT	
125.47	127.20	1.73	SS1		LIGHT TO DARK GREY, VERY FINE GRAINED SANDSTONE, THINLY LAMINATED, INTERBEDDED WITH SILTSTONE, MICRO FAULTED, GOOD STICK	72.0	AVG	
127.20	131.13	3.93	SS1		BROWN, FINE GRAINED SANDSTONE, MASSIVE, WELL CONSOLIDATED, LOWER HALF TUFFACEOUS, EXCELLENT STICK	NDAT	NDAT	
131.13	132.05	.92	SS3		LIGHT BROWN, COARSE GRAINED SANDSTONE, MASSIVE, WELL CONSOLIDATED, COALY WISPS, GRADING TO CONGLOMERATE AT BASE, EXCELLENT STICK	NDAT	NDAT	
132.05	136.10	4.05	SLST		DARK BROWN TO BLACK, MASSIVE, INTERBEDDED WITH SHALY AND COALY	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					INTERVALS, COALY PLANT DEBRIS THROUGHOUT, SLICKENSIDED, TUFACEOUS AT BASE, GOOD STICK			
136.10	137.15	1.05	SS1		BLACK, VERY FINE GRAINED SANDSTONE, MASSIVE, TUFACEOUS, SEDIMENT CLASTS, IRONSTONE, EXCELLENT STICK	NDAT	NDAT	
137.15	142.30	5.15	VOLCANICS		RED, MASSIVE TO BRECCIATED, WEATHERED, FISSILE TO VERY HARD, VERY FINE GRAINED TO CONGLOMERATE, BROKEN (TOTAL DEPTH 142.3)	NDAT	NDAT	

CORE DESCRIPTION

HOLE.ID TW82D-231
 PROJECT TELKWA
 AREA SMITHERS
 DRIL.DATE 820728
 LOG.DATE 820923
 EXAMINED.BY J.RYLEY

TDP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	51.66	51.66	OVERBURDEN			NDAT	NDAT	
51.66	56.90	5.24	SLST	BADLY BROKEN	DARK GREY, HEAVILY FRACTURED, BADLY BROKEN, SLICKENSIDES THROUGHOUT, CRYPTOCRYSTALLINE, THIN TO THICK LAMINAE, VERY FINE GRAINED SANDSTONE, LOST CORE 1.31M	NDAT	NDAT	
56.90	78.57	21.67	SLST	SS1	MEDIUM TO DARK GREY, SANDY SILTSTONE WITH THINLY BEDDED SANDSTONE BANDS, VERY FINE TO FINE GRAINED, CROSS-BEDDING, OCCASIONAL BANDS HARD LIGHT BROWN SANDSTONE, TRACE OF CALCITE, BIOTURBATION, CRYPTOCRYSTALLINE, TRACE OF PYRITE, TRACE OF ALTERED CHALCOPYRITE, OCCASIONAL VUGS	40.0	75.8	
78.57	92.01	13.44	SLST		DARK GREY, CALCITE IN PLACES, TRACE OF PYRITE, OCCASIONAL BANDS AND NODULES HARD LIGHT BROWN SILTSTONE, POORLY CEMENTED IN PLACES, CRYPTOCRYSTALLINE, VERY FRIABLE IN PLACES	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
92.01	97.79	5.78	SS1		LIGHT GREY TO GREEN, MOTTLED TEXTURE IN PLACES, TRACE OF PYRITE, OCCASIONAL COAL WISPS, FAIR STICK CORE, INDISTINCT BEDDING	NDAT	NDAT	
97.79	98.97	1.18	COAL	SEMI-DULL	SEMI-DULL, SLIGHTLY SANDY IN FIRST 20CM, CLEAN IN REMAINING SECTION, TRACE OF PYRITE, SEPARATION WITH RDDF AND FLOOR, VISUAL AND PHYSICAL - FAIR (RECOVERED 84CM - RECOVERY = 71%)	NDAT	NDAT 10	292
98.97	105.58	6.61	SLST	SS1	DARK GREY WITH THIN TO THICK LAMINAE, VERY FINE GRAINED SANDSTONE, OCCASIONAL BANDS HARD LIGHT BROWN SILTSTONE, TRACE OF CALCITE, FRIABLE IN PLACES, TRACE OF CARBONACEOUS DEBRIS, OCCASIONAL SLICKENSIDES	41.0	100.5	
105.58	105.90	.32	COAL		SEMI-DULL, TRACE OF PYRITE, MINOR VITRAIN BANDING, BROKEN, SLIGHTLY DIRTY, SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL - QUESTIONABLE (RECOVERED 32CM - RECOVERY = 100%)	NDAT	NDAT 9	293
105.90	106.60	.70	SLST		MEDIUM TO DARK GREY, CRYPTOCRYSTALLINE, OCCASIONAL SLICKENSIDES, CARBONACEOUS	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					DEBRIS, BRDKEN			
106.60	107.24	.64	COAL		BRIGHT, OCCASIONAL BRIGHT BANDING, CLEAN, SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL - QUESTIONABLE (RECOVERED 51CM - RECOVERY = 81%)	NDAT	NDAT 9	294
107.24	109.71	2.47	SLST	SS1	MEDIUM GREY, THIN TO THICK LAMINAE SANDSTONE VERY FINE GRAINED, MICRO FAULTING, WAVY PARALLEL, ONE 25CM LIGHT BROWN HARD SILTSTONE BAND, BIOTURBATION, CRYPTOCRYSTALLINE, OCCASIONAL TRACE OF CARBONACEOUS DEBRIS	NDAT	NDAT	
109.71	110.24	.53	COAL		SEMI-DULL WITH OCCASIONAL BRIGHT BANDS, SLIGHTLY DIRTY, FAIR STICK CORE, SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL - QUESTIONABLE (RECOVERED 42CM - RECOVERY = 79%)	NDAT	NOAT	295
110.24	115.57	5.33	SLST	SS1	MEDIUM TO DARK GREY, THIN TO THICK LAMINAE FINE GRAINED SANDSTONE, WAVY PARALLEL, BIOTURBATION, CRYPTOCRYSTALLINE	31.0	111.6	
115.57	117.56	1.99	COAL		BRIGHT, BROKEN, CLEAN, VITRAIN BANDING, TRACE OF PYRITE, SEPARATION WITH ROOF, VISUAL FAIR, PHYSICAL POOR, SEPARATION	NDAT	NDAT 8	296

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					WITH FLOOR, VISUAL AND PHYSICAL POOR (RECOVERED 1.04M - RECOVERY = 50%)			
117.56	135.01	17.45	SLST	SS1	MEDIUM TO DARK GREY, THIN TO THICK LAMINAE FINE GRAINED SANDSTONE, BIOTURBATION, OCCASIONAL SLICKENSIDES, CRYPTOCRYSTALLINE, OCCASIONAL NODULES AND BANDS (1-8CM) LIGHT BROWN HARD SILTSTONE, TRACE CARBONACEOUS DEBRIS, ONE 16CM COAL BAND, TRACE PYRITE, FRIABLE IN PLACES, TRACE OF CALCITE LAYERING, TRACE OF TALC, ONE 6CM COAL BAND, LOST CORE = 1.06M	31.0	132.2	
135.01	135.44	.43	COAL		BRIGHT, CLEAN, TRACE OF OXIDE MATERIAL, FIRST 5CM SILTY LAMINAE, BRIGHT BANDS, SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL - QUESTIONABLE (RECOVERED 43CM - RECOVERY = 100%)	NDAT	NDAT 7	297
135.44	144.99	9.55	SLST	SS1	DARK GREY, THIN TO THICK LAMINAE FINE GRAINED SANDSTONE, OCCASIONAL BANDS HARD LIGHT BROWN SILTSTONE, CRYPTOCRYSTALLINE, TRACE OF CALCITE, MINOR COAL WISPS, ONE 10CM COAL BAND AT 148.02	31.0	144.2	
144.99	148.22	3.23	COAL	SS1	BRIGHT, ONE 4CM BAND FINE GRAINED	NDAT	NDAT 6	298

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLDGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SANDSTONE, CLEAN, GOOD CLEAT, VITRAIN BANDING, TRACE OF PYRITE, SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL - QUESTIONABLE (RECOVERED 2.47M - RECOVERY = 76%)			
148.22	148.62	.40	SLST	SLICKENSI- DES	DARK GREY, NUMEROUS SLICKENSIDES, BROKEN, TRACE OF TALC	NDAT	NOAT	
148.62	149.34	.72	COAL		SEMI-DULL TO BRIGHT, MINOR BRIGHT BANDING, TRACE OF TALC, SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL - POOR (RECOVERED 35CM - RECOVERY = 49%)	NDAT	NDAT 6	299
149.34	153.92	4.58	SLST	SS1	DARK GREY, THIN TO THICK LAMINAE FINE GRAINED SANDSTONE, ONE 9CM BAND COAL, TRACE TALC, MICRO FAULTING, OCCASIONAL SLICKENSIDES	10.0	150.0	
153.92	159.93	6.01	COAL		BRIGHT, OCCASIONAL SLICKENSIDES, TRACE OF TALC, OCCASIONAL VITRAIN BANDING, SEPARATION WITH ROOF, VISUAL FAIR, PHYSICAL POOR, SEPARATION WITH FLOOR, VISUAL FAIR, PHYSICAL POOR (RECOVERED 4.75M - RECOVERY = 79%)	NDAT	NDAT 5	300
159.93	166.17	6.24	SS1	SLST	LIGHT TO MEDIUM	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					GREY WITH 45CM CARBONACEOUS SILTSTONE, OCCASIONAL SLICKENSIDES, BADLY BROKEN IN FIRST 1.30M. BIOTURBATION, TRACE OF CALCITE, OCCASIONAL BANDS HARD LIGHT BROWN SANDSTONE			
166.17	167.14	.97	COAL		BRIGHT, CLEAN. FAIR STICK, MINOR VITRAIN BANDING, TRACE OF PYRITE, SEPARATION WITH ROOF, VISUAL FAIR, PHYSICAL POOR. SEPARATION WITH FLOOR, VISUAL FAIR, PHYSICAL POOR (RECOVERED 97CM - RECOVERY = 100%)	NDAT	NDAT 4	301
167.14	169.28	2.14	SLST	SNDS	DARK GREY, OCCASIONAL THIN TO THICK LAMINAE SANDSTONE, BIOTURBATION, TRACE OF PYRITE, FRIABLE AND FISSILE IN PLACES, TRACE OF CALCITE	NDAT	NDAT	
169.28	170.23	.95	COAL		SEMI-DULL, GOOD STICK, OCCASIONAL VITRAIN BANDING, SLIGHTLY DIRTY, SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL - POOR, (RECOVERED 95CM - RECDVERY = 100%)	NDAT	NDAT	302
170.23	170.89	.66	SLST	CARBONACE- DUS	DARK GREY TO BLACK, CARBONACEOUS DEBRIS THROUGHOUT. OCCASIONAL SLICKENSIDES,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					MINOR COAL WISPS, TRACE OF PYRITE			
170.89	171.16	.27	COAL		DULL, SLIGHTLY DIRTY, TRACE OF SULPHUR, TRACE OF CALCITE, SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL - POOR (RECOVERED 27CM - RECOVERY = 100%)	NDAT	NDAT	303
171.16	176.74	5.58	SLST	SHALY	DARK GREY, FAIR STICK CORE, TRACE OF PYRITE, MINOR COAL WISPS, BIOTURBATION, TRACE OF CARBONACEOUS DEBRIS, ONE 12CM BAND COAL	NDAT	NDAT	
176.74	178.90	2.16	COAL		SEMI-DULL TO BRIGHT, SLIGHTLY DIRTY, TRACE OF CALCITE IN PLACES. OCCASIONAL SLICKENSIDES, SEPARATION WITH ROOF, VISUAL FAIR, PHYSICAL POOR, SEPARATION WITH FLOOR, VISUAL FAIR, PHYSICAL POOR (RECOVERED 2.01M - RECOVERY = 93%)	NDAT	NDAT 3	304
178.90	179.83	.93	SLST	SHALY/CARB	MEDIUM TO DARK GREY, MINOR COAL WISPS, FOSSIL MATERIAL	NDAT	NDAT	
179.83	180.26	.43	COAL		BRIGHT, OCCASIONAL VITRAIN BANDING, FAIR STICK CORE, SEPARATION WITH ROOF, VISUAL FAIR, PHYSICAL POOR, SEPARATION WITH FLOOR, VISUAL GOOD, PHYSICAL	NDAT	NDAT 2	305

		CORE		DESCRIPTION				
TDP	BASE	THICK	LITHOLGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					FAIR (RECOVERED 43CM - RECOVERY = 100%)			
180.26	181.01	.75	SS2	CARBONACE- OUS	LIGHT GREY, MEDIUM GRAINED, CARBONACEOUS DEBRIS THROUGHOUT, TRACE FOSSIL MATERIAL (FLORA)	NDAT	NDAT	
181.01	182.11	1.10	COAL	BRIGHT	OCCASIONAL VITRAIN BANDING, CLEAN, GOOD STICK CORE, TRACE OF CALCITE, SEPARATION WITH ROOF, VISUAL FAIR, PHYSICAL POOR, SEPARATION WITH FLOOR, VISUAL AND PHYSICAL POOR (RECOVERED 1.0M - RECOVERY = 91%)	NDAT	NDAT 2	306
182.11	207.58	25.47	SLST	SHALY	SHALY CRYPTOCRYSTALLINE, TRACE OF PYRITE, THIN TO THICK LAMINAE VERY FINE GRAINED SANDSTONE, IN FIRST QUARTER OF SECTION GRADING TO HOMOGENEOUS SHALY SILTSTONE, OCCASIONAL BANDS HARD LIGHT BROWN SILTSTONE, MINOR COAL WISPS	NDAT	NDAT	
207.58	213.95	6.37	SLST	SS1	GRADES TO A VERY FINE GRAINED SANDSTONE, OCCASIONAL BANDS HARD LIGHT BROWN SANDSTONE, BIOTURBATION, TRACE OF CALCITE, HEALED FRACTURES EVIDENT, OCCASIONAL TRACE CARBONACEOUS DEBRIS	NDAT	NDAT	
213.95	255.00	41.05	SLST	SHALY/SAN-	DARK GREY,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
				DY	OCCASIONAL BANDS AND NODULES, HARD LIGHT BROWN VERY FINE GRAINED SANDSTONE, TRACE OF CALCITE, FRIABLE IN PLACES, OCCASIONAL WISPS, PYRITE, OCCASIONAL SLICKENSIDES, FAIR STICK CORE, TRACE OF COAL WISPS, GRADES TO A SANDY SILTSTONE IN LAST 2M			
255.00	274.34	19.34	SS1	SLST	LIGHT GREEN TO GREY, VERY FINE TO FINE GRAINED SANDSTONE, TRACE OF PYRITE, OCCASIONALLY FRIABLE IN PLACES, OCCASIONAL SECTIONS THIN TO THICK LAMINAE SILTSTONE, OCCASIONAL BANDS HARD LIGHT BROWN SILTSTONE (2-10CM), TRACE CARBONACEOUS DEBRIS, TRACE OF CALCITE, BEDDING APPEARS TO BE HORIZONTAL, FAIR STICK CORE	NDAT	NDAT	
274.34	274.61	.27	COAL		SEMI-DULL, GOOD STICK CORE, SLIGHTLY DIRTY	NDAT	NDAT	
274.61	291.29	16.68	SS1		LIGHT GREEN TO GREY, VERY FINE TO FINE GRAINED SANDSTONE, OCCASIONAL BANDS AND NODULES, HARD LIGHT BROWN SANDSTONE, INDISTINCT BEDDING IN PLACES, FRIABLE IN PLACES, CALCITE CEMENTED IN LIGHT	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BROWN BANDS			
291.29	295.63	4.34	SLST		DARK GREY, MODERATELY HARD TO FRIABLE, TRACE OF CALCITE	NDAT	NDAT	
295.63	297.72	2.09	SS1		LIGHT GREEN TO GREY, VERY FINE TO FINE GRAINED, TRACE OF PYRITE, HORIZONTAL BEDDING	NDAT	NDAT	
297.72	303.10	5.38	SLST		DARK GREY, OCCASIONAL BANDS LIGHT BROWN HARD SILTSTONE, ONE 10CM BAND CALCITE FILLED FRACTURE ZONE	NDAT	NDAT	
303.10	305.76	2.66	SS1		LIGHT GREEN, VERY FINE TO FINE GRAINED, TRACE OF CARBONACEOUS DEBRIS AND PLANT FRAGMENTS, ONE 63CM BAND HEAVILY FRACTURED ZONE FILLED WITH CALCITE, OCCASIONAL NODULES HARD LIGHT BROWN SANDSTONE, SLIGHTLY FRIABLE	NDAT	NDAT	
305.76	306.68	.92	COAL		BRIGHT, TRACE OF PYRITE, SEPARATION WITH ROOF, VISUAL AND PHYSICAL FAIR, SEPARATION WITH FLOOR VISUAL AND PHYSICAL POOR (RECOVERED 71CM - RECOVERY = 77%)	NDAT	NDAT 1	307
306.68	306.98	.30	SHALE	SLICKENSI- DES	DARK GREY, SLICKENSIDES, BROKEN, TRACE OF PYRITE	NDAT	NDAT	
306.98	307.99	1.01	COAL		SEMI-DULL, SLIGHTLY DIRTY, OCCASIONAL	NDAT	NDAT 1	308

		CORE		DESCRIPTION					
TDP	BASE	THICK	LITHOLDGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					SLICKENSIDES, SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL POOR (RECOVERED 65CM - RECOVERY = 66%)				
307.99	309.64	1.65	SHALE	MDST	DARK GREY, SLICKENSIDES, ONE 43CM VERY HARD BAND CALCAREOUS FOSSIL MUDSTONE, ONE 15CM BAND CALCAREOUS SHALE	NDAT	NDAT		
309.64	310.45	.81	COAL		SEMI-DULL TO BRIGHT, SLIGHTLY DIRTY, OCCASIONAL VITRAIN BANDING, ONE 4CM BAND SILTY SHALE, SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL POOR (RECOVERED 81CM - RECOVERY = 100%)	NDAT	NDAT 1	309	
310.45	313.47	3.02	SHALE	COAL	DARK GREY, FRIABLE, 20CM BAND COAL, TRACE OF PYRITE, TRACE OF CARBONACEOUS DEBRIS, TRACE OF PLANT FRAGMENTS	NDAT	NDAT		
313.47	313.69	.22	COAL		SEMI-DULL, GOOD STICK CORE, DULL CLEAT, ONE SLICKENSIDE	NDAT	NDAT		
313.69	313.98	.29	SHALE	CARBONACE- OUS	DARK GREY TO BLACK, CARBONACEOUS, OCCASIONAL SLICKENSIDES, MODERATELY HARD	NDAT	NDAT		
313.98	314.98	1.00	COAL	SS3	BRIGHT, FAIR STICK CORE, OCCASIONAL VITRAIN BANDING, FAIRLY CLEAN. CONTAINS OCCASIONAL COARSE	NDAT	NDAT 1	310	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					GRAINED SANDSTONE IN LAST 10CM, SEPARATION WITH ROOF AND FLOOR, VISUAL VERY POOR, PHYSICAL POOR, (RECOVERED 1.0M - RECOVERY = 100%)				
314.98	317.10	2.12	SHALE	COALY	BLACK, FIRST 11CM CONTAINS COARSE GRAINED SANDSTONE, VERY COALY, DENSE	NDAT	NDAT		
317.10	319.06	1.96	SHALE	SILTY	DARK GREY, TRACE OF CARBDNACEOUS DEBRIS, TRACE OF PLANT FRAGMENTS, SLIGHTLY FISSILE	NDAT	NDAT		
319.06	319.69	.63	SS3		LIGHT GREY TO WHITE, MEDIUM TO COARSE GRAINED SANDSTONE, CARBONACEOUS DEBRIS THROUGHOUT, GOOD STICK CORE, SLIGHTLY CEMENTED	NDAT	NDAT		
319.69	323.55	3.86	SLST	SS3	MEDIUM TO DARK GREY, ONE 24CM BAND COARSE GRAINED SANDSTONE, OCCASIONAL COAL WISPS, TRACE OF CALCITE, ONE 30CM BAND, HARD LIGHT BROWN SILTSTONE, OCCASIONAL SLICKENSIDES	NDAT	NDAT		
323.55	325.13	1.58	SS1	SS3/VOLC	MEDIUM GREY TO VERY LIGHT GREY, FINE TO VERY COARSE GRAINED, MAJORITY IS SEDIMENTS OF CLASTIC ORIGIN WITH OCCASIONAL PEBBLES AND COARSE GRAINS OF POSSIBLE VOLCANIC ORIGIN, CARBONACEOUS DEBRIS THROUGHOUT,	NDAT	NDAT		

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					ONE 20CM BAND MEDIUM GRAINED SANDSTONE				
325.13	325.69	.56	BRECCIA	VOLC	VERY LIGHT GREY TO CREAM, OCCASIONAL LARGE STONES (4CM), PALE PINK TO LIGHT GREEN FRAGMENTS, TRACE OF CARBONACEOUS DEBRIS	NDAT	NDAT		
325.69	326.59	.90	VOLCANICS	BRECCIATED	PALE GREEN TO LIGHT BROWN, OCCASIONAL FRAGMENTS (VOLCANIC), POSSIBLE SEDIMENTARY MATRIX	NDAT	NDAT		
326.59	329.59	3.00	VOLCANICS	ANDESITE	PALE GREEN TO BROWN TO RUSTY PURPLE, CONTAINS LIGHT GREEN AND WHITE PHENOCRYSTS, BADLY BROKEN, CONTACT AT 326.59	NDAT	NDAT		

CORE DESCRIPTION

HOLE ID TW82D-232
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820908
 LOG DATE NO DATA
 EXAMINED BY H.KUCERA

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
9.10	10.99	1.89	OVERBURDEN		RUBBLE TO TOP OF COAL SEAM, POOR RECOVERY	NDAT	NDAT	
10.99	12.73	1.74	COAL		R3, DULL WITH THIN BRIGHT BANDS, HAS CALCITE ALONG BEDDING PLANE FRACTURES, UPPER CONTACT OBSCURED BY RUBBLE, LOWER CONTACT, VISUAL-GOOD, PHYSICAL-POOR, (RECOVERY 1.36/1.74=78%)	73.0	11.3 8	133
12.73	15.75	3.02	SLST		LIGHT TO MEDIUM GREY, R1, LAMINATED, INTERCALATED WITH MUDSTONE, MICRO FAULTING THROUGHOUT	68.0	13.9	
15.75	16.20	.45	SLST	BRECCIA	FAULT ZONE, BROKEN TO RUBBLE, FRAGMENTS ARE SLICKENSIDED, LAST 15CM RECEMENTED BY CALCITE R1	NOAT	NOAT	
16.20	16.42	.22	SLST	SS1	THINLY BEDDED, LIGHT TO MEDIUM GREY, INTERBEDDED WITH VERY FINE GRAINED SANDSTONE, R2	NDAT	NDAT	
16.42	18.70	2.28	SS1	SLST	FINE GRAINED, LIGHT GREY, CALCITE CEMENT, WITH THIN DARK GREY SILTSTONE BANDS, R2, BROKEN STICK, 12CM	58.0	18.6	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH	SEAM	SNUM
					IRONSTONE BAND AT BASE				
18.70	19.85	1.15	MUDSTONE	SLST	MEDIUM GREY, SOFT, WEATHERED TO CLAY, LAMINATED BEDDING, MUDSTONE INTERCALATED WITH SILTSTONE	57.0	19.1		
19.85	20.60	.75	SS1		VERY FINE GRAINED, LIGHT GREEN SANDSTONE, THINLY BEDDED, R2, BROKEN STICK CORE	65.0	20.2		
20.60	24.27	3.67	SS1	BRECCIA	HIGHLY FRACTURED, HIGHLY WEATHERED, PARTIALLY RECEMENTED BY CALCITE, R1, LIGHT GREEN TO LIGHT GREY, ABUNDANT SLICKENSIDES. SOME FRAGMENTS OF MUDSTONE AND SILTSTONE	46.0	22.4		
24.27	28.81	4.54	SS1	SLST	DARK GREEN SANDSTONE INTERBEDDED WITH DARK GREY SILTSTONE, R2, BROKEN STICK, MUSCOVITE FLAKES ON BEDDING PLANES	70.0	26.4		
28.81	31.95	3.14	SLST	MDST	MEDIUM TO DARK GREY, R1, HIGHLY FRACTURED, WEATHERED TO CLAY, VERY FINELY LAMINATED, INTERCALATED WITH MUDSTONE	71.0	31.7		
31.95	32.34	.39	COAL		HARD, DULL, UPPER CONTACT IS CALCITE VEINED, 2CM SULPHIDE BAND 20CM FROM TOP	73.0	32.0	7	134
32.34	33.34	1.00	COAL		HARD, BRIGHT WITH DULL BANDS, (POOR	NDAT	NDAT	7	134

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					RECOVERY 1.0/1.39=72%), UPPER AND LOWER CONTACTS VISUAL AND PHYSICAL-GOOD				
33.34	34.43	1.09	SLST	SS1	LIGHT TO DARK GREY SILTSTONE WITH DARK GREEN VERY FINE GRAINED SANDSTONE INTERBEDS. LAMINATED, R2, BROKEN STICK TO RUBBLE	77.0	34.1		
34.43	41.66	7.23	SLST	FAULT ZONE	MEDIUM TO DARK GREY SILTSTONE INTERBEDDED WITH VERY FINE GRAINED GREEN SANDSTONE, CORE IS BROKEN AND SLICKENSIDED, SOME ZONES OF BRECCIA RECEMENTED BY CALCITE R1	NDAT	NDAT		
41.66	46.04	4.38	SLST	SS1	MEDIUM TO DARK GREY, SILTSTONE INTERBEDDED WITH DARK GREY SANDSTONE R2, BROKEN STICK, THINLY BEDDED	76.0	44.1		
46.04	48.10	2.06	COAL		DULL WITH THIN BRIGHT BANDS, TOP 30CM SHALY, R3, CALCITE ALONG FRACTURES NEAR TOP (RECOVERY .57/2.06 = 28%), UPPER CONTACT VISUAL AND PHYSICAL-POOR, LOWER CONTACT VISUAL AND PHYSICAL-GOOD	NDAT	NDAT 7		135
48.10	51.80	3.70	SLST	MDST	SILTSTONE INTERCALATED WITH MUDSTONE, MEDIUM TO DARK GREY, R2, HIGHLY FRACTURED, SLICKENSIDED.	74.0	48.5		

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					BRECCIATED THROUGHOUT				
51.80	52.60	.80	SS1	MDST	DARK GREEN, R2, FINE GRAIN, THINLY BEDDED, MICA FLAKES AND CARBONACEOUS MATERIAL ON BEDDING PLANES	65.0	52.1		
52.60	55.72	3.12	COAL		BRIGHT WITH DULL BANDS, R2, HIGHLY FRACTURED AT BASE (RECOVERY 1.09/3.12 = 35%), DUE TO POOR RECOVERY CONTACTS OBSCURED	66.0	52.6	6	136
55.72	58.24	2.52	MUDSTONE	CARBONACE- OUS	MEDIUM GREY, FISSILE, HIGHLY FRACTURED, SLICKENSIDED, CALCITE ON FRACTURES, POOR RECOVERY, CORE IS BROKEN TO RUBBLE	NDAT	NDAT		
58.24	58.65	.41	COAL		COAL IS HARD, R3, DULL, BRITTLE WITH A HIGH AMOUNT OF CALCITE PRESENT (RECOVERY .32/.41 = 78%), UPPER AND LOWER CONTACT, VISUAL AND PHYSICAL-GOOD	NDAT	NDAT		137
58.65	60.35	1.70	SHALE	COALY	MEDIUM TO DARK GREY, FISSILE, HIGHLY FRACTURED, SLICKENSIDED, NON-BEDDED, BROKEN TO RUBBLE	NDAT	NDAT		
60.35	62.40	2.05	COAL		BRIGHT WITH DULL BANDS, R3, HIGHLY FRACTURED, SLICKENSIDES, (POOR RECOVERY .48/2.05 = 23%), UPPER CONTACT VISUAL AND	NDAT	NOAT	5	138

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					PHYSICAL-GOOD, LOWER CONTACT - LOST				
62.40	73.24	10.84	SS1		FINE GRAINED, MEDIUM GREEN SANDSTONE, R3, ANGULAR GRAINS WITH ABUNDANT MUSCOVITE FLAKES ON BEDDING, EVIDENCE OF SOFT SEDIMENT DEFORMATION, POORLY BEDDED, BROKEN STICK	61.0	73.1		
73.24	74.36	1.12	COAL		DULL WITH BRIGHT, ABUNDANT PYRITE THROUGHOUT, R3, SEMI-STICK, CALCITE ALONG BEDDING NEAR BASE (RECOVERY .97/1.12 = 87%), UPPER CONTACT, VISUAL-AVERAGE, PHYSICAL-POOR, LOWER CONTACT VISUAL AND PHYSICAL-GOOD	71.0	74.4 4		139
74.36	75.63	1.27	SLST		DARK GREY, CARBONACEOUS, LAMINAE BEDDING, R2, POLISHED ALONG BEDDING, FAULTED AT BASE	74.0	74.9		
75.63	80.04	4.41	SS1	SLST	LIGHT TO DARK GREEN, THINLY BEDDED, BROKEN STICK, R2, SMALL SCALE FAULTING THROUGHOUT, SOME DARK GREY SILTSTONE BANDS	51.0	76.5		
80.04	80.60	.56	SLST		DARK GREY, POORLY BEDDED, WEATHERED TO CLAY, R1, POLISHED ON FRACTURE PLANES	NDAT	NDAT		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
80.60	81.10	.50	SLST	IRONSTONE	R4, VERY DARK GREY, MASSIVE, WITH IRON-RICH CARBONATE IN JOINTS	NDAT	NDAT	
81.10	82.70	1.60	SLST		LOST CORE	NDAT	NDAT	
82.70	84.48	1.78	COAL		LOST CORE	NDAT	NDAT	
84.48	85.52	1.04	MUDSTONE	COALY	DARK GREY TO BLACK, CARBONACEOUS, FISSILE, R2, LAMINAR BEDDING	50.0	84.5	
85.52	87.10	1.58	SS1	SLST	INTERBEDDED MEDIUM GREEN SANDSTONE AND DARK GREY SILTSTONE, R2, THINLY BEDDED	45.0	85.0	
87.10	90.73	3.63	MUDSTONE	CARBONACEOUS	DARK GREY TO BLACK, MASSIVE, R1, FISSILE, HIGHLY FRACTURED	NDAT	NDAT	
90.73	92.22	1.49	COAL		R3, BRITTLE, POLISHED ON FRACTURES, DULL, HIGH IN PYRITE CONTENT (RECOVERY $.49/1.49 = 32\%$)	NDAT	NOAT 2	140
92.22	92.34	.12	MUDSTONE	COALY	BLACK, FISSILE, R2	NDAT	NDAT 2	140
92.34	94.44	2.10	COAL		BRIGHT WITH DULL, HARD, CLEAN, SEMI-STICK (RECOVERY $2.10/2.10 = 100\%$), UPPER CONTACT-POOR, LOWER CONTACT-CLEAR, VERY GOOD	67.0	92.3 2	140

CORE		DESCRIPTION						
TDP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
94.44	97.07	2.63	MUDSTONE	SILTY	MEDIUM TO DARK GREY WITH SILTY BANDS, FINELY LAMINATED, SEMI-STICK, R2. LAST .50M HIGHLY FOLDED AND FAULTED	68.0	94.5	
97.07	97.72	.65	COAL		DULL WITH BRIGHT BANDS, HIGHLY POLISHED WITH SOME SLICKENSIDES, R3, SEMI-STICK. UPPER CONTACT IS A FAULT PLANE, LOWER CONTACT-GOOD BEDDING ON MUDSTONE (RECOVERY .64/.65 = 98%)	48.0	97.7	141
97.72	98.10	.38	MUDSTONE	CARBONACEOUS	DARK GREY TO BLACK, R1, HIGHLY WEATHERED, MASSIVE	NDAT	NDAT	
98.10	102.70	4.60	SLST		LIGHT TO MEDIUM GREY, THINLY BEDDED, SOME THIN MUDSTONE BANDS, BROKEN STICK, POLISHED ALONG BEDDING PLANES	75.0	99.6	
102.70	106.80	4.10	SS1		FINE GRAINED, LIGHT GREEN TO LIGHT GREY, MEDIUM BEDDING, R3, SEMI-STICK, CARBONACEOUS PARTINGS ALONG BEDDING	59.0	103.0	
106.80	107.50	.70	SLST		MEDIUM TO DARK GREY, THIN BEDDED, R2, ABUNDANT MICRO-FAULTING, SLICKENSIDED ON FRACTURES	64.0	106.9	
107.50	109.30	1.80	SS1		FINE GRAINED, LIGHT GREY, THICK BEDDED, R3, STICK CORE, THIN MUDSTONE PARTING	62.0	108.8	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					THROUGHOUT			
109.30	122.40	13.10	SLST	SS1	DARK GREY SILTSTONE, INTERBEDDED WITH LIGHT GREY-GREEN FINE GRAINED SANDSTONE, THIN BEDDED R3, SEMI-STICK CORE. AT 120.1 FAULT PLANE, APPEARS TO HAVE MAJOR MOVEMENT, THIN MUDSTONE BANDS THROUGHOUT, FRACTURES ARE SLICKENSIDED	58.0	114.6	
122.40	122.60	.20	COAL		BRIGHT WITH DULL, R3	NDAT	NDAT	
122.60	123.25	.65	SLST		AS ABOVE	NDAT	NDAT	
123.25	123.40	.15	COAL		DULL, R3, CALCITE VEINLETS THROUGHOUT	NDAT	NDAT	
123.40	125.40	2.00	SLST		AS ABOVE	NDAT	NDAT	
125.40	129.30	3.90	MUDSTONE	SILTY	DARK GREY TO BLACK, THINLY LAMINATED, BROWN IRONSTONE CONCRETIONS THROUGHOUT, SLICKENSIDES ON FRACTURES, R2, SEMI-STICK	66.0	125.4	
129.30	132.96	3.66	SLST	MDST	DARK GREY TO BLACK, MAINLY MASSIVE, R2, SEMI-STICK	17.0	130.7	
132.96	140.40	7.44	SS1	SLST	DARK GREEN, MASSIVE, R3, SOME FRACTURES LINED WITH PYRITE AND	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					CARBONACEOUS MATERIAL, VERY FINE GRAINED			
140.40	140.60	.20	SS1	CALCAREOUS	VERY LIGHT GREEN, R4, MASSIVE, PORES INFILLED BY CALCITE, VERY FINE GRAINED	NDAT	NDAT	
140.60	143.41	2.81	SS1	SLST	VERY FINE GRAINED, DARK GREEN, MASSIVE, R3, STICK CORE	NDAT	NDAT	
143.41	145.95	2.54	SLST	SNDS	DARK GREY SILTSTONE INTERBEDDED WITH DARK GREEN VERY FINE GRAINED SANDSTONE, R3, THINLY BEDDED, STICK CORE, BIOTURBATED	77.0	143.4	
145.95	146.14	.19	COAL		GROUND TO POWDER, R1, POLISHED	71.0	146.0	
146.14	147.70	1.56	SLST	SNDS	DARK GREY SILTSTONE INTERBEDDED WITH DARK GREEN VERY FINE GRAINED SANDSTONE, THINLY BEDDED, R2, BROKEN STICK	52.0	146.7	
147.70	149.05	1.35	SANDSTONE		VERY FINE GRAINED, MEDIUM GREEN, THINLY BEDDED, R3, SEMI-STICK, SOME SLICKENSIDED SURFACES, LOWER CONTACT IS A FAULT PLANE	41.0	148.5	
149.05	152.70	3.65	MUDSTONE	SILTY	MEDIUM TO DARK GREY, R2, THINLY BEDDED, SILTY IN PARTS, SEMI-STICK, BECOMING MASSIVE TOWARD BASE	61.0	149.2	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
152.70	153.10	.40	COAL		DULL, R1, BROKEN TO RUBBLE, SOME LARGE CALCITE FILLED FRACTURES, UPPER AND LOWER CONTACT, VISUAL AND PHYSICAL-GOOD, (RECOVERY .34/.40 = 85%)	NDAT	NDAT	142
153.10	154.51	1.41	MUDSTONE	SILTY	AS ABOVE	43.0	153.5	
154.51	156.48	1.97	COAL		DULL WITH THIN BRIGHT BANDS, R3, SOME PYRITE BLEBS THROUGHOUT (RECOVERY 1.96/1.97 = 99%), UPPER AND LOWER CONTACT-GOOD	NDAT	NDAT 8	143
156.48	156.59	.11	MUDSTONE	COALY	BLACK, COALY WITH PYRITE BLEBS	NDAT	NDAT 8	143
156.59	157.24	.65	COAL		BRIGHT WITH DULL, R3, CALCITE ON LOWER CONTACT, (RECOVERY .65/.65 = 100%), LOWER CONTACT-GOOD	44.0	157.2 8	143
157.24	160.90	3.66	MUDSTONE		DARK GREY TO BLACK, THINLY BEDDED, R3, SEMI-STICK, SLICKENSIDES ON FRACTURE SURFACES, .46M FROM TOP IS A FAULT PLANE	41.0	157.5	
160.90	164.50	3.60	SS1	SLST	FINE GRAINED, LIGHT GREY TO LIGHT GREEN SANDSTONE, R3, SEMI-STICK, COALY MATERIAL ON BEDDING PLANES, GRADES DOWN INTO SILTSTONE	47.0	161.4	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
164.50	166.40	1.90	SLST	SS1	MEDIUM TO DARK GREY SILTSTONE WITH VERY FINE GRAINED SANDSTONE INTERBEDS, THINLY BEDDED, R2, BROKEN STICK	49.0	164.7	
166.40	166.65	.25	COAL		DULL WITH THIN BRIGHT BANDS, CALCITE ON UPPER CONTACT, SHALY AT BASE	NDAT	NDAT	
166.65	168.11	1.46	SLST		DARK GREY WITH GREEN VERY FINE GRAINED SANDSTONE INTERBEDS, THIN BEDDED, R3, SEMI-STICK	56.0	168.0	
168.11	171.15	3.04	MUDSTONE		DARK GREY TO BLACK, MASSIVE, R2, 1CM, MASSIVE COPPER SULPHIDES (CHALCOPYRITE AND AZURITE AND MALACHITE) AT TOP OF COAL	56.0	171.0	
171.15	172.24	1.09	COAL		DULL WITH BRIGHT BANDS, R3, SEMI-STICK, (RECOVERY 1.09/1.09 = 100%) GOOD UPPER CONTACT	NDAT	NDAT 7	144
172.24	172.36	.12	MUDSTONE		BLACK, MASSIVE, R3	NDAT	NDAT 7	144
172.36	172.56	.20	COAL	SHALY	DULL, DIRTY, R3, GOOD LOWER CONTACT (RECOVERY .20/.20 = 100%)	58.0	172.6 7	144
172.56	174.20	1.64	MUDSTONE		DARK GREY TO BLACK, LAMINAE BEDDING, R2, BROKEN STICK	49.0	173.0	
174.20	176.70	2.50	SLST	SS1	LIGHT TO MEDIUM GREY WITH VERY	53.0	174.2	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					FINE GRAINED SANDSTONE INTERBEDS, R2, THINLY BEDDED, SEMI-STICK			
176.70	178.25	1.55	SS1		LIGHT GREEN, FINE GRAINED SANDSTONE, MEDIUM BEDDED, R3, MUSCOVITE ON BEDDING PLANES, SEMI-STICK	55.0	NDAT	
178.25	178.59	.34	COAL		DULL WITH BRIGHT BANDS, R3, VERY GOOD UPPER CONTACT, POOR LOWER CONTACT (RECOVERY .27/.34 = 79%)	NDAT	NDAT 6	145
178.59	178.90	.31	MUDSTONE	COALY	BLACK WITH COALY LENSES, R3, SEMI-STICK	NDAT	NDAT	
178.90	179.62	.72	COAL		DULL WITH FEW BRIGHT BANDS, R3, SEMI-STICK, PYRITE BLEBS AT TOP, DIRTY AT BASE (RECOVERY .70/.72 = 97%), LOWER CONTACT-VAGUE, GOOD UPPER CONTACT	NDAT	NDAT 6	146
179.62	179.97	.35	COAL	SHALY	DULL WITH BRIGHT BANDS, HARD, R3, UPPER AND LOWER CONTACTS VAGUE (RECOVERY .35/.35 = 100%)	NDAT	NDAT 6	147
179.97	181.79	1.82	COAL		DULL WITH BRIGHT, R3, SEMI-STICK, CLEAN, GOOD CLEAT, GOOD LOWER CONTACT, RUBBLE TOWARD BASE (RECOVERY 1.48/1.82 = 81%)	NDAT	NDAT 6	148
181.79	183.59	1.80	MUDSTONE		MEDIUM TO DARK GREY, THINLY LAMINATED,	65.0	182.0	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					ABUNDANT SMALL SCALE FAULTING, R2. FRACTURES ARE SLICKENSIDED, BROKEN STICK TO RUBBLE, CARBONACEOUS SPLITS			
183.59	193.80	10.21	SLST		MEDIUM GREY, MASSIVE, R3, SEMI-STICK AT 186.6 , 10CM OF RECEMENTED SILTSTONE BRECCIA	NDAT	NDAT	
193.80	216.62	22.82	MUDSTONE		MEDIUM TO DARK GREY, NON-BEDDED, FISSILE, R1 TO R2, WITH OCCASIONAL 5CM IRONSTONE BANDS THROUGHOUT	NDAT	NOAT	
216.62	217.00	.38	SLST	FRACTURE ZONE	MEDIUM GREY WITH SOME FAINT GREEN BANDS, MASSIVE, R3, SEMI-STICK, LARGE CURVED, OPEN CEMENTED, CALCITE FILLED FRACTURES	NDAT	NDAT	
217.00	221.72	4.72	SLST		MEDIUM GREY, MASSIVE, R2, SOME THIN CURVED BANDS OF PYRITE, GRADES DOWN INTO MUDSTONE	58.0	220.4	
221.72	222.80	1.08	MUDSTONE		MEDIUM TO DARK GREY, NON-BEDDED EASILY BROKEN, R1, BROKEN STICK	NDAT	NOAT	
222.80	223.45	.65	SLST		MEDIUM GREY, MASSIVE, R3, SEMI-STICK	NDAT	NDAT	
223.45	223.87	.42	SLST	FRACTURE ZONE	SILTSTONE, MEDIUM GREY, HIGHLY FRACTURED, PARTLY WEATHERED, OPEN FRACTURES FILLED WITH CALCITE. PYRITE AND COALY MATERIAL, R1	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
223.87	231.90	8.03	MUDSTONE		MEDIUM TO DARK GREY, MASSIVE, NON-BEDDED, R2, CARBONACEOUS, BROKEN STICK, SILTY BANDS	NDAT	NDAT	
231.90	235.22	3.32	MUDSTONE		DARK GREY TO BLACK, R1, FISSILE, EASILY REDUCED TO RUBBLE	NDAT	NDAT	
235.22	241.35	6.13	SLST	MDST	MEDIUM TO DARK GREY SILTSTONE WITH MUDSTONE BANDS, SOME BIOTURBATION, GIVING A MOTTLED APPEARANCE, SOME SMALL SCALE FAULTING, R3, SEMI-STICK, 30CM OF SHELL FRAGMENTS IN SILTSTONE AT 236.16	69.0	238.9	
241.35	243.70	2.35	SS1	SLST	VERY FINE GRAINED, LIGHT GREEN SANDSTONE WITH SILTY BANDS, CALCITE IN MATRIX NEAR BASE, PYRITE BLEBS, R3, SEMI-STICK	77.0	243.1	
243.70	245.45	1.75	SLST		MEDIUM TO DARK GREY SILTSTONE, CALCITE IN MATRIX, R3, STICK CORE, GRADES TO MUDSTONE AT BASE	NDAT	NDAT	
245.45	247.90	2.45	MUDSTONE		MEDIUM TO DARK GREY, NON-BEDDED, R1, BROKEN STICK, BIOTURBATED	NDAT	NDAT	
247.90	249.20	1.30	SLST	SS1	LIGHT TO MEDIUM GREY SILTSTONE WITH VERY FINE GRAINED SANDSTONE BANDS, FAULT CONTACT AT BASE.	73.0	249.0	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					BRECCIA RECEMENTED WITH IRON-RICH CARBONATE, R3, SEMI-STICK				
249.20	252.47	3.27	MUDSTONE		DARK GREY TO BLACK, MASSIVE, R1, BROKEN STICK, SOME BLACK CARBONACEOUS BANDS RIMMED BY PYRITE	NDAT	NDAT		
252.47	254.10	1.63	SHALE		BLACK, CARBONACEOUS, FISSILE, SLICKENSIDED, R1, BROKEN STICK	NDAT	NDAT		
254.10	260.45	6.35	SS1	SLST	LIGHT TO DARK GREEN, VERY FINE GRAINED SANDSTONE WITH BANDS OF SILTSTONE, SOME MUSOVITE FLAKES, ABUNDANT SHELL MATERIAL, SIGNS OF BIOTURBATION, R3, SEMI-STICK	74.0	259.5		
260.45	270.20	9.75	SLST	SS1	DARK GREEN TO MEDIUM GREY, POORLY BEDDED, R2, ABUNDANT BIOTURBATION, ABUNDANT SHELL MATERIAL, REPLACED BY CALCITE, BROKEN STICK BECOMING RUBBLY TOWARD BASE	NDAT	NDAT		
270.20	284.05	13.85	SS1	SLST	MEDIUM GREY TO GREEN, VERY FINE GRAINED SANDSTONE, R2, BROKEN STICK, ABUNDANT PLANT AND SHELL MATERIAL, POORLY SORTED, SILTY BANDS, BECOMING HIGH FRACTURED TOWARD BASE, POORLY BEDDED	69.0	275.9		
284.05	286.30	2.25	SS1	FAULT ZONE	SANDSTONE AS ABOVE	NDAT	NDAT		

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					BUT A FAULT EXTENDS ALONG CORE FOR 2.25M, INFILLED WITH SLICKENSIDED COALY SHALE AND CALCITE, SURFACE IS UNDULATING, SLICKENSIDES DIRECTED AT 90 DEGREES TO CORE AXIS, POSSIBLE A TEAR FAULT, WITH TRANSVERSE MOVEMENT				
286.30	290.67	4.37	SLST	SS1	MEDIUM GREY, SILTSTONE INTERBEDDED WITH DARK GREY-GREEN VERY FINE GRAINED SANDSTONE, R3, SEMI-STICK, CARBONACEOUS RIP-UP CLASTS NEAR BASE	54.0	287.2		
290.67	290.92	.25	COAL		DULL WITH THIN BRIGHT BANDS AND ABUNDANT CALCITE LINED BEDDING FRACTURES, R3, (RECOVERY .25/.25 = 100%), GOOD CONTACTS UPPER AND LOWER	76.0	291.2	1	149
290.92	291.15	.23	MUDSTONE		DARK GREY TO BLACK, R3, THIN BEDDED	NDAT	NDAT		
291.15	292.28	1.13	COAL		MAINLY DULL WITH A FEW BRIGHT BANDS, R3, GOOD UPPER AND LOWER CONTACTS, CALCITE ON LOWER, R3, BROKEN TO BROKEN STICK (RECOVERY = 100%), CALCITE AND PYRITE LINED FRACTURES SCATTERED THROUGHOUT	75.0	292.3	1	150

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
292.28	295.70	3.42	MUDSTONE		DARK GREY TO BLACK, CARBONACEOUS, FISSILE, HIGHLY FRACTURED, R1, BROKEN TO RUBBLY, ONE IRONSTONE CONCRETION NEAR BASE, BEDDING POORLY DEFINED	NDAT	NDAT	
295.70	296.40	.70	MUDSTONE	COALY	BLACK, FISSILE WITH COALY PARTINGS, SOME CALCITE LINED FRACTURES, R2, BROKEN STICK	NDAT	NDAT	
296.40	297.90	1.50	MUDSTONE	SILTY	MEDIUM TO DARK GREY, R2, MASSIVE, A FEW THIN CARBONACEOUS SPLITS, ONE WIDE CALCITE FILLED FRACTURE NEAR TOP	NDAT	NDAT	
297.90	298.62	.72	MUDSTONE	COALY	DARK GREY TO BLACK, CARBONACEOUS TO COALY, R2, BROKEN STICK, LARGE COALY PARTINGS, NON-BEDDED	NDAT	NDAT	
298.62	299.05	.43	MUDSTONE	SILTY	MEDIUM TO DARK GREY, R3, MASSIVE, BROKEN STICK	NDAT	NDAT	
299.05	300.70	1.65	MUDSTONE	CARB	DARK GREY TO BLACK, MASSIVE R2, COALY	NDAT	NDAT	
300.70	301.60	.90	MUDSTONE	SILTY	MEDIUM TO DARK GREY, R3, NON-BEDDED, SEMI-STICK	NDAT	NDAT	
301.60	302.05	.45	MUDSTONE	COALY	BLACK, COALY, R3, WITH ABUNDANT CALCITE MICRO VEINLETS	NDAT	NDAT	
302.05	306.55	4.50	MUDSTONE	SILTY	MEDIUM TO DARK	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					GREY WITH THIN COALY PARTINGS, 3 IRONSTONE BANDS, R3, SEMI-STICK			
306.55	307.05	.50	COAL		DULL DIRTY, R3, SEMI-STICK, (100% RECOVERY), GRADUAL UPPER AND LOWER CONTACTS	NDAT	NDAT	151
307.05	307.76	.71	VOLCANICS	TUFF	LIGHT GREY, WELDED TUFF, R4	NDAT	NDAT	
307.76	310.00	2.24	MUDSTONE	SILTY	DARK GREY TO BLACK, COALY LENSES, R3, STICK CORE, MASSIVE, NON-BEDDED, SILTY AT BASE	NDAT	NDAT	
310.00	316.80	6.80	SS1	SILTY	VERY FINE GRAINED, MEDIUM GREY, POORLY SORTED, WELL INDURATED, R4, STICK CORE, HIGH COMPONENT OF VOLCANIC ASH IN SOME INTERVALS	68.0	311.0	
316.80	317.70	.90	MUDSTONE	COALY	DARK GREY TO BLACK, R2, BROKEN TO RUBBLE, NON-BEDDED	76.0	316.8	
317.70	318.14	.44	VOLCANICS	TUFF	LIGHT GREY VOLCANIC ASH, R4, STICK CORE, NON-BEDDED, MASSIVE	NDAT	NDAT	
318.14	319.90	1.76	SLST	SS1	MEDIUM TO DARK GREY, R3, STICK CORE, THIN BEDDED, ONE SMALL HIGH ANGLE FAULT, THIN VERY FINE GRAINED SANDSTONE BANDS	78.0	318.2	
319.90	323.10	3.20	CDNGLDM	SNDS	LIGHT GREY CDNGLOMERATE, SUB-ANGULAR FRAGMENTS,	79.0	321.2	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					MASSIVE, NON-BEDDED, FINING DOWNWARDS RAPIDLY BECOMING FINE GRAINED SANDSTONE AT BASE			
323.10	325.20	2.10	MUDSTONE	SILTY	MEDIUM TO DARK GREY, MASSIVE, R3, BROKEN STICK, SOME FISSILE BANDS	NDAT	NDAT	
325.20	325.70	.50	BRECCIA	FAULT ZONE	MUDSTONE BRECCIA, FRAGMENT RECEMENTED BY CARBONATE, R4, STICK CORE, NO BEDDING	NDAT	NDAT	
325.70	326.43	.73	MUDSTONE	SILTY	LIGHT TO DARK GREY, SILTY AT TOP, THIN BEDDED AT TOP, MASSIVE AT BASE, R2, BROKEN STICK	73.0	325.9	
326.43	326.47	.04	BENTONITE		ALTERED TO CLAY, R1	NDAT	NDAT	
326.47	328.35	1.88	MUDSTONE		BLACK, MASSIVE, R2, BROKEN STICK	NDAT	NDAT	
328.35	328.65	.30	BRECCIA		MUDSTONE FRAGMENTS RECEMENTED BY CARBONATE	NDAT	NDAT	
328.65	330.41	1.76	MUDSTONE	COALY	BLACK, MASSIVE, R3, SEMI-STICK	66.0	330.2	
330.41	331.00	.59	SLST	SNDS	LIGHT GREY SILTSTONE TO VERY FINE GRAINED SANDSTONE, WELL INDURATED, MILDLY CALCAREOUS, R4, STICK CORE, FINING UPWARD	NDAT	NDAT	
331.00	331.77	.77	MUDSTONE	COALY	BLACK, COALY, R3, SEMI-STICK, MASSIVE	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
331.77	333.80	2.03	VOLCANICS	TUFF	WELDED TUFF, R4, LIGHT GREY, MASSIVE, STICK CORE	NDAT	NDAT	
333.80	334.40	.60	IGNEOUS		VERY DARK GREEN, VERY FINE GRAINED, R4, STICK CORE, NON-BEDDED	NOAT	NDAT	
334.40	335.70	1.30	SLST	SNDS	LIGHT TO MEDIUM GREY SILTSTONE WITH SANDSTONE INTERBEDDED, POORLY SORTED, R3, SEMI-STICK	64.0	335.0	
335.70	341.80	6.10	MUDSTONE		DARK GREY TO BLACK, R2, BROKEN STICK, MASSIVE WITH COALY BANDS	NDAT	NDAT	
341.80	343.00	1.20	SLST	SNDS	LIGHT TO MEDIUM GREY, THINLY BEDDED, WITH VERY FINE GRAINED SANDSTONE INTERBEDDED, R3, BROKEN STICK, SOME SLUMP FEATURES	73.0	342.9	
343.00	344.15	1.15	MUDSTONE		DARK GREY TO BLACK, MASSIVE, R2, BROKEN STICK	NDAT	NDAT	
344.15	346.95	2.80	VOLCANICS		TUFF, DARK GREY, MASSIVE, R4, STICK CORE	NOAT	NDAT	
346.95	347.30	.35	COAL		BRIGHT WITH DULL BANDS, HARD (R3), SEMI-STICK, GOOD CONTACTS, (RECOVERY 100%)	67.0	347.3	152
347.30	347.85	.55	MUDSTONE		BLACK, MASSIVE, R3, BROKEN STICK, NON-BEDDED	NDAT	NDAT	
347.85	348.35	.50	COAL		DULL, R3, WITH CALCITE VEINS THROUGHOUT, GOOD VISIBLE CONTACTS,	68.0	348.1	153

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					(100% RECOVERY), SEMI-STICK			
348.35	349.03	.68	MUDSTONE		DARK GREY TO BLACK, MASSIVE, R2, BROKEN TO RUBBLE	NDAT	NDAT	
349.03	349.30	.27	COAL		DULL, DIRTY, R2, POOR UPPER AND LOWER CONTACTS, (100% RECOVERY)	NDAT	NDAT	154
349.30	351.60	2.30	VOLCANICS		TUFF, MEDIUM GREY, MASSIVE, R4, SEMI-STICK	NDAT	NDAT	
351.60	352.70	1.10	MUDSTONE		DARK GREY TO BLACK, CARBONACEOUS, MASSIVE	NDAT	NDAT	
352.70	353.15	.45	VOLCANICS		TUFF, AS ABOVE	NDAT	NDAT	
353.15	353.63	.48	MUDSTONE		DARK GREY TO BLACK, MASSIVE, R2, BROKEN STICK	NDAT	NDAT	
353.63	356.20	2.57	VOLCANICS		TUFF, DIRTY, R3, THICKLY BANDED, SEMI-STICK	NDAT	NDAT	
356.20	358.76	2.56	VOLCANICS		VOLCANIC, RED, MASSIVE, R2, HIGHLY FRACTURED, INFILLED BY CALCITE, BROKEN STICK	NDAT	NDAT	

CORE DESCRIPTION

HOLE.ID TW82D-233
 PROJECT TELKWA
 AREA SMITHERS
 DRIL.DATE 820730
 LOG.DATE NO.DATA
 EXAMINED.BY

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	130.00	130.00	OVERBURDEN			NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TW82D-234
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE NO DATA
 LOG DATE 820817
 EXAMINED BY R.KOSTIUK

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	21.31	21.31	OVERBURDEN	GRAVEL, SAND, BOULDER	DRILLED WITH ROCK BIT - NO CORE RECOVERY	NDAT	NDAT	
21.31	21.76	.45	SLST	SS1	DARK GREY, THICKLY LAMINATED INTERBEDDED WITH MINOR VERY FINE GRAIN SANDSTONE LAMINAE, OCCASIONAL COALY CARBONACEOUS MATERIAL, BROKEN	NDAT	NDAT	
21.76	28.40	6.64	COAL	CLEAN	RECOVERED 4.33M; DULL WITH BRIGHT AND SHINY BANDS, HARD, CUBIC AND CONCHOIDAL FRACTURES, OCCASIONAL SLICKENSIDED, MINOR PYRITE, FAIR TO GOOD STICK, - RECOVERY 65% -SEPARATION WITH ROOF, VISUAL AND PHYSICAL - ?; SEPARATION WITH FLOOR, VISUAL - GOOD, PHYSICAL - FAIR	45.0	AVG 6	108
28.40	29.89	1.49	MUDSTONE	SLST	MEDIUM GREY, THINLY TO THICKLY LAMINATED, INTERBEDDED WITH LIGHT GREY SILTSTONE, DISTORTED BEDDING, FRACTURED, OCCASIONAL SLICKENSIDED, BROKEN STICK	NDAT	NDAT	
29.89	36.16	6.27	COAL		RECOVERED 4.28M;	NDAT	NDAT 5	109

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BRIGHT AND DULL WITH SHINY BANDS. HARD, MINOR CALCITE, BRITTLE AND BLOCKY IN PLACES, CUBIC AND CONCHOIDAL FRACTURE: HIGH ASH INTERVAL AT 32.08-32.28 AND 32.70-32.90, MUDSTONE, VISIBLE PYRITE, GOOD STICK - RECOVERY 68% - SEPARATION WITH ROOF, VISUAL - GOOD, PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - FAIR			
36.16	38.30	2.14	MUDSTONE	SLST	MEDIUM TO DARK GREY, THINLY BEDDED WITH SILTSTONE LAMINAE, CARBONACEOUS, COALY BANDS, MINOR CALCITE VEINLETS, SLICKENSIDED, SILTY TOWARDS BASE, MICRO FAULTED, FAIR STICK	NDAT	NDAT	
38.30	42.20	3.90	SS1		LIGHT GREY, FINE GRAIN SANDSTONE, THINLY BEDDED, INTERBEDDED WITH DARK GREY SILTSTONE LAMINAE, MODERATELY DEVELOPED, OCCASIONAL CROSS-BEDDING, OCCASIONAL BROWN VERY HARD IRON CLAYSTONE BANDS, COAL FLECKS THROUGHOUT, GOOD STICK	66.0	AVG	
42.20	43.13	.93	SS1	SLST	LIGHT GREY, VERY FINE GRAIN	78.0	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					SANDSTONE, THICKLY LAMINATED INTERBEDDED WITH DARK GREY SILTSTONE AND MUDSTONE, WAVY LAMINAE, CROSS-BEDDING, BREAKS EASILY ALONG BEDDING, FAIR STICK				
43.13	44.50	1.37	MUDSTONE		MEDIUM TO DARK GREY, MASSIVE, MODERATELY HARD, FISSILE IN PLACES, SILTY GRADING CARBONACEOUS TOWARDS BASE, BROKEN	NDAT	NDAT		
44.50	45.48	.98	COAL		RECOVERED .67M; MAINLY DULL WITH BRIGHT AND MINOR SHINY BANDS, HARD, MINOR CALCITE AND PYRITE ALONG CLEAT, FAIR TO GOOD STICK - RECOVERY 68% - SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL - FAIR	NDAT	NDAT 4		110
45.48	46.60	1.12	MUDSTONE	CARBONACEOUS	MEDIUM TO DARK GREY TO BLACK, MASSIVE, HARD, CARBONACEOUS WITH COALY WISPS THROUGHOUT, SLICKENSIDED, POLISHED, GOOD STICK	NDAT	NDAT		
46.60	47.04	.44	COAL		RECOVERED .44M; MAINLY DULL WITH MINOR SHINY BANDS, HARD, MINOR CALCITE ALONG CLEAT, VISIBLE PYRITE, FAIR STICK - RECOVERY 100% SEPARATION WITH	NDAT	NDAT		111

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					ROOF, VISUAL - POOR, PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL - POOR, PHYSICAL - FAIR				
47.04	47.40	.36	MUDSTONE		DARK GREY TO BROWN. MASSIVE, HARD, CARBONACEOUS, COALY DEBRIS THROUGHOUT, GOOD STICK	NDAT	NDAT		
47.40	47.80	.40	COAL	HIGH ASH	RECOVERED .04M; DULL WITH OCCASIONAL BRIGHT BANDS. HARD, MINOR CALCITE, BROKEN - RECOVERY 100% - NOT SAMPLED	NOAT	NDAT		
47.80	48.30	.50	MUDSTONE	CARBONACE- OUS	DARK GREY TO BLACK. MASSIVE, MODERATELY HARD, MINOR CALCITE AND COAL WISPS, GOOD STICK	NOAT	NDAT		
48.30	52.23	3.93	MUDSTONE		BROWN TO MEDIUM GREY, MASSIVE, MODERATELY HARD, OCCASIONAL FRACTURED AND SLICKENSIDED, POLISHED, GOOD STICK	NDAT	NDAT		
52.23	53.85	1.62	MUDSTONE	SLST	BROWN MEDIUM GREY, THINLY LAMINATED, VERY THINLY BEDDED, WITH LIGHT GREY SILTSTONE LAMINAE, POORLY DEVELOPED, CONVOLUTED BEDDING, OCCASIONAL CROSS-BEDDING, MINOR IRON CLAYSTONE BANDS AND NODULES	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
53.85	57.00	3.15	SS2		LIGHT GREY, MEDIUM TO COARSE GRAIN, MASSIVE, POORLY SORTED, WELL CONSOLIDATED, VERY HARD, OCCASIONAL MUDSTONE LAMINAE, OCCASIONAL CLAYSTONE CLASTS, MINOR IRON STAIN, EXCELLENT STICK	NDAT	NDAT	
57.00	57.86	.86	MUDSTONE	CARBONACEOUS	DARK GREY, MASSIVE, MODERATELY HARD, OCCASIONAL COAL WISPS, MINOR PYRITE, ABUNDANT COALY PLANT DEBRIS, OCCASIONAL SLICKENSIDED FRACTURES	NDAT	NDAT	
57.86	58.24	.38	COAL		RECOVERED .34M; DULL AND BRIGHT BANDED, WITH OCCASIONAL SHINY BAND, HARD, CUBIC AND CONCHOIDAL FRACTURES, HIGH ASH INTERVAL 13CM FROM TOP (3CM THICK), BROKEN - RECOVERY 89% - SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL - FAIR	NDAT	NDAT	112
58.24	62.08	3.84	MUDSTDNE		MEDIUM TO LIGHT GREY, THINLY LAMINATED, VARVED, WAVY LAMINAE, OCCASIONAL SOFT SEDIMENT DEFORMATION, OCCASIONAL BIOTURBATION AND SLUMPING OCCASIONAL BROWN VERY HARD CLAYSTONE BANDS, GOOD STICK	78.0	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
62.08	66.78	4.70	COAL		RECOVERED 3.78M; DULL AND BRIGHT BANDED WITH OCCASIONAL SHINY BANDS, HARD, MINOR PYRITE, OCCASIONAL VOLCANIC ASH BANDS, MINOR CALCITE ALONG CLEATS - RECOVERY 81% - SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL - FAIR	79.0	NDAT 2+3	113
66.78	67.44	.66	MUDSTONE	SLST	DARK GREY, THINLY LAMINATED, WAVY PARALLEL, ABUNDANT COALY DEBRIS THROUGHOUT, MINOR IRON CLAYSTONE, SLIGHTLY CARBONACEOUS, LIGHT GREY SILTSTONE INTERBEDS	NDAT	NDAT	
67.44	70.32	2.88	SLST	SS1,MDST	LIGHT GREY, THIN TO THICKLY LAMINATED, INTERBEDDED WITH VERY FINE GRAIN SANDSTONE AND DARK GREY MUDSTONE, WAVY DISCONTINUOUS TO CONVOLUTED BIOTURBATION, CARBONACEOUS DEBRIS THROUGHOUT, OCCASIONAL BROWN VERY HARD IRON CLAYSTONE BANDS	NDAT	NDAT	
70.32	76.86	6.54	MUDSTONE	SS1,SLST	DARK GREY, THICKLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH VERY FINE GRAIN LIGHT GREY SANDSTONE AND SILTSTONE, WAVY PARALLEL TO UNEVEN DISCONTINUOUS	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BEDDING, OCCASIONAL CROSS-BEDS, OCCASIONAL MICRO FAULTS, BREAKS EASILY ALONG BEDDING, MINOR CALCITE VEINS			
76.86	79.05	2.19	MUDSTONE		DARK GREY, MASSIVE, FINE TO ROUGH, FIRM TO MODERATELY HARD, BLOCKY, SLICKENSIDED, SILTY IN PLACES, MINOR PYRITE, FAIR STICK	NDAT	NDAT	
79.05	84.96	5.91	SLST		DARK GREY, MASSIVE, CLAYEY, FIRM TO MODERATELY HARD, BLOCKY, OCCASIONAL COAL WISP, MINOR PYRITE, FAIR TO GOOD STICK	NDAT	NDAT	
84.96	88.52	3.56	SS1		MEDIUM GREY, VERY FINE GRAIN SANDSTONE, MASSIVE, FAIR CONSOLIDATED, CLAY CEMENTED, VISIBLE PYRITE, MINOR COAL WISPS, GOOD STICK	NDAT	NDAT	
88.52	89.09	.57	SLST	SS1	DARK GREY TO BLACK, THINLY LAMINATED, INTERBEDDED WITH VERY FINE GRAIN SANDSTONE, WAVY PARALLEL, BIOTURBATED, CARBONACEOUS, MODERATELY HARD, GOOD STICK	NDAT	NDAT	
89.09	92.65	3.56	SLST		MEDIUM GREY, MASSIVE, CLAYEY, OCCASIONAL COAL WISPS, OCCASIONAL VISIBLE PYRITE,	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					OCCASIONAL VERY HARD BROWN IRON CLAYSTONE BANDS, OCCASIONAL LOW ANGLE FRACTURE, SLICKENSIDED, GOOD STICK				
92.65	93.06	.41	CLAY		BROWN, MASSIVE, VERY HARD, SLIGHTLY CALCAREOUS, CALCITE INFILL FRACTURE, PYRITE MINERAL, VUGGY, BROKEN	NDAT	NDAT		
93.06	94.22	1.16	SLST		MEDIUM GREY, MASSIVE, HARD, COALY FLECKS, SANDY TOWARDS BASE, OCCASIONAL PYRITE, GOOD STICK	NDAT	NDAT		
94.22	95.12	.90	SS1		GREEN TO MEDIUM GREY, VERY FINE TO FINE GRAIN SANDSTONE, MASSIVE, POORLY DEVELOPED, VERY HARD, COALY FLECKS, IRON CLAYSTONE, INTERBEDDED, PYRITE, MINOR CALCITE, GOOD STICK	NDAT	NDAT		
95.12	99.85	4.73	SS1		BEIGE TO LIGHT GREY, VERY FINE TO FINE GRAIN SANDSTONE THINLY LAMINATED TO MASSIVE, POORLY DEVELOPED, OCCASIONAL WAVY PARALLEL LAMINAE, VERY HARD, WELL CONSOLIDATED; ARGILLACEOUS, OCCASIONAL MICRO FAULT, OCCASIONAL CALCITE VEINS, OCCASIONAL BROWN	NDAT	NDAT		

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					IRON RICH CLAYSTONE BANDS AND CLASTS, OCCASIONAL SLICKENSIDED, GOOD STICK				
99.85	100.70	.85	MUDSTDNE		DARK GREY, MASSIVE, FIRM TO MODERATELY HARD, ARENACEOUS, MINOR CALCITE, HIGHLY FRACTURED AND SLICKENSIDED, FAIR STICK	NDAT	NDAT		
100.70	131.32	30.62	SLST		MEDIUM GREY, MASSIVE, OCCASIONAL VERY FINE GRAIN SANDSTDNE INTERVALS, OCCASIONAL BROWN VERY HARD IRON CLAYSTONE WITH INFILL CALCITE VEINLETS, OCCASIONAL COAL WISPS, VISIBLE PYRITE, ARGILLACEO- US, GRADING TO SANDSTONE AT BASE, FAIR STICK	NDAT	NDAT		
131.32	132.80	1.48	SLST	SS1	DARK GREY TO BLACK, MASSIVE, MODERATELY HARD, INTERBEDDED WITH VERY FINE GRAIN SANDSTONE, INTERVAL BIOTURBATED THROUGHOUT, OCCASIONAL FRACTURE AND SLICKENSIDED, GOOD STICK	NDAT	NDAT		
132.80	137.36	4.56	SS1		LIGHT GREY TO BEIGE, VERY FINE TO FINE GRAIN SANDSTONE THINLY LAMINATED TO MASSIVE, POORLY	NOAT	NOAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					DEVELOPED, OCCASIONAL WAVY SILTSTONE LAMINAE, WELL CONSOLIDATED, OCCA- SIONAL BROWN VERY HARD IRON CLAY BANDS AND NODULES, COALY AND CARBONACEOUS DEBRIS THROUGHOUT, GOOD STICK			
137.36	137.51	.15	SS1		GREY TO BROWN, FINE GRAIN SANDSTONE. MASSIVE, VERY HARD, ABUNDANT SHELL FOSSIL FRAGMENTS, CALCITE INFILL, IRON STAIN	NDAT	NDAT	
137.51	142.23	4.72	SS1		LIGHT GREY, FINE GRAIN SANDSTONE INTERBEDDED WITH WAVY DISCONTINUOUS SILTSTONE AND MUDSTONE LAMINAE. BEDDING HIGHLY CONTORTED, OCCASIONAL BROWN VERY HARD IRON CLAY INTERVALS AND NODULES WITH ABUNDANT CALCITE VEINLETS, OCCASIONAL MICRO FAULTS, GRADING TO SILTSTONE AT BASE. GOOD STICK	NDAT	NDAT	
142.23	143.64	1.41	SS1	SLST	LIGHT TO MEDIUM GREY, VERY FINE TO FINE GRAIN SANDSTONE, THINLY LAMINATED TO THINLY BEDDED. INTERBEDDED WITH SILTSTONE AND MINOR MUDSTONE, EVEN PARALLEL TO HIGHLY CONVOLUTED BEDDING, MICRO FAULTED.	40.0	AVG	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					OCCASIONAL CROSS-BEDDING, OCCASIONAL BIOTURBATED INTERVALS, GOOD STICK			
143.64	145.05	1.41	SS1		DARK GREY TO BLACK, VERY FINE GRAIN SANDSTONE, THICKLY LAMINATED TO THINLY BEDDED INTERBEDDED WITH SILTSTONE, POORLY DEVELOPED, CONVOLUTED BEDDING, GOOD STICK	NDAT	NDAT	
145.05	147.37	2.32	SS1		LIGHT TO MEDIUM GREY, FINE GRAIN SANDSTONE, THINLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH VERY FINE GRAIN SANDSTONE AND MINOR SILTSTONE, EVEN PARALLEL TO CONVOLUTED BEDDING, OCCASIONAL CROSS-BEDDING, SILTY TOWARDS BASE, GOOD STICK	NDAT	NDAT	
147.37	149.13	1.76	SLST		DARK GREY TO BROWN, THINLY BEDDED INTERBEDDED WITH VERY FINE GRAIN SANDSTONE, POORLY DEVELOPED, CONVOLUTED BEDDING; BROWN VERY HARD IRON CLAY BAND (.35M THICK) .5M FROM TOP, GOOD STICK	NDAT	NDAT	
149.13	152.04	2.91	SS1		LIGHT GREY TO BROWN, VERY FINE GRAIN SANDSTONE, THINLY BEDDED	NDAT	NDAT	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					INTERBEDDED WITH FINE GRAINED SANDSTONE AND SILTSTONE LAMINAE, WAVY PARALLEL TO CONVOLUTED, VERY HARD, GOOD STICK				
152.04	153.87	1.83	SS2	SS1	LIGHT GREY, MEDIUM GRAIN SANDSTONE THICKLY BEDDED WITH WAVY SILTSTONE LAMINAE, POORLY DEVELOPED, VERY HARD, GOOD STICK	NOAT	NDAT		
153.87	155.16	1.29	SS1		LIGHT GREY TO BEIGE, VERY FINE GRAIN SANDSTONE THINLY TO THICKLY LAMINATED, INTERBEDDED WITH SILTSTONE, UNEVEN PARALLEL TO WAVY DISCONTINUOUS BEDDING, MICRO FAULTED. TOP .15M CARBONACEOUS, HARD, GOOD STICK	NDAT	NOAT		
155.16	160.09	4.93	SS		LIGHT GREY, FINE TO MEDIUM GRAIN SANDSTONE, MASSIVE, VERY HARD, OCCASIONAL SILTSTONE LAMINAE, OCCASIONAL IRON CLAYSTONE BAND AND NODULE, GRADING FINER TOWARDS BASE, GOOD STICK	NDAT	NDAT		
160.09	178.30	18.21	MUDSTONE	SLST	DARK GREY, THICKLY BEDDED INTERBEDDED WITH THIN TO THICKLY LAMINATED SILTSTONE AND MINOR VERY FINE GRAIN SANDSTONE, HARD, OCCASIONAL VERY HARD BROWN IRON CLAYSTONE BANDS	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					AND NODULES, OCCASIONAL CALCITE VEINLETS, GOOD STICK			
178.30	180.36	2.06	COAL		RECOVERED 1.63M; MAINLY DULL WITH BRIGHT AND SHINY BANDS. CUBIC AND CONCHOIDAL FRACTURE, BLOCKY, BRITTLE IN PLACES, MINOR CALCITE ALONG CLEATS, MINOR PYRITE, FAIR STICK - RECOVERY 79% - SEPARATION WITH ROOF, VISUAL - GOOD, PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - GOOD	74.0	NDAT 1	114
180.36	181.15	.79	MUDSTONE		BROWN, MASSIVE, HARD, SLICKENSIDED, HIGHLY BROKEN, MINOR COAL, POOR STICK	NDAT	NDAT	
181.15	182.10	.95	SS1		BROWN, VERY FINE TO MEDIUM GRAIN, MASSIVE, VERY HARD, COARSER TOWARDS BASE, WELL CONSOLIDATED, GOOD STICK	NDAT	NDAT	
182.10	182.25	.15	SLST		BROWN TO GREY, MASSIVE, VERY HARD, GOOD STICK	NDAT	NDAT	
182.25	184.86	2.61	MUDSTONE		GREY, MASSIVE, VERY HARD, MINOR CALCITE VEINS, LOW ANGLE FRACTURE CALCITE HEALED, SLICKENSIDED, GOOD STICK	NDAT	NDAT	
184.86	185.46	.60	SS3		BROWN TO PINK, COARSE GRAIN SANDSTONE THICKLY	NDAT	NDAT	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					BEDDED INTERBEDDED WITH CONGLOMERATE, WELL CONSOLIDATED, GOOD STICK				
185.46	190.95	5.49	SS1		BROWN, FINE GRAIN SANDSTONE, MASSIVE, HARD, ARGILLACEOUS, OCCASIONAL CARBONACEOUS INTERVALS, OCCASIONAL SLICKENSIDED	NDAT	NDAT		
190.95	191.83	.88	SHALE	COALY	BLACK, MASSIVE, VERY HARD, HIGHLY FRACTURED, CALCITE HEALED, SLICKENSIDED, MIRROR POLISHED, BROKEN STICK	NDAT	NDAT		
191.83	197.10	5.27	SS1		BROWN, VERY FINE GRAIN, MASSIVE WITH OCCASIONAL FINE TO MEDIUM GRAIN INTERVALS, VERY ARGILLACEOUS, (TUFACEOUS?), OCCASIONAL BLACK WAVY LAMINAE, GOOD STICK	NDAT	NDAT		
197.10	198.54	1.44	SS1		BROWN, FINE GRAIN, MASSIVE, VERY HARD, WELL CONSOLIDATED, EXCELLENT STICK	NDAT	NDAT		
198.54	200.52	1.98	SS4		BROWN TO PINK, GRANULAR CONGLOMERATE, VERY HARD, WELL CONSOLIDATED OCCASIONAL COAL WISP, EXCELLENT STICK	NDAT	NDAT		
200.52	201.36	.84	SS1		BROWN, FINE GRAIN SANDSTONE, MASSIVE, VERY HARD, WELL CONSOLIDATED MINOR	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					COARSE GRAIN INTERVAL, OCCASIONAL MICRO FAULT. EXCELLENT STICK			
201.36	203.30	1.94	SS4		AS CONGLOMERATE UNIT ABOVE	NDAT	NDAT	
203.30	208.90	5.60	SS1		BROWN TO DARK GREY, VERY FINE GRAIN SANDSTONE, MASSIVE, VERY HARD, WELL CEMENTED, WELL CDNSOLIDATED, ARGILLACEOUS IN PLACES, GOOD TO EXCELLENT STICK	NDAT	NDAT	
208.90	209.40	.50	SS4		AS CONGLOMERATE UNIT ABOVE; TOTAL DEPTH AT 209.40	NDAT	NDAT	

CORE DESCRIPTION

HOLE.ID TW82D-235
 PROJECT TELKWA
 AREA SMITHERS
 DRIL.DATE 820922
 LOG.DATE 821007
 EXAMINED.BY CAMERON/HANDY/KOSTIUK

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	9.70	9.70	OVERBURDEN		DRILLED WITH ROCK BITE, NO CORE RECOVERY	NDAT	NDAT	
9.70	20.30	10.60	SLST	MDST/SS1	GREY TO BLACK SILTSTONE WITH INTERBEDDED MUDSTONE AND LIGHT GREY SANDSTONE, BIOTURBATION IS COMMON, OCCASIONAL IRONSTONE BAND	83.0	AVG	
20.30	21.37	1.07	MUDSTONE	CARBONACE- OUS	BLACK, SOME THINLY INTERBEDDED FINE GRAINED SANDSTONE AND THIN COAL BANDS	84.0	AVG	
21.37	27.08	5.71	IGNEOUS	SILL	INTERMEDIATE TO FELSIC SILL, PORPHYRITIC PORPHYROBLAST ARE WHITE FELDSPARS AND AMPHIBOLES	NDAT	NDAT	
27.08	29.20	2.12	MUDSTONE	CARBONACE- OUS	BLACK, OCCASIONAL IRONSTONE BAND AND CONCRETION, OCCASIONALLY THINLY INTERBEDDED SILTSTONE AND LIGHT GREY FINE GRAINED SANDSTONE BEDS	66.0	AVG	
29.20	32.60	3.40	SLST	SS1	GREY BLACK SILTSTONE INTERBEDDED WITH LIGHT GREY SANDSTONE, BIOTURBATION IS COMMONLY SEEN WITHIN THE SANDSTONE INTERBEDS,	64.0	AVG	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					OCCASIONAL CALCITE FILLED FRACTURE, OCCASIONAL IRONSTONE CONCRETIONS IN UNIT, SMALL SCALE NORMAL FAULTING IS COMMON, SANDSTONE AND IRONSTONE CLASTS ARE COMMON WITHIN THE UNIT, OCCASIONAL INTERBEDDED MUDSTONE				
32.60	44.50	11.90	SLST	SS1	AS ABOVE, BEDDING IS POORLY DEVELOPED	42.0	AVG		
44.50	54.00	9.50	SLST	SS1	AS ABOVE	18.0	AVG		
54.00	64.10	10.10	SLST	SS1	AS ABOVE	40.0	AVG		
64.10	66.76	2.66	IGNEOUS	SILL	INTERMEDIATE TO ANDESITIC COMPOSITITY, ABUNDANCE OF WHITE FELDSPAR PORPHYROBLASTS	NDAT	NDAT		
66.76	75.00	8.24	SLST	SS1	GREY TO BLACK SILTSTONE INTERBEDDED WITH LIGHT GREY FINE GRAINED SANDSTONE, IRONSTONE AND SANDSTONE CLASTS THROUGHOUT, SMALL SCALE FAULTING THROUGHOUT, BIOTURBATION COMMON, OCCASIONAL CALCITE FILLED FRACTURES, OCCASIONAL IRONSTONE	24.0	AVG		
75.00	85.00	10.00	SLST	SS1	AS ABOVE	23.0	AVG		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
85.00	96.60	11.60	SLST	SS1	AS ABOVE	16.0	AVG	
96.60	103.60	7.00	SS1	SLST	PALE GREEN TO GREY SANDSTONE INTERBEDDED WITH GREY-BLACK SILTSTONE, OCCASIONAL IRONSTONE NODULES CONTAINING ABUNDANT CALCITE FILLED FRACTURES, CORE BEDDING ANGLE VARIES BETWEEN 0 AND 34 DEGREES, SOME SMALL SCALE FOLDED AND FAULTING, BIOTURBATION THROUGHOUT	22.0	AVG	
103.60	104.44	.84	MUDSTONE	CARBONACEOUS	OCCASIONAL PALE GREEN THIN FINE GRAINED SANDSTONE BED	NDAT	NDAT	
104.44	106.30	1.86	COAL	RUBBLE/DIRT	(RECOVERY = 12%) NO SAMPLE TAKEN	NDAT	NDAT	
106.30	111.90	5.60	SLST	SS1	GREY TO BLACK SILTSTONE INTERBEDDED WITH GREY FINE GRAINED SANDSTONE, OCCASIONAL SLICKENSIDED JOINT PLANE, OCCASIONAL IRONSTONE BAND AND NODULE, SOME SMALL SCALE FAULTING AND BIOTURBATION	53.0	AVG	
111.90	116.38	4.48	SS1	SLST	PALE GREEN-GREY SANDSTONE INTERBEDDED WITH GREY-BLACK SILTSTONE, SOME IRONSTONE NODULES WITH ABUNDANT CALCITE FILLED	43.0	AVG	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					FRACTURES, THE SANDSTONE MAY BE MEDIUM GRAINED IN SOME PLACES			
116.38	117.40	1.02	COAL	DIRTY	VISIBLE SULPHUR NEAR ROOF, VERY BROKEN, ABUNDANCE OF SLICKENSIDES, BRD SHOWS SEAM MUCH THICKER, LIKELY BAD CAVE (RECOVERY = 68%)	NDAT	NDAT 6	456
117.40	121.05	3.65	MUDSTDNE	SS1	BLACK CARBONACEOUS MUDSTONE WITH VERY THIN BANDS OF PALE GREEN FINE GRAINED SANDSTONE, OCCASIONAL COALY MUDSTONE ZONE, ABUNDANT SLICKENSIDES ALONG BEDDING PLANES, SMALL SCALE FOLDING AND FAULTING THROUGHOUT, OCCASIONAL BIOTURBATION	43.0	AVG	
121.05	121.40	.35	MUDSTDNE	COALY	ABUNDANCE OF SLICKENSIDES	NDAT	NDAT	
121.40	129.00	7.60	MUDSTDNE	SS1	BLACK CARBONACEOUS MUDSTONE INTERBEDDED WITH THIN LAMINAE OF PALE GREEN FINE GRAINED SANDSTONE, OCCASIONAL SLICKENSIDES ALONG BEDDING PLANES, OCCASIONAL BAND OF VERY HARD IRONSTONE, SMALL SCALE FOLDING AND FAULTING	31.0	AVG	
129.00	131.20	2.20	MUDSTONE	SS1	AS ABOVE	.0	AVG	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
131.20	133.00	1.80	MUDSTONE	SS1	AS ABOVE	27.0	AVG		
133.00	134.92	1.92	MUDSTONE	SS1	AS ABOVE, ABUNDANCE OF CALCITE FILLED FRACTURES	43.0	AVG		
134.92	135.65	.73	COAL	DIRTY	ABUNDANCE OF SLICKENSIDES, VISIBLE SULPHUR ON ROOF (RECOVERY = 24%)	NDAT	NDAT 5	457	
135.65	136.07	.42	MUDSTONE	CARBONACE- OUS	OCCASIONAL THIN COAL BAND IN UNIT	NDAT	NDAT		
136.07	137.44	1.37	COAL	DIRTY	ABUNDANCE OF SLICKENSIDES, SOME VISIBLE SULPHUR (RECOVERY = 26%)	NDAT	NDAT 5	458	
137.44	138.53	1.09	MUDSTONE	CARBONACE- OUS	ABUNDANCE OF SLICKENSIDES, BLACK, OCCASIONAL CALCITE FILLED FRACTURE	NDAT	NDAT		
138.53	153.23	14.70	SS1	SLST	LIGHT GREYISH-GREEN WITH THIN INTERBEDDED DARK GREY SILTSTONE, SOFT HIGHLY WEATHERED UNIT, FRACTURED AND BECOMES FRIABLE ON DRYING, NUMERDUS BROWN HARD NODULAR IRONSTONE WITH CALCITE HEALED FRACTURES, CARBONACEOUS LENSES IN PLACES, SOME ZONES WEATHERED TO CLAYEY MATERIAL	52.0	138.3		
153.23	154.68	1.45	MUDSTONE		MEDIUM GREY, SOFT, FRIABLE, MASSIVE, HIGHLY WEATHERED	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
154.68	155.12	.44	COAL		DULL WITH BRIGHT, VISIBLE SULPHUR AT HANGING WALL, HANGING WALL/FOOTWALL VERY RUBBLY, POOR SEPARATION (PHYSICAL) (RECOVERY .20/.44 = 45%)	NDAT	NDAT 3	459
155.12	155.27	.15	MUDSTONE	CARBONACE- OUS	DARK GREY, SOFT, FRIABLE, POLISHED FRAGMENTS	NDAT	NDAT	
155.27	157.43	2.16	COAL	SHALY	POWDER TO FRAGMENTS, SPLIT INDISCERNABLE IN THE RUBBLE, FRAGMENTS POLISHED (RECOVERY 1.0/2.16 = 46%)	NDAT	NDAT 3	460
157.43	158.69	1.26	SS1	SLST	LIGHT GREY FINE GRAINED SANDSTONE WITH INTERBEDDED DARK GREY SILTSTONE, POORLY BEDDED, FRACTURED	NDAT	NDAT	
158.69	163.19	4.50	MUDSTONE	SLST	DARK GREY, MASSIVE MUDSTONE, OCCASIONAL SILTSTONE LENSE, ONE 3CM SULPHUR (YELLOW) RICH ZONE, HIGHLY FRIABLE, WEATHERED, SOFT, VERY INCOMPETENT UNIT	NDAT	NDAT	
163.19	164.39	1.20	SS1		BROWN TO MEDIUM GREY FINE GRAINED SANDSTONE, MINOR INTERBEDDED SILTSTONE, BROKEN STICK, MINOR GREEN (GLAUCONITIC) FINE GRAINED SANDSTONE	40.0	163.3	
164.39	167.96	3.57	MUDSTONE		DARK GREY MASSIVE, OCCASIONAL BROWN	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					IRONSTONE NODULE, FRIABLE			
167.96	168.16	.20	COAL		DULL WITH BRIGHT, BROKEN STICK, VISIBLE SULPHUR (RECOVERY .20/.20 = 100%)	NDAT	NDAT	461
168.16	168.61	.45	SLST	SS1	LIGHT GREY, FRIABLE, RUBBLE, MINOR LAYER OF FINE GRAINED SANDSTONE AT TOP	NDAT	NDAT	
168.61	169.32	.71	COAL		RUBBLE TO POWDER (RECOVERY .40/.71 = 56%)	NDAT	NDAT	462
169.32	169.56	.24	MUDSTONE		MEDIUM GREY, FRACTURED TO RUBBLE	NDAT	NDAT	
169.56	169.94	.38	COAL		RUBBLE TO POWDER (RECOVERY .25/.38 = 66%)	NDAT	NDAT	463
169.94	170.67	.73	MUDSTONE		AS ABOVE	NDAT	NDAT	
170.67	170.90	.23	COAL		RUBBLE, NO SAMPLE	NDAT	NDAT	
170.90	171.76	.86	MUDSTONE		DARK GREY, MASSIVE, MINOR BROWN IRONSTONE NODULES, BROKEN	NDAT	NDAT	
171.76	171.86	.10	COAL		BROKEN, NO SAMPLE	NDAT	NOAT	
171.86	172.66	.80	SLST	MDST	DARK GREY, MASSIVE, COALY LAYERS AND LENSES	NDAT	NDAT	
172.66	172.80	.14	COAL		BROKEN STICK, NO SAMPLE	NDAT	NOAT	
172.80	173.40	.60	SLST	CARBONACE- OUS	AS ABOVE	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
173.40	174.24	.84	COAL		DULL WITH BRIGHT, BROKEN RUBBLY TO BROKEN STICK, SULPHUR OXIDE EVIDENT AT HANGING WALL, SEPARATION PHYSICAL AND VISUAL - GOOD (RECOVERY .65/.84 = 77%)	NDAT	NDAT 2	464
174.24	174.68	.44	SLST	CARBONACE- OUS	AS ABOVE	NDAT	NDAT	
174.68	175.02	.34	COAL		DULL WITH BRIGHT, BROKEN STICK, ABUNDANT CALCITE ALONG FRACTURES, MINDR SULPHUR AT FOOTWALL (RECOVERY = 100%)	NDAT	NDAT 2	465
175.02	175.64	.62	SLST		DARK GREY, MASSIVE	NDAT	NDAT	
175.64	176.20	.56	COAL		DULL WITH BRIGHT, BROKEN RUBBLE, MINDR SULPHUR OXIDE EVIDENT (RECOVERY .13/.56 = 23%)	NDAT	NDAT 2	466
176.20	207.12	30.92	SLST		MEDIUM GREY, MASSIVE, NUMEROUS BROWN IRONSTONE NODULES USUALLY WITH CALCITE HEALED FRACTURES, AREAS OF FRIABLE CORE, REMAINDER IS STICK TO BROKEN STICK	NDAT	NDAT	
207.12	207.42	.30	SS1		PALE GREEN, MASSIVE, CALCITE HEALED FRACTURES	NDAT	NDAT	
207.42	246.90	39.48	SLST	SS1	MEDIUM TO DARK GREY, MASSIVE, INTERBEDDED WITH	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SANDY AND ARGILLACEOUS INTERVALS, OCCASIONAL BROWN VERY HARD IRDNSTONE NODULES WITH ABUNDANT PREDOMINANTLY CALCITE INFILLED FRACTURES, OCCASIONAL LOW ANGLE FRACTURE, FRIABLE IN PLACES. RUBBLE TO FAIR STICK			
246.90	248.90	2.00	SS1	SLST	LIGHT TO MEDIUM GREY, VERY FINE TO FINE GRAINED, THINLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH DARK GREY SILTSTONE AND MUDSTONE, CONVOLUTED BEDDING, OCCASIONAL BROWN VERY HARD IRONSTONE CLASTS, MINOR CALCITE INFILLED FRACTURES. OCCASIONAL SLICKENSIDED FRACTURES, GRADING FINER TOWARDS BASE, GOOD STICK	NDAT	NDAT	
248.90	252.97	4.07	SLST	SS1	MEDIUM GREY, MASSIVE, VERY ARGILLACEDUS WITH MINOR VERY FINE GRAINED SANDSTONE INTERVALS, OCCASIONAL LONG CURVED NEAR VERTICAL FRACTURES, OCCASIONAL SLICKENSIDES, OCCASIONAL BROWN VERY HARD IRONSTONE NODOULES,	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					FAIR TO GOOD STICK			
252.97	255.10	2.13	SS1	SLST	LIGHT GREY, VERY FINE TO FINE GRAINED, VERY THINLY BEDDED, INTERBEDDED WITH DARK GREY SILTSTONE, WAVY PARALLEL TO CONVOLUTED BEDDING, GRADING COARSER FROM BASE UPWARDS, GOOD STICK	55.0	AVG	
255.10	260.80	5.70	SLST		MEDIUM TO DARK GREY, MASSIVE, VERY ARGILLACEOUS, OCCASIONAL BROWN VERY HARD IRONSTONE NODULES, MINOR VERY HARD CALCITE CEMENTED INTERVALS, SLIGHTLY SANDY IN PLACES, FRACTURED AND OCCASIONALLY SLICKENSIDED, GOOD STICK	NDAT	NDAT	
260.80	266.00	5.20	SS1		LIGHT GREY, THIN TO MASSIVE BEDDING, INTERBEDDED WITH MEDIUM GREY SILTSTONE, WAVY TO CONVOLUTED BEDDING, OCCASIONAL BROWN VERY HARD IRONSTONE CLASTS AND NODULES, OCCASIONAL CALCITE CEMENTED, MINOR CARBONACEOUS SILTSTONE AND MUDSTONE LAMINAE, GRADING FINER TOWARDS BASE, GOOD STICK	NDAT	NDAT	
266.00	270.30	4.30	SS1		MEDIUM GREY, MASSIVE,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					ARGILLACEOUS IN PLACES, FINES TOWARDS BASE, OCCASIONAL VERY HARD CALCITE CEMENTED BLEBS, FRACTURED AND OCCASIONALLY SLICKENSIDED. FAIR STICK			
270.30	-1.00	-1.00	UNKNOWN		TOTAL DEPTH	NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TW82D-236
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820902
 LOG DATE 820920
 EXAMINED BY J.RYLEY

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	15.20	15.20	DVERBURDEN			NDAT	NDAT	
15.20	35.58	20.38	SLST	FRIABLE	MEDIUM-DARK-GREY, VERY FRIABLE, POORLY CEMENTED, OCCASIONAL HARD LIGHT BROWN NODULES AND BANDS OF SILTSTONE, OCCASIONAL TRACE CALCITE, TRACE CARBONACEOUS DEBRIS	NDAT	NDAT	
35.58	35.92	.34	SLST	HARD	WEATHERS, LIGHT BROWN, FRESH MEDIUM-GREY, HARD, GODD STICK CORE, ONE HEALED CALCITE VERTICAL FRACTURE	NDAT	NDAT	
35.92	45.80	9.88	SLST	FRIABLE	MEDIUM DARK GREY, VERY SOFT, FRIABLE, ONE .5CM CALCITE BAND, ONE 38CM SECTION RUBBLE, POORLY CEMENTED, ONE 12CM, HARD-MEDIUM-BROWN SILTSTONE BAND	NDAT	NDAT	
45.80	46.08	.28	SLST	CALCITE CEMENT	MEDIUM GREY-BROWN, MODERATELY HARD, HARD SILTSTONE WITH CARBONACEOUS DEBRIS, CALCITE CEMENTING, 2 COALY BANDS (0-1CM), BROKEN INTO FOUR SECTIONS	NDAT	NDAT	
46.08	73.90	27.82	SLST	FRIABLE	MEDIUM-DARK GREY, VERY SOFT TO SOFT,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					OCCASIONAL FINE GRAINED SANDSTONE BANDS (0-15CM), OCCASIONAL CALCITE BANDS IN PLACE, SMALL OCCASIONAL TRACE CARBONACEOUS DEBRIS, TRACE PYRITE, MINOR LIGHT BROWN HARD SILTSTONE NODULES, BEDDING APPEARS HORIZONTAL			
73.90	74.56	.66	SLST	SANDY	LIGHT BROWN TO MEDIUM GREY, HARD TO MODERATELY HARD, SANDY IN LAST 20CM, POSSIBLE INFILLED WITH CALCITE FOSSIL DEBRIS IN FIRST 25CM, INDISTINCT BEDDING, TRACE PYRITE, TRACE CARBONACEOUS DEBRIS	NDAT	NDAT	
74.56	77.34	2.78	SLST	SANDY	MEDIUM-DARK-GREY, TRACE PYRITE, CARBONACEOUS DEBRIS, OCCASIONAL CALCITE FRACTURES, INDISTINCT BEDDING, VERY SOFT TO SOFT, ONE 6CM CALCITE BAND, GRADES INTO A FINE GRAIN SANDSTONE IN LAST 1M	NDAT	NDAT	
77.34	77.84	.50	SS2		LIGHT GREEN TO LIGHT BROWN, MEDIUM GRAIN, CARBONACEOUS DEBRIS THROUGHOUT, TRACE PYRITE, CALCITE HEALING OF FRACTURE, ONE SLICKENSIDE	NDAT	NDAT	
77.84	79.85	2.01	SS1	SS2	LIGHT GREY, FINE	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					GRAIN, SOFT TO MODERATELY HARD, MICRO FAULTING, EASILY BROKEN, TRACE CARBONACEOUS DEBRIS, TRACE CALCITE				
79.85	81.34	1.49	SS1		LIGHT GREY-GREEN, FINE GRAIN, TRACE CARBONACEOUS DEBRIS, TRACE CALCITE IN PLACE, WORM BURROWS, ONE 19CM LIGHT BROWN MODERATELY HARD SANDSTONE BAND, AND ONE 4CM BAND AS ABOVE	27.0	80.9		
81.34	90.43	9.09	SLST	SANDY	LIGHT-GREEN-GREY, VERY FINE GRAIN, FRIABLE IN PLACES, OCCASIONAL SMALL BANDS (2-10CM) HARD LIGHT BROWN SANDY SILTSTONE, TRACE CALCITE, OCCASIONAL SLICKENSIDES, TRACE CARBONACEOUS DEBRIS, ONE 84CM GOUGE SECTION (EXCESSIVELY BROKEN HEALED UNIT)	NDAT	NDAT		
90.43	95.38	4.95	SS1		LIGHT-MEDIUM GREY, VERY FINE GRAIN, MICRO FAULTING, INDISTINCT BEDDING, CROSS-BEDDING, OCCASIONAL HARD LIGHT BROWN BANDS SANDSTONE, OCCASIONAL SLICKENSIDES, BIOTURBATION, TRACE CALCITE IN PLACES	NDAT	NDAT		
95.38	97.46	2.08	SS1	SS2	LIGHT GREY-GREEN, FINE TO MEDIUM	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					GRAIN, OCCASIONAL WORM BURROWS, (HORIZONTAL), OCCASIONAL CALCITE LAYERING (0-.5CM), BIOTURBATION, MINOR CROSS-BEDDING, WIS- PS CARBONACEOUS DEBRIS, GOOD STICK CORE			
97.46	98.92	1.46	SS1		MEDIUM DARK GREY, FINE GRAIN, INDISTINCT BEDDING, GOOD STICK CORE, CARBONACEOUS DEBRIS	NDAT	NDAT	
98.92	103.72	4.80	SS1		LIGHT MEDIUM GREY, FINE GRAIN, WAVY PARALLEL AND INDISTINCT BEDDING, ONE 2CM PYRITE BAND, TRACE CARBONACEOUS DEBRIS, BIOTURBATION	NDAT	NDAT	
103.72	108.85	5.13	SS1		MINOR CROSS-BEDDING, LIGHT GREY-GREEN, FINE GRAIN, TRACE CARBONACEOUS DEBRIS, OCCASIONAL NODULES AND BANDS LIGHT BRDWN HARD SANDSTONE, GOOD STICK CORE, BIOTURBATION	NDAT	NDAT	
108.85	112.51	3.66	SS1		MEDIUM DARK GREY, CROSS-BEDDING, OCCASIONAL HARD LIGHT BRDWN BANDS SANDSTONE, CALCITE LEAYERING (0-.5CM), INDISTINCT BEDDING	NDAT	NDAT	
112.51	118.16	5.65	SS1		LIGHT-MEDIUM-GREY- -GREEN, FINE GRAIN, OCCASIONAL	15.0	120.2	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					HARD LIGHT BROWN BANDS SANDSTONE, WAVY INDISTINCT BEDDING IN PLACES, OCCASIONAL CALCITE BANDS (0-1CM)				
118.16	128.05	9.89	SLST	SHALY	DARK GREY, GOOD STICK CORE, OCCASIONAL CALCITE BANDING, MODERATELY HARD, ONE VERTICAL FRACTURE AT 131.03, ONE 10CM BAND CALCITE LINED WITH PYRITE AND CARBONACEOUS MATERIAL	NDAT	NDAT		
128.05	128.68	.63	SLST	CALCITE	LIGHT GREY-TAN, HARD, BIOTURBATION, TRACE FOSSIL (FAUNA)	NDAT	NDAT		
128.68	150.29	21.61	SLST	SHALY	DARK GREY, MODERATELY HARD, GOOD STICK CORE, NODULES HARD SILTSTONE, OCCASIONAL BANDS HARD LIGHT BROWN SILTSTONE, TRACE CARBONACEOUS DEBRIS, OCCASIONAL SLICKENSIDES, BEDDING APPEARS HORIZONTAL FOR THE MOST PART	NDAT	NDAT		
150.29	150.42	.13	SHALE	COALY	DARK GREY-BLACK, IRON STAINING, CALCITE LAYERING, ONE SLICKENSIDE, BROKEN	NDAT	NDAT		
150.42	150.73	.31	COAL	SHALY	DARK GREY-BLACK, NUMEROUS THICK COAL WISPS AT APPROXIMATELY 60 DEGREE ANGLE, CALCITE THROUGHOUT, IRON	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
STAINING								
150.73	151.38	.65	COAL	DIRTY	DULL, BROKEN, DIRTY, TWO SLICKENSIDES (VERTICAL); SEPARATION WITH ROOF, VISUAL AND PHYSICAL - POOR; SEPARATION WITH FLOOR, VISUAL - FAIR, PHYSICAL - POOR; - RECOVERED 65 CM - 100% RECOVERY	NDAT	NDAT 1	286
151.38	153.23	1.85	SLST	CARB SHALE	LOST CORE, DARK GREY, BADLY BROKEN, CARBONACEOUS IN TOP 40CM, TRACE PYRITE, OCCASIONAL SLICKENSIDES, LOST CORE = 35CM	NDAT	NDAT	
153.23	155.05	1.82	CDAL	DIRTY	DULL, BROKEN, OCCASIONAL SLICKENSIDES, TRACE PYRITE, VERY DIRTY IN AREAS; SEPARATION WITH ROOF, VISUAL AND PHYSICAL - POOR; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - FAIR; - RECOVERED 90CM - 49% RECOVERY	NDAT	NDAT 1	287
155.05	156.55	1.50	SS3	SS2	CREAM WHITE-LIGHT GREY, COARSE GRAIN WITH MEDIUM GRAIN 25CM SECTION, CARBONACEOUS DEBRIS THROUGHOUT SECTION, TRACE PYRITE	NDAT	NDAT	
156.55	157.41	.86	SLST	SHALY	DARK GREY, MODERATELY HARD, GOOD STICK CORE, OCCASIONAL COAL WISPS, TRACE CARBONACEOUS	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					DEBRIS, TRACE PYRITE			
157.41	157.91	.50	SS3		CREAM-WHITE TO LIGHT GREY, COARSE GRAIN, CARBONACEOUS DEBRIS THROUGHOUT, MODERATELY HARD, ONE BREAK - GOOD STICK CORE	NDAT	NDAT	
157.91	159.55	1.64	SLST	SS2/SS3	DARK GREY, GOOD STICK CORE, SCATTERED TRACE MEDIUM-COARSE GRAINED SANDSTONE AT END OF SECTION	NDAT	NDAT	
159.55	160.25	.70	SS3		LIGHT GREY-BROWN, COARSE GRAIN, HARD, CARBONACEOUS DEBRIS THROUGHOUT, TRACE PYRITE, NUMEROUS CALCITE FRACTURES, INDISTINCT BEDDING	NDAT	NDAT	
160.25	162.64	2.39	SLST		MEDIUM DARK GREY, MINOR COAL WISPS, GOOD STICK CORE, OCCASIONAL SMALL NODULES SILTSTONE (0-.5CM), CARBONACEOUS DEBRIS THROUGHOUT	NDAT	NDAT	
162.64	165.85	3.21	SS2	SS1 TO SS4	VERY LIGHT MEDIUM GREY, FINE TO COARSE GRAIN, CONGLOMERATE IN FIRST 25CM, TRACE PYRITE, WAVY INDISTINCT BEDDING, ONE 8CM COAL BAND, CARBONACEOUS DEBRIS THROUGHOUT, FAIR STICK CORE	NDAT	NDAT	
165.85	166.49	.64	SHALE		CARBONACEOUS SHALE WITH COAL LAMINAE, BLACK, BADLY BROKEN, OCCASIONAL	NDAT	NOAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					WISPS CLEAN COAL, NUMEROUS SLICKENSIDES				
166.49	167.71	1.22	SLST	SLIGHTLY CARB	DARK GREY TO MEDIUM BROWN, BADLY BROKEN TO GOOD STICK CORE, TRACE CARBONACEOUS DEBRIS THROUGHOUT	NDAT	NDAT		
167.71	168.15	.44	SHALE		CARBONACEOUS SHALE WITH COAL LAMINAE, BLACK, BROKEN, SLICKENSIDES, OCCASIONAL WISPS COAL	NDAT	NDAT		
168.15	169.96	1.81	SLST	SANDY	DARK GREY, CARBONACEOUS DEBRIS THROUGHOUT, ONE 6MM CALCITE BAND, ONE 20CM SECTION MEDIUM BROWN HARD SILTSTONE WITH 1CM COAL WISP, GOUGE (25CM), OCCASIONAL SLICKENSIDES WITH TALC OCCURRING AT 168.25	NDAT	NDAT		
169.96	176.60	6.64	SS1	SILTY/SS3	MEDIUM GREY, FINE GRAIN WITH ONE 26CM COARSE GRAIN SANDSTONE SECTION, ONE 54CM SLIGHTLY CARBONACEOUS SILTY SECTION WITH NUMEROUS SLICKENSIDES, TRACE CALCITE, FAIR STICK CORE IN LAST HALF	NDAT	NDAT		
177.50	-1.00	-1.00	UNKNOWN		END OF CORE; TOTAL DEPTH 178.9; BY BPB 177.50	NDAT	NDAT		

CORE DESCRIPTION

HOLE.ID TW82D-237
 PROJECT TELKWA
 AREA SMITHERS
 DRIL.DATE 820918
 LOG.DATE 820918
 EXAMINED.BY J.RYLEY

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	28.11	28.11	OVERBURDEN			NDAT	NDAT	
28.11	50.39	22.28	SLST		MEDIUM GREY, FRIABLE, VERY SOFT, OCCASIONAL CALCITE IN PLACE	NDAT	NDAT	
50.39	59.33	8.94	SS1		LIGHT GREY, FINE GRAIN, MODERATELY HARD TO FRIABLE, 1.00M BADLY BROKEN SECTION IN FIRST QUARTER OF SECTION, OCCASIONAL UNEVEN SILTSTONE THIN-THICK LAMINAE, ONE 12CM BAND MEDIUM BROWN, NO SILTSTONE IN LAST QUARTER OF CORE	NDAT	NDAT	
59.33	59.62	.29	SS1		MEDIUM BROWN, VERY FINE GRAIN, MODERATELY HARD, GOOD STICK CORE WITH ONE BREAK	NDAT	NDAT	
59.62	66.06	6.44	SLST	FRIABLE	LIGHT GREY, FRIABLE, OCCASIONAL ZONES OF RUBBLE (10-30CM), UNEVEN THIN-THICK LAMINAE BEDDING	NDAT	NDAT	
66.06	66.76	.70	SS1		LIGHT GREEN, FINE GRAIN, SOFT TO FRIABLE, OCCASIONAL CALCITE IN PLACES, NUMEROUS ROUND TO OVAL NODULES OF	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					LIGHT BROWN WORM BURROWS, THEY ARE PARALLEL TO BEDDING PLANE AND APPEAR AS (TRACKING) WHEN CORE IS SPLIT			
66.76	81.45	14.69	SS1	FRIABLE	LIGHT GREY, VERY FINE GRAIN, FRIABLE, TRACE CARBONACEOUS DEBRIS, OCCASIONAL BANDS HARD LIGHT BROWN SILTSTONE, INDISTINCT BEDDING THROUGHOUT	NDAT	NDAT	
81.45	83.78	2.33	SS1		LIGHT GREEN, FINE GRAIN, FRIABLE, TRACE CARBONACEOUS DEBRIS THROUGHOUT CORE, INDISTINCT BEDDING, ONE 10CM HARD LIGHT BROWN SANDSTONE BAND	NDAT	NDAT	
83.78	96.61	12.83	SS1		LIGHT MEDIUM GREY WITH OCCASIONAL BANDS LIGHT GREEN SANDSTONE, FINE-MEDIUM GRAIN, OCCASIONAL NODULES (1-2CM) HARD LIGHT BROWN SANDSTONE, OCCASIONAL BANDS(5-10CM) HARD LIGHT BROWN SANDSTONE, FRIABLE, OCCASIONAL CALCITE IN PLACES	NDAT	NDAT	
96.61	128.84	32.23	SLST	FRIABLE	MEDIUM DARK GREY, FRIABLE, POORLY CEMENTED, OCCASIONAL NODULES AND HARD LIGHT BRDWN BANDS SILTSTONE, GOOD RECOVERY, OCCASIONAL VERY THIN LAMINAE CALCITE	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
128.84	131.29	2.45	COAL		BRIGHT, CLEAN, OCCASIONAL VITREOUS BANDS, BADLY BROKEN IN LAST 45CM; SEPARATION WITH ROOF, VISUAL - FAIR, PHYSICAL - POOR; SEPARATION WITH FLOOR, VISUAL - FAIR, PHYSICAL - POOR; - RECOVERED 2.23M - 91% RECOVERY	NDAT	NDAT 1	218
131.29	133.60	2.31	SLST		DARK GREY, FRIABLE, MINOR BANDS (0-2CM) COAL IN PLACE WITH CALCITE INFILLING, BECOMES CARBONACEOUS NEAR THE END (APPROXIMATELY 40CM)	NDAT	NDAT	
133.60	133.93	.33	COAL		BRIGHT, IRON STAIN ON CALCITE INFILLING ON CLEAT SURFACE, MINOR VITREOUS BANDING; SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL - POOR, - RECOVERED 33CM - 100% RECOVERY	NDAT	NDAT 1	219
133.93	134.84	.91	SLST	CARBONACEOUS	DARK GREY, FISSILE, CARBONACEOUS IN LAST 40CM	NDAT	NDAT	
134.84	135.78	.94	COAL		BRIGHT, OCCASIONAL CALCITE IN PLACE, TRACE PYRITE, MINOR VITREOUS BANDING, CLEAN; SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL - POOR, - RECOVERED 94CM -	NDAT	NDAT 1	220

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					100% RECOVERY			
135.78	136.53	.75	SLST		DARK GREY, FISSILE, TRACE CARBONACEOUS DEBRIS, ONE 2CM COAL BAND	NDAT	NDAT	
136.53	136.83	.30	COAL		BRIGHT, VITREOUS BANDS, GOOD STICK CORE, HEALED FRACTURED ZONE LAST 10CM; SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL - POOR, - RECOVERED 30CM - 100% RECOVERY	NDAT	NDAT 1	221
136.83	138.04	1.21	COAL	SLIGHTLY DIRTY	DULL, FIRST 13CM DIRTY, BROKEN, OCCASIONAL VITREOUS BANDING, TRACE CALCITE; SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL - POOR.(SEPARATED FROM TOP SECTION OF CORE DUE TO LOG READING AND INITIAL OBSERVATION OF BEGINNING OF THIS SECTION. SHOULD BE MINED TOGETHER WITH NO PARTING TAKEN OUT) - RECOVERED 85CM - 79% RECOVERY	NDAT	NDAT 1	222
138.04	139.34	1.30	SLST	CARBONACE- OUS SHALE	DARK GREY, TRACE CARBONACEOUS DEBRIS THROUGHOUT, OCCASIONAL COAL WISPS WITH CALCITE INFILLING, FAIR STICK CORE	NDAT	NDAT	
139.34	142.71	3.37	COAL		SEMI-DULL-BRIGHT, SEMI-DIRTY-CLEAN, OCCASIONAL BRIGHT	NDAT	NDAT 1	223

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BANDING (0-.5CM). ONE 30CM BADLY BROKEN SECTION IN MIDDLE OF CORE; SEPARATION WITH ROOF, VISUAL - FAIR, PHYSICAL - POOR; SEPARATION WITH FLOOR, VISUAL - FAIR, PHYSICAL - POOR; - RECOVERED 3.37M - 100% RECOVERY			
142.71	151.15	8.44	SLST		MEDIUM DARK GREY, TRACE CARBONACEOUS DEBRIS, FISSILE IN FIRST 1M. OCCASIONAL CALCITE BANDS (0-.5CM). ONE 26CM HARD LIGHT BROWN SILTSTONE BAND, INDISTINCT BEDDING IN PLACES	NDAT	NDAT	
151.50	-1.00	-1.00	UNKNOWN		TOTAL DEPTH	NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TW82D-238
 PROJECT TELKWA
 AREA SMITHERS
 DRIL. DATE NO. DATA
 LOG. DATE 820912
 EXAMINED BY S. CAMERON

TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	15.80	15.80	OVERBURDEN			64.0	18.5	
15.80	29.45	13.65	SS1	SLST	THINLY CROSS BEDDED, POORLY DEVELOPED BEDDING, OCCASIONAL CALCITE FILLED FRACTURE, SILTSTONE IS INTERBEDDED WITH FINE SANDSTONE, SILTSTONE IS GREY-BLACK, FINE SANDSTONE IS GREY	68.0	24.0	
29.45	29.98	.53	MUDSTONE	SLST	20 CM COAL BAND NEAR BOTTOM OF UNIT WITH ABUNDANT CALCITE FILLED FRACTURES	NDAT	NDAT	
29.98	30.29	.31	SS1	GREEN	GREEN COLOR, MASSIVE, CALCITE FILLED FRACTURES	NDAT	NDAT	
30.29	32.40	2.11	MUDSTONE		GREY-BLACK, CONTAINS OCCASIONAL SHALE PEBBLE	NDAT	NDAT	
32.40	33.20	.80	GOUGE	BRCA	ABUNDANCE OF SHALE AND SILTSTONE ANGULAR CLASTS IN AN ARGILLACEOUS MATRIX, CALCITE IS VERY ABUNDANT IN THE BRECCIA	NDAT	NDAT	
33.20	35.10	1.90	SLST		GREY-BROWN COLOR, VERY HARD, OCCASIONAL SMALL FAULT GAUGE ZONE WITH ABUNDANT CALCITE, CARBONACEOUS	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					MATERIAL IS FOUND THROUGHOUT THE UNIT, MASSIVE			
35.10	37.25	2.15	SS1	GREEN	GRADES DOWN INTO A VERY FINE GRAIN GREY SANDSTONE, CONTAINS SOME DISSEMINATED MICA FLECKS, CONTAINS OCCASIONAL CLAST OF GREY SS1 AND GREY-BLACK SILTSTONE	NDAT	NDAT	
37.25	40.12	2.87	SS1		GREY VERY FINE GRAINED, GRADES DOWN INTO A GREY-BLACK SILTSTONE	NDAT	NDAT	
40.12	52.70	12.58	SLST		GREY-BLACK, MASSIVE, OCCASIONAL GRADES DOWN INTO A SHALE OR UP INTO A VERY FINE GRAIN SANDSTONE, OCCASIONAL CALCITE FILLED FRACTURE WITHIN THE UNIT; DISSEMINATED PYRITE THROUGHOUT	NDAT	NDAT	
52.70	53.60	.90	GOUGE		CORE RECOVERY 60%	NDAT	NDAT	
53.60	56.40	2.80	SS1	GREEN	GREEN, CONTAINS CLASTS AND BANDS OF SHALE AND COALY MATERIAL	62.0	56.3	
56.40	62.10	5.70	SS1	MDST	GREEN-GREY SANDSTONE, INTERBEDDED WITH BLACK MUDSTONE AND BROWN-ORANGE IRON RICH SILTSTONE, ABUNDANCE OF SMALL SCALE NORMAL FAULTS ARE SEEN; DISPLACEMENT UP TO 5 CM; BEDDING IN	81.0	AVG	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					PLACES IS CONVOLUTED AND FOLDED; IN THESE THERE IS AN ABUNDANCE OF CALCITE; SOME OF THE FAULT PLANES ARE FILLED WITH CALCITE			
62.10	73.20	11.10	SS1		GREY, MASSIVE, OCCASIONAL CALCITE FILLED FRACTURE WHEN BEDDING IS EVIDENT IT IS POORLY DEVELOPED; SOME SMALL SCALE NORMAL FAULTING IN THIS UNIT AS WELL, THE FAULT PLANES HAVE BEEN INFILLED WITH CALCITE; THE BEDDING BECOMES BETTER DEVELOPED NEAR THE BOTTOM OF THE UNIT	NDAT	NDAT	
73.20	102.40	29.20	SS1	SLST	INTERBEDDED LIGHT GREY FINE GRAINED GREY SANDSTONE WITH GREY-BLACK SILTSTONE; THERE ARE ALSO BEDS OF BLACK MUDSTONE AND VERY HARD IRON RICH BROWN-ORANGE SILTSTONE; THERE ARE VERY FEW CALCITE FRACTURES IN THIS UNIT; THE INDIVIDUAL BEDS RANGE FROM A FEW MM TO 5 CM THICK; VERY SMALL SCALE THROUGH CROSS-BEDDING THROUGHOUT; CARBONACEOUS MATERIAL IN ALL LITHOLOGYS	74.0	AVG	
102.40	117.10	14.70	SLST		GREY-BLACK COLOR. OCCASIONAL APPROXIMATELY 5CM	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					FINE GRAIN SANDSTONE BEDS FOUND IN UNIT; ALSO SOME BLACK SHALE BEDS AND BROWN-ORANGE SILTSTONE BEDS IN THE UNIT. MASSIVE				
117.10	121.00	3.90	MUDSTONE		BLACK, MASSIVE, SOME CARBONACEOUS MATERIAL VERY FEW CALCITE FILLED FRACTURES WHEN SEEN THEY FILL HIGH ANGLE JOINTS; SOME INTERBEDDED IRONSTONE, ALSO IRONSTONE CONCRETIONS	NOAT	NOAT		
121.00	122.42	1.42	MUDSTONE		AS ABOVE EXCEPT THIS UNIT IS VERY BROKEN AND HAS ABUNDANCE OF SLICKENSIDES; CALCITE FRACTURES ARE SEEN THROUGHOUT - RECOVERY 62%	NOAT	NOAT		
122.42	123.22	.80	COAL	CLEAN	VERY BROKEN, RUBBLE, SLICKENSIDES EVIDENT AT TOP OF SEAM - RECOVERY 74%	NOAT	NOAT 2	173	
123.22	123.58	.37	SLST	CARB		NOAT	NOAT		
123.59	124.59	1.00	COAL	DIRTY	DIRTY COAL WITH OCCASIONAL BRIGHT BANDS, OCCASIONAL SHALEY STRINGER, SOME SLICKENSIDES NEAR BASE OF UNIT - RECOVERY 62%	NOAT	NOAT 2	174	
124.59	124.97	.38	SHALE	CARB	BROKEN	NOAT	NOAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
124.97	125.31	.34	COAL	DIRTY	HARD, SHALE STRINGERS, CALCITE STRINGERS ALONG CLEATS - RECOVERY 77%	NDAT	NDAT 2	175
125.31	125.49	.18	SHALE	CARB		NDAT	NDAT	
125.49	126.05	.56	COAL	DIRTY	HARD, SHALEY STRINGERS THROUGHOUT - RECOVERY 69%	NDAT	NDAT 2	176
126.05	135.20	9.15	SS1	SLST	INTERBEDDED GREY SANDSTONE WITH GREY BLACK SILTSTONE, ALSO SOME INTERBEDDED BLACK SHALE AND BROWN IRONSTONE BANDS; BEDDING CHANGES GRADUALLY FROM 64 DEGREE AT TOP OF UNIT TO 78 DEGREE AT THE BASE	75.0	AVG	
135.20	137.90	2.70	MUDSTONE	SLST	GREY-BLACK, MASSIVE, CRUMBLES FAIRLY EASILY, BREAKS PARALLEL TO AND AT RIGHT ANGLES TO BEDDING	NDAT	NDAT	
137.90	153.50	15.60	SLST	MDST	GREY-BLACK, ARGILLACEOUS, MASSIVE, SOME CARBONACEOUS PLANT DEBRIS	NDAT	NDAT	
153.50	155.10	1.60	SS1	SS2	LIGHT GREY SS1 COARSENS DOWN INTO A GREY-GREEN SS2; UPPER CONTACT IS GRADATIONAL WITH THE SILTSTONE, CARBONACEOUS FLECKS THROUGHOUT THE UNIT	NDAT	NDAT	
155.10	178.42	23.32	SLST	MDST	GREY-BLACK, CARBONACEOUS	81.0	175.0	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					FLECTS THROUGHOUT THE UNIT, OCCASIONAL IRONSTONE BANDS WITHIN THE UNIT, OCCASIONALLY GRADES INTO SS1			
178.42	191.00	12.58	MUDSTONE	SLST	GREY-BLACK-CRUMBL- Y, BREAKS INTO CUBES FRACTURING ALONG BEDDING AND AT RIGHT ANGLES TO BEDDING; MASSIVE; CARBONACEOUS FLECKS THROUGHOUT; OCCASIONAL THIN COALY BAND (5 CM) OR IRONSTONE BAND; WILL GRADE INTO SILTSTONE OCCASIONALLY; GRADATIONAL CONTACT WITH ABOVE UNIT (TD=191.0 M)	NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TW82D-239
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820804
 LOG DATE 820900
 EXAMINED BY C.LANGILL

TOP	BASE	THICK	LITHOLOGY	MIN LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	13.38	13.38	OVERBURDEN		CASING	NDAT	NDAT	
13.38	14.61	1.23	SS1		LIGHT GREY, SILTY, MASSIVE, VAGUE LAMINAE, STICK CORE, NOW CRUMBLES, GRADES TO SILTSTONE BELOW	NDAT	NDAT	
14.61	17.40	2.79	SLST	SS1	MEDIUM GREY, VERY FINE GRAINED SANDSTONE, VERY FINE SANDY SILTSTONE, MASSIVE, RARE CONCRETIONS <2CM DIAMETER OF HARD BROWN STAINED CEMENTED, STICK CORE NOW CRUMBLES	NDAT	NDAT	
17.40	28.57	11.17	SLST	SS1	MEDIUM GREY, VERY FINE GRAINED SANDSTONE, SANDY SILTSTONE, VAGUE LAMINAE, STICK CORE NOW CRUMBLES, GRADATIONAL CONTACTS ABOVE AND BELOW, OCCASIONAL SMALL IRONSTONE NODULES 3CM DIAMETER, 12CM IRONSTONE BAND, CALCAREOUS, HARD, LIGHT TO MEDIUM BROWN, WITH BIVALVE FOSSILS IN CALCITE LAMINAE, SCATTERED THROUGH WHOLE INTERVAL, SHOW HORIZONTAL BEDDING, OCCASIONAL ZONES	90.0	21.6	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					OF SILTY VERY FINE GRAINED SANDSTONE			
28.57	29.00	.43	SLST	MDST	DARK GREY, MASSIVE, CLAYEY SILTSTONE, BROKEN CORE, NOW CRUMBLES	NDAT	NDAT	
29.00	40.76	11.76	SLST		DARK GREY SILTSTONE, MASSIVE, HARD, OCCASIONAL VAGUE LAMINAE, OCCASIONAL CONCRETIONS <6CM DIAMETER OF LIGHT BROWN HARD NON-CALCAREOUS MATERIAL, CORE SEMI-STICK, NOW SOFT TO BREAK	90.0	35.0	
40.76	42.94	2.18	COAL		DULL WITH 30% BRIGHT, SEMI-STICK, VERY HARD, BRITTLE, VERY CLEAN, CONTRAST AT ROOF AND FLOOR IS VERY GOOD PHYSICALLY, GOOD VISUALLY, SAMPLE INCLUDES A 5CM BAND OF CARBONACEOUS MUDSTONE FROM 5-10CM FROM ROOF (RECOVERY 2.03/2.18 = 93%)	NDAT	NDAT 1	321
42.94	43.63	.69	MUDSTONE		CARBONACEOUS, DARK BROWN TO BLACK, LAMINATIONS, SEMI-STICK, VERY HARD	90.0	43.3	
43.63	43.73	.10	COAL		DULL WITH 40% BRIGHT, HARD, BRITTLE, STICK CORE	NDAT	NDAT	
43.73	43.99	.26	MUDSTONE	COAL	DARK BROWN TO BLACK, OCCASIONAL BANDS OF BRIGHT COAL <5MM, STICK	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
43.99	45.74	1.75	COAL		DULL WITH BRIGHT, HARD, BRITTLE, VERY CLEAN, BRIGHT COAL IS IN BANDS <1CM THICK WITH VERY GOOD CLEATS, 2-3CM BANDS OF GREY MUDSTONE AT 44.55 AND 45.46, RARE CALCITE, PYRITE, SEMI-STICK (RECOVERY 1.63/1.65 = 98%), CONTRAST AT ROOF AND FLOOR, PHYSICAL VERY GOOD, VISUAL, FAIR	NDAT	NDAT 1	322
45.74	46.12	.38	MUDSTONE		MEDIUM TO DARK GREY, MASSIVE, HARD	NDAT	NDAT	
46.12	46.40	.28	COAL		AS ABOVE, SEMI-STICK, (100% RECOVERY)	NDAT	NDAT	
46.40	47.63	1.23	MUDSTONE		MEDIUM GREY WITH CARBONACEOUS FOSSIL FRAGMENTS ON BEDDING PLANES, MASSIVE, SEMI-STICK, HARD	90.0	47.1	
47.63	48.07	.44	COAL		DULL WITH 30% BRIGHT, VERY HARD, TRACE OF CALCITE, (RECOVERY .42/.44 = 95%), CONTRAST WITH ROOF, PHYSICAL AND VISUAL, VERY GOOD, CONTRAST WITH FLOOR, PHYSICAL FAIR, VISUAL GOOD	NDAT	NDAT 1	323
48.07	48.95	.88	MUDSTONE		DARK GREY TO BLACK, HARD, MASSIVE, 0-10CM FROM BASE IS DARK BROWN TO BLACK, 10-16CM FROM BASE IS MEDIUM TO LIGHT GREY BAND	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
48.95	49.05	.10	COAL		DULL WITH 20% BRIGHT, EXTREMELY HARD, CALCITE DN CLEATS	NDAT	NDAT	
49.05	49.14	.09	SLST		MEDIUM GREY, EXTREMELY HARD, CRYPTOCRYSTALLINE APPEARANCE	NDAT	NDAT	
49.14	50.46	1.32	COAL		DULL WITH 20% BRIGHT, SEMI-STICK, EXTREMELY HARD, CALCITE HAIRLINE VEINS VERTICAL AND PARALLEL 5CM SPACING (RECOVERY .93/1.29 = 72%), CONTRAST WITH FLOOR, POOR	NDAT	NDAT 1	324
50.46	50.51	.05	MUDSTONE		CARBONACEOUS, DARK GREY TO BLACK, HARD	NDAT	NDAT	
50.51	51.82	1.31	SS1		LIGHT GREY, MASSIVE, HARD, STICK, THIN VAGUE LAMINAE OF MEDIUM GREY SILTSTONE, WAVY, CROSS-LAMINATIONS BUT NEARLY HORIZONTAL, CARBONACEOUS LAMINAE AT TOP 10CM	90.0	50.8	
51.82	52.87	1.05	SLST	MDST	MEDIUM GREY, VAGUELY LAMINATED SILTSTONE GRADES TO DARK GREY, MASSIVE, MUDSTONE IN BOTTOM 40CM	90.0	52.1	
52.87	55.73	2.86	SS1		LIGHT GREY, VAGUE LAMINAE OF SILTSTONE, A 12CM BAND OF CARBONACEOUS MUDSTONE AND COAL LENSES WITH	90.0	53.0	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					CALCITE AT MIDDLE, ABUNDANT CARBONACEOUS FRAGMENTS AND ROOTLETS AND TUFFACEOUS APPEARANCE IN TOP 23CM				
55.73	56.56	.83	MUDSTONE		MEDIUM TO DARK GREY, SILTY AT TOP, CARBONACEOUS BAND WITH SOME COAL BANDS 6CM FROM BOTTOM	90.0	56.1		
56.56	57.14	.58	COAL		DULL WITH BRIGHT, VERY HARD, BRIGHT ZONES HAVE CLEATS <5MM WIDE, CONTRAST AT ROOF AND FLOOR VERY GOOD (RECOVERY .48/.58 = 83%)	NDAT	NDAT	325	
57.14	57.65	.51	MUDSTONE		MEDIUM GREY, SLIGHTLY SILTY, CARBONACEOUS PLANT FRAGMENTS, BROKEN STICK, GRADES TO SANDSTONE BELOW	90.0	57.3		
57.65	59.31	1.66	SS1		LIGHT BROWN TO GREY, MASSIVE, HARD, STICK, VAGUE LAMINAE TOWARDS BOTTOM, 26CM SILTY ZONE IN MIDDLE	NDAT	NDAT		
59.31	60.01	.70	SLST		LIGHT TO MEDIUM GREY, LAMINAE, SEMI-STICK	90.0	NDAT		
60.01	60.37	.36	SS1		LIGHT GREY, SILTSTONE LAMINAE, CROSS-LAMINATIONS, STICK, VERY HARD	75.0	NDAT		
60.37	63.00	2.63	SLST	MDST	DARK GREY, CLAYEY, VAGUE, RARE COAL LENSES, SEMI-STICK	NDAT	NDAT		
63.00	63.08	.08	MUDSTONE		CARBONACEOUS BLACK, MASSIVE,	NDAT	NDAT		

		CORE		DESCRIPTION				
TDP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					HARD			
63.08	63.36	.28	COAL		DULL WITH 40% BRIGHT, CALCITE VEINS, VERY HARD	NDAT	NDAT	
63.36	66.61	3.25	TUFF	MDST/SLST	MEDIUM BROWN-GREY, MASSIVE, CONCHOIDAL FRACTURE, MICRO-CRYSTALLINE APPEARANCE, ABUNDANT CARBONACEOUS PLANT FRAGMENTS, TUFF OR CLAYSTONE, STICK, VERY HARD, CARBONACEOUS MATERIAL IS MORE ABUNDANT IN TOP 40CM, BECOMES SILTSTONE TOWARDS BOTTOM, 5CM BROKEN CARBONACEOUS BAND 70CM FROM BOTTOM, OCCASIONAL RUST COLOURED SPECKS	NDAT	NDAT	
66.61	67.06	.45	SLST		MEDIUM BROWN TO GREY, VAGUELY MICRO-CRYSTALLINE APPEARANCE, BECOMING DARK GREY WITH SPHEROIDAL TEXTURE TOWARDS BOTTOM, SPHERES ARE APPROXIMATELY 1MM DIAMETER	NDAT	NDAT	
67.06	69.07	2.01	MUDSTONE		CARBONACEOUS, DARK GREY TO BLACK, MASSIVE, SEMI-STICK CORE, NOW SOFT, 8CM COAL, 15CM FROM TOP (.5M CORE LOSS)	NDAT	NDAT	
69.07	69.17	.10	COAL		DULL, VERY HARD	NDAT	NDAT	
69.17	71.16	1.99	MUDSTONE		AS ABOVE	NDAT	NOAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
71.16	71.35	.19	MUDSTONE	COAL	EXTREMELY CARBONACEOUS MUDSTONE, OR HIGH ASH COAL	NDAT	NDAT	
71.35	71.72	.37	MUDSTONE		CARBONACEOUS, BLACK, VERY HARD, MASSIVE	NDAT	NDAT	
71.72	73.43	1.71	SLST	SS1	LIGHT GREY, SLIGHTLY SANDY SILTSTONE, HARD, STICK, SLIGHTLY MICRO-CRYSTALLINE APPEARANCE, BECOMING FINE GRAINED SANDSTONE TOWARDS BOTTOM, PYRITE CRYSTALS ON FRACTURE	NDAT	NDAT	
73.43	75.39	1.96	SS1		LIGHT GREY TO WHITE, VERY HARD, CEMENTED, NON-CALCAREOUS, CRYSTALLINE APPEARANCE, OCCASIONAL CARBONACEOUS FRAGMENTS, OCCASIONAL DARK GREY LAMINAE OF MUDSTONE ESPECIALLY AT BOTTOM	NDAT	NDAT	
75.39	76.16	.77	SLST		DARK GREY, MASSIVE, HARD, CEMENTED, BECOMING LIGHT GREY TOWARDS BOTTOM, GRADATIONAL CONTACT AT BASE	NDAT	NDAT	
76.16	78.65	2.49	SLST	VOLC	LIGHT GREY, MASSIVE, VERY HARD, ABUNDANT 1MM VITREOUS ANGULAR CRYSTALS OR GLASS SHARDS, MEDIUM BROWN, SEMI OPAQUE, WEATHERS	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					TO DULL POWDERY WHITE WITH SPECKLES OF DULL DARK GREY TO BROWN, FEWER CRYSTALS, DARK GREY TOWARDS BOTTOM			
78.65	80.55	1.90	SLST		DARK GREY, MASSIVE, WEATHERED SURFACE SHOWS WHITE POWDER MOTTLED WITH DARK GREY AND BROWN SPECKS, BECOMING CARBONACEOUS MUDSTONE WITH A COAL LENSE IN BOTTOM 20CM	NDAT	NDAT	
80.55	80.71	.16	SS4		MEDIUM GREY, VERY POORLY SORTED, FRIABLE, VERY POORLY CEMENTED, ANGULAR CLASTS <4MM, CLAYEY MATRIX, BROKEN CORE	NDAT	NDAT	
80.71	81.26	.55	SLST		MEDIUM GREY, MASSIVE, CARBONACEOUS PLANT FRAGMENTS, STICK, VERY HARD, OCCASIONAL STEEP, PLANAR SLICKENSIDES	NDAT	NDAT	
81.26	81.61	.35	SS4		AS IN CONGLOMERATE ABOVE, 3CM OF POORLY CEMENTED SANDSTONE AT BASE	NDAT	NDAT	
81.61	82.46	.85	SLST	MDST/SS1	DARK GREY MASSIVE, CLAYEY SILTSTONE GRADING DOWN TO SANDY SILTSTONE, ABUNDANT VERTICAL COAL ROOT CASTS. CROSS LAMINATIONS OF MEDIUM GRAINED SANDSTONE AND SILTSTONE TOWARDS	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BOTTOM			
82.46	82.68	.22	SS2		LIGHT GREY MASSIVE STICK	NDAT	NDAT	
82.68	83.14	.46	SLST	SS2	MEDIUM GREY SILTSTONE WITH BANDS OF MEDIUM GRAINED SANDSTONE AND AT BASE IS VERY POORLY SORTED CDARSE GRAINED SANDSTONE, BROKEN	84.0	83.0	
83.14	84.85	1.71	SS1	SLST	LIGHT TO MEDIUM GREY, WAVY, THIN CROSS LAMINATIONS, STICK GRADES TO SILTSTONE BELOW	NDAT	NDAT	
84.85	85.86	1.01	SLST		MEDIUM GREY, ABUNDANT VERY THIN LAMINATION OF MUDSTONE, MASSIVE TOWARD BOTTOM STICK	NDAT	NDAT	
85.86	86.21	.35	SLST	SS1	GREY WITH THIN FINE GRAINED SANDSTONE LAMINATION AT TOP AND THICK BANDS OF FINE GRAINED SANDSTONE WITH CARBONACEOUS FRAGMENTS AT BOTTOM, ABRUPT CONTACT AT BASE	83.0	86.0	
86.21	86.37	.16	MUDSTONE		CARBONACEOUS, SLIGHTLY SILTY LAMINATION AT TOP	NDAT	NDAT	
86.37	86.45	.08	COAL		DULL WITH BRIGHT, HORIZONTAL CALCITE VEINS AT TOP	NDAT	NDAT	
86.45	87.04	.59	MUDSTONE		DARK GREY VERY CARBONACEOUS, MASSIVE, BROKEN STICK	NDAT	NDAT	
87.04	88.38	1.34	SLST		MEDIUM BROWN-GREY,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					MASSIVE, ABUNDANT CARBONACEOUS PLANT FRAGMENTS BROKEN STICK			
88.38	89.48	1.10	MUDSTONE	SLST/SS3	DARK GREY CARBONACEOUS MUDSTONE GRADES DOWN TO DARK GREY CARBONACEOUS SILTSTONE AND THEN TO VERY POORLY SORTED COARSE GRAINED SANDSTONE WITH ABUNDANT CARBONACEOUS FRAGMENTS, ABRUPT EROSIONAL CONTACT AT BASE	NDAT	NDAT	
89.48	89.75	.27	MUDSTONE		CARBONACEOUS, BLACK HARD, BROKEN	NDAT	NDAT	
89.75	90.19	.44	COAL		DULL WITH 30% BRIGHT IN BANDS < .5CM VERTICAL CALCITE VEINS (RECOVERY .29/.44 = 66%)	NDAT	NOAT	326
90.19	90.65	.46	SLST		MEDIUM GREY MASSIVE, HARD, MINOR SLICKENSIDES GRADES TO MUDSTONE BELOW	NOAT	NOAT	
90.65	91.73	1.08	MUDSTONE		DARK GREY-BLACK, MASSIVE CARBONACEOUS, COAL LENSE AT BOTTOM, BROKEN, MINOR POLISHED SLICKENSIDES	NDAT	NDAT	
91.73	98.21	6.48	SLST	SS3	DARK BROWN-GREY MASSIVE HARD, STICK SLIGHTLY SANDY, BAND OF POORLY SORTED COARSE GRAINED SANDSTONE WITH ANGULAR CLASTS OF GREEN AND RED	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					VOLCANICS AT 93.3-93.76			
98.21	99.49	1.28	SLST	MDST	DARK GREY MASSIVE, CLAYEY OCCASIONAL COAL LENSES, SEMI-STICK	NDAT	NDAT	
99.49	101.86	2.37	SLST	SS1	DARK GREY SANDY SILTSTONE, MASSIVE, HARD, OCCASIONAL 6CM BAND OF COARSE GRAINED SANDSTONE	NDAT	NDAT	
101.86	102.35	.49	SLST	MUDSTONE	DARK BROWN-GREY, MASSIVE, CLAYEY, BROKEN, POWDERED AT BOTTOM 9CM	NDAT	NDAT	
102.35	105.53	3.18	SLST		DARK BROWN TO GREY, MASSIVE, ABUNDANT CARBONACEOUS FRAGMENTS, OCCASIONAL COAL LENSES AND VERTICAL VEINS, OCCASIONAL COARSE GRAINED SANDSTONE BANDS <12CM	NDAT	NDAT	
105.53	107.11	1.58	SS1		LIGHT BROWN TO GREY, CROSS-LAMINATION OF CARBONACEOUS MUDSTONE AT BOTTOM, INTERFINGERING CONTACT WITH COARSE GRAINED SANDSTONE BELOW	76.0	106.8	
107.11	107.92	.81	SS3		VERY COARSE GRAINED SANDSTONE, POORLY SORTED, ANGULAR CLASTS OF WHITE, PALE PINK AND GREEN, PROBABLY VOLCANICS ABUNDANT COAL LENSES <3MM THICK, STICK	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
107.92	108.62	.70	SLST		MEDIUM BROWN TO GREY, MASSIVE, HARD, STICK	NDAT	NDAT	
108.62	109.14	.52	SS3		AS COARSE GRAINED SANDSTONE ABOVE	NDAT	NDAT	
109.14	110.08	.94	SS4		POORLY SORTED, VERY ANGULAR CLASTS <1CM DIAMETER OF PALE PINK, DARK MAROON, LIGHT GREEN VOLCANIC ROCKS, ABUNDANT COAL STRINGERS AND LENSES, MATRIX OF FINE GRAINED SANDSTONE	NDAT	NDAT	
110.08	115.49	5.41	SS1		MEDIUM BROWN TO GREY, MASSIVE, HARD, STICK, CARBONACEOUS MATERIAL GIVES MOTTLED APPEARANCE BECOMING SILTSTONE TOWARDS BOTTOM	NDAT	NDAT	
115.49	116.54	1.05	SLST		DARK BROWN TO GREY, MASSIVE, CARBONACEOUS, CLAYEY IN MIDDLE 20CM	NDAT	NDAT	
116.54	117.90	1.36	SS4		SAME AS CONGLOMERATE ABOVE (109.14-110.08)	NDAT	NDAT	
117.90	119.31	1.41	SS1		LIGHT PINKISH GREY, SOME SILTY ZONES, ABUNDANT COAL STRINGERS AND LENSES AT BOTTOM, HARD, STICK CORE, MASSIVE, BUT MINOR VERY VAGUE LAMINAE	NDAT	NDAT	
119.31	120.57	1.26	SS4	SS3	AS AT CONGLOMERATE ABOVE (109.14-110.08), 15CM BAND OF	NDAT	NOAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					COARSE GRAINED SANDSTONE AT 119.73			
120.57	124.61	4.04	SLST		DARK BROWN TO GREY, MASSIVE, HARD STICK CORE BUT CRUMBLER AT TOP 11CM, BECOMING VERY CARBONACEOUS CLAYEY SILTSTONE AT BOTTOM, COAL LENSE NEAR BOTTOM	NDAT	NDAT	
124.61	126.73	2.12	SS4	SS3	CONGLOMERATE AS ABOVE (109.14-110.08), SOME CLASTS ARE 3CM DIAMETER, COAL LENSES ABUNDANT NEAR BASE, MOST ARE SUB-HORIZONTAL <5MM THICK, ONE 22CM BAND OF COARSE GRAINED SANDSTONE	NDAT	NDAT	
126.73	127.10	.37	SS1	SILTY	LIGHT GREY SILTY, MASSIVE, HARD STICK	NDAT	NDAT	
127.10	127.95	.85	SLST		MEDIUM GREY, MASSIVE, VERY HARD, STICK	NDAT	NDAT	
127.95	129.02	1.07	SS1	SILTY	LIGHT GREY, OCCASIONAL CARBONACEOUS FRAGMENTS, HARD STICK	NDAT	NDAT	
129.02	129.87	.85	SLST		MEDIUM BROWN TO GREY, SLIGHTLY REDDISH, MASSIVE, HARD STICK	NDAT	NDAT	
129.87	130.19	.32	SLST	MDST	SLIGHTLY CLAYEY, DARK GREY SILTSTONE, BROKEN TO CRUMBLER, MINOR CURVED SLICKENSIDES	NDAT	NDAT	
130.19	131.49	1.30	SLST	MDST	DARK GREY,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLDGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					MASSIVE, SLIGHTLY CLAYEY, HARD, STICK			
131.49	137.15	5.66	SLST		DARK RED TO GREY, MASSIVE, VERY HARD, STICK, DARK GREY 135.1-135.61, GRADUALLY LESS RED TOWARDS BOTTOM	NDAT	NDAT	
137.15	138.70	1.55	SLST		DARK GREY, MASSIVE, VERY HARD, STICK, LAMINATION OF CARBONACEOUS MUDSTONE TOWARDS BOTTOM, OCCASIONAL HORIZONTAL COAL LENSES 3MM THICK	NDAT	NDAT	
138.70	142.88	4.18	SS4	SS3	LARGE CLASTS OF PINK, MAROON AND GREEN VOLCANICS ARE <5CM DIAMETER AND SUB-ROUNDED, SUB-SPHERICAL, OCCASIONAL CLASTS ARE ANGULAR AND NON-SPHERICAL, MATRIX IS COARSE GRAINED SANDSTONE, BANDS OF COARSE GRAINED SANDSTONE OCCUR AT TOP 70CM (WITH ABUNDANT COAL LENSES AND ONE 5CM COAL BAND) AND AT 139.90-140.08, 141.38-142.0, 142.55-142.88, SANDSTONE BANDS ARE HARD STICK WITH ABRUPT CONTACTS WITH CONGLOMERATES, OCCASIONAL LAMINAE, HARD, STICK	83.0	142.7	
142.88	151.40	8.52	SS4		AS ABOVE, BUT WITH LARGER CLASTS <BOULDER SIZE.	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					VERY MINOR COARSE GRAINED SANDSTONE BANDS AND ONLY ONE COAL CLAST, POSSIBLE INTERFINGERING OF MAROON BASALT FLOWS. HARD, STICK			
151.40	151.75	.35	SLST		VERY DARK MAROON, MASSIVE, HARD, ABRUPT LOWER CONTACT, STEEP	24.0	151.8	
151.75	154.93	3.18	SS4		SUB-ROUND SUB-SPHERICAL CLASTS <4CM IN MATRIX OF VERY DARK MAROON SILTSTONE, SOFT, POORLY CEMENTED, STICK, ABUNDANT CALCITE FILLED FRACTURES, CONTACT WITH LOWER VOLCANICS 20 DEGREES SHARP	NDAT	NDAT	
154.93	155.44	.51	VOLCANICS		LIGHT GREEN TO GREY FELSIC APHANITIC EXTREMELY HARD STICK	NDAT	NDAT	
155.44	159.40	3.96	VOLCANICS		MAROON MAFIC, ABUNDANT WHITE, OCCASIONAL GREEN, AMYGDULES, HARD STICK	NDAT	NDAT	

HOLE.ID		CORE DESCRIPTION						
PROJECT	TWB2D-240							
AREA	TELKWA							
DRIL.DATE	SMITHERS							
LOG.DATE	820806							
EXAMINED.BY	820000							
	C.LANGILL							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	19.50	19.50	OVERBURDEN		TRICONE DRILLED	NDAT	NDAT	
19.50	19.65	.15	MUDSTONE		CARBONACEOUS, BLACK, NOT HARD, OCCASIONAL PLANT FRAGMENTS, CRUMBLD	NDAT	NDAT	
19.65	21.60	1.95	SLST		LIGHT BROWN TO GREY, MASSIVE, ABUNDANT PLANT FRAGMENTS, ABUNDANT IRON-STAINED CURVED FRACTURES, TUFFACEOUS APPEARANCE AT TDP 47CM, VERY HEAVY RUST COATING AT BOTTOM 29CM, BROKEN	NDAT	NDAT	
21.60	25.00	3.40	MUDSTONE	SLST	MEDIUM TO DARK GREY, SLIGHTLY SILTY, MASSIVE, OCCASIONAL PLANT FRAGMENTS, BROKEN TO CRUMBLD, IRON RUST STAINS THROUGHOUT	NDAT	NDAT	
25.00	25.23	.23	MUDSTONE		CARBONACEOUS, DARK GREY TO BLACK, EXTREMELY WEATHERED, VERY SOFT, SEMI-STICK	NDAT	NDAT	
25.23	26.01	.78	MUDSTONE		CARBONACEOUS, DARK GREY, MASSIVE, BROKEN TO SEMI-STICK, SPHERICAL, 1MM DIAMETER WHITE WEATHERING	NDAT	NDAT	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					CONCRETIONS? IN 20CM BAND AT TOP				
26.01	27.19	1.18	SLST		MEDIUM BROWN TO GREY, CARBONACEOUS FRAGMENTS, MASSIVE, FRIABLE, POORLY CONSOLIDATED, SLIGHTLY TUFACEOUS APPEARANCE, BECOMING CARBONACEOUS TOWARDS BDTTOM, MINOR COAL LENSES IN BOTTOM 10CM	NDAT	NDAT		
27.19	27.75	.56	SS4		MEDIUM BROWN TO GREY, CLAYEY SANDSTONE MATRIX, ANGULAR SUB-SPHERICAL CLASTS <1.5CM DIAMETER, CLASTS OF SILTSTONE AND MUDSTONE, OCCASIONAL VOLCANICS, STICK, SOFT, POORLY CEMENTED, R2	NDAT	NDAT		
27.75	28.84	1.09	SLST		LIGHT GREY, MASSIVE, BROKEN STICK WITH TWO 10CM ZONES OF COARSE GRAINED SANDSTONE AND ONE BAND OF CLAYEY SILTSTONE NEAR BDTTOM	NDAT	NDAT		
28.84	30.37	1.53	SS1		LIGHT GREY FINE GRAINED SANDSTONE WITH ABUNDANT THIN WAVY LAMINAE OF DARK GREY SILTSTONE AND OCCASIONAL CARBONACEOUS LAMINAE, SEMI-STICK, BROKEN IN TOP 70CM	82.0	29.5		

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
30.37	30.97	.60	SS2		LIGHT GREY, ABUNDANT WAVY, THIN SILTSTONE LAMINAE, GRADING TO COARSE GRAINED SANDSTONE, VERY COARSE AT BOTTOM 10CM, SEMI-STICK	85.0	30.6		
30.97	31.12	.15	MUDSTONE		MEDIUM BROWN TO GREY, MASSIVE, EXTREMELY HARD (IRONSTONE), ABUNDANT CALCITE VEINS, OCCASIONAL CARBONACEOUS FRAGMENTS, RUST-STAINED SURFACE AND FRACTURES	NDAT	NDAT		
31.12	31.28	.16	MUDSTONE		MEDIUM GREY, SILTY, ONE SANDSTONE BAND, BROKEN	NDAT	NDAT		
31.28	31.58	.30	COAL		DULL WITH 40% BRIGHT, VERY CLEAN, CRUMBLD (RECOVERY .8/.32 = 27%)	NDAT	NDAT 1	399	
31.58	31.71	.13	MUDSTONE		DARK BRDWN, ABUNDANT CARBONACEOUS FRAGMENTS, COAL LENSES, SEMI-STICK	NDAT	NDAT		
31.71	34.04	2.33	SLST	MDST	DARK BROWN TO GREY, ABUNDANT CARBONACEOUS FRAGMENTS, MASSIVE, TUFFACEOUS APPEARANCE, VERY CLAYEY ZONE AT 33.52-33.85	NDAT	NDAT		
34.04	34.88	.84	MUDSTONE		DARK BROWN TO GREY, OCCASIONAL CARBONACEOUS FRAGMENTS, WEATHERED SURFACE	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					IS COATED WITH WHITE MOTTLES, OCCASIONAL SLICKENSIDES AT BOTTOM, SOFT, FRIABLE			
34.88	35.06	.18	MUDSTONE		CARBONACEOUS, BLACK, BROKEN	NDAT	NDAT	
35.06	35.43	.37	COAL		BRIGHT WITH 40% DULL, GOOD CLEATS, BROKEN, SIDERITE ON SOME CLEATS (RECOVERY .15/.37 = 41%), CONTRAST AT ROOF AND FLOOR, POOR	NDAT	NDAT	
35.43	36.81	1.38	MUDSTONE	SLST	MEDIUM TO DARK GREY, SILTY IN MIDDLE PART, MASSIVE, VERY CARBONACEOUS IN TOP 10CM AND BOTTOM 30CM	NDAT	NDAT	
36.81	36.95	.14	COAL		DULL WITH 40% BRIGHT, VERY THIN BANDS OF VITRINITE, OCCASIONAL CALCITE VEINS, RARE SIDERITE	NDAT	NDAT	
36.95	41.78	4.83	SLST	MDST	MEDIUM BRDWN TO GREY, MASSIVE, HARD, STICK, OCCASIONAL PEBBLES OF <2MM DIAMETER AT 38.6-39.0, CLASTS ARE LIGHT GREY AND ANGULAR, GRADES TO CARBONACEOUS MUDSTONE AT 39.5 TO 40.38, BECOMES COARSER IN BOTTOM 20CM	NDAT	NDAT	
41.78	42.99	1.21	SS3		LIGHT PINK TO GREY, COARSENS TO CONGLOMERATE AT	80.0	42.6	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BOTTOM, BANDS OF MEDIUM GRAINED SANDSTONE AND COAL LENSES <.5CM THICK AT BOTTOM 30CM, CLASTS ARE WHITE, PINK AND OCCASIONALLY GREEN OR RUST COLOURED, SUB-ANGULAR, SUB-ROUNDED, STICK, RUST STAINED MATRIX AT TOP, LAMINAE OF CARBONACEOUS FRAGMENTS IN MEDIUM GRAINED SANDSTONE BANDS AND ARE DISTORTED BY SMALL FAULTS			
42.99	45.06	2.07	SLST		MEDIUM GREY, MASSIVE, WITH ZONES OF CARBONACEOUS SILTY MUDSTONE, OCCASIONAL COAL LENSES. SEMI-STICK	NDAT	NDAT	
45.06	51.19	6.13	SLST	MDST	MEDIUM GREY CLAYEY SILTSTONE ALTERNATING WITH ZONES OF DARK GREY SILTY MUDSTONE, GRADATIONAL CONTACTS, OCCASIONAL BANDS <10CM OF SANDSTONE, TUFACEOUS CRYSTALLINE APPEARANCE FROM 50.17-50.70, STICK, HARD	NDAT	NDAT	
51.19	51.55	.36	MUDSTONE		DARK BROWN, ABUNDANT CARBONACEOUS FRAGMENTS, BROKEN, GRADES TO SILTSTONE BELOW	NOAT	NDAT	
51.55	54.10	2.55	SLST	SS1	LIGHT GREY, MASSIVE,	90.0	53.8	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					OCCASIONAL PLANT FRAGMENTS, SLIGHTLY SANDY NEAR BOTTOM, OCCASIONAL LAMINATIONS				
54.10	55.13	1.03	MUDSTONE	SLST	DARK BROWN TO BLACK, MASSIVE. STICK CORE NOW SOFT AT TOP 20CM, GRADES TO SILTSTONE AT BOTTOM	NDAT	NDAT		
55.13	57.11	1.98	SS1	SS3	LIGHT GREY, MASSIVE, HARD, STICK, ONE 20CM BAND OF COARSE GRAINED SANDSTONE AT 56.6	NDAT	NDAT		
57.11	57.70	.59	SS4		POORLY SORTED WITH SANDSTONE AND COAL LENSES, CLASTS ARE LIGHT PINK TO GREY, OCCASIONAL GREEN OR MAROON, SUB-ROUNDED, NON-SPHERICAL, STICK	NDAT	NDAT		
57.70	58.93	1.23	SLST		MEDIUM GREY, MASSIVE, HARD, STICK	NDAT	NDAT		
58.93	59.81	.88	SS1		LIGHT GREY, VAGUE LAMINATIONS, HARD STICK	90.0	NDAT		
59.81	60.35	.54	SS4		VERY COARSE SANDSTONE, CLAST <2MM, POORLY SORTED, COAL LENSES, SANDY WITH CARBONACEOUS CROSS-LAMINATION IN TOP 10CM	NDAT	NDAT		
60.35	65.31	4.96	SS4	SS1	ALTERNATING 1M BEDS OF CONGLOMERATE AND FINE GRAINED SANDSTONE AS IN	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					ABOVE 2 UNITS, CONGLOMERATE CLASTS <3CM DIAMETER, LIGHT PINK, WHITE, MAROON AND GREEN, ABRUPT LOWER CONTACT OF EACH CONGLOMERATE BAND AND INTERFINERING OR GRADATIONAL UPPER CONTACT			
65.31	67.21	1.90	MUDSTONE	SLST	DARK BROWN, SLIGHTLY SILTY, ABUNDANT CARBONACEOUS FRAGMENTS, CRYSTALLINE APPEARANCE, CLAYEY POWDER WEATHERED SURFACE ON TOP 30CM, IRONSTONE FOR 10CM AT 65.73, BROKEN STICK BELOW THAT, BECOMES DARK GREY, CARBONACEOUS TOWARD BOTTOM	NDAT	NDAT	
67.21	69.03	1.82	MUDSTONE		CARBONACEOUS, DARK GREY, MASSIVE, SEMI-STICK, SLIGHTLY SILTY IN SOME BANDS, 10CM RUST-STAINED BAND AT 68.33	NDAT	NDAT	
69.03	69.59	.56	SLST		GRADES FROM MUDSTONE ABOVE AND TO SANDSTONE BELOW, MEDIUM TO LIGHT GREY, MASSIVE, STICK CORE	NDAT	NDAT	
69.59	70.00	.41	SS3		GRADATIONAL CONTACTS ABOVE AND BELOW, LAMINATION OF CARBONACEOUS FRAGMENTS, SOME PEBBLES, STICK	74.0	69.9	
70.00	73.61	3.61	SS4		POORLY SORTED, CLASTS <3CM,	77.0	71.4	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SUB-ROUNDED, SUB-SPHERICAL, MORE MAFIC THAN UPPER CONGLOMERATE CLASTS, IE MAROON, LIGHT PINK TO GREY, DARK GREEN ARE COMMON, MATRIX IS FINE GRAINED SANDSTONE AND IS WELL CEMENTED, HARD, STICK CORE, BEDS OF SANDSTONE, LENSES OF COAL <.5CM. SANDSTONE ZONES FROM 71.35 TO 71.65 AND 72.98 TO 73.10, SEMI-STICK CORE, CRUMBLD FOR 10CM AT 71.85, RARE CALCITE FILLED FRACTURES. LAMINATION IN SANDSTONE BANDS SHOW CROSS-LAMINATION AND PARALLEL BEDDING AT 74 OR 80 DEGREES			
73.61	75.05	1.44	MUDSTONE		DARK BROWN TO GREY, SILTY, ABUNDANT CARBONACEOUS PLANT FRAGMENTS, CRYSTALLINE APPEARANCE, (TUFFACEOUS?), MASSIVE, HARD, STICK, BUT BROKEN AT TOP 30CM, RUST STAINED AT BOTTOM 10CM	NDAT	NDAT	
75.05	76.57	1.52	MUDSTONE		CARBONACEOUS, DARK GREY, MASSIVE, SILTY AT TOP	NDAT	NDAT	
76.57	76.97	.40	SLST		MEDIUM GREY, GRADES FRDM MUDSTONE BELOW, VAGUE LAMINAE OF MUDSTONE	77.0	76.9	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
76.97	78.58	1.61	SLST		DARK MAROON, MASSIVE, HARD STICK, GRADES TO SILTSTONE BELOW	NDAT	NDAT	
78.58	79.70	1.12	SLST		DARK GREENISH GREY AT TOP GRADING TO DARK GREY AT BOTTOM, OCCASIONAL FINE GRAINED SANDSTONE BAND <10CM, MINOR CALCITE VEINS	NDAT	NDAT	
79.70	82.92	3.22	SLST		DARK MAROON, MASSIVE, HARD STICK, GRADES FROM SILTSTONE ABOVE, RARE <1MM CRYSTAL LIKE GRAINS OF SUB-VITREOUS, GREEN TO GREY MINERAL, VAGUE MOTTLED APPEARANCE WITH DARK GREEN TO GREY IN BOTTOM .8M	NDAT	NDAT	
82.92	83.22	.30	SLST	MDST	CLAYEY, DARK GREY, MASSIVE, BROKEN	NDAT	NDAT	
83.22	85.30	2.08	SLST		DARK MAROON AS AT 79.70 TO 82.92, BUT CRYSTALS ARE MORE ABUNDANT AND 1MM DIAMETER, THIS (SILTSTONE) IS POSSIBLY AN IGNEOUS ROCK, MAFIC APHANITIC	NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TW82D-241
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE NO. DATA
 LOG DATE 820710
 EXAMINED BY R. KOSTIUK

TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	4.60	4.60	OVERBURDEN	GRAVEL, BOULDERS, SAND	DRILLED WITH ROCK BIT - NO CORE RECOVERY	NDAT	NDAT	
4.60	7.70	3.10	SLST	MDST	LIGHT TO DARK GREY, VERY THINLY BEDDED WITH MUDSTONE AND VERY FINE GRAIN SANDSTONE INTERBEDS, SOFT, CONVOLUTED BEDDING, BROKEN	NDAT	NDAT	
7.70	8.10	.40	SS1	CLAYEY	LIGHT GREY, FINE GRAIN SANDSTONE, MASSIVE, CLAYEY, FRIABLE, BROKEN	NDAT	NDAT	
8.10	8.80	.70	MUDSTONE	CARBONACEOUS	DARK GREY TO BLACK, MASSIVE, FISSILE, COALY PLANT DEBRIS, BROKEN	NDAT	NDAT	
8.80	8.96	.16	COAL	DIRTY	RECOVERED .16M; DULL WITH MINOR BRIGHT BANDS, HARD, CALCITE VEINLETS, BONE COAL, BROKEN - RECOVERY 100%	NDAT	NDAT	87
8.96	10.82	1.86	MUDSTONE	SLST	DARK GREY TO CHARCOAL, THICKLY BEDDED WITH SILTSTONE INTERBEDS, CARBONACEOUS, BROKEN	NDAT	NDAT	
10.82	11.10	.28	COAL	DIRTY	RECOVERED .15M; MAINLY DULL WITH BRIGHT BANDS, HARD, MINOR CALCITE ALONG	NDAT	NDAT	88

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHDLDGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					CLEATS, CUBIC AND CONCHOIDAL FRACTURE, BROKEN, - RECOVERY 54% - SEPARATION WITH ROOF AND FLOOR UNCERTAIN DUE TO CORE LOSS				
11.10	12.04	.94	SLST		LIGHT GREY, MASSIVE, COALY/CARBONACEOUS DEBRIS THROUGHOUT, BROKEN - < RECOVERY 50%	NDAT	NDAT		
12.04	12.24	.20	COAL		MAINLY DULL WITH BRIGHT BANDS, HARD, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE ALONG CLEATS, BROKEN - RECOVERY 75% - SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL - GOOD	NDAT	NDAT		89
12.24	12.86	.62	MUDSTONE		MEDIUM GREY, MASSIVE, SOFT, COALY PLANT DEBRIS, BROKEN	NDAT	NDAT		
12.86	13.92	1.06	SLST	MDST	LIGHT TO DARK GREY, THICKLY LAMINATED SILTSTONE INTERBEDDED WITH MUDSTONE, DISTORTED BEDDING, MODERATELY HARD; .18M THICK IRON RICH CARBONATE BAND AT 13.05M, CALCITE INFILL FRACTURE AND VEINLETS, BROKEN STICK	74.0	13.4		
13.92	15.27	1.35	MUDSTONE		MEDIUM TO DARK GREY, MASSIVE, FISSILE, MODERATELY HARD,	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BROKEN, LOW ANGLE FRACTURE AT 15.04M (.23M LONG), MINOR CALCITE ALONG FRACTURES, SLIGHTLY CARBONACEOUS			
15.27	15.55	.28	COAL		RECOVERED .19M; MAINLY DULL WITH MINOR BRIGHT BANDS, HARD, MINOR CALCITE ALONG CLEAT, MINOR PYRITE, CUBIC AND CONCHOIDAL FRACTURE, BLOCKY, BROKEN - RECOVERY - 68% - SEPARATION WITH ROOF, VISUAL - POOR, PHYSICAL - GOOD.; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - UNCERTAIN DUE TO CORE LOSS	NDAT	NOAT	90
15.55	16.70	1.15	MUDSTONE		BROWN TO DARK GREY, MASSIVE, MODERATELY HARD, SILTY, CARBONACEOUS, FISSILE, BROKEN - RECOVERY 30%	NOAT	NOAT	
16.70	16.90	.20	COAL	DIRTY	RECOVERED .16M; MAINLY DULL WITH MINOR BRIGHT BANDS, MODERATELY HARD, BROKEN - RECOVERY 80% - SEPARATION WITH ROOF, VISUAL - POOR, PHYSICAL - GOOD; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - ?	NDAT	NOAT	91
16.90	20.97	4.07	MUDSTONE		LIGHT TO DARK GREY, THICKLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH SILTSTONE AND VERY	NDAT	NDAT	

CORE		DESCRIPTION						
TDP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					FINE GRAIN SANDSTONE, DISTURBED BEDDING, MICRO FAULTED, FOLDED, OCCASIONAL CALCITE INFILL FRACTURE AND IRON RICH CARBONATE BANDS. BROKEN			
20.97	28.14	7.17	SLST		LIGHT TO MEDIUM GREY, THICKLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH MUDSTONE AND VERY FINE GRAIN SANDSTONE, OCCASIONAL IRONSTONE/CARBONATE BAND, OCCASIONAL CALCITE VEINLETS, BROKEN STICK	56.0	AVG	
28.14	28.70	.56	COAL		RECOVERED .23M; BRIGHT WITH DULL BANDS, HARD, MINOR CALCITE, MINOR PYRITE, HIGHLY BROKEN, POOR RECOVERY - 41% - SEPARATION CONTACTS ARE UNCERTAIN DUE TO CORE LOSS	NDAT	NDAT 2	92
28.70	29.01	.31	MUDSTONE	LC	RECOVERED .12M; MEDIUM GREY, MASSIVE, MODERATELY HARD, BROKEN, UPPER HALF, CARBONACEOUS - RECOVERY 38%	NDAT	NDAT	
29.01	29.47	.46	COAL	LOST CORE	RECOVERED .10M; MAINLY DULL WITH MINOR BRIGHT BANDS, HARD, MINOR CALCITE ALONG CLEAT, BROKEN - RECOVERY 22% - SEPARATION WITH CONTACTS UNCERTAIN	NDAT	NDAT 2	93

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					DUE TO CORE LOSS			
29.47	29.71	.24	MUDSTONE		MEDIUM GREY, MASSIVE, MODERATELY HARD, SILTY, SLICKENSIDED. HIGHLY BROKEN - RECOVERY 79%	NDAT	NDAT	
29.71	30.82	1.11	COAL		RECOVERED 1.1M; DULL AND BRIGHT INTERBANDS, HARD, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE ALONG CLEAT, BROKEN. .06M THICK BROWN CLAY LAYER, VERY HARD AT 30.22M, TOP .10M BONE COAL AND POWDERY CLAY - RECOVERY 100% - SEPARATION WITH ROOF, VISUAL AND PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL - POOR, PHYSICAL - FAIR	NDAT	NDAT 2	94
30.82	31.06	.24	MUDSTONE	CARBONACEOUS	RECOVERED .22M; DARK GREY, THINLY LAMINATED WITH COALY INTERBEDS, CARBONACEOUS, COALY PLANT DEBRIS, FAIR STICK	68.0	NDAT	
31.06	31.90	.84	COAL		RECOVERED .82M; DULL AND BRIGHT INTERBANDED, HARD, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE, MINOR BONE COAL WISPS, BROKEN - RECOVERY 98% - SEPARATION WITH ROOF, VISUAL AND PHYSICAL - FAIR, SEPARATION WITH FLOOR, VISUAL	74.0	NDAT 2	95

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					AND PHYSICAL - POOR			
31.90	32.68	.78	MUDSTONE		RECOVERED .72M; MEDIUM GREY, MASSIVE, HARD, SILTY, COALY LAMINAE, SLIGHTLY CARBONACEOUS, FAIR STICK - RECOVERY 92%	NDAT	NDAT	
32.68	32.96	.28	COAL		RECOVERED .28M; MAINLY DULL WITH BRIGHT BANDS, HARD, MINOR CALCITE ALONG CLEATS, CUBIC AND CONCHOIDAL FRACTURE, BROKEN - RECOVERY 100% - SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL - FAIR	NDAT	NDAT 2	96
32.96	34.56	1.60	MUDSTDNE		MEDIUM GREY, MASSIVE, HARD, SILTY, CARBONACEOUS PLANT DEBRIS, GOOD STICK - RECOVERY 100%	NDAT	NDAT	
34.56	35.08	.52	COAL		RECOVERED .45M; DULL WITH BRIGHT BANDS, HARD, CUBIC AND CONCHOIDAL FRACTURE, BLOCKY, MINOR CALCITE ALONG CLEATS, BROKEN - RECOVERY 87% - SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL - FAIR	NDAT	NDAT 2	97
35.08	36.65	1.57	MUDSTONE	SLST, SS1	MEDIUM GREY, THINLY LAMINATED TO MEDIUM BEDDED WITH SILTSTONE AND VERY FINE GRAIN SANDSTDNE INTERBEDS, OCCASIONAL	77.0	AVG	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					DISTURBED BEDDING, MODERATELY HARD TO HARD, OCCASIONAL IRDN CLAYSTONE BANDS, MINOR CALCITE INFILL FRACTURE, CARBONACEOUS/COALY PLANT DEBRIS THROUGHOUT, FAIR STICK			
36.65	40.50	3.85	SLST	SS1, MOST	LIGHT TO MEDIUM GREY, THINLY LAMINATED TO VERY THINLY BEDDED SILTSTONE INTERBEDDED WITH VERY FINE GRAIN SANDSTONE AND MUDSTONE, DISTURBED BEDDING, OCCASIONAL IRON CLAYSTONE/CARBONATE BANDS, MINOR CALCITE VEINLETS, CARBACEOUS/COALY PLANT DEBRIS THROUGHOUT, FAIR STICK	NDAT	NDAT	
40.50	52.20	11.70	SLST		MEDIUM GREY, MASSIVE, HARD, OCCASIONAL CALCITE INFILL FRACTURE, OCCASIONAL IRON CLAYSTONE/CARBONATE BANDS, MINOR COAL WISPS, FOSSIL PLANT DEBRIS THROUGHOUT, FAIR TO GOOD STICK	NDAT	NDAT	
52.20	54.30	2.10	SS1		MEDIUM GREY, VERY FINE GRAIN SANDSTONE, MASSIVE, HARD, WELL CONSOLIDATED, COALY WISPS, CLAYEY, OCCASIONAL PYRITE, BECOMING COARSER GRAINED TOWARDS BASE, GOOD STICK	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
54.30	54.96	.66	SS2		LIGHT GREY, MEDIUM GRAINED, MASSIVE, HARD, WELL CONSOLIDATED, COALY FLECKS THROUGHOUT, EXCELLENT STICK	74.0	AVG	
54.96	114.90	59.94	SLST		MEDIUM TO DARK GREY, MASSIVE, WITH VERY FINE GRAIN SANDSTONE AND CLAYEY INTERVALS, OCCASIONAL IRON CLAYSTONE/CARBONATE BANDS, OCCASIONAL PYRITE, OCCASIONAL CALCITE INFILL FRACTURES AND VEINLETS, MINOR COALY WISPS, BROKEN TO FAIR STICK	NDAT	NDAT	
114.90	-1.00	-1.00	UNKNOWN		TOTAL DEPTH	NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TW82D-242
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820807
 LOG DATE 820900
 EXAMINED BY D.HANDY

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	24.90	24.90	OVERBURDEN			NDAT	NDAT	
24.90	47.60	22.70	SLST	MDST	LIGHT GREY, MASSIVE BEDDED, STICK CORE. DRIES OUT AND CRUMBLES EASILY, PARTIALLY WEATHERED TO CLAY LIKE MATERIAL, 36.46-36.79 IRONSTONE LAYER (BROWN), 1CM CALCITE LAYER AT 47.30	75.0	37.2	
47.60	60.98	13.38	SS1	MDST/SLST	LIGHT GREY FINE GRAINED SANDSTONE UNIT WITH THIN INTERBEDDED MUDSTONE AND SILTSTONE, BEDDING PLANES EASILY DISTINGUISHABLE, OCCASIONAL MUDSTONE ZONE PARTIALLY ALTERED TO CLAY MINERALS, STICK CORE. OCCASIONAL BROWN IRONSTONE NODULE (UP TO 20CM), OCCASIONAL COALIFIED WOOD FRAGMENTS, MINOR ZONES OF BIOTURBATION	71.0	49.3	
60.98	61.68	.70	MUDSTONE	SLST/CARB	LIGHT GREY/DARK GREY THIN BEDDED, OCCASIONAL COALIFIED WOOD FRAGMENTS	NDAT	NDAT	
61.68	63.43	1.75	SS1		AS ABOVE	NDAT	NDAT	

		CORE		DESCRIPTION					
TDP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
63.43	66.90	3.47	SS2	CARBONACEOUS	LIGHT GREY TO GREYISH GREEN, MEDIUM GRAINED SANDSTONE WITH THIN CARBONACEOUS WISPS AND BROWN IRONSTONE NODULES	NDAT	NDAT		
66.90	77.52	10.62	SS1	CARBONACEOUS	AS ABOVE, BUT FINE GRAINED, 70.60 AND 74.10 CALCITE REPLACED SHELL FOSSILS, OCCASIONAL BIOTURBATED ZONE (THIN), 75.80 HEAVILY BIOTURBATED ZONE 10CM THICK	86.0	67.1		
77.52	108.40	30.88	SLST	MDST	DARK GREY SILTSTONE, MASSIVE BEDDED, OCCASIONAL BROWN IRONSTONE (SIDERITE) NDDULE, GOOD STICK CORE, 82.02 - 82.15 CALCITE REPLACED SHELLS UP TO 5CM LONG	NDAT	NDAT		
108.40	108.73	.33	SHALE	COALY	BLACK, BROKEN	NDAT	NDAT		
108.73	109.83	1.10	SS1	CARBONACEOUS	LIGHT GREY, WAVY BEDDING, MASSIVE TO THIN BEDDED, STICK CORE, CARBONACEOUS FRAGMENTS (STICKS, TWIGS)	52.0	109.5		
109.83	111.51	1.68	SLST	SS1	MEDIUM GREY SILTSTONE, WITH MINOR LIGHT GREY FINE GRAINED SANDSTONE INTERBEDDED, MINOR BROWN IRONSTONE LAYERS OR NODULES	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
111.51	112.00	.49	COAL		DULL WITH BRIGHT (THIN VITRAIN LAYERS), THIN CALCITE WISPS IN COAL AT HANGING WALL (APPROXIMATELY 10CM THICK SECTION), 111.60 2CM GREY-BROWN BENTONITE LAYER, GOOD STICK CORE (RECOVERY = 100%), FOOTWALL AND HANGING WALL CONTACTS POLISHED	NDAT	NDAT 4	288
112.00	115.20	3.20	SLST		DARK GREY, MASSIVE, GOOD STICK	NDAT	NDAT	
115.20	115.60	.40	SS1		BROWN, MASSIVE BEDDED FINE GRAINED SANDSTONE, MINOR CARBONACEOUS FRAGMENTS	NDAT	NDAT	
115.60	117.42	1.82	SLST		AS ABOVE	NDAT	NDAT	
117.42	117.88	.46	COAL		DULL WITH BRIGHT, BROKEN STICK, MINOR CALCITE COATING CLEAT (RECOVERY - 100%)	NDAT	NDAT 1	289
117.88	118.54	.66	SLST		DARK GREY, MASSIVE, STICK	NDAT	NDAT	
118.54	118.84	.30	COAL	SHALY	VERY DULL, MINOR BRIGHT, SHALY, MINOR CALCITE	NDAT	NDAT 1	290
118.84	119.16	.32	SHALE	COALY	MINOR CALCITE ALONG BEDDING	NDAT	NDAT	
119.16	124.23	5.07	SLST	MDST/SS1	PALE GREY TO CREAM COLOURED, HIGHLY WEATHERED TO CLAY MINERALS, SDFT,	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					FREQUENT CALCITE FILLED FRACTURES, OCCASIONAL COALIFIED WOOD FRAGMENTS				
124.23	125.63	1.40	SS3		MEDIUM GREY, SANDSTONE, PARTIALLY WEATHERED, MATRIX FINING UPWARDS SLIGHTLY	NDAT	NDAT		
125.63	126.39	.76	SLST		LIGHT GREY, HARD, STICK	NDAT	NDAT		
126.39	126.69	.30	SS3		PALE GREY, MEDIUM BEDDED, CLEAN	NDAT	NDAT		
126.69	127.05	.36	COAL		DULL, MINOR BRIGHT, MINOR CALCITE ALONG CLEAT, BROKEN TO CRUMBLY (RECOVERY .20/.36 = 56%)	65.0	126.8		291
127.05	127.95	.90	SLST	MDST	MEDIUM GREY, HIGHLY WEATHERED TO SOFT CLAY MINERALS, GRADES INTO THE SANDSTONE BELOW	NDAT	NDAT		
127.95	129.25	1.30	SS1		MEDIUM GREY FINE GRAINED SANDSTONE, GRADED BEDDING, SOME MEDIUM GRAINED SANDSTONE AND SILTSTONE BEDS INTERLAYERED	NDAT	NDAT		
129.25	130.69	1.44	SS3	SS2/SS1	LIGHT GREY MATRIX, MULTICOLOURED CLASTS AND GRAINS WITH INTERMIXED CARBONACEOUS MATERIALS, COALIFIED WOOD FRAGMENTS, GRADED BEDDING	NDAT	NDAT		
130.69	136.94	6.25	SLST	MDST	MEDIUM GREY,	NDAT	NDAT		

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					POORLY BEDDED TO MASSIVE BEDDED, SILTSTONE WITH SOME INTERBEDDED MUDSTONE IN PLACES, PARTIALLY ALTERED TO CLAY				
136.94	138.08	1.14	SS1	CARBONACEOUS	BROWN FINE GRAINED SANDSTONE WITH THIN WISPY CARBONACEOUS LAYERS	NDAT	NDAT		
138.08	138.88	.80	SS3	SS2	MAINLY COARSE GRAINED SANDSTONE WITH THIN INTERBEDS OF MEDIUM GRAINED SANDSTONE AS WELL AS COALIFIED PLANT DEBRIS OR COALY STRINGERS, MULTICOLOURED SANDSTONE CHARACTERISTIC OF THE SANDSTONE UNITS NEAR THE BASE OF THE SECTION AS VOLCANICS ARE APPROACHED (END OF HOLE)	65.0	138.4		

CORE DESCRIPTION

HOLE ID TW82D-243
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE NO DATA AUG 6/82
 LOG DATE 820816
 EXAMINED BY R. KOSTIUK

TDP	BASE	THICK	LITHOLOGY	MIN LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	5.30	5.30	OVERBURDEN	GRAVEL BOULDERS, - SAND	DRILLED WITH ROCK BIT, NO CORE RECOVERY	NDAT	NDAT	
5.30	6.40	1.10	SS1	SLST	BROWN-GREY, VERY FINE TO FINE GRAINED SANDSTONE, THINLY BEDDED, INTERBEDDED WITH SILTSTONE, SOFT, POORLY CONSOLIDATED, CLAYEY, IRONSTONE ALONG BREAKS, BROKEN	75.0	5.9	
6.40	8.56	2.16	SLST	SS1	LIGHT TO MEDIUM GREY, VERY THINLY BEDDED TO THINLY LAMINATED, INTERBEDDED WITH VERY FINE GRAIN SANDSTONE, OCCASIONALLY CROSS-BEDDED AND WAVY, OCCASIONAL VERY HARD BROWN IRON CLAYSTONE BANDS, MINOR CALCITE, BROKEN STICK	NDAT	NDAT	
8.56	9.10	.54	LOST CORE		SUSPECT SAME AS ABOVE	NDAT	NDAT	
9.10	9.41	.31	SS1		BROWN, VERY FINE GRAIN SANDSTONE, VERY HARD, WELL CONSOLIDATED, CALCITE CEMENTED. IRON RICH (SIDERITIC), EXCELLENT STICK	NDAT	NDAT	
9.41	9.98	.57	SS1		GREY-GREEN, VERY	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					FINE TO FINE GRAINED SANDSTONE. MASSIVE, FRIABLE, CLAYEY, FAIR STICK				
9.98	11.30	1.32	LOST CORE		SUSPECT VERY FINE GRAINED SANDSTONE AND SILTSTONE, INTERBEDS	NDAT	NDAT		
11.30	13.80	2.50	SLST	SS1,MDST	LIGHT TO DARK GREY, THIN TO THICKLY LAMINATED WITH VERY FINE TO FINE GRAINED SANDSTONE AND MUDSTONE, OCCASIONAL WAVY LAMINAE, MODERATELY HARD-FRIABLE, FOSSILE PLANT DEBRIS THROUGHOUT, OCCASIONAL BROWN VERY HARD IRON RICH CLAYSTONE/CARBONA- TE BANDS, SHALY AT BASE WITH COALY BANDS, BROKEN	77.0	AVG		
13.80	13.96	.16	COAL		RECOVERED 0.16M, MAINLY DULL WITH MINOR BRIGHT BANDS, MODERATELY HARD, DIRTY UNIT, MINOR SANDSTONE LAMINAE, BROKEN. RECOVERY 100%, NOT SAMPLED	NDAT	NDAT		
13.96	14.44	.48	SS1		GREY, VERY FINE GRAIN SANDSTONE, MASSIVE, WELL CONSOLIDATED, FOSSILE PLANT DEBRIS, PYRITE BLEBS, GOOD STICK	NDAT	NDAT		
14.44	16.77	2.33	SS1	SLST	LIGHT GREY, VERY FINE TO FINE GRAINED SANDSTONE, THINLY LAMINATED, INTERBEDDED WITH	77.0	NDAT		

		CORE		DESCRIPTION					
TDP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH	SEAM	SNUM
					DARK SILTSTONE AND MUDSTONE, OCCASIONAL CONVOLUTED BEDDING (SOFT SEDIMENTARY DEFORMATION?), OCCASIONAL IRON CLAYSTONE/CARBONATE NODULES AND BANDS, BROKEN				
16.77	18.96	2.19	MUDSTONE	SS1	DARK TO LIGHT GREY, MEDIUM BEDDED, INTERBEDDED WITH VERY FINE GRAINED SANDSTONE; MUDSTONE - SLIGHTLY CARBONACEOUS, MICACEOUS; SS1 - VERY FINE GRAINED, MODERATELY HARD-FRIABLE, GREEN, COALY FLECKS; POORLY DEVELOPED BEDDING, OCCASIONAL IRON RICH CLAYSTONE BAND, BROKEN	NDAT		NDAT	
18.96	20.18	1.22	COAL	CLEAN	RECOVERED 1.04M, DULL WITH BRIGHT BANDS, HARD, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE ALONG CLEAT, MINOR PYRITE, FAIR STICK, RECOVERY 85% - SEPARATION WITH ROOF, VISUAL - FAIR, PHYSICAL - FAIR; SEPARATION WITH FLOOR VISUAL - POOR, PHYSICAL - GOOD	78.0	19.6	7	98
20.18	20.42	.24	MUDSTONE		BROWN, MASSIVE, MODERATELY HARD, FISSILE, CARBONACEOUS, SLICKENSIDED FRACTURE, FOSSILE	NDAT		NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					PLANT DEBRIS, BROKEN			
20.42	21.88	1.46	MUDSTONE	SLST/SS1	LIGHT TO DARY GREY, THINLY LAMINATED, INTERBEDDED WITH SILTSTONE AND MINOR VERY FINE GRAINED SANDSTONE, WAVY LAMINATED, MODERATELY DEVELOPED, OCCASIONAL CROSS-BEDDING AND BIOTURBATION, FAIR STICK	78.0	AVG	
21.88	23.76	1.88	SLST	SS1	LIGHT TO DARK GREY, THINLY LAMINATED INTERBEDDED WITH VERY FINE GRAINED SANDSTONE AND MINOR MUDSTONE, CROSS-BEDDING, BIOTURBATION, FAIR TO GOOD STICK	NDAT	NDAT	
23.76	24.14	.38	SS1		GREEN-GREY, FINE GRAINED SANDSTONE INTERBEDDED WITH DARK GREY SILTSTONE, DISTURBED BEDDING, HARD, GOOD STICK	76.0	NDAT	
24.14	25.08	.94	LOST CORE:		SUSPECT ABOVE SANDSTONE AND CARBONACEOUS SILTSTONE AT BASE	NDAT	NDAT	
25.08	27.89	2.81	COAL		RECOVERED 2.1M, DULL WITH BRIGHT BANDS, HARD, CUBIC AND CONCH. FRACTURED, MINOR CALCITE ALONG CLEATS, BRITTLE IN PLACES, HIGH ASH INTERVALS AT 25.54 DARK BROWN COALY MUDSTONE (.11M THICK) AND AT	NDAT	NDAT 6	99

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					26.40 BROWN VERY HARD MUDSTONE (.06M THICK), BROKEN, RECOVERY 75% - SEPARATION WITH ROOF, VISUAL ?, PHYSICAL ?; SEPARATION WITH FLOOR, VISUAL - GOOD, PHYSICAL - GOOD			
27.89	28.55	.66	MUDSTONE		BROWN-GREY, THINLY LAMINATED, INTERBEDDED WITH LIGHT GREY VERY FINE GRAINED SANDSTONE, POORLY DEVELOPED, WAVY LAMINAE, FOSSILE PLANT DEBRIS, BROKEN	NDAT	NDAT	
28.55	28.71	.16	MUDSTONE		BROWN, MASSIVE, VERY HARD, IRON RICH CLAYSTONE/CARBONATE ROCKS	NDAT	NDAT	
28.71	33.05	4.34	MUDSTONE	SS1	DARK GREY TO BLACK, THIN TO THICKLY LAMINATED, INTERBEDDED WITH VERY FINE GRAINED SANDSTONE, FISSILE IN PLACES. OCCASIONAL BROWN, VERY HARD, IRON RICH CLAYSTONE/CARBONATE BANDS AND NODULES, CARBONACEOUS IN PLACES, MINOR COAL WISPS, SILTY IN PLACES, BREAKS EASILY ALONG BEDDING, BROKEN-FAIR STICK	76.0	AVG	
33.05	34.04	.99	SS1	SLST	LIGHT TO MEDIUM GREY, VERY FINE GRAINED SANDSTONE, THINLY LAMINATED,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					INTERBEDDED WITH SILTSTONE AND MINOR MUDSTONE. WAVY DISTORTED BEDDING (SOFT SEDIMENT DEFORMATION?) BEDDING ANGLE RANGES FROM 77 TO 66 DEGREES, FAIR STICK			
34.04	36.10	2.06	SLST	MDST	DARK GREY, VERY THINLY LAMINATED, INTERBEDDED WITH MUDSTONE, MICACEOUS, FISSILE IN PLACES, CROSS-BEDDING, MINOR VERY FINE GRAINED SANDSTONE LAMINAE, OCCASIONAL IRON CLAYSTONE, BEING CARBONACEOUS TOWARDS BASE. BROKEN	NDAT	NDAT	
36.10	37.64	1.54	COAL	CLEAN	RECOVERED 1.14M, DULL WITH BRIGHT BANDS, HARD, CUBIC AND CONCH FRACTURED, MINOR CALCITE ALONG CLEAT, OCCASIONAL HIGH ASH INTERVAL, FAIR STICK, RECOVERY 74% - SEPARATION WITH ROOF, VISUAL - FAIR, PHYSICAL - GOOD; SEPARATION WITH FLOOR, VISUAL - GOOD, PHYSICAL - GOOD	72.0	NDAT 5	100
37.64	38.14	.50	MUDSTONE		DARK BROWN, MASSIVE, MODERATELY HARD, ABUNDANT PLANT FOSSILES, SLIGHTLY SILTY, GOOD STICK	NDAT	NDAT	
38.14	38.96	.82	COAL	CLEAN	RECOVERED .64M,	NDAT	NDAT 5	101

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BRIGHT AND DULL BANDED, HARD, CUBIC AND CONCH FRACTURED. MINOR CALCITE ALONG CLEAT, MINOR PYRITE, MINOR BONE COAL, FAIR STICK, RECOVERY 78% - SEPARATION WITH ROOF, VISUAL - GOOD, PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL - FAIR, PHYSICAL - GOOD			
38.96	39.52	.56	MUDSTONE		MEDIUM GREY, MASSIVE, MODERATELY HARD, HIGHLY FRACTURED AND SLICKENSIDED, SLIGHTLY CARBONACEOUS	NDAT	NOAT	
39.52	40.28	.76	COAL		RECOVERED .68M, MAINLY DULL WITH BRIGHT BANDS, HARD, CUBIC AND CONCH FRACTURES, MINOR CALCITE ALONG CLEAT, MINOR VISIBLE PYRITE, HIGH ASH INTERVAL 39.98-40.12M, BROKEN, RECOVERY 89% - SEPARATION WITH ROOF, VISUAL - GOOD, PHYSICAL - GOOD; SEPARATION WITH FLOOR, VISUAL - FAIR, PHYSICAL-FAIR	NDAT	NOAT 5	102
40.28	41.75	1.47	MUDSTONE	CARBONACEOUS	DARK GREY, MASSIVE, HARD, SLICKENSIDED AND OCCASIONALLY FRACTURED, PLANT FOSSILE DEBRIS, SILTY TOWARDS BASE, OCCASIONAL COALY WISPS, BROKEN STICK	NDAT	NDAT	

		CORE DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
41.75	42.31	.56	SS1		BROWN-GREY, VERY FINE GRAINED SANDSTONE, MASSIVE, VERY HARD, WELL CONSOLIDATED, CALCITE IN PLACES. CARBONACEOUS DEBRIS, FAIR TO GOOD STICK	NDAT	NDAT	
42.31	43.88	1.57	MUDSTONE	CARBONACEOUS	DARK GREY TO BLACK, MASSIVE, VERY HARD, MICACEOUS, SLIGHTLY SILTY IN PLACES, MINOR SLICKENSIDED, GOOD STICK	NDAT	NDAT	
43.88	44.39	.51	QOAL	CLEAN	RECOVERED .51M, MAINLY BRIGHT WITH DULL BANDS, HARD, BRITTLE IN PLACES, CUBIC FRACTURE, WITH OCCASIONAL CONCH FRACTURE, OCCASIONAL VERY SHINY BANDS, FAIR STICK, RECOVERY 100% - SEPARATION WITH ROOF, VISUAL - POOR, PHYSICAL - POORSEPARATION WITH FLOOR, VISUAL - VERY GOOD, PHYSICAL-FAIR	NDAT	NDAT 4	103
44.39	45.79	1.40	MUDSTONE		DARK GREY, THINLY LAMINATED TO MEDIUM BEDDED, INTERBEDDED WITH SILTSTONE AND MINOR VERY FINE GRAINED SANDSTONE, BREAKS EASILY ALONG BEDDING, FAIR STICK	72.0	AVG	
45.79	61.41	15.62	SS1		LIGHT GREY, FINE TO MEDIUM GRAINED SANDSTONE, THINLY LAMINATED TO	74.0	AVG	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					MEDIUM BEDDED, INTERBEDDED WITH SILTSTONE, OCCASIONAL WAVY AND CONVOLUTED LAMINAE, OCCASIONAL BROWN VERY HARD IRON CLAYSTONE/CARBONA- TE BANDS, OCCASIONAL CALCITE VEINS, CLAYEY IN PLACES, MODERATELY HARD-FRIABLE, GOOD STICK				
61.41	61.58	.17	MUDSTONE		DARK GREY, CARBONACEOUS, BROKEN	NDAT	NDAT		
61.58	61.84	.26	LOST CORE	COAL	TRACE	NDAT	NDAT		
61.84	62.76	.92	MUDSTONE	SLST	DARK GREY, THINLY LAMINATED, INTERBEDDED WITH SILTSTONE, POORLY DEVELOPED, FRACTURED AND SLICKENSIDED, SILTY IN PLACES, MINOR CALCITE, GOOD TO FAIR STICK	NDAT	NDAT		
62.76	63.08	.32	COAL	CLEAN	RECOVERED .84M, DULL WITH BRIGHT BANDS, MODERATELY HARD, BLOCKY, HIGHLY FRACTURED AND SLICKENSIDED, BROKEN, RECOVERY 44% - SEPARATION WITH ROOF, VISUAL ?, PHYSICAL ?; SEPARATION WITH FLOOR, VISUAL - POOR, PHYSICAL-FAIR	NDAT	NDAT 3		104
63.08	65.62	2.54	MUDSTONE		MEDIUM GREY, MASSIVE, VERY HARD, SILTY,	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SLIGHTLY CARBONACEOUS			
65.62	66.35	.73	COAL		RECOVERED .69M, BRIGHT WITH SHINY AND DULL BANDS, HARD, CUBIC AND CDNCH FRACTURES, MINDR CALCITE ALONG CLEAT, OCCASIONAL BONE COAL LAMINAE, HIGH ASH INTERVAL 65.74-65.91M, FAIR STICK, RECOVERY 95% - SEPARATION WITH ROOF, VISUAL-FAIR, PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL - FAIR, PHYSICAL-FAIR	NDAT	NDAT 2	105
66.35	67.74	1.39	MUDSTONE		DARK GREY, MASSIVE, HARD, CARBONACEOUS, SLIGHTLY SILTY, FOSSILE PLANT DEBRIS, MINOR CALCITE, GOOD STICK	NDAT	NDAT	
67.74	68.00	.26	COAL		RECOVERED .26M, BRIGHT WITH SHINY BANDS, HARD, CUBIC FRACTURES, MINOR CALCITE ALONG CLEAT, CALCITE WISPS, GOOD STICK, RECOVERY 100% - SEPARATION WITH ROOF, VISUAL - FAIR, PHYSICAL - POOR; SEPARATION WITH FLOOR, VISUAL-FAIRPHYSIC- AL-FAIR	NDAT	NDAT 2	106
68.00	68.65	.65	MUDSTONE		MEDIUM TO DARK GREY, MASSIVE, HARD TO VERY HARD, CARBONACEOUS, COALY WISPS, GOOD	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					STICK			
68.65	69.26	.61	COAL		RECOVERED .61M, BRIGHT WITH SHINY BANDS, HARD, MINOR CALCITE, GOOD STICK, RECOVERY 100% - SEPARATION WITH ROOF, VISUAL - FAIR, PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL - FAIR, PHYSICAL-GOOD	NDAT	NDAT 2	107
69.26	70.19	.93	MUDSTONE		DARK GREY, THINLY LAMINATED TO VERY THINLY BEDDED, WITH OCCASIONAL SILTSTONE INTERBEDS, POORLY DEVELOPED, MODERATELY HARD, SLIGHTLY SILTY, CARBONACEOUS IN PLACES, MINOR CALCITE VEINLETS, VERY HARD BROWN IRON CLAYSTONE BAND (.11M THICK) GRADING TO SILTSTONE AT BASE, GOOD STICK	NDAT	NDAT	
70.19	73.85	3.66	SLST	MDST	LIGHT TO MEDIUM GREY, THINLY TO THICKLY LAMINATED, INTERBEDDED WITH MUDSTONE AND MINOR VERY FINE GRAINED SANDSTONE, DISTRUBED BEDDING, SLUMPED, FAULTED, GOOD STICK	NDAT	NDAT	
73.85	85.70	11.85	MUDSTONE	SLST	DARK GREY TO BLACK, THINLY LAMINATED TO MEDIUM, BEDDED WITH VERY FINE GRAINED SANDSTDNE AND SILTSTONE, MICACEOUS, SLIGHTLY	73.0	AVG	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					CARBONACEOUS IN PLACES, OCCASIONAL CALCITE VEINLETS, OCCASIONAL VERY HARD BROWN IRON CLAYSTONE/CARBONATE BANDS, GOOD STICK			
85.70	101.94	16.24	SLST		MEDIUM TO DARK GREY, MASSIVE WITH CLAYEY INTERVALS, OCCASIONAL CALCITE VEINLETS, COAL WISPS AND PYRITE, GOOD STICK	NDAT	NDAT	
101.94	102.90	.96	SS1		LIGHT GREY, MASSIVE, HARD, WELL CONSOLIDATED, TOP .38M CALCITE CEMENTED WITH FOSSILE SHELLS, COALY FLECKS THROUGHOUT, EXCELLENT STICK	NDAT	NDAT	
102.90	109.50	.60	MUDSTONE		DARK GREY, MASSIVE, HARD, SILTY, GOOD STICK	NDAT	NDAT	
103.50	111.10	7.60	SLST		DARK GREY, MASSIVE WITH CLAYEY INTERVALS, MODERATELY HARD TO HARD, MINOR CALCITE VEINLETS, MINOR COAL WISPS, MINOR PYRITE, GOOD STICK	NDAT	NDAT	
111.10	113.27	2.17	MUDSTONE	SLST	DARK GREY, MASSIVE, MODERATELY HARD, ABUNDANT VERY HARD BROWN IRON CLAYSTONE/CARBONATE BANDS, HIGHLY FRACTURED ZONE, SLICKENSIDED, BROKEN STICK	NDAT	NDAT	
113.27	148.40	35.13	SLST		DARK GREY, MASSIVE, HARD TO	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
148.40	-1.00	-1.00	UNKNOWN		VERY HARD, CLAYEY AND SANDY INTERVALS, OCCASIONAL VERY HARD BROWN IRON RICH CLAYSTONE/CARBONA- TE BANDS, MINOR CALCITE VEINLETS, BROKEN, GOOD STICK			
					TOTAL DEPTH	NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TW82D-244
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE NO DATA
 LDG DATE 820809
 EXAMINED BY D.HANDY

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	41.70	41.70	OVERBURDEN		CLAYEY TILL (2M CORED)	NDAT	NDAT	
41.70	41.82	.12	MUDSTONE		GREY, SOFT FLAKES MICA, WEATHERED	NDAT	NDAT	
41.82	43.60	1.78	COAL		DULL WITH BRIGHT, HIGHLY BROKEN, GROUND TO SMALL PIECES - RECOVERY 11%	NDAT	NDAT	
43.60	57.20	13.60	MUDSTONE	SILTY	DARK GREY, HIGHLY WEATHERED, SOFT, CRUMBLY, VERY POOR RECOVERY; LOG SHOWS MINOR COAL SEAM AT 99M BUT NO EVIDENCE IN CORE	70.0	45.3	
57.20	66.02	8.82	SS1	SLST	LIGHT GREY SANDSTONE/DARK GREY SILTSTONE, 75% FINE SANDSTONE WITH INTERBEDDED SILTSTONE LAYERS, APPROXIMATELY 1MM TO 1CM THICK; OCCASIONAL BROWN, ROUND IRONSTONE NODULES, IRONSTONE BANDS THROUGHOUT UNIT; MICRO FAULTS EVIDENT (REVERSE AND NORMAL DISPLACEMENTS FOR A CM OR SO) CORE BEDDING ANGLES AT 65, 68, 62; CORE BEDDING DEPTHS AT 59.70, 62.70, 65.30	NDAT	NDAT	
66.02	66.40	.38	MUDSTONE	SLST	BLACK, INTERBEDDED	70.0	66.2	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					WITH THIN (<1CM) SILTSTONE, MINOR PYRITE FORMING THIN BEDS (AAPROX 2 OR 3MM), MINOR GREEN (GLAUCONITE LAYERS)				
66.40	66.64	.24	COAL		DULL WITH BRIGHT, BROKEN - RECOVERY 100%	NDAT	NDAT		
66.64	68.26	1.62	MUDSTONE	SLST	BLACK TO CHARCOAL, MUDSTONE WITH SILTSTONE INTERBEDS, SILTIER TOWARDS BOTTOM OF UNIT, OCCASIONAL CARBONACEOUS LAYER	62.0	68.0		
68.26	69.36	1.10	COAL		DULL WITH THIN 1 TO 2MM BRIGHT (VITRAIN LAYERS) HARD, STICK TO BROKEN STICK, FAIR CLEAT, MINOR PYRITE BLEB NEAR HANGWALL; HIGHER % VITRAIN NEAR FOOTWALL - RECOVERY 100%	NDAT	NDAT 7	166	
69.36	70.60	1.24	MUDSTONE	SLIGHTLY SILTY	BLACK, POORLY BEDDED, SOFT, CRUMBLY, STICK	62.0	70.3		
70.60	71.12	.52	COAL		DULL WITH BRIGHT, BROKEN STICK TO SMALL PIECES - RECOVERY 100%	NDAT	NDAT	167	
71.12	71.54	.42	MUDSTONE		AS ABOVE	65.0	71.3		
71.54	71.98	.44	COAL		DULL WITH BRIGHT, BROKEN STICK - RECOVERY 23%	NDAT	NDAT	168	
71.98	73.28	1.30	MUDSTONE		DARK GREY, MASSIVE, CRUMBLES EASILY ALONG AND ACROSS BEDDING PLANES	75.0	72.3		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
73.28	74.40	1.12	SS1	SLST	DARK GREY TO LIGHT GREY, INTERBEDDED FINE SANDSTONE AND SILTSTONE; SOFT SEDIMENT DEFORMATION FEATURES PRESENT; MICRO FAULTS CALCITE FILLED; WAVY BEDDING; OCCASIONAL BROWN IRONSTONE NODULE	67.0	74.4	
74.40	76.60	2.20	MUDSTONE		DARK GREY, POORLY BEDDED, CRUMBLES FAIRLY EASILY	NDAT	NDAT	
76.60	78.32	1.72	COAL		DULL WITH BRIGHT, MINOR CALCITE COAL WITH CLEAT - RECOVERY 33%	NDAT	NDAT 6	169
78.32	79.75	1.43	MUDSTONE	SLST	MUDSTONE, DARK GREY, ONE 15CM LAYER INTERBEDDED MUDSTONE/SILTSTONE	50.0	80.3	
79.75	80.48	.73	COAL		BRIGHT AND DULL, BROKEN TO SMALL CHUNKS, GOOD CLEAT DEVELOPED - RECOVERY 37%	NDAT	NDAT 5	170
80.48	82.52	2.04	MUDSTONE	SLST	DARK GREY MUDSTONE/LIGHT GREY SILTSTONE INTERBEDS WAVY BEDDING, SOFT SEDIMENT DEFORMATION FEATURES PROMINENT; HEALED MICRO FAULTS, STICK CORE	70.0	81.8	
82.52	84.06	1.54	COAL		DULL WITH BRIGHT, STICK TO BROKEN STICK; MINOR SPLIT AT APPROX 83.80M BUT EXACT POSITION UNDETERMINABLE DUE TO CORE LOSS; SPLIT IS	NDAT	NDAT 4	171

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BENTONITIC (3 OR 4CM) - RECOVERY 63%			
84.06	85.28	1.22	MUDSTONE	SLST,CARB	DARK GREY TO BLACK MUDSTONE WITH SILTY SECTIONS, CARBONACEOUS MATERIAL EVIDENT; BREAKS EASILY ALONG BEDDING PLANES; OCCASIONAL CALCITE LATTICES IN THIN (APPROX 1CM) LAYERS; BOTTOM 15CM ARE COALY WITH ABUNDANT CALCITE LATTICE	83.0	85.2	
85.28	87.97	2.69	SLST	SH.COAL/C-ARB	DARK GREY TO CHARCOAL SILTSTONE, COMPETENT STICK CORE MUCH HARDER THAN OVERLYING MUDSTONE; 23CM IRONSTONE, NODULE AT TOP OF UNIT WITH CALCITE HEALED FRACTURES; OCCASIONAL THIN COALY LENSE WITH CALCITE LATTICES; 87.24-87.42 SHALEY COAL LAYER WITH CALCITE LATTICE; CARBONACEOUS PLANT DEBRIS EVIDENT THROUGHOUT SILTSTONE UNIT	77.0	86.6	
87.97	88.30	.33	COAL		VERY DULL, OCCASIONAL BRIGHT LAYER 1 OR 2MM THICK; THIN (5MM) ASH LAYER AT 88.12M; BROKEN STICK - RECOVERY 100%	NDAT	NDAT	172
88.30	88.58	.28	SHALE	CARB	BLACK CARBONACEOUS SHALE, STICK	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
88.58	90.38	1.80	SLST	CARB	DARK GREY, CARBONACEOUS SILTSTONE, THIN BEDDED, OCCASIONAL COALIFIED WOOD PART; UNIT BECOMES LESS CARBONACEOUS TOWARD BOTTOM	80.0	89.9	
90.38	91.76	1.38	SLST	SS1,SS2	DARK GREY SILTSTONE WITH LIGHT GREY SPECKLED FINE GRAINED SANDSTONE BEDS USUALLY THIN (4CM OR LESS); OCCASIONAL BRDWN IRONSTONE NODULE	85.0	91.1	
91.76	94.60	2.84	SS2		LIGHT GREY MEDIUM GRAINED SANDSTONE WITH THIN WISPY CARBONACEOUS LAYERS; ONE DARK GREY IRONSTONE/MUDSTONE BED APPROX 20CM THICK; SANDSTONE UNIT FINES UPWARDS, GOOD STICK	NDAT	NDAT	
94.60	94.83	.23	SHALE	COALY	BLACK COALY SHALE	NDAT	NDAT	
94.83	95.83	1.00	SLST	MDST	DARK GREY SILTSTONE, SOME INTERBEDDED MUDSTONE, STICK CORE, COMPETENT BUT BREAKS READILY ALONG BEDDING PLANES	NDAT	NDAT	
95.83	98.43	2.60	SS1	SLST	DARK GREY TO LIGHT GREY INTERBEDDED SANDSTONE FINE TO VERY FINE GRAINED WITH SILTSTONE, THIN BEDDED; 97.75M BROWN SIDERITE BED AND A	80.0	96.7	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					5CM ZONE OF SHELL FRAGMENTS (SMALL 1CM LONG OR LESS)			
98.43	98.55	.12	SS1	FOSSILIFE- ROUS	12CM ZONE OF SHELL FOSSILS. SMALL AS ABOVE HOSTED IN LIGHT BROWN (SIDERITE)	NDAT	NDAT	
98.55	106.02	7.47	SS1	SLST	AS ABOVE; OCCASIONAL BROWN IRONSTONE OR SIDERITE LAYER	80.0	104.5	
106.02	128.00	21.98	SLST		MEDIUM GREY SILTSTONE, POORLY BEDDED, GOOD STICK CORE, MONOTONOUS	80.0	122.0	
128.00	128.85	.85	SS1		LIGHT GREY, WELL SORTED, MASSIVE BEDDED FAIRLY SOFT, POORLY CEMENTED	82.0	128.4	
128.85	151.40	22.55	MUDSTONE	SLST	MEDIUM GREY MUDSTONE WITH OCCASIONAL SILTY LAYERS, OCCASIONAL BROWNISH IRONSTONE NOOULE; OCCASIONAL COALY WISP OR CARBONACEOUS FRAGMENT	85.0	148.4	
151.40	-1.00	-1.00	UNKNOWN		END OF HOLE	NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TW82D-245
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE NO DATA
 LDG DATE 820909
 EXAMINED BY R.KOSTIUK

TOP	BASE	THICK	LITHOLOGY	MIN LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	9.20	9.20	OVERBURDEN	GRAVEL, SAND, BLDRS	DRILLED WITH ROCK BIT - NO CORE RECOVERY, CASING SET AT 9.15M	NDAT	NDAT	
9.20	37.45	28.25	MUDSTONE	SLST	MEDIUM GREY, THINLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH SILTSTONE AND MINOR VERY FINE GRAIN SANDSTONE, UNEVEN PARALLEL TO WAVY PARALLEL, OCCASIONAL CROSS-BEDDING, OCCASIONAL IRON CLAYSTONE BANDS AND NODULES, MINOR CALCITE VEINS, MODERATELY HARD, FAIR TO GOOD STICK	70.0	AVG	
37.45	38.40	.95	SLST		DARK GREY TO GREEN, MASSIVE, FRIABLE, OCCASIONAL IRON CLAYSTONE NODULES, WEATHERED GREEN, BROKEN STICK	NDAT	NDAT	
38.40	40.14	1.74	SS1		DARK GREEN, VERY FINE GRAIN SANDSTONE, MASSIVE, MODERATELY HARD, FRIABLE IN PLACES, MINOR PYRITE, MINOR COAL WISPS, WEATHERED GREEN, FAIR STICK (TOP .34M VERY HARD, CALCAREOUS CEMENT)	NDAT	NDAT	
40.14	40.76	.62	SS1		GREEN, VERY FINE GRAIN SANDSTONE,	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					MASSIVE, VERY HARD, CALCAREOUS CEMENTED, CALCITE INFILL FRACTURE, EXCELLENT STICK				
40.76	41.67	.91	SS1		DARK GREEN TO GREY, VERY FINE GRAIN SANDSTONE, MASSIVE, MODERATELY HARD, FRIABLE IN PLACES, WEATHERED, FAIR TO GOOD STICK	NOAT	NDAT		
41.67	42.42	.75	COAL		RECOVERED .71M; MAINLY DULL WITH BRIGHT AND MINOR SHINY BANDS, CUBIC AND CONCHOIDAL FRACTURE, BRITTLE IN PLACES, MINOR CALCITE ALONG CLEAT, MINOR GREEN VERY FINE GRAIN SANDSTONE, FAIR STICK - RECOVERY 95% - SEPARATION WITH ROOF, VISUAL - EXCELLENT, PHYSICAL - GOOD; SEPARATION WITH FLOOR, VISUAL - EXCELLENT, PHYSICAL - GOOD	NDAT	NDAT 10	115	
42.42	42.69	.27	SLST		DARK GREY, MASSIVE, MODERATELY HARD, CARBONACEOUS, GOOD STICK	NDAT	NDAT		
42.69	47.58	4.89	SS1	SLST	LIGHT GREEN TO GREY, VERY FINE GRAIN SANDSTONE THINLY LAMINATED INTERBEDDED WITH SILTSTONE, WAVY PARALLEL TO WAVY DISCONTINUOUS, OCCASIONAL CROSS-BEDDING, OCCASIONAL SOFT SEDIMENTARY	70.0	AVG		

CORE		DESCRIPTION							
TDP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					DEFORMATION AND SLUMPING, MINOR BIOTURBATION, OCCASIONAL IRON CLAYSTONE BANDS, MODERATELY HARD TO HARD, BECOMING ARGILLACEOUS TOWAR- DS BASE. GOOD STICK				
47.58	49.72	2.14	MUDSTONE		DARK GREY, MASSIVE, FIRM TO MODERATELY HARD, MICACEOUS, VISIBLE PYRITE MINERAL THROUGHOUT, GOOD STICK	NDAT	NDAT		
49.72	50.73	1.01	COAL		RECOVERED .82M; BRIGHT WITH SHINY BANDS, DULLER TOWARDS BASE, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE ALONG CLEAT, MINOR VISIBLE PYRITE MINERAL, MINOR RESIN, HARD, GOOD STICK, HIGHER ASH LOWER HALF - RECOVERY 81% - PARATION WITH ROOF, VISUAL - EXCELLENT, PHYSICAL - FAIR, SEPARATION WITH FLOOR, VISUAL - GOOD, PHYSICAL - FAIR	NDAT	NDAT 9	116	
50.73	52.93	2.20	MUDSTONE		MEDIUM TO DARK GREY, MASSIVE, MODERATELY HARD, BROKEN AND SLICKENSIDED, SILTY, BROKEN STICK	NDAT	NDAT		
52.93	55.48	2.55	SS1	SLST	GREEN TO GREY, VERY FINE GRAIN, MASSIVE,	NDAT	NDAT		

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					MODERATELY HARD, FRIABLE IN PART, ARGILLACEOUS; .30M FROM TOP SANDSTONE CALCAREOUS CEMENTED, CALCITE INFILL FRACTURE (.75M THICK) NOT WELL CONSOLIDATED, OCCASIONAL PYRITE, FAIR STICK				
55.48	56.12	.64	MUDSTONE		DARK GREY, MASSIVE, MODERATELY HARD, HIGHLY FRACTURED AND SLICKENSIDED, BROKEN STICK	NDAT	NDAT		
56.12	58.63	2.51	SS1		GREEN TO DARK GREY, MASSIVE, MODERATELY HARD, FRIABLE IN PLACES, ARGILLACEOUS, OCCASIONAL CALCITE INFILL FRACTURE, FAIR CONSOLIDATED, OCCASIONAL VISIBLE PYRITE, MINOR COAL WISP, FAIR TO GOOD STICK	NDAT	NOAT		
58.63	62.67	4.04	SS1	SLST	GREEN TO LIGHT TO MEDIUM GREY, VERY FINE GRAIN SANDSTONE THINLY LAMINATED TO THINLY BEDDED INTERBEDDED WITH SILTSTONE AND CLAYSTONE, WAVY PARALLEL, OCCASIONAL CROSS-BEDDED, MODERATELY HARD TO HARD, OCCASIONAL IRON CLAYSTONE BANDS AND NODULES, CARBONACEOUS DEBRIS AND LAMINAE THROUGHOUT, BREAKS ALONG BEDDING, GOOD STICK	68.0	AVG		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
62.67	63.71	1.04	MUDSTONE	SLST	DARK GREY, THINLY LAMINATED INTERBEDDED WITH LIGH GREY SILTSTONE, WAVY PARALLEL BEDDING, MODERATELY HARD, LOWER HALF HIGHER CLAY CONTENT, GOOD STICK	76.0	NDAT	
63.71	64.70	.99	COAL	CLEAN	RECOVERED .99M; BRIGHT WITH SHINY AND MINOR DULL BANDS, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE ALONG CLEAT, MINOR PYRITE, BRITTLE, SLICKENSIDED, GOOD STICK - RECOVERY 100% - SEPARATION WITH ROOF, VISUAL - GOOD, PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL - GOOD, PHYSICAL - FAIR	NDAT	NDAT 9	117
64.70	66.55	1.85	MUDSTONE		DARK GREY, MASSIVE, MODERATELY HARD, HIGHLY FRACTURED AND SLICKENSIDED, CARBONACEOUS DEBRIS THROUGHOUT, SILTY, FAIR STICK	NDAT	NDAT	
66.55	67.74	1.19	COAL	CLEAN	RECOVERED 1.08M; BRIGHT WITH SHINY BANDS, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE ALONG CLEAT, MINOR PYRITE, BRITTLE IN PLACES, GOOD STICK - RECOVERY 91% - SEPARATION WITH ROOF, VISUAL AND PHYSICAL - FAIR, SEPARATION WITH	70.0	67.3 9	118

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					FLOOR, VISUAL - GOOD, PHYSICAL - FAIR			
67.74	69.88	2.14	MUDSTONE		RECOVERED 2.08M; DARK GREY, MASSIVE, MODERATELY HARD, MICACEDUS, CARBONACEOUS DEBRIS THROUGHOUT, PLANT FOSSIL FISSILE IN PLACE, SILTY, GOOD STICK	NDAT	NDAT	
69.88	72.16	2.28	COAL	CLEAN	RECOVERED 1.38M; BRIGHT WILL DULL AND MINOR SHINY BANDS, CUBIC AND CONCHOIDAL FRACTURE, BRITTLE IN PLACES, MINOR CALCITE ALONG CLEAT, LOWER HALF SLICKENSIDED, MINOR PYRITE, GOOD STICK - RECOVERY 61% - SEPARATION WITH ROOF, VISUAL - GOOD, PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL - GOOD, PHYSICAL - FAIR	64.0	AVG 8	119
72.16	74.90	2.74	SLST	MDST	LIGHT GREY, THINLY LAMINATED INTERBEDDED WITH DARK GREY MUDSTONE, EVEN PARALLEL BEDDING, OCCASIONAL IRON CLAYSTONE BANDS; HARD, BREAKS EASILY ALONG BEDDING PLANE, (VARVED), HIGHER CLAY CONTENT AT BASE, FAIR STICK	56.0	74.3	
74.90	76.64	1.74	MUDSTONE		MEDIUM GREY, THINLY LAMINATED, INTERBEDDED WITH MINOR SILTSTONE,	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					POORLY DEVELOPED, WAVY PARALLEL BEDDING, SLIGHTLY CARBONACEOUS, OCCASIONAL COAL WISPS, HIGHLY FRACTURED AND SLICKENSIDED, OCCASIONAL PYRITE NODULE, BROKEN STICK				
76.64	78.99	2.35	COAL	CLEAN	RECOVERED 2.35M; DULL WITH BRIGHT BANDS AND MINOR SHINY BANDS, CONCHOIDAL AND CUBIC FRACTURE, MINOR CALCITE ALONG CLEAT, BLOCKY IN PLACES, BRITTLE IN PLACES, TRACES OF PYRITE, GOOD STICK - RECOVERY 100% - SEPARATION WITHROOF, VISUAL - FAIR, PHYSICAL - GOOD; SEPARATION WITH FLOOR, VISUAL - FAIR, PHYSICAL - FAIR TO POOR	74.0	NOAT 8	120	
78.99	86.60	7.61	MUDSTONE	SLST	LIGHT TO DARK GREY, THINLY LAMINATED INTERBEDDED WITH SILTSTONE AND MINOR VERY FINE GRAIN SANDSTONE, OCCASIONAL IRON CLAYSTONE LAMINAE, UNEVEN TO WAVY PARALLEL BEDDING, MODERATELY HARD, (VARVED SEQUENCE), GOOD STICK, UPPER HALF MORE SILTY	78.0	AVG		
86.60	87.44	.84	SS1		GREEN TO GREY, VERY FINE GRAIN SANDSTONE, THICKLY LAMINATED TO THINLY BEDDED	NOAT	NOAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					INTERBEDDED WITH SILTSTONE AND MINOR MUDSTONE, EVEN PARALLEL, MODERATELY HARD TO HARD, ABUNDANT VERY HARD BROWN IRON CLAYSTONE BANDS, GOOD STICK			
87.44	89.60	2.16	SS2		GREY TO BROWN, MEDIUM GRAIN SANDSTONE THINLY BEDDED INTERBEDDED WITH MUDSTONE AND IRONSTONE BAND, VERY HARD, WELL CDNSOLIDATED, .30M FROM TOP; .30M THICK MUDSTONE/IRON CLAYSTONE; GOOD STICK - RECOVERY 1.78 / 82%	NDAT	NDAT	
89.60	90.78	1.18	SS1		BEIGE TO GREY, VERY FINE TO FINE GRAIN SANDSTONE, MASSIVE, VERY HARD, CALCAREOUS CEMENTED, CALCITE VEINS, UPPER HALF ARGILLACEOUS, EXCELLENT STICK	NDAT	NDAT	
90.78	93.98	3.20	SS1	SLST	LIGHT TO MEDIUM GREY TO GREEN, THICKLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH SILTSTONE AND MUDSTONE, WAVY PARALLEL, OCCASIONAL CROSS-BEDDED, OCCASIONAL VERY HARD BROWN CLAYSTONE BANDS, COALY PLANT FOSSIL DEBRIS, BREAKS EASILY ALONG BEDDING PLANE, FAIR STICK	76.0	AVG	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLDGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
93.98	94.15	.17	COAL	HIGH ASH	RECOVERED .17M; DULL, HARD, MINOR CALCITE, HIGH ASH COAL - NOT SAMPLED	NDAT	NDAT	
94.15	94.40	.25	MUDSTONE		GREY, MASSIVE, HARD, COALY DEBRIS THROUGHOUT, GOOD STICK	NDAT	NDAT	
94.40	95.15	.75	SLST	SS1	GREY, THICKLY LAMINATED, INTERBEDDED WITH VERY FINE GRAIN GREEN SANDSTONE, EVEN PARALLEL BEDDING, HARD, BREAKS ALONG BEDDING, GOOD STICK	55.0	94.9	
95.15	100.75	5.60	SLST	SS1	LIGHT TO DARK GREY, THICKLY LAMINATED TO VERY THINLY BEDDED, WAVY DISCONTINUOUS, CONVOLUTED IN PLACES, SLIGHTLY CARBONACEOUS, SILTSTONE INTERBEDDED WITH VERY FINE GRAIN SANDSTONE, HIGHLY FRACTURED AND SLICKENSIDED, BEDDING < RANGES FROM 0-10 DEGREE, FAIR STICK	5.0	AVG	
100.75	100.91	.16	COAL	HIGH ASH	RECOVERED .16M; DULL, ABUNDANT CALCITE INFILL FRACTURE, SLICKENSIDED, HIGH ASH - NOT SAMPLED	NDAT	NDAT	
100.91	102.32	1.41	SLST	SS1	AS SILTSTONE/FINE SANDSTONE UNIT ABOVE, BEDDING OVER THIS INTERVAL RANGES FROM 0-10 DEGREES FOLDED	NOAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					UNIT AXIS AT 102.85M, POSSIBLE FAULT AT 102.90			
102.32	106.20	3.88	MUDSTONE		DARK GREY TO BLACK, THICKLY LAMINATED TO MEDIUM BEDDED, INTERBEDDED WITH SILTSTONE, EVEN PARALLEL, OCCASIONAL CROSS-BEDDING, OCCASIONAL IRON RICH CLAYSTONE BANDS, MODERATELY HARD, MICACEOUS, OCCASIONAL SLICKENSIDED, MIRRORPOLISHED, GOOD STICK	80.0	AVG	
106.20	107.28	1.08	SS2		LIGHT GREY TO BROWN, FINE TO MEDIUM GRAIN SANDSTONE, THICKLY BEDDED, VERY HARD, WELL CONSOLIDATED, OCCASIONAL IRON CLAYSTONE NODULES, COALY FLECKS THROUGHOUT, IRONSTONE, EXCELLENT STICK	NDAT	NDAT	
107.28	108.22	.94	SS1		LIGHT GREY, FINE GRAIN SANDSTONE, VERY THINLY BEDDED INTERBEDDED WITH IRON RICH CLAYSTONE AND SILTSTONE, HARD, FAIR STICK	85.0	108.1	
108.22	111.37	3.15	SS1	MDST	MUDSTONE VERY FINE GRAIN; LIGHT TO DARK GREY, VERY FINE GRAIN SANDSTONE, THICKLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH MUDSTONE, WAVY PARALLEL,	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNJM	
					OCCASIONAL CROSS-BEDDED, OCCASIONAL BIOTURBATED, OCCASIONAL VERY HARD BROWN IRON RICH CLAYSTONE BANDS, MINOR CALCITE VEINLETS, GOOD STICK				
111.37	112.04	.67	SS1		LIGHT GREY TO GREEN, FINE GRAIN SANDSTONE, VERY THINLY BEDDED INTERBEDDED WITH MUDSTONE AND IRDN RICH CLAYSTONE, OCCASIONAL CROSS-BEDDED AND SLUMPED, HARD, GOOD STICK	80.0	111.8		
112.04	113.22	1.18	SS1	SLST/MDST	MEDIUM TO DARK GREY, VERY FINE GRAIN SANDSTONE, VERY THINLY BEDDED INTERBEDDED WITH MUDSTONE AND SILTSTONE, WAVY PARALLEL BEDDING, OCCASIONAL CROSS-BEDDED, OCCASIONAL BIOTURBATED, OCCASIONAL IRON CLAYSTONE BANDS AND NODULES, HARD, GOOD STICK	NDAT	NDAT		
113.22	113.40	.18	COAL		RECOVERED .14M; DULL WITH BRIGHT BANDS, ABUNDANT PYRITE, MINOR CALCITE, HIGH ASH, - NOT SAMPLED	NDAT	NDAT		
113.40	113.75	.35	MUDSTONE	SL, CARBON- ACEOUS	DARK GREY, MASSIVE, MODERATELY HARD, SILTY, ABUNDANT PLANT FOSSILS, VISIBLE PYRITE THROUGHOUT, GOOD	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					STICK			
113.75	114.23	.48	SS1	SLST	LIGHT GREY, VERY FINE GRAIN SANDSTONE, THICKLY LAMINATED INTERBEDDED WITH SILTSTONE, EVEN PARALLEL BEDDING. HARD. IRONSTONE, GOOD STICK	80.0	114.0	
114.23	115.74	1.51	SS1		LIGHT GREY TO GREEN, FINE GRAIN SANDSTONE, THICKLY LAMINATED TO VERY THINLY BEDDED INTERBEDDED WITH MUDSTONE AND IRON CLAYSTONE, UNEVEN WAVY PARALLEL, OCCASIONAL CROSS-BEDDED, MINOR BIOTURBATION, HARD, GOOD STICK	NDAT	NDAT	
115.74	118.55	2.81	MUDSTONE	SLST	DARK GREY, THINLY LAMINATED INTERBEDDED WITH LIGHT GREY SILTSTONE, WAVY PARALLEL/DISCONTINUOUS BEDDING, OCCASIONAL BIOTURBATED, MICACEDUS, MINOR PYRITE, MODERATELY HARD, GOOD STICK (.19M THICK BROWN VERY HARD IRON RICH CLAYSTONE BAND AT 117.43M), .20M FROM BASE VERY CARBONACEOUS	NOAT	NOAT	
118.55	119.76	1.21	COAL		RECOVERED .88M; MAINLY BRIGHT WITH DULL AND SHINY BANDS, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE ALONG CLEAT, BRITTLE,	78.0	119.8 7	121

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					BLOCKY IN PLACES, MINOR PYRITE, GOOD STICK - RECOVERY 73% - SEPARATION WITH ROOF, VISUAL - PDDR, PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - FAIR				
119.76	120.09	.33	MUDSTONE		DARK GREY, MASSIVE, MODERATELY HARD, CARBONACEOUS, COALY PLANT DEBRIS, SILTY, GOOD STICK	NDAT	NDAT		
120.09	124.26	4.17	SLST	MDST	MEDIUM TO DARK GREY, THICKLY LAMINATED TO VERY THINLY BEDDED INTERBEDDED WITH MUDSTONE, EVEN TO WAVY PARALLEL, OCCASIONAL CROSS-BEDDING, MODERATELY HARD, BREAKS EASILY ALONG BEDDING PLANE, GOOD STICK	82.0	AVG		
124.26	125.51	1.25	SS1		GREY TO GREEN, FINE GRAIN SANDSTONE, VERY THINLY BEDDED INTERBEDDED WITH DARK GREY MUDSTONE LAMINAE, CROSS-BEDDED, OCCASIONAL BIOTURBATED, MINOR IRON CLAYSTONE, UPPER HALF MORE ARGILLACEOUS HARD, GOOD STICK	NDAT	NDAT		
125.51	125.78	.27	COAL		RECOVERED .27M; DULL AND BRIGHT BAND WITH MINOR SHINY BANDS, CUBIC AND CONCHOIDAL FRACTURE, MINOR	80.0	125.5 6	122	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					PYRITE, BLOCKY, GOOD STICK - RECOVERY 100% - SEPARATION WITH ROOF, VISUAL AND PHYSICAL - GOOD; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - FAIR			
125.78	126.11	.33	MUDSTONE		DARK GREY, MASSIVE, MODERATELY HARD, CARBONACEOUS, COALY PLANT DEBRIS, TRACES OF PYRITE, FRACTURED AND SLICKENSIDED, FAIR STICK	NDAT	NDAT	
126.11	128.32	2.21	COAL	CLEAN	RECOVERED 2.02M; DULL AND BRIGHT BANDED WITH MINOR SHINY BANDS, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE ALONG CLEATS, TRACES OF PYRITE, GOOD TO EXCELLENT STICK - RECOVERY 91% - SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL - FAIR; THIN BAND OF VOLCANIC ASH AT 137.16M (.06M THICK)	78.0	AVG 6	123
128.32	130.57	2.25	MUDSTONE		THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH SILTSTONE, EVEN PARALLEL TO WAVY, OCCASIONAL MICRO FAULTED, MODERATELY HARD, CARBONACEOUS, AT 129.70M A 20CM THICK IRON RICH VERY HARD BROWN MUDSTONE, GOOD STICK	68.0	129.7	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
130.57	130.66	.09	COAL	CLEAN	MAINLY DULL, - NOT SAMPLED	NDAT	NDAT	
130.66	131.56	.90	MUDSTONE		MASSIVE, MODERATELY HARD, SLIGHTLY CARBONACEOUS, PLANT FOSSILS, OCCASIONAL SILTY LAMINAE, FRACTURED AND SLICKENSIDED, GOOD STICK	NDAT	NDAT	
131.56	133.00	1.44	SS1		LIGHT GREY TO DARK GREY TO BROWN, VERY FINE GRAIN, THINLY LAMINATED, INTERBEDDED WITH SILTSTONE AND MUDSTONE, WAVY PARALLEL, OCCASIONAL CROSS-BEDDED, MINOR SOFT SEDIMENTARY DEFORMATION, BREAKS EASILY ALONG BEDDING; MIDDLE SECTION CALCAREOUS CEMENTED, VERY HARD, MINOR IRON STAIN, GOOD TO EXCELLENT STICK	74.0	133.2	
133.00	135.20	2.20	MUDSTONE		THINLY TO THICKLY LAMINATED, INTERBEDDED WITH SILTSTONE AND MINOR VERY FINE GRAIN SANDSTONE, WAVY-PARALLEL, OCCASIONAL CROSS-BEDDED, SLIGHTLY CARBONACEOUS, OCCASIONAL IRON CLAYSTONE, LOWER HALF FRACTURED AND SLICKENSIDED, GOOD STICK	68.0	133.7	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
135.20	138.40	3.20	SS1		LIGHT TO DARK GREY, VERY FINE GRAIN, VERY THINLY BEDDED, INTERBEDDED WITH SILTSTONE AND MUDSTONE, CONVOLUTE BEDDING, MICRO FAULTED, FRACTURED AND SLICKENSIDED; OCCASIONAL IRON RICH CLAYSTONE WITH CALCITE FILLED FRACTURES, BEDDING ANGLE RANGES FROM 20-60 DEGREES IN THIS INTERVAL	NDAT	NDAT		
138.40	149.60	11.20	SS1		LIGHT TO MEDIUM GREY, FINE GRAIN, VERY THINLY BEDDED, INTERBEDDED WITH SILTSTONE AND MUDSTONE, WAVY UNEVEN PARALLEL, HARD, ARGILLECOUS IN PLACES, OCCASIONAL IRON CLAYSTONE BANDS AND NODULES; FOSSIL SHELL FRAGMENTS AT 141.60M (.08M THICK), FAIR TO GOOD STICK	NDAT	NDAT		
149.60	149.95	.35	COAL		MAINLY DULL, MINOR SHINY BANDS, TRACE CALCITE, TRACE PYRITE, FAIR STICK, RECOVERED .23M; - RECOVERY 63% - SEPARATION WITH ROOF - FAIR; SEPARATION WITH FLOOR - POOR	NDAT	NDAT		124
149.95	150.09	.14	MUDSTONE	CARBONACEOUS	DARK GREY, MASSIVE MODERATELY HARD, COALY DEBRIS	NDAT	NDAT		

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					THROUGHOUT, BROKEN				
150.09	150.20	.11	COAL	HIGH ASH	DULL, SHALEY	NDAT	NDAT		
150.20	151.02	.82	MUDSTONE	SLST	DARK GREY, MASSIVE, MODERATELY HARD, CARBONACEOUS, COALY DEBRIS THROUGHOUT, HIGHLY FRACTURED AND SLICKENSIDED, OCCASIONAL THIN SILTSTONE LAMINAE, BROKEN	NDAT	NDAT		
151.02	151.31	.29	SLST		LIGHT GREY, THINLY LAMINATED, WAVY-PARALLEL, MODERATELY HARD, BRDKEN	NDAT	NDAT		
151.31	152.55	1.24	COAL		RECOVERED 1.05M; MAINLY DULL WITH BRIGHT BANDS. CUBIC AND CONCHOIDAL FRACTURING, MINOR CALCITE ALONG CLEATS, MINOR PYRITE, CALCITE FILLED FRACTURES, OCCASIONALLY SLICKENSIDED, GOOD STICK - RECOVERY 85% - SEPARATION WITH ROOF, VISUAL AND PHYSICAL - GOOD; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - FAIR	NDAT	NDAT 3	125	
152.55	153.39	.84	MUDSTONE	CARBONACE- OUS	DARK GREY, MASSIVE, MOODERATELY HARD, COALY PLANT DEBRIS THROUGHOUT, HIGHLY SLICKENSIDED, BROKEN TO FAIR STICK	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
153.39	154.29	.90	COAL		RECOVERED .90M; DULL AND BRIGHT BANDED WITH MINOR SHINY BANDS, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE AND PYRITE ALONG CLEATS, BLOCKY IN PLACES, BRITTLE IN PLACES, .18M THICK MUDSTONE INTERVAL AT 153.70M, THIN PYRITE/CLAYSTONE BAND, GOOD STICK - RECOVERY 100% - SEPARATION WITH ROOF, VISUAL - FAIR, PHYSICAL - GOOD; SEPARATION WITH FLOOR, VISUAL - FAIR, PHYSICAL - GOOD	NDAT	NDAT	126
154.29	155.24	.95	MUDSTONE		MEDIUM GREY, MASSIVE, MODERATELY HARD, SLIGHTLY CARBONACEOUS, COALY PLANT DEBRIS, BECOMING SILTY TOWARDS BASE, SLICKENSIDED, FAIR STICK	NDAT	NDAT	
155.24	156.76	1.52	SSI		LIGHT TO MEDIUM GREY, VERY FINE GRAIN, VERY THINLY BEDDED INTERBEDDED WITH SILTSTONE AND MINOR MUDSTONE, WAVY LAMINAE, OCCASIONAL CROSS-BEDDED (FROM 155.56M-156.18M BROWN, VERY HARD, CALCAREOUS CEMENTED, IRON STAIN, CALCITE INFILL FRACTURE), OCCASIONAL SLICKENSIDED, GOOD	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					STICK			
156.76	157.55	.79	MUDSTONE		DARK GREY, MASSIVE, MODERATELY HARD, SLIGHTLY CARBONACEOUS, OCCASIONAL COAL WISPS, HIGHLY FRACTURED AND SLICKENSIDED, BROKEN STICK	NDAT	NDAT	
157.55	158.03	.48	COAL		RECOVERED .48M; MAINLY DULL WITH BRIGHT BANDS, MINOR CALCITE ALONG CLEAT, MINOR PYRITE, SLICKENSIDED, BROKEN - RECOVERY 100% - SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL - FAIR	64.0	157.9 2	127
158.03	158.36	.33	MUDSTONE	SLST	DARK GREY, VERY THINLY BEDDED INTERBEDDED WITH LIGHT GREY SILTSTONE LAMINAE, FRIABLE, FISSILE, HIGHLY BROKEN AND SLICKENSIDED, BROKEN STICK	NDAT	NDAT	
158.36	162.74	4.38	COAL		RECOVERED 3.62M; DULL AND BRIGHT BANDED WITH MINOR SHINY BANDS, HIGHLY FRACTURED AND SLICKENSIDED, POWDERY, BLOCKY, BRITTLE, VOLCANIC ASH AT 161.40M (.20M THICK) MINOR PYRITE, BROKEN STICK - RECOVERY 83% - SEPARATION WITH ROOF, VISUAL AND PHYSICAL - ?; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - FAIR	NDAT	NDAT 2	128

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
162.74	163.41	.67	MUDSTONE		MEDIUM TO DARK GREY, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH LIGHT GREY SILTSTONE, MODERATELY HARD, SLIGHTLY CARBONACEOUS, MINOR COAL WISPS, MINOR PYRITE, SLICKENSIDED, GOOD STICK, TOP .14M VERY HARD. IRON STONE	NDAT	NDAT		
163.41	163.99	.58	COAL		RECOVERED .52M; MAINLY DULL WITH BRIGHT AND MINOR SHINY BANDS, MINOR CALCITE ALONG CLEAT, CONCHOIDAL AND CUBIC FRACTURE, BLOCKY, BRITTLE (HIGH ASH ZONE 163.58-163.65M) GOOD STICK - RECOVERY 90% - SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL - FAIR	NDAT	NDAT 2	129	
163.99	165.32	1.33	MUDSTONE		DARK GREY, MASSIVE, MODERATELY HARD TO VERY HARD, SLIGHTLY CARBONACEOUS, COALY PLANT DEBRIS THROUGHOUT; VERY HARD CALCAREOUS CEMENT ZONE 164.65-164.99M, CALCITE INFILL FRACTURE, GOOD STICK	NDAT	NDAT		
165.32	165.72	.40	COAL	HIGH ASH	RECOVERED .40M; DULL WITH MINOR BRIGHT BANDS, VERY	NDAT	NDAT 2	130	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					HARD, MINOR CALCITE, SILTY, HIGH ASH UNIT, GOOD STICK - RECOVERY 100% - SEPARATION WITH ROOF, VISUAL - POOR, PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - FAIR				
165.72	166.40	.68	MUDSTONE		DARK GREY, MASSIVE, MODERATELY HARD, SLIGHTLY CARBONACEOUS, COALY PLANT DEBRIS THROUGHOUT, SLICKENSIDED, GOOD STICK	NDAT	NDAT		
166.40	166.90	.50	COAL	CLEAN	RECOVERED .50M; MAINLY DULL WITH BRIGHT BANDS, CONCHOIDAL AND CUBIC FRACTURE, MINOR CALCITE ALONG CLEAT, BLOCKY, BRITTLE IN PLACES, GOOD STICK - RECOVERY 100% - SEPARATION WITH ROOF, VISUAL AND PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL - POOR, PHYSICAL - FAIR	NDAT	NDAT 2	131	
166.90	167.60	.70	MUDSTONE	SLST	MEDIUM GREY, THICK LAMINATED TO VERY THINLY BEDDED INTERBEDDED WITH SILTSTONE, MODERATELY HARD, UPPER HALF CARBONACEOUS BECOMING SILTY TOWARDS BASE, GOOD STICK	NDAT	NDAT		
167.60	169.62	2.02	SLST	MDST	MEDIUM TD DARK	78.0	AVG		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					GREY, THINLY LAMINATED TO VERY THINLY BEDDED INTERBEDDED WITH MUDSTONE AND MINOR VERY FINE GRAIN SANDSTONE, WAVY PARALLEL TO CONVOLUTED BEDDING, OCCASIONAL CROSS-BEDDED, OCCASIONAL SLUMPING, MINOR SOFT SEDIMENTARY DEFORMATION, OCCASIONAL VERY HARD IRON CLAYSTONE BANDS AND NODULES, OCCASIONAL CALCAREOUS CEMENTED LAYERS, GOOD STICK			
169.62	169.88	.26	SLST		LIGHT GREY TO BEIGE, MASSIVE, VERY HARD. CALCAREOUS CEMENTED, EXCELLENT STICK	NDAT	NDAT	
169.88	177.80	7.92	MUDSTONE	SLST	MEDIUM TO DARK GREY, MASSIVE, MODERATELY HARD, UPPER HALF HAS OCCASIONAL LIGHT SILTSTONE LAMINAE, OCCASIONAL VERY HARD BROWN IRON RICH CLAYSTONE BANDS AND NODULES, OCCASIONAL FRACTURE AND SLICKENSIDED, GOOD STICK	NDAT	NDAT	
177.80	218.50	40.70	SLST	MDST	MEDIUM GREY, MASSIVE, MODERATELY HARD, FRIABLE IN PLACES, OCCASIONAL HIGH FRACTURE ZONES, OCCASIONAL VERY	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					HARD IRDN CLAY BANDS, OCCASIONAL CALCAREOUS CEMENTED, MINOR PYRITE MINERAL, OCCASIONAL ARGILLACEOUS INTERVALS, GOOD STICK				
218.50	220.54	2.04	SS1		GREEN TO GREY, VERY FINE TO FINE GRAIN SANDSTONE, VERY THINLY BEDDED, INTERBEDDED WITH WAVY MUDSTONE LAMINAE, UPPER UNIT BIOTURBATED, ABUNDANT PLANT FOSSIL, HARD, GOOD STICK	NDAT	NDAT		
220.54	222.30	1.76	SLST	SS1	MEDIUM GREY, VERY THINLY BEDDED, INTERBEDDED WITH VERY FINE GRAINED SANDSTONE AND MUDSTONE, POORLY DEVELOPED, MODERATELY HARD, OCCASIONALLY SLICKENSIDED, BIOTURBATED IN PLACES, GOOD STICK	NDAT	NDAT		
222.30	225.57	3.27	SS1		GREY TO GREEN, FINE GRAIN, MASSIVE, HARD, OCCASIONAL WAVY DARK GREY SILTSTONE LAMINAE, OCCASIONAL CALCAREOUS CEMENTED INTERVALS (VERY HARD), OCCASIONAL BROWN VERY HARD IRON CLAY BANDS AND NODULES, COALY PLANT DEBRIS THROUGHOUT, GOOD TO EXCELLENT STICK	NDAT	NDAT		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
225.57	227.70	2.13	SLST		MEDIUM TO DARK GREY, MASSIVE, MODERATELY HARD, SANDY IN PLACES, MINOR COAL WISPS, OCCASIONAL IRON CLAY MODULES, FAIR STICK	NDAT	NDAT	
227.70	-1.00	-1.00	UNKNOWN		TOTAL DEPTH	NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TW82D-246
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820810
 LDG DATE 820928
 EXAMINED BY D.HANDY/P.LOCKWOOD

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	70.12	70.12	OVERBURDEN			NDAT	NDAT	
70.12	75.14	5.02	SS1	SLST	LIGHT GREY FINE GRAINED SANDSTONE WITH THIN INTERBEDDED SILTSTONE, OCCASIONAL IRONSTONE NODULES, HIGHLY WEATHERED, BROKEN	NDAT	NDAT	
75.14	75.24	.10	SHALE	COALY	BLACK, HARD	NDAT	NDAT	
75.24	78.46	3.22	MUDSTONE	SLST	MEDIUM GREY, MAINLY MASSIVE BEDDING, SOME MEDIUM BEDDING, SOFT, CRUMBLY, MINOR IRONSTONE	NDAT	NDAT	
78.46	79.24	.78	SLST	SS1	MEDIUM GREY/PALE GREEN, THIN BEDDED, WEATHERED, GREEN COLOUR COULD BE CHLORITE ALTERATION	NDAT	NDAT	
79.24	82.22	2.98	COAL		CLEAN, HARD, DULL WITH BRIGHT BANDS, MINOR CALCITE ALONG CLEAT, MINOR WISPY PYRITE AT FOOTWALL (RECOVERY 2.40/2.98 = 81%)	NDAT	NDAT 6	357
82.22	85.27	3.05	SLST	MOST	LIGHT GREY, THIN BEDDED WITH MUOSTONE, WEATHERED NEAR TOP OF UNIT, MICRO-FAULTING	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					EVIDENT, CALCITE ON JOINT SURFACES, BROKEN STICK				
85.27	85.42	.15	SHALE	COALY	BLACK, BROKEN FRAGMENTS	NDAT	NDAT		
85.42	87.76	2.34	SLST		AS ABOVE, WITH OCCASIONAL BROWN IRONSTONE NODULES	NDAT	NDAT		
87.76	88.63	.87	MUDSTONE		MEDIUM GREY, MASSIVE, POLISHED JOINT SURFACES, BROKEN STICK, PYRITE LAYER AT BOTTOM OF UNIT	NDAT	NDAT		
88.63	91.67	3.04	COAL		DULL WITH BRIGHT, BROKEN STICK TO FRAGMENTS 88.63 (TOTAL SEAM RECOVERY .80/3.04 = 26%)	NDAT	NDAT 5		358
91.67	94.68	3.01	MUDSTONE	SLST	AS ABOVE, WITH OCCASIONAL BROWN IRONSTONE NODULES, CALCITE VEINLETS	NDAT	NDAT		
94.68	96.09	1.41	COAL		DULL WITH BRIGHT, SOME DULL AND BRIGHT, STICK TO BROKEN STICK (TOTAL SEAM RECOVERY .68/2.07 = 33%)	NDAT	NDAT 4		359
96.09	96.21	.12	IRONSTONE	CALCITE		NDAT	NDAT		
96.21	96.75	.54	COAL		MINOR YELLOW SULPHUR STAINING NEAR SPLIT, FROM SPLIT TO FOOTWALL, BROKEN COAL FRAGMENTS, SLIGHTLY SHALY COAL, OCCASIONAL PYRITE NODULE OR BLEB	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
96.75	101.68	4.93	SLST	CARBONACE- OUS	DARK GREY, MASSIVE TO MINOR MEDIUM BEDDING. OCCASIONAL BROWN IRONSTONE NODULES, OCCASIONAL COALY LAYERS, CALCITE VEINLETS, MICRO FAULTS, GOOD STICK	NDAT	NDAT	
101.68	102.10	.42	COAL		DULL WITH BRIGHT, BROKEN STICK, MINOR PYRITE BLEBS (RECOVERY .42/.42 = 100%)	NDAT	NDAT	360
102.10	105.20	3.10	MUDSTONE	CARBONACE- OUS	DARK GREY TO BLACK, MASSIVE, ABUNDANT COALY LAYERS WITH CALCITE VEINLETS, OCCASIONAL POLISHED SURFACES, GOOD STICK	NDAT	NDAT	
105.20	105.91	.71	COAL		DULL WITH BRIGHT, GOOD STICK, ABUNDANT CALCITE VEINLETS, MINOR POLISHED SURFACES (RECOVERY .36/.51 = 71%)	NDAT	NDAT	361
105.91	106.53	.62	MUDSTONE	CARBONACE- OUS	DARK GREY, MASSIVE, MINOR LAMINATED BEDDING, OCCASIONAL CARBONACEOUS PLANT FRAGMENTS, GOOD STICK	NDAT	NDAT	
106.53	107.12	.59	MUDSTONE	SLST	DARK GREY WITH LIGHT GREY SILTSTONE, THINLY BEDDED, A 6CM IRONSTONE NODULE, OCCASIONAL CALCITE VEINLETS, MICRO FAULTING, GOOD STICK	NDAT	NDAT	
107.12	107.34	.22	MUDSTONE	CARBONACE- OUS	DARK GREY TO BLACK, MASSIVE,	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					MINOR CALCITE, POLISHED FRACTURE SURFACES, BROKEN STICK				
107.34	107.48	.14	IRONSTONE	CALCITE	BROWN, MASSIVE, HARD, ABUNDANT CALCITE, GOOD STICK	NDAT	NDAT		
107.48	112.30	4.82	SLST	MDST	LIGHT GREY WITH DARK GREY THINLY BEDDED MUDSTONE, MINOR IRONSTONE NODULES, MINOR CALCITE VEINLETS	NDAT	NDAT		
112.30	118.08	5.78	MUDSTONE	SLST	MEDIUM TO LIGHT GREY, THINLY INTERBEDDED SILTSTONE, OCCASIONAL BROWN IRONSTONE NODULES, OCCASIONAL CALCITE VEINLETS, MICRO FAULTING, GOOD STICK	NDAT	NDAT		
118.08	124.56	6.48	MUDSTONE		MEDIUM TO DARK GREY, MASSIVE, OCCASIONAL BROWN IRONSTONE NODULES, MINOR CALCITE VEINLETS, GOOD STICK	NDAT	NDAT		
124.56	125.50	.94	MUDSTONE		MEDIUM GREY, LAMINAR BEDDING, BROWN IRONSTONE NODULE 14CM LONG AT 124.94M, SOME WEATHERING, FAIR STICK	NDAT	NDAT		
125.50	129.64	4.14	SLST		MEDIUM TO LIGHT GREY, MASSIVE, OCCASIONAL BROWN IRONSTONE NODULES, OCCASIONAL CARBONACEOUS WISPS, MINOR PYRITE BLEBS, HIGHLY WEATHERED, POOR STICK	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
129.64	135.41	5.77	SS1	SLST	LIGHT TO MEDIUM GREY, MASSIVE, VERY FINE GRAINED SANDSTONE, OCCASIONAL CARBONACEOUS PLANT FRAGMENTS ON FRACTURES, MINOR CARBONACEOUS WISPS, MINOR PYRITE BLEBS, ONE BROWN IRONSTONE NODULE 2CM IN DIAMETER, GOOD STICK	NDAT	NDAT	
135.41	142.51	7.10	SLST		MEDIUM GREY, MASSIVE, MINOR CARBONACEOUS WISPS, MINOR CALCITE VEINLETS, MINOR CARBONACEOUS PLANT FRAGMENTS, WEATHERED, FAIR STICK	NDAT	NDAT	
142.51	142.80	.29	IRONSTONE		LIGHT GREY, MASSIVE, ABUNDANT CALCITE, OCCASIONAL CARBONACEOUS WISPS, OCCASIONAL PYRITE BLEBS, GOOD STICK	NDAT	NDAT	
142.80	143.53	.73	SS1		LIGHT GREY, MASSIVE, POORLY SORTED, OCCASIONAL CARBONACEOUS FLECKS, GOOD STICK	NDAT	NDAT	
143.53	153.73	10.20	SLST		LIGHT TO MEDIUM GREY, MASSIVE, OCCASIONAL BROWN IRONSTONE NODULES, OCCASIONAL CALCITE VEINLETS, MINOR PYRITE WISPS, ONE BAND OF SHINY CARBONACEOUS MATERIAL, WEATHERED, BROKEN STICK	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
153.73	163.67	9.94	MUDSTONE	SLST	MEDIUM TO LIGHT GREY, THINLY INTERBEDDED WITH SILTSTONE, OCCASIONAL BROWN IRONSTONE NODULES, OCCASIONAL CALCITE VEINLETS, MINOR CALCITE FILLED FRACTURES, HIGHLY WEATHERED, STICK BROKEN TO FRAGMENTS	NDAT	NDAT	
163.67	-1.00	-1.00	UNKNOWN		END OF HOLE	NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TWB2D-247
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820812
 LOG DATE 820916
 EXAMINED BY R.KOSTIUK

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	9.10	9.10	OVERBURDEN	SS/GRAVEL- /BOULDERS	DRILLED WITH ROCK BIT, NO CORE RECOVERY, CASING SET AT 19.2M	NDAT	NDAT	
9.10	10.20	1.10	LOST CORE		SUSPECT MUDSTONE/SILTSTONE	NDAT	NDAT	
10.20	10.90	.70	MUDSTONE		DARK BROWN, MASSIVE, MODERATELY HARD, CARBONACEOUS, HIGHLY FRACTURED, MINOR CALCITE VEINLETS, BROKEN STICK	NDAT	NDAT	
10.90	13.20	2.30	LOST CORE		SUSPECT MUDSTONE/SILTSTONE AS ABOVE	NDAT	NDAT	
13.20	13.70	.50	MUDSTONE	FAULT GOUGE	BROWN TO GREY, BRECCIATED, SLICKENSIDED, CRUMBLY, BROKEN STICK	NDAT	NDAT	
13.70	19.20	5.50	LOST CORE		SUSPECT MUDSTONE/SILTSTONE	NDAT	NDAT	
19.20	21.97	2.77	SLST		MEDIUM GREY, MASSIVE, FRIABLE, HIGHLY FRACTURED, POORLY CONSOLIDATED, BROKEN STICK	NDAT	NDAT	
21.97	26.70	4.73	MUDSTONE		DARK GREY, MASSIVE, SLIGHTLY CARBONACEOUS, FISSILE, SILTY WITH SILTSTONE INTERVALS, HIGHLY FRACTURED, TRACE	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					PYRITE NODULES, BROKEN TO FAIR STICK			
26.70	27.91	1.21	SS1	ARGILLACE- OUS	MEDIUM GREY TO BROWN, VERY FINE TO FINE GRAINED SANDSTONE, MASSIVE, MODERATELY HARD TO FRIABLE, ARGILLACEOUS, SLIGHTLY CARBONACEOUS, MINOR COAL WISPS, MINOR CALCITE VEINLETS, TRACE PYRITE, FAIR CONSOLIDATED, BECOMING FINER TOWARDS BASE, FAIR STICK	NDAT	NDAT	
27.91	28.46	.55	SLST		MEDIUM GREY, MASSIVE, HARD, BROKEN	NDAT	NDAT	
28.46	34.15	5.69	MUDSTONE		DARK BROWN, MASSIVE, FISSILE, CARBONACEOUS IN PLACES, SILTY IN PLACES, FRACTURED AND OCCASIONALLY SLICKENSIDED, MINOR CALCITE VEINS, GOOD STICK	NDAT	NDAT	
34.15	35.78	1.63	SS1	FAULT ZONE	GREEN TO GREY, FINE GRAINED, THINLY LAMINATED TO THINLY BEDED, INTERBEDDED WITH DARK GREY SILTSTONE AND MUDSTONE, WAVY PARALLEL BEDDING, OCCASIONALLY CROSS-BEDDED, OCCASIONAL BROWN HARD IRON RICH CLAYSTONE, THIS SEQUENCE IS FAULTED AND BRECCIATED	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					(HEALED), FAIR TO GOOD STICK			
35.78	40.94	5.16	SS1	SLST/MDST	LIGHT GREY, VERY FINE TO FINE GRAINED SANDSTONE, THICKLY LAMINATED TO THINLY BEDDED, WAVY PARALLEL BEDDING, OCCASIONALLY CROSS-BEDDED, HARD, OCCASIONAL BROWN VERY HARD IRON CLAYSTONE, IRON STAIN, OCCASIONAL CALCITE CEMENTED, MINDR CALCITE VEINS, OCCASIONAL MUDSTONE INTERVALS, OCCASIONALLY FAULTED, OCCASIONAL FAULT GOUGE LAYERS, GOOD STICK	70.0	NDAT	
40.94	41.44	.50	SS1	FAULT ZONE	SUSPECT SAME AS ABOVE, BROKEN STICK	NDAT	NDAT	
41.44	42.80	1.36	LOST CORE		SUSPECT SILTSTONE/FINE GRAINED SANDSTONE	NDAT	NDAT	
42.80	45.30	2.50	SLST	SS1/MDST	LIGHT TO MEDIUM GREY, THINLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH VERY FINE GRAINED SANDSTONE AND MUDSTONE, OCCASIONALLY CROSS-BEDDED, WAVY PARALLEL TO CONVOLUTED BEDDING, SOFT SEDIMENT LOAD, MINDR FAULTS, GOOD STICK	74.0	43.5	
45.30	46.91	1.61	SS1	SLST/MDST-	LIGHT GREY, FINE	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
				/FAULT	GRAINED, THINLY BEDDED, INTERBEDDED WITH SILTSTONE AND MUDSTONE, WAVY PARALLEL BEDDING, CROSS-BEDDED, FAULTED ZONE WITH FAULT GOUGE AT 46.07M, OCCASIONAL IRON CLAYSTONE, GOOD STICK			
46.91	50.70	3.79	SLST	FAULT ZONE	DARK GREY, THINLY BEDDED, INTERBEDDED WITH MUDSTONE AND VERY FINE GRAINED SANDSTONE, WAVY PARALLEL BEDDING, OCCASIONALLY CROSS-BEDDED, ABUNDANT FAULT GOUGE LAYERS, HIGHLY FRACTURED AND SLICKENSIDED, HIGHLY POLISHED BEDDING ANGLE RANGES FROM 74 DEGREES AT TOP - 48.0, 15 DEGREES AT MIDDLE - 49.8M, 68 DEGREES AT BASE - 50.7M, FAIR STICK	NDAT	NDAT	
50.70	53.60	2.90	SS1		LIGHT GREY, VERY FINE GRAINED SANDSTONE, THINLY BEDDED, INTERBEDDED WITH DARK GREY SILTSTONE AND MUDSTONE, WAVY PARALLEL TO CONVOLUTED BEDDING, OCCASIONALLY CROSS-BEDDED, MINDR SOFT SEDIMENT DEFORMATION, SMALL SCALE FAULTING, MINOR	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					FAULT GOUGE, BREAKS EASILY ALONG BEDDING. GOOD STICK				
53.60	54.40	.80	MUDSTONE		DARK GREY, MASSIVE, SOFT, FISSILE, FRACTURED AND SLICKENSIDED. FAIR STICK, POSSIBLE FAULT ZONE	NDAT	NDAT		
54.40	58.40	4.00	SLST	SS1	MEDIUM TO DARK GREY, THICKLY LAMINATED, INTERBEDDED WITH VERY FINE GRAINED SANDSTONE, POORLY DEVELOPED, OCCASIONAL CALCITE HEALED FRACTURE, OCCASIONAL CLAYSTONE CLAST THROUGHOUT, GOOD STICK	NDAT	NDAT		
58.40	70.56	12.16	SS1	ARGILLACE- OUS	MEDIUM GREY, VERY FINE GRAINED SANDSTONE, MASSIVE, WELL CONSOLIDATED, OCCASIONAL CLAYSTONE CLASTS THROUGHOUT, MICRO MICACEOUS, OCCASIONAL THIN FINE GRAINED SANDSTONE LAMINAE (CROSS-BEDDING), OCCASIONAL CALCITE INFILLED FRACTURES AND VEINLETS, OCCASIONAL BIOTURBATED INTERVALS, GOOD STICK	NDAT	NDAT		
70.56	70.86	.30	SS1	CALCITE CEMENTED	LIGHT GREY, MASSIVE, VERY HARD, CALCITE CEMENTED, EXCELLENT STICK	NDAT	NDAT		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
70.86	87.34	16.48	SLST	SS1/MDST	MEDIUM GREY, THINLY LAMINATED TO THINLY BEDDED, INTERBEDDED LIGHT GREY VERY FINE GRAINED SANDSTONE AND DARK GREY MUDSTONE, OCCASIONALLY CROSS-BEDDED, OCCASIONAL SOFT SEDIMENT DEFORMATION, WAVY PARALLEL BEDDING, OCCASIONAL BIOTURBATION, OCCASIONAL BROWN VERY HARD IRON CLAYSTONE BANDS AND NODULES, MINOR IRON STAIN, BREAKS EASILY ALONG BEDDING, GOOD STICK	86.0	AVG	
87.34	109.89	22.55	SLST	MDST/SS1	MEDIUM TO DARK GREY, THINLY LAMINATED TO MEDIUM BEDDED, INTERBEDDED WITH DARK GREY MUDSTONE AND MINOR VERY FINE TO FINE GRAINED SANDSTONE, FRIABLE TO FISSILE IN PLACES, ABUNDANT BROWN VERY HARD IRDN RICH BANDS, OCCASIDNAL VERY HARD CALCITE CEMENT INTERVALS, OCCASIONAL BIOTURBATION, MINOR SLICKENSIDED FRACTURE, GOOD STICK	NDAT	NDAT	
109.89	110.85	.96	MUDSTONE	SILTY	GREY TO GREEN, MASSIVE, FISSILE, FRIABLE, WEATHERS GREEN, SILTY, POOR STICK	NDAT	NDAT	

		CDRE	DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
110.85	111.15	.30	SLST	CALCAREOUS	LIGHT GREY, MASSIVE, VERY HARD, WELL CONSOLIDATED, WELL CEMENTED, EXCELLENT STICK	NDAT	NDAT	
111.15	111.85	.70	SLST		MEDIUM GREY TO GREEN, MASSIVE, FRIABLE, BROKEN STICK	NDAT	NDAT	
111.85	114.25	2.40	SS1		GREEN TO BLACK, VERY FINE TO FINE GRAINED SANDSTONE, THINLY LAMINATED TO THICKLY BEDDED, POORLY DEVELOPED, CONVOLUTED BEDDING, CARBONACEOUS, MODERATELY HARD, MINOR PYRITE NODULES, MINOR CALCITE VEINLETS, MICACEOUS, GOOD STICK	NDAT	NDAT	
114.25	115.16	.91	MUDSTONE	SILTY	DARK GREY, MASSIVE, MODERATELY HARD TO FISSILE, FRIABLE IN PLACES, SILTY, CARBONACEOUS, COALY DEBRIS THROUGHOUT, TRACE PYRITE, BROKEN STICK	NDAT	NDAT	
115.16	115.80	.64	COAL	CLEAN	(RECOVERED .56M) MAINLY DULL WITH BRIGHT BANDS, HARD, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE ALONG CLEAT, TRACE SULPHUR, TRACE PYRITE, GOOD STICK, SEPARATION WITH ROOF, VISUAL FAIR, PHYSICAL GOOD; SEPARATION	NDAT	NDAT 10	204

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					WITH FLOOR, VISUAL AND PHYSICAL FAIR (RECOVERY = 88%)			
115.80	116.38	.58	SLST	MDST/SS1	MEDIUM GREY, THINLY LAMINATED, INTERBEDDED WITH DARK GREY MUDSTONE AND MINOR VERY FINE GRAINED SANDSTONE, WAVY PARALLEL TO WAVY DISCONTINUOUS BEDDING, CARBONACEOUS, COALY PLANT DEBRIS, FISSILE IN PLACES, GOOD STICK	80.0	AVG	
116.38	118.39	2.01	SS1	SLST/MDST	LIGHT TO MEDIUM GREY, VERY FINE GRAINED, THINLY LAMINATED, INTERBEDDED WITH DARK GREY SILTSTONE AND MINDR MUDSTONE, WAVY PARALLEL TO CONVOLUTED BEDDING, SOFT SEDIMENT DEFORMATION, OCCASIONAL BROWN VERY HARD IRON RICH CLAYSTONE BANDS, SLIGHTLY CARBONACEOUS, GRADING COARSER TOWARDS BASE, GOOD STICK	NDAT	NDAT	
118.39	118.69	.30	MUDSTONE	SLST	DARK GREY, VERY THINLY BEDDED, INTERBEDDED WITH SILTSTONE AND VERY FINE GRAINED SANDSTONE, TOP HALF FOLDED AND FAULTED, LOWER HALF VERY HARD SILTSTONE AND SOFT MUDSTONE, POOR STICK	25.0	119.9	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
118.69	119.73	1.04	SS1	SLST	LIGHT GREY, FINE GRAINED, MASSIVE, CROSS-BEDDED, OCCASIONAL BROWN VERY HARD IRON RICH CLAYSTONE BANDS, LOWER HALF HAS BLACK WAVY SILTSTONE LAMINAE, GOOD STICK	NDAT	NDAT	
119.73	120.55	.82	MUDSTONE		MEDIUM GREY, MASSIVE, CARBONACEOUS, FRACTURED AND OCCASIONALLY SLICKENSIDED, FISSILE IN PLACES, GOOD STICK	NDAT	NDAT	
120.55	121.56	1.01	COAL		(RECDVERED .76M) DULL AND BRIGHT BANDED WITH MINOR BRILLIANT BANDS, HARD, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE ALONG CLEAT, TRACE PYRITE, FAIR STICK; SEPARATION WITH ROOF, VISUAL FAIR, PHYSICAL GOOD; SEPARATION WITH FLOOR, VISUAL POOR, PHYSICAL FAIR (RECOVERY = 75%)	NDAT	NDAT 9	205
121.56	122.45	.89	SLST	MDST	LIGHT GREY, THINLY LAMINATED, INTERBEDDED WITH DARK GREY MUDSTONE AND MINOR VERY FINE GRAINED SANDSTONE, CARBONACEOUS, WAVY PARALLEL BEDDING, FISSILE IN PLACES, GOOD STICK	64.0	122.3	
122.45	122.94	.49	SS1	MDST	LIGHT GREY TO BROWN, THINLY	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BEDDED, INTERBEDDED WITH BRDWN VERY HARD IRDN RICH CLAYSTONE AND MINOR DARK GREY MUDSTONE, SLIGHTLY CARBONACEOUS, CDALY FLECKS, IRON STAIN, GOOD STICK			
122.94	123.30	.36	MUDSTONE	CARBONACE- OUS	MEDIUM TO DARK GREY, MASSIVE, MODERATELY HARD, FISSILE, CARBONACEOUS, SILTY, FAIR STICK	NDAT	NDAT	
123.30	124.12	.82	COAL		(RECOVERED .76M) MAINLY DULL WITH MINOR BRIGHT AND BRILLIANT BANDS, HARD, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE ALONG CLEAT, TRACE PYRITE, TOP .15M DIRTY, GOOD STICK; SEPARATION WITH ROOF, VISUAL FAIR, PHYSICAL GOOD; SEPARATION WITH FLOOR VISUAL AND PHYSICAL FAIR (RECOVERY = 93%)	NDAT	NDAT 8	206
124.12	127.92	3.80	SLST	MDST/SS1	LIGHT TO MEDIUM GREY, THINLY LAMINATED, INTERBEDDED WITH DARK GREY MUDSTONE AND LIGHT GREY VERY FINE TO FINE GRAINED SANDSTONE, EVEN TO WAVY PARALLEL BEDDING, OCCASIONAL CROSS-BEDDED SANDSTONE, MINOR BIOTURBATION, OCCASIONAL SOFT SEDIMENT DEFORMATION, MINOR	86.0	AVG	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					MICRO FAULT, BREAKS EASILY ALONG BEDDING PLANE, OCCASIONAL BROWN VERY HARD IRON RICH CLAYSTONE BANOS, GOOD STICK			
127.92	133.10	5.18	MUDSTONE	SLST/SS1	DARK GREY, VERY THINLY TO MEDIUM BEDDED, INTERBEDDED WITH LIGHT GREY SILTSTONE AND MINOR VERY FINE GRAINED SANDSTONE, EVEN PARALLEL, FISSILE IN PLACES, OCCASIONAL BROWN VERY HARD IRON RICH CLAYSTONE BANOS AND NODULES.BREAKS EASILY ALONG BEDDING, GOOD STICK	NDAT	NDAT	
133.10	134.78	1.68	SS1	MDST	LIGHT GREY TO GREEN, FINE GRAINED, THIN TO MEDIUM BEDDED, INTERBEDDED WITH DARK GREY MUDSTONE AND BROWN CLAYSTONE BANOS, HARD, FAIR CONSOLIDATED, LOWER HALF MORE MUDSTONE LAMINAE, GOOD STICK	45.0	134.3	
134.78	135.63	.85	SLST		MEDIUM TO DARK GREY, THINLY BEDDED, INTERBEDDED WITH VERY FINE GRAINED SANDSTONE, WAVY PARALLEL BEDDING, OCCASIONALLY CROSS-BEDDED, MODERATELY HARD, GOOD STICK	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
135.63	136.61	.98	SS1		AS FINE GRAINED SANDSTONE UNIT ABOVE	72.0	136.1	
136.61	137.81	1.20	MUDSTONE	SLST	DARK GREY, THIN BEDDED, INTERBEDDED WITH SILSTONE. OCCASIONAL BROWN IRON CLAYSTONE BANDS, CARBONACEOUS, GOOD STICK	NDAT	NDAT	
137.81	138.58	.77	SS1	SLST	LIGHT GREY, FINE GRAINED, VERY THINLY BEDDED, INTERBEDDED WITH SILTSTONE AND MINOR DARK GREY MUDSTONE, WAVY PARALLEL BEDDING, OCCASIONAL VERY HARD IRON CLAYSTONE BANDS, OCCASIONAL CALCITE CEMENTED LAYER, GOOD STICK	NDAT	NDAT	
138.58	138.68	.10	COAL	DIRTY	DULL, SHALY, TRACE PYRITE, GOOD STICK	NDAT	NDAT	
138.68	141.18	2.50	SS1		LIGHT GREY, VERY FINE TO FINE GRAINED SANDSTONE, THINLY LAMINATED TO THIN BEDDED, INTERBEDDED WITH DARK GREY SILTSTONE AND MUDSTONE, WAVY PARALLEL TO WAVY DISCONTINUOUS BEDDING, OCCASIONAL BIOTURBATION, MINOR SOFT SEDIMENT DEFORMATION, OCCASIONAL BROWN VERY HARD IRON CLAYSTONE BANDS,	68.0	139.1	

		CORE DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					BREAKS EASILY ALDNG BEDDING PLANE, GOOD STICK				
141.18	145.04	3.86	SLST		MEDIUM TO DARK GREY, THINLY LAMINATED, INTERBEDDED WITH LIGHT GREY VERY FINE GRAINED SANDSTONE, PODRLY DEVELDPEP, CARBONACEOUS, FISSILE, GRADING FINER TOWARDS BASE, COALY PLANT FOSSIL DEBRIS, GOOD STICK	NDAT	NDAT		
145.04	146.31	1.27	COAL		(RECOVERED 1.24M) DULL AND BRIGHT BANDED WITH OCCASIONAL BRILLIANT BANDS, HARD, CUBIC AND CDNCHOIDAL FRACTURE, MINOR CALCITE ALONG CLEAT, BLOCKY IN PLACES, BRITTLE IN PLACES, MINOR PYRITE, GOOD STICK, LOWER .30M HIGH ASH CONTENT; SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL FAIR; .05 PYRITE/VOLCANIC ASH INTERVAL AT 146.07M (RECOVERY = 98%)	NDAT	NDAT 7	207	
146.31	146.81	.50	MUDSTONE		DARK GREY TO BROWN, MASSIVE, MODERATELY HARD, FISSILE, CARBONACEOUS, SLIGHTLY SILTY, GOOD STICK	NDAT	NDAT		
146.81	153.20	6.39	SLST	MDST/SS1	LIGHT TO MEDIUM GREY, THINLY LAMINATED TO VERY	71.0	149.0		

CORE		DESCRIPTION						
TDP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					THINLY BEDDED, INTERBEDDED WITH DARK GREY MUDSTONE AND LIGHT GREY VERY FINE GRAINED SANDSTONE, WAVY PARALLEL TO WAVY DISCONTINUOUS BEDDING, FISSILE TO PLATEY, OCCASIONAL BROWN VERY HARD IRDN RICH CLAYSTONE BANDS, MINOR CALCITE VEINLETS, GOOD STICK			
153.20	154.06	.86	SS1		LIGHT GREY, FINE GRAINED, THINLY BEDDED, INTERBEDDED WITH MINOR DARK GREY MUDSTONE AND SILTSTONE, WAVY LAMINAE, CARBONACEOUS, OCCASIONAL BROWN VERY HARD IRDN CLAYSTONE BANDS, GOOD STICK	NDAT	NDAT	
154.06	157.12	3.06	COAL	POSSIBLY FAULTED	(RECOVERED 2.41M) MAINLY DULL WITH BRIGHT BANDS, MINOR BRILLIANT BANDS, HARD, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE ALONG CLEAT, TRACE PYRITE, OCCASIONALLY SLICKENSIDED, .04M VOLCANIC ASH AT 155.17M, BROKEN STICK; SEPARATION WITH ROOF, VISUAL EXCELLENT, PHYSICAL GOOD; SEPARATION WITH FLOOR, VISUAL POOR, PHYSICAL FAIR (RECOVERY = 79%)	NDAT	NDAT 6	20B

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
157.12	160.74	3.62	MUDSTONE	SLST	DARK GREY, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH LIGHT GREY SILSTONE AND MINOR VERY FINE GRAINED SANDSTONE, WAVY PARALLEL BEDDING, FISSILE IN PLACES, FRACTURED HORIZONTAL TO BEDDING, CARBONACEOUS, OCCASIONAL VERY HARD BROWN IRON RICH CLAYSTONE BANDS, BEDDING ANGLE RANGES FROM 67 DEGREES NEAR TOP TO 78 DEGREES AT BASE. GOOD STICK	NDAT	NDAT	
160.74	160.86	.12	COAL		(RECOVERED .12M) DULL, HARD, MINOR CALCITE VEINLETS, TRACE PYRITE, GOOD STICK (NOT SAMPLED)	NDAT	NDAT	
160.86	161.53	.67	MUDSTONE	SLST	DARK GREY, THINLY LAMINATED, INTERBEDDED WITH MINOR LIGHT GREY SILTSTONE, CARBONACEOUS, GOOD STICK	NDAT	NDAT	
161.53	166.01	4.48	SLST	MDST/SS1/- FAULTED	LIGHT TO MEDIUM GREY, THINLY LAMINATED, INTERBEDDED WITH DARK GREY MUDSTONE AND LIGHT GREY VERY FINE GRAINED SANDSTONE, CROSS-BEDDED, WAVY PARALLEL TO DISCONTINUOUS BEDDING, SLIGHTLY CARBONACEOUS, LOW ANGLE CURVED	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					FRACTURE, FAULTED, SLICKENSIDED, HIGHLY POLISHED, FAIR STICK			
166.01	168.49	2.48	SLST	FAULT ZONE	MEDIUM GREY, MASSIVE, MODERATELY HARD TO HARD, HIGHLY FRACTURED AND BRECCIATED, SANDY, FAIR STICK	NDAT	NDAT	
168.49	168.89	.40	LOST CORE	FAULT ZONE	SUSPECT SAME AS ABOVE	NDAT	NDAT	
168.89	179.12	10.23	SS1		LIGHT GREY, FINE GRAINED, VERY THIN TO MEDIUM BEDDED, INTERBEDDED WITH DARK GREY SILTSTONE AND MINOR MUDSTONE, WAVY PARALLEL BEDDING, MINOR SMALL SCALE FAULTING, CARBONACEOUS IN PLACES, CLAYEY, OCCASIONAL VERY HARD BROWN IRON RICH CLAYSTONE BANDS	68.0	174.0	
179.12	179.62	.50	MUDSTONE		MEDIUM GREY, MASSIVE, FISSILE, CARBONACEOUS, SILTY, FAIR STICK	NDAT	NDAT	
179.62	180.89	1.27	SHALE	COALY/FAU- LTED	DARK GREY TO BLACK, MASSIVE, COALY/CARBONACEOU- S, MINOR COAL BANDS THROUGHOUT, FRACTURED AND SLICKENSIDED, POSSIBLE FAULT ZONE, FISSILE IN PLACES, POOR STICK	NDAT	NDAT	
180.89	182.27	1.38	MUDSTONE		MEDIUM GREY, MASSIVE, FISSILE TO FRIABLE,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SLIGHTLY CARBONACEOUS SILTY, MINOR COAL WISPS, FAIR STICK			
182.27	182.61	.34	COAL		(RECOVERED .30M) MAINLY DULL, VERY HARD, BLOCKY, CONCHOIDAL FRACTURE, TOP .10M HAS MINOR PYRITE AND SULPHUR MINERAL, GOOD STICK; SEPARATION WITH ROOF, VISUAL FAIR, PHYSICAL GOOD; SEPARATION WITH FLOOR, VISUAL FAIR, PHYSICAL GOOD (RECOVERY = 88%)	NDAT	NDAT	209
182.61	182.96	.35	MUDSTONE	CARBONACE- OUS	DARK GREY, MASSIVE, FISSILE, COALY PLANT DEBRIS, FRACTURED AND SLICKENSIDED, FAIR STICK	NDAT	NDAT	
182.96	184.62	1.66	LOST CORE		SUSPECT CARBONACEOUS MUDSTONE AND COAL	NDAT	NDAT	
184.62	184.78	.16	COAL		DULL, HARD, MINOR CALCITE, TRACE PYRITE, POOR STICK (NOT SAMPLED)	NDAT	NDAT	
184.78	188.66	3.88	MUDSTONE		MEDIUM TO DARK GREY, MASSIVE, MODERATELY HARD, FISSILE IN PLACES, CARBONACEOUS SILTY INTERVALS, FRACTURED AND SLICKENSIDED, MINOR FAULTED, MINOR PYRITE, GOOD STICK	NDAT	NDAT	
188.66	188.77	.11	COAL		(RECOVERED .11M) DULL, HARD, BLOCKY, MINOR CALCITE VEINLETS,	NDAT	NDAT	

CORE		DESCRIPTION						
TDP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					TRACE PYRITE, BROKEN (NOT SAMPLED)			
188.77	190.28	1.51	MUDSTONE		MEDIUM TO DARK GREY, MASSIVE, MODERATELY HARD, FISSILE, CARBONACEOUS, SILTY IN PLACES, FRACTURED AND SLICKENSIDED, GOOD STICK	NDAT	NDAT	
190.28	190.54	.26	COAL		(RECOVERED .16M) DULL, HARD, BLOCKY, SLICKENSIDED, BROKEN (NOT SAMPLED)	NDAT	NDAT	
190.54	191.25	.71	MUDSTONE		MEDIUM GREY, MASSIVE, MODERATELY HARD, FISSILE IN PLACES, FRACTURED AND SLICKENSIDED, FAIR STICK	NDAT	NDAT	
191.25	191.84	.59	COAL		(RECOVERED .22M) MAINLY DULL WITH BRIGHT BANDS, HARD, FRACTURED AND SLICKENSIDED, MINOR PYRITE, MINOR CALCITE VEINLETS, DIRTY UNIT; SEPARATION WITH ROOF, VISUAL AND PHYSICAL FAIR; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL, QUESTIONABLE (RECOVERY = 37%)	NDAT	NDAT	210
191.84	192.99	1.15	MUDSTONE	FAULTED	MEDIUM GREY, MASSIVE, FISSILE, CARBONACEOUS, HIGHLY FRACTURED AND SLICKENSIDED, HIGHLY POLISHED, BROKEN (RECOVERY = 76%)	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
192.99	193.29	.30	SS1		LIGHT TO MEDIUM GREY, VERY FINE GRAINED, VERY THINLY BEDDED, INTERBEDDED WITH SILTSTONE, POORLY DEVELOPED, FAULTED (HEALED), GOOD STICK	NDAT	NDAT	
193.29	194.20	.91	COAL	FAULT ZONE	(RECOVERED .72M) DULL AND BRIGHT BANDED, HARD, HIGHLY FRACTURED AND SLICKENSIDED, HIGHLY POLISHED, POSSIBLE FAULT ZONE; SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL, GOOD (RECOVERY = 79%)	NDAT	NDAT 3	211
194.20	194.98	.78	MUDSTONE	FAULTED	MEDIUM GREY, MASSIVE, FISSILE, CARBONACEOUS, .08M THICK COAL BAND AT 194.76M, HIGHLY FRACTURED AND SLICKENSIDED, HIGHLY POLISHED, FAULT ZONE, BROKEN	NDAT	NDAT	
194.98	196.53	1.55	COAL		(RECOVERED 1.47M) BRIGHT AND DULL BANDED WITH MINOR BRILLIANT BANDS, HARD, CONCHOIDAL AND CUBIC FRACTURED, MINOR CALCITE ALONG CLEAT, MINOR PYRITE, BLOCKY IN PLACES, BRITTLE IN PLACES, OCCASIONAL SLICKENSIDED FRACTURE, FAIR STICK; SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL, FAIR (RECOVERY = 95%)	NDAT	NDAT 3	212

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
196.53	199.44	2.91	SLST	FAULT ZONE	MEDIUM GREY, MASSIVE, SLIGHTLY CARBONACEOUS, FRACTURED AND SLICKENSIDED, BROKEN, COALY INTERVAL AT 198.68-198.90M	NDAT	NDAT	
199.44	199.84	.40	CDAL	DIRTY	(RECOVERED .30M) DULL, MODERATELY HARD TO SOFT, BRITTLE, SLICKENSIDED, BROKEN; SEPARATION WITH ROOF, VISUAL AND PHYSICAL GOOD; SEPARATION WITH FLOOR, VISUAL FAIR, PHYSICAL GOOD (RECOVERY = 75%)	NDAT	NDAT	213
199.84	202.94	3.10	SLST	SS1	LIGHT TO MEDIUM GREY, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH LIGHT GREY VERY FINE GRAINED SANDSTONE, WAVY PARALLEL BEDDING, SOFT SEDIMENT DEFORMATION, FRACTURED HORIZONTAL TO BEDDING, GOOD STICK	64.0	201.3	
202.94	203.73	.79	MUDSTONE		DARK GREY TO BLACK, MASSIVE, CARBONACEOUS, SLIGHTLY SILTY, FISSILE IN PLACES, GOOD STICK	NDAT	NDAT	
203.73	204.38	.65	COAL		(RECOVERED .50M) DULL AND BRIGHT BANDED, HARD, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE ALONG	NDAT	NDAT 2	214

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					CLEAT, MINOR PYRITE, HIGH ASH INTERVAL AT 204.10-204.14M. BROKEN; SEPARATION WITH ROOF, VISUAL FAIR, PHYSICAL GOOD; SEPARATION WITH FLOOR, VISUAL FAIR, PHYSICAL GOOD (RECOVERY = 77%)			
204.38	204.78	.40	MUDSTONE		MEDIUM GREY, MASSIVE, FISSILE, CARBONACEOUS, GOOD STICK	NDAT	NDAT	
204.78	206.43	1.65	COAL		(RECOVERED 1.32M) BRIGHT AND DULL BANDED WITH MINOR BRILLIANT BANDS, HARD, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE ALONG CLEAT, MINOR CALCITE HEALED FRACTURE, MINOR PYRITE, WHITE VOLCANIC ASH AT 205.62M (.04M THICK), TOP HALF HIGHLY BROKEN, LOWER HALF EXCELLENT STICK; SEPARATION WITH ROOF, VISUAL POOR, PHYSICAL FAIR; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL FAIR (RECOVERY = 61%)	NDAT	NDAT 2	215
206.43	207.42	.99	MUDSTONE		MEDIUM GREY, MASSIVE, MODERATELY HARD, SLIGHTLY CARBONACEOUS, SILTY, .20M THICK INTERVAL, VERY HARD CALCITE CEMENTED AT 207.02M, GOOD	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM

					STICK			
207.42	207.56	.14	COAL		(RECOVERED .14M) BRIGHT WITH DULL BANDS, HARD, BRITTLE, ABUNDANT CALCITE VEINLETS, GOOD STICK (NOT SAMPLED)	NDAT	NDAT	
207.56	207.94	.38	MUDSTDNE		MEDIUM GREY, MASSIVE, MODERATELY HARD, SLIGHTLY CARBONACEOUS, MINOR COAL WISPS, GOOD STICK	NDAT	NDAT	
207.94	208.36	.42	COAL		(RECOVERED .36M) DULL AND BRIGHT BANDED, HARD, BRITTLE IN PLACES, MINOR CALCITE ALONG CLEAT, MINOR VOLCANIC ASH LAMINAE, TRACE PYRITE, GOOD STICK; SEPARATION WITH ROOF, VISUAL POOR, PHYSICAL FAIR; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL POOR (RECOVERY = 86%)	NDAT	NDAT 2	216
208.36	208.76	.40	MUDSTONE	COALY/CAR- BONACEOUS	DARK GREY TO BROWN, MASSIVE, MODERATELY HARD, COALY DEBRIS THROUGHOUT, GOOD STICK	NDAT	NDAT	
208.76	208.96	.20	MUDSTONE		BROWN, MASSIVE, VERY HARD, IRON STAIN (SIDERITIC?), MINOR CALCITE VEINLETS, EXCELLENT STICK	NDAT	NDAT	
208.96	211.80	2.84	MUDSTONE	CARBONACE- DUS	MEDIUM GREY, MASSIVE, MODERATELY HARD TO FISSILE, MINOR	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					COAL WISPS, COALY PLANT FOSSIL DEBRIS, MINOR DIRTY COAL BAND .15M THICK AT 211.53M, GOOD STICK			
211.80	212.10	.30	COAL		(RECOVERED .30M) MAINLY DULL WITH MINOR BRIGHT BANDS, CONCHOIDAL AND CUBIC FRACTURE, HARD, ABUNDANT CALCITE VEINLETS, GOOD STICK; SEPARATION WITH ROOF, VISUAL GOOD, PHYSICAL FAIR; SEPARATION WITH FLOOR, VISUAL POOR, PHYSICAL FAIR (RECOVERY = 100%)	NDAT	NDAT	217
212.10	212.60	.50	MUDSTONE		MEDIUM GREY, MASSIVE, CARBONACEOUS, BECOMING SILTY TOWARDS BASE, GOOD STICK	NDAT	NDAT	
212.60	217.42	4.82	SLST	SS1	LIGHT TO MEDIUM GREY, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH LIGHT GREY VERY FINE TO FINE GRAINED SANDSTONE AND DARK GREY MUDSTONE, OCCASIONALLY CROSS-BEDDED, WAVY PARALLEL BEDDING, FRACTURED HORIZONTAL TO BEDDING, GOOD STICK	70.0	216.7	
217.42	221.36	3.94	MUDSTONE		DARK GREY, MASSIVE, SLIGHTLY CARBONACEOUS, SILTY, MINOR	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					CALCITE INFILLED JOINT FRACTURE, GOOD STICK				
221.36	235.58	14.22	SLST		DARK GREY, MASSIVE, MODERATELY HARD, FRIABLE IN PLACES, FRACTURED, OCCASIONAL LONG CURVED VERTICAL JOINT, GOOD TO EXCELLENT STICK	NDAT	NDAT		
235.58	236.00	.42	SS1	FOSSILIFE- ROUS	LIGHT GREY, MASSIVE, VERY HARD, ABUNDANT SHELL FOSSILS (BRACHS), VERY CALCAREOUS, IRON STAIN, EXCELLENT STICK	NDAT	NDAT		
236.00	236.76	.76	SS1		LIGHT GREY TO GREEN, FINE GRAINED, MASSIVE, HARD, WELL CONSOLIDATED, UPPER HALF SLIGHTLY CARBONACEOUS, MINOR COAL WISPS, EXCELLENT STICK	NDAT	NDAT		
236.76	258.10	21.34	SLST		DARK GREY, MASSIVE, MODERATELY HARD, ARGILLACEOUS, FISSILE AND FRIABLE IN PLACES, OCCASIONAL BROWN VERY HARD IRON RICH BANDS AND NOOULES, MINOR CALCITE VEINLETS, FRACTURED HORIZONTAL TO BEDDING, GOOD TO EXCELLENT STICK	NDAT	NDAT		
258.10	-1.00	-1.00	UNKNOWN		TOTAL DEPTH	NDAT	NDAT		

CORE DESCRIPTION

HOLE.ID TWB2D-24B
 PROJECT TELKWA
 AREA SMITHERS
 DRIL.DATE 820813
 LOG.DATE 821004
 EXAMINED.BY S.CAMERON

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	92.10	92.10	OVERBURDEN			NDAT	NDAT	
92.10	99.40	7.30	SLST	SS1	GREY TO BLACK SILTSTONE INTERBEDDED WITH GREY FINE GRAINED SANDSTONE, OCCASIONAL IRONSTONE BAND, SOME INTERBEDDED CARBONACEOUS MUDSTONE, SMALL SCALE TROUGH CROSS-BEDDING AND LAMINAE CROSS-BEDDING, FINES DOWNWARDS, SOME SOFT SEDIMENT DEFORMATION	78.0	AVG	
99.40	111.80	12.40	MUDSTONE		BLACK, FAIRLY MASSIVE, IRONSTONE CONCRETIONS THROUGHOUT, OCCASIONAL CALCITE FILLED FRACTURES	NDAT	NDAT	
111.80	126.72	14.92	SLST	SS1	GREY TO BLACK, GRADATIONAL CONTACT WITH THE ABOVE UNIT, MASSIVE, GRADES DOWN INTO A VERY FINE GRAINED GREY-BLACK SANDSTONE	73.0	119.0	
126.72	128.24	1.52	SS2		MEDIUM GRAINED, PALE GREEN SANDSTONE, COALY FLECKS THROUGHOUT, MASSIVE	NDAT	NDAT	
128.24	132.52	4.28	SS1	SLST	VERY FINE GRAINED	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					ARGILLACEOUS SANDSTONE, OCCASIONAL GRADING INTO SILTSTONE, GREY-BLACK, OCCASIONAL THIN COAL BAND, OCCASIONAL IRONSTONE BAND			
132.52	138.40	5.88	SLST		GREY TO BLACK, MASSIVE, GRADATIONAL CONTACT WITH ABOVE UNIT	NDAT	NDAT	
138.40	142.92	4.52	MUDSTONE		BLACK, FRACTURES EASILY INTO SMALL CUBES BUT APPEARS FAIRLY MASSIVE, GRADATIONAL CONTACT WITH ABOVE UNIT	NDAT	NDAT	
142.92	170.12	27.20	SLST	SS1	GREY TO BLACK SILTSTONE, OCCASIONALLY GRADES INTO A VERY FINE GRAINED SANDSTONE, OCCASIONAL IRONSTONE BANDS, OCCASIONAL BLEBS OF COAL WHICH CONTAIN ABUNDANT PYRITE, OCCASIONAL CALCITE FILLED FRACTURE, SOME CARBONACEOUS, ABUNDANCE OF DISSEMINATED PYRITE, OCCASIONAL SLICKENSIDED JOINT PLANE	67.0	AVG	
170.12	179.60	9.48	SLST	SS1	SILTSTONE GREY WITH CLASTS OF LIGHT GREY SANDSTONE THROUGHOUT, ABUNDANT SOFT SEDIMENT DEFORMATION, ABUNDANT CALCITE	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLDGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					FILLED FRACTURES			
179.60	188.10	8.50	SS1	SLST	GREY TO PALE GREEN INTERBEDDED WITH GREY BLACK SILTSTONE, ALSO INTERBEDS OF CARBONACEOUS SHALE AND THIN BEDS OF COALY SHALE, OCCASIONAL THIN BED OF SHELL FRAGMENTS, OCCASIONAL IRONSTONE BAND	53.0	AVG	
188.10	193.64	5.54	SLST	CARBONACEOUS	GREY TO BLACK, OCCASIONAL THIN BAND OF COAL DISSEMINATED PYRITE THROUGHOUT, BIDTURBATION COMMON, GRADATIONAL FROM ABOVE UNIT, OCCASIONAL IRONSTONE BAND, CALCITE FILLED FRACTURES ARE PREDOMINANTLY IN THE IRONSTONE BANDS	47.0	AVG	
193.64	194.10	.46	SS2		SALT AND PEPPER SANDSTONE WITH ABUNDANT IRONSTONE CLASTS AND CALCITE FILLED FRACTURES, COAL BLEBS HAVE BEEN SO UEEZED TO INFILL VOID SPACE AROUND IRONSTONE CLASTS	NDAT	NDAT	
194.10	199.40	5.30	SLST	SS1	GREY TO BLACK SILTSTONE GRADES INTO GREY FINE GRAINED SANDSTONE, OCCASIONAL IRONSTONE BAND, CALCITE FRACTURES ASSOCIATED WITH IRONSTONE BANDS	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLDGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
199.40	207.95	8.55	SS1		LIGHT GREY, COAL FLECKS AND COALIFIED PLANT DEBRIS THROUGHOUT. OCCASIONAL CALCITE FRACTURE ALONG BEDDING. OCCASIONAL SHELL FRAGMENTS, OCCASIONAL COAL BAND IN UNIT	61.0	205.4	
207.95	222.90	14.95	SS2	SS1	LIGHT GREY TO PALE GREEN SANDSTONE VARIES FROM FINE TO MEDIUM GRAINED SANDSTONE. BEDDING RANGES FROM POORLY DEVELOPED TO CONVOLUTED, BIOTURBATION IS COMMON, OCCASIONAL COAL BAND, OCCASIONAL CALCITE FILLED FRACTURE, IRONSTONE BANDS THROUGHOUT. ABUNDANCE OF COALY MATERIAL IN THE SANDSTONE. OCCASIONAL SHELL FRAGMENT, DISSEMINATED PYRITE	NDAT	NDAT	
222.90	227.75	4.85	SLST		GREY TO BLACK, CARBONACEOUS, BIOTURBATION	69.0	AVG	
227.75	241.20	13.45	SS2	SS1	MEDIUM GRAINED SANDSTONE WHICH OCCASIONALLY GRADES INTO FINE GRAINED SANDSTONE CONTAINS SEVERAL ZONES WITH A GREAT ABUNDANCE OF SHELL FRAGMENTS, ALTHOUGH THERE ARE SOME SHELL FRAGMENTS THROUGHOUT, ABUNDANCE OF	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					DISSEMINATED PYRITE AS WELL AS BLEBS OF PYRITE, BEDDING IS POORLY DEVELOPED, BIOTURBATION THROUGHOUT				
241.20	243.42	2.22	SS1		GREY TO BLACK, OCCASIONAL IRONSTONE CONCRETION OR BAND, DISSEMINATED PYRITE AND PYRITIC BLEBS THROUGHOUT, OCCASIONAL THIN COAL BAND WITHIN UNIT	NDAT	NDAT		
243.42	252.90	9.48	SS2	SS1	GREY MEDIUM GRAINED SANDSTONE INTERBEDDED WITH GREY-BLACK FINE GRAINED SANDSTONE, BEDDING IS POORLY DEVELOPED TO CONVOLUTED, IRONSTONE CLASTS ARE COMMON, ABUNDANCE OF CALCITE FILLED FRACTURES IN AND AROUND THESE CLASTS AND CONCRETIONS, PYRITIC BLEBS ARE FAIRLY COMMON	66.0	AVG		
252.90	261.20	8.30	SS1	SS2	VERY SIMILAR TO ABOVE UNIT EXCEPT THE FINER GRAINED SANDSTONE PREDOMINATES, CONTACT WITH ABOVE IS GRADATIONAL, BEDDING MEASUREMENTS ARE POOR BECAUSE BEDDING IS POORLY DEVELOPED	62.0	AVG		
261.20	262.73	1.53	SLST	SS1	GREY TO BLACK SILTSTONE WITH SOME INTERBEDDED	NDAT	NDAT		

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH	SEAM	SNUM
					FINE GRAINED SANDSTONE, CARBONACEOUS, OCCASIONAL THIN COAL BAND				
262.73	264.14	1.41	COAL		BROKEN STICK AND RUBBLE, DULL WITH BRIGHT BANDS, OCCASIONAL SLICKENSIDE (RECOVERY = 24%)	NDAT	NDAT	1	379
264.14	264.91	.77	MUDSTONE	CARBONACEOUS	BLACK, ABUNDANCE OF THIN COAL BANDS, IRONSTONE CONCRETIONS THROUGHOUT	55.0	AVG		
264.91	265.32	.41	MUDSTONE	COALY/FAULTED	FAULTED ZONE, ABUNDANCE OF CALCITE, IRONSTONE CONCRETIONS ARE SURROUNDED BY SHALY COAL, THIS ZONE IS HIGHLY DEFORMED, ABUNDANT PYRITIC BLEBS	NDAT	NDAT		
265.32	266.51	1.19	MUDSTONE	CARBONACEOUS	BLACK, OCCASIONAL THIN COAL BAND, OCCASIONAL CALCITE AND SIDERITE FILLED FRACTURES ALONG BEDDING	NDAT	NDAT		
266.51	268.44	1.93	COAL	SHLE/FAULTED	RUBBLE, CANNOT DISTINGUISH COAL FROM SPLITS IN THIS ZONE, ABUNDANT SLICKENSIDED SURFACES (RECOVERY = 23%)	NDAT	NDAT	1	380
268.44	270.20	1.76	MUDSTONE	CARBONACEOUS	BLACK, OCCASIONAL THIN COAL BAND	75.0	AVG		
270.20	270.64	.44	COAL		OCCASIONAL SHALE SPLIT AT TOP OF SEAM, HARD, DULL WITH BRIGHT BANDS	NDAT	NDAT	1	381

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
270.64	273.12	2.48	MUDSTONE	COAL	BLEBS OF COAL THROUGHOUT THE UNIT, COAL IS CONTORTED, SOME SMALL SCALE FAULTING SEEN, POSSIBLE COALIFIED ROOT SYSTEM	NDAT	NDAT	
273.12	274.12	1.00	COAL	CLEAN	HARD, DULL WITH BRIGHT BANDS, SOME DISSEMINATED PYRITE, OCCASIONAL SLICKENSIDED SURFACE	NDAT	NDAT 1	382
274.12	282.50	8.38	MUDSTONE	CARBONACE- OUS	BLACK, OCCASIONAL COAL BAND, OCCASIONAL IRONSTONE BAND	71.0	AVG	

CORE DESCRIPTION

HOLE.ID TW82D-249
 PROJECT TELKWA
 AREA SMITHERS
 DRIL.DATE 820814
 LOG.DATE NO.DATA
 EXAMINED.BY R.KOSTIUK

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	10.40	10.40	OVERBURDEN	BOULDERS/- GRAVEL/SA- ND	DRILLED WITH ROCK BIT, NO CORE RECOVERY, CASING SET AT 9.1M	NDAT	NDAT	
10.40	14.30	3.90	SLST		MEDIUM GREY, MASSIVE, MODERATELY HARD TO FRIABLE, OCCASIONAL PYRITE BLEB, MINOR CARBONACEOUS FOSSIL DEBRIS, OCCASIONAL VERY HARD CALCAREOUS CEMENTED INTERVAL (BOULDER) WITH ABUNDANT CALCITE INFILLED FRACTURES (EXTENSION FRACTURE), GOOD STICK	NDAT	NDAT	
14.30	25.46	11.16	MUDSTONE		DARK GREY TO BLACK, MASSIVE, MODERATELY HARD TO FISSILE, FRIABLE IN PLACES, SILTY INTERVALS, OCCASIONAL PYRITE BLEBS, OCCASIONAL BROWN VERY HARD IRON RICH CLAYSTONE BAND AND NODULES, OCCASIONAL LIGHT GREY VERY HARD CALCITE CEMENTED BANDS, GOOD STICK	NDAT	NDAT	
25.46	27.59	2.13	SS1		MEDIUM TO DARK GREY, WEATHERED GREEN, FINE GRAINED, MASSIVE, ABUNDANT COAL WISPS AND PYRITE,	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					OCCASIONAL CLAYSTONE CLASTS, SLIGHTLY CARBONACEOUS, GOOD STICK				
27.59	33.78	6.19	SS1	SLST/MDST	LIGHT GREY, FINE GRAINED, THINLY LAMINATED TO MEDIUM BEDDED, INTERBEDDED WITH SILTSTONE AND MINOR DARK GREY MUDSTONE, CROSS-BEDDED, WAVY PARALLEL BEDDING, MINOR SOFT SEDIMENT DEFORMATION, BIOTURBATED ZONE 31.28-31.83M (.55M THICK), CALCITE INFILLED WORM BURROWS, OCCASIONAL CALCITE CEMENTED SANDSTONE LAYER, OCCASIONAL BROWN VERY HARD IRON RICH CLAYSTONE NODULES AND BAND, MINOR IRON STAIN BREAKS EASILY ALONG BEDDING, GOOD STICK	68.0	AVG		
33.78	37.17	3.39	SS1	SLST/MDST	LIGHT TO MEDIUM GREY, VERY FINE TO FINE GRAINED SANDSTONE, THINLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH 35% SILTSTONE AND 15% DARK GREY MUDSTONE, OCCASIONAL CROSS-BEDDED, OCCASIONAL CALCITE CEMENTED, MINOR IRON STAIN, WAVY PARALLEL BEDDING, MINOR SMALL SCALE FAULTING,	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					OCCASIONAL THIN LAYERS OF FAULT GOUGE (.02-.08M THICK), FAIR TO GOOD STICK			
37.17	39.60	2.43	SLST	SS1/MDST	MEDIUM GREY, THINLY LAMINATED TO THINLY BEDDED. INTERBEDDED WITH 30% LIGHT GREY VERY FINE TO FINE GRAINED SANDSTONE AND 20% DARK GREY MUDSTONE, WAVY PARALLEL BEDDING, SANDSTONE OCCASIONALLY CROSS-BEDDED, OCCASIONALLY SLICKENSIDED, MINOR IRON STAIN, FAIR TO GOOD STICK	68.0	AVG	
39.60	41.70	2.10	SLST	MDST/SS1	MEDIUM TO DARK GREY, THINLY TO THICKLY BEDDED, INTERBEDDED WITH DARK GREY MUDSTONE AND MINOR LIGHT GREY VERY FINE GRAINED SANDSTONE, POORLY DEVELOPED, OCCASIONAL ROUND BROWN CLAYSTONE NODULES, GOOD STICK	NDAT	NDAT	
41.70	46.62	4.92	SLST	SS1	MEDIUM GREY, THINLY TO THICKLY LAMINATED, UNDULATING BEDDING, OCCASIONAL BROWN IRON RICH CLAYSTONE NODULES (ROUNDED), GOOD STICK	NDAT	NDAT	
46.62	51.54	4.92	SS1		LIGHT TO MEDIUM GREY, VERY FINE TO FINE GRAINED SANDSTONE, MASSIVE,	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					OCCASIONAL ROUND CALCAREOUS NODULES, OCCASIONAL ARGILLACEOUS INTERVALS, EXCELLENT STICK				
51.54	64.86	13.32	SS1	SLST	LIGHT TO MEDIUM GREY, VERY FINE TO FINE GRAINED SANDSTONE, THINLY TO THICKLY LAMINATED, INTERBEDDED WITH DARK GREY SILTSTONE AND MINOR MUDSTONE, UNDULATED BEDDING, OCCASIONAL ROUND CALCAREOUS NODULES, MINOR IRON STAIN, OCCASIONAL CALCAREOUS INTERVAL, EXCELLENT STICK, 60% SANDSTONE/40% SILTSTONE	60.0	AVG		
64.86	70.78	5.92	SLST	SS1	MEDIUM TO DARK GREY, THINLY LAMINATED TO MEDIUM BEDDED, INTERBEDDED WITH LIGHT GREY VERY FINE GRAINED SANDSTONE AND DARK GREY MUDSTONE, UNDULATED BEDDING, 70% SILTSTONE/20% SANDSTONE/10% MUDSTONE, MINOR IRON STAIN, GOOD STICK	NDAT	NDAT		
70.78	81.56	10.78	SLST	POSSIBLE FAULT ZONE	MEDIUM GREY, MASSIVE, MODERATELY HARD, OCCASIONAL SANDY INTERVALS, OCCASIONAL ROUND CALCAREOUS NODULES,	NDAT	NDAT		

		CDRE	DESCRIPTION					
TDP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					OCCASIONAL BRECCIATED INTERVAL, FRACTURED AND SLICKENSIDED, LOWER HALF MORE FRACTURED ANDSANDY, FAIR STICK			
81.56	82.07	.51	SS1	BENTONITIC	BEIGE FINE GRAINED, MASSIVE, MODERATELY HARD, SLICKENSIDED, MINOR CALCITE, BENTONITIC CLAY CEMENT, BOTTOM HALF, GREY, MORE CLAYEY, FISSILE	NDAT	NDAT	
82.07	82.22	.15	SS1		GREEN, FINE GRAINED, MASSIVE, HARD, MINOR CALCITE VEINLETS, MINOR PYRITE, BROWN VERY HARD IRON RICH CLAYSTONE AT TOP AND BASE, FAIR STICK	NDAT	NDAT	
82.22	83.22	1.00	SLST	SS1	MEDIUM TO DARK GREY, THIN TO THICKLY LAMINATED, INTERBEDDED WITH VERY FINE GRAINED SANDSTONE, UNDULATED BEDDING, FRACTURED, SMALL SCALE FAULTING, MINOR CALCITE ALONG FRACTURE, GOOD STICK	42.0	82.5	
83.22	86.84	3.62	SS1		MEDIUM GREY, VERY FINE GRAINED, MASSIVE, SLIGHTLY CARBONACEOUS, ARGILLACEOUS, FRACTURED AND SLICKENSIDED	NDAT	NDAT	
86.84	89.08	2.24	SS1	SLST	MEDIUM GREY, VERY FINE GRAINED, THIN	NDAT	NDAT	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					TO THICKLY LAMINATED, INTERBEDDED WITH SILTSTONE, UNDULATED BEDDING, FRACTURED AND SLICKENSIDED, LOWER .37M FINE GRAINED SANDSTONE, IRON STAIN, MINOR CALCITE, FAIR TO GOOD STICK				
89.08	90.30	1.22	SLST		MEDIUM GREY, MASSIVE, FRACTURED, MINOR CALCITE ALONG FRACTURE. FAIR STICK	NDAT	NDAT		
90.30	91.30	1.00	MUDSTONE		DARK GREY, MASSIVE, FRACTURED AND SLICKENSIDED, GOOD STICK	NDAT	NDAT		
91.30	91.60	.30	SS1		MEDIUM GREY, VERY FINE GRAINED, MASSIVE, WELL CONSOLIDATED, MINOR CALCITE VEINLETS, GOOD STICK	NDAT	NDAT		
91.60	92.13	.53	MUDSTONE		DARK GREY, MASSIVE, SILTY, FRACTURED AND SLICKENSIDED, MINOR CALCITE VEINLETS, GOOD STICK	NDAT	NDAT		
92.13	92.35	.22	SLST		LIGHT GREY, MASSIVE, VERY HARD, CALCAREOUS, ABUNDANT CALCITE INFILLED FRACTURES, EXCELLENT STICK	NDAT	NDAT		
92.35	107.74	15.39	MUDSTONE		DARK BROWN, MASSIVE, HARD, ABUNDANT CALCITE HEALED FRACTURES, SILTY IN PART,	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					OCCASIONAL BENTONITE (VOLCANIC ASH) BANDS, OCCASIONAL LONG VERTICAL FRACTURE, MINOR PYRITE BANDS, OCCASIONAL THIN BAND OF FAULT GOUGE, EXCELLENT STICK			
107.74	107.83	.09	BENTONITE		BEIGE TO GREY, SOFT, FRIABLE	NDAT	NDAT	
107.83	109.30	1.47	MUDSTONE		SAME AS ABOVE MUDSTONE UNIT	NDAT	NDAT	
109.30	110.20	.90	SS1		DARK GREY TO GREEN, MASSIVE, CALCITE VEINLETS THROUGHOUT, MINOR PYRITE, SMALL ROUNDED CALCAREOUS AND BROWN VERY HARD IRON RICH CLAYSTONE NODULES, GOOD STICK	NDAT	NDAT	
110.20	110.40	.20	BENTONITE		LIGHT GREY TO BEIGE, SOFT, SOAPY, FRIABLE, INTERBEDDED WITH FINE GRAINED SANDSTONE, BROKEN	NDAT	NDAT	
110.40	111.02	.62	SS1		DARK GREY TO GREEN, VERY FINE GRAINED, MASSIVE, HARD, MINOR CALCITE VEINLETS, GOOD STICK	51.0	110.8	
111.02	113.20	2.18	SLST		MEDIUM TO DARK GREY, MASSIVE, MODERATELY HARD, MICRO MICACEOUS, MINOR PYRITE, MINOR CALCITE VEINLETS, GOOD STICK	NDAT	NDAT	

		CORE		DESCRIPTION			
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM
113.20	121.00	7.80	MUDSTDNE	FAULT ZONE	MEDIUM TO DARK GREY, MASSIVE, MODERATELY HARD. MICRO MICACEOUS, SILTY, OCCASIONAL CALCAREOUS NODULES, OCCASIONAL PYRITE BLEBS, OCCASIONAL BROWN VERY HARD IRONSTONE BANDS, LOWER HALF HAS GREATER PERCENT FRACTURES AND IS SLICKENSIDED, GOOD STICK	NDAT	NDAT
121.00	122.30	1.30	SLST		MEDIUM TO DARK GREY, MASSIVE, CLAYEY, MICRO MICACEOUS, FISSILE, FRIABLE IN PLACES, BROWN VERY HARD IRONSTONE BAND AT 121.70M (.18M THICK) MINOR CALCITE VEINLETS, GOOD STICK	NDAT	NDAT
122.30	128.26	5.96	MUDSTONE	FAULT ZONE	DARK GREY, MASSIVE, MICRO MICACEOUS, SILTY, OCCASIONAL CALCAREOUS AND IRON RICH CLAYSTONE NODULES, OCCASIONAL PYRITE BLEBS, MINOR CALCITE VEINLETS, HIGHLY FRACTURED AND SLICKENSIDED, GOOD STICK	NDAT	NDAT
128.26	130.03	1.77	SS1		DARK GREY TO GREEN, FINE GRAINED, MASSIVE, FAIR CONSOLIDATED, SLIGHTLY CARBONACEOUS, MINOR CALCITE VEINS, FRACTURED, OCCASIONALLY	NDAT	NDAT

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SLICKENSIDED, MINOR CALCITE ALONG FRACTURE, LOWER .20M IRON STAIN, GOOD STICK			
130.03	135.78	5.75	SS1	SLST	LIGHT GREY TO PALE GREEN, FINE GRAINED. THINLY LAMINATED TO MEDIUM BEDDED, INTERBEDDED WITH DARK GREY SILTSTONE AND MINOR MUDSTONE, WAVY DISCONTINUOUS TO UNDULATED, OCCASIONALLY CROSS-BEDDED, OCCASIONAL BROWN VERY HARD IRON RICH CLAYSTONE NODULES, MINOR CALCITE VEINLETS, FRACTURES ALONG BEDDING, OCCASIONALLY SLICKENSIDED, BEDDING ANGLE RANGES FROM 35 DEGREES NEAR TDP TO 50 DEGREES NEAR BASE, GOOD STICK	NDAT	NDAT	
135.78	141.30	5.52	MUDSTONE	FAULT ZONE	MEDIUM TO DARK GREY, MASSIVE, MICRO MICACEOUS, OCCASIONAL SILTY INTERVALS, OCCASIONAL ROUND CALCAREOUS NODULES, OCCASIONAL BROWN VERY HARD IRDN RICH CLAYSTONE NODULES, FRACTURED AND SLICKENSIDED, OCCASIONAL LONG CURVED VERTICAL FRACTURE, FAIR TO BROKEN STICK	NDAT	NDAT	
141.30	142.30	1.00	SS1		DARK GREY VERY FINE GRAINED,	NDAT	NDAT	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					MASSIVE, SLIGHTLY CARBONACEOUS, MINOR COALY FOSSIL DEBRIS, EXCELLENT STICK				
142.30	145.95	3.65	MUDSTDNE	FAULT ZONE	DARK GREY, MASSIVE, SILTY, OCCASIONAL VERY FINE TO FINE GRAINED SANDSTONE INTERVAL, OCCASIONAL BROWN VERY HARD, IRON RICH CLAYSTONE BANDS AND NODULES, MINOR CALCITE VEINS, FRACTURED AND SLICKENSIDED, POSSIBLE FAULT ZONE, FAIR STICK	NDAT	NDAT		
145.95	147.82	1.87	LOST CORE		SUSPECT SAME AS ABOVE	NDAT	NDAT		
147.82	148.47	.65	MUDSTONE		SAME AS ABOVE	NDAT	NDAT		
148.47	150.34	1.87	SS1		GREEN, FINE GRAINED, MASSIVE, SLIGHTLY CARBONACEOUS, MINOR PYRITE, MINOR COAL WISPS, MINOR CALCITE VEINLETS, GOOD STICK	NDAT	NDAT		
150.34	151.95	1.61	MUDSTDNE	SS1	MEDIUM TO DARK GREY, THINLY LAMINATED TO THIN BEDDED, INTERBEDDED WITH GREEN VERY FINE GRAINED SANDSTONE, UNDULATED BEDDING, CARBONACEOUS, OCCASIONAL COALY LAMINAE, OCCASIONAL SLICKENSIDE, GOOD TO EXCELLENT STICK	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
151.95	152.45	.50	COAL		(RECOVERED .45M) MAINLY DULL WITH MINOR BRIGHT BANDS, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE ALONG CLEAT, TRACE PYRITE, RESINOUS, THIN BAND VOLCANIC ASH, LOWER THIRD HIGHER ASH UNIT, GOOD STICK, SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL FAIR (RECOVERY = 90%)	NDAT	NDAT 10	311
152.45	152.63	.18	MUDSTONE		MEDIUM GREY, THINLY LAMINATED, MINOR COAL LAMINAE, MINOR PYRITE, GOOD STICK	NDAT	NDAT	
152.63	155.96	3.33	SS1		LIGHT GREY, VERY FINE TO FINE GRAINED, THINLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH DARK GREY SILTSTONE AND MUDSTONE, WAVY PARALLEL TO WAVY DISCONTINUOUS BEDDING, SOME SOFT SEDIMENT DEFORMATION, SOME SMALL SCALE FAULTING, MINOR IRON STAIN, MINOR CALCITE VEINLETS, GOOD STICK	NDAT	NOAT	
155.96	156.74	.78	MUDSTONE		MEDIUM TO DARK GREY, MASSIVE, MODERATELY HARD TO FISSILE, SLIGHTLY SILTY, SLIGHTLY CARBONACEOUS, FRACTURED AND SLICKENSIDED,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
156.74	157.66	.92	COAL		TRACE SULPHIDE, BROKEN STICK (RECOVERED .92M) BRIGHT AND DULL BANDED, HARD, CUBIC AND CONCHOIDAL FRACTURES, MINOR CALCITE ALONG CLEAT, BLOCKY, BRITTLE IN PLACES, SULPHUR MINERAL AT TOP AND BASE, MINOR PYRITE, EXCELLENT STICK, SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL FAIR (RECOVERY = 100%)	NDAT	NDAT 9	312
157.66	158.78	1.12	SS1	SLST	LIGHT TO MEDIUM GREY, VERY FINE TO FINE GRAINED SANDSTONE, THINLY TO THICKLY LAMINATED, INTERBEDDED WITH DARK GREY SILTSTONE AND MUDSTONE, UNDULATED BEDDING, SOFT SEDIMENT DEFORMATION, BIOTURBATED, SLIGHTLY CARBONACEOUS, LOWER .20M IRON STAINED, EXCELLENT STICK	68.0	158.0	
158.78	161.38	2.60	MUDSTONE	SLST/SS1	MEDIUM TO DARK GREY, THINLY LAMINATED, INTERBEDDED WITH LIGHT GREY SILTSTONE AND MINOR VERY FINE GRAINED SANDSTONE, SLIGHTLY CARBONACEOUS, OCCASIONALLY SLICKENSIDED,	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					MINOR IRON STAIN, GOOD STICK				
161.38	163.29	1.91	COAL		(RECOVERED 1.36M) BRIGHT AND DULL BANDED WITH MINOR BRILLIANT BANDS, HARD, CUBIC AND CONCHOIDAL FRACTURES, MINOR CALCITE AND PYRITE ALONG CLEAT, FAIR TO GOOD STICK, SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL FAIR (RECOVERY = 71%)	NDAT	NDAT 8	313	
163.29	167.25	3.96	SLST	SS1/MDST	LIGHT TO MEDIUM GREY, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH VERY FINE TO FINE GRAINED SANDSTONE AND DARK GREY MUDSTONE, WAVY PARALLEL BEDDING, OCCASIONAL SOFT SEDIMENT DEFORMATION, SANDSTONE OCCASIONALLY CROSS-BEDDED, MINOR BIOTURBATED, ABUNDANT IRON RICH CLAYSTONE LAMINAE, BREAKS EASILY ALONG BEDDING, GOOD STICK	74.0	164.4		
167.25	168.35	1.10	MUDSTONE	FAULT ZONE	DARK GREY, THINLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH LIGHT GREY SILTSTONE AND VERY FINE GRAINED SANDSTONE, HIGHLY FRACTURED AND SLICKENSIDED, HIGHLY POLISHED, OCCASIONAL BROWN	NDAT	NDAT		

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					VERY HARD IRON RICH CLAYSTONE BANDS AND NODULES, BRDKEN				
168.35	168.89	.54	SS1	MDST/FOLD	LIGHT GREY, FINE GRAINED, THINLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH DARK MUDSTONE, CONVOLUTED BEDDING, FAULTED AND FOLDED, ABUNDANT CLAYSTONE CLASTS, AT BASE THERE IS FAULT GOUGE .03M THICK AT 45 DEGREES, FAIR STICK	NDAT	NDAT		
168.89	170.46	1.57	SS1	MDST	LIGHT GREY, THINLY BEDDED, INTERBEDDED WITH DARRK GREY MUDSTONE, OCCASIONAL CROSS-BEDDED SANDSTONE, WAVY PARALLEL BEDDING, SMALL SCALE FAULTING THROUGHOUT, ABUNDANT BROWN IRON RICH CLAYSTONE BANDS AND NODULES THROUGHOUT, LOWER HALF HAS A GREATER PERCENT OF MUDSTONE, GOOD STICK	NDAT	NDAT		
170.46	170.71	.25	SLST		LIGHT GREY, MASSIVE, VERY HARD, CALCAREOUS CEMENTED, MINOR CALCITE HEALED FRACTURE, MINOR IRON STAIN, EXCELLENT STICK	NDAT	NDAT		
170.71	171.90	1.19	SS1	SLST/MDST	LIGHT GREY, THINLY LAMINATED TO VERY	90.0	171.3		

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					THINLY BEDDED, INTERBEDDED WITH DARK GREY SILTSTONE AND MUDSTONE, WAVY PARALLEL BEDDING, MINOR CROSS-BEDDING, ABUNDANT BROWN IRON RICH CLAYSTONE BANDS AND NODULES THROUGHOUT, UPPER HALF GREATER PERCENT OF SILTSTONE, GOOD STICK				
171.90	172.70	.80	SS1		LIGHT GREY, FINE GRAINED, MASSIVE, VERY HARD, CALCAREOUS CEMENTED, FINES UPWARD, EXTENDED FRACTURE AT 172.25M, EXCELLENT STICK	NDAT	NDAT		
172.70	174.00	1.30	SLST	MDST/SS1	DARK GREY THINLY LAMINATED TO THINLY BEDED, INTERBEDDED WITH LIGHT GREY VERY FINE TO FINE GRAINED SANDSTONE AND DARK GREY MUDSTONE, WAVY PARALLEL BEDDING, OCCASIONAL CROSS-BEDDING SANDSTONE, OCCASIONAL BROWN VERY HARD IRON CLAYSTONE BANDS AND NODULES, .06M THICK FAULT GOUGE AT 173.24M, GOOD STICK	NDAT	NDAT		
174.00	174.18	.18	COAL	DIRTY	(RECOVERED .18M) DULL WITH BRIGHT BANDS, HARD, CUBIC AND CONCHOIDAL FRACTURE,	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SANDSTONE LAMINAE, GOOD STICK (NOT SAMPLED)			
174.18	175.91	1.73	SS1	SLST/MDST	LIGHT GREY, VERY FINE TO FINE GRAINED, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH LIGHT GREY SILTSTONE AND DARK GREY MUDSTONE, WAVY PARALLEL TO UNDULATED BEDDING, GRADES FINER UPWARDS, OCCASIONAL IRON RICH BANDS, IRON STAIN, GOOD STICK	80.0	AVG	
175.91	180.50	4.59	MUDSTONE	SLST/SS1/- FAULT	DARK GREY, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH LIGHT GREY SILTSTONE AND VERY FINE GRAINED SANDSTONE, WAVY PARALLEL TO UNDULATED BEDDING, SLIGHTLY CARBONACEOUS, HIGHLY BROKEN, FRACTURED AND SLICKENSIDED, POSSIBLE FAULT ZONE, OCCASIONAL BROWN VERY HARD IRON RICH INTERVAL (.09M-.25M THICK)	NDAT	NDAT	
180.50	181.97	1.47	COAL		(RECOVERED 1.42M) BRIGHT AND DULL BANDED WITH MINOR BRILLIANT BANDS, HARD, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE ALONG CLEAT, MINOR PYRITE, BLOCKY IN PLACES, BRITTLE, EXCELLENT STICK.	NDAT	NDAT 7	314

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					SEPARATION WITH ROOF, VISUAL POOR, PHYSICAL FAIR, SEPARATION WITH FLOOR, VISUAL AND PHYSICAL FAIR (RECOVERY = 97%)				
181.97	189.74	7.77	SLST	MDST/SS1	MEDIUM TO DARK GREY, THINLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH MUDSTONE AND LIGHT GREY VERY FINE TO FINE GRAINED SANDSTONE, WAVY PARALLEL BEDDING, MINOR SOFT SEDIMENT DEFORMATION, OCCASIONAL BIOTURBATED, OCCASIONAL BROWN VERY HARD IRON RICH CLAYSTONE BANDS AND NODULES, MINOR CALCITE VEINLETS, SMALL SCALE FAULTING AND FOLDING, GRADES FINER UPWARDS, LOWER .20M CARBONACEOUS MUDSTONE, TRACE PYRITE, GOOD STICK	68.0	188.0		
189.74	189.84	.10	COAL		(RECOVERED .10M) DULL, HARD, PYRITE MINERAL, CALCITE VEINLETS, DIRTY, GOOD STICK (NOT SAMPLED)	NDAT	NDAT		
189.84	189.94	.10	SS1		DARK GREY, FINE GRAINED, MASSIVE, WELL CONSOLIDATED, IRON STAIN, EXCELLENT STICK	NDAT	NDAT		
189.94	192.20	2.26	COAL	POSSIBLE FAULT	(RECOVERED 1.97M) MAINLY DULL WITH BRIGHT BANDS, HARD, FRACTURED	NDAT	NDAT 6		315

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					AND SLICKENSIDED, MINOR CALCITE ALONG FRACTURE AND CLEAT, TRACE PYRITE, BROKEN STICK, SEPARATION WITH ROOF, VISUAL AND PHYSICAL GOOD. SEPARATION WITH FLOOR, VISUAL AND PHYSICAL FAIR (RECOVERY = 87%)			
192.20	192.91	.71	MUDSTONE		MEDIUM GREY, MASSIVE, SILTY, FISSILE, SLIGHTLY CARBONACEOUS, GOOD STICK	NDAT	NDAT	
192.91	193.84	.93	COAL		(RECOVERED .93M) DULL AND BRIGHT BANDED, HARD, CONCHOIDAL AND CUBIC FRACTURE, TRACE PYRITE, EXCELLENT STICK, SEPARATION WITH ROOF, VISUAL FAIR, PHYSICAL GOOD, SEPARATION WITH FLOOR, VISUAL POOR, PHYSICAL FAIR (RECOVERY = 100%)	74.0	193.5 5	316
193.84	194.58	.74	MUDSTONE		MEDIUM GREY, MASSIVE, SLIGHTLY CARBONACEOUS, COALY PLANT DEBRIS THROUGHOUT, SLIGHTLY SILTY, SLICKENSIDED, GOOD STICK	NDAT	NDAT	
194.58	195.21	.63	COAL		(RECOVERED .63M) MAINLY DULL WITH BRIGHT BANDS, HARD, MINOR CALCITE WISPS, TRACE PYRITE, EXCELLENT STICK, SEPARATION WITH ROOF, VISUAL POOR, PHYSICAL FAIR,	72.0	195.0 4	317

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SEPARATION WITH FLOOR. VISUAL AND PHYSICAL FAIR (RECOVERY = 100%)			
195.21	197.05	1.84	MUDSTONE	SLST	DARK GREY, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH LIGHT GREY SILTSTONE AND MINOR VERY FINE GRAINED SANDSTONE, WAVY PARALLEL BEDDING, SOME SOFT SEDIMENT DEFORMATION, OCCASIONALLY SLICKENSIDED, GOOD STICK	68.0	196.0	
197.05	199.50	2.45	SLST	SS1/MDST	MEDIUM GREY, THINLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH LIGHT GREY FINE GRAINED SANDSTONE AND MUDSTONE, WAVY PARALLEL TO UNDULATED BEDDING, OCCASIONAL VERY HARD CALCITE CEMENTED INTERVALS (.10M-30M THICK), OCCASIONAL FRIABLE SANDSTONE INTERVAL, FAIR TO GOOD STICK	NDAT	NDAT	
199.50	200.60	1.10	SS1		MEDIUM TO DARK GREY, MASSIVE, VERY ARGILLACEOUS, FRIABLE IN PLACES, GOOD STICK	NDAT	NDAT	
200.60	210.20	9.60	SS1		LIGHT TO MEDIUM GREY, FINE GRAINED, THINLY LAMINATED TO MEDIUM BEDDED, INTERBEDDED WITH SILTSTONE AND MUDSTONE, WAVY PARALLEL BEDDING,	78.0	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					OCCASIONAL CROSS-BEDDED SANDSTONE, CARBONACEOUS IN PLACES, OCCASIONAL BROWN VERY HARD IRON RICH CLAYSTONE BANOS AND NODULES, GOOD STICK				
210.20	212.18	1.98	MUDSTONE		DARK GREY, MASSIVE, MODERATELY HARD, SLIGHTLY CARBONACEOUS, FISSILE IN PLACES, OCCASIONALLY SLICKENSIDED, MINOR VERY FINE GRAINED SANDSTONE LAMINAE NEAR BASE, FAIR STICK	NDAT	NDAT		
212.18	212.78	.60	SS1	MDST	LIGHT GREY TO PALE GREEN, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH DARK GREY CARBONACEOUS MUDSTONE, WAVY PARALLEL BEDDING. LOWER .20M GREEN FINE GRAINED SANDSTONE, FINING UPWARDS FROM BASE, GOOD STICK	NDAT	NDAT		
212.78	214.83	2.05	COAL		(RECOVERED 2.05M) DULL AND BRIGHT BANDED, HARD, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE ALONG CLEAT, BRITTLE, MINOR PYRITE, HIGH ASH INTERVAL AT 213.96-214.14M, CARBONACEOUS MUDSTONE, EXCELLENT STICK, SEPARATION	72.0	212.9 3	318	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					WITHROOF, VISUAL EXCELLENT, PHYSICAL GOOD, SEPARATION WITH FLOOR, VISUAL FAIR, PHYSICAL GOOD (RECOVERY = 100%)				
214.83	216.16	1.33	MUDSTONE	CARBONACE- OUS	MEDIUM GREY, MASSIVE, CARBONACEOUS, FOSSIL PLANT DEBRIS THROUGHOUT, SLIGHTLY SILTY, MINOR SANDSTONE LAMINAE, LOWER .20M BROWN VERY HARD WELL CEMENTED MUDSTONE, IRON STAIN, GOOD STICK	NDAT	NDAT		
216.16	216.86	.70	SS1	MDST	LIGHT TO MEDIUM GREY, VERY THINLY BEDDED, INTERBEDDED WITH DARK GREY MUDSTONE LAMINAE, 50% FINE GRAINED SANDSTONE/50% MUDSTONE, WAVY PARALLEL TO DISCONTINUOUS BEDDING, SOME SOFT SEDIMENT DEFORMATION, GOOD STICK	NDAT	NDAT		
216.86	218.62	1.76	MUDSTONE	CARBONACE- OUS	MEDIUM GREY, SAME AS ABOVE MUDSTONE UNIT	NDAT	NDAT		
218.62	218.81	.19	COAL	DIRTY	(RECOVERED .19M) MAINLY DULL WITH MINOR BRIGHT BANDS, HARD, CUBIC AND CONCHOIDAL FRACTURE, RESINOUS, TRACE PYRITE, GOOD STICK (NOT SAMPLED)	NDAT	NDAT		
218.81	220.13	1.32	MUDSTONE	CARBONACE- OUS	MEDIUM GREY, SAME AS MUDSTONE UNIT	NDAT	NDAT		

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					ABOVE				
220.13	221.17	1.04	COAL		(RECOVERED .94M) BRIGHT AND OULL BANDED, HARD, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE ALONG CLEAT, MINOR HIGH ASH BANDS, BLOCKY, BRITTLE IN PLACES, FAIR STICK, SEPARATION WITH ROOF, VISUAL AND PHYSICAL GOOD, SEPARATION WITH FLOOR, VISUAL FAIR, PHYSICAL GOOD (RECOVERY = 90%)	NDAT	NDAT 2	319	
221.17	221.20	.03	BENTONITE		BEIGE, SOFT, FRIABLE, COALY DEBRIS	NDAT	NDAT		
221.20	224.05	2.85	MUDSTONE	SS1/POSSI- BLE FAULT	DARK GREY, THINLY LAMINATED, INTERBEDDED WITH LIGHT GREY VERY FINE GRAINED SANDSTONE, UNDULATED BEDDING, OCCASIONAL BROWN VERY HARD WELL CEMENTED INTERVALS IRON STAIN, ABUNDANT CALCITE VEINLETS, FRIABLE TO FISSILE IN PLACES, OCCASIONALLY SLICKENSIDED, GOOD STICK	NDAT	NDAT		
224.05	228.91	4.86	MUDSTDNE	CARBONACE- OUS	DARK GREY, MASSIVE, SLIGHTLY SILTY, COALY DEBRIS THROUGHOUT, MINOR COAL INTERVALS, OCCASIONAL SLICKENSIDED FRACTURE, GOOD TO	NOAT	NDAT		

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					EXCELLENT STICK				
228.91	229.55	.64	COAL		(RECOVERED .64M) MAINLY DULL WITH MINOR BRIGHT BANDS, HARD, CONCHOIDAL AND CUBIC FRACTURE, HIGH ASH INTERVAL 229.05-229.14M, GOOD STICK, SEPARATION WITH ROOF, VISUAL POOR, PHYSICAL FAIR, SEPARATION WITH FLOOR, VISUAL POOR, PHYSICAL FAIR (RECOVERY = 100%)	NDAT	NDAT	320	
229.55	230.35	.80	MUDSTONE		MEDIUM GREY, MASSIVE, SLIGHTLY SILTY, HARD, FOSSILIFEROUS, GOOD STICK	NDAT	NDAT		
230.35	238.70	8.35	SLST	SS1	MEDIUM GREY, THINLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH LIGHT GREY VERY FINE TO FINE GRAINED SANDSTONE AND MUDSTONE, UNDULATED BEDDING, OCCASIONAL LIGHT GREY, VERY HARD CALCITE CEMENTED INTERVAL WITH ABUNDANT CALCITE INFILLED FRACTURE, GOOD TO EXCELLENT STICK	62.0	231.5		
238.70	250.46	11.76	MUDSTONE		DARK GREY, MASSIVE, SILTY, OCCASIONAL BROWN VERY HARD IRON RICH BAND AND NODULES, GOOD TO EXCELLENT STICK	NDAT	NDAT		
250.46	263.32	12.86	SLST		DARK GREY, MASSIVE,	NDAT	NDAT		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					OCCASIONAL BROWN VERY HARD IRON RICH INTERVALS, MINOR CALCITE VEINLETS, MINOR PYRITE, EXCELLENT STICK			
263.32	-1.00	-1.00	UNKNOWN		TOTAL DEPTH	NDAT	NDAT	

HOLE . ID		CORE DESCRIPTION						
PROJECT	TW82D-250							
AREA	TELKWA							
DRIL . DATE	SMITHERS							
LOG . DATE	NO . DATA							
EXAMINED . BY	820900							
	R . KDSTIUK							
TOP	BASE	THICK	LITHOLOGY	MIN . LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	40.30	40.30	OVERBURDEN	SAND, SILT	DRILLED WITH ROCK BIT - NO CORE RECOVERY - SEE HOLE #250-A FOR LITHOLOGY FOR THIS INTERVAL	NOAT	NOAT	
40.30	40.65	.35	SS1	SLST	LIGHT TO MEDIUM GREY, VERY FINE GRAIN SANDSTONE, THICKLY LAMINATED TO VERY THINLY BEDDED INTERBEDDED WITH SILTSTONE, WAVY PARALLEL, OCCASIONAL CROSS-BEDDED, MODERATELY HARD, FRIABLE IN PLACES, HIGHLY FRACTURED AND SLICKENSIDED, BROKEN STICK	NDAT	NDAT	
40.65	42.60	1.95	SS1	ARGILLACEOUS	LIGHT GREY, VERY FINE GRAIN SANDSTONE, MASSIVE, MODERATELY HARD, FRIABLE IN PLACES	NDAT	NDAT	
42.60	49.10	6.50	SS1	SLST	LIGHT GREY, VERY FINE GRAIN SANDSTONE, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH FINE GRAIN SANDSTONE AND SILTSTONE, OCCASIONAL CROSS-BEDDED, WAVY PARALLEL BEDDING, MODERATELY HARD, FRIABLE IN PLACES, OCCASIONAL ARGILLACEOUS	64.0	AVG	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					INTERVALS, SOFT SEDIMENTARY DEFORMATION, FRACTURE PERPENDICULAR TO BEDDING, BREAKS EASILY ALONG BEDDING PLANE, MICRO FAULTS, FAIR STICK			
49.10	52.42	3.32	SS1	SLST/FOLD- ED	LIGHT GREY, FINE GRAIN SANDSTONE, THINLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH SILTSTONE, CROSS-BEDDED, WAVY PARALLEL TO CONVOLUTED BEDDING, BEDDING ANGLE RANGES FROM 0-64 DEGREES, FOLDED, MICRO FAULTED, SLICKENSIDED, MINOR CALCITE INFILL FRACTURE AND VEINLETS, OCCASIONAL VERY HARD BROWN IRON RICH CLAYSTONE BAND, FAIR TO GOOD STICK	NDAT	NDAT	
52.42	52.88	.46	COAL	POSSIBLE FAULT	RECOVERED .42M; DULL AND BRIGHT BANDED WITH MINOR SHINY OR BRILLANT BANDS, ABUNDANT CALCITE VEINLETS, BLDCKY, HARD, SLICKENSIDED, TRACES OF PYRITE, BROKEN TO FAIR STICK - RECOVERY 91% - SEPARATION WITH ROOF, VISUAL - EXCELLENT, PHYSICAL - GOOD; SEPARATION WITH FLOOR, VISUAL - EXCELLENT, PHYSICAL - GOOD	5.0	52.4	177

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
52.88	54.10	1.22	SS1	SLST	LIGHT GREY, FINE GRAIN SANDSTONE, VERY THINLY TO THINLY BEDDED, INTERBEDDED WITH SILTSTONE, WAVY PARALLEL, CROSS-BEDDED, CARBONACEOUS FLECKS, SLICKENSIDED, GOOD STICK	NDAT	NDAT	
54.10	59.12	5.02	MUDSTONE	SLST/SS1	MEDIUM TO DARK GREY, THINLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH SILTSTONE AND MINOR VERY FINE GRAIN SANDSTONE, WAVY PARALLEL, OCCASIONAL CROSS-BEDDED, MODERATELY HARD, BREAKS EASILY ALONG BEDDING PLANE, OCCASIONAL SLICKENSIDED, OCCASIONAL MICRO FAULTED, FAULT GOUGE AT 56.9M (.02M THICK) AND 57.15M (.03M THICK), MINOR IRON STAIN, GOOD STICK	64.0	AVG	
59.12	62.46	3.34	SLST	SS1/MDST	LIGHT TO MEDIUM GREY, THINLY LAMINATED TO THINLY BEDDED INTERBEDDED WITH VERY FINE TO FINE GRAINED SANDSTONE AND MUDSTONE, CROSS-BEDDED, WAVY PARALLEL, MODERATELY HARD, BREAKS EASILY ALONG BEDDING PLANE, OCCASIONAL BROWN VERY HARD IRON RICH	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					CLAYSTONE BANDS AND NODULES, FAULT GOUGE AT 62.2M (.06M THICK). GOOD STICK			
62.46	69.62	7.16	MUDSTONE	SS1/SLST	DARK GREY TO BLACK, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH LIGHT GREY VERY FINE GRAIN SANDSTONE AND DARK GREY SILTSTONE. WAVY PARALLEL TO WAVY DISCONTINUOUS, OCCASIONAL CROSS-BEDDED, PLANAR, MODERATELY HARD, SLIGHTLY CARBONACEOUS, MICACEOUS, OCCASIONAL BROWN VERY HARD IRON RICH CLAYSTONE BANDS, MINOR CALCITE VEINLETS. FAULTED AT 64.0M BEDDING < AT 20 DEGREES (.20M THICK ZONE), GOOD STICK	78.0	AVG	
69.62	70.02	.40	COAL		RECOVERED .32M; BRIGHT WITH DULL BANDS, HARD, BLOCKY, BRITTLE IN PLACES, HIGH ASH INTERVAL AT 69.82-69.87M, BROKEN STICK - RECOVERY 80% - SEPARATION WITH ROOF, VISUAL - FAIR, PHYSICAL - GOOD; SEPARATION WITH FLOOR VISUAL - FAIR, PHYSICAL - GOOD	NDAT	NDAT	178
70.02	74.43	4.41	SLST	SS1	LIGHT TO MEDIUM GREY, VERY THINLY	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BEDDED, INTERBEDDED WITH VERY FINE GRAIN SANDSTONE AND MUDSTONE, OCCASIONAL CROSS-BEDDED, WAVY PARALLEL BEDDING, MODERATELY HARD, OCCASIONAL SLICKENSIDED, MINOR MICRO FAULTING, OCCASIONAL BROWN VERY HARD IRON RICH CLAYSTONE BANDS, MINOR CALCITE VEINLETS, BECOMING SANDIER TOWARDS BASE, GOOD STICK			
74.43	76.30	1.87	COAL	POSSIBLY FAULTED	RECOVERED 1.20M; DULL, SOFT TO MODERATELY HARD, HIGHLY FRACTURED AND SLICKENSIDED, BROKEN TO POWDERY, POOR STICK - RECOVERY 64% - SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL - ?	NDAT	NDAT 6	179
76.30	79.31	3.01	MUDSTONE	SLST	MEDIUM TO DARK GREY, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH SILTSTONE, WAVY PARALLEL, PLANAR, OCCASIONAL CROSS-BEDDED, MODERATELY HARD, SLIGHTLY CARBONACEOUS, OCCASIONAL BROWN VERY HARD IRON CLAYSTONE BANDS, GOOD STICK	74.0	AVG	
79.31	79.67	.36	SLST	MDST	LIGHT TO MEDIUM GREY, THINLY	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					LAMINATED, INTERBEDDED WITH DARK GREY MUDSTONE AND MINOR LIGHT GREY VERY FINE GRAIN SANDSTONE, WAVY PARALLEL, OCCASIONAL CROSS-BEDED, MODERATELY HARD, GOOD STICK			
79.67	79.76	.09	COAL	SHALEY	RECOVERED .09M; DULL, HARD, SHALEY, MINOR CALCITE, TRACES PYRITE, GOOD STICK - NOT SAMPLED -	NDAT	NDAT	
79.76	80.52	.76	MUDSTONE		MEDIUM GREY, MASSIVE, MODERATELY HARD, CARBONACEOUS, SILTY, PLANT FOSSIL, GOOD STICK	NDAT	NDAT	
80.52	82.82	2.30	SLST	SS1/MDST	LIGHT TO MEDIUM GREY, THINLY TO THICKLY LAMINATED, INTERBEDDED WITH FINE GRAIN SANDSTONE AND MINOR DARK GREY MUDSTONE, CROSS-BEDED, WAVY PARALLEL BEDDING, MODERATELY HARD, BREAKS EASILY ALONG BEDDING PLANE, GOOD STICK	76.0	AVG	
82.82	83.96	1.14	MUDSTONE	SLST	DARK GREY, THINLY LAMINATED INTERBEDDED WITH SILTSTONE, CARBONACEOUS, MODERATELY HARD, GOOD STICK	NDAT	NDAT	
83.96	86.15	2.19	COAL	CLEAN	RECOVERED 2.02M; BRIGHT AND DULL BANDED WITH SHINY BANDS, CUBIC AND CONCHOIDAL	74.0	NDAT 5	180

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					FRACTURE, MINOR CALCITE CLEATS, TRACE PYRITE, BRITTLE IN PLACES, HARD, EXCELLENT STICK, VOLCANIC HIGH ASH AT 84.70, - RECOVERY 92% - SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL - GOOD				
86.15	86.59	.44	MUDSTONE	CARBONACE- OUS	MEDIUM GREY, MASSIVE, HARD, CARBONACEOUS, SLIGHTLY SILTY FRACTURED AND SLICKENSIDED, TOP .08M COMPACTED FAULT GOUGE, FAIR STICK	NDAT	NDAT		
86.59	87.03	.44	MUDSTONE		MEDIUM GREY, MASSIVE, VERY HARD, IRON STAIN, CALCITE VEINLETS, VISIBLE PYRITE, SLIGHTLY CARBONACEOUS	NDAT	NDAT		
87.03	90.06	3.03	MUDSTONE		MEDIUM GREY, MASSIVE, MODERATELY HARD TO HARD, CARBONACEOUS, SILTY, OCCASIONAL COALY INTERVAL, COALY PLANT DEBRIS THROUGHOUT, OCCASIONAL SLICKENSIDED, HIGHLY POLISHED, LOWER 40CM COALY, EXCELLENT STICK	NDAT	NDAT		
90.06	91.26	1.20	COAL		RECOVERED 1.16M: BRIGHT AND DULL BANDED WITH OCCASIONAL BRILLANT BANDS, CUBIC AND CONCHOIDAL FRACTURE, HARD,	74.0	NDAT 4	181	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					MINOR CALCITE ALONG CLEAT, TRACE PYRITE, BRITTLE IN PLACES, .05M THICK PYRITIC ZONE AT 90.52M; EXCENLLENT STICK- RECOVERY 97% - SEPARATION WITH ROOF, VISUAL - FAIR, PHYSICAL - GOOD; SEPARATION WITH FLOOR, VISUAL - FAIR, PHYSICAL - GOOD				
91.26	93.30	2.04	MUDSTONE	SLST	MEDIUM GREY, THINLY LAMINATED, INTERBEDDED WITH LIGHT GREY SILTSTONE, EVEN WAVY PARALLEL BEDDING, MODERATELY HARD, SLIGHTLY CARBONACEOUS, EXCELLENT STICK	77.0	AVG		
93.30	93.90	.60	SLST	MDST	MEDIUM GREY, THICKLY LAMINATED, INTERBEDDED WITH DARK GREY MUDSTONE, CROSS-BEDDED, WAVY DISCONTINUOUS BEDDING, MODERATELY HARD, OCCASIONAL BROWN VERY HARD IRON RICH CLAYSTONE BANDS, GOOD STICK	NDAT	NDAT		
93.90	96.45	2.55	SS1	SLST	LIGHT TO MEDIUM GREY, VERY FINE TO FINE GRAINED SANDSTONE, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH SILTSTONE AND MINDR MUDSTONE, CROSS-BEDDED, WAVY DISCONTINUOUS BEDDING, SMALL SCALE FOLDING,	NDAT	NDAT		

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					MODERATELY HARD, CARBONACEOUS PLANT DEBRIS, MINDR IRON STAIN, OCCASIONAL VERY HARD CALCAREOUS CEMENTED INTERVAL, FOSSIL SHELLS (BRACH), GOOD STICK				
96.45	97.62	1.17	MUDSTDNE	SLST/SS1/- FAULT	FAULT ZONE? MEDIUM TO DARK GREY, THINLY LAMINATED TO THICKLY BEDDED, INTERBEDDED WITH SILTSTONE AND MINDR VERY FINE GRAIN SANDSTONE, WAVY PARALLEL, MODERATELY HARD, FRACTURED AND SLICKENSIDED, HIGHLY POLISHED, BROKENSTICK	NDAT	NDAT		
97.62	100.63	3.01	SLST	SS1	MEDIUM TO DARK GREY, THICKLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH VERY FINE TO FINE GRAINED SANDSTONE AND MUDSTDNE, WAVY CONVOLUTED BEDDING, OCCASIONAL SLUMP, OCCASIONAL MICRO FAULT, FRACTURED AND SLICKENSIDED, OCCASIONAL CURVED FRACTURE, COALY PLANT FOSSIL DEBRIS, OCCASIONAL COAL WISPS, MODERATELY HARD, GOOD STICK	35.0	NDAT		
100.63	101.07	.44	MUDSTONE		DARK GREY, MASSIVE, MODERATELY HARD, SILTY, SLICKENSIDED, GOOD STICK	NDAT	NDAT		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
101.07	102.34	1.27	SS1		GREY TO BROWN, FINE GRAIN, MASSIVE, MODERATELY HARD TO FRIABLE, FISSILE IN PLACES, VERY ARGILLACEOUS, CARBONACEOUS DEBRIS, SHELL FOSSIL, FAIR STICK	NDAT	NDAT	
102.34	106.01	3.67	SS1	SLST/MDST FAULTED	LIGHT TO MEDIUM GREY, VERY FINE TO FINE GRAINED SANDSTONE, VERY THINLY TO MEDIUM BEDDED, INTERBEDDED WITH SILTSTONE AND DARK GREY MUDSTONE, WAVY PARALLEL, CROSS-BEDDED, ABUNDANT MICRO FAULTS, OCCASIONAL SLUMP, OCCASIONAL VERY HARD BROWN IRON RICH CLAYSTONE BANDS, SHELL FOSSIL FRAGMENT AT 104.0M (.05M THICK), FAULT ZONE AT 104.44-105.44M, FRACTURED AND SLICKENSIDED, HARD, GREEN FINE GRAIN SANDSTONE AT BASE, BOTTOM .10M PYRITE BAND, GOOD STICK	70.0	AVG	
106.01	107.01	1.00	COAL		RECOVERED 1.00M; MAINLY DULL WITH MINOR BRIGHT BANDS, HARD, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE ALONG CLEAT, TRACE PYRITE, EXCELLENT STICK - RECOVERY 100% - SEPARATION WITH ROOF, VISUAL	NDAT	NDAT 3	182

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					AND PHYSICAL - GOOD; SEPARATION WITH FLOOR, VISUAL - FAIR, PHYSICAL - GOOD			
107.01	107.35	.34	MUOSTONE	SL,CARBON- ACEOUS	BROWN TO GREY, MASSIVE, MODERATELY HARD TO FISSILE, CARBONACEOUS PLANT FOSSIL DEBRIS, TRACE PYRITE, GOOD STICK	NDAT	NDAT	
107.35	107.90	.55	COAL		RECOVERED .47M; DULL AND BRIGHT BANDED WITH MINOR BRILLANT BANDS, HARD, BLOCKY, MINOR CALCITE ALONG CLEAT, TRACE PYRITE, CUBIC AND CONCHOIDAL FRACTURE, GOOD STICK - RECOVERY 85% - SEPARATION WITH ROOF, VISUAL - FAIR, PHYSICAL - GOOD; SEPARATION WITH FLOOR - VISUAL - GOOD, PHYSICAL - FAIR	NDAT	NDAT 3	183
107.90	111.56	3.66	SLST	SS1/MOST	LIGHT TO MEDIUM GREY, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH VERY FINE GRAIN SANDSTONE AND DARK GREY MUDSTONE, CROSS-BEDDED WAVY PARALLEL BEDDING, MODERATELY HARD, OCCASIONAL BROWN VERY HARD IRON RICH CLAYSTONE BANDS, BREAKS EASILY ALONG BEDDING PLANE, FRACTURE HORIZONTAL AND PERPENDICULAR TO BEDDING, GOOD	66.0	AVG	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					STICK			
111.56	112.86	1.30	SLST	MDST	MEDIUM TO DARK GREY, THINLY LAMINATED INTERBEDDED WITH MUDSTONE AND LIGHT GREY VERY FINE GRAIN SANDSTONE. WAVY PARALLEL, MODERATELY HARD, MOSTLY ARGILLACEOUS, GOOD STICK	NDAT	NDAT	
112.86	118.57	5.71	SS1	SLST/MDST	LIGHT TO MEDIUM GREY, VERY FINE TO FINE GRAIN SANDSTONE, THICKLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH SILTSTONE AND DARK GREY MUDSTONE, CROSS-BEDDED, WAVY PARALLEL TO WAVY DISCONTINUOUS BEDDING, MODERATELY HARD TO FRIABLE, FISSILE IN PLACES, BREAKS HORIZONTALLY AND PERPENDICULAR TO BEDDING, OCCASIONAL VERY HARD BROWN IRON CLAYSTONE BANDS, LOWER THIRD BECOMING MORE FINE, GRADING TO MUDSTONE AT BASE, GOOD STICK	70.0	NDAT	
118.57	119.27	.70	COAL	POSSIBLE FAULT	RECOVERED .28M; MAINLY DULL, HARD, BLOCKY, MINOR CALCITE ALONG CLEAT, TRACE PYRITE, FRACTURED AND SLICKENSIDED, VOLCANIC ASH AT BASE, POOR STICK - RECOVERY 40% - SEPARATION WITH	NDAT	NDAT 2	184

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					ROOF, VISUAL AND PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - ?				
119.27	120.37	1.10	MUDSTONE	FAULT	DARK GREY, MASSIVE, MODERATELY HARD, SLIGHTLY CARBONACEOUS COALY DEBRIS, MINOR COAL BED AT 119.84-119.88M, FISSILE IN PLACES, FRACTURED AND SLICKENSIDED, POOR STICK	NDAT	NDAT		
120.37	120.68	.31	COAL		RECOVERED .18M; BRIGHT, HARD, BRITTLE, HIGHLY FRACTURED AND SLICKENSIDED, HIGHLY POLISHED, POOR STICK - RECOVERY 58% - SEPARATION WITH ROOF, VISUAL - POOR, PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - FAIR	NDAT	NDAT 2	185	
120.68	121.90	1.22	SLST	FAULT	MEDIUM TO DARK GREY, MASSIVE, MODERATELY HARD, SLIGHTLY CARBONACEOUS, THIN COAL BEDS, COALY PLANT REMAINS, HIGHLY FRACTURED AND SLICKENSIDED, POOR STICK	NDAT	NDAT		
121.90	122.36	.46	COAL	FAULT	RECOVERED .22M; HIGHLY CRUMBLED AND SLICKENSIDED, POWDERY - RECOVERY 48% - SEPARATION WITH ROOF AND FLOOR UNCERTAIN DUE TO CONDITION	NDAT	NDAT 2	185A	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					OF COAL			
122.36	126.69	4.33	SLST	POSSIBLE FAULT	MEDIUM GREY, MASSIVE, HARD, COALY PLANT DEBRIS THROUGHOUT, FOSSIL SHELL (BRACHS), FRACTURED AND SLICKENSIDED. HIGHLY POLISHED, GOOD STICK	NDAT	NDAT	
126.69	127.09	.40	COAL	DIRTY/FAU- LT	RECOVERED .22M; DULL, EARTHY, HIGHLY BROKEN, POWDERY, POOR STICK - RECOVERY 55% - SEPARATION WITH ROOF, VISUAL - POOR, PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL - POOR, PHYSICAL - FAIR	NDAT	NDAT	186
127.09	134.00	6.91	SS1	SLST	LIGHT TO MEDIUM GREY, THINLY BEDDED, INTERBEDDED WITH DARK GREY SILTSTONE. OCCASIONAL CROSS-BEDDED, WAVY PARALLEL BEDDING, MODERATELY HARD TO HARD, COALY FRAGMENTS THROUGHOUT, SANDSTONE GRADE UPWARDS TO COARSE, OCCASIONAL SOFT SEDIMENT LOADING, OCCASIONAL BROWN VERY HARD IRON RICH CLAYSTONE	74.0	128.6	
134.00	134.16	.16	COAL	DIRTY	RECOVERED .16M; DULL, SHALEY - NOT SAMPLED -	NDAT	NDAT	
134.16	134.86	.70	MUDSTONE		MEDIUM GREY, MASSIVE, MODERATELY HARD, FISSILE IN PLACES.	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH	SEAM	SNUM
					SLIGHTLY CARBONACEOUS, FAIR STICK				
134.86	142.28	7.42	SLST	SS1	MEDIUM GREY, THIN TO MEDIUM BEDDED, INTERBEDDED WITH FINE SANDSTONE AND MINOR MUDSTONE, SHELL FOSSIL BED AT 187.8 (.06M THICK), ABUNDANT IRON RICH CLAYSTONE LAYERS, MINOR COAL WISPS. GOOD TO EXCELLENT STICK	71.0	138.7		
142.28	145.30	3.02	SLST	FAULT ZONE	AS ABOVE, POOR STICK	NDAT	NDAT		
145.30	160.35	15.05	SLST		AS ABOVE, GOOD STICK	NDAT	NDAT		
160.35	160.92	.57	SS1		LIGHT GREY, MEDIUM BEDDED, CARBONACEOUS	60.0	160.7		
160.92	162.50	1.58	SLST		MEDIUM GREY, MASSIVE, FRIABLE, GOOD STICK	NDAT	NDAT		
162.50	162.80	.30	SS1		LIGHT GREY, MASSIVE, CARBONACEOUS, GOOD STICK	NDAT	NDAT		
162.80	172.50	9.70	SLST		AS ABOVE, SILTSTONE ABUNDANT	65.0	169.5		
172.50	-1.00	-1.00	UNKNOWN		172.5 TOTAL DEPTH	NDAT	NDAT		

CORE DESCRIPTION

HOLE.ID TW82D-250A
 PROJECT TELKWA
 AREA SMITHERS
 DRIL.DATE 820816
 LOG.DATE 820927
 EXAMINED.BY R.KOSTIUK

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	31.10	31.10	OVERBURDEN	GRAVEL/SA- ND/BDULDE- RS	DRILLED WITH ROCK BIT, NO CORE RECOVERY, CASING SHOE AT 30.0M	NDAT	NDAT	
31.10	33.40	2.30	SS1	SLST	LIGHT GREY, VERY FINE TO FINE GRAINED, THINLY LAMINATED TO VERY THINLY BEDDED, EVEN TO WAVY PARALLEL, SOFT SEDIMENT DEFORMATION, BROKEN TO RUBBLE	47.0	AVG	
33.40	33.79	.39	LOST.CORE		SUSPECT AS ABOVE, GRADING TO MUDSTONE AT BASE	NDAT	NDAT	
33.79	34.19	.40	MUDSTONE	CARBONACE- OUS	MEDIUM TO DARK GREY, MASSIVE, SILTY, COALY PLANT DEBRIS, BROKEN	NDAT	NDAT	
34.19	35.90	1.71	COAL		(RECOVERED .92M), DULL AND BRIGHT BANDED, HARD, BLUE COLOURED BANDS (SULPHIDES), BROKEN TO RUBBLE, SLICKENSIDED, SEPARATION WITH ROOF AND FLOOR QUESTIONABLE DUE TO CORE LOSS (RECOVERY = 54%)	NDAT	NDAT 8	336
35.90	36.18	.28	MUDSTONE	SLST	LIGHT GREY, MASSIVE, FISSILE, BROWN VERY HARD IRON RICH SILTSTONE BAND, BROKEN TO RUBBLE	NDAT	NDAT	
36.18	36.56	.38	COAL		(RECOVERED .12M)	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					DULL, HARD, HIGHLY BROKEN TO RUBBLE, SEPARATION WITH ROOF AND FLOOR QUESTIONABLE DUE TO CORE LOSS, NOT SAMPLED (RECOVERY - 32%)			
36.56	36.76	.20	MUDSTONE		MEDIUM GREY, MASSIVE, FISSILE, HIGHLY FRACTURED AND SLICKENSIDED, BROKEN	NDAT	NDAT	
36.76	37.20	.44	LOST.CORE	MDST	SUSPECT SAME AS ABOVE	NDAT	NDAT	
37.20	38.70	1.50	SLST		MEDIUM TO DARK GREY, MASSIVE, HARD, FISSILE IN PLACES, FRACTURED AND SLICKENSIDED, FAIR STICK	NDAT	NDAT	
38.70	44.80	6.10	SS1	SLST	LIGHT TO MEDIUM GREY, FINE GRAINED SANDSTONE, THINLY LAMINATED TO THINLY BEDDED, WAVY PARALLEL, OCCASIONAL CROSS-BEDDED, INTERBEDDED WITH DARK GREY SILTSTONE AND MINOR MUDSTONE, OCCASIONAL VERY HARD BROWN IRON RICH BANDS AND NODULES, MINOR CALCITE VEINLETS, ARGILLACEOUS INTERVALS, FRIABLE, FAIR CONSOLIDATED, BROKEN TO FAIR STICK	NDAT	NDAT	
44.80	-1.00	-1.00	UNKNOWN		TOTAL DEPTH	NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TW82D-251
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820819
 LOG DATE 820909
 EXAMINED BY R.KOSTIUK

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	8.67	8.67	OVERBURDEN		DRILLED WITH ROCK BIT, NO CORE RECOVERY, CASING SET AT 10.3M	NDAT	NDAT	
8.67	27.60	18.93	SLST	SS1	MEDIUM GREY, THINLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH LIGHT GREY VERY FINE GRAINED SANDSTONE, UNDULATED BEDDING TO WAVY PARALLEL, MICRO MICACEOUS, ARGILLACEOUS, ABUNDANT VERY HARD CALCITE NODULES AND INTERVALS RANGING FROM .01M IN DIAMETER TO .60M THICK, SOFT SEDIMENT DEFORMATION, OCCASIONAL CROSS-BEDDED SANDSTONE, MINOR IRON STAIN, OCCASIONALLY SLICKENSIDED, GOOD STICK	68.0	AVG	
27.60	30.05	2.45	SLST	SS1	AS ABOVE WITH TWO VERY HARD CALCITE CEMENTED INTERVALS APPROXIMATELY .60M THICK, MINOR CALCITE VEINS	40.0	AVG	
30.05	32.40	2.35	SLST	SS1/FOLDED	AS ABOVE, BEDDING ANGLE RANGES FROM 0-15 DEGREES, FRACTURED AND MINOR SLICKENSIDES, LONG CURVED VERTICAL	15.0	AVG	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH.	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					FRACTURE				
32.40	62.36	29.96	MUDSTDNE	SLST/SS1	MEDIUM TO DARK GREY, THINLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH SILTSTONE AND LIGHT GREY VERY FINE TO FINE GRAINED SANDSTDNE. WAVY PARALLEL BEDDING, CROSS-BEDDED SANDSTONE, SDFT SEDIMENT DEFORMATION EVIDENT, OCCASIONAL BIOTURABATION, ABUNDANT BROWN VERY HARD IRON RICH BANDS AND NODULES, OCCASIONAL PYRITE NODULES, MINOR CALCITE VEINS, GREATER PERCENT OF MUDSTONE TOWARDS BASE, OCCASIONAL VERY HARD CALCITE CEMENTED INTERVALS, FISSILE, FRACTURES EASILY ALONG BEDDING, GOOD STICK	77.0	AVG		
62.36	64.81	2.45	SS1		GREEN-GREY, VERY FINE TO FINE GRAINED SANDSTONE, MASSIVE, FRAIBLE, ARGILLACEOUS GREEN WEATHERING (CHLORITIC) ABUNDANT PYRITE NODULES, MICRO MICACEOUS, TOP .30M BRECCIATED, GOOD STICK	NDAT	NDAT		
64.81	64.96	.15	SS1	COAL	GREY TO BLACK, FINE GRAINED SANDSTONE,	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					INTERBEDDED WITH COAL AND PYRITE NODULES, UNDULATED BEDDING, GOOD STICK			
64.96	65.51	.55	COAL		(RECOVERED .52M) BRIGHT WITH DULL BANDS, HARD, BRITTLE, MINOR CALCITE ALONG CLEAT, CUBIC AND CONCHOIDAL FRACTURE, MINOR PYRITE, MINOR VOLCANIC ASH, GOOD STICK, SEPARATION WITH ROOF, VISUAL EXCELLENT, PHYSICAL GOOD, SEPARATION WITH FLOOR VISUAL AND PHYSICAL GOOD (RECOVERY = 95%)	NDAT	NDAT 10	383
65.51	70.96	5.45	SS1	SLST/MDST	LIGHT GREY TO PALE GREEN, VERY FINE TO FINE GRAINED. THINLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH MEDIUM TO DARK GREY SILTSTONE AND MUDSTONE LAMINAE, WAVY PARALLEL TO WAVY DISCONTINUOUS, OCCASIONAL CROSS-BEDDED, OCCASIONAL BIOTURBATED, SOFT SEDIMENT DEFORMATION, MICACEOUS, OCCASIONAL BROWN VERY HARD IRON RICH BANDS, GOOD STICK	NDAT	NDAT	
70.96	77.44	6.48	MUDSTONE	SS1	DARK GREY, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH LIGHT GREY VERY	78.0	73.0	

CORE		DESCRIPTION						
TDP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					FINE GRAINED SANDSTONE, WAVY PARALLEL TO WAVY DISCONTINDUS BEDDING, SOFT SEDIMENT DEFORMATION, OCCASIONAL BROWN VERY HARD, IRDN RICH BANDS,FISSILE IN PLACES GREATER PERCENT MUDSTONE TOWARDS BASE, BECOMING CARBONACEOUS TOWARDS BASE, MINOR COAL BANDS, GOOD STICK			
77.44	79.88	2.44	COAL		(RECOVERED 1.02M) MAINLY DULL WITH BRIGHT BANDS, HARD, BRITTLE IN PLACES, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE AND PYRITE MINERAL ALONG CLEAT, FRACTURED AND SLICKENSIDED. FAIR TO GOOD STICK, SEPARATION WITH ROOF , VISUAL AND PHYSICAL QUESTIONABLE, SEPARATION WITH FLOOR, VISUAL EXCELLENT, PHYSICAL GOOD (RECOVERY = 42%)	NDAT	NDAT 9	384
79.88	84.70	4.82	MUDSTONE	SS1/SLST	MEDIUM TO DARK GREY, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDD WITH SILTSTONE AND LIGHT GREY VERY FINE TO FINE GRAINED SANDSTONE, WAVY PARALLEL, OCCASIONAL CROSS-BEDDED SANDSTONE, SOFT	72.0	82.0	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SEDIMENT DEFORMATION, ABUNDANT BROWN VERY HARD IRON RICH BANDS, FISSILE IN PLACES, FRACTURED ALONG BEDDING, GOOD STICK			
84.70	93.50	8.80	SS1	SLST/MDST	LIGHT GREY, VERY FINE TO FINE GRAINED, THINLY LAMINATED TO THIN BEDDED, INTERBEDDED WITH DARK GREY SILTSTONE AND MUDSTONE, EVEN TO WAVY PARALLEL, SOFT SEDIMENT DEFORMATION, OCCASIONAL SLUMPING, OCCASIONAL CROSS-BEDDED SANDSTONE, OCCASIONAL BROWN VERY HARD IRON RICH BANDS, GOOD STICK	NDAT	NDAT	
93.50	94.20	.70	MUDSTONE	SS1/SLST	DARK GREY, VERY THINLY BEDDED, INTERBEDDED WITH LIGHT GREY FINE GRAINED SANDSTONE AND BROWN VERY HARD IRON RICH BANDS, EVEN PARALLEL BEDDING, GOOD STICK	NDAT	NDAT	
94.20	94.29	.09	COAL		BRIGHT AND DULL BANDED, HARD, BRITTLE IN PLACES, MINOR CALCITE ALONG CLEAT, BROKEN, (NOT SAMPLED)	NDAT	NDAT	
94.29	94.70	.41	MUDSTONE	SS1/SLST	AS ABOVE MUDSTONE UNIT	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
94.70	96.60	1.90	SS1	SLST	LIGHT GREY, THINLY LAMINATED TO VERY THINLY BEDDED. INTERBEDDED WITH DARK GREY SILTSTONE. BROWN VERY HARD IRON RICH BANDS AND MINOR MUDSTONE. WAVY PARALLEL BEDDING. MINOR SOFT SEDIMENT DEFORMATION. GOOD STICK	NDAT	NDAT	
96.60	100.60	4.00	MUDSTONE	SLST/SS1	MEDIUM TO DARK GREY, THINLY LAMINATED INTERBEDDED WITH LIGHT GREY SILTSTONE AND VERY FINE GRAINED SANDSTONE LAMINAE. WAVY PARALLEL TO WAVY DISCONTINUOUS BEDDING. SOFT SEDIMENT DEFORMATION. SLUMPING, OCCASIONAL VERY HARD IRDN RICH INTERVALS. FISSILE IN PLACES. FRACTURED ALONG BEDDING. PYRITE BLEBS, GOOD STICK	NDAT	NDAT	
100.60	101.68	1.08	COAL		(RECOVERED .84M) MAINLY DULL WITH BRIGHT BANDS. HARD, BLOCKY IN PLACES, BRITTLE IN PLACES. CUBIC AND CONCHOIDAL FRACTURE. MINOR CALCITE ALONG CLEAT. MINOR PYRITE. FAIR STICK, SEPARATION WITH ROOF, VISUAL AND PHYSICAL GOOD. SEPARATION WITH FLOOR, VISUAL AND	NDAT	NDAT 7	385

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					PHYSICAL FAIR (RECOVERY = 78%)			
101.68	106.16	4.48	MUDSTDNE	SLST/SS1	DARK GREY, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH LIGHT GREY SILTSTONE AND MINOR VERY FINE GRAINED SANDSTONE, WAVY PARALLEL TO UNDULATED BEDDING, OCCASIONAL BROWN VERY HARD IRON RICH BANDS AND NODULES. GOOD STICK (50% MUDSTONE/40% SILTSTONE/10% FINE GRAINED SANDSTONE)	NDAT	NDAT	
106.16	107.18	1.02	SS1	MDST	LIGHT GREY TO PALE GREEN, FINE GRAINED, THINLY BEDDED, INTERBEDDED WITH DARK GREY CARBONACEOUS MUDSTONE LAMINAE, EVEN PARALLEL, FRACTURED ALONG BEDDING PLANE, GOOD STICK	74.0	107.0	
107.18	107.42	.24	COAL	CLEAN	(RECOVERED .24M) MAINLY BRIGHT BANDS, HARD, BRITTLE, MINOR CALCITE ALONG CLEAT, MINOR PYRITE, CUBIC AND CONCHOIDAL FRACTURED, GOOD STICK, SEPARATION WITH ROOF, VISUAL EXCELLENT, PHYSICAL POOR. SEAPRATION WITH FLOOR, VISUAL FAIR, PHYSICAL GOOD (RECOVERY = 100%)	NDAT	NDAT 6	386

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH	SEAM	SNUM
107.42	107.86	.44	MUDSTONE		MEDIUM TO DARK GREY, MASSIVE, MODERATELY HARD, EASILY BROKEN, FRACTURED AND SLICKENSIDED, FOSSILIFEROUS, BROKEN	NDAT		NDAT	
107.86	110.32	2.46	COAL		(RECOVERED 2.42M) BRIGHT AND DULL BANDED, HARD, BRITTLE IN PLACES, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE AND PYRITE MINERAL ALONG CLEAT, GOOD STICK, SEPARATION WITH ROOF, VISUAL FAIR, PHYSICAL GOOD, SEPARATION WITH FLOOR, VISUAL POOR, PHYSICAL FAIR, MINOR VOLCANIC ASH BAND AT 108.89 (.03M THICK) (RECOVERY = 98%)	70.0	108.0	5	387
110.32	114.30	3.98	MUDSTONE	SS1/SLST	DARK GREY, THINLY LAMINATED TO MEDIUM BEDDED, INTERBEDDED WITH LIGHT GREY, VERY FINE GRAINED SANDSTONE AND SILTSTONE, WAVY PARALLEL BEDDING, SOFT SEDIMENT DEFORMATION, SLIGHTLY CARBONACEOUS, OCCASIONAL BROWN VERY HARD IRON RICH BANDS, FRACTURED ALONG BEDDING PLANE, GOOD STICK	72.0		AVG	
114.30	117.72	3.42	MUDSTONE	SS1	DARK GREY, THINLY LAMINATED,	NDAT		NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					INTERBEDDED WITH LIGHT GREY VERY FINE GRAINED SANDSTONE (50%/50%), WAVY PARALLEL BEDDING, OCCASIONAL BIOTURBATED, OCCASIONAL SMALL SCALE FAULT. FRACTURES EASILY ALONG BEDDING PLANE, EXCELLENT STICK			
117.72	119.53	1.81	COAL	CLEAN	(RECOVERED 1.81M) BRIGHT AND DULL BANDED, HARD, BRITTLE IN PLACES, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE ALONG CLEAT, TRACE PYRITE, MINOR BANDS OF VOLCANIC ASH, OCCASIONAL SLICKENSIDE IN LOWER HALF, EXCELLENT STICK, SEPARATION WITH ROOF, VISUAL POOR, PHYSICAL FAIR, SEPARATION WITH FLOOR, VISUAL AND PHYSICAL FAIR (RECOVERY = 100%)	72.0	118.0 5	388
119.53	120.08	.55	MUDSTONE	SS1	DARK GREY, MASSIVE, FRACTURED AND SLICKENSIDED, SLIGHTLY CARBONACEOUS, MINOR COALY DEBRIS, LOWER HALF GREY-BROWN FINE GRAINED SANDSTONE, IRON STAIN, UNDULATED BEDDING, GOOD STICK	48.0	119.7	
120.08	120.21	.13	LOST CORE		SUSPECT CARBONACEOUS MUDSTONE	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
120.21	120.89	.68	MUDSTONE	CARB/FAUL- TED	DARK BROWN TO BLACK, MASSIVE, CARBONACEOUS WITH COALY BANDS, FRACTURED AND SLICKENSIDED, HIGHLY POLISHED, FAIR TO BROKEN STICK	NDAT	NDAT	
120.89	121.65	.76	COAL	CLEAN	(RECOVERED .76M) MAINLY BRIGHT WITH DULL BANDS, HARD, CUBIC AND CONCHOIDAL FRACTURE, MINDR CALCITE AND PYRITE MINERAL ALONG CLEAT, EXCELLENT STICK, SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL POOR (RECOVERY = 100%)	NDAT	NDAT 4	389
121.65	121.84	.19	SHALE	COALY	(RECOVERED .19M) MAINLY DULL WITH BRIGHT BANDS, VERY HARD, FRACTURED AND SLICKENSIDED, HIGHLY POLISHED, BROKEN, SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL POOR (RECOVERY = 100%)	NDAT	NDAT 4	390
121.84	122.64	.80	COAL		(RECOVERED .80M) MAINLY DULL WITH BRIGHT BANDS, HARD, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE AND PYRITE MINERAL ALONG CLEAT, OCCASIONALLY SLICKENSIDED, GOOD STICK, SEPARATION WITH ROOF, VISUAL AND PHYSICAL POOR, SEPARATION WITH FLOOR, VISUAL	NDAT	NDAT 4	391

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					GOOD, PHYSICAL FAIR (RECOVERY = 100%)			
122.64	124.40	1.76	MUDSTONE	SLST/SS1	DARK GREY, THINLY LAMINATED, INTERBEDDED WITH LIGHT GREY SILTSTONE AND VERY FINE GRAINED SANDSTONE, WAVY PARALLEL TO WAVY DISCONTINUOUS BEDDING, SLIGHTLY CARBONACEOUS, UPPER HALF HIGHLY FRACTURED AND SLICKENSIDED, SMALL SCALE FAULTING, BROKEN TO FAIR STICK	NDAT	NDAT	
124.40	128.74	4.34	SS1	MDST/SLST	LIGHT GREY, FINE GRAINED, THINLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH DARK GREY MUDSTONE AND SILTSTONE, UNOULATED BEDDING, SOFT SEDIMENT DEFORMATION, MINDR BIOTURBATION, MINOR IRON STAIN, FAULT GOUGE AT 128.50 (.05M THICK). GOOD STICK	NDAT	NDAT	
128.74	129.69	.95	COAL		(RECOVERED .95M) MAINLY DULL WITH BRIGHT BANDS, HARD, BRITTLE IN PLACES, MINOR CALCITE AND PYRITE MINERAL ALONG CLEAT, ALSO IN VEINLETS, GOOD STICK, SEPARATION WITH ROOF, VISUAL AND PHYSICAL FAIR, SEPARATION WITH FLOOR, VISUAL AND PHYSICAL POOR (RECOVERY = 100%)	NDAT	NDAT 3	392

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
129.69	131.08	1.39	MUDSTDNE		MEDIUM TO DARK GREY, MASSIVE, SLIGHTLY CARBONACEOUS, FOSSIL PLANT DEBRIS THROUGHOUT, OCCASIONAL COAL WISP, SLIGHTLY SILTY, LOWER .20M COALY, GOOD STICK	NDAT	NDAT	
131.08	131.97	.89	COAL	DIRTY	(RECOVERED .89M) MAINLY DULL WITH MINOR BRIGHT BANDS, VERY HARD, HIGH ASH INTERVAL AT 131.40M (.14M THICK), MINOR CALCITE AND PYRITE MINERAL ALONG CLEAT, GOOD STICK, SEPARATION WITH ROOF, VISUAL AND PHYSICAL POOR, SEPARATION WITH FLOOR, VISUAL AND PHYSICAL FAIR (RECOVERY = 100%)	NDAT	NDAT	393
131.97	133.52	1.55	SLST	MDST	MEDIUM GREY, THINLY LAMINATED, INTERBEDDED WITH DARK GREY MUDSTONE AND MINOR VERY FINE GRAINED SANDSTONE, WAVY PARALLEL BEDDING, SOFT SEDIMENT DEFORMATION, OCCASIONAL BROWN VERY HARD IRON RICH BANDS, MINOR CALCITE VEINLETS, GOOD STICK	68.0	AVG	
133.52	134.12	.60	MUDSTONE		DARK GREY, MASSIVE, CARBONACEOUS, SLIGHTLY SILTY, COALY WISPS, INTERBLENDED WITH VOLCANIC ASH, GOOD STICK	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
134.12	135.80	1.68	COAL	FAULTED	(RECOVERED 1.30M) POWDERED TO RUBBLE, SEPARATION WITH ROOF, VISUAL FAIR, PHYSICAL GOOD, SEPARATION WITH FLOOR VISUAL AND PHYSICAL FAIR (RECOVERY = 77%)	NDAT	NDAT 2	394
135.80	135.90	.10	LOST CORE		SUSPECT COALY MUDSTONE	NDAT	NDAT	
135.90	136.02	.12	MUDSTONE	CARBONACE- OUS	MEDIUM TO DARK GREY, MASSIVE, COALY, FRACTURED AND SLICKENSIDED, MIRROR POLISHED, POSSIBLY FAULT ZONE, BROKEN	NDAT	NDAT	
136.02	136.18	.16	COAL		(RECOVERED .12M) RUBBLE, SLICKENSIDED, BROKEN (NOT SAMPLED)	NDAT	NDAT	
136.18	137.18	1.00	MUDSTONE	CARBONACE- OUS	MEDIUM TO DARK GREY, THINLY LAMINATED, INTERBEDDED WITH LIGHT GREY SILTSTONE, WAVY PARALLEL BEDDING, OCCASIONAL COAL LAMINAE, OCCASIONALLY SLICKENSIDED, ABUNDANT CALCITE VEINLETS NEAR TOP, MINOR PYRITE, GOOD STICK	70.0	136.5	
137.18	138.38	1.20	SLST	SS1/MDST	LIGHT TO MEDIUM GREY, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH VERY FINE TO FINE GRAINED SANDSTONE, WAVY PARALLEL TO UNDULATED BEDDING,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SOFT SEDIMENT DEFORMATION, SMALL SCALE FAULTING, SLUMPING, MINOR CALCITE VEINLETS, MINOR IRON STAIN, EXCELLENT STICK			
138.38	145.65	7.27	MUDSTONE	SS1/SLST	DARK GREY, THINLY LAMINATED TO MEDIUM BEDDED, INTERBEDDED WITH LIGHT GREY, VERY FINE TO FINE GRAINED SANDSTONE AND SILTSTONE (60/25/15%), WAVY PARALLEL BEDDING, OCCASIONAL CROSS-BEDDED SANDSTONE, OCCASIONAL CONVOLUTED, MINOR SOFT SEDIMENT DEFORMATION, MINOR SLUMP, OCCASIONAL BROWN VERY HARD IRON RICH BANDS, GOOD TO EXCELLENT STICK	78.0	AVG	
145.65	150.90	5.25	MUDSTONE		MEDIUM TO DARK GREY, MASSIVE, OCCASIONAL BROWN VERY HARD IRON RICH BANDS OR NODULES, MINOR CALCITE VEINLETS, FRACTURED ALONG BEDDING PLANE, GOOD STICK	NDAT	NDAT	
150.90	165.68	14.78	SLST		MEDIUM GREY, MASSIVE, INTERBEDDED WITH SANDY AND ARGILLACEOUS INTERVALS, FRIABLE IN PLACES, FRACTURED HORIZONTAL AND VERTICAL TO BEDDING, OCCASIONAL LONG	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					CURVED VERTICAL FRACTURE, MINOR COALY WISPS, MINOR VISIBLE PYRITE, MINOR FOSSIL (SHELL AND PLANT), GOOD STICK			
165.68	166.65	.97	SS1		LIGHT GREY TO PALE GREEN, FINE GRAINED, MASSIVE, WELL CONSOLIDATED, MINOR COAL WISPS, MINOR PYRITE, MINOR IRON STAIN, EXCELLENT STICK	NDAT	NDAT	
166.65	185.20	18.55	SLST		MEDIUM GREY, MASSIVE, INTERBEDDED WITH SANDY AND ARGILLACEOUS INTERVALS, OCCASIONAL BROWN VERY HARD IRON RICH BANDS AND NODULES (SIDERITIC). OCCASIONAL LIGHT GREY VERY HARD CALCITE CEMENTED INTERVALS, OCCASIONAL PYRITE BLEBS, DISSEMINATED PYRITE MINERAL THROUGHOUT, MINOR FOSSILS (PLANT AND SHELL), OCCASIONAL HIGHLY FRACTURED INTERVALS, FAIR TO GOOD STICK	NDAT	NDAT	
185.20	194.00	8.80	SLST		AS ABOVE, BRITTLE, HIGHLY FRACTURED, FRIABLE	NDAT	NDAT	
194.00	195.45	1.45	SS1		MEDIUM GREY, VERY FINE GRAINED, MASSIVE, FINE DISSEMINATED PYRITE THROUGHOUT, OCCASIONAL COAL WISP, FOSSIL PLANT	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					DEBRIS THROUGHOUT, WELL CONSOLIDATED, ARGILLACEOUS, GRADATIONAL WITH UPPER AND LOWER UNITS, EXCELLENT STICK			
195.45	209.06	13.61	SLST		MEDIUM GREY, MASSIVE, WELL CONSOLIDATED TO BRITTLE AND FRIABLE, SANDY AND ARGILLACEOUS INTERVALS, ABUNDANT DISSEMINATED PYRITE THROUGHOUT, OCCASIONAL COAL WISPS, OCCASIONAL SLICKENSIDED JOINT FRACTURE, MINOR PLANT FOSSIL, OCCASIONAL HIGH FRACTURED INTERVAL, GOOD STICK	NDAT	NDAT	
209.06	211.00	1.94	SS1	SLST	LIGHT TO DARK GREY, VERY FINE TO FINE GRAINED SANDSTONE THINLY LAMINATED TO THIN BEDDED, INTERBEDDED WITH CARBONACEOUS SILTSTONE, UNDULATED BEDDING, MINOR SLUMP/SOFT SEDIMENT DEFORMATION, MINOR BIOTURBATION, ABUNDANCE OF COALY DEBRIS THROUGHOUT, THIS UNIT GRADATIONAL WITH UPPER AND LOWER UNITS, GOOD STICK	NDAT	NDAT	
211.00	213.00	2.00	SLST		MEDIUM GREY, SLIGHTLY CARBONACEOUS, THINLY LAMINATED, INTERBEDDED WITH	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					VERY FINE GRAINED SANDSTONE, POORLY DEVELOPED, FOSSIL PLANT AND SHELL (BRACH) THROUGHOUT, FINES TOWARDS BASE, GOOD STICK			
213.00	216.64	3.64	SS1		LIGHT GREY TO PALE GREEN, VERY FINE TO FINE GRAINED SANDSTONE, THIN TO THINLY BEDDED, INTERBEDDED WITH OCCASIONAL CARBONACEOUS SILTSTONE LAMINAE, POORLY DEVELOPED BEDDING, CALY DEBRIS THROUGHOUT, ABUNDANT BROWN VERY HARD IRDN RICH CLASTS AND NOOULES THROUGHOUT, .08M THICK SHELL BED AT 213.55M, FOSSIL SHELL THROUGHOUT, CALCITE CEMENTED ZONE AT 214.57M (.55M THICK), WELL CONSOLIDATED, MINOR CALCITE INFILL FRACTURES, MINOR BIOTURBATED INTERVALS, GRADING FINER TOWARD BASE, GOODSTICK	NDAT	NDAT	
216.64	217.32	.68	SLST	SS1	MEDIUM GREY, THINLY LAMINATED, INTERBEDDED WITH VERY FINE GRAINED SANDSTONE, DISSEMINATED THROUGHOUT, GRADING TO MORE SANDSTONE TOWARDS TOP, POORLY DEVELOPED, GOOD STICK	NDAT	NDAT	
217.32	221.39	4.07	SLST		MEDIUM GREY,	NDAT	NDAT	

		CORE DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					MASSIVE, ARGILLACEOUS, SANDY INTERVALS, ABUNDANT DISSEMINATED PYRITE THROUGHOUT, OCCASIONAL BROWN VERY HARD IRON RICH INTERVALS WITH ABUNDANT CALCITE INFILLED FRACTURES, LOWER .30M VERY ARGILLACEOUS, GOOD STICK			
221.39	222.31	.92	SS1		LIGHT TO MEDIUM GREY, VERY FINE TO FINE GRAINED, THINLY LAMINATED, INTERBEDDED WITH DARK GREY CARBONACEOUS SILTSTONE, POORLY DEVELOPED, BIOTURBATED, MINOR CALCITE VEINLETS, FOSSIL SHELL (BRACH) AT 222.10M (.12M THICK) IN IRON RICH CLAYSTONE MATRIX, MINOR COAL WISPS. GRADING FINER TOWARDS BASE, GOOD STICK	NDAT	NDAT	
222.31	227.37	5.06	SLST		MEDIUM GREY, MASSIVE, VERY FINE DISSEMINATED SANDSTONE THROUGHOUT, MINOR IRONSTONE, VERY HARD IRON RICH INTERVAL WITH CALCITE INFILLED FRACTURES AT 224.0M (.14M THICK), WELL CONSOLIDATED, BECOMING SANDY AT BASE, GOOD STICK	NDAT	NDAT	
227.37	234.72	7.35	SS1		LIGHT GREY, FINE	NDAT	NDAT	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					GRAINED, SALT AND PEPPER, THIN TO THICK BEDDED, POORLY DEVELOPED, ABUNDANT IRON RICH CLASTS AND COALY DEBRIS THROUGHOUT, BIOTURBATED, MINOR COAL WISPS, MINOR CALCITE VEINLETS, MINOR CARBONACEOUS SILTSTONE LAMINAE, WELL CONSOLIDATED, GOOD TO EXCELLENT STICK				
234.72	236.85	2.13	SLST		DARK GREY, MASSIVE, WELL CONSOLIDATED, MINOR PYRITE BLEBS, SLIGHTLY CARBONACEOUS WITH COALY FLECKS THROUGHOUT, FOSSIL SHELLS (BRACH), MINOR CALCITE VEINLETS, FINELY DISSEMINATED SANDSTONE INTERVALS, EXCELLENT STICK	NDAT	NDAT		
236.85	240.21	3.36	SS1	SLST	DARK GREY, FINE GRAINED, MASSIVE, VERY ARGILLACEOUS, INTERCALATED, BIOTURBATED, BROWN VERY HARD IRON RICH CLAYSTONE CLASTS AND BANDS THROUGHOUT, MINOR CALCITE VEINLETS, OCCASIONAL COAL WISPS, ACCOMPANIED BY PYRITE, WELL CONSOLIDATED, EXCELLENT STICK, THIS UNIT IS GRADATIONAL WITH UPPER AND LOWER UNITS	NDAT	NDAT		
240.21	241.18	.97	SLST		DARK GREY,	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					MASSIVE, WELL CONSOLIDATED, MINOR CALCITE VEINLETS, MINOR IRON STAIN, EXCELLENT STICK, GRADING TO ARGILLACEOUS SANDSTONE AT BASE			
241.18	260.73	19.55	SS1		LIGHT TO MEDIUM GREY, VERY FINE TO MEDIUM GRAINED SANDSTONE, MASSIVE, INTERCALATED WITH CARBONACEOUS MUDSTONE AND IRON RICH CLAYSTONE, COAL FLECKS THROUGHOUT, ARGILLACEOUS INTERVALS, BRACH INTERVAL AT 249.8M (.14M THICK), ABUNDANT BRDWN VERY HARD IRON RICH CLAYSTONE INTERVALS, ABUNDANT CALCITE VEINLETS, CARBONACEOUS IN MUDSTONE PART, MINOR BIOTURBATION, WELL CONSOLIDATED, EXCELLENT STICK	NDAT	NDAT	
260.73	261.83	1.10	SHALE	COALY/CARB	DARK GREY TO BLACK, THINLY LAMINATED, POORLY DEVELOPED, OCCASIONAL LIGHT GREY VERY FINE GRAINED SANDSTONE LAMINAE, OCCASIONAL BRIGHT COAL BANDS, TRACE PYRITE, SANDY AT BASE, GOOD STICK	80.0	261.0	
261.83	266.09	4.26	SS1	CARBONACEOUS	LIGHT TO MEDIUM GREY, VERY FINE TO FINE GRAINED	80.0	AVG	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SANDSTONE, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH BLACK CARBONACEOUS SILTSTONE AND MUDSTONE, WAVY PARALLEL TO DISCONTINUOUS BEDDING, UNDULOUS IN PLACES, SOFT SEDIMENT DEFORMATION OCCURRING, MINOR SLUMP, MINOR BIOTURBATION, OCCASIONAL CROSS-BEDDED SANDSTONE, MINOR SMALL SCALE FAULTING, OCCASIONAL BROWN VERY HARD IRON RICH BANDS AND NODULES WITH PREDOMINANTLY CALCITE INFILLED FRACTURE, GOOD TO EXCELLENT STICK			
266.09	267.65	1.56	SS1		AS ABOVE WITH POORLY DEVELOPED CONVOLUTED BEDDING	NDAT	NDAT	
267.65	269.36	1.71	COAL		(RECOVERED 1.55M) BRIGHT AND DULL BANDED, HARD, BRITTLE, BLOCKY IN PLACES, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE ALONG CLEAT, TRACE PYRITE, VOLCANIC ASH BAND .06M THICK AT 268.40M, OCCASIONAL SLICKENSIDED FRACTURE, GOOD STICK, SEPARATION WITH ROOF, VISUAL EXCELLENT, PHYSICAL GOOD, SEPARATION WITH	NDAT	NDAT	395

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					FLOOR, VISUAL POOR, PHYSICAL FAIR (RECOVERY = 91%)				
269.36	274.20	4.84	MUDSTONE	CARBONACE- OUS	MEDIUM TO DARK GREY, MASSIVE, SILTY, COALY PLANT DEBRIS AND FLECKS. OCCASIONAL COAL WISPS, MINOR PYRITE, ABUNDANT CALCITE FILLED HAIRLINE FRACTURES, GOOD TO EXCELLENT STICK	57.0	AVG		
274.20	274.34	.14	COAL		(RECOVERED .14M) MAINLY DULL WITH MINOR BRIGHT BANDS, HARD, HIGH ASH BANDS THROUGHOUT, MINOR CALCITE ALONG CLEAT, MINOR PYRITE, GOOD STICK (NOT SAMPLED)	NDAT	NDAT		
274.34	275.61	1.27	MUDSTONE	CARBONACE- OUS	DARK GREY, MASSIVE, WELL CONSOLIDATED, SLIGHTLY SILTY, OCCASIONAL COAL WISPS, COALY PLANT DEBRIS THROUGHOUT, FINELY DISSEMINATED PYRITE THROUGHOUT, OCCASIONAL SLICKENSIDED FRACTURE, POLISHED, LONG CURVED VERTICAL FRACTURE, GOOD TO EXCELLENT STICK	NDAT	NDAT		
275.61	277.88	2.27	COAL		(RECOVERED 2.17M) DULL AND BRIGHT BANDED, HARD, BRITTLE IN PLACES, MINOR CALCITE ALONG CLEAT, FRACTURED WITH OCCASIONAL	NDAT	NDAT 1		396

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SLICKENSIDED FACE, TRACE PYRITE, FAIR STICK. SEPARATION WITH ROOF, VISUAL AND PHYSICAL FAIR, SEPARATION WITH FLOOR, VISUAL AND PHYSICAL POOR. .04M THICK PYRITE BAND AT 275.96. HIGH ASH INTERVAL AT 276.52 (.09M THICK) AND 277.41 (.06M THICK) (RECOVERY = 96%)			
277.88	278.22	.34	SHALE	COALY	DARK BROWN TO BLACK, MASSIVE. HARD, SILTY, MINOR COAL BANDS, COALY PLANT DEBRIS, GOOD STICK	NDAT	NDAT	
278.22	278.28	.06	COAL		(RECOVERED .03M) BRIGHT, HARD, BROKEN (NOT SAMPLED)	NDAT	NDAT	
278.28	278.40	.12	MUOSTONE		BROWN, MASSIVE, HARD, COALY DEBRIS THROUGHOUT, SILTY, IRON STAIN, GOOD STICK	NDAT	NDAT	
278.40	278.67	.27	COAL	DIRTY	(RECDVERED .06M) DULL WITH MINOR BRIGHT LAMINAE, VERY HARD, EARTHY LOWER HALF (RECOVERY = 22%) NOT SAMPLED	NDAT	NDAT	
278.67	278.73	.06	MUOSTONE	BENTONITIC	GREY, MASSIVE, VERY HARD, VOLCANIC ASH, CARBONACEOUS	NDAT	NDAT	
278.73	280.04	1.31	MUOSTONE		DARK GREY TO BROWN, MASSIVE, HARD, GRADING FROM COALY SHALE AT THE TOP TO A SILTY BROWN MUOSTONE AT CENTRE THEN BACK	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLDGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					TO COALY MUDSTONE AT BASE, COALY PLANT DEBRIS THROUGHOUT, GOOD TO EXCELLENT STICK			
280.04	280.84	.80	COAL		(RECOVERED .80M) DULL AND BRIGHT BANDED, HARD, BRITTLE, MINOR CALCITE ALONG CLEAT, MINOR PYRITE, BROKEN TO RUBBLE, SEPARATION WITH ROOF, VISUAL AND PHYSICAL FAIR, SEPARATION WITH FLOOR, VISUAL AND PHYSICAL POOR (RECOVERY = 100%)	NDAT	NDAT 1	397
280.84	281.18	.34	SHALE	COALY	BLACK, THINLY LAMINATED, COAL BANDS, MINOR CALCITE VEINLETS, GOOD STICK	NDAT	NDAT	
281.18	284.75	3.57	MUDSTDNE		MEDIUM TO DARK GREY, MASSIVE, MODERATELY HARD, WELL CONSOLIDATED, CARBONACEOUS, SILTY, COALY DEBRIS THROUGHOUT, OCCASIONAL BROWN VERY HARD IRON RICH BANDS WITH PREDOMINENTLY CALCITE INFILLED FRACTURES, LOWER.30M COALY, GOOD STICK	NDAT	NDAT	
284.75	285.40	.65	COAL	DIRTY	(RECOVERED .65M) MAINLY DULL WITH MINOR BRIGHT BANOS, VERY HARD, MINOR CLAYSTONE LAMINAE, EXCELLENT STICK, SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL POOR (RECOVERY = 100%)	NDAT	NDAT	398

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
285.40	285.52	.12	SHALE	COALY	BLACK, MASSIVE, HARD, MINOR COAL BANDS, GOOD STICK	NDAT	NDAT	
285.52	285.65	.13	COAL	HIGH ASH	(RECOVERED .13M) DULL, EARTHY, MINOR BRIGHT BANDS, GOOD STICK (NOT SAMPLED)	NDAT	NDAT	
285.65	286.22	.57	MUDSTONE	CARBONACEOUS	BROWN, MASSIVE, COALY PLANT DEBRIS THROUGHOUT, LOWER .15M IS ARENACEOUS (FINE GRAINED SANDSTONE), EXCELLENT STICK	NDAT	NDAT	
286.22	287.57	1.35	MUDSTONE	CARBONACEOUS	BLACK, MASSIVE, ABUNDANT COAL BANDS AND WISPS, COALY PLANT DEBRIS THROUGHOUT, SLIGHTLY SILTY, OCCASIONALLY SLICKENSIDED FRACTURES GRADING TO SAND AT BASE, EXCELLENT STICK	NDAT	NDAT	
287.57	288.62	1.05	SS1	CARBONACEOUS	MEDIUM TO DARK GREY, VERY FINE TO FINE GRAINED SALT AND PEPPER SANDSTONE, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH CARBONACEOUS SILTSTONE LAMINAE, COALY FLECKS THROUGHOUT, COALY PLANT DEBRIS, BROWN VERY HARD IRON RICH INTERVAL AT 288.18M (.16M THICK), SILTY UPPER HALF, EXCELLENT STICK	72.0	288.5	
288.62	289.44	.82	MUDSTONE	CARBONACEOUS	BROWN TO BLACK, MASSIVE, SLIGHTLY SILTY, ABUNDANT	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					CALCITE VEINLETS, OCCASIONAL COAL WISPS, COALY PLANT DEBRIS, EXCELLENT STICK				
289.44	292.22	2.78	SLST	SS1	MEDIUM GREY, THINLY LAMINATED TO MEDIUM BEDDED, INTERBEDDED WITH LIGHT GREY FINE GRAINED SALT AND PEPPER SANDSTONE, UNDULATED BEDDING, SLIGHTLY CARBONACEOUS, COALY FLECKS, OCCASIONAL BROWN VERY HARD IRDN RICH INTERVALS, MINOR CALCITE VEINLETS, EXCELLENT STICK, THIS UNIT GRADATIONAL WITH UPPER AND LOWER UNIT	NDAT	NDAT		
292.22	293.57	1.35	SS2	SS1/SS3	GREY TO BROWN, MEDIUM GRAINED, MASSIVE, WELL CONSOLIDATED, INTERCALATED WITH FINE GRAINED AND COARSE GRAINED SANDSTONE, COAL FLECKS THROUGHOUT, LOWER .15M HAS MINOR COAL BANDS WITH ABUNDANT CALCITE VEINLETS, EXCELLENT STICK	NDAT	NDAT		
293.57	297.71	4.14	SS3	SS4	LIGHT GREY TO BEIGE, COARSE GRAINED, MASSIVE, HARD, WELL CONSOLIDATED, THIS UNIT HAS ABUNDANT COAL CLASTS BLENDED INTO MATRIX, ALSO HAS CYCLIC SEQUENCE OF CONGLOMERATE	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					(GRANULAR TO PEBBLE), EXCELLENT STICK			
297.71	297.82	.11	COAL		(RECOVERED .11M) DULL WITH BRIGHT BANDS, HARD, HIGH ASH UNIT, GOOD STICK (NOT SAMPLED)	NDAT	NDAT	
297.82	297.94	.12	SS1		BROWN, FINE GRAINED, MASSIVE, VERY HARD, COARSE GRAINED SAND INTERBEDDED, GOOD STICK, .03M COAL BAND AT BASE	NDAT	NDAT	
297.94	298.79	.85	SS4		VARIGATED, MASSIVE, PEBBLE CONGLOMERATE, INTERBEDDED WITH LARGE IRON RICH SILTSTONE CLASTS, WELL CONSOLIDATED, EXCELLENT STICK	NDAT	NDAT	
298.79	299.65	.86	MUDSTONE		MEDIUM GREY, MASSIVE, HARD, SLIGHTLY CARBONACEOUS, MINOR COALY DEBRIS, ABUNDANT HAIRLINE FRACTURES INFILLED WITH CALCITE, WELL CEMENTED, WELL CONSOLIDATED, BECOMING MORE CARBONACEOUS TOWARDS BASE, EXCELLENT STICK, VOLCANIC ASH INTERBEDDED	NDAT	NDAT	
299.65	300.35	.70	MUDSTONE	CARBONACEOUS	BLACK, MASSIVE, HARD, ABUNDANT CALCITE INFILLED FRACTURES, OCCASIONAL BRIGHT COAL BAND, EXCELLENT STICK	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
300.35	300.48	.13	COAL		(RECOVERED .13M) BRIGHT WITH DULL BANDS, HARD, BRITTLE, HIGHLY FRACTURED WITH CALCITE INFILL, MINOR CALCITE ALONG CLEAT, GOOD STICK (NOT SAMPLED)	NDAT	NDAT	
300.48	301.60	1.12	MUDSTDNE	CARBONACE- OUS	AS ABOVE MUDSTONE UNIT, MINOR VOLCANIC ASH BANDS	NDAT	NDAT	
301.60	301.74	.14	COAL		(RECOVERED .14M) DULL WITH BRIGHT BANDS, HARD, MINOR CALCITE ALONG CLEAT, ABUNDANT CALCITE INFILLED FRACTURES, GOOD STICK (NOT SAMPLED)	NDAT	NDAT	
301.74	302.70	.96	MUDSTDNE		LIGHT BROWN, MASSIVE, HARD, COALY DEBRIS THROUGHOUT, ABUNDANT CALCITE INFILLED FRACTURES, MINOR IRON STAIN, ARENACEOUS, EXCELLENT STICK	NDAT	NDAT	
302.70	304.24	1.54	MUDSTDNE	CARBONACE- OUS	MEDIUM TO DARK GREY, MASSIVE, HARD, WELL CONSOLIDATED, ABUNDANT CALCITE INFILLED FRACTURES, SILTY, EXCELLENT STICK	NDAT	NDAT	
304.24	304.60	.36	LOST CORE		SUSPECT COAL/COALY MUDSTONE	NDAT	NDAT	
304.60	304.84	.24	COAL		(RECOVERED .15M) BRIGHT, HARD, HIGHLY FRACTURED WITH CALCITE	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					INFILL, SLICKENSIDED, BROKEN (NOT SAMPLED)			
304.84	305.80	.96	MUDSTONE	TUFFACEOUS	BEIGE, MASSIVE, VERY HARD, OCCASIONAL COAL WISPS, MINOR CALCITE VEINLETS. CALCITE HEALED FRACTURES, BECOMING ARENACEOUS TOWARDS BASE, EXCELLENT STICK	NDAT	NDAT	
305.80	308.13	2.33	SS1	TUFFACEOUS	BROWN, FINE GRAINED, MASSIVE, VERY HARD, WELL CONSOLIDATED, COARSE GRAINED INTERVAL AT 307.47M (.30M THICK), CALCITE HEALED LOW ANGLE FRACTURE SLICKENSIDED, EXCELLENT STICK	NDAT	NDAT	
308.13	308.63	.50	MUDSTONE	CARBONACE- OUS	DARK GREY TO BLACK, MASSIVE, CARBONACEOUS, FRACTURED, BROKEN TO RUBBLE	NDAT	NDAT	
308.63	310.84	2.21	MUDSTONE	CARBONACE- OUS	DARK BROWN TO BLACK, MASSIVE, ABUNDANT CALCITE HEALED FRACTURES, OCCASIONAL VOLCANIC ASH LAYER, LOWER .40M VERY COALY, MINOR COAL BANDS, OCCASIONALLY SLICKENSIDED, GOOD STICK	NDAT	NDAT	
310.84	313.49	2.65	SLST		GREY TO BROWN, MASSIVE, VERY HARD, ALTERED CLAYSTONE MATRIX, OCCASIONAL COAL	37.0	310.8	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					WISPS, LOWER 40CM IRON NODULES, UPPER HALF CARBONACEOUS, ABRUPT CONTACT WITH UPPER UNIT, EXCELLENT STICK			
313.49	313.61	.12	551		GREEN TO GREY, FINE GRAINED, THINLY BEDDED, INTERBEDDED WITH CARBONACEOUS MUDSTONE AND LIGHT GREY SILTSTONE, POORLY CONSOLIDATED, FRIABLE, POOR STICK	NDAT	NDAT	
313.61	314.42	.81	MUDSTONE	CARBONACE- OUS	DARK GREY TO BLACK, MASSIVE, HARD, OCCASIONAL CALCITE INFILLED FRACTURES, VOLCANIC ASH BAND 313.85M (.03M THICK), LOWER THIRD HAS INTERCALATED VOLCANIC ASH AND COAL DEBRIS, LOWER .11M COALY SHALE, EXCELLENT STICK	NDAT	NDAT	
314.42	316.50	2.08	VOLCANICS		LIGHT GREY TO WHITE, VOLCANIC DIKE, FELSIC, EXCELLENT STICK	NDAT	NDAT	
316.50	318.56	2.06	SLST		MEDIUM GREY TO BRDWN, MASSIVE, WELL CONSOLIDATED, SILACEOUS CLAYSTONE CEMENTED, MINOR COALY DEBRIS, SLIGHTLY CARBONACEOUS, EXCELLENT STICK	NDAT	NDAT	
318.56	319.52	.96	MUDSTONE		MEDIUM TO DARK GREY, MASSIVE, HARD, COALY DEBRIS	NDAT	NDAT	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					THROUGHOUT, SILTY, TOP 30CM FISSILE, SOFT, BENTONITIC, GRADATIONAL TO LOWER UNIT, EXCELLENT STICK				
319.52	320.81	1.29	MUDSTONE	SILICIOUS	BROWN, MASSIVE, VERY HARD, SILTY, ALTERED CLAYSTONE MATRIX, SILICIOUS, ABUNDANT IRON FLECKS THROUGHOUT, TOP .20M SLICKENSIDED, EXCELLENT STICK	NDAT	NDAT		
320.81	322.84	2.03	VOLCANICS		BEIGE, MASSIVE, VERY HARD, ABUNDANT IRON FLECKS, MINOR COALY DEBRIS, POSSIBLE INTERMEDIATE LAVA FLOW, ALTERED CLAYSTONE MATRIX ABOVE AND BELOW, HEALED SLICKENSIDED FRACTURES THROUGHOUT, LOWER 10CM FAULT GOUGE, EXCELLENT STICK	NDAT	NDAT		
322.84	335.88	13.04	MUDSTONE	FAULTED	LIGHT TO DARK BROWN, MASSIVE, MODERATELY HARD TO VERY HARD, WELL CONSOLIDATED TO RUBBLY INTERVALS, ALTERED CLAYSTONE THROUGHOUT WITH OCCASIONAL FINE GRAINED VOLCANIC ROCK INTERVAL, FRACTURED AND SLICKENSIDED, OCCASIONAL COALY INTERVAL, OCCASIONAL VERY HARD BROWN IRON RICH SAND UNITS	NDAT	NDAT		
335.88	336.12	.24	COAL		(RECOVERED .24M)	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BRIGHT AND DULL BANDED, HARD, MINOR CALCITE ALONG CLEAT, GOOD STICK (NOT SAMPLED)			
336.12	336.50	.38	SHALE	COALY/CARB	DARK GREY TO BLACK, MASSIVE, MODERATELY HARD, MINOR COAL BANDS, SLICKENSIDED, BROKEN, POSSIBLE FAULT	NDAT	NDAT	
336.50	336.64	.14	COAL	DIRTY	(RECOVERED .10M) DULL WITH MINOR BRIGHT BANDS, HARD, EARTHY, GOOD STICK (NOT SAMPLED)	NDAT	NDAT	
336.64	336.96	.32	SHALE	CARBONACE- OUS	(RECOVERED .20M) DARK GREY, MASSIVE, COALY DEBRIS, SLICKENSIDED	NDAT	NDAT	
336.96	337.14	.18	COAL		(RECOVERED .18M) BRIGHT, HARD, BRITTLE, SLICKENSIDED, BROKEN (NOT SAMPLED)	NDAT	NDAT	
337.14	337.66	.52	MUDSTONE	CARBONACE- OUS	MEDIUM GREY, MASSIVE, HARD, COALY DEBRIS THROUGHOUT, SLIGHTLY SILTY, SLICKENSIDED FRACTURES, GOOD STICK	NDAT	NDAT	
337.66	337.80	.14	COAL		(RECOVERED .10M) BRIGHT, HARD, BRITTLE, MINOR CALCITE ALONG CLEAT, CUBIC FRACTURE, GOOD STICK (NOT SAMPLED)	NDAT	NDAT	
337.80	337.90	.10	MUDSTONE	CARBONACE-	MEDIUM GREY,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
				OUS	MASSIVE, COALY DEBRIS THROUGHOUT, SLICKENSIDED, BROKEN			
337.90	338.59	.69	SS1	SS2	BROWN, MASSIVE, VERY HARD, WELL CONSOLIDATED, EXCELLENT STICK	NDAT	NDAT	
338.59	339.87	1.28	MUDSTONE	CARBONACEOUS	MEDIUM TO DARK GREY, MASSIVE, CARBONACEOUS WITH OCCASIONAL COALY INTERVAL, FRACTURED AND SLICKENSIDED, FAULT GOUGE AT 338.80M (.10M THICK) AND 339.10M (.10M THICK), COALY AT BASE, FAIR STICK	NDAT	NDAT	
339.87	341.68	1.81	SLST		DARK GREY TO BROWN, MEDIUM TO THICKLY BEDDED, INTERBEDDED WITH CARBONACEOUS MUDSTONE, PODRLY DEVELOPED, ABUNDANT IRON FLECKS, OCCASIONAL COAL WISPS, INTERCALATED WITH MUDSTONE, MINOR CALCITE VEINS, MINOR IRON STAIN, EXCELLENT STICK	NDAT	NDAT	
341.68	341.81	.13	SS4		VARIGATED, MASSIVE, VERY HARD, GRANULAR CONGLOMERATE, EXCELLENT STICK	40.0	341.7	
341.81	343.30	1.49	MUDSTONE	CARB/COALY	DARK GREY TO BLACK, MASSIVE, FISSILE IN PLACES, FRACTURED AND SLICKENSIDED, SILTY, COALY DEBRIS THROUGHOUT, POSSIBLE FAULT	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM

ZONE								
343.30	343.88	.58	SHALE	FAULT	BLACK, MASSIVE, FISSILE, COALY/CARBONACEOUS, FRACTURED AND SLICKENSIDED, BROKEN	NDAT	NDAT	
343.88	344.45	.57	MUDSTONE	CARBONACEOUS	LIGHT BROWN, MASSIVE, HARD, WELL CONSOLIDATED, SILTY, GOOD STICK	NDAT	NDAT	
344.45	344.95	.50	MUDSTONE	CARBONACEOUS	DARK BROWN TO BLACK, MASSIVE, FISSILE IN PLACES, COALY OEBRIS, FRACTURED AND SLICKENSIDED, BROKEN	NDAT	NDAT	
344.95	348.55	3.60	SLST	CARBONACEOUS	BEIGE TO DARK BROWN, MASSIVE, HARD, SANDY INTERVALS, ALTERED CLAYSTONE MATRIX, GRADING TO SANDSTONE AT BASE, EXCELLENT STICK	NDAT	NDAT	
348.55	349.05	.50	SS4		BROWN VARIGATED, MASSIVE, PEBBLE CONGLOMERATE, MINOR COAL BLEBS, EXCELLENT STICK	NDAT	NDAT	
349.05	351.47	2.42	MUDSTONE		BROWN, MASSIVE, SANDY INTERVALS, ALTERED CLAYSTONE MATRIX (VOLCANIC), IRON GRAINS THROUGHOUT, BECOMING SANDY TOWARDS BASE, EXCELLENT STICK	NDAT	NDAT	
351.47	353.92	2.45	VOLCANICS		RED, MASSIVE, FELDSPAR PHENOCRYSTS, GREEN CHLDRITIC PHENOCRYSTS, EXCELLENT STICK	NDAT	NDAT	

CORE . DESCRIPTION								
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
353.92	-1.00	-1.00	UNKNOWN		TOTAL DEPTH	NDAT	NDAT	

CORE DESCRIPTION

HOLE.ID TWB20-252
 PROJECT TELKWA
 AREA SMITHERS
 DRIL.DATE NO.DATA
 LOG.DATE 820910
 EXAMINED.BY R.KOSTIUK

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	32.41	32.41	OVERBURDEN	ROCKS,BOU- LDERS,SAND	DRILLED WITH ROCK BIT - ND CORE RECOVERY	NDAT	NDAT	
32.41	34.20	1.79	MUDSTONE		MEDIUM GREY, MASSIVE, FIRM TO MODERATELY HARD, BRECCIATED, SLICKENSIDED, MINOR VERY HARD GREY MUDSTONE CLASTS, GOOD STICK	NDAT	NDAT	
34.20	34.91	.71	SLST	CALCAREOUS	MEDIUM GREY, MASSIVE, VERY HARD, ABUNDANT CALCITE INFILL FRACTURE (EXTENSION FRACTURE) EXCELLENT STICK	NDAT	NDAT	
34.91	36.90	1.99	SLST	CLAYEY	MEDIUM GREY, MASSIVE, MODERATELY HARD, FRACTURED AND SLICKENSIDED THROUGHOUT, FAIR STICK	NDAT	NDAT	
36.90	40.23	3.33	MUDSTONE	SILTY	RECOVERED 2.95M; DARK GREY, MASSIVE, MODERATELY HARD, FISSILE IN PLACES, SILTY INTERVALS, BROKEN AND SLICKENSIDED, FAIR STICK	NDAT	NDAT	
40.23	44.50	4.27	SS1	SLST	GREY TO GREEN, FINE GRAIN, VERY THINLY BEDDED, INTERBEDDED WITH SILTSTONE, EVEN PARALLEL - WAVY	54.0	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					CONVOLUTED BEDDING, OCCASIONAL CROSS-BEDDING, OCCASIONAL VERY HARD BROWN CLAYSTONE; MINOR CALCITE VEINS, FAIR STICK			
44.50	44.68	.18	MUDSTONE	CARBONACE- OUS	BLACK, MASSIVE, FISSILE, SOFT, SILTY, MINOR COAL WISPS, GOOD STICK	NDAT	NDAT	
44.68	47.10	2.42	SS1	SLST	GREY TO GREEN, VERY FINE GRAIN, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH SILTSTONE, WAVY PARALLEL BEDDING, OCCASIONAL CROSS-BEDDED, FAIR STICK	NDAT	NDAT	
47.10	49.60	2.50	SLST	SS1, MDST	LIGHT TO MEDIUM GREY, VERY THINLY BEDDED, INTERBEDDED WITH VERY FINE GRAIN SANDSTONE AND MUDSTONE, WAVY PARALLEL, OCCASIONAL CROSS-BEDDED, MINOR IRON STAIN, ARGILLACEOUS, GOOD STICK	NDAT	NDAT	
49.60	54.53	4.93	SLST	MDST	MEDIUM TO DARK GREY, THICKLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH MUDSTONE AND MINOR VERY FINE GRAIN SANDSTONE, WAVY PARALLEL, DISCONTINUOUS TO CONVOLUTED, ARGILLACEOUS, GOOD STICK	54.0	AVG	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
54.53	60.20	5.67	SS1	ARGILLACEOUS	MEDIUM GREY, VERY FINE GRAIN, MASSIVE, HARD, POORLY DEVELOPED, ABUNDANT SEDIMENTARY CLASTS, GOOD TO EXCELLENT STICK	NDAT	NDAT	
60.20	60.85	.65	SS1	ARGILLACEOUS	MEDIUM GREY, FINE GRAIN SANDSTONE, MASSIVE, HARD, POORLY DEVELOPED ABUNDANT CLAYSTONE CLASTS, EXCELLENT STICK	NDAT	NDAT	
60.85	61.66	.81	SS1	CALCAREOUS	LIGHT GREY TO BEIGE, FINE GRAIN SANDSTONE, MASSIVE, VERY HARD, CALCITE CEMENTED, WELL CONSOLIDATED, ABUNDANT CALCITE INFILL FRACTURE, PYRITE WITHIN VEINS, EXCELLENT STICK	NDAT	NDAT	
61.66	66.78	5.12	SS1	MDST/SLST	MEDIUM TO DARK GREY, VERY FINE GRAIN SANDSTONE, THICKLY LAMINATED TO VERY THINLY BEDDED, POORLY DEVELOPED, HARD, OCCASIONAL CLAYSTONE CLASTS, ARGILLACEOUS, EXCELLENT STICK	NDAT	NDAT	
66.78	68.90	2.12	SLST	MDST	LIGHT TO DARK GREY, THICKLY LAMINATED TO MEDIUM BEDDED INTERBEDDED WITH MUDSTONE AND MINOR VERY FINE GRAIN SANDSTONE, WAVY UNEVEN, OCCASIONAL CROSS-BEDDED, MINOR	NDAT	NDAT	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					BIOTURBATED, MINOR IRON CLAYSTONE NODULES, GOOD STICK				
68.90	95.55	26.65	MUDSTONE	SLST.SS1	DARK GREY, THICKLY LAMINATED TO MEDIUM BEDDED, INTERBEDDED WITH LIGHT GREY SILTSTONE AND MINOR VERY FINE GRAIN SANDSTONE, EVEN PARALLEL TO OCCASIONAL WAVY PARALLEL, OCCASION- AL CROSS-BEDDED SANDSTONE, OCCASIONAL BIOTURBATED, OCCASIONAL CLAYSTONE BANDS (IRON STAIN), BREAKS EASILY ALONG BEDDING, LOWER HALF MORE SILTY, EXCELLENT STICK	54.0	NDAT		
95.55	97.32	1.77	SS1		DARK GREEN, VERY FINE TO FINE GRAIN SANDSTONE, MASSIVE, HARD, CARBONACEOUS MATERIAL THROUGHOUT, (.08M THICK BAND OF PYRITE MINERAL AND COAL AT 96.70M), EXCELLENT STICK	NDAT	NDAT		
97.32	105.50	8.18	SS1	SLST, MDST	LIGHT TO DARK GREY, (VARVED) VERY FINE GRAIN SANDSTONE, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH SILTSTONE AND MUDSTONE WAVY PARALLEL TO WAVY DISCONTINUOUS BEDDING, OCCASIONAL	62.0	105.0		

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					CROSS-BEDDED, OCCASIONAL COALY LAMINAE, OCCASIONAL BIOTURBATED, GOOD STICK				
105.50	106.19	.69	MUDSTONE	CARBONACE- OUS	BLACK, THINLY LAMINATED, MODERATELY HARD, MINOR SILTSTONE LAMINAE, CARBONACEOUS AND COALY DEBRIS THROUGHOUT, COALY PLANT FOSSIL, MINOR PYRITE, GOOD STICK	64.0	105.8		
106.19	106.88	.69	COAL		RECOVERED .69M; MAINLY DULL WITH BRIGHT BANDS, MINOR SHINY OR BRILLANT BANDS, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE ALONG CLEAT, TRACE PYRITE, BLOCKY, GOOD STICK - RECOVERY 100% - SEPARATION WITH ROOF AND FLDDR, VISUAL AND PHYSICAL - FAIR	NDAT	NDAT 9	155	
106.88	107.00	.12	MUDSTONE	CARBONACE- OUS	BLACK, MASSIVE, MODERATELY HARD, COALY DEBRIS, GOOD STICK	NDAT	NDAT		
107.00	108.32	1.32	SS1		MEDIUM TO DARK GREY, VERY FINE TO FINE GRAIN SANDSTONE, THINLY LAMINATED TO VERY THINLY BEDDED WITH SILTSTONE AND MUDSTONE, WAVY TO BIOTURBATED, OCCASIONAL CROSS-BEDDING, COARSER GRAIN	NDAT	NDAT		

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					TOWARDS BASE, GOOD STICK				
108.32	109.25	.93	MUDSTONE	CARBONACEOUS	MEDIUM TO DARK GREY, MASSIVE, MODERATELY HARD, COALY DEBRIS THROUGHOUT, COALY PLANT FOSSIL, SILTY IN PLACES, GOOD STICK	NDAT	NDAT		
109.25	111.01	1.76	COAL		RECOVERED 1.5M; DULL AND BRIGHT BANDED, CUBIC AND CONCHOIDAL FRACTURE, BLOCKY IN PLACES, BRITTLE IN PLACES, MINOR CALCITE ALONG CLEAT, TRACE PYRITE, GOOD STICK, - RECOVERY 85% - SEPARATION WITH ROOF, VISUAL - POOR, PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - FAIR	NDAT	NDAT 8	156	
111.01	115.36	4.35	SLST	SS1,MDST	LIGHT TO MEDIUM GREY, THINLY LAMINATED TO VERY THINLY BEDDED INTERBEDDED WITH VERY FINE GRAIN SANDSTONE AND DARK GREY MUDSTONE, WAVY PARALLEL, OCCASIONAL CROSS-BEDDING, OCCASIONAL BROWN VERY HARD CLAYSTONE BANDS (IRON STAIN), MODERATELY HARD, BREAKS EASILY ALONG BEDDING, LOWER HALF MORE CLAYEY, GOOD STICK	66.0	AVG		
115.36	117.58	2.22	SS2		LIGHT GREY, FINE TO MEDIUM GRAIN	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SANDSTONE, VERY THINLY TO MEDIUM BEDDED, INTERBEDDED WITH DARK GREY MUDSTONE AND BROWN CLAYSTONE, EVEN TO WAVY PARALLEL BEDDING, OCCASIONAL CROSS-BEDDED, WELL CONSOLIDATED, HARD, LOWER .40M BROWN VERY HARD IRON CLAYSTONE CONGLOMERATE CEMENTED IN FINE GRAIN SANDSTONE MATRIX (COMPACTED), GOOD STICK			
117.58	118.99	1.41	SLST	SS1	MEDIUM TO DARK GREY, THINLY LAMINATED, POORLY DEVELOPED, BREAKS EASILY ALONG BEDDING, GOOD STICK	NDAT	NDAT	
118.99	119.65	.66	SS2		LIGHT GREY TO GREEN, FINE TO MEDIUM GRAIN SANDSTONE, THINLY LAMINATED TO VERY THINLY BEDDED, WAVY TO CONVOLUTED BEDDING, MICRO FAULTED, TOP .25M HIGHLY FRACTURED INFILL WITH CALCITE, LOWER HALF HAS ABUNDANT BROWN VERY HARD IRON RICH CLAYSTONE, GOOD STICK	NDAT	NDAT	
119.65	120.70	1.05	MUDSTONE		MEDIUM TO DARK GREY, MASSIVE, MODERATELY HARD, SILTY, CARBONACEOUS NEAR BASE, GOOD STICK	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHDLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
120.70	121.42	.72	COAL		RECOVERED .45M; MAINLY DULL WITH BRIGHT BANDS, HARD, BRITTLE IN PLACES, BLOCKY. CUBIC AND CONCHOIDAL FRACTURE. MINOR CALCITE, TRACE PYRITE, SLICKENSIDED, BROKEN STICK, - RECOVERY 63% - SEPARATION WITH ROOF, VISUAL AND PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - GOOD	NDAT	NDAT 7	157
121.42	122.40	.98	SLST	MDST	DARK GREY, THICKLY LAMINATED, INTERBEDDED WITH MUDSTONE, 75% SILTSTONE/25% MUDSTONE, SLIGHTLY CARBONACEOUS, WAVY PARALLEL BEDDING, OCCASIONAL CROSS-BEDED, BREAKS EASILY ALONG BEDDING, GOOD STICK	NDAT	NDAT	
122.40	126.08	3.68	SS1	SLST	LIGHT TO MEDIUM GREY, VERY FINE TO FINE GRAIN SANDSTONE THINLY LAMINATED TO VERY THINLY BEDDED, 70% FINE SANDSTONE, OCCASIONAL IRON STAIN, OCCASIONAL MICRO FAULTS, GOOD STICK	NDAT	NDAT	
126.08	127.47	1.39	COAL		RECOVERED .45M; MAINLY BRIGHT, MOOERATELY HARD, HIGHLY FRACTURED AND SLICKENSIDED. BRITTLE, BROKEN STICK - RECOVERY	NDAT	NDAT 6	158

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					32% - SEPARATION WITH ROOF, VISUAL AND PHYSICAL - GOOD; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL - FAIR			
127.47	131.00	3.53	MUDSTDNE	SLST	DARK GREY, THINLY TO THICKLY LAMINATED INTERBEDDED WITH LIGHT GREY SILTSTONE, EVEN TO WAVY PARALLEL, 70% MUDSTDNE/30% SILTSTONE, OCCASIONAL CROSS-BEDDING, SLIGHTLY CARBONACEOUS, COALY PLANT FOSSIL, BREAKS EASILY ALONG BEDDING, GOOD STICK	72.0	130.9	
131.00	132.20	1.20	SLST	SS1	LIGHT GREY TO BEIGE, THINLY TO THICKLY LAMINATED INTERBEDDED WITH VERY FINE GRAIN SANDSTONE AND MINOR MUDSTONE, WAVY CROSS-BEDDED, HARD, GOOD STICK	NDAT	NDAT	
132.20	134.08	1.88	SLST	MDST	MEDIUM TO DARK GREY, THICKLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH MUDSTONE 60%/30% AND MINOR VERY FINE GRAIN SANDSTONE, WAVY PARALLEL, MODERATELY HARD, LOWER HALF MORE ARGILLACEOUS, CARBONACEOUS AT BASE, GOOD STICK	NDAT	NDAT	
134.08	135.62	1.54	COAL		RECOVERED 1.1M;	NDAT	NDAT 5	159

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					MAINLY DULL WITH BRILLANT BANDS, HARD, BLOCKY IN PLACES, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE ALONG CLEAT, TRACE PYRITE, GOOD STICK, - RECOVERY 71% -SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL - FAIR			
135.62	142.68	7.06	SLST	SS1	DARK GREY, THINLY LAMINATED TO THICKLY BEDDED, INTERBEDDED WITH LIGHT GREY VERY FINE GRAIN SANDSTONE, VERY ARGILLACEOUS INTERVALS, FOSSIL PLANT DEBRIS THROUGHOUT, OCCASI- ONAL BROWN VERY HARD INTERVALS (IRON STAIN), MINOR COAL WISPS, GOOD STICK	NDAT	NDAT	
142.68	142.87	.19	COAL	HIGH ASH	RECOVERED .19M; DULL, SHALEY, TRACE PYRITE, MODERATELY HARD, GOOD STICK - NDT SAMPLED	NDAT	NDAT	
142.87	145.64	2.77	MUDSTDNE	SLST	MEDIUM TO DARK GREY, THINLY LAMINATED TO MEDIUM BEDDED, INTERBEDDED 60% MUDSTONE/35% SILTSTONE, WAVY PARALLEL, MODERATELY HARD, FOSSIL PLANT DEBRIS, OCCASIONAL VERY HARD BROWN IRON BAND, GRADING TOWARDS SILTSTONE/SANDSTO-	74.0	143.0	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					NE AT BASE, GOOD STICK			
145.64	145.94	.30	SS1		MEDIUM GREY, FINE GRAIN, MASSIVE, HARD, WELL CONSOLIDATED, CLAYEY IN PLACES, IRON STAIN, GOOD STICK	NDAT	NDAT	
145.94	147.37	1.43	SS1		MEDIUM GREY, VERY FINE GRAIN, VERY THINLY BEDDED INTERBEDDED WITH SILTSTONE AND MUDSTONE, POORLY DEVELOPED, VERY ARGILLACEOUS, FRIABLE IN PLACES, FRACTURED AND SLICKENSIDED, GOOD STICK	NDAT	NDAT	
147.37	147.82	.45	SLST	TUFFACEOUS	LIGHT GREY, MASSIVE, VERY HARD, SLICKENSIDED, BROKEN TO FAIR STICK (POSSIBLE FAULT GOUGE)	NDAT	NDAT	
147.82	151.25	3.43	SLST		DARK GREY, MASSIVE, MODERATELY HARD, HIGHLY FRACTURED AND SLICKENSIDED, POLISHED, MINOR LIGHT GREY VERY FINE GRAIN SANDSTONE LAMINAE, BEDDING ANGLE RANGES FROM 20-70 DEGREES, FAIR STICK	NDAT	NDAT	
151.25	152.06	.81	SLST	SS1	BROWN TO GREY, THICKLY LAMINATED, INTERBEDDED WITH VERY FINE GRAIN SANDSTONE, EVEN PARALLEL BEDDING, VERY HARD, WELL CONSOLIDATED, IRON	32.0	151.3	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					STAIN, CALCITE VEINLETS, EXCELLENT STICK			
152.06	152.36	.30	SS1		LIGHT TO MEDIUM GREY, THICKLY LAMINATED INTERBEDDED WITH SILTSTONE, WAVY PARALLEL AND DISCONTINUOUS, FAULTED, IRON RICH CLAYSTONE BANDS, MODERATELY HARD, GOOD STICK	72.0	152.2	
152.36	155.80	3.44	SLST	SS1	MEDIUM GREY, THINLY LAMINATED TO VERY THINLY BEDDED INTERBEDDED WITH LIGHT GREY VERY FINE GRAIN SANDSTONE, WAVY PARALLEL TO CONVOLUTED BEDDING, BEDDING ANGLE RANGES FROM 5 TO 35 DEGREES, FRACTURED AND SLICKENSIDED, HIGHLY POLISHED, (POSSIBLE FAULT ZONE) CARBONACEOUS DEBRIS THROUGHOUT, OCCASIONAL VERY HARD IRON RICH SILTSTONE BAND WITH CALCITE INFILL FRACTURE, FAIR STICK	NDAT	NDAT	
155.80	156.14	.34	COAL		RECOVERED .13M; DULL, HARD, SHALEY, GOOD STICK, SLICKENSIDED - RECOVERY 36% - SEPARATION WITH RODF AND FLOOR, VISUAL AND PHYSICAL - FAIR	NDAT	NDAT 3	160
156.14	158.70	2.56	SLST		LIGHT TO MEDIUM GREY, MASSIVE,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					HARD, CARBONACEOUS AND COALY DEBRIS THROUGHOUT, COALY PLANT FOSSIL, MINOR VERY FINE GRAIN SANDSTONE LAMINAE NEAR BASE, .30M BROWN VERY HARD IRDN RICH SILTSTONE BAND AT 157.45-157.75M, GOOD STICK			
158.70	163.17	4.47	SLST	SS1	LIGHT TO DARK GREY, THICKLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH VERY FINE TO MEDIUM GRAIN SANDSTONE AND MUDSTONE, WAVY PARALLEL, SANDSTONE OCCASIONAL CROSS-BEDDED, OCCA- SIONAL MICRO FAULT, BREAKS EASILY ALONG BEDDING PLANE, GOOD STICK	80.0	AVG	
163.17	163.29	.12	COAL	HIGH ASH	RECOVERED .12M; DULL, ABUNDANT CALCITE VEINLETS, VERY HARD, SLICKENSIDED, HIGHLY POLISHED, GOOD STICK - NOT SAMPLED	NDAT	NDAT	
163.29	164.09	.80	MUDSTONE		MEDIUM GREY, MASSIVE, MODERATELY HARD, SLIGHTLY CARBONACEOUS, COALY PLANT FOSSIL, BREAKS PERPENDICULAR AND HORIZONTAL TO BEDDING, GOOD STICK	NDAT	NDAT	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B	ANGLE	DEPTH SEAM	SNUM
164.09	164.15	.06	CDAL	HIGH ASH	RECOVERED .06M; DULL, ABUNDANT CALCITE VEINLETS, VERY HARD, PYRITE VEIN, BROKEN, - NOT SAMPLED	NDAT		NDAT	
164.15	164.45	.30	MUDSTONE		MEDIUM GREY, MASSIVE, MODERATELY HARD, FRACTURED AND SLICKENSIDED, HIGHLY POLISHED, GOOD STICK (POSSIBLE FAULT ZONE)	NDAT		NDAT	
164.45	164.55	.10	COAL		RECOVERED .10M; DULL, EARTHY, MINOR CALCITE VEINLETS, FRACTURED AND SLICKENSIDED, POLISHED, GOOD STICK	NDAT		NDAT	
164.55	164.82	.27	MUDSTONE		MEDIUM GREY, MASSIVE, MODERATELY HARD, COALY PLANT FOSSIL, CARBONACEOUS, FRACTURED AND SLICKENSIDED, POLISHED, GOOD STICK	NDAT		NDAT	
164.82	164.94	.12	COAL		RECOVERED .12M: DULL, EARTHY, ABUNDANT CALCITE VEINLETS, FRACTURED AND SLICKENSIDED, POLISHED, GOOD STICK - NOT SAMPLED	NDAT		NDAT	
164.94	166.12	1.18	MUDSTONE		MEDIUM GREY, MASSIVE, MODERATELY HARD, SLIGHTLY CARBONACEOUS, COALY PLANT DEBRIS	NDAT		NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					THROUGHOUT, SILTY, FRACTURED AND SLICKENSIDED, POLISHED, GOOD STICK			
166.12	166.73	.61	COAL	DIRTY	RECOVERED .47M; MAINLY DULL WITH MINOR BRIGHT BANDS, HIGHLY FRACTURED AND SLICKENSIDED, BROKEN TO POWDERY, BROKEN STICK - RECOVERY 77%SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL - POOR	NDAT	NDAT 2	161
166.73	171.40	4.67	SLST	MDST,SS1	LIGHT TO MEDIUM GREY, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH MUDSTONE AND VERY FINE GRAIN SANDSTONE, CROSS-BEDDED, WAVY PARALLEL, MODERATELY HARD,BREAKS EASILY ALONG BEDDING PLANE, MICACEOUS, SLIGHTLY CARBONACEOUS IN PLACES, SOFT SEDIMENTARY DEFORMATION, VERY HARD CALCITE CEMENT BANDS, GOOD STICK	68.0	AVG	
171.40	185.69	14.29	MUDSTONE	SLST	LIGHT TO DARK GREY, THINLY LAMINATED TO MEDIUM BEDDED, INTERBEDDED WITH SILTSTONE AND MINOR VERY FINE GRAIN SANDSTONE, WAVY PARALLEL TO CONVOLUTED, SOFT SEDIMENTARY	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					DEFDMATION, DCCAS- IONAL CROSS-BEDDED, OCCASIDNAL VERY HARD CALCITE CEMENTED BANDS, OCCASIONAL IRON RICH CLAYSTONE BANDS AND NODULES, BREAKS EASILY ALONG BEDDING, GOOD STICK			
185.69	192.40	6.71	MUDSTONE		MEDIUM TO DARK GREY, MASSIVE, MODERATELY HARD, SILTY IN PLACES, OCCASIONAL VERY HARD BROWN IRON RICH CLAYSTONE NODULE AND BAND, GOOD STICK	NDAT	NDAT	
192.40	196.90	4.50	SLST		MEDIUM TO DARK GREY, MASSIVE, MODERATELY HARD TO HARD, OCCASIONAL VERY HARD BROWN IRON RICH CLAYSTONE BANDS AND NODULES, ARGILLACEDUS, GOOD STICK	NDAT	NDAT	
196.90	201.70	4.80	MUDSTONE		DARK GREY, MASSIVE, MODERATELY HARD, FISSILE IN PLACES, BREAKS PERPENDICULAR AND HORIZONTAL TO BEDDING, SILTY IN PLACES, OCCASIONAL VERY HARD BROWN IRON RICH CLAYSTONE BANDS, GOOD STICK	NDAT	NDAT	
201.70	219.60	17.90	SLST		POSSIBLE FAULT ZONE; MEDIUM TO DARK GREY, MASSIVE, MODERATELY HARD TO HARD,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					ARGILLACEOUS, OCCASIONAL VERY HARD CALCITE CEMENT BAND, BREAKS PERPENDICULAR AND HORIZONTAL TO BEDDING, FROM 213.9M HIGHLY FRACTURED AND SLICKENSIDED, GOOD STICK			
219.60	220.60	1.00	SSf		LIGHT GREY, FINE GRAIN SANDSTONE, MASSIVE, VERY HARD, WELL CONSOLIDATED, OCCASIONAL CALCITE INFILL FRACTURE, EXCELLENT STICK	NDAT	NDAT	
220.60	227.45	6.85	SLST		MEDIUM GREY, MASSIVE, MODERATELY HARD, ARGILLACEOUS, FRACTURED AND SLICKENSIDED, GOOD STICK	NDAT	NDAT	
227.45	228.01	.56	SS1		AS FINE SANDSTONE UNIT ABOVE	NDAT	NDAT	
228.01	238.94	10.93	SLST	FAULT ZONE	MEDIUM GREY, MASSIVE, MODERATELY HARD, ARGILLACEOUS, HIGHLY FRACTURED AND SLICKENSIDED, OCCASIONAL CALCITE VEINS, TRACE PYRITE, FAIR STICK	NDAT	NDAT	
238.94	240.60	1.66	SS1		MEDIUM GREY, VERY FINE GRAIN, MASSIVE, MODERATELY HARD, ARGILLACEOUS, VISIBLE PYRITE LENSES, MINOR COAL LAMINAE, LOWER .60M CALCITE CEMENTED, VERY	NDAT	NDAT	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					HARD, CALCITE INFILL FRACTURE, GOOD STICK				
240.60	262.00	21.40	SLST		MEDIUM GREY, MASSIVE, MODERATELY HARD, ARGILLACEOUS WITH OCCASIONAL SANDY INTERVAL, OCCASIONAL CALCITE VEIN, OCCASIONAL PYRITE NODULES, OCCASIONAL SHELL FOSSIL (BRACH), BREAKS HORIZONTALLY AND PERPENDICULAR TO BEDDING, GOOD STICK	NDAT	NDAT		
262.00	263.90	1.90	MUDSTONE		DARK GREY, MASSIVE, MODERATELY HARD, SLIGHTLY CARBONACEOUS, VISIBLE PYRITE NODULES THROUGHOUT, OCCASIONAL CALCITE VEIN, EASILY BROKEN, SILTY, GOOD STICK	NDAT	NDAT		
263.90	264.30	.40	SLST		LIGHT GREY TO BEIGE, MASSIVE, VERY HARD, CALCITE CEMENTED, MINOR CALCITE INFILL FRACTURE, EXCELLENT STICK	NDAT	NOAT		
264.30	267.05	2.75	SS1	SLST	GREEN TO BLACK, VERY FINE GRAIN, THINLY LAMINATED, POORLY DEVELOPED, CROSS-BEDDING, MODERATELY HARD, INTERBEDDED WITH SILTSTONE, GOOD STICK	NDAT	NDAT		
267.05	272.01	4.96	SLST		MEDIUM GREY, MASSIVE, MODERATELY HARD,	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					ARGILLACEOUS AND SANDY INTERVALS, MINOR BROWN VERY HARD IRON RICH CLAYSTONE BAND WITH CALCITE INFILL FRACTURE, TRACE PYRITE, GOOD STICK			
272.01	273.37	1.36	SS1		LIGHT TO MEDIUM GREY, FINE TO MEDIUM GRAIN, THICKLY LAMINATED INTERBEDDED WITH SILTSTONE, POORLY DEVELOPED, MODERATELY HARD, COALY FLECKS, GOOD STICK	62.0	273.0	
273.37	275.80	2.43	SS1	SLST	LIGHT TO MEDIUM GREY, VERY FINE GRAIN, THINLY LAMINATED INTERBEDDED WITH SILTSTONE, POORLY DEVELOPED, HARD, OCCASIONAL FRACTURE, SLICKENSIDED, GOOD STICK	NDAT	NDAT	
275.80	278.03	2.23	MUDSTONE		DARK GREY, MASSIVE, MODERATELY HARD, CRUMBLY, BREAKS PERPENDICULAR AND HORIZONTAL TO BEDDING, OCCASIONAL CARBONACEOUS DEBRIS THROUGHOUT, OCCASIONAL BROWN IRON STAIN, GOOD STICK	NDAT	NDAT	
278.03	280.00	1.97	SLST		MEDIUM TO DARK GREY, MASSIVE, MODERATELY HARD, ARGILLACEOUS, SLIGHTLY CARBONACEOUS, MINOR COALY	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					FLECKS, EASILY BROKEN, GOOD STICK			
280.00	282.60	2.60	MUDSTONE		DARK GREY, MASSIVE, MODERATELY HARD, GOOD STICK	NDAT	NDAT	
282.60	293.10	10.50	SS1	FOLDED	LIGHT GREY, FINE GRAIN, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH WAVY SILTSTONE LAMINAE, WAVY TO CONVOLUTED BEDDING, ANGLE RANGES FROM 65-0 DEGREES, OCCASIONAL VERY HARD CALCITE CEMENTED BANDS, MINOR IRON STAIN, GOOD STICK	NDAT	NDAT	
293.10	297.60	4.50	MUDSTONE	SILTY, FAULT ZONE	DARK GREY, MASSIVE, MODERATELY HARD, FRACTURED AND SLICKENSIDED, MINOR BROWN VERY HARD IRON RICH CLAYSTONE BANDS, GRADING TO SILTSTONE NEAR BASE, BROKEN TO FAIR STICK	NDAT	NDAT	
297.60	328.04	30.44	SS1		LIGHT TO MEDIUM GREY, FINE GRAIN, MASSIVE, VERY HARD , WELL CONSOLIDATED, OCCASIONAL BIOTURBATED INTERVALS, OCCASIONAL CALCITE INFILL FRACTURE, OCCASIONAL BROWN VERY HARD IRON RICH CLAYSTONE BANDS AND NODULES, POORLY DEVELOPED BEDDING, WAVY TO	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					CONVOLUTED, ABUNDANT SEDIMENTARY CLASTS THROUGHOUT, OCCASIONAL ARGILLACEOUS UNIT. EXCELLENT STICK			
328.04	333.86	5.82	SS1	SLST/MDST	LIGHT TO DARK GREY, VERY FINE TO FINE GRAIN, VERY THINLY TO MEDIUM BEDDED, INTERBEDDED WITH SILTSTONE AND MINOR MUDSTONE, CROSS-BEDDED, WAVY PARALLEL BEDDING,MICRO FAULTED THROUGHOUT, OCCASIONAL BROWN VERY HARD IRON RICH CLAYSTONE BANDS, IRON STAIN ON SANDSTONE, HARD, GOOD TO EXCELLENT STICK	76.0	AVG	
333.86	335.88	2.02	SS1	FOLDED	AS SANDSTONE UNIT ABOVE WITH BEDDING ANGLE RANGING FROM 0-76 DEGREES, CONVOLUTED, MICRO FAULTED, FOLDED, GOOD STICK	NDAT	NDAT	
335.88	336.48	.60	SLST	SS1,FOLDED	DARK GREY, THINLY LAMINATED INTERBEDDED WITH VERY FINE GRAIN SANDSTONE, CONVOLUTED, SMALL SCALE FOLDING, COAL WISPS, CARBONACEOUS,FRAC- TURED AND SLICKENSIDED, MODERATELY HARD, FAIR STICK	NDAT	NDAT	
336.48	338.85	2.37	SS1		MEDIUM GREY, FINE GRAIN, THICKLY LAMINATED	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					INTERBEDDED WITH FINER SANDSTONE AND SILTSTONE, POORLY DEVELOPED. VERY HARD, WELL CONSOLIDATED, CEME- NTED IN PLACES WITH IRDN RICH CLAY AND CALCITE. ABUNDANT CALCITE INFILL FRACTURE, EXCELLENT STICK			
338.85	338.94	.09	COAL	SHALEY	RECOVERED .09M; DULL, HARD, SHALEY, CALCITE VEINLETS, SLICKENSIDED - NOT SAMPLED	NDAT	NDAT	
338.94	339.34	.40	MUDSTONE		MEDIUM TO DARK GREY, MASSIVE, HARD, CARBONACEOUS, SILTY, FRACTURED AND SLICKENSIDED, FAIR STICK	NDAT	NDAT	
339.34	339.46	.12	COAL	SHALEY	DULL, CRUSHED, POWDERY, SLICKENSIDED AND POLISHED, POOR STICK	NDAT	NDAT	
339.46	341.60	2.14	MUDSTONE	CARB/SILTY	MEDIUM GREY, MASSIVE, MODERATELY HARD, CARBONACEOUS, SILTY, SLICKENSIDED, GOOD STICK	NDAT	NDAT	
341.60	342.20	.60	COAL	FAULTED	RECOVERED .36M; DULL, MODERATELY HARD, HIGHLY FRACTURED AND SLICKENSIDED, CRUSHED TO POWDERY, SHALEY IN PLACES, HIGH ASH, POOR STICK - RECOVERY 60% - SEPARATION WITH ROOF AND FLOOR	NDAT	NDAT 1	162

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					UNCERTAIN DUE TO BREAKAGE			
342.20	343.74	1.54	MUDSTONE	SILTY	MEDIUM GREY, MASSIVE, MODERATELY HARD, SLIGHTLY CARBONACEOUS, SILTY, OCCASIONAL COAL WISPS, FRACTURED AND SLICKENSIDED, GOOD STICK	NDAT	NDAT	
343.74	343.94	.20	COAL	HIGH ASH	RECOVERED .10M; DULL, MODERATELY HARD, SHALEY, POWDERY, HIGHLY FRACTURED AND SLICKENSIDED, POOR STICK - RECOVERY 50% - SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL - FAIR; - NOT SAMPLED	NDAT	NDAT	
343.94	346.12	2.18	SLST	SS1	MEDIUM GREY, THICKLY BEDDED INTERBEDDED WITH VERY FINE GRAIN SANDSTONE LAMINAE, COALY PLANT DEBRIS, HARD, GOOD STICK	NDAT	NDAT	
346.12	346.48	.36	COAL	DIRTY	RECOVERED .30M; MAINLY DULL WITH BRIGHT BANDS, HARD, BLOCKY, SHALEY, GOOD STICK - RECOVERY 83% - SEPARATION WITH ROOF, VISUAL - POOR, PHYSICAL - FAIR; SEPARATION WITH FLOOR, VISUAL - POOR, PHYSICAL - FAIR	NDAT	NDAT 1	163
346.48	351.75	5.27	MUDSTONE		MEDIUM TO DARK GREY, MASSIVE, MODERATELY HARD TO HARD, SLIGHTLY	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					CARBONACEOUS, SILTY INTERVALS, FOSSIL PLANT DEBRIS, GOOD STICK			
351.75	352.90	1.15	MUDSTONE	COALY FAULT ZONE	BLACK, MASSIVE, MODERATELY HARD, FISSILE TO POWDERY, HIGHLY FRACTURED AND SLICKENSIDED, POOR STICK	NDAT	NDAT	
352.90	354.20	1.30	SLST	SS1	GREY TO BROWN, MASSIVE, VERY HARD, COALY DEBRIS THROUGHOUT, SANDY, LOWER THIRD HAS FINE GRAIN SANDSTONE LAMINAE, IRON STAIN, GOOD STICK	NOAT	NOAT	
354.20	355.10	.90	MUOSTONE		DARK GREY TO BLACK, MASSIVE, MODERATELY HARD, CARBONACEOUS, PLANT FOSSIL, BECOMING SILTY AT BASE, GOOD STICK	NOAT	NOAT	
355.10	359.41	4.31	SLST		MEDIUM GREY, MASSIVE, HARD, COALY DEBRIS THROUGHOUT, OCCASIONAL SANDY INTERVAL, GOOD STICK	NDAT	NDAT	
359.41	360.23	.82	SS1		MEDIUM GREY, FINE GRAIN, VERY THINLY BEDDED, HARD, GRADING COARSER TOWARDS BASE, EXCELLENT STICK	62.0	AVG	
360.23	361.58	1.35	SS2	SS1	LIGHT TO MEDIUM GREY, MEDIUM GRAIN SANDSTONE, VERY THINLY TO THICKLY BEDDED INTERBEDDED WITH FINE GRAIN SANDSTONE AND MINOR SILTSTONE	NDAT	NOAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					LAMINAE AT BASE, VERY HARD, EXCELLENT STICK			
361.58	363.37	1.79	SS3	SS2,SS4	LIGHT GREY, COARSE GRAIN SANDSTONE THINLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH CONGLOMERATE AND FINE TO MEDIUM GRAIN SANDSTONE, MINOR COALY LAMINAE, EVEN TO WAVY PARALLEL BEDDING WITH OCCASIONAL CROSS-BEDDING, VERY HARD, EXCELLENT STICK	NDAT	NDAT	
363.37	366.20	2.83	SS4		LIGHT GREY TO WHITE, CONGLOMERATE, MASSIVE, VERY HARD, WELL CONSOLIDATED, WELL CEMENTED, EXCELLENT STICK	NDAT	NDAT	
366.20	366.70	.50	MUDSTONE	COALY	BLACK, MASSIVE, HARD, CARBONACEOUS, COALY BANDS THROUGHOUT, GOOD STICK	NDAT	NDAT	
366.70	370.40	3.70	MUDSTONE	SL, CARBON- ACEOUS	DARK GREY, MASSIVE, MODERATELY HARD TO HARD, CARBONACEOUS, COALY PLANT DEBRIS, SILTY INTERVALS, OCCASIONAL VERY FINE GRAIN SANDSTONE LAMINAE, GOOD STICK	NDAT	NDAT	
370.40	371.60	1.20	SLST		GREY TO BROWN, MASSIVE, VERY HARD, WELL CONSOLIDATED,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					CARBONACEOUS DEBRIS THROUGHOUT, EXCELLENT STICK			
371.60	371.97	.37	SS1		GREY TO BROWN, FINE GRAIN SANDSTONE, MASSIVE, VERY HARD, WELL CONSOLIDATED, WELL CEMENTED, EXCELLENT STICK	NDAT	NDAT	
371.97	374.00	2.03	SLST		MEDIUM GREY, MASSIVE, HARD, OCCASIONAL COAL WISP, CARBONACEOUS DEBRIS THROUGHOUT, GOOD STICK; TOTAL DEPTH AT 374.0	NDAT	NDAT	

CORE DESCRIPTION

HOLE.ID TWB2D-253
 PROJECT TELKWA
 AREA SMITHERS
 DRIL.DATE 820823
 LOG.DATE 820920
 EXAMINED.BY S.CAMERON

TOP	BASE	THICK	LITHDLDGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	10.29	10.29	OVERBURDEN		DRILLED WITH ROCK BIT, NO CORE RECOVERY	NDAT	NDAT	
10.29	13.48	3.19	MUDSTONE	SLST	GRADES INTO SILTSTDNE, OCCASIONAL IRONSTONE BANDS AND CONCRETIONS, BECOMES INTERBEDDED WITH DARK GREEN FINE GRAINED SANDSTONE NEAR BASE OF UNIT	NDAT	NDAT	
13.48	16.38	2.90	SS1	GREEN	DARK GREEN WITH MICACEOUS FLECKS THROUGHOUT, CONTAINS COALY FLECKS AND BANDS, MASSIVE	NDAT	NDAT	
16.38	17.30	.92	SS1		GREY TO GREEN FINE GRAINED SANDSTONE INTERBEDDED WITH OCCASIONAL BAND OF GREY TO GREEN MUDSTONE, SMALL SCALE TROUGH CROSS-BEDDING, MICACEOUS FLECKS THROUGHOUT, OCCASIONALLY GRADES INTO MEDIUM GRAINED SANDSTONE	NDAT	NDAT	
17.30	18.48	1.18	MUOSTONE	SS1	BLACK MUDSTONE WITH SOME THIN INTERBEDS DF LIGHT GREY FINE GRAINED SANDSTONE	NOAT	NDAT	
18.48	22.05	3.57	SS1	SLST	GREY, INTERBEDDED WITH GREY TO BLACK SILTSTONE, CALCITE FRACTURES FILLING	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					HIGH ANGLE JOINTS			
22.05	28.85	6.80	MUDSTONE	SLST	INTERBEDDED BLACK MUDSTONE WITH GREY TO BLACK MUDSTONE ALSO SOME INTERBEDDED LIGHT GREY SANDSTONE. SOFT SEDIMENT DEFORMATION, OCCASIONAL IRONSTONE BANDS	NDAT	NDAT	
28.85	35.82	6.97	SS1	MDST	INTERBEDDED FINE GRAINED SANDSTONE AND MUDSTONE WITH SOME GREY TO BLACK SILTSTONE AND IRONSTONE BEDS, SOFT SEDIMENT DEFDRMATIDN, BIOTURBATION, FINE GRAINED SANDSTDNE VARIES FROM LIGHT GREY TO PALE GREEN	NDAT	NDAT	
35.82	35.88	.06	COAL	PYRITIC	DULL, HARD	NDAT	NDAT	
35.88	36.08	.20	SS1	MDST	PALE GREEN FINE GRAINED SANDSTDNE INTERBEDDED WITH GREY TO BLACK CARBONACEOUS SHALE	NDAT	NDAT	
36.08	36.20	.12	COAL	SHALY		NOAT	NDAT	
36.20	36.83	.63	MUDSTONE	CARBONACE- OUS	BLACK, FRACTURE ALONG BEDDING AND AT 90 DEGREES TO BEDDING	NDAT	NDAT	
36.83	37.03	.20	COAL	SHALY	OCCASIONAL SMALL PYRITIC BAND, HARD, DULL	NDAT	NDAT	224
36.83	37.03	.20	COAL	SHALEY	OCCAS. SMALL PYRITIC BAND, HARD, DULL	NDAT	NDAT	
37.03	37.28	.25	COAL	CLEAN	DULL WITH BRIGHT	NDAT	NOAT	224

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BANDS, SMALL BLEBS/FLECKS OF PYRITE			
37.28	37.31	.03	SLST	CARBONACEOUS	GREY TO BLACK	NDAT	NDAT	
37.31	37.86	.55	COAL		DULL, HARD, OCCASIONAL BRIGHT VITRAIN BANDS, CALCITE FILLED	NDAT	NDAT	224
37.86	40.85	2.99	MUDSTONE	CARBONACEOUS	BLACK, CRUMBLES EASILY, COALY BLEBS AND BANDS, GRADES DOWN INTO MUDDY SILTSTONE	NDAT	NDAT	
40.85	40.98	.13	COAL	SHALY		NDAT	NDAT	
40.98	45.55	4.57	MUDSTONE	SLST	BLACK MUDSTONE COARSENS DOWN INTO GREY-BLACK SILTSTONE, OCCASIONAL IRONSTONE BANDS AND CONCRETIONS	NDAT	NDAT	
45.55	49.55	4.00	SS1	SLST	GRADES FROM SILTSTONE DOWNWARD INTO A GREEN-GREY SANDSTONE	NDAT	NDAT	
49.55	50.15	.60	MUDSTONE	SS1	BLACK CARBONACEOUS MUDSTONE INTERBEDDED WITH PALE GREEN FINE GRAINED SANDSTONE	NDAT	NDAT	
50.15	50.42	.27	SS1	MDST	PALE GREEN FINE GRAINED SANDSTONE INTERBEDDED WITH CARBONACEOUS MUDSTONE, COALY BANDS AND BLEBS, THIN IRONSTONE BANDS	NDAT	NDAT	
50.42	51.20	.78	MUDSTONE	CARBONACEOUS	SOME INTERBEDDED PALE GREEN SANDSTONE, COALY	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BANDS ARE ALSO COMMON			
51.20	51.58	.38	COAL	DIRTY	SOME THIN SHALE BANDS THROUGHOUT	NDAT	NDAT	225
51.58	54.12	2.54	MUDSTONE	CARBONACEOUS	SOME CALCITE FILLED FRACTURES FILLING HIGH ANGLE JOINTS	NDAT	NDAT	
54.12	54.57	.45	COAL	DIRTY	SOME THIN BANDS OF SHALE AND SILTSTONE, PYRITIC BANDS THROUGHOUT	NDAT	NDAT	226
54.57	54.77	.20	MUDSTONE	CARBONACEOUS	BLACK	NDAT	NDAT	
54.77	54.92	.15	COAL	SHALY	OCCASIONAL CALCITE VEIN	NDAT	NDAT	
54.92	55.04	.12	MUDSTONE	CARBONACEOUS	BLACK	NDAT	NDAT	
55.04	55.45	.41	GOUGE	COAL	RUBBLE, MIXTURE OF SHALE AND COAL, SOME SLICKENSIDES EVIDENT, FAULT GOUGE	NDAT	NDAT	
55.45	55.79	.34	COAL	FAULTED	ABUNDANCE OF SLICKENSIDES, DECREASING TOWARDS THE BASE OF THE SEAM, RUBBLE AT TOP OF SEAM	NDAT	NDAT	228
55.79	56.28	.49	MUDSTONE	IRONSTONE	BLACK CARBONACEOUS MUDSTONE, IRONSTONE HAS AN ABUNDANCE OF CALCITE FILLED VUGS	NDAT	NDAT	
56.28	56.37	.09	COAL	CLEAN	OCCASIONAL SLICKENSIDES, CALCITE VEINS INFILLING SOME OF THE CLEATS	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
56.37	56.52	.15	BENTONITE		SDFT. LIGHT GREY	NDAT	NDAT	
56.52	57.81	1.29	MUDSTONE	CARBONACE- OUS	BLACK, SOME THIN COAL BANDS AND BLEBS	NDAT	NDAT	
57.81	57.92	.11	COAL	DIRTY	DULL, HARD, CONTAINS PYRITE BANDS, CALCITE THROUGHOUT	NDAT	NDAT	
57.92	59.06	1.14	MUDSTONE		BLACK, COALY BANDS AND BLEBS	NDAT	NDAT	
59.06	59.19	.13	COAL	DIRTY	SLICKENSIDED AT BASE OF UNIT	NDAT	NDAT	
59.19	59.69	.50	MUDSTONE	CARBONACE- OUS	BLACK, FRACTURES PARALLEL TO AND AT RIGHT ANGLES TO BEDDING, SOME COALY BLEBS AND BANDS	NDAT	NDAT	
59.69	59.90	.21	COAL	SHALY	THIN BANDS OF GREY SILTSTONE AND BLACK MUDSTONE	NDAT	NDAT	
59.90	60.95	1.05	MUDSTONE	SLST	CARBONACEOUS MUDSTONE INTERBEDDED WITH GREY TO BLACK SILTSTONE AND LIGHT GREY SANDSTONE, CALCITE FILLING HIGH ANGLE JOINTS	NDAT	NDAT	
60.95	61.35	.40	MUDSTONE	IRONSTONE	BLACK CARBONACEOUS MUDSTONE INTERBEDDED WITH BROWN VERY HARD IRONSTONE, IRONSTONE BANDS RANGE FROM A FEW CM TO 15CM THICK, IRONSTONES ARE VUGGY, VUGS HAVE BEEN INFILLED WITH	NDAT	NDAT	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					CALCITE				
61.35	61.58	.23	GOUGE		SHEARED MUDSTONE, RUBBLE	NDAT	NDAT		
61.58	64.28	2.70	MUDSTONE		BLACK CARBONACEOUS MUDSTONE INTERBEDDED WITH BROWN VERY HARD IRONSTONE, IRONSTONE BANDS HAVE VUGS WHICH HAVE BEEN INFILLED WITH CALCITE	NDAT	NDAT		
64.28	65.20	.92	SS1	MDST	LIGHT GREY SANDSTONE INTERBEDDED WITH THIN BEDS OF BLACK CARBONACEOUS SHALE OR MUDSTONE, SMALL SCALE NORMAL FAULTING, SOFT SEDIMENT DEPDSITION	NDAT	NDAT		
65.20	68.07	2.87	MUDSTONE	SANOSTONE	BLACK CARBONACEOUS MUDSTONE WITH THIN INTERBEDDED LAMINAE OF GREY-GREEN FINE GRAINED SANDSTONE, SOME OF THE THIN SANDSTONE BEDS ARE MEDIUM GRAINED, SOME THIN BANDS OF COAL ALSO OCCUR, OCCASIONAL CALCITE FILLED FRACTURE, THE MUDSTONE OCCASIONALLY GRADES INTD SILTSTDNE	NDAT	NDAT		
68.07	68.39	.32	SS2		MEDIUM TO COARSE GRAINED SALT AND PEPPER SANDSTONE, SOME THIN INTERBEDS OF BLACK MUDSTONE AND COAL	NDAT	NDAT		
68.39	72.73	4.34	MUDSTONE	SS1	BLACK MUDSTDNE WITH THIN	NDAT	NDAT		

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM		SNUM
					INTERBEDS OF LIGHT GREY SANDSTONE, OCCASIONAL BIOTURBATION, OCCASIONAL CALCITE FILLED FRACTURE, SOME SOFT SEDIMENT DEFORMATION, DRAG FOLD UNDERNEATH A SERIES OF HIGH ANGLE REVERSE FAULT AT 68.70				
72.73	73.65	.92	MUDSTONE	CARBONACE- OUS	BLACK, OCCASIONAL THIN DISCONTINUOUS BEDDING OF LIGHT GREY SANDSTONE	NDAT	NDAT		
73.65	73.99	.34	COAL		OCCASIONAL THIN SHALE BAND, TOP CONTACT IS UNDULATORY WITH MICRO FAULTS, COAL BECOMES CLEANER TOWARD BOTTOM OF SEAM, CALCITE HAS INFILLED TWO SETS OF JOINTS, ONE PARALLEL TO BEDDING; THE OTHER 45 DEGREES TO BEDDING (RECOVERY = 100%)	NDAT	NDAT		229
73.99	77.46	3.47	MUDSTONE	CARBONACE- OUS	OCCASIONAL THIN COAL BAND	NDAT	NDAT		
77.46	77.88	.42	COAL	DIRTY	SLICKENSIDES AT BOTTOM OF SEAM (RECOVERY = 62%)	NDAT	NDAT		230
77.88	80.65	2.77	SLST	MDST	VERY MUDDY SILTSTONE CONTAINS THIN COAL BANDS AND BLEBS, OCCASIONAL IRONSTONE BAND AND CONCRETIONS, FRACTURES PARALLEL TO AND AT RIGHT ANGLES TO BEDDING, FAIRLY MASSIVE	NDAT	NDAT		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHDLGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
80.65	80.69	.04	BENTONITE		WHITE GREY COLOUR, VERY SOFT	NDAT	NDAT	
80.69	108.10	27.41	SLST	MDST	GRADES FROM VERY MUDDY SILTSTONE TO MUOSTONE THROUGHOUT THE UNIT, OCCASIONAL IRONSTONE BAND, CALCITE FILLS HIGH ANGLE JOINTS, CALCITE MORE COMMON IN THE IRONSTONE BEDS, OCCASIONAL COAL BLEBS USUALLY CONTAINING A HIGH NUMBER OF CALCITE FILLED FRACTURES	NDAT	NDAT	
108.10	119.00	10.90	MUDSTONE	SLST	GRADATIONAL CONTACT WITH ABOVE UNIT, IRONSTONE BANDS AND CONCRETIONS, CALCITE FILLED FRACTURES THROUGHOUT UNIT, IRONSTONE BEDS OFTEN CONTAIN CALCITE FILLED VUGS, THIS UNIT IS MODERATELY FRACTURED WITH AN ABUNDANCE OF SLICKENSIDES, GRADES INTO SILTSTONE OCCASIONALLY, MASSIVE	NDAT	NDAT	
119.00	124.15	5.15	SLST	MDST	GRADES FROM GREY SILTSTONE INTO A BLACK MUDDY SILTSTONE, OCCASIONAL MUDSTONE, OCCASIONAL IRONSTONE BANDS	NDAT	NDAT	
124.15	124.37	.22	SS1	GREEN	ABUNDAÑT COALY BLEBS, CALCITE	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					FILLS FRACTURES AND CLEATS WITHIN THE BLEBS. SANDSTONE HAS MICACEOUS FLECKS THROUGHOUT			
124.37	138.90	14.53	SLST	MDST	GREY TO BLACK, OCCASIONALLY GRADES INTO MUDSTONE, IRONSTONE BANDS AND CONCRETIONS, FAIRLY MASSIVE, FRACTURES PARALLEL TO AND AT RIGHT ANGLES TO BEDDING	NDAT	NDAT	
138.90	140.13	1.23	SS1	GREEN	MICACEOUS FLECKS THROUGHOUT, OCCASIONAL COALY BLEB OR BLEB OF MUDSTONE, GRADATIONAL CONTACT WITH THE ABOVE UNIT	NDAT	NDAT	
140.13	153.75	13.62	SS1	SLST	GREY TO PALE GREEN SANDSTONE INTERBEDDED WITH THIN BEDS OF GREY-BLACK SILTSTONE, SOME THIN COAL BANDS OCCUR, THERE IS AN ABUNDANCE OF IRONSTONE BANDS, CLASTS AND CONCRETIONS, BEDDING VARIES FROM LAMINAR TO SMALL SCALE TROUGH CROSS-BEDDING, OCCASIONAL SMALL SHELL FRAGMENTS, SOFT SEDIMENT DEFORMATION AND BIOTURBATION IS ALSO ABUNDANT, THE SILTSTONE AND MUDSTONE BEDS BECOME THICKER AND MORE ABUNDANT NEAR THE BASE OF THE	NDAT	NDAT	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					UNIT				
153.75	161.95	8.20	SLST		GREY TO BLACK, SOME BIOTURBATION AND SDFT SEDIMENT DEFORMATION, THIS UNIT OCCASIONALLY GRADES INTO A VERY FINE GRAINED GREY-BLACK SANDSTONE, OCCASIONAL INTERBED OF LIGHT GREY FINE GRAINED SANDSTONE, OCCASIONAL BROWN IRONSTONE BAND	NDAT	NDAT		
161.95	162.48	.53	SS1		LIGHT GREY, MASSIVE, VERY HARD, HIGH ANGLE JOINTS FILLED WITH CALCITE	NDAT	NDAT		
162.48	168.85	6.37	SLST	SS1	GREY TO BLACK, UNIT VARIES BETWEEN SILTSTONE AND VERY FINE GRAINED SANDSTONE. MICACEOUS FLECKS THROUGHOUT, SOME BIOTURBATION	NDAT	NDAT		
168.85	181.25	12.40	SS1	SLST	INTERBEDDED GREY FINE GRAINED SANDSTONE AND GREY TO BLACK SILTSTONE, SOME INTERBEDDED BLACK CARBONACEOUS MUDSTONE, OCCASIONAL BIOTURBATION, SOME SEDIMENT DEFDRMATION	NDAT	NDAT		
181.25	196.85	15.60	SLST	SS1	GREY TO BLACK SILTSTONE INTERBEDDED WITH BANDS OF GREY FINE GRAINED SANDSTONE, ABUNDANCE OF BIOTURBATION, GRADATIONAL	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					CONTACT WITH ABOVE UNIT, OCCASIONAL INTERBEDDED IRONSTONE BANDS			
196.85	206.43	9.58	SLST	MDST	GREY TO BLACK SILTSTONE AND BLACK MUDSTONE, SOME INTERBEDDED LIGHT GREY FINE GRAINED SANDSTONE AND IRONSTONE, BIOTURBATION, SOFT SEDIMENT DEFORMATION	NDAT	NDAT	
206.43	210.93	4.50	SS1	GREEN	MASSIVE, OCCASIONAL CALCITE FILLED FRACTURES	NDAT	NDAT	
210.93	212.64	1.71	SS1		GREY, THIN INTERBEDS OF BLACK MUDSTONE, ABUNDANT SOFT SEDIMENT DEFORMATION, ABUNDANCE OF SMALL SCALE FAULTING, OCCASIONAL CALCITE FILLED FRACTURES	NDAT	NDAT	
212.64	213.68	1.04	MUDSTONE	FAULTED	BLACK MUDSTONE IS HIGHLY SHEARED AND BROKEN	NDAT	NDAT	
213.68	213.72	.04	SHALE		VERY HIGH IN SULPHUR	NDAT	NDAT 10	232
213.72	214.46	.74	COAL	CLEAN	DULL, HARD, OCCASIONAL VITRAIN BAND	NDAT	NDAT 10	233
214.46	215.56	1.10	MUDSTONE	CARBONACEOUS	OCCASIONAL DISCONTINUOUS LENSE OF GREY TO BLACK SILTSTONE	NDAT	NDAT	
215.56	222.10	6.54	SS1	SLST	LIGHT GREY SANDSTONE INTERBEDDED WITH GREY TO BLACK SILTSTONE AND BLACK MUDSTONE, OCCASIONAL COALY	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BANDS AND IRONSTONE BEDS, SOME SMALL SCALE FAULTING, SOFT SEDIMENT DEFORMATION, BIOTURBATION			
222.10	225.25	3.15	MUDSTONE	CARB/COALY	VERY CARBONACEOUS WITH COALY BANDS VERY HIGH SULPHUR CONTENT	NDAT	NDAT	
225.25	226.15	.90	SS1	SLST/MDST	GREY FINE GRAINED SANDSTONE INTERBEDDED WITH GREY TO BLACK SILTSTONE AND BLACK MUDSTONE, SOFT SEDIMENT DEFORMATION, OCCASIONAL RIP-UP CLASTS, OCCASIONAL CALCITE FILLED FRACTURES	NDAT	NDAT	
226.15	227.91	1.76	MUDSTONE	CARBONACEOUS	THIN INTERBEDS AND LENSES OF LIGHT GREY FINE GRAINED SANDSTONE ALSO THIN COAL BANDS THROUGHOUT	NDAT	NDAT	
227.91	228.97	1.06	COAL	CLEAN	HARD, DULL, OCCASIONAL BRIGHT VITRAIN BAND (RECOVERY = 100%)	NDAT	NDAT 8	231
228.97	229.91	.94	COAL	RUBBLE/FAULT	POWDERED COAL (RECOVERY = 42%) (TOTAL SEAM RECOVERY = 73%)	NDAT	NDAT 8	231
229.91	236.36	6.45	SLST	SS1	GREY TO BLACK SILTSTONE WITH LIGHT GREY FINE GRAINED SANDSTONE AS WELL AS THE OCCASIONAL BEDS OF GREY-BROWN MEDIUM GRAINED SANDSTONE AND BLACK CARBONACEOUS MUDSTONE, SOME	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SOFT SEDIMENT DEFORMATION, OCCASIONAL BIOTURBATION, OCCASIONAL SLICKENSIDED AND POLISHED SURFACE NEAR TOP OF UNIT, OCCASIONAL IRONSTONE BED, SOME OF THE SANDSTONES ARE CEMENTED WITH SIDERITE CEMENT			
236.36	236.57	.21	CONGLOM		LARGE (2X5CM) LENTICULAR IRONSTONE CLASTS IN A COARSE GRAINED SALT AND PEPPER SANDSTONE, CONGLOMERATE IS VERY HARD, SIDERITE CEMENT	NDAT	NDAT	
236.57	245.55	8.98	SS1	SLST/MDST	LIGHT GREY FINE GRAINED SANDSTONE INTERBEDDED WITH SILTSTONE AND MUDSTONE, SMALL SCALE SLUMPING AND SOFT SEDIMENT DEFORMATION EVIDENT, OCCASIONAL IRONSTONE BANDS	NDAT	NDAT	
245.55	248.07	2.52	MUDSTONE	CARBONACEOUS	COALY BANDS AND BLEBS, THIN SANDSTONE LENSES NEAR TOP OF UNIT, BLACK COLOUR, OCCASIONAL PYRITIC BLEBS	NDAT	NDAT	
248.07	249.13	1.06	COAL	CLEAN	DULL WITH BRIGHT BANDS, HARD, A FEW SHALE STRINGERS AND THIN PYRITIC BANDS AT VERY TOP OF UNIT (RECDVERY = 96%)	NDAT	NDAT 7	234
249.13	249.17	.04	MUDSTONE	CARBONACE-	GREY, COALY FLECKS	NDAT	NDAT	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
				OUS	THROUGHOUT (RECOVERY = 96%)				
249.17	249.34	.17	COAL	CLEAN	DULL AND BRIGHT, HARD (RECOVERY = 96%)	NDAT	NDAT		
249.34	249.71	.37	MUDSTONE	CARBONACE- OUS	SOME VERY THINLY BEDDED SILTSTONE AND FINE GRAINED SANDSTONE NEAR BOTTOM OF UNIT, COALY BANDS AND BLEBS THROUGHOUT	NDAT	NDAT		
249.71	256.46	6.75	SLST	SS1	GREY TO BLACK SILTSTONE INTERBEDDED WITH GREY FINE GRAINED SANDSTONE, OCCASIONAL SOFT SEDIMENT DEFORMATION, OCCASIONALLY SOME INTERBEDDED MUDSTONE AND IRONSTONE	NDAT	NDAT		
256.46	257.88	1.42	COAL	CLEAN	DULL WITH BRIGHT VITRAIN BANDS, SMALL PYRITIC BANDS AT TOP OF SEAM (RECOVERY = 97%)	NDAT	NDAT 6	235	
257.88	257.99	.11	SHALE	CARBONACE- OUS		NDAT	NDAT 6	235	
257.99	259.91	1.92	COAL	CLEAN	HARD, DULL WITH BRIGHT BANDS, WELL CLEATED (RECOVERY = 97%)	NDAT	NDAT 6	235	
259.91	259.93	.02	SHALE	PYRITIC		NDAT	NDAT 6	235	
259.93	260.42	.49	COAL	CLEAN	HARD, DULL WITH BRIGHT BANDS, SOME THIN (2MM) SHALY BEDS NEAR BASE OF SEAM (RECOVERY = 97%)	NDAT	NDAT 6	235	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
260.42	265.05	4.63	MUDSTONE	SS1	BLACK CARBONACEOUS MUDSTONE WITH THIN INTERBEDS OF GREY FINE GRAINED SANDSTONE, OCCASIONAL BAND OF IRONSTONE CONTAINING CALCITE FILLED VUGS AND FRACTURES	NDAT	NDAT	
265.05	265.80	.75	SS1		GREY, SOME THIN INTERBEDS OF SILTSTONE AND MUDSTONE, ABUNDANCE OF CALCITE FILLED FRACTURES	NDAT	NDAT	
265.80	268.00	2.20	SLST	SS1/MDST	GREY TO BLACK SILTSTONE, INTERBEDDED WITH THIN BEDS OF GREY FINE GRAINED SANDSTONE AND BLACK MUDSTONE	NDAT	NDAT	
268.00	269.60	1.60	MUDSTONE	CARBONACEOUS	BLACK, OCCASIONAL SLICKENSIDED SURFACE, OCCASIONAL IRONSTONE BAND	NDAT	NDAT	
269.60	269.96	.36	COAL	CLEAN	DULL, HARD, SOME THIN SHALE BANDS NEAR BASE OF SEAM, OCCASIONAL PYRITIC BLEB	NDAT	NDAT	236
269.96	272.04	2.08	MUDSTONE	CARBONACEOUS	BLACK, OCCASIONAL SLICKENSIDES	NDAT	NDAT	
272.04	274.80	2.76	SS1	SLST	PALE GREEN FINE GRAINED SANDSTONE INTERBEDDED WITH GREY TO BLACK SILTSTONE, SMALL SCALE NORMAL FAULTING, OCCASIONAL IRONSTONE BAND	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
274.80	277.30	2.50	MUDSTONE	CARBONACEOUS	SOME INTERBEDDED GREY FINE GRAINED SANDSTONE NEAR BOTTOM OF UNIT, COAL BLEBS AND BANDS THROUGHOUT, SOME SOFT SEDIMENT DEFORMATION	NDAT	NDAT	
277.30	278.20	.90	SS1	GREEN	OCCASIONAL THIN CARBONACEOUS MUDSTONE, COALY BANDS AND FLECKS THROUGHOUT	NDAT	NDAT	
278.20	280.02	1.82	COAL	CLEAN	DULL WITH BRIGHT, HARD, THIN (1CM) PYRITE/SULPHUR BAND AT 278.58, CALCITE IS COMMON ALONG THE CLEATS IN THE VITRAIN BANDS (RECOVERY = 100%)	NDAT	NDAT 5	238
280.02	280.84	.82	MUDSTONE	CARBONACEOUS	OCCASIONAL THIN COALY BANDS AND BLEBS, MUDSTONE FRACTURES PARALLEL TO AND AT RIGHT ANGLES TO BEDDING	NDAT	NDAT	
280.84	282.20	1.36	MUDSTONE	SS1	BLACK CARBONACEOUS MUDSTONE INTERBEDDED WITH PALE GREEN FINE GRAINED SANDSTONE, OCCASIONAL IRONSTONE NODULE CALCITE INFILLS VUGS IN IRONSTONE, BEDDING IS HIGHLY DISTORTED, ABUNDANCE OF SMALL SCALE NORMAL FAULTS, UNIT GRADES INTO CARBONACEOUS MUDSTONE NEAR BASE	NDAT	NDAT	
282.20	282.40	.20	COAL		THIN SHALY STRINGERS THROUGHOUT SEAM.	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH	SEAM	SNUM
					CALCITE ALONG BEDDING AND ALONG CLEATS IN THE VITRAIN BANDS				
282.40	283.37	.97	MUDSTONE	CARBONACE- OUS	COALY BANDS	NDAT		NDAT	
283.37	283.55	.18	COAL	CLEAN	DULL, HARD	NDAT		NDAT 4	237
283.55	283.60	.05	MUDSTONE	PYRITIC	COALY BANDS THROUGHOUT	NDAT		NDAT 4	237
283.60	284.58	.98	COAL	CLEAN	DULL WITH BRIGHT BANDS, HARD	NDAT		NDAT 4	237
284.58	284.66	.08	BENTONITE		BROWN BENTONITE WITH SHALE SPLIT, SLICKENSIDED AND POLISHED ALONG BEDDING PLANES	NDAT		NDAT 4	237
284.66	284.86	.20	COAL	CLEAN	DULL WITH BRIGHT BANDS, HARD	NDAT		NDAT 4	237
284.86	284.96	.10	COAL	SHALY	DIRTY COAL WITH THIN SHALE SPLITS THROUGHOUT	NDAT		NDAT 4	237
284.96	285.13	.17	COAL		DULL WITH OCCASIONAL BRIGHT BAND, OCCASIONAL SHALE STRINGER NEAR BASE OF SEAM	NDAT		NDAT 4	237
285.13	286.72	1.59	MUDSTONE	CARBONACE- OUS	CARBONACEOUS MUDSTONE WITH COALY BLEBS AND BANDS, OCCASIONAL THIN FINE GRAINED SANDSTONE BAND, OCCASIONAL PYRITIC BLEB	NDAT		NDAT	
286.72	287.11	.39	COAL	BADLY FRACTURED	EXTREMELY SLICKENSIDED AND BADLY BROKEN ESPECIALLY NEAR	NDAT		NDAT	239

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM

TOP OF SEAM								
287.11	287.90	.79	MUDSTONE	CARBONACE- OUS	OCCASIONAL THIN COAL BAND	NDAT	NDAT	
287.90	291.92	4.02	SLST	SS1/MDST	GREY TO BLACK SILTSTONE INTERBEDDED WITH GREY FINE GRAINED SANDSTONE AND BLACK CARBONACEOUS MUDSTONE, ABUNDANT SOFT SEDIMENT DEFORMATION ESPECIALLY NEAR BOTTOM OF UNIT, OCCASIONAL IRONSTONE BAND, ABUNDANT CALCITE FILLED FRACTURES IN IRONSTONES	NDAT	NDAT	
291.92	294.80	2.88	MUDSTONE	CARBONACE- OUS	ABUNDANT COAL BLEBS AND BANDS, ABUNDANT CALCITE FILLED FRACTURES IN COAL BANDS, EXTREMELY POLISHED SURFACES AND SLICKENSIDES THROUGHOUT	NDAT	NDAT	
294.80	296.20	1.40	SS1	SLST	LIGHT GREY SANDSTONE INTERBEDDED WITH GREY BLACK SILTSTONE, SOME SMALL SCALE FAULTING AND SOFT SEDIMENT DEFORMATION	NDAT	NDAT	
296.20	299.31	3.11	MUDSTONE	CARBONACE- OUS	ABUNDANT COALY BANDS NEAR TOP OF UNIT, OCCASIONAL CALCITE VEINS ALONG BEDDING PLANES	NDAT	NDAT	
299.31	299.74	.43	SS1		PALE GREEN, OCCASIONAL INTERBEDDED SILTSTONE, COAL	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BAND AND CARBONACEOUS SHALE, WAVY BEDDING			
299.74	301.05	1.31	COAL	CLEAN	DULL WITH BRIGHT BANDS, CALCITE OCCASIONALLY INFILLS CLEATS, ESPECIALLY AT TOP OF UNIT, SOME THIN SHALE BANDS NEAR TOP OF SEAM (RECOVERY = 100%)	NDAT	NDAT 3	240
301.05	301.21	.16	MUDSTONE	COALY	CARBONACEOUS MUDSTONE INTERBEDDED WITH COALY BANDS (RECOVERY = 100%)	NDAT	NDAT 3	240
301.21	301.97	.76	COAL	CLEAN	HARD, DULL WITH BRIGHT BANDS, CALCITE FILLED FRACTURES NEAR BASE OF SEAM (RECOVERY = 100%)	NDAT	NDAT 3	240
301.97	305.88	3.91	MUDSTONE	SS1/SLST	CARBONACEOUS MUDSTONE INTERBEDDED WITH THIN BAND OF FINE GRAINED SANDSTONE AND SILTSTONE, OCCASIONAL THIN BAND OF GREEN FINE GRAINED SANDSTONE (CHLORITIC?), OCCASIONAL THIN COAL BAND	NDAT	NDAT	
305.88	306.08	.20	COAL	CLEAN	CALCITE FILLED FRACTURES AT TOP AND BASE, CALCITE IS ALONG CLEATS AND BEDDING, HARD, DULL WITH BRIGHT BANDS	NDAT	NDAT	
306.08	306.64	.56	MUDSTONE	CARBONACEOUS		NDAT	NDAT	
306.64	307.86	1.22	COAL	CLEAN	HARD, DULL WITH	NDAT	NDAT 2	241

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLDGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					BRIGHT BANDS, ABUNDANT PYRITIC BANDS AND LENSES NEAR TOP OF SEAM				
307.86	307.95	.09	BENTONITE		BROWN, VERY FISSILE, PLANT DEBRIS	NDAT	NDAT 2	241	
307.95	308.38	.43	COAL	CLEAN	DULL WITH BRIGHT, HARD	NDAT	NDAT 2	241	
308.38	308.44	.06	MUDSTONE	COALY		NDAT	NDAT		
308.44	308.62	.18	COAL	SHALY		NDAT	NDAT		
308.62	308.81	.19	MUDSTDNE	CARBONACE- OUS	COALY BANDS AND LENSES	NDAT	NDAT		
308.81	309.02	.21	COAL		HARD, DULL WITH BRIGHT, ABUNDANT CALCITE FILLED FRACTURES	NDAT	NDAT		
309.02	310.09	1.07	MUDSTONE	CARBONACE- OUS	COALY FRAGMENTS AND BANDS, OCCASIONAL SLICKENSIDES	NDAT	NDAT		
310.09	310.24	.15	COAL	DIRTY	SHALY BANDS THROUGHOUT, ABUNDANT CALCITE FRACTURES	NDAT	NDAT		
310.24	314.09	3.85	MUDSTDNE	CARBONACE- OUS	COALY BLEBS AND BANDS, OCCASIONAL IRONSTONE BAND, OCCASIONAL COALY SHALES	NDAT	NDAT		
314.09	314.18	.09	COAL	DIRTY	SHALE STRINGERS THROUGHOUT, CALCITE ALONG BEDDING PLANES AND CLEATS	NDAT	NDAT		
314.18	324.00	9.82	MUDSTDNE	SS1/SLST	CARBONACEOUS MUDSTONE WITH THIN	NDAT	NDAT		

CORE		DESCRIPTION						
TDP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					INTERBEDS OF FINE GRAINED GREY FINE GRAINED SANDSTONE AND GREY-BLACK SILTSTONE			
324.00	324.87	.87	SS1	SLST	GREY FINE GRAINED SANDSTONE INTERBEDDED WITH GREY-BLACK SILTSTONE AND OCCASIONAL CARBONACEOUS MUDSTONE, OCCASIONAL INTERBEDDED IRONSTONE, CALCITE VEINS PREDDOMINENTLY IN THE IRONSTONES, SMALL SCALE TROUGH CROSS-BEDED	NDAT	NDAT	
324.87	335.10	10.23	MUDSTONE	SLST	GRADES FROM MUDSTONE INTD SILTSTONE AT BOTTOM OF UNIT, OCCASIONAL CARBONACEOUS MATTER, THIN PYRITIC BANDS ARE COMMON, IRONSTONE BANDS AND CONCRETIONS WITH ABUNDANT CALCITE FILLED FRACTURES ARE COMMON	NDAT	NDAT	
335.10	361.40	26.30	SLST		GREY-BLACK, OCCASIONAL CARBONACEOUS MATTER, OCCASIONAL BAND OF IRONSTONE CEMENTED FINE GRAINED GREY SANDSTONE, OCCASIONAL IRONSTONE BANDS AND NDDULES, OCCASIONALLY GRADES INTO A VERY FINE GRAINED SANDSTONE GREY-BLACK	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
361.40	364.80	3.40	NO DATA			NOAT	NOAT	
364.80	-1.00	-1.00	UNKNOWN		TOTAL DEPTH	NOAT	NOAT	

CORE DESCRIPTION

HOLE.ID TWS2D-254
 PROJECT TELKWA
 AREA SMITHERS
 DRIL.DATE 820824
 LOG.DATE 820918
 EXAMINED.BY R.KOSTIUK

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	28.79	28.79	OVERBURDEN	GRAVEL/SS- /MDST/VOLC	DRILLED WITH ROCK BIT, NO CORE RECOVERY, CASING SET AT 25.53M	NDAT	NDAT	
28.79	40.64	11.85	VOLCANICS	FELSIC	PALE GREEN-PINK, PORPHYRYTIC, QUARTZ AND FELDSPAR, PHEONCRYSTS, BIOTITE, CALCITE, ABUNDANT SULPHIDE MINERAL, ALTERED CLAY MATRIX, CHLORITIC IN PLACES, EXCELLENT STICK (RECOVERED 10.63M) -SAMPLED-	NDAT	NDAT	
40.64	41.34	.70	MUDSTONE		BLACK, MASSIVE, MODERATELY HARD, FISSILE IN PLACES, CARBONACEOUS, TRACE OF CALCITE AND PYRITE ALONG FRACTURE, FRACTURED AND BROKEN	NDAT	NDAT	
41.34	41.75	.41	LOST CORE		SUSPECT SAME AS ABOVE	NDAT	NDAT	
41.75	43.55	1.80	VOLCANICS		SAME AS ABOVE VOLCANIC UNIT -SAMPLED-	NDAT	NDAT	
43.55	48.39	4.84	LOST CORE		SUSPECT VOLCANIC AS ABOVE, TWO MINOR COAL UNITS AND MUDSTONE, SILTY	NDAT	NDAT	
48.39	49.92	1.53	MUDSTONE	SILTY	MEDIUM GREY, MASSIVE, MODERATELY HARD, FISSILE, SLIGHTLY	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					CARBONACEOUS, SILTY, BROKEN			
49.92	52.05	2.13	SS1	SLST/MDST	LIGHT TO MEDIUM GREY, FINE GRAINED SANDSTONE, THINLY LAMINATED TO THINLY BEDDED, WAVY PARALLEL AND OCCASIONALLY CROSS-BEDDED, MINOR SOFT SEDIMENT DEFORMATION, FRACTURED AND SLICKENSIDED, SLIGHTLY CARBONACEOUS, OCCASIONAL BROWN VERY HARD CLAYSTONE NODULE, GOOD STICK	NDAT	NDAT	
52.05	53.96	1.91	LDST.CORE		SUSPECT SAME AS ABOVE ALONG WITH MUDSTONE	NDAT	NDAT	
53.96	56.09	2.13	MUDSTONE	FAULT ZONE	MEDIUM GREY, MASSIVE, CARBONACEOUS, SILTY, HIGHLY FRACTURED AND SLICKENSIDED, HIGHLY POLISHED, MINOR CALCITE ALONG FRACTURE, BROKEN	NDAT	NDAT	
56.09	59.34	3.25	SLST	FAULT ZONE	MEDIUM GREY, THINLY LAMINATED TO THICKLY BEDDED, INTERBEDDED WITH LIGHT GREY VERY FINE GRAINED SANDSTONE AND DARK GREY MUDSTONE, WAVY PARALLEL TO WAVY DISCONTINUOUS BEDDING, OCCASIONAL SOFT SEDIMENT DEFORMATION, FRACTURED AND SLICKENSIDED,	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					FAULT GOUGE AT 56.6M (.10M THICK), OCCASIONAL BROWN VERY HARD IRON-CLAYSTONE NODULES AND BANDS, FAIR TO GOOD STICK				
59.34	62.58	3.24	SLST	SS1/FAULT- ED	LIGHT TO MEDIUM GREY, VERY THINLY BEDDED, INTERBEDDED WITH VERY FINE TO FINE GRAINED SANDSTONE, EVEN PARALLEL TO WAVY DISCONTINUOUS BEDDING, FRACTURED AND OCCASIONALLY SLICKENSIDED, BRECCIATED FAULT GOUGE AT 59.77M TO 59.96M, MINOR FAULT GOUGE AT 60.46M, 61.33M AND 62.0M, OCCASIONAL BROWN VERY HARD CALCAREOUS SILTSTONE BANDS, MINOR IRON STAIN, GOOD STICK	56.0	NDAT		
62.58	74.70	12.12	SLST	FAULT ZONE	LIGHT TO MEDIUM GREY, VERY THINLY TO MASSIVE BEDDING INTERBEDDED WITH VERY FINE TO FINE GRAINED SANDSTONE AND DARK GREY MUDSTONE, WAVY PARALLEL TO CONVOLUTED BEDDING, HIGHLY FRACTURED AND SLICKENSIDED, FAULTED THROUGHOUT, ABUNDANT FAULT GOUGE INTERVALS RANGING FROM .01M-.20M THICK, OCCASIONAL SMALL SCALE FOLDING, MINOR CALCITE ALONG FRACTURE,	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					OCCASIONAL BROWN VERY HARD IRON-RICH CLAYSTONE BANDS AND NODULES, LOWER 1.5M HAS LONG CURVED VERTICAL FRACTURE, HIGHLY POLISHED AND IN MOST PART IT IS BRECCIATED, FAIR TO GOOD STICK			
74.70	77.55	2.85	SLST	FAULT ZONE/FOLD- ED	AS ABOVE UNIT WITH BEDDING ANGLE RANGING FROM 15 DEGREES AT TOP TO 35 DEGREES AT THE BASE, LONG CURVED VERTICAL FRACTURE, FAULT GOUGE FROM 74.9-75.4M, BROWN VERY HARD IRON CLAYSTONE NODULE, LIGHT GREY VERY HARD CALCAREOUS NODULE, MINOR CALCITE VEINLETS. GOOD STICK	NDAT	NDAT	
77.55	84.81	7.26	SLST		MEDIUM TO DARK GREY, MASSIVE, MODERATELY HARD, FISSILE TO FRIABLE IN PLACES, OCCASIONAL VERY FINE GRAINED SANDSTONE LAMINAE, OCCASIONAL BROWN VERY HARD IRON-RICH CLAYSTONE/CARBONA- TE BAND WITH ABUNDANT CALCITE VEINLETS, SLIGHTLY CARBONACEOUS IN PLACES, MICRO MICACEOUS, FAIR TO GOOD STICK	NDAT	NDAT	
84.81	94.07	9.26	MUDSTONE		MEDIUM TO DARK GREY, MASSIVE, MODERATELY HARD, FISSILE IN PLACES,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SILTY, MICRO MICACEOUS, OCCASIONAL BROWN VERY HARD IRON RICH CLAYSTONE/CARBONA- TE BANDS AND NODULES, MINOR VERY FINE GRAINED SANDSTONE OR SILTSTONE LAMINAE, OCCASIONAL VERY HARD CALCITE CEMENTED BANDS AND NODULES, MINOR CALCITE VEINLETS, GOOD STICK			
94.07	95.77	1.70	SLST	BRECCIATED	MEDIUM TO DARK GREY, THICKLY LAMINATED TO THICKLY BEDDED, INTERBEDDED WITH LIGHT GREY VERY FINE TO FINE GRAINED SANDSTONE AND MINOR MUDSTONE, CONVOLUTED BEDDING, ABUNDANT BROWN VERY HARD IRON-RICH CLAYSTONE NODULES, BRECCIATED ZONE, MINOR CALCITE VEINLETS, BROKEN STICK	NDAT	NDAT	
95.77	97.50	1.73	SLST	FAULT ZONE	MEDIUM GREY, MASSIVE, MODERATELY HARD, FRACTURED AND SLICKENSIDED, MINOR CALCITE ALONG FRACTURE, HIGHLY POLISHED, BROKEN	NDAT	NOAT	
97.50	98.40	.90	LOST.CORE	FAULT ZONE	SUSPECT AS ABOVE, MINOR FAULT GOUGE	NOAT	NOAT	
98.40	107.90	9.50	SLST	SS1	MEDIUM TO DARK GREY, THINLY	82.0	AVG	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BEDDED, INTERBEDDED WITH LIGHT GREY SILTSTONE AND VERY FINE GRAINED SANDSTONE, OCCASIONAL ARGILLACEOUS INTERVALS. WAVY PARALLEL TO WAVY DISCONTINUOUS BEDDING. OCCASIONAL BROWN VERY HARD IRON-RICH CLAY/CARBONATE BANDS AND NODULES WITH ABUNDANT CALCITE VEINLETS, FRACTURED HORIZONTAL TO BEDDINGS, MINOR FAULT ZONES, HIGHLY FRACTURED AND SLICKENSIDED IN PLACES, HIGHLY POLISHED, BROKEN STICK			
107.90	109.35	1.45	SLST	FAULT ZONE	DARK GREY, MASSIVE, HIGHLY FRACTURED AND SLICKENSIDED, HIGHLY POLISHED, MINOR CALCITE ALONG FRACTURE, MINOR BROWN VERY HARD IRON CLAYSTONE/CARBONA- TE ROCK, BROKEN STICK	NDAT	NDAT	
109.35	110.30	.95	MUDSTONE	CARBONACE- OUS	DARK GREY TO BLACK, MASSIVE, CARBONACEOUS, FRACTURED AND SLICKENSIDED, COAL BAND 109.45-109.53M, FAIR STICK	NDAT	NOAT	
110.30	114.19	3.89	VOLCANICS		LIGHT GREY TO PALE GREEN, MASSIVE, PORPHYRITIC,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					QUARTZ AND FELDSPAR PHENDCRYSTS, BIOTITE, CHLORITIC, MINOR CALCITE, ALTERED CLAYSTONE MATRIX, VUGGY, EXCELLENT STICK -SAMPLED-			
114.19	114.68	.49	MUDSTONE		DARK GREY, MASSIVE, SLIGHTLY CARBONACEOUS, COALY PLANT DEBRIS THROUGHOUT, FRACTURED AND SLICKENSIDED, FAIR STICK	NDAT	NDAT	
114.68	123.77	9.09	SLST	SS1/MDST	MEDIUM GREY, THINLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH LIGHT GREY VERY FINE TO FINE GRAINED SANDSTONE, WAVY PARALLEL TO WAVY DISCONTINUOUS AND CONVOLUTED BEDDING, MINOR SOFT SEDIMENT DEFORMATION, FRACTURES HORIZONTAL TO BEDDING, OCCASIONAL IRON STAIN, MINOR CALCITE CEMENTED INTERVALS, GOOD STICK	72.0	AVG	
123.77	124.66	.89	SLST	FOLDED	AS ABOVE UNIT WITH CONVOLUTED BEDDING, LONG CURVED VERTICAL FRACTURE, SMALL SCALE FAULTING. GOOD STICK, BEDDING ANGLE RANGES FROM 55 DEGREES AT TOP, 10 DEGREES AT CENTRE, 62 DEGREES AT BASE	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
124.66	127.10	2.44	SLST	SS1	MEDIUM GREY, THICKLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH LIGHT GREY VERY FINE TO FINE GRAINED SANDSTONE, EVEN PARALLEL TO WAVY, FRACTURED HORIZONTAL TO BEDDING, SLIGHTLY CARBONACEOUS IN PLACES, OCCASIONAL BROWN VERY HARD IRON CLAYSTONE/CARBONATE BANDS AND NODULES. GOOD STICK	68.0	AVG	
127.10	129.66	2.56	LOST CORE		SUSPECT AS ABOVE, POSSIBLY FAULTED	NDAT	NDAT	
129.66	130.28	.62	SLST	SS1	LIGHT TO MEDIUM GREY, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH LIGHT GREY VERY FINE TO FINE GRAINED SANDSTONE, EVEN PARALLEL, FRACTURE HORIZONTAL TO BEDDING, SLIGHTLY CARBONACEOUS. GOOD STICK	56.0	130.3	
130.28	132.18	1.90	SS1	SLST	LIGHT TO MEDIUM GREY, VERY FINE TO FINE GRAINED SANDSTONE, THICKLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH SILTSTONE, EVEN PARALLEL TO WAVY BEDDING, TOP .10M SMALL SCALE FOLD, MINOR BIOTURBATION, FRACTURE	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					HORIZONTAL TO BEDDING. OCCASIONAL STEPPED FRACTURED, GOOD STICK				
132.18	135.15	2.97	SLST	SS1/FAULT- ED	MEDIUM GREY, MEDIUM BEDDED, INTERBEDDED WITH LIGHT GREY VERY FINE TO FINE GRAINED SANDSTONE LAMINAE, POORLY DEVELOPED, FRACTURED AND SLICKENSIDED, HIGHLY POLISHED, OCCASIONAL BROWN VERY HARD, IRON CLAYSTONE BANDS WITH ABUNDANT CALCITE VEINLETS, CARBONACEOUS LOWER HALF, BROKEN STICK	NDAT	NDAT		
135.15	135.45	.30	MUDSTONE	CARBONACE- OUS	DARK GREY, MASSIVE, FISSILE, SILTY, GOOD STICK	NDAT	NDAT		
135.45	135.54	.09	COAL		(RECOVERED .09M), MAINLY DULL, VERY HARD, BLOCKY, DIRTY. -NOT SAMPLED-	NDAT	NDAT		
135.54	137.44	1.90	MUDSTONE	CARBONACE- DUS	MEDIUM TO DARK GREY, MASSIVE, FISSILE, COALY PLANT DEBRIS THROUGHOUT, OCCASIONAL SLICKENSIDED, GOOD STICK	NDAT	NDAT		
137.44	137.94	.50	COAL		(RECOVERED .50M) DULL AND BRIGHT BANDED, HARD, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE ALONG CLEAT, MINOR PYRITE, GOOD TO EXCELLENT STICK.	NDAT	NDAT	242	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SEPARATION WITH ROOF, VISUAL FAIR, PHYSICAL GOOD, SEPARATION WITH FLOOR, VISUAL FAIR, PHYSICAL GOOD (RECOVERY = 100%)			
137.94	138.92	.98	SLST		MEDIUM GREY, MASSIVE, FISSILE, CARBONACEOUS, COALY PLANT DEBRIS THROUGHOUT, SANDY, MINOR CALCITE ALONG FRACTURE, BROKEN	NDAT	NDAT	
138.92	139.30	.38	LOST CORE		SUSPECT SAME AS ABOVE	NDAT	NDAT	
139.30	151.00	11.70	SLST	FOLD/FAULT ZONE	LIGHT TO MEDIUM GREY, THINLY LAMINATED TO MEDIUM BEDDED, INTERBEDDED WITH LIGHT GREY VERY FINE TO FINE GRAINED SANDSTONE, WAVY PARALLEL TO UNDULATED BEDDING, LONG VERTICAL FRACTURE HORIZONTAL TO BEDDING, OCCASIONALLY STEPPED, SMALL SCALE FAULTS, OCCASIONAL FAULT GOUGE, MINOR BRECCIATED INTERVALS, SLICKENSIDED, OCCASIONALLY HIGHLY POLISHED, BROKEN	32.0	139.7	
151.00	153.30	2.30	COAL	FAULT ZONE	(RECOVERED 1.48M) MAINLY DULL WITH BRIGHT BANDS, HARD, CUBIC AND CONCHOIDAL FRACTURED, MINOR CALCITE ALONG	NDAT	NDAT	243

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					CLEAT AND FRACTURE, MINOR PYRITE, FRACTURED AND SLICKENSIDED, BROKEN STICK, SEPARATION WITH ROOF, VISUAL AND PHYSICAL 7, SEPARATION WITH FLOOR, VISUAL AND PHYSICAL-POOR (RECOVERY = 64%)				
153.30	156.24	2.94	MUDSTONE	FAULT ZONE	MEDIUM TO DARK GREY, MASSIVE, MODERATELY HARD TO FISSILE, SILTY, COALY DEBRIS THROUGHOUT, HIGHLY FRACTURED AND SLICKENSIDED, POSSIBLE FAULT ZONE, BROKEN	32.0	AVG		
156.24	156.74	.50	COAL	DIRTY/FAU- LTED	(RECOVERED .50M) DULL WITH BRIGHT BANDS, HARD, BLOCKY, HIGHLY FRACTURED AND SLICKENSIDED, QUESTIONABLE DEPTH OF COAL, BROKEN, SEPARATION WITH ROOF AND FLOOR ARE UNCERTAIN DUE TO BROKEN CORE (RECOVERY = 100%?)	NDAT	NDAT	244	
156.74	157.78	1.04	MUDSTONE	FAULT ZONE	MEDIUM TO DARK GREY, MASSIVE, CARBONACEOUS, FRACTURED AND SLICKENSIDED, BROKEN	NDAT	NDAT		
157.78	160.07	2.29	VOLCANICS		GREY, MASSIVE, VERY HARD, FINE GRAINED, APHANETIC, CALCITE HEALED FRACTURE, EXCELLENT STICK	NDAT	NDAT		
160.07	164.40	4.33	SLST		MEDIUM GREY, MASSIVE,	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					MODERATELY HARD, FRIABLE IN PLACES, FRACTURED AND SLICKENSIDED, OCCASIONAL BRECCIATED INTERVAL, LONG VERTICAL FRACTURE, CALCITE INFILLED FRACTURE, SLIGHTLY CARBONACEOUS, FAIR STICK			
164.40	174.04	9.64	SS1	SLST/MDST	LIGHT TO MEDIUM GREY, VERY FINE TO FINE GRAINED SANDSTONE, THINLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH SILTSTONE AND DARK GREY MUDSTONE, WAVY PARALLEL TO CONVOLUTED BEDDING, SMALL SCALE FAULTING AND FOLDING, OCCASIONALLY BIOTURBATED, OCCASIONALLY SLICKENSIDED, MINOR CALCITE VEINS, OCCASIONAL BROWN HARD IRON-RICH CLAYSTONE/CARBONA- TE BANDS, MINOR PYRITE, FRACTURES HORIZONTAL TO BEDDING AND OCCASIONAL CURVED VERTICAL FRACTURE, BOTTOM .10M BRECCIA, GOOD STICK	80.0	AVG	
174.04	174.27	.23	SHALE	COALY	DARK BRDWN TO BLACK, MASSIVE, VERY HARD, BRIGHT COAL BANDS THROUGHOUT, BROKEN, SLICKENSIDED, HIGHLY POLISHED	NDAT	NDAT	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
174.27	174.82	.55	MUDSTDNE	SS1/SHEAR ZONE	DARK GREY, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH LIGHT GREY FINE GRAINED SANDSTONE, POORLY DEVELOPED, HIGHLY FRACTURED AND SLICKENSIDED, FAIR STICK	NDAT	NDAT		
174.82	174.94	.12	COAL	DIRTY	(RECOVERED .12M), MAINLY DULL, VERY HARD, BLOCKY, MINOR PYRITE, MINOR CALCITE, BRDKEN -NOT SAMPLED-	NDAT	NDAT		
174.94	175.66	.72	MUDSTDNE	SHEAR ZDNE	DARK BROWN, MASSIVE, CARBDNACEDUS, HIGHLY FRACTURED AND SLICKENSIDED. POLISHED, COALY DEBRIS, MINOR CALCITE ALONG FRACTURE. BROKEN	NDAT	NDAT		
175.66	175.80	.14	LOST CORE		SUSPECT SAME AS ABOVE, POSSIBLE COAL NEAR BASE	NDAT	NDAT		
175.80	176.42	.62	COAL	CLEAN	(RECOVERED .62M) DULL AND BRIGHT BANDED, VERY HARD, ABUNDANT CALCITE HEALED FRACTURES, SLICKENSIDED, GOOD STICK, SEPARATION WITH ROOF, VISUAL AND PHYSICAL ?, SEPARATION WITH FLOOR, VISUAL AND PHYSICAL-EXCELLENT	NDAT	NDAT 1	245	
176.42	176.52	.10	MUDSTONE		MEDIUM GREY, BRECCIATED	32.0	176.5		
176.52	176.60	.08	CDAL		DULL, BROKEN, SLICKENSIDED	NDAT	NDAT		

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
176.60	177.12	.52	MUDSTONE	SHEARED	MEDIUM GREY, MASSIVE, CARBONACEOUS, SLICKENSIDED, COALY PLANT DEBRIS, MINOR CALCITE ALONG FRACTURE, BROKEN	NDAT	NDAT		
177.12	177.64	.52	LOST CORE		SUSPECT SAME AS ABOVE	NDAT	NDAT		
177.64	178.08	.44	COAL		(RECOVERED .42M) DULL, BROKEN, SHEARED, MINOR CALCITE ALONG FRACTURE, SLICKENSIDED, SEPARATION WITH ROOF, VISUAL FAIR. PHYSICAL GOOD, SEPARATION WITH FLOOR, VISUAL FAIR, PHYSICAL GOOD (RECOVERY 95%)	NDAT	NDAT 1	246	
178.08	179.80	1.72	MUDSTONE	SHEARED/S- S1	MEDIUM GREY, THICKLY BEDDED INTERBEDDED WITH LIGHT GREY FINE GRAINED SANDSTONE, POORLY DEVELOPED, SHEARED, OCCASIONAL BRECCIATED INTERVALS, SLICKENSIDED, POLISHED, CARBONACEOUS, FAIR TO GOOD STICK	NDAT	NDAT		
179.80	180.51	.71	COAL		(RECOVERED .54M) DULL AND BRIGHT BANDED, HARD, BLOCKY, FRACTURED AND SLICKENSIDED, MINOR CALCITE ALONG FRACTURE, BROKEN, SEPARATION WITH ROOF, VISUAL POOR, PHYSICAL	NDAT	NDAT 1	247	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					FAIR, SEPARATION WITH FLOOR VISUAL AND PHYSICAL-FAIR (RECOVERY = 76%)			
180.51	181.76	1.25	MUDSTONE		MEDIUM GREY, MASSIVE, SLIGHTLY CARBONACEOUS, COALY PLANT FOSSILS, MINOR PYRITE, MINOR FRACTURES AND SLICKENSIDES, GOOD STICK	NDAT	NDAT	
181.76	182.90	1.14	COAL		(RECOVERED .78M) MAINLY DULL WITH MINOR BRIGHT BANDS, HARD, BLOCKY, CUBIC AND CONCHOIDAL FRACTURE, BROKEN (.03M BENTONITE BAND, .10M FROM TOP), SEPARATION WITH ROOF, VISUAL GOOD, PHYSICAL FAIR, SEPARATION WITH FLOOR, VISUAL AND PHYSICAL-GOOD (RECOVERY - 68%)	NDAT	NDAT 1	248
182.90	187.08	4.18	MUDSTONE		MEDIUM GREY, MASSIVE, SLIGHTLY CARBONACEOUS, COALY PLANT DEBRIS THROUGHOUT, SILTY, FRACTURED AND SLICKENSIDED, MINOR CALCITE ALONG FRACTURE, POLISHED, .30M THICK, BROWN VERY HARD INTERVAL AT 184.70M, FAIR STICK	NDAT	NDAT	
187.08	187.31	.23	COAL		(RECOVERED .23M) DULL, VERY HARD, SHALY, MINOR PYRITE, VOLCANIC ASH BAND, GOOD STICK -NOT	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SAMPLED-			
187.31	188.40	1.09	MUDSTDNE	SS1/SHEAR ZONE	DARK GREY, MASSIVE, HIGHLY FRACTURED AND SLICKENSIDED, HIGHLY POLISHED, LOWER .60M BRECCIATED WITH LIGHT GREY SANDSTDNE, CALCITE AND PYRITE NODULES, CARBONACEOUS, BROKEN	5.0	188.4	
188.40	193.43	5.03	SLST	SS1/FAULT ZONE	MEDIUM GREY, THICKLY TO VERY THINLY BEDDED, INTERBEDDED WITH LIGHT GREY FINE GRAINED SANDSTONE, WAVY PARALLEL BEDDING, OCCASIONALLY CROSS-BEDDED, FRACTURED AND SLICKENSIDED, FRACTURE HORIZONTAL TO BEDDING, OCCASIONAL LONG VERTICAL FRACTURE, MINOR CALCITE ALONG FRACTURE, FAIR STICK	68.0	AVG	
193.43	194.03	.60	SLST	SS1/FOLDED	AS ABOVE, FOLDED (CYLINDRICAL), SMALL SCALE FAULTING	15.0	193.6	
194.03	196.22	2.19	SLST		AS ABOVE, CARBONACEOUS AT BASE	68.0	194.4	
196.22	196.35	.13	COAL	DIRTY	(RECOVERED .13M) DULL, HARD, ABUNDANT CALCITE VEINLETS, HIGH ASH BAND THROUGH CENTRE, GOOD STICK -NOT SAMPLED-	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
196.35	197.55	1.20	SLST	SS1	MEDIUM GREY, VERY THINLY BEDDED, INTERBEDDED WITH LIGHT GREY VERY FINE TO FINE GRAINED SANDSTONE AND MUDSTONE, POORLY DEVELOPED, FRACTURED AND SLICKENSIDED, MINOR CALCITE ALONG FRACTURE, OCCASIONAL BROWN VERY HARD IRON-RICH SILTSTONE, FAIR STICK	72.0	196.7	
197.55	197.75	.20	MUDSTONE	FAULT GOUGE	DARK GREY, BRECCIATED, LOWER .05M IS COAL	NDAT	NDAT	
197.75	199.90	2.15	SS1	SLST	LIGHT TO MEDIUM GREY, THINLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH SILTSTONE, WAVY PARALLEL TO DISCONTINUOUS BEDDING, OCCASIONAL SOFT SEDIMENT DEFORMATION, FAULTED AND BRECCIATED INTERVAL AT 199.1M (.06M THICK) GOOD TO EXCELLENT STICK	54.0	AVG	
199.90	200.68	.78	COAL		(RECOVERED .51M) DULL AND BRIGHT BANDED, HARD, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE ALONG CLEAT, BLOCKY, .05 THICK HIGH ASH BAND AT 199.49M, GOOD STICK, SEPARATION WITH ROOF, VISUAL GOOD,	NDAT	NDAT	249

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					PHYSICAL FAIR, SEPARATION WITH FLOOR, VISUAL POOR, PHYSICAL GOOD (RECOVERY = 100%)			
200.68	200.93	.25	MUDSTONE	CARBONACE- OUS	DARK GREY TO BROWN, MASSIVE, HIGHLY FRACTURED AND SLICKENSIDED, BROKEN	NDAT	NDAT	
200.93	206.50	5.57	SLST	SS1/SS2	MEDIUM GREY, THIN TO MEDIUM BEDDED, INTERBEDDED WITH FINE TO MEDIUM GRAINED SANDSTONE, EVEN PARALLEL TO WAVY BEDDING, FRACTURE HORIZONTAL TO BEDDING, OCCASIONAL VERTICAL FRACTURE, SLICKENSIDED, HIGHLY POLISHED, MINOR CALCITE ALONG FRACTURE, COALY PLANT DEBRIS, FAIR STICK	20.0	AVG	
206.50	208.20	1.70	SS2		MEDIUM GREY, MEDIUM GRAINED SANDSTONE, MASSIVE, HARD, COALY DEBRIS THROUGHOUT, EXCELLENT STICK.	NDAT	NDAT	
208.20	215.50	7.30	SLST	SS1/FAULT ZONE	MEDIUM GREY, VERY THINLY BEDDED, INTERBEDDED WITH VERY FINE GRAINED SANDSTONE, POORLY DEVELOPED, FRACTURED AND SLICKENSIDED, FAIR STICK	45.0	AVG	
215.50	226.43	10.93	LOST.CORE	FAULT ZONE	SUSPECT AS ABOVE AND MASSIVE SILTSTONE	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
226.43	249.02	22.59	SLST		MEDIUM GREY, MASSIVE, MODERATELY HARD, OCCASIONALLY FRACTURED AND SLICKENSIDED, MINOR CALCITE VEINS, OCCASIONAL LONG CURVED VERTICAL FRACTURE, OCCASIONAL VERY HARD CALCITE CEMENTED SILTSTONE INTERVALS, MINOR IRON STAIN, MINOR PYRITE, GOOD TO EXCELLENT STICK	NDAT	NDAT	
249.02	-1.00	-1.00	UNKNOWN		TOTAL DEPTH	NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TW82D-255
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820910
 LOG DATE 820913
 EXAMINED BY S. CAMERON

TOP	BASE	THICK	LITHDLDGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	7.04	7.04	OVERBURDEN		OCCAS. SMALL PYRITIC BAND, HARD, DULL	NDAT	NDAT	
7.04	20.40	13.36	SS1	SLST	GREY FINE GRAINED SANDSTONE INTERBEDDED WITH GREY-BLACK SILTSTONE AND BLACK MUDSTONE, SOFT SEDIMENT DEFORMATION AND/OR SLUMPING IS ABUNDANT, THIN CARBONACEOUS BANDS ARE ALSO ABUNDANT, CALCITE FILLED FRACTURES COMMON THROUGHOUT THE UNIT, SOME SILTSTONE HAS CALCITE CEMENT, SLICKENSIDES ABUNDANT	40.0	AVG	
20.40	21.35	.95	MUDSTONE	SLST	BLACK MUDSTONE WITH INTERBEDDED SILTSTONE, CARBONACEOUS, VERY BROKEN, SLICKENSIDES ABUNDANT	NDAT	NDAT	
21.35	23.90	2.55	SS2		MEDIUM GRAINED, GREEN-GREY SANDSTONE INTERBEDDED WITH MEDIUM GRAINED BROWN-GREY SANDSTONE, TROUGH CROSS-BEDDED	56.0	21.2	
23.90	26.50	2.60	MUDSTONE	FAULT ZONE	BLACK MUDSTONE INTERBEDDED WITH SILTSTONE AND VERY FINE GRAINED	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLDGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SANDSTONE, SLICKENSIDES ABUNDANT			
26.50	80.60	54.10	SS1	SLST/MDST	GREY SANDSTONE INTERBEDDED WITH GREY-BLACK SILTSTONE AND BLACK MUDSTONE, SANDSTONE HAS MICACEOUS FLECKS THROUGHOUT, BIOTURBATION IS ALSO QUITE ABUNDANT, SMALL TO MEDIUM SCALE CROSS-BEDDING, SOFT SEDIMENT DEFORMATION IS COMMON, THIN BEDS OF SHELL FRAGMENTS OCCUR OCCASIONALLY, OCCASIONAL CALCITE CEMENTED FINE GRAINED SANDSTONE IN THIS UNIT, CLASTS OR CONCRETION IS ALSO SEEN WITHIN THE UNIT, THERE IS A GRADUAL INCREASE IN FINES (MUDSTONE) TOWARDS THE BASE OF THE UNIT, SOME OF THE SILTSTONE IS CEMENTED WITH SIDERITE AND IS EXTREMELY HARD, THIN CARBONACEOUS BANDS OCCUR OCCASIONALLY, SLICKENSIDES ALONG BEDDING DO OCCUR BUT THERE IS NOT MAJOR FAULTING WITHIN THE UNIT, OCCASIONAL CALCITE FILLED FRACTURES OF RANDDM ORIENTATION, BEDDING CHANGES GRADUALLY FROM 54	63.0	AVG	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLDGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					DEGREES AT THE TOP TO 73 DEGREES AT THE BOTTOM			
80.60	90.85	10.25	MUDSTONE	SLST	GRADATIONAL CONTACT WITH THE ABOVE UNIT, INTERBEDDED WITH SILTSTONE AND FINE GRAINED SANDSTONE, OCCASIONAL IRONSTONE BAND CONTAINS CALCITE FILLED FRACTURES OF RANDOM ORIENTATION	69.0	88.5	
90.85	91.30	.45	SS1	GREEN	GREEN-GREY SANDSTONE CONTAINING IRONSTONE CONCRETIONS, SANDSTONE CONTAINS MICACEOUS FLECKS, IRONSTONE NODULES CONTAIN VUGS WHICH HAVE BEEN INFILLED WITH CALCITE	NDAT	NDAT	
91.30	91.40	.10	MUDSTONE		BLACK, EXTREMELY BROKEN	NDAT	NDAT	
91.40	91.64	.24	COAL	DULL	DULL WITH BRIGHT, CLEAN, HARD (RECOVERY = 85%)	NDAT	NDAT	
91.64	93.40	1.76	MUDSTONE	FAULT ZONE	LAMINAR BEDDING, ABUNDANT SLICKENSIDES, INTERBEDDED WITH SILTSTONE AND FINE GRAINED GREY SANDSTONE	NDAT	NDAT	
93.40	94.20	.80	MUDSTONE	SLST	BLACK MUDSTONE WITH THIN BEDS OF SILTSTONE AND LIGHT GREY SANDSTONE, OCCASIONALLY SLICKENSIDED, POLISHED SURFACE, OCCASIONAL	57.0	93.5	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					IRONSTONE BAND			
94.20	95.00	.80	SLST	SS1	INTERBEDDED FINE GRAINED SANDSTONE AND SILTSTONE, THINLY LAMINATED, BIOTURBATION, SMALL SCALE NORMAL FAULTING, SOME POLISHED SLICKENSIDES ALONG BEDDING PLANES	NDAT	NDAT	
95.00	95.95	.95	SS3		SALT AND PEPPER COLOUR, CONTAINS CLASTS OF BROWN SILTSTONE AND MUDSTONE, SOME HAVE BEEN FLATTENED DUE TO COMPACTION, THERE ARE ALSO BANDS OF SILTSTONE AND MUDSTONE	NDAT	NDAT	
95.95	96.55	.60	SS2	SLST	INTERBEDDED FINE GRAINED SANDSTONE AND SILTSTONE WITH SOME INTERBEDDED IRONSTONE BANDS	NDAT	NDAT	
96.55	97.35	.80	LMST	SS1	GRADES FROM CALCAREOUS SANDSTONE TO LIMESTONE	NDAT	NDAT	
97.35	104.25	6.90	SS1	SLST	GREY-GREEN SANDSTONE INTERBEDDED WITH SILTSTONE AND BLACK MUDSTONE, THINLY BEDDED, SMALL SCALE NORMAL FAULTING, SOFT SEDIMENT DEFORMATION, SOME THIN BANDS AND BLEBS OF COAL	NDAT	NDAT	
104.25	107.35	3.10	SLST	CARBONACEOUS	BLACK SILTSTONE, THIN BANDS OF GREY FINE GRAINED SANDSTONE, FINES DOWNWARD INTO	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BLACK MUDSTONE			
107.35	108.56	1.21	COAL	CLEAN	DULL WITH BRIGHT BANDS (RECOVERY = 96%)	NDAT	NOAT 7	187
108.56	113.30	4.74	SLST	SS1/MDST	SILTSTONE INTERBEDDED WITH EQUAL AMOUNTS OF GREY FINE GRAINED SANDSTONE AND BLACK MUDSTONE, OCCASIONAL BIOTURBATION, SOFT SEDIMENT DEFORMATION, SOME SMALL SCALE FAULTING AND THINLY BEDDED	NDAT	NDAT	
113.30	114.27	.97	SS2	GREEN	SOME INTERBEDDED BLACK SILTSTONE, OCCASIONAL IRONSTONE CLAST	NDAT	NDAT	
114.27	114.34	.07	COAL	CLEAN	DULL WITH THIN BRIGHT BANDS (RECOVERY = 94%)	NDAT	NDAT 6	188
114.34	114.41	.07	SHALE	FAULTED		NDAT	NDAT 6	188
114.41	115.21	.80	COAL	FAULTED	DULL WITH BRIGHT, CONTAINS ABUNDANT SLICKENSIDES	NDAT	NDAT 6	188
115.21	118.20	2.99	MUDSTONE	SLST	BLACK, INTERBEDDED WITH SILTSTONE, THINLY BEDDED, CARBONACEOUS FLECKS THROUGHOUT	NDAT	NDAT	
118.20	119.05	.85	SS1	SLST	LIGHT GREY FINE GRAINED SANDSTONE INTERBEDDED WITH GREY-BLACK SILTSTONE, CARBONACEOUS MATERIAL	NDAT	NDAT	
119.05	120.61	1.56	MUDSTONE	SLST	MUDSTONE INTERBEDDED WITH SILTSTONE, ALSO	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH	SEAM	SNUM
					THIN BAND OF GREY-BLACK FINE GRAINED SANDSTONE, CARBONACEOUS MATERIAL THROUGHOUT				
120.61	121.44	.83	COAL	CLEAN	DULL WITH BRIGHT VITRAIN BANDS (RECOVERY = 65%)	NDAT	NDAT	5	189
121.44	122.70	1.26	MUDSTONE		GREY-BLACK, CARBONACEOUS	NDAT	NDAT		
122.70	122.85	.15	COAL	DIRTY		NDAT	NDAT		
122.85	123.69	.84	MUDSTONE		GREY-BLACK	NDAT	NDAT		
123.69	124.88	1.19	COAL	CLEAN	DULL WITH BRIGHT VITRAIN BANDS (RECOVERY = 91%)	NDAT	NDAT	4	190
124.88	126.53	1.65	MUDSTONE	SLST	INTERBEDDED WITH SILTSTONE AND LIGHT GREY FINE GRAINED SANDSTONE, THINLY BEDDED	NDAT	NDAT		
126.53	126.64	.11	COAL		(0% RECOVERY)	NDAT	NDAT		
126.64	126.82	.18	MUDSTONE		GREY TO BLACK, SLICKSIDED POLISHED SURFACE BECOMES INCREASINGLY CARBONACEOUS TOWARD BASE OF UNIT	NDAT	NDAT		
126.82	127.14	.32	SS1		SOME THIN INTERBEDS OF SILTSTONE, SOFT SEDIMENT DEFORMATION, THIN IRONSTONE BEDS	NDAT	NDAT		
127.14	127.49	.35	COAL	FAULTED	EXTREMELY BROKEN,	NDAT	NDAT		191

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					RUBBLE, SLICKENSIDED, QUITE SHALY (RECOVERY 68%)			
127.49	131.42	3.93	MUDSTONE	CARBONACE- OUS	GREY-BLACK, CALCITE FILLED FRACTURES	NDAT	NDAT	
131.42	131.96	.54	COAL		DIRTY AT TOP BECOMING CLEANER NEAR BASE OF UNIT (RECOVERY = 100%)	NDAT	NDAT	192
131.96	135.95	3.99	MUDSTONE	CARBONACE- OUS	BLACK CARBONACEOUS MUDSTONE INTERBEDDED WITH GREY-BLACK SILTSTONE	NDAT	NDAT	
135.95	136.05	.10	COAL	SHALY	SOME SLICKENSIDES ALONG BEDDING	NDAT	NDAT	
136.05	137.64	1.59	MUDSTONE	CARBONACE- OUS	SOME INTERBEDDED SILTSTONE, ALSO THIN COALY BANDS THROUGHOUT	NDAT	NDAT	
137.64	138.32	.68	COAL		DULL WITH BRIGHT, SOME VERY SHALY BANDS NEAR TOP OF UNIT	NDAT	NDAT 3	193
138.32	138.39	.07	BENTONITE		LIGHT GREY, VERY SOFT	NDAT	NDAT 3	193
138.39	139.41	1.02	COAL		DULL WITH BRIGHT BECOMES SHALY NEAR BOTTOM	NDAT	NDAT 3	193
139.41	139.76	.35	MUDSTONE	CARBONACE- OUS	BLACK MUDSTONE, CARBONACEOUS, THIN COALY BANDS	NDAT	NDAT	
139.76	139.93	.17	COAL		SHALY AT TOP, BECOMES PROGRESSIVELY CLEANER TOWARD BOTTOM OF UNIT (RECOVERY = 100%)	NDAT	NDAT 3	194
139.93	140.00	.07	SLST		INTERBEDDED WITH	NDAT	NDAT 3	194

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					LIGHT GREY FINE GRAINED SANDSTONE, BLACK CARBONACEOUS SHALE AND THIN COALY BANDS			
140.00	140.15	.15	COAL		DULL, HARD	NDAT	NDAT 3	194
140.15	140.18	.03	SLST		GREY-BLACK	NDAT	NDAT 3	194
140.20	140.48	.28	COAL		DULL, HARD	NDAT	NDAT 3	194
140.48	140.85	.37	MUDSTONE		CARBONACEOUS, BLACK	NDAT	NDAT	
140.85	141.20	.35	COAL			NDAT	NDAT 2	195
141.20	142.08	.88	SLST	CARBONACEOUS	SOME INTERBEDDED CARBONACEOUS SHALE AND THINLY BEDDED LIGHT GREY FINE GRAINED SANDSTONE	NDAT	NDAT	
142.08	152.52	10.44	COAL		OCCASIONAL VERY THIN SHALE SPLIT AT THE TOP OF THE UNIT	NDAT	NDAT 2	196
152.52	153.10	.58	SLST	MDST	INTERBEDDED SILTSTONE AND MUDSTONE, THINLY LAMINATED, SOME INTERBEDDED GREY FINE GRAINED SANDSTONE AT TOP, INCREASING AMOUNT OF FINES (MUDSTONE) DOWNWARD IN UNIT, OCCASIONAL IRONSTONE BAND, CALCITE FILLED FRACTURES	NDAT	NDAT	
153.10	158.20	5.10	MUDSTONE		BLACK, SOME	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					CARBONACEOUS MATERIAL, OCCASIONAL CALCITE FILLED JOINT PLANE				
158.20	176.30	18.10	SLST	SS1	GREY-BLACK SILTSTONE INTERBEDDED WITH FINE GRAINED GREY FINE GRAINED SANDSTONE, CONTACTS ARE GRADATIONAL, OCCASIONAL BAND APPROXIMATELY 15CM THICK OF MEDIUM GRAINED GREY SANDSTONE, CALCITE CEMENT HAS FILLED HIGH ANGLE JOINTS. OCCASIONAL IRONSTONE CONCRETIONS AND BANDS	NDAT	NDAT		
176.30	197.00	20.70	MUDSTONE	SLST	BLACK, OCCASIONAL CARBONACEOUS MATERIAL, IRONSTONE GRADES OCCASIONALLY INTO A DIRTY SILTSTONE, OCCASIONAL CALCITE FRACTURE ALONG JOINT PLANES, OCCASIONAL INTERBEDDED FINE GRAINED SANDSTONE UNIT, 15CM THICK. CALCITE CEMENT MORE ABUNDANT IN THESE SANDSTONE BEDS	NDAT	NOAT		
197.00	200.00	3.00	UNKNOWN		LOG RUN TO 197.0M, DRILLED DEPTH 200.0M	NDAT	NOAT		

CORE DESCRIPTION

HOLE ID TW82D-256
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820914
 LOG DATE 820914
 EXAMINED BY J.RYLEY

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	9.93	9.93	OVERBURDEN		OCCAS. SMALL PYRITIC BAND, HARD, DULL	NDAT	NDAT	
9.93	9.97	.04	VOLCANICS	INTRUSIONS	SILL OR DYKE, IGNEOUS, VERY HARD, LIGHT GREY TO GREEN TO RUSTY BROWN, TRACE OF PYRITE, QUARTZ NODULES, TRACE OF BIOTITE	NDAT	NDAT	
9.97	16.70	6.73	SS1	LC/SLST	FINE GRAINED, LIGHT GREEN TO GREY, SLIGHTLY MICACEOUS, MINOR FOLDING, CALCITE INFILLING OF FRACTURES, OCCASIONAL SLICKENSIDES, POOR STICK CORE, OCCASIONAL HARD SILTSTONE, THIN LAMINAE, UNEVEN BEDDING, 90% RECOVERY, LOST CORE SUSPECT AS ABOVE	NDAT	NDAT	
16.70	17.86	1.16	SLST	SHLE	MEDIUM TO DARK GREY, OCCASIONAL SLICKENSIDES, BADLY BROKEN, TRACE OF CALCITE IN PLACES, SLIGHTLY CALCAREOUS	NDAT	NDAT	
17.86	42.15	24.29	SLST	FAULTED	DARK GREY, TRACE OF CARBONACEOUS MATERIAL, OCCASIONAL CALCITE IN PLACES, FIRST QUARTER OF CORE	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BADLY BROKEN, THINLY LAMINATED, OCCASIONAL THIN LAMINAE BLUISH-PURPLE BANDS, OCCASIONAL SLICKENSIDES			
42.15	42.31	.16	BENTONITE		BLUISH-GREY, SOFT, SLICKENSIDES, BROKEN	NDAT	NDAT	
42.31	60.80	18.49	SLST	LC/SHLE/M- ICRO FOLDS	MEDIUM TO DARK GREY, CALCITE IN PLACES, OCCASIONAL SLICKENSIDES, BADLY BROKEN IN MIDDLE OF SECTION, 6CM BENTONITE BAND FIRST QUARTER OF SECTION	NDAT	NDAT	
60.80	78.92	18.12	SLST	SHLE	MEDIUM GREY, CALCITE IN PLACES, OCCASIONAL HORIZONTAL FAULTS, OCCASIONAL HARD CLASTS, SLIGHTLY MICACEOUS, BEDDING ANGLE ON HARD SILTSTONE BAND 40 DEGREES	NDAT	NDAT	
78.92	87.61	8.69	SS1	SLST	LIGHT GREEN SANDSTONE VERY FINE GRAINED, .5CM BAND PYRITE IN FIRST 5CM, SANDSTONE IS CALCAREOUS, SANDSTONE INTERBEDDED THROUGHOUT (0-2CM LAMINAE) WITH SILTSTONE, CRYPTOCRYSTALLINE	NDAT	NDAT	
87.61	141.02	53.41	SS1	SLST/LC	VERY FINE GRAINED, MEDIUM GREY, INTERBEDDED WITH SILTSTONE, THINLY LAMINATED, OCCASIONAL CLASTS HARD SILTSTONE,	20.0	87.7	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					CRYPTOCRYSTALLINE, OCCASIONAL CALCITE IN PLACES, NUMEROUS SECTIONS RUBBLED SILTSTONE, OCCASIONAL BIOTURBATIONMINOR CROSS-BEDDING, BEDDING ANGLE FIRST 20CM 20 DEGREES, DIPS CHANGE DUE TO UNDULATING BEDDING THROUGHOUT SECTION, LOST CORE APPROXIMATELY 1M				
141.02	141.68	.66	SS2	BRECCIATED	BRECCIATED SANDSTONE, MEDIUM GRAINED, NUMEROUS VUGS, FILLED WITH CRYSTAL CARBDNACEDUS (?), NUMEROUS HEALED FRACTURES CALCITE INFILLING	NDAT	NDAT		
141.68	142.23	.55	SS1		VERY FINE GRAINED, LIGHT GREEN, CRYPTOCRYSTALLINE, OCCASIONAL SHALE CLASTS, MINOR CALCITE IN PLACES, FAIR STICK CORE	NDAT	NDAT		
142.23	145.00	2.77	SS1	SLST	VERY FINE GRAINED, INTERBEDDED WITH SILTSTONE, MICRO FAULTING, WAVY PARALLEL BEDDING, IRREGULAR BEDDING PLANES	NDAT	NDAT		
145.00	148.38	3.38	SS1		VERY FINE GRAINED, LIGHT GREEN, OCCASIONAL CALCITE IN PLACES, TRACE OF PYRITE	NDAT	NDAT		
148.38	157.01	8.63	SS1	SLST	VERY FINE GRAINED, MEDIUM TO DARK GREY, OCCASIONAL SLICKENSIDES, MINOR COAL WISPS	32.0	150.8		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					FIRST QUARTER OF SECTION, CRYPTOCRYSTALLINE, OCCASIONAL CALCITE IN PLACES, MICRO FAULTING LAST QUARTER SECTION, OCCASIONAL CLASTS HARD SILTSTONE			
157.01	160.57	3.56	SS1	SS2/LC	VERY FINE TO FINE GRAINED, MEDIUM GREY, MICRO FAULTING, OCCASIONAL LAMINAE BEDDING, HARD SILTSTONE, MEDIUM BROWN, OCCASIONAL CALCITE IN PLACES, TRACE PYRITE, WAVY PARALLEL	35.0	159.1	
160.57	162.04	1.47	COAL	LC	SEMI-DULL IN TOP HALF, POOR CLEAT, SLIGHTLY DIRTY, OCCASIONAL SLICKENSIDES, BRIGHT IN BOTTOM HALF, GOOD CLEAT, SEPARATION WITH ROOF, VISUAL AND PHYSICAL FAIR, SEPARATION WITH FLOOR, VISUAL FAIR, PHYSICAL POOR (RECOVERED 87CM - RECOVERY = 59%)	NDAT	NDAT 8	197
162.04	166.99	4.95	SS1	SLST	VERY FINE GRAINED, MEDIUM GREY, THIN LAMINAE, MICRO FAULTING, WAVY PARALLEL, 14CM BRECCIATED SANDSTONE AT 164.98, MINOR CLASTS, HARD MEDIUM BROWN SILTSTONE	28.0	161.7	
166.99	168.35	1.36	BRECCIA		LIGHT GREY, BRECCIATED WITH CALCITE CEMENT,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					VUGGY, POOR STICK CORE			
168.35	174.17	5.82	SS1	SLST	VERY FINE GRAINED, MEDIUM TO DARK GREEN, THINLY LAMINATED, OCCASIONAL CLASTS OF HARD MEDIUM BROWN SILTSTONE, MINOR CROSS-BEDDING, OCCASIONAL CALCITE IN PLACES	NDAT	NDAT	
174.17	179.86	5.69	SLST	SS2	DARK GREY WITH SANDSTONE LAMINAE, THICKLY LAMINATED, OCCASIONAL THICK LAMINAE OF MEDIUM GRAINED SANDSTONE, MINOR CROSS-BEDDING	NDAT	NDAT	
179.86	180.24	.38	LMST		LIGHT GREY, FAIR STICK, MINOR CALCITE FRACTURE	NDAT	NDAT	
180.24	185.71	5.47	SS1	SLST	MEDIUM TO DARK GREY, VERY FINE GRAINED, OCCASIONAL CLASTS HARD BROWN SILTSTONE, SILICA CEMENT, THIN TO THICKLY LAMINATED, WAVY PARALLEL	NDAT	NDAT	
185.71	186.97	1.26	SS1	SLST	LIGHT GREEN-GREY, FINE GRAINED, OCCASIONAL THICK LAMINAE TO THIN BEDDED, HARD BROWN SILTSTONE, TRACE OF CARBONACEOUS DEBRIS, MICRO FAULTING, CRYPTOCRYSTALLINE, OCCASIONAL CALCITE IN PLACES, OCCASIONAL SLICKENSIDES	NDAT	NDAT	
186.97	189.10	2.13	SLST		DARK GREY,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					CRYPTOCRYSTALLINE, THIN LAMINAE, MICRO FAULTING, TRACE OF PYRITE (NODULE)			
189.10	189.76	.66	SLST		DARK GREY, CRYPTOCRYSTALLINE, OCCASIONAL SLICKENSIDES, TRACE OF CARBONACEOUS DEBRIS, ONE 3MM QUARTZ BAND (NOTE: THIS ZONE SHOWS AS BEING COAL ON THE LOG, THIS ZONE DOES NOT DIFFER FROM THE ZONE 186.97-189.10 SIGNIFICANTLY, IT WAS SEPARATED TO SHOW WHAT IT IS AND THEORETICALLY WHAT IT SHOULD HAVE BEEN)	NDAT	NDAT	
189.76	191.74	1.98	SLST	SS1	DARK GREY, OCCASIONAL SLICKENSIDES, ONE 9CM BAND HARD BROWN SILTSTONE WITH CALCITE FRACTURE INFILLING, MINOR CLASTS FINE GRAINED SANDSTONE, MICRO FOLDING OCCASIONALLY, TRACE OF CARBONACEOUS DEBRIS, OPPOSITE DIPS BOCM APART	23.0	190.5	
191.74	198.61	6.87	SS1	SLST	MEDIUM GREY, VERY FINE GRAINED, MICRO FOLDS, OCCASIONAL CLASTS FINE GRAINED SANDSTONE (0-.3CM), WAVY PARALLEL, OCCASIONAL BANDS HARD LIGHT BROWN	21.0	192.4	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SILTSTONE (0-2CM), MINOR FOLDING AT 196.30, THIN TO THICKLY LAMINATED			
198.61	199.21	.60	SS1	LIMONITIC- /SS2	MEDIUM GREY-BROWN TO DARK GREY, VERY FINE GRAINED, THIN TO THICKLY LAMINATED WITH SILTSTONE, CALCITE IN PLACES, HARD	NDAT	NDAT	
199.21	202.71	3.50	SS1	SLST	MEDIUM GREY, VERY FINE GRAINED, ONE HORIZONTAL FRACTURE (36CM) AT 200.06, THIN TO THICKLY LAMINATED, WAVY PARALLEL, MICRO FOLDING, SILICA CEMENT	24.0	199.5	
202.71	203.30	.59	COAL		SEMI-DULL, DIRTY, BADLY BROKEN, TRACE OF PYRITE, SEPARATION WITH ROOF, VISUAL FAIR, PHYSICAL POOR, SEPARATION WITH FLOOR, VISUAL FAIR, PHYSICAL POOR (RECOVERED 59CM - RECOVERY = 44%)	NDAT	NDAT 6	198
203.30	206.15	2.85	SLST	SHALY	DARK GREY, BADLY BROKEN, TRACE CARBONACEOUS DEBRIS, OCCASIONAL CALCITE IN PLACES, SLICKENSIDES, ONE VERY DIRTY COALY BAND (.10CM) AT 204.73	NDAT	NDAT	
206.15	206.50	.35	COAL	DIRTY	SEMI-DULL, SLICKENSIDES, BROKEN, TRACE PYRITE, SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL POOR (RECOVERED 35CM -	NDAT	NDAT	199

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					RECOVERY = 100%)				
206.50	210.83	4.33	SLST	SHALY	DARK GREY TO BLACK, OCCASIONAL MINOR BANDS COAL (0-2CM) TRACE CARBONACEOUS DEBRIS, TRACE FOSSIL (FLORA), 2 SECTIONS RUBBLE, NUMEROUS SLICKENSIDES, TRACE CALCITE IN PLACES, ONE 18CM BAND SILTSTONE AT 207.38, HARD, LIGHT BROWN WEATHERED FRESH MEDIUM GREY	NOAT	NDAT		
210.83	211.41	.58	CDAL	DIRTY	SEMI-DULL, OCCASIONAL BRIGHT BANDS, SLIGHTLY DIRTY, SLICKENSIDES, BROKEN, SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL POOR (RECOVERED 58CM - RECOVERY = 100%)	NDAT	NDAT 5		200
211.41	211.71	.30	SLST		DARK GREY, TRACE CARBONACEOUS DEBRIS, OCCASIONAL SLICKENSIDES, CALCITE IN PLACES	NDAT	NDAT		
211.71	212.04	.33	COAL		SEMI-DULL, MINOR VITREOUS BANDING, CALCITE IN PLACES, CLEAN TO DIRTY, LAST QUARTER IS DIRTY, TRACE FOSSIL (FLORA), SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL POOR (RECOVERED 33CM - RECOVERY = 85%)	NDAT	NDAT 5		201
212.04	217.14	5.10	SLST	SHALY	DARK GREY TO BLACK, OCCASIONAL	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SLICKENSIDES, TRACE CARBONACEOUS DEBRIS, CALCITE IN PLACES, RUBBLE IN PLACES			
217.14	217.50	.36	COAL		SEMI-DULL, TRACE PYRITE, MINOR VITREOUS BANDING, BROKEN, SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL PDDR (RECOVERED 36CM - RECOVERY = 100%)	NDAT	NDAT	202
217.50	221.00	3.50	SLST		DARK GREY, CALCITE IN PLACES, MINOR COAL WISPS, OCCASIONAL SLICKENSIDES, TWO BANDS (10-20CM) HARD BROWN SILTSTONE	NDAT	NDAT	
221.00	221.18	.18	COAL	DULL	DULL, TRACE CALCITE, MINOR VITREOUS BANDING, TOO SMALL TO SAMPLE	NDAT	NDAT	
221.18	227.13	5.95	SS1	SLST	MEDIUM GREY, TRACE CARBONACEOUS DEBRIS, CALCITE IN PLACES, SILICA CEMENT, BIOTURBATION UPPER TWO THIRDS OF CORE, THIN TO THICKLY LAMINATED, OCCASIONAL BANDS HARD BROWN SILTSTONE (0-10CM), MICRO FAULTING (HEALED), UNDULATING BEDDING	NDAT	NDAT	
227.13	228.33	1.20	SLST	SANDY	MEDIUM GREY TO LIGHT BROWN, CALCITE IN PLACES, OCCASIONAL FRACTURES, SLUMP IN FIRST 20CM, GOOD STICK CORE	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
228.33	230.87	2.54	SLST	SHALY	DARK GREY, CARBONACEOUS SHALY SILTSTONE IN FIRST 50CM WITH BCM COALY RUBBLE AT START OF SECTION. CALCITE IN PLACES, NUMEROUS SLICKENSIDES, BROKEN THROUGHOUT, TRACE CARBONACEOUS DEBRIS, OCCASIONAL COAL WISPS	NDAT	NDAT	
230.87	231.41	.54	SLST		LIGHT TO MEDIUM GREY, TRACE CARBONACEOUS DEBRIS, FAIR STICK CORE	NDAT	NDAT	
231.41	233.66	2.25	SLST		DARK TO MEDIUM GREY, OCCASIONAL SLICKENSIDES, OCCASIONAL COAL WISPS, BADLY BROKEN IN LAST HALF OF CORE	NDAT	NDAT	
233.66	234.02	.36	SLST	CHERTY/LC	LIGHT GREY TO BROWN, CALCITE INFILLING IN FRACTURE, SILICA CEMENT, VERY HARD, CHERTY, TRACE OF IRONSTONE, FAIR STICK, CORE RECOVERED 36CM	NDAT	NDAT	
234.02	235.82	1.80	LOST CORE		LOST CORE 1.8M AS INDICATED BY MARKER BLOCK, SUSPECT SAME AS ABOVE AND BELOW DESCRIPTIONS (SEE LDG)	NDAT	NDAT	
235.82	241.04	5.22	SLST		DARK GREY, NUMEROUS SLICKENSIDES, NUMEROUS FRACTURES, TRACE CARBONACEOUS DEBRIS, TRACE	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					CALCITE, POOR STICK CORE, LOST CORE 42CM				
241.04	242.34	1.30	SLST	COALY/SHA- LY	DARK GREY TO BLACK, RUBBLE, APPROXIMATELY 2 BANDS COAL 30 AND 10CM RESPECTIVELY, VERY DIRTY, NUMEROUS SLICKENSIDES, TALC IN PLACES, SUSPECT LOST CORE 39CM, SUSPECT SIMILAR TO ABOVE (SEE LOG) RECOVERED 91CM	NDAT	NDAT		
242.34	250.17	7.83	SLST	SS	MEDIUM TO DARK GREY, VERY FINE GRAINED, THIN TO THICKLY LAMINATED, OCCASIONAL HORIZONTAL FRACTURE IN HARD LIGHT BROWN SILTSTONE, MICRO FAULTING, OCCASIONAL CALCITE IN PLACES, ONE HORIZONTAL FRACTURE IN THIN TO THICKLY LAMINATED SANDSTONE/SILTSTO- NE (25CM), ONE 8CM VERY COARSE GRAINED SANDSTONE WITH OCCASIONAL PEBBLES, BIOTURBATION, OCCASIONAL SLICKENSIDES, BADLY BROKEN IN LAST QUARTER SECTION OF CORE, LOST CORE = 46CM	20.0	247.3		
250.17	250.46	.29	COAL	DIRTY	SEMI-DULL, BROKEN, VERY DIRTY FIRST QUARTER SECTION, CALCITE IN PLACES, OCCASIONAL SLICKENSIDES, FAIR	NDAT	NDAT		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					CLEAT LAST QUARTER OF SECTION			
250.46	253.40	2.94	SLST	SS1/SS2	MEDIUM TO DARK GREY, OCCASIONAL THICK LAMINAE SANDSTONE. FINE TO MEDIUM GRAINED, OCCASIONAL CALCITE IN PLACES, WAVY PARALLEL, FAIR STICK CORE	35.0	252.7	
253.40	254.44	1.04	SLST	SS2	LIGHT TO DARK GREY, MEDIUM TO COARSE GRAINED, 4 BANDS MEDIUM TO COARSE GRAINED SANDSTONE, FAIR STICK CORE, MICRO-FAULTING	35.0	253.6	
254.44	257.74	3.30	CONGLOM	PEBBLY	LIGHT GREY, SILICA CEMENTING, GOOD STICK CORE, GRADES TO A COARSE GRAINED SANDSTONE. CARBONACEOUS DEBRIS THROUGHOUT, TRACE IRONSTONE, 3 LARGE BANDS (10-20CM) SILTSTONE, MEDIUM BROWN TO GREY	NDAT	NDAT	
257.74	258.12	.38	COAL	DIRTY	DULL, BROKEN, CALCITE IN PLACES, SLICKENSIDES, RUBBLE IN FIRST HALF (RECOVERED 14CM - RECOVERY = 37%)	NDAT	NDAT 2	203
258.12	266.62	8.50	SLST	SS	MEDIUM GREY, VERY FINE GRAINED, THIN TO THICKLY LAMINATED, OCCASIONAL BANDS (10-25CM) HARD LIGHT BROWN SILTSTONE, CALCITE IN PLACES. ZONE IS HEAVILY FRACTURED IN LAST THIRD OF	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM

CORE								
266.62	266.90	.28	SS3		LIGHT GREY, VERY COARSE GRAINED, CALCITE IN FRACTURE, SILICA CEMENT, OCCASIONAL LAYERING THIN LAMINAE SILTSTONE	NDAT	NDAT	
266.90	272.24	5.34	SS1		MEDIUM GREY, VERY FINE GRAINED WITH THIN LAMINAE FINE GRAINED SANDSTONE, BROKEN THROUGHOUT, LOST CORE = 54CM	NDAT	NDAT	
272.24	284.79	12.55	SLST		DARK GREY, OCCASIONAL NODULES HARD SILTSTONE TRACE CALCITE IN PLACES, OCCASIONAL BANDS HARD LIGHT BROWN SILTSTONE, ONE 91CM HEALED FRACTURE SECTION MICRO FAULTING ONE 79CM BADLY BROKEN SECTION AT 280.80, LOST CORE = 90CM	NDAT	NDAT	
284.79	291.07	6.28	SLST	SANDY	MEDIUM GREY, SLIGHTLY SANDY, TRACE PYRITE, TRACE CALCITE IN PLACES, TRACE CARBONACEOUS DEBRIS, ONE 46CM HORIZONTAL FRACTURED SECTION AT 282.34, ONE 80CM BADLY BROKEN SECTION IN LAST QUARTER OF CORE, LOST CORE = 42CM (END OF CORE, CORE DESCRIPTION ENDS AT 291.07, MARKER BLOCK AT END OF CORE SHOWS DEPTH TO BE 291.70 TOTAL DEPTH, SUSPECT ACCUMULATIONS OF SLIGHT MEASUREMENT	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					INACCURACIES THROUGHOUT ENTIRE CORE DESCRIPTION, THIS AMOUNT = 63CM)			

CORE DESCRIPTION

HOLE ID TW82D-257
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820915
 LOG DATE 820922
 EXAMINED BY C.LANGILL

TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	12.50	12.50	OVERBURDEN		CASING	NDAT	NDAT	
12.50	15.80	3.30	SLST		MEDIUM GREY, MASSIVE, VERY BROKEN CORE, VERY POOR RECOVERY (58%), RARE SLICKENSIDES	NDAT	NDAT	
15.80	17.04	1.24	SLST		MEDIUM GREY, MASSIVE, AS ABOVE WITH 2CM GOUGE BAND, SLICKENSIDES, CORE CRUMBLED CHUNKS, 2 CHUNKS OF COAL	NDAT	NDAT	
17.04	17.90	.86	SLST	SS1	MEDIUM GREY SILTSTONE WITH WAVY LAMINAE OF VERY FINE GRAINED SANDSTONE, BRDKEN TO CRUMBLED CORE	NDAT	NDAT	
17.90	20.51	2.61	SLST	MDST	CLAYEY SILTSTONE, DARK GREY, HARD, CRUMBLED, SLICKENSIDES	NDAT	NDAT	
20.51	21.67	1.16	SS1	SLST	VERY FINE GRAINED, LIGHT GREY WITH LAMINAE OF DARK GREY SILTSTONE, BROKEN, OCCASIONALLY CRUMBLED, CLAYEY	NDAT	NDAT	
21.67	22.21	.54	SS1		VERY LIGHT GREY, VERY HARD, EXTREMELY CALCAREOUS, VAGUE LAMINAE OF DARK GREY CARBONACEOUS FRAGMENTS, BROKEN	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
CORE								
22.21	23.40	1.19	SS1		LIGHT GREY, LAMINAE WITH DARK GREY SILTSTONE, FRIABLE, NON-CALCAREOUS, OCCASIONAL SLICKENSIDES, CRUMBLD, CLAYEY MATRIX TO SHATTERED CORE	NDAT	NDAT	
23.40	25.10	1.70	SLST	CLAYEY	DARK GREY, CRUMBLD, CLAYEY, VERY POOR RECOVERY (29%)	NDAT	NDAT	
25.10	26.50	1.40	SLST	MDST/SS1	MEDIUM GREY SILTSTONE, VERY FINE GRAINED SANDSTONE, GRADES FROM CLAYEY CARBONACEOUS SILTSTONE AT TOP TO SANDY SILTSTONE IN MIDDLE, POORLY CONSOLIDATED. BROKEN	NDAT	NDAT	
26.50	26.67	.17	SLST		LIGHT GREY, EXTREMELY HARD, BROKEN	NDAT	NDAT	
26.67	27.70	1.03	SLST		MEDIUM GREY, MASSIVE, HARD, BROKEN, POWDER IN TOP 14CM, CARBONACEOUS CLAYSTONE IN BOTTOM 8CM	NDAT	NDAT	
27.70	28.36	.66	COAL		DULL WITH TRACE BRIGHT, VITRAIN BANDS <3MM ARE AT HIGH ANGLE TO CORE, NORMAL BROKEN, GOOD CONTRAST ON TOP AND BDTTOM (RECOVERY .35/.66 = 53%)	NDAT	NDAT 2	283
28.36	29.01	.65	SLST		MEDIUM GREY,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					MASSIVE, VAGUE LAMINAE AT BOTTOM, BROKEN CORE, VERY HARD IN TOP HALF			
29.01	30.35	1.34	COAL		DULL WITH TRACE BRIGHT, HARD, BROKEN, CRUMBLER AT BOTTOM, CONTRAST AT TOP AND BOTTOM IS EXCELLENT (RECOVERY .76/1.34 = 57%)	NDAT	NDAT 2	284
30.35	31.58	1.23	SLST		MEDIUM GREY WITH VAGUE WAVY AND DISRUPTED LAMINAE OF LIGHT GREY VERY FINE GRAINED SANDSTONE, STICK CORE NOW CRUMBLER	NDAT	NDAT	
31.58	32.27	.69	SS1	SLST	LIGHT GREY, SLIGHTLY GREENISH AT TOP, DISTORTED LAMINAE OF MEDIUM GREY SILTSTONE, VERY HARD, BROKEN CORE	NDAT	NDAT	
32.27	33.45	1.18	SLST		LIGHT GREY, MASSIVE, DISTORTED LAMINAE OF CARBONACEOUS MATERIAL AT TOP 15CM AND BOTTOM 10CM, SEMI-STICK	NDAT	NDAT	
33.45	34.20	.75	COAL		DULL WITH RARE BRIGHT, POWDER, VITREOUS CURVED SLICKENSIDED SURFACES, CONTACT AT TOP AND BOTTOM GOOD CONTRAST (RECOVERY .38/.75 = 51%)	NDAT	NDAT 2	285
34.20	41.20	7.00	SLST	SS1	MEDIUM GREY, VERY HARD, BROKEN, MASSIVE, CALCITE VEINS, 30CM FROM TOP ABUNDANT VAGUE	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					LAMINAE OF FINE GRAINED SANDSTONE, WAVY CRUMBLD AT 37.40 TD 37.60, BECOMING CLAYEY SILTSTONE TOWARDS BOTTOM			
41.20	53.50	12.30	SLST	MDST	MEDIUM GREY WITH OCCASIONAL VERY THIN LAMINAE OF DARK GREY MUDSTONE IN TOP 3M, BECOMING MASSIVE TOWARDS BOTTOM, SEMI-STICK, HARD, GRADES TO SILTSTONE BELOW	NDAT	NDAT	
53.50	71.50	18.00	SLST	SS1	AS ABOVE BUT GRADUALLY SANDIER TOWARDS BOTTOM	NDAT	NDAT	
71.50	72.42	.92	SLST		AS ABOVE, BROKEN CORE, HARD BROWN ZONE WITH CALCITE VEINS 7CM THICK AT BOTTOM	NDAT	NDAT	
72.42	74.14	1.72	SLST	CLAYEY	MEDIUM GREY, BRDKEN STICK CORE, CLAYEY, PERHAPS GOUGE ZONE, APPEARANCE OF PERVASIVE HEALED FRACTURES	NDAT	NDAT	
74.14	75.30	1.16	SLST		MEDIUM GREY, MASSIVE, STICK CORE, NOW PARTLY CRUMBLD, RARE CALCITE VEINS	NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TW82D-258
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820916
 LOG DATE 820926
 EXAMINED BY D.HANDY

TOP	BASE	THICK	LITHOLOGY	MIN LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	11.20	11.20	OVERBURROEN			NDAT	NDAT	
11.20	18.90	7.70	SLST		MEDIUM GREY, HIGHLY WEATHERED, CRUMBLY CORE, MASSIVE BEDDING, OCCASIONAL SHORT SECTIONS OF FINE GRAINED SANDSTONE	NDAT	NDAT	
18.90	19.80	.90	GOUGE	SLST	SILTSTONE AS ABOVE, GOUGE MATERIAL (CLAY ETC)	NDAT	NDAT	
19.80	44.80	25.00	SLST		AS ABOVE	NDAT	NDAT	
44.80	47.44	2.64	COAL		DULL WITH BRIGHT, BROKEN SHORT PIECES WHERE RECOVERY IS GOOD, 44.80-45.20 (RECOVERY .10/.40 = 25%), 45.26-45.50 (RECOVERY .20/.30 = 67%), 45.50-45.80 (RECOVERY .30/.30 = 100%), 45.80-47.44 (RECOVERY .15/1.64 = 9%) (TOTAL RECOVERY .75/1.64 = 46%)	NDAT	NDAT	337
47.44	49.48	2.04	MUDSTONE	SLST	MEDIUM GREY, MASSIVE BEDDING, SOFT, CRUMBLY CORE	NDAT	NDAT	
49.48	52.00	2.52	COAL		DULL WITH MINOR BRIGHT, BROKEN	NDAT	NDAT 6	338

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					STICK TO BROKEN RUBBLE NEAR FOOTWALL, 49.48-49.88 (RECOVERY 100%), 49.88-50.03 MUDSTONE SPLIT INCLUDED IN SAMPLE, 50.03-52.0 (RECOVERY .50/1.97 = 25%) (TOTAL SEAM RECOVERY = 38%)			
52.00	57.51	5.51	MUDSTONE	CARBONACEOUS	MEDIUM GREY TO DARK GREY MUDSTONE WITH CARBONACEOUS TO COALY STRINGERS, POOR BEDDING	NDAT	NDAT	
57.51	58.99	1.48	COAL		57.51-58.68 COAL DULL, RUBBLY, 58.68-58.73 BENTONITIC SPLIT INCLUDED IN SAMPLE, 58.73-58.99 COAL, RUBBLY (TOTAL RECOVERY .83/1.48 = 56%)	NDAT	NOAT	339
58.99	59.66	.67	MUDSTONE	CARBONACEOUS	AS ABOVE	NDAT	NDAT	
59.66	60.19	.53	COAL		DULL WITH MINDR BRIGHT, BROKEN TO VERY BROKEN (RECOVERY .20/.53 = 38%)	NDAT	NDAT	340
60.19	61.23	1.04	MUDSTONE	CARBONACEOUS	MEDIUM GREY, MASSIVE, CARBONACEOUS, OCCASIONAL COALY STRINGER	NDAT	NOAT	
61.23	61.53	.30	COAL	SHALY	DULL, SHALY COAL, RUBBLY HANGING WALL AND FOOTWALL (RECOVERY .15/.30 = 50%)	NDAT	NDAT	341
61.53	61.96	.43	MUDSTONE	CARBONACEOUS	AS ABOVE	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					OUS			
61.96	62.12	.16	COAL	SHALY	NOT SAMPLED	NDAT	NDAT	
62.12	62.43	.31	MUDSTONE	CARBONACE- OUS	AS ABOVE	NDAT	NDAT	
62.43	63.07	.64	COAL		RUBBLE FRAGMENTS, FOOTWALL/HANGING WALL CONTACTS POOR (RECOVERY .10/.64 = 16%)	NDAT	NDAT	342
63.07	65.16	2.09	MUDSTONE	CARBONACE- OUS	MEDIUM GREY, SOFT WEATHERED, CARBONACEOUS, OCCASIONAL COALY WISPS, INDISTINCT BEDDING	NDAT	NDAT	
65.16	67.37	2.21	COAL		DULL, MINOR BRIGHT, STICK/BROKEN STICK AND RUBBLE, ESPECIALLY TOWARD FOOTWALL (TOTAL SEAM RECOVERY 1.02/2.21 = 46%), 65.16-66.96 COAL RECOVERY .93/1.70 = 58%, 65.31-65.36 MUDSTONE SPLIT (BRD SHOWS THIS TO BE 22CM), 66.96-67.16 MUDSTONE SPLIT, 67.16-67.37 COAL RECOVERY .17/.21 = 81%)	NDAT	NDAT 5	343
67.37	68.41	1.04	MUDSTONE		MEDIUM GREY, MASSIVE BEDDING, SOFT, WEATHERED, HARD NODULE, LIKE MATERIAL AT TOP OF UNIT	NDAT	NDAT	
68.41	68.75	.34	COAL		DULL, BROKEN TO RUBBLE (RECOVERY .20/.34 = 59%)	NDAT	NDAT	344

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
68.75	69.79	1.04	MUDSTONE	CARBONACEOUS	MEDIUM GREY, MASSIVE, SOFT, WEATHERED, CARBONACEOUS	NDAT	NDAT		
69.79	70.17	.38	SLST		HARD, MEDIUM GREY, VUGGY WITH CARBONATE INFILLED	NDAT	NDAT		
70.17	70.49	.32	MUDSTONE	CARBONACEOUS	AS ABOVE	NDAT	NDAT		
70.49	71.25	.76	COAL		RUBBLE TO DUST (RECOVERY = 83%)	NDAT	NDAT 4	345	
71.25	72.71	1.46	MUDSTONE		MEDIUM GREY, MASSIVE BEDDED MUDSTONE, SOFT WEATHERED PARTIALLY TO CLAY	NDAT	NDAT		
72.71	79.84	7.13	SS1	MDST/SLST	PALE GREY TO GREENISH GREY, FINE GRAINED SANDSTONE WITH THIN INTERBEDDED MUDSTONE TO SILTSTONE (DARK GREY) AND OCCASIONAL COALY WISPS OR CARBONACEOUS WISPS, HIGHLY BROKEN CORE, OCCASIONAL CLAY WEATHERED ZONES	NDAT	NDAT		
79.84	80.34	.50	SLST		MEDIUM GREY, MAINLY MASSIVE BEDDED, BROKEN CORE	NDAT	NDAT		
80.34	80.54	.20	GOUGE	FAULT		NDAT	NDAT		
80.54	81.05	.51	SLST		AS ABOVE, STICK CORE	NDAT	NDAT		
81.05	81.48	.43	COAL		BROKEN STICK AND	NDAT	NDAT	346	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					RUBBLY CORE, DULL WITH BRIGHT (RECOVERY = 56%)				
81.48	83.17	1.69	SLST		MEDIUM GREY, MINOR CARBONACEOUS, BROKEN STICK	NDAT	NDAT		
83.17	83.81	.64	COAL		POWDER (RECOVERY = 28%)	NDAT	NDAT 3		347
83.81	94.82	11.01	SLST	SLICK/FAULT ZONE	DARK GREY/LIGHT GREY LAMINATED, THIN BEDDED, SHEARED INTO THIN WEDGES, BEDDING ANGLES VARY THROUGH FAULT ZONE, BADLY BROKEN AND POLISHED	60.0	84.5		
94.82	95.32	.50	SS1	CARBONACEOUS	PALE GREEN/GREY, CARBONACEOUS, THIN BEDDED, BROKEN UP CORE	NDAT	NOAT		
95.32	96.13	.81	COAL		DULL WITH BRIGHT, BROKEN INTO SMALL DISCS (RECOVERY .20/.81 = 25%)	NDAT	NDAT 2		348
96.13	96.98	.85	SLST	CARBONACEOUS	DARK GREY, MASSIVE, STICK	NOAT	NOAT		
96.98	98.06	1.08	COAL		DULL WITH BRIGHT, BROKEN STICK, HARD (RECOVERY .67/.92 = 73%)	NDAT	NDAT 2		349
98.06	98.70	.64	SLST	CARBONACEOUS	DARK GREY, MASSIVE AT TOP BECOMING THIN BEDDED WITH THIN CARBONACEOUS LAYERS IN BOTTOM HALF OF UNIT	NDAT	NOAT		
98.70	99.15	.45	COAL		DULL WITH BRIGHT (THIN VITRAIN LAYERS) BROKEN STICK (RECOVERY .35/.45 = 78%)	NDAT	NDAT 2		350

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
99.15	100.30	1.15	MUDSTONE	SLST	MEDIUM GREY, MUDSTONE, MINOR SILTSTONE, FAIRLY MASSIVE, STICK CORE, SOFT	NDAT	NDAT	
100.30	107.45	7.15	SLST	SS1	MEDIUM TO LIGHT GREY SILTSTONE WITH MINOR THIN BEDDED FINE GRAINED SANDSTONE, OCCASIONAL MUDSTONE, OCCASIONAL IRONSTONE NODULES WITH CALCITE FILLED FRACTURES, WELL DEVELOPED WAVY BEDDING THROUGHOUT, GOOD STICK CORE	80.0	101.0	
107.45	121.90	14.45	SLST		DARK GREY, MASSIVE SILTSTONE, OCCASIONAL BROWN IRONSTONE NODULES, GOOD STICK CORE	NDAT	NDAT	
121.90	-1.00	-1.00	UNKNOWN		TOTAL DEPTH	NDAT	NDAT	

CORE DESCRIPTION

HDLE.ID TW82D-259
 PROJECT TELKWA
 AREA SMITHERS
 DRIL.DATE 820916
 LOG.DATE 820921
 EXAMINED.BY D.HANDY

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	6.10	6.10	OVERBURDEN			NDAT	NDAT	
6.10	6.84	.74	MUDSTONE		MEDIUM GREY, WEATHERED, PARTIALLY TO CLAY, POORLY BEDDED	NDAT	NDAT	
6.84	7.34	.50	COAL		BRD LG DOES NOT SHOW THIS COAL WELL, DULL WITH THIN VITRAIN LAYERS, PARTIALLY DIRTY OR OXIDIZED, BROKEN STICK BUT RECOVERY LOOKS GOOD	NDAT	NDAT 6	275
7.34	7.51	.17	SHALE	CARBONACE- OUS	SPLIT	NDAT	NDAT	
7.51	7.69	.18	COAL		DULL WITH BRIGHT AS ABOVE, STICK (RECOVERY = 100%)	NDAT	NDAT 6	275
7.69	7.78	.09	SHALE	CARBONACE- OUS	SPLIT	NDAT	NDAT	
7.78	8.94	1.16	COAL		DULL WITH BRIGHT, STICK TO BROKEN STICK, HARD (RECOVERY 1.0/1.16 = 86%)	NDAT	NDAT 6	275
8.94	10.60	1.66	MUDSTDNE		MEDIUM GREY, MASSIVE BEDDED, UNIFORM UNIT	NDAT	NDAT	
10.60	11.98	1.38	SLST	MDST	MEDIUM GREY/DARK GREY, INTERBEDDED SILTSTONE/MUDSTON- E, THIN BEDDED, WELL DEVELOPED	NDAT	NDAT	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
11.98	13.12	1.14	SLST		DARK GREY, MASSIVE BEDDED, UNIFORM	NDAT	NDAT		
13.12	13.52	.40	SS1		LIGHT GREY, MASSIVE BEDDED FINE GRAINED SANDSTONE, MICACEOUS	NDAT	NOAT		
13.52	14.79	1.27	MUDSTONE	CARBONACE- OUS	DARK GREY, OVERALL MASSIVE WITH OCCASIONAL THIN CARBONACEOUS BEDS	NDAT	NDAT		
14.79	15.09	.30	LMST		LIGHT GREY, MASSIVE, EFFERVESCES STRONGLY, MINUTE BLACK CARBONACEOUS FRAGMENTS (LIMEY MUD)	NDAT	NDAT		
15.09	15.39	.30	MUDSTONE	CARBONACE- OUS	AS ABOVE	NDAT	NDAT		
15.39	15.84	.45	LMST		AS ABOVE	NDAT	NDAT		
15.84	18.67	2.83	SLST	MDST	DARK GREY/LIGHT GREY, INTERBEDDED SILTSTONE/MUDSTON- E, THIN BEDDED, SLIGHTLY WAVY	NDAT	NDAT		
18.67	22.44	3.77	COAL		DULL WITH BRIGHT 18.67-19.57 BROKEN STICK (RECOVERY 44%), 19.57-20.47 SMALL FRAGMENTS (RECOVERY 17%) 20.47-21.37 BROKEN STICK (RECOVERY 22%) 21.37-22.44 FRAGMENTS (RECOVERY 19%) (OVERALL RECOVERY = 29%)	NDAT	NDAT 5	276	
22.44	23.15	.71	MUDSTONE		MEDIUM GREY, MASSIVE BEDDED,	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SOFT, PARTIALLY WEATHERED TO CLAY			
23.15	24.50	1.35	COAL		DULL WITH BRIGHT, BROKEN STICK (RECOVERY .84/1.35 = 62%)	NDAT	NDAT 4	277
24.50	26.57	2.07	SLST		MEDIUM GREY, THIN BEDDED, MINOR FAULT GOUGE AT 25.87M	NDAT	NDAT	
26.57	44.60	18.03	SS1	MDST/SLST	LIGHT TO GREENISH GREY FINE GRAINED SANDSTONE WITH THIN INTERBEDDED DARK GREY MUDSTONE, MINOR SILTSTONE, SEVERAL BIOTURBATED ZONES AND AREAS OF CLAY WEATHERING, STICK CORE	NDAT	NDAT	
44.60	45.10	.50	COAL		HANGING WALL SHALY, GOOD STICK, DULL, MINOR BRIGHT (RECOVERY = 80%)	NDAT	NDAT 3	278
45.10	46.32	1.22	MUDSTONE		DARK GREY, PARTIALLY ALTERED TO CLAY, SOFT	NDAT	NDAT	
46.32	47.53	1.21	COAL		DULL WITH BRIGHT, STICK, VERY HARD (RECOVERY 1.07/1.21 = 88%)	NDAT	NDAT 3	279
47.53	48.13	.60	MUDSTDNE	CARBONACEOUS	DARK GREY, MASSIVE BEDDING	NDAT	NDAT	
48.13	48.50	.37	COAL		DULL WITH BRIGHT, STICK, VERY HARD (RECOVERY .22/.37 = 59%)	NDAT	NDAT 3	280
48.50	48.65	.15	MUDSTONE			NDAT	NDAT	
48.65	48.97	.32	COAL		DULL WITH BRIGHT, 1CM BENTONITE	NDAT	NDAT 3	281

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					LAYER, BROKEN STICK (RECOVERY .26/.32 = 81%)				
48.97	50.00	1.03	SLST		DARK GREY, THIN BEDDED	NDAT	NDAT		
50.00	50.43	.43	SLST	CARBONACE- OUS	LIGHT GREY, VERY HARD, EFFERVESCES WITH HCL	NDAT	NDAT		
50.43	54.49	4.06	SLST	MDST	MEDIUM GREY, MASSIVE BEDDED, SOME WEATHERED TO CLAY	NDAT	NDAT		
54.49	55.08	.59	SHALE	CARBONACE- OUS	DARK GREY, MINOR COALY SECTION	NDAT	NDAT		
55.08	55.80	.72	SHALE	COALY	BROKEN FRAGMENTS, NO SAMPLE	NDAT	NDAT		
55.80	56.75	.95	MUDSTONE		MEDIUM GREY, ALTERED MOSTLY TO CLAY, SOFT, POOR RECOVERY	NDAT	NDAT		
56.75	57.33	.58	COAL		DULL WITH BRIGHT, HANGING WALL BROKEN STICK FOR 12CM THEN POWDER FOR REMAINDER (RECOVERY .35/.58 = 60%)	NDAT	NDAT 2	282	
57.33	87.17	29.84	SLST	MDST	MEDIUM GREY WITH MINOR DARK GREY MUDSTONE LAYERS, THIN BEDDED OVERALL, GOOD STICK CORE, OCCASIONAL THIN FINE GRAINED SANDSTONE BED BECOMES MORE MASSIVE AT 67.30 TO END OF HOLE, MINOR MINUTE (<1CM) SHELL ZONE AT 83.50M	NDAT	NDAT		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
87.17	-1.00	-1.00	UNKNOWN		END OF HOLE	NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TW82D-260
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820918
 LOG DATE 820923
 EXAMINED BY R.KOSTIUK

TDP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	6.10	6.10	OVERBURDEN	GRAVEL/ROCKS/SAND	DRILLED WITH ROCK BIT, NO CORE RECOVERY, CASING SET AT 6.1M	NDAT	NDAT	
6.10	7.35	1.25	SLST	SS1/MDST/-FAULT	MEDIUM TO DARK GREY, THINLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH LIGHT GREY VERY FINE TO FINE GRAINED SANDSTONE, WAVY PARALLEL TO UNDULATED BEDDING, SLICKENSIDED, BRECCIATED	NDAT	NDAT	
7.35	9.27	1.92	LOST.CORE	FAULT ZONE	SUSPECT SAME AS ABOVE	NDAT	NDAT	
9.27	10.10	.83	SLST		SAME AS ABOVE SILTSTONE UNIT	NDAT	NDAT	
10.10	13.38	3.28	SS1	FAULT ZONE	LIGHT TO MEDIUM GREY, THIN TO MEDIUM BEDDED, INTERBEDDED WITH DARK GREY SILTSTONE AND MUDSTONE, UNDULATED BEDDING, FRACTURED AND SLICKENSIDED, BRECCIATED INTERVALS, FRIABLE, FAIR STICK	NDAT	NDAT	
13.38	13.88	.50	LOST.CORE		SUSPECT SAME AS ABOVE	NDAT	NDAT	
13.88	18.53	4.65	SS1	FAULT ZONE	LIGHT GREY, THINLY	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BEDDED, INTERBEDDED WITH DARK GREY SILTSTONE LAMINAE, UNDULATED, FRACTURED AND BRECCIATED INTERVALS. FAIR TO BROKEN STICK			
18.53	20.34	1.81	LOST CORE		SUSPECT FINE GRAINED SANDSTONE AND SILTSTONE AS ABOVE AND MUDSTONE AT BASE	NOAT	NOAT	
20.34	21.04	.70	MUDSTONE		DARK GREY, MASSIVE, CARBONACEOUS, MINOR COAL BANDS, BROKEN	NDAT	NDAT	
21.04	21.36	.32	COAL		(RECOVERED .28M) DULL AND BRIGHT BANDED, HARD, CONCHOIDAL AND CUBIC FRACTURE, BRITTLE, MINOR CALCITE ALONG CLEAT AND FRACTURE, FRACTURED AND SLICKENSIDED, GOOD STICK, SEPARATION WITH ROOF, VISUAL POOR, PHYSICAL GOOD, SEPARATION WITH FLOOR, VISUAL AND PHYSICAL QUESTIONABLE (RECOVERY 88%)	NDAT	NDAT 2	327
21.36	21.48	.12	BENTONITE		LIGHT GREY, SOFT, FRIABLE, COALY DEBRIS	NDAT	NDAT	
21.48	21.61	.13	COAL		(RECOVERED .06M) DULL, EARTHY, BROKEN	NOAT	NDAT	
21.61	21.67	.06	BENTONITE		LIGHT GREY, SOFT, FRIABLE, COALY DEBRIS	NDAT	NDAT	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
21.67	22.65	.98	LOST CORE		SUSPECT HIGH ASH COAL TOP HALF AND CLEAN COAL BOTTOM HALF	NDAT	NDAT		
22.65	24.66	2.01	COAL		(RECOVERED 2.01M) BRIGHT AND DULL BANDED. HARD. BRITTLE IN PLACES, CUBIC AND CONCHOIDAL FRACTURE, MINOR CALCITE ALONG CLEAT, MINOR HIGH ASH BANDS, TRACE PYRITE, EXCELLENT STICK, SEPARATION WITH ROOF, VISUAL AND PHYSICAL QUESTIONABLE, SEPARATION WITH FLOOR, VISUAL AND PHYSICAL GOOD *NOTE* THIS SEQUENCE HAS QUESTIONABLE INTERPRETATION DUE TO CORE LOSS AND QUALITY OF CORE AT TOP 21.04-24.66M (RECOVERY = 100%)	NDAT	NDAT 2	328	
24.66	36.15	11.49	SLST	MDST/SS1	MEDIUM GREY, THINLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH DARK GREY MUDSTONE AND LIGHT GREY VERY FINE TO FINE GRAINED SANDSTONE, WAVY PARALLEL TO WAVY DISCONTINUOUS AND UNDULATED, OCCASIONAL CROSS-BEDDED SANDSTONE, FISSILE IN PLACES, MINOR IRON STAIN, OCCASIONAL BROWN VERY HARD IRON RICH INTERVAL, MINOR CALCITE CEMENTED	78.0	AVG		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SANDSTONE, OCCASIONAL SOFT SEDIMENT DEFORMATION, MINOR BIOTURBATION, GOOD STICK			
36.15	38.70	2.55	MUDSTONE		DARK GREY, MASSIVE, MODERATELY HARD, OCCASIONAL VERY HARD CEMENTED INTERVAL (IRON RICH AND CALCAREOUS) GOOD STICK	NDAT	NDAT	
38.70	55.80	17.10	SLST		MEDIUM TO DARK GREY, MASSIVE, MODERATELY HARD, SANDY AND ARGILLACEOUS INTERVALS, OCCASIONAL VERY HARD WELL CEMENTED INTERVALS, MINOR IRON STAIN, MINOR COAL WISPS, MINOR VISIBLE PYRITE MINERAL, SHELL FOSSIL INTERVAL AT 50.6M (.15M THICK) GOOD TO EXCELLENT STICK	NDAT	NDAT	
55.80	56.35	.55	SS1		MEDIUM TO DARK GREY, VERY FINE GRAINED, MASSIVE, MODERATELY HARD, WELL CONSOLIDATED, FAIR STICK	NDAT	NDAT	
56.35	57.40	1.05	SS1		LIGHT GREY, FINE GRAINED, MASSIVE, WELL CONSOLIDATED, CALCITE CEMENT, EXCELLENT STICK	NDAT	NDAT	
57.40	93.00	35.60	SLST		MEDIUM TO DARK GREY, MASSIVE, MODERATELY HARD, FISSILE IN PLACES, SANDY AND ARGILLACEOUS	NDAT	NDAT	

		CORE		DESCRIPTION			
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM
					INTERVALS, OCCASIONAL VERY HARD WELL CEMENTED (CALCITE OR IRON RICH MINERAL) INTERVALS AND NODULES, MINOR COAL WISPS, MINOR PYRITE MINERAL, MINOR COALY PLANT DEBRIS, OCCASIONAL LONG VERTICAL FRACTURE, GOOD TO EXCELLENT STICK		
93.00	96.60	3.60	SLST	POSSIBLE FAULT ZONE	AS ABOVE WITH ABUNDANT FRACTURES, SLICKENSIDED, LONG VERTICAL FRACTURE, MINOR CALCITE ALONG FRACTURE, FAIR TO BROKEN STICK	NDAT	NDAT
96.60	100.23	3.63	SLST		AS ABOVE, GOOD TO EXCELLENT STICK	NDAT	NDAT
100.23	101.16	.93	SS1	SLST	MEDIUM GREY, FINE GRAINED, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH DARK GREY SILTSTONE LAMINAE, UNDULATED BEDDING, MINOR SOFT SEDIMENT DEFORMATION, SLIGHTLY CARBONACEOUS, MINOR IRON STAIN, OCCASIONALLY SLICKENSIDED, POLISHED, GOOD STICK	NDAT	NDAT
101.16	103.15	1.99	SS1		PALE GREEN TO LIGHT GREY, FINE GRAINED, MASSIVE, HARD, WELL CONSOLIDATED, CALCAREOUS	NDAT	NDAT

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					CEMENTED, CARBONACEOUS DEBRIS THROUGHOUT, FOSSIL SHELL DEBRIS THROUGHOUT, MINOR CALCITE VEINLETS, EXCELLENT STICK			
103.15	103.61	.46	SS1	FAULT GOUGE	DARK GREY, VERY FINE GRAINED, MASSIVE, BRECCIATED, CALCITE VEIN AT 103.55M (.06M THICK) MINOR PYRITE, FAIR STICK	NDAT	NDAT	
103.61	113.00	9.39	SS1	SLST	MEDIUM GREY, VERY FINE TO FINE GRAINED SANDSTONE, THINLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH SILTSTONE, UNDULATED BEDDING, CARBONACEOUS IN PLACES, OCCASIONALLY SLICKENSIDED, MINOR CALCITE VEINLETS, BIOTURBATED INTERVALS, ARGILLACEOUS INTERVALS, GOOD TO EXCELLENT STICK	54.0	106.3	
113.00	116.46	3.46	SS1		MEDIUM GREY, VERY FINE TO FINE GRAINED, THINLY LAMINATED TO MEDIUM BEDDED, INTERBEDDED WITH DARK GREY SILTSTONE, UNDULATED BEDDING, CARBONACEOUS, ABUNDANT BROWN VERY HARD IRON RICH BANDS AND NOOULES, FRACTURED AND SLICKENSIDED, CALCITE VEINLETS	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					(.10M THICK) AT BASE, GOOD STICK			
116.46	116.80	.34	COAL		(RECOVERED .34M) MAINLY DULL WITH MINOR BRIGHT BANDS, HARD, UPPER HALF BRITTLE, ABUNDANT CALCITE VEINLETS, MINOR PYRITE LOWER .12M, HIGHER ASH UNIT, EXCELLENT STICK, SEPARATION WITH ROOF, VISUAL EXCELLENT, PHYSICAL POOR, SEPARATION WITH FLOOR, VISUAL POOR, PHYSICAL, FAIR (RECOVERY = 100%)	NDAT	NDAT 1	329
116.80	117.02	.22	MUDSTONE	FAULTED	MEDIUM TO DARK GREY, MASSIVE, CARBONACEOUS, HIGHLY FRACTURED AND SLICKENSIDED. POLISHED, MINOR CALCITE ALONG FRACTURE, BROKEN	NDAT	NDAT	
117.02	119.46	2.44	COAL		(RECOVERED 2.41M) BRIGHT AND DULL BANDED, HARD, CUBIC AND CONCHOIDAL FRACTURED, MINOR CALCITE ALONG CLEAT, PYRITE BAND 118.48 (.05M THICK) EXCELLENT STICK, SEPARATION WITH ROOF, VISUAL AND PHYSICAL FAIR, SEPARATION WITH FLOOR, VISUAL AND PHYSICAL GOOD (RECOVERY = 99%)	NDAT	NDAT 1	330
119.46	119.90	.44	MUDSTONE		MEDIUM GREY TO BROWN, MASSIVE, CARBONACEOUS, COALY PLANT DEBRIS	NDAT	NDAT	

		CDRE	DESCRIPTION					
TOP	BASE	THICK	LITHOLDGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					THROUGHOUT, GOOD STICK			
119.90	121.01	1.11	COAL		(RECOVERED 1.11M) BRIGHT AND DULL BANDED, HARD, BRITTLE, MINOR CALCITE, EXCELLENT STICK, SEPARATION WITH ROOF, VISUAL AND PHYSICAL FAIR, SEPARATION WITH FLOOR, VISUAL POOR, PHYSICAL FAIR (RECOVERY = 100%)	NDAT	NDAT 1	331
121.01	121.11	.10	MUDSTONE	COALY	BLACK, HARD, MINOR CALCITE	NDAT	NDAT	
121.11	122.21	1.10	MUDSTONE	CARBONACE- OUS	DARK GREY, MASSIVE, MODERATELY HARD, SLICKENSIDED, FAIR STICK	NDAT	NDAT	
122.21	122.34	.13	SS1		LIGHT GREY, FINE GRAINED SANDSTONE, VERY THINLY BEDDED, WAVY PARALLEL BEDDING, SMALL SCALE FAULT, GOOD STICK	56.0	122.3	
122.34	123.69	1.35	MUDSTONE		MEDIUM GREY, MASSIVE, SLIGHTLY CARBONACEOUS, COALY FLECKS, HIGHLY FRACTURED AND SLICKENSIDED, HIGHLY POLISHED, MINOR CALCITE ALONG FRACTURE, BROKEN STICK	NDAT	NDAT	
123.69	125.95	2.26	SLST		MEDIUM GREY, MASSIVE, VERY HARD TO HARD, WELL CEMENTED, MINOR IRON STAIN, MINOR CALCITE VEINS, OCCASIONALLY SLICKENSIDED,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					EXCELLENT STICK			
125.95	126.68	.73	COAL		(RECOVERED .73M) MAINLY DULL WITH MINOR BRIGHT BANDS, HARD, MINOR CALCITE WISPS, MINOR HIGH ASH BANDS THROUGHOUT, EXCELLENT STICK, SEPARATION WITH ROOF AND FLOOR, VISUAL POOR, PHYSICAL FAIR (RECOVERY = 100%)	NDAT	NDAT	332
126.68	130.20	3.52	MUDSTONE	CARBONACE- OUS	MEDIUM TO DARK GREY, MASSIVE, MODERATELY HARD, FISSILE IN PLACES, OCCASIONALLY SLICKENSIDED, MINOR COAL BANDS, COALY PLANT DEBRIS, GOOD STICK	NDAT	NDAT	
130.20	130.30	.10	MUDSTONE	COALY	DARK GREY TO BLACK, MASSIVE, COALY PLANT DEBRIS, BROKEN	NDAT	NDAT	
130.30	130.42	.12	MUDSTONE	CARBONACE- OUS	MEDIUM GREY, MASSIVE, COALY DEBRIS, BROKEN, LOWER .16M HIGHLY FISSILE AND FRIABLE	NDAT	NDAT	
130.42	131.48	1.06	MUDSTONE	CARBONACE- OUS	MEDIUM TO DARK GREY, MASSIVE, FISSILE IN PLACES, COALY DEBRIS THROUGHOUT, FRACTURED AND SLICKENSIDED, COALY PLANT FOSSIL, GOOD STICK	NDAT	NDAT	
131.48	131.76	.28	COAL	HIGH ASH	(RECOVERED .28M) DULL, HARD, BROKEN (NOT SAMPLED)	NDAT	NDAT	
131.76	132.56	.80	MUDSTONE	TUFFACEOUS	LIGHT BROWN, MASSIVE,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					CARBONACEOUS, COALY DEBRIS THROUGHOUT, BROKEN			
132.56	136.20	3.64	MUDSTONE		DARK GREY TO BLACK, MASSIVE, CARBONACEOUS, OCCASIONALLY SLICKENSIDED. GOOD STICK	NDAT	NDAT	
136.20	154.80	18.60	MUDSTONE	VOLCANICS	LIGHT GREY TO BEIGE, MASSIVE, SANDY INTERVALS, CARBONACEOUS, FOSSIL PLANT DEBRIS, OCCASIONALLY FRACTURED AND SLICKENSIDED INTERVALS, HIGHLY POLISHED, MUDSTONE AND VOLCANIC ASH INTERMIXED, GOOD TO EXCELLENT STICK	NDAT	NDAT	
154.80	-1.00	-1.00	UNKNOWN		TOTAL DEPTH	NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TW82D-261
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820920
 LOG DATE 821006
 EXAMINED BY J.RYLEY

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	49.22	49.22	OVERBURDEN		OCCAS. SMALL PYRITIC BAND, HARD, DULL	NDAT	NDAT	
49.22	53.23	4.01	SLST		MEDIUM GREY, GOUGE, VERY SOFT, POORLY CEMENTED, OCCASIONAL SLICKENSIDES, TRACE CALCITE, FRIABLE	NDAT	NDAT	
53.23	54.08	.85	SS1		LIGHT GREEN, VERY FINE TO FINE GRAINED, TRACE PYRITE, TRACE CARBONACEOUS DEBRIS, FAIR STICK CORE, TRACE CALCITE, CRYPTOCRYSTALLINE	NDAT	NDAT	
54.08	55.16	1.08	SLST	SHALY	MEDIUM TO DARK GREY, FRIABLE, CONCHOIDAL BREAKAGE, CRYPTOCRYSTALLINE APPEARS AS GOUGE	NDAT	NDAT	
55.16	56.94	1.78	SS1	SLST	LIGHT TO MEDIUM GREY, VERY FINE GRAINED, MICRO FAULTING, BIOTURBATION, WAVY PARALLEL, THIN TO THICK LAMINAE, SILTSTONE	45.0	59.6	
56.94	62.76	5.82	SLST	SS1	MEDIUM TO DARK GREY, THIN TO THICK LAMINAE SANDSTONE VERY FINE GRAINED, MICRO FAULTING, FRIABLE, FISSILE, OCCASIONAL	35.0	61.1	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SLICKENSIDES, TRACE CALCITE WITH ONE 10CM BAND ABUNDANT CALCITE SECTION			
62.76	63.04	.28	MUDSTONE		DARK GREY, VERY SOFT, FRIABLE, POORLY CEMENTED	NDAT	NDAT	
63.04	63.16	.12	ND.DATA	CALCITE/M- DST	LIGHT CREAM TO WHITE, OCCASIONAL IMPURITIES OF MUDSTONE, VERY HARD	NDAT	NDAT	
63.16	66.37	3.21	SLST	SS1	MEDIUM TO DARK GREY, THIN TO THICK LAMINAE, VERY FINE GRAINED SANDSTONE, WAVY PARALLEL, MICRO FAULTING, FRIABLE, SWIRLS, TRACE PYRITE	NDAT	NDAT	
66.37	84.50	18.13	SS1	SILTY	MEDIUM GREY, VERY FINE GRAINED, FIRST 30CM WITH CARBONACEOUS DEBRIS AND LIGHT BROWN SANDSTONE BANDING, OCCASIONAL NODULES LIGHT BROWN SILTY SANDSTONE, FAIR STICK THROUGHOUT, OCCASIONAL VERTICAL FRACTURE PRESENT, BREAKS ALONG PLANAR SURFACE EASILY, OCCASIONAL SLICKENSIDES, INDISTINCT BEDDING	NDAT	NDAT	
84.50	109.32	24.82	SS1	SLST	MEDIUM TO DARK GREY, VERY FINE TO FINE GRAINED SANDSTONE/SILTSTO- NE INTERBEDDED THROUGHOUT, MICRO FAULTING, OCCASIONAL BANDS	NDAT	NDAT	

		CORE		DESCRIPTION			
TDP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM
					HARD LIGHT BROWN SILTY SANDSTONE, TRACE CALCITE, OCCASIONAL VERTICAL FRACTURES THROUGHOUT, OCCASIONAL SLICKENSIDES, EASILY BROKEN, POORLY CEMENTED, ONE 23CM SANDSTONE BAND WITH TRACE FOSSIL, UNIT BECOMES MORE SILTY IN LAST 2M, MINOR CROSS-BEDDING IN FIRST HALF, POSSIBLE BIOTURBATION IN LAST THIRD OF UNIT		
109.32	121.03	11.71	SLST	SS1	DARK GREY, OCCASIONAL THICK LAMINAE TO THIN BEDDED SANDSTONE, LIGHT GREY, VERY FINE GRAINED, TRACE PYRITE, TRACE CALCITE, OCCASIONAL HARD LIGHT BROWN BANDS SILTSTONE, EASILY BROKEN, TRACE FOSSIL, OCCASIONAL VERTICAL FRACTURE, GOUGE AT APPROXIMATELY 120.0M, OCCASIONAL NODULES, HARD LIGHT BROWN SILTSTONE IN LAST HALF OF UNIT, BECOMES QUITE FRIABLE IN LAST HALF	56.0	115.2
121.03	124.50	3.47	SLST	SANDY	DARK GREY, TRACE CALCITE, OCCASIONAL NODULES AND BANDS HARD LIGHT BROWN SILTSTONE, EASILY BROKEN, OCCASIONAL VUGS IN CALCITE,	NDAT	NDAT

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					TRACE PYRITE			
124.50	128.82	4.32	SLST	SS1	MEDIUM TO DARK GREY, OCCASIONAL SWIRLS HARD VERY FINE GRAINED SANDSTONE, TRACE CALCITE, TRACE PYRITE, FRIABLE IN PLACES	NDAT	NDAT	
128.82	129.65	.83	SS1		MEDIUM GREEN, VERY FINE GRAINED, TRACE CARBONACEOUS DEBRIS, CRYPTOCRYSTALLINE, TRACE CALCITE, TRACE PYRITE, HARD	NDAT	NDAT	
129.65	134.01	4.36	SLST	LC	DARK GREY TO BLACK, GOOD STICK CORE, TRACE CARBONACEOUS DEBRIS, OCCASIONAL SLICKENSIDES, CRYPTOCRYSTALLINE	NDAT	NDAT	
134.01	134.37	.36	CDAL	LC	SEMI-DULL, SLIGHTLY DIRTY, MINDR BRIGHT BANDING, SEPARATION WITH ROOF, VISUAL AND PHYSICAL FAIR, SEPARATION WITH FLOOR, VISUAL AND PHYSICAL POOR (RECOVERED 17CM - RECOVERY = 47%)	NDAT	NDAT	446
134.37	134.64	.27	SHALE	CARBONACEOUS/LC	DARK GREY, SLICKENSIDED, CARBONACEOUS DEBRIS THROUGHOUT, HARD, LOST CORE	NDAT	NDAT	
134.64	135.96	1.32	COAL	LC	BRIGHT, FAIR CLEAT, SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL FAIR (RECOVERED 45CM - RECOVERY = 34%)	NDAT	NDAT	447

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
135.96	137.51	1.55	SHALE	SILTY	MEDIUM TO DARK GREY, NUMEROUS VERTICAL FRACTURES IN LAST 70CM, OCCASIONAL SLICKENSIDES, SLIGHTLY CARBONACEOUS IN FIRST 10CM	NDAT	NDAT	
137.51	140.86	3.35	SHALE	SILTY/SS1	MEDIUM TO DARK GREY, THIN LAMINAE, FINE GRAINED SANDSTONE, TRACE PYRITE, 3 BANDS HARD LIGHT BROWN SILTSTONE, EXTENSIVE MICRO FAULTING IN PLACES CAUSING INDISTINCT BEDDING PLANES, OCCASIONAL SLICKENSIDES, TRACE CARBONACEOUS DEBRIS	NDAT	NDAT	
140.86	152.00	11.14	SLST	SS1	MEDIUM TO DARK GREY, WITH THIN TO THICK LAMINAE SANDSTONE, VERY FINE GRAINED, MICRO FAULTING, WAVY PARALLEL, CRYPTOCRYSTALLINE, TRACE CALCITE, OCCASIONAL BANDS HARD LIGHT BROWN SILTSTONE/SANDSTONE, LAST 10CM ABUNDANT FOSSIL WITH TRACE PYRITE, CALCAREOUS	51.0	141.1	
152.00	155.23	3.23	SHALE	SILTY	DARK GREY, OCCASIONAL THIN LAMINAE, VERY FINE GRAINED SANDSTONE, 3 BANDS HARD LIGHT BROWN SILTSTONE, FISSILE	65.0	152.3	
155.23	158.28	3.05	SHALE	SILTY/SS1	MEDIUM TO DARK GREY, THIN LAMINAE	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					VERY FINE GRAINED SANDSTONE, TRACE CALCITE, MICRO FAULTING, OCCASIONAL FISSILE IN PLACES, BECOMES QUITE DARK IN LAST HALF OF CORE			
158.28	160.83	2.55	COAL	LC	BRIGHT, TRACE PYRITE, FAIRLY CLEAN, SEPARATION WITH ROOF AND FLOOR QUESTIONABLE (RECOVERED 1.69M - RECOVERY = 66%)	NDAT	NDAT	448
160.83	165.36	4.53	SHALE	SILTY	DARK GREY WITH THIN LAMINAE VERY FINE GRAINED SANDSTONE, MICRO FAULTING, TRACE CARBONACEOUS DEBRIS, OCCASIONAL BANDS HARD LIGHT BROWN SILTY SHALE	47.0	161.8	
165.36	165.70	.34	COAL		SEMI-DULL, TRACE PYRITE, POOR CLEAT, SEPARATION WITH ROOF, VISUAL FAIR, PHYSICAL POOR, SEPARATION WITH FLOOR, VISUAL FAIR, PHYSICAL POOR (RECOVERED 34CM - RECOVERY = 100%)	NDAT	NDAT	449
165.70	175.35	9.65	SLST	SS1	MEDIUM TO DARK GREY, THIN LAMINAE TO THIN BEDDED, FINE TO MEDIUM GRAINED SANDSTONE, MICRO FAULTING, SLICKENSIDES, TRACE CALCITE, OCCASIONAL HARD LIGHT BROWN BANDS SANDSTONE/SILTSTONE	58.0	175.1	
175.35	176.93	1.58	SS2	SLST	LIGHT GREY TO GREEN, MEDIUM	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					GRAINED, OCCASIONAL THICK LAMINAE, DARK GREY SILTSTONE, OCCASIONAL BANDS HARD LIGHT BROWN SANDSTONE, TRACE CALCITE			
176.93	177.47	.54	SHALE	SILTY	MEDIUM TO DARK GREY, TRACE PYRITE, BADLY BROKEN TO RUBBLE, TRACE CALCITE	NDAT	NDAT	
177.47	177.85	.38	COAL	LC	0% RECOVERY, NO COAL FOUND, LOST CORE = 38CM	NDAT	NDAT	
177.85	183.93	6.08	SHALE	SILTY	DARK GREY, MICRO FAULTING, OCCASIONAL SLICKENSIDES, TRACE CALCITE, THIN TO THICK LAMINAE, VERY FINE GRAINED SANDSTONE, ONE 35CM BAND HARD LIGHT GREY TO BROWN SILTY SHALE	NDAT	NDAT	
183.93	185.53	1.60	SHALE	SILTY	DARK GREY TO BLACK WITH ONE 25CM HARD LIGHT BROWN SILTY SHALE BAND, POLISHED THROUGHOUT, ONE 7CM BAND BRIGHT COAL	NDAT	NDAT	
185.53	186.80	1.27	SHALE	SILTY	MEDIUM GREY, VERY FRIABLE, TRACE CALCITE	NDAT	NDAT	
186.80	191.61	4.81	SLST		MEDIUM GREY, FRIABLE, EASILY BROKEN IN PLACES, OCCASIONAL BANDS AND NODULES HARD LIGHT BROWN SILTSTONE, TRACE CALCITE	NDAT	NDAT	
191.61	193.78	2.17	SLST		MEDIUM GREY, VERY	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BADLY BROKEN THROUGHOUT, CALCITE FRACTURES THROUGHOUT, MODERATELY HARD			
193.78	204.78	11.00	SLST		DARK GREY, OCCASIONAL HARD BANDS LIGHT BROWN SILTSTONE, TRACE CALCITE, TRACE FOSSILS, OCCASIONAL SLICKENSIDES, EASILY BROKEN, TRACE PYRITE, TRACE CARBONACEOUS DEBRIS	NDAT	NDAT	
204.78	211.29	6.51	SS1	SLST	LIGHT TO MEDIUM GREY-GREEN, FINE GRAINED, THIN TO THICK LAMINAE SILTSTONE IN LAST HALF OF CORE, TRACE CARBONACEOUS DEBRIS, TRACE PYRITE. 2 BANDS CALCAREOUS SANDSTONE WITH ABUNDANT FOSSIL MATERIAL (20CM APPROXIMATELY) MODERATELY HARD	58.0	209.7	
211.29	221.60	10.31	SLST	SANDY/LC	MEDIUM TO DARK GREY, OCCASIONAL SLICKENSIDES, OCCASIONAL BANDS LIGHT BROWN HARD SILTSTONE, BROKEN EASILY, FRIABLE IN PLACES, MAJORITY IS POORLY CEMENTED, TRACE FOSSIL MATERIAL, TRACE CALCITE, LOST CORE = 3.56M, ACCIDENTALLY SPILLED OUT OF BOX ONTO FLOOR PREVIOUSLY (END OF CORE)	NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TW82D-262
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820919
 LOG DATE 820926
 EXAMINED BY S. CAMERON

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	50.90	50.90	OVERBURDEN			NDAT	NDAT	
50.90	67.35	16.45	SLST		GREY-BLACK COLOUR, MASSIVE, OCCASIONAL IRONSTONE CONCRETIONS AND BANOS, BECOMES MORE THINLY BEDDED NEAR BASE OF UNIT. CARBONACEOUS MATERIAL AND COALIFIED PLANT DEBRIS THROUGHOUT, OCCASIONAL CALCITE BANDS ALONG BEDDING, SOME SMALL SCALE NORMAL FAULTING AND BIOTURBATION EVIDENT NEAR BASE OF UNIT	NDAT	NDAT	
67.35	67.60	.25	SLST	COAL	INTERBEDDED GREY-BLACK SILTSTONE AND THIN IMM COALY BANDS, ALSO THIN CALCITE VEINS ALONG BEDDING PLANES	NDAT	NDAT	
67.60	69.79	2.19	COAL	CLEAN	HARD, DULL WITH BRIGHT, CALCITE VEINS ARE COMMON BOTH ALONG CLEATS AND BEDDING PLANES (RECOVERY = 95%)	NDAT	NDAT 1	333
69.79	69.81	.02	DTHR	PYRITE	2CM BAND OF SOLID PYRITE	NDAT	NDAT 1	333
69.81	71.01	1.20	COAL	CLEAN	HARD, DULL WITH BRIGHT BANDS,	NDAT	NDAT 1	333

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					OCCASIONAL THIN PYRITIC BAND (RECOVERY = 95%)				
71.01	71.06	.05	SLST	COALY	GREY-BLACK SILTSTONE WITH THIN COALY AND CARBONACEOUS (RECOVERY = 95%)	NDAT	NDAT		
71.06	72.80	1.74	COAL	CLEAN	HARD, DULL WITH BRIGHT, OCCASIONAL THIN SILTY AND/OR PYRITIC BAND (RECOVERY = 95%)	NDAT	NDAT		
72.80	72.95	.15	MUDSTONE	COALY	VERY COALY BLACK MUDSTONE	NDAT	NDAT		
72.95	74.09	1.14	MUDSTONE	CARBONACE- OUS	ABUNDANCE OF COALY BANDS AND BLEBS THROUGHOUT THE UNIT, CALCITE VEINS ALONG BEDDING PLANES	NDAT	NDAT		
74.09	74.28	.19	COAL		OCCASIONAL SILTY BANDS NEAR TOP OF UNIT, COAL IS DULL AND HARD	NDAT	NDAT	1	334
74.28	74.43	.15	SLST	CARBONACE- OUS	CARBONACEOUS SILTSTONE WITH COALY BANDS THROUGHOUT	NDAT	NDAT	1	334
74.43	75.65	1.22	COAL	CLEAN	HARD, DULL WITH BRIGHT, CALCITE FILLING FRACTURES ALONG BEDDING AND ALONG CLEATS (RECOVERY = 89%)	NDAT	NDAT	1	334
75.65	75.71	.06	MUDSTONE	CARBONACE- OUS	OCCASIONAL THIN COALY BAND (RECOVERY = 89%)	NDAT	NDAT	1	334
75.71	75.85	.14	COAL	CLEAN	HARD, DULL WITH BRIGHT, ABUNDANT CALCITE (RECOVERY = 89%)	NDAT	NDAT	1	334
75.85	76.06	.21	MUDSTONE	CARBONACE-	GREY-BLACK,	NDAT	NDAT		

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
				OUS	ABUNDANCE OF COALIFIED PLANT DEBRIS				
76.06	77.13	1.07	SS4		VERY COARSE GRAINED CONGLOMERITIC SANDSTONE FILING DOWNWARD INTO SALT AND PEPPER MEDIUM GRAINED SANDSTONE, SHARP UNCONFORMABLE CONTACTS ON BOTH TOP AND BOTTOM OF THE UNIT, SOME MINOR CARBONACEOUS SHALE BANDS WITHIN THE UNIT	NDAT	NDAT		
77.13	79.80	2.67	MUDSTONE	CARBONACE- OUS	GREY-BLACK CARBONACEOUS MUDSTONE WITH OCCASIONAL IRONSTONE BANDS AND CONCRETIONS, OCCASIONAL CALCITE FILLED FRACTURE THROUGHOUT THE UNIT, OCCASIONAL BAND OF COALY SHALE WITHIN THE UNIT	NDAT	NOAT		
79.80	80.46	.66	COAL	DIRTY	COAL IS QUITE SHALY BOTH AT THE TOP AND BOTTOM OF THE UNIT (RECOVERY = 100%)	NDAT	NDAT	335	
80.46	82.62	2.16	SS1		DARK GREY FINE GRAINED SANDSTONE, COALY BLEBS AND BANDS THROUGHOUT, OCCASIONAL CALCITE FILLED FRACTURE	NDAT	NDAT		
82.62	84.12	1.50	MUDSTONE	CARBONACE- OUS	GRADES FROM CARBONACEOUS MUDSTONE TO COALY MUDSTONE AT THE BASE OF THE UNIT, ABUNDANT 1CM COAL BANDS	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					PREDOMINANTLY NEAR THE BASE OF THE UNIT			
84.12	84.33	.21	SS3		SALT AND PEPPER COARSE GRAINED SANDSTONE GRADING DOWN INTO A FINE GRAINED SANDSTONE, ABUNDANT COAL BANDS AND BLEBS THROUGHOUT THE UNIT	NDAT	NDAT	
84.33	85.62	1.29	MUDSTONE	CARBONACE- OUS	CARBONACEOUS GREY-BLACK MUDSTONE, CONTAINS ABUNDANT COALY BANDS, OCCASIONALLY GRADES INTO COALY MUDSTONE, CALCITE THROUGHOUT	NDAT	NDAT	
85.62	89.20	3.58	TUFF		CONTAINS COALIFIED PLANT DEBRIS, FAIRLY MASSIVE, GRADES DOWN INTO A FINE GRAINED SILTY SANDSTONE, POSSIBLE REWORKING OF MATERIAL	NDAT	NDAT	
89.20	90.72	1.52	SS2	MDST/CARB	MEDIUM GRAINED SALT AND PEPPER SANDSTONE, INTERBEDDED WITH THIN BANDS OF CARBONACEOUS MUDSTONE, OCCASIONAL COALY BANDS AND BLEBS, SOME CALCITE FILLED FRACTURES	NDAT	NDAT	
90.72	100.90	10.18	MUDSTONE		GREY-BLACK MUDSTONE, SOME CARBONACEOUS MATERIAL, OCCASIONAL THIN BAND OF SALT AND PEPPER MEDIUM GRAINED SANDSTONE NEAR TOP OF UNIT,	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					OCCASIONAL THIN BAND OF FINE GRAINED GREY SANDSTONE THROUGHOUT THE UNIT, ALSO CONTAINS THE OCCASIONAL BAND OF IRONSTONE THROUGHOUT THE UNIT, ALSO SOME THIN BANDS OF TUFF THROUGHOUT THE UNIT, CALCITE FILLED FRACTURES THROUGHOUT UNIT, MANY CALCITE FILLED FRACTURES IN THE IRONSTONE BANDS				
100.90	102.96	2.06	TUFF		LIGHT GREY TO WHITE COLOUR, CARBONACEOUS MATERIAL THROUGHOUT, GRADES INTO MEDIUM GRAINED SANDSTONE AT BASE OF UNIT	NDAT	NDAT		
102.96	104.85	1.89	SS3	TUFF	TUFFACEOUS SANDSTONE BANDED WITH TUFF, ABUNDANCE OF COALIFIED PLANT DEBRIS THROUGHOUT, SOME THIN COALY AND CARBONACEOUS BANDS THROUGHOUT THE UNIT, SEVERAL SMALL SCALE NORMAL FAULTS, DISPLACEMENT UP TO 5CM, CALCITE HAS FILLED FAULT PLANES	NDAT	NDAT		
104.85	105.40	.55	MUDSTONE	CARBONACEOUS	CARBONACEOUS BLACK MUDSTONE, THIN COAL BANDS	NDAT	NDAT		
105.40	110.06	4.66	SLST	TUFF	TUFFACEOUS SILTSTONE, ABUNDANT	NDAT	NDAT		

CORE		DESCRIPTION							
TDP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					CARBONACEOUS MATERIAL THROUGHOUT, OCCASIONALLY GRADES INTO A SANDSTONE, OCCASIONAL CALCITE FILLED FRACTURES				
110.06	111.60	1.54	SS2	MDST	SALT AND PEPPER SANDSTONE WITH OCCASIONAL INTERBEDDED MUDSTONE AND COALY BAND, OCCASIONAL SLICKENSIDES ALONG BEDDING IN MUDSTONE, OCCASIONAL CALCITE FILLED FRACTURES	NDAT	NDAT		
111.60	111.72	.12	COAL	SHALY	DULL WITH BRIGHT, THIN SHALY BANDS THROUGHOUT THE UNIT	NDAT	NDAT		
111.72	113.20	1.48	MUDSTONE	TUFF	TUFFACEOUS MUDSTONE GRADING DOWN INTO A GREY-BLACK CARBONACEOUS MUDSTONE	NDAT	NDAT		
113.20	113.88	.68	TUFF		LIGHT GREY, VERY FINE GRAINED, BECOMES PORPHYRITIC NEAR BASE	NDAT	NDAT		
113.88	116.31	2.43	MUDSTONE	FAULT	BLACK CARBONACEOUS MUDSTONE, CONTAINS ABUNDANCE OF POLISHED HIGH ANGLE SLICKENSIDES, ABUNDANCE OF THIN COAL BANDS AT TOP OF UNIT	NDAT	NDAT		
116.31	116.42	.11	COAL	DIRTY		NDAT	NDAT		
116.42	125.60	9.18	SLST	TUFF	TUFFACEOUS	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SILTSTONE, MASSIVE, GRADES DOWN INTO A TUFFACEOUS CARBONACEOUS MUDSTONE, ABUNDANT COALIFIED PLANT DEBRIS, OCCASIONAL CALCITE FILLED FRACTURES			
125.60	127.43	1.83	TUFF		LIGHT GREY, ABUNDANCE OF COALIFIED PLANT DEBRIS	NDAT	NDAT	
127.43	129.70	2.27	SS4		CONGLDMERITIC SANDSTONE, BOTH VOLCANIC AND SEDIMENT PEBBLES PRESENT UP TO 1CM IN DIAMETER	NDAT	NDAT	
129.70	130.31	.61	SS1	TUFF	TUFFACEOUS FINE GRAINED SANDSTONE, ABUNDANCE OF HIGH ANGLE CALCITE FILLED FRACTURES, OCCASIONAL BAND (UP TO 5CM) OF COALY AND/OR CARBONACEOUS SHALE	NDAT	NDAT	
130.31	132.81	2.50	SS1	SS3	FINE GRAINED SALT AND PEPPER SANDSTONE, SOME INTERBEDDED CDARSE GRAINED SANDSTONE, SOME THIN BANDS OF CARBONACEOUS MATERIAL	NDAT	NDAT	
132.81	133.31	.50	CONGLOM		VOLCANIC AND SEDIMENTARY PEBBLES INCLUDES BLEBS OF COAL, OCCASIONAL CALCITE STRINGER	NDAT	NDAT	
133.31	139.29	5.98	VOLCANICS	MDST	INTERBEDDED RED WEATHERED VOLCANICS AND GREY BLACK MUDSTONE	NDAT	NDAT	

CORE DESCRIPTION

HOLE.ID TW82D-263
 PROJECT TELKWA
 AREA SMITHERS
 DRIL.DATE 820920
 LOG.DATE NO.DATA
 EXAMINED.BY

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	61.00	61.00	OVERBURDEN			NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TW82D-264
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820922
 LOG DATE 821000
 EXAMINED BY C.LANGILL

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	12.20	12.20	OVERBURDEN		TRICONE DRILLING	NDAT	NDAT	
12.20	14.30	2.10	SLST		POWDERED CORE MIXED WITH DRILLING MUD, ONE 7CM DISC OF CORE IS LIGHT GREEN-GREY AND DARK GREY LAMINAE SILTSTONE, HARD	NDAT	NDAT	
14.30	17.73	3.43	SS1	SLST	LIGHT GREEN-GREY FINE GRAINED SANDSTONE WITH ABUNDANT VERY THIN WAVY LAMINAE OF DARK GREY SILTSTONE, HARD. ANGLES VARY BUT AVERAGE 70 DEGREES, CARBONACEOUS COATING ON LAMINAE SURFACE, CORE VERY BROKEN	70.0	16.0	
17.73	17.97	.24	GOUGE		MEDIUM GREY, CLAYEY, UPPER CONTACT 29 DEGREES AZIMUTH WITH BEDDING, OCCASIONAL BANDS OF FINE GRAINED SANDSTONE/SILTSTO- NE AS ABOVE, SEMI-STICK	NDAT	NDAT	
17.97	24.47	6.50	SLST	SS1	MEDIUM GREY, MASSIVE, HARD, SLIGHTLY SANDY, VERY VAGUE DISTORTED LAMINAE AND OCCASIONAL RIP-UP CLASTS OF	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SAME, GRADES DOWN INTO SILTY FINE GRAINED SANDSTONE, VERY BROKEN, ONE CALCITE FILLED PLANAR FRACTURE			
24.47	30.76	6.29	SLST	SS1	MEDIUM GREY SILTSTONE WITH WAVY DISTORTED LAMINAE OF LIGHT GREY FINE GRAINED SANDSTONE, OCCASIONAL 5-10CM BANDS OF FINE GRAINED SANDSTONE, CORE VERY BROKEN, SOME CRUMBLED ZONES, ONE 10CM BAND OF BROWN EXTREMELY HARD SILTSTONE (IRONSTONE)	63.0	24.7	
30.76	32.14	1.38	SLST	MDST	MEDIUM GREY SILTSTONE WITH ABUNDANT VAGUE LAMINAE OF MUDSTONE, OCCASIONAL FINE GRAINED SANDSTONE LAMINAE <3CM, BECOMING MASSIVE, CLAYEY TOWARDS BOTTOM, BROKEN	60.0	30.8	
32.14	33.48	1.34	SS1	SLST	LIGHT GREY FINE GRAINED SANDSTONE AND THIN LAMINAE OF DARK GREY SILTSTONE, POWDERY CLAYEY WEATHERED SURFACE, OCCASIONAL CURVED SLICKENSIDES IN TOP 20CM	NDAT	NDAT	
33.48	34.51	1.03	MUDSTONE		DARK GREY VERY WEATHERED, CLAY POWDER SURFACE, MASSIVE, 15CM ZONE OF VERY CARBONACEOUS, CRUMBLED CORE AT	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					33.5			
34.51	35.34	.83	COAL		DULL WITH 10% BRIGHT, VITRAIN IN VERY THIN BANDS. POOR CLEATS, OCCASIONAL CALCITE, VERY HARD. BROKEN CORE IN LUMPS, CONTRAST WITH ROOF AND FLOOR VERY GOOD (RECOVERY .49/.83 = 59%)	NDAT	NDAT 2	450
35.34	36.24	.90	MUDSTONE		DARK GREY, SOFT, BROKEN, MASSIVE, OCCASIONAL CALCITE VEINS	NDAT	NDAT	
36.24	37.16	.92	COAL		DULL WITH <10% BRIGHT IN VERY THIN BANDS AT 48 DEGREES TO CORE AXIS. HARD, VERY BROKEN CORE, A 4CM BAND OF LIGHT GREY MUDSTONE NEAR TOP. CONTRAST AT ROOF AND FLOOR, VERY GOOD (RECOVERY .46/.92 = 50%)	NDAT	NDAT 2	451
37.16	38.87	1.71	MUDSTONE		DARK GREY, VERY SOFT, MASSIVE, BROKEN AT TOP 35CM, ABUNDANT SLICKENSIDES AND DISTORTED (SOFT SEDIMENT DEFDRMATION) IN MIDDLE, 11CM BAND OF BROWN, EXTREMELY HARD MUDSTONE WITH ABUNDANT VERTICAL CALCITE VEINS AT 38.0, CRUMBLED CORE	NDAT	NDAT	
38.87	39.36	.49	SLST	SS1	DARK GREY WITH OCCASIONAL THIN LAMINAE OF LIGHT GREY FINE GRAINED	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					SANDSTONE, BROKEN				
39.36	40.45	1.09	SLST	SS1	DARK GREY WITH ABUNDANT VERY THIN LAMINAE OF LIGHT GREY FINE GRAINED SANDSTONE, ABUNDANT	56.0	39.5		
40.45	40.71	.26	SS1		LIGHT GREY, WITH VERY THIN VAGUE SILTSTONE LAMINAE, HARD, SEMI-STICK	NDAT	NDAT		
40.71	42.13	1.42	SLST		DARK GREY WITH VAGUE THIN FINE GRAINED SANDSTONE LAMINAE, WAVY, RHYTHMIC, SEMI-STICK	81.0	41.6		
42.13	42.34	.21	SS1		LIGHT GREY WITH OCCASIONAL WAVY LAMINAE OF SILTSTONE, HARD, STICK, ONE HORIZONTAL THIN CALCITE VEIN	90.0	42.2		
42.34	44.29	1.95	SLST	MDST/SS1	DARK GREY, CLAYEY, OCCASIONAL THIN LAMINAE OF FINE GRAINED SANDSTONE, PLANAR, CARBONACEOUS COATINGS, MASSIVE TOWARDS BOTTOM, BROKEN	77.0	NDAT		
44.29	46.14	1.85	MUDSTDNE		DARK GREY, MASSIVE, ABUNDANT VERY HARD BROWN CONCRETIONS, IRONSTONE, BROKEN CORE, VAGUE STEEP LAMINAE OF SILTSTONE AT TOP 40 DEGREES AT 44.30, BROKEN BY SMALL SCALE FAULTING, LOWER CONTACT IS 42 DEGREES AND IS PROBABLY	NDAT	NDAT		

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	

STRUCTURAL									
46.14	48.41	2.27	SLST	MDST	DARK GREY, MASSIVE, VERY HARD, BECOMING MUDSTONE TOWARDS BOTTOM, MINOR COAL LENSES, ONE CYLINDRICAL CARBONACEOUS FOSSIL WITH 5CM DIAMETER, PYRITE AND CALCITE REPLACEMENT, POSSIBLY BRANCH OR ROOT FOSSIL	NDAT	NDAT		
48.41	48.65	.24	SS1		LIGHT GREY, MASSIVE, HARD, STICK, WITH CALCITE VEINS <3MM THICK	NDAT	NDAT		
48.65	59.87	11.22	SLST	MDST/SS1	MEDIUM GREY, CLAYEY, MASSIVE, MINOR CALCITE VEINS, ONE 20CM FINE GRAINED SANDSTONE BAND AT 50.4 AND 51.57, MINOR COAL LENSES, SEMI-STICK	NDAT	NDAT		
59.87	60.52	.65	SS2		LIGHT GREY, MASSIVE, HARD, STICK, ABRUPT LOWER CONTACT, INTERFINGERING UPPER	NDAT	NDAT		
60.52	66.00	5.48	SLST	SS1	DARK GREY, SLIGHTLY SANDY, MASSIVE, OCCASIONAL VAGUE LAMINAE, ZONE OF CALCITE VEINS <1.5CM THICK AT 63.0-63.2, GRADES TO CLAYEY SILTSTONE BELOW, BROKEN	NDAT	NDAT		
66.00	80.08	14.08	SLST	MDST	DARK GREY CLAYEY SILTSTONE,	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					MASSIVE, HARD, BROKEN TO SEMI-STICK, MINOR RIP-UP CLASTS, COAL LENSES AND IRONSTONE IN TOP 20CM, MINOR IRONSTONE BANDS <8CM, ONE FINE GRAINED SANDSTONE BAND 14CM THICK AT 72.2, OCCASIONAL CALCITE VEINS NEAR BOTTOM			
80.08	80.69	.61	MUDSTDNE		DARK GREY, SLIGHTLY SILTY, MASSIVE, POWDER CLAY, WEATHERED SURFACE, CRUMBLD	NDAT	NDAT	
80.69	93.71	13.02	SLST	MDST	DARK GREY, CLAYEY SILTSTONE, MASSIVE, HARD, BROKEN TO SEMI-STICK, ZONE OF VERTICAL CALCITE FILLED FRACTURE PLANE 84.2 TO 85.22 AND AT 92.75-93.0, UPPER IS ASSOCIATED WITH APPARENT SOFT SEDIMENT DEFORMATION	NDAT	NDAT	
93.71	99.79	6.08	SLST	GOUGE	MEDIUM GREY, MASSIVE, HARD, SEMI-STICK, UPPER CONTACT IS POSSIBLY SMALL SCALE FAULT AT 33 DEGREES TO CORE AXIS AND HAS ABUNDANT CALCITE VEINS, GOUGE ZONE IS 6MM THICK, SIMILAR GOUGE ZONE AT 96.6, OCCASIONAL CALCITE VEINS	NDAT	NDAT	
99.79	105.02	5.23	SLST	MDST	DARK GREY,	NDAT	NDAT	

		CORE DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					MASSIVE, BECOMING VERY CLAYEY TOWARDS BOTTOM, OCCASIONAL HAIRLINE CALCITE VEINS, SEMI-STICK			
105.02	105.25	.23	SS1		LIGHT GREY, MASSIVE, VERY HARD, ABRUPT UPPER AND LOWER CONTACTS	NDAT	NDAT	
105.25	108.80	3.55	MUDSTONE	SLST	DARK GREY SILTY MUDSTONE, MASSIVE, HARD, BECOMING CLAYEY SILTSTONE TOWARDS BOTTOM, SEMI-STICK, CRUMBLD AT BOTTOM 65CM	NDAT	NDAT	
108.80	110.13	1.33	MUDSTONE	SLST	DARK GREY SILTY MUDSTONE WITH VERY VAGUE LAMINAE, BECOMES SANDY SILTSTONE TOWARDS BOTTOM	90.0	109.1	
110.13	110.45	.32	SS1	SLST	SLIGHTLY GREENISH LIGHT GREY FINE GRAINED SANDSTONE WITH THIN LAMINAE OF DARK GREY SILTSTONE, BROKEN	69.0	NDAT	
110.45	110.71	.26	SS1		LIGHT GREY, MASSIVE, SUB-VERTICAL CALCITE VEINS, STICK, HARD	NDAT	NDAT	
110.71	111.70	.99	SS1		LIGHT GREEN-GREY FINE GRAINED SANDSTONE, MASSIVE IN MIDDLE, MINOR THIN CARBONACEOUS MUDSTONE LAMINAE AT TOP AND BOTTOM, RARE COAL LENSES, 1CM BAND OF CARBONACEOUS MUDSTONE AT BOTTOM, SEMI-STICK	73.0	111.0	

		CORE		DESCRIPTION				
TDP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
111.70	111.76	.06	SS1		LIGHT BROWN EXTREMELY HARD, IRONSTONE, HAIRLINE CALCITE VEINS, STICK	NDAT	NDAT	
111.76	113.41	1.65	SS1	CARBONACE- OUS	LIGHT GREENISH-GREY, MASSIVE, VAGUE MUDSTONE AND CARBONACEOUS LAMINAE, GRADES TO SILTSTONE BELOW, STICK	71.0	113.0	
113.41	114.80	1.39	SLST	MDST	MEDIUM GREENISH-GREY, MASSIVE, BECOMING CARBONACEOUS, SILTY MUDSTONE IN BOTTOM HALF, STICK	NDAT	NDAT	
114.80	115.54	.74	SS1	SLST	VERY FINE GRAINED LIGHT GREY SANDSTONE WITH MINOR CARBONACEOUS LAMINAE, BECOMING SILTSTONE TOWARDS BOTTOM, STICK	74.0	115.3	
115.54	116.57	1.03	SLST		MEDIUM GREY, SLIGHTLY SANDY, MASSIVE, 20CM IRONSTONE BAND AT 115.84, VAGUE LAMINAE NEAR BOTTOM, STICK	NDAT	NDAT	
116.57	117.07	.50	SLST	SS1	MEDIUM GREY SILTSTONE WITH WAVY DISTORTED LAMINAE OF LIGHT GREY FINE GRAINED SANDSTONE, 3CM OF IRONSTONE AT BASE, SEMI-STICK	71.0	116.8	
117.07	117.98	.91	SS1		LIGHT GREENISH-GREY, MASSIVE, WITH MINOR CARBONACEOUS LAMINAE AT BASE, SOME	75.0	117.8	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					CROSS-LAMINATION, MINOR RIP-UP CLASTS, STICK			
117.98	119.56	1.58	SLST	SS1	MEDIUM GREY SILTSTONE WITH VAGUE LAMINAE OF LIGHT GREENISH-GREY FINE GRAINED SANDSTONE, 15CM OF IRDNSTONE WITH ABUNDANT CALCITE VEINS AT 118.3 AND 119.15, BROKEN TO CRUMBLD	NDAT	NDAT	
119.56	122.67	3.11	MUDSTONE		DARK GREY, SLIGHTLY SILTY, MASSIVE, BECOMING CLAYEY SILTSTONE TOWARDS BOTTOM, CRUMBLD TO BROKEN	NDAT	NDAT	
122.67	123.07	.40	SS1	SLST	LIGHT GREY, VERY FINE GRAINED SANDSTONE, MASSIVE, HARD 12CM OF IRONSTONE WITH CALCITE VEINS AT TOP, GRADES TO SILTSTONE BELOW, STICK	NDAT	NDAT	
123.07	123.36	.29	SLST	MDST	MEDIUM GREY, MASSIVE, BECOMING SILTY MUDSTONE AT BOTTOM, STICK	NDAT	NDAT	
123.36	123.47	.11	SS1		LIGHT GREENISH-GREY, MASSIVE, HARD, STICK	NDAT	NDAT	
123.47	124.70	1.23	SLST		MEDIUM GREY, ABUNDANT THIN VAGUE LAMINAE OF FINE GRAINED SANDSTONE, HARD, STICK	NDAT	NDAT	
124.70	127.10	2.40	SLST	MDST	DARK GREY, CLAYEY, MASSIVE, BECOMING SANDY TOWARDS BOTTOM, HARD,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					STICK, CALCAREOUS FOSSIL FRAGMENTS WITH CARBONACEOUS MARGIN AT 125.16 TO 125.48			
127.10	127.44	.34	SS2	MDST	MEDIUM GREY SANDSTONE WITH ABUNDANT CARBONACEOUS FRAGMENTS, POORLY SORTED, CLAYEY, GRADATIONAL UPPER AND LOWER CONTACTS	NDAT	NDAT	
127.44	127.96	.52	SLST		MEDIUM GREY, SLIGHTLY SANDY, MASSIVE, MINOR COAL LENSE, STICK	NDAT	NDAT	
127.96	129.67	1.71	SLST		DARK GREY, CLAYEY, MASSIVE, STICK, VAGUE LAMINAE AND CROSS-LAMINATION IN BOTTOM 60CM	63.0	169.5	
129.67	130.39	.72	SS1		MEDIUM GREY, CARBONACEOUS, MASSIVE, CARBONACEOUS LAMINAE AT BOTTOM 10CM, STICK	70.0	NDAT	
130.39	131.59	1.20	SLST		MEDIUM GREY, CLAYEY AT TOP, GRADES TO SANDSTONE BELOW, MASSIVE, STICK	NDAT	NDAT	
131.59	135.02	3.43	SS1		LIGHT GREENISH-GREY SANDSTONE WITH ABUNDANT CARBONACEOUS FRAGMENTS AND MINOR VAGUE CARBONACEOUS LAMINAE, HARD, STICK	66.0	134.0	
135.02	135.70	.68	SS1	MDST	LIGHT GREENISH-GREY WITH ABUNDANT CARBONACEOUS	70.0	135.5	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					MUDSTONE, THIN PLANAR LAMINAE, STICK, HARD			
135.70	139.30	3.60	SS1	SS2	LIGHT GREY, MASSIVE, OCCASIONAL VAGUE CARBONACEOUS LAMINAE, MINOR COAL LENSES AT TOP 50CM, GRADES TO MEDIUM GRAINED SANDSTONE IN MIDDLE, MINOR THIN IRONSTONE BANDS <5CM, GRADES TO SILTY SANDSTONE BELOW	71.0	136.5	
139.30	141.09	1.79	SS1	SLST	LIGHT GREY WITH ABUNDANT THIN WAVY CARBONACEOUS LAMINAE, GRADES TO SANDY SILTSTONE BELOW, STICK	NDAT	NDAT	
141.09	141.43	.34	SLST	SS1	MEDIUM GREY, SANDY SILTSTONE, MASSIVE, STICK CORE	NDAT	NDAT	
141.43	146.92	5.49	SS1	SLST	MEDIUM GREY SILTY SANDSTONE, MASSIVE, STICK, OCCASIONAL CALCITE FOSSIL FRAGMENTS, MINOR CARBONACEOUS LAMINAE	NDAT	NDAT	
146.92	152.69	5.77	SLST	MDST	MEDIUM GREY, CLAYEY SILTSTONE, MASSIVE, MINOR CALCITE VEINS, MINOR COAL LENSES, STICK, GRADES TO MUDSTONE BELOW	NDAT	NDAT	
152.69	154.81	2.12	MUDSTONE	SLST	BLACK, SLIGHTLY SILTY CARBONACEOUS MUDSTONE, MASSIVE, STICK, MINOR CONCRETIONS OF HARD CEMENT, DARK GREY <3CM, ONE	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					10CM IRONSTONE BAND SURROUNDS 3CM BAND OF CALCITE AND CARBONACEOUS FOSSIL FRAGMENTS			
154.81	155.41	.60	SLST	MDST/FOSS- ILS	DARK GREY CLAYEY SILTSTONE WITH ABUNDANT CALCAREOUS FOSSIL FRAGMENTS, POSSIBLY BIVALVE SHELLS AND (CALCAREOUS) LINED WORM BURROWS WHICH HAVE UNDERGONE FURTHER BIOTURBATION OR EVEN SOFT SEDIMENT DEFORMATION, MASSIVE, SEMI-STICK, TRACES OF PYRITE ON CALCITE SURFACES	NDAT	NDAT	
155.41	156.60	1.19	SLST	MDST	BLACK, CLAYEY SILTSTONE, MASSIVE 5CM IRONSTONE CONCRETION WITH CALCITE VEIN, MINOR CALCITE VEINS, ONE 10CM BAND OF CALCITE MOTTLING AT 156.2, VAGUE LAMINAE NEAR BOTTOM, STICK	80.0	156.4	
156.60	161.00	4.40	VOLCANICS	INTRUSIVE	INTRUSIVE, MAFIC APHANITIC, LIGHT GREY ON FRESH SURFACE, EXTREMELY CALCAREOUS, ABUNDANT CALCITE AMYGDULES, CALCITE VEINS AND PURE WHITE CALCITE BANDS <4CM THICK, CRYSTAL FACES IN THESE BANDS ARE UP TO 2CM THICK, UPPER CONTACT OF UNIT IS ABRUPT, LOWER CONTACT IS ABRUPT AND SHOWS	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					70 DEGREES TO AXIS 3MM BURNT MARGIN ON MUDSTONE, UPPER AND LOWER HALF METER OF UNIT ARE FINER GRAINED AND HAVE NO THICK CALCITE BANDS OR AMYGDULES			
161.00	161.63	.63	MUDSTONE	SLST	CARBONACEOUS MUDSTONE GRADING DOWN TO CLAYEY SILTSTONE, CARBONACEOUS, MASSIVE. STICK	NDAT	NDAT	
161.63	164.35	2.72	SS1		LIGHT GREY, SILTY AND CARBONACEOUS AT TOP 10CM, MASSIVE, OCCASIONAL VAGUE CLAYSTONE LAMINAE ARE VERY DISTORTED, POSSIBLY SOFT SEDIMENT DEFORMATION	NDAT	NDAT	
164.35	165.10	.75	SS1	SLST/FAULT	LIGHT GREY FINE GRAINED SANDSTONE WITH ABUNDANT THIN WAVY SILTSTONE LAMINAE, DISTORTED BY FAULT AT 17 DEGREES IN MIDDLE, FAULT PLANE HAS THIN CALCITE COAT, BROKEN	63.0	165.1	
165.10	168.79	3.69	SS1		LIGHT GREENISH-GREY, MASSIVE, MINOR SILTSTONE LAMINAE, RARE IRONSTONE CONCRETIONS AND BANDS <4CM, OCCASIONAL CALCITE VEINS. STICK	65.0	166.0	
168.79	170.03	1.24	MUDSTONE	SLST	DARK GREY TO BLACK AND DARK BRDWN LAMINAE OF SILTY MUDSTONE, LAMINAE	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					ARE WAVY AND VERY DISTORTED NEAR VERTICAL 20 DEGREES TO CORE AXIS, POSSIBLE SOFT SEDIMENT DEFORMATION, CALCITE VEINS NEAR BOTTOM, SEMI-STICK, VERY SOFT, OCCASIONAL HARD IRONSTONE			
170.03	174.01	3.98	SS1	SLST	SILTY MEDIUM GREY SANDSTONE WITH VAGUE DISTORTED LAMINAE OF DARK GREY SILTSTONE, POSSIBLE 3CM THICK 22 DEGREES, ZONE OF GOUGE AT 171.8, ABUNDANT CALCITE VEINS AT TOP OF UNIT, BROKEN TO CRUMBLLED	NDAT	NDAT	
174.01	182.00	7.99	SS1	SLST	MEDIUM GREY SANDSTONE AND DARK GREY SILTSTONE LAMINAE, WAVY TO PLANAR, OCCASIONAL IRONSTONE WITH CALCITE VEINS, LAMINAE BECOMES MORE DISTINCT AND MORE PLANAR IN BOTTOM 3M, SMALL SCALE FAULTS DISRUPT LAMINAE, BROKEN WITH CRUMBLLED ZONES	68.0	181.5	
182.00	182.78	.78	SLST	SS1	MEDIUM GREY, SLIGHTLY SANDY SILTSTONE, MASSIVE, MINDR IRONSTONE BANDS, STICK	NDAT	NDAT	
182.78	184.18	1.40	SS2		LIGHT GREY, OCCASIONAL VAGUE SILTSTONE LAMINAE, MASSIVE, HARD STICK, OCCASIONAL	NDAT	NDAT	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					IRONSTONE CONCRETION <3CM				
184.18	184.98	.80	SS1		MEDIUM GREENISH-GREY, CARBONACEOUS FRAGMENTS, MASSIVE, BECOMING CARBONACEOUS SILTSTONE TOWARDS BOTTOM	NDAT	NDAT		
184.98	185.12	.14	SLST		DARK GREY, CARBONACEOUS, MASSIVE, SEMI-STICK	NOAT	NDAT		
185.12	185.32	.20	COAL		DULL WITH 30% BRIGHT, HARD, ABUNDANT CURVED SLICKENSIDES, CONTRAST AT ROOF VERY GOOD (RECOVERY .13/.20 = 65%)	NDAT	NDAT 1		452
185.32	185.40	.08	MUDSTONE		DARK GREY, ABUNDANT SLICKENSIDES, SOFT	NDAT	NDAT 1		452
185.40	185.71	.31	COAL		CRUMBLD TO POWDER, DULL AND BRIGHT (RECOVERY .19/.31 = 62%)	NDAT	NDAT 1		452
185.71	185.93	.22	COAL		BRIGHT, GOOD CLEATS, HARD, SEMI-STICK (RECOVERY = 100%)	NDAT	NDAT 1		452
185.93	186.00	.07	MUDSTONE		CARBONACEOUS, HARD, SLICKENSIDES, CRUMBLD (RECOVERY = 100%)	NDAT	NDAT 1		452
186.00	186.75	.75	COAL		POWDER, DULL WITH MINOR BRIGHT, 1CM THICK CHUNK OF WHITE (CLINKER) BUBBLE FILLED BURNT APPEARANCE (RECOVERY .32/.75 = 43%)	NDAT	NDAT 1		452

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
186.75	187.25	.50	COAL		DULL WITH 20% BRIGHT, SEMI-STICK, CLEAN, BECOMING CLAYEY AND SLICKENSIDED IN BOTTOM 20CM (RECOVERY = 100%)	NDAT	NDAT 1	452
187.25	187.36	.11	MUDSTONE		MEDIUM GREY, MASSIVE, HARD, GOOD VISUAL AND PHYSICAL CONTRAST	NDAT	NDAT 1	453
187.36	187.54	.18	MUDSTONE		DARK GREY, MASSIVE, SLICKENSIDES, EASILY BROKEN, CARBONACEOUS (RECOVERY .09/.18 = 50%)	NDAT	NDAT 1	453
187.54	187.82	.28	COAL		DULL WITH BRIGHT, CRUMBLED TO BROKEN, CONTRAST AT FLOOR GOOD, AT ROOF POOR, VISUAL AND PHYSICAL (RECOVERY .21/.28 = 75%)	NDAT	NDAT 1	454
187.82	189.48	1.66	MUDSTONE		MEDIUM GREY, MASSIVE, HARD, SLIGHTLY SILTY, STICK	NDAT	NDAT	
189.48	189.70	.22	MUDSTONE	IRONSTONE	MEDIUM BROWN-GREY, MASSIVE, EXTREMELY HARD, ABUNDANT THICK CALCITE VEINS	NDAT	NDAT	
189.70	191.65	1.95	MUDSTONE		MEDIUM GREY, MASSIVE, HARD, OCCASIONAL IRONSTONE CONCRETIONS, SEMI-STICK TO BROKEN, MINOR SLICKENSIDE IN MIDDLE	NDAT	NDAT	
191.65	191.98	.33	SS1		LIGHT GREY, OCCASIONAL SILTY	79.0	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					LAMINAE, STICK			
191.98	192.41	.43	MUDSTONE		DARK GREY, MASSIVE, STICK	NDAT	NDAT	
192.41	192.46	.05	MUDSTONE		CARBONACEOUS, BLACK, HARD	NDAT	NOAT	455
192.46	192.51	.05	COAL		CLEAN, DULL WITH 40% BRIGHT, CONTRAST WITH ROOF, PHYSICAL GOOD, VISUAL POOR	NDAT	NDAT	455
192.51	192.55	.04	SLST		LIGHT BROWN TO GREY, CARBDNACEOUS FRAGMENTS, HARD	NDAT	NDAT	455
192.55	193.06	.51	COAL		DULL WITH 20% BRIGHT, HARD, SEMI-STICK (RECOVERY .39/.51 = 76%)	NDAT	NDAT	455
193.06	193.12	.06	SLST		MEDIUM GREY, LAMINAE, HARD, STICK	NDAT	NDAT	455
193.12	193.38	.26	COAL		DULL WITH 30% BRIGHT, HARD, STICK, CONTRAST AT FLOOR, VISUAL POOR, PHYSICAL GOOD (RECOVERY .24/.26 = 92%) (TOTAL SEAM RECOVERY, SAMPLE 455 IS 86%)	NDAT	NDAT	455
193.38	195.01	1.63	MUDSTONE		BLACK, MASSIVE, HARD, OCCASIONAL COAL LENSES, RARE CALCITE VEINS	NDAT	NDAT	
195.01	195.73	.72	SLST	TUFFACEOUS	MEDIUM BROWN-GREY, ABUNDANT CARBONACEOUS FRAGMENTS, MICRO CRYSTALLINE APPEARANCE, GRADES TO SANDSTONE BELOW, SEMI-STICK	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
195.73	196.35	.62	SS1		VERY FINE GRAINED, LIGHT GREY, MASSIVE, OCCASIONAL CALCITE VEINS, HARD, IRONSTONE WITH THICK CALCITE VEINS AT BOTTOM 15CM, STICK	NDAT	NDAT	
196.35	197.78	1.43	SLST		MEDIUM GREY, CLAYEY, MASSIVE, SEMI-STICK, GRADES TO MUDSTONE BELOW	NDAT	NDAT	
197.78	198.22	.44	MUDSTONE		DARK GREY, MASSIVE, HARD, MINOR COAL LENSES, SEMI-STICK	NDAT	NDAT	
198.22	198.30	.08	COAL		DULL WITH BRIGHT, HARD	NDAT	NDAT	
198.30	198.96	.66	MUDSTONE		AS ABOVE, INTERFINGERS AT LOWER CONTACT	NDAT	NDAT	
198.96	200.20	1.24	SS1		LIGHT GREY, ABUNDANT VAGUE SILTSTONE LAMINAE, THICK CALCITE VEINS	58.0	200.0	

CORE DESCRIPTION

HOLE ID TW82D-265
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820922
 LOG DATE 821007
 EXAMINED BY R.KOSTIUK

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	16.40	16.40	OVERBURDEN	GRAVEL/SAND/BOULDE- RS	DRILLED WITH ROCK BIT, NO CORE RECOVERY, CASING SHOE AT 16.45M	NDAT	NDAT	
16.40	17.00	.60	OVERBURDEN		LOOSE RUBBLE	NDAT	NDAT	
17.00	19.10	2.10	MUDSTONE	POSSIBLY FAULTED	MEDIUM TO DARK GREY, MASSIVE, SILTY, FRACTURED AND SLICKENSIDED, BECOMING SANDY NEAR BASE, FAIR STICK	NDAT	NDAT	
19.10	20.77	1.67	SS1	ARGILLACE- OUS	DARK GREY, GREEN WEATHERED, FINE GRAINED, MASSIVE, FRACTURED AND SLICKENSIDED, MINDR POLISH, MINOR CARBONACEOUS DEBRIS, GOOD STICK	30.0	20.8	
20.77	21.77	1.00	SS1	ARGILLACE- OUS	AS ABOVE, BRECCIATED ZONE	15.0	21.8	
21.77	23.40	1.63	MUDSTONE	FAULT ZONE	(RECOVERY 33%) DARK GREY, MASSIVE, OCCASIDNAL BROWN VERY HARD IRDN RICH INTERVALS, IN MOST PART THIS INTERVAL IS BROKEN TO RUBBLE	NDAT	NDAT	
23.40	26.20	2.80	MUDSTONE	FAULT ZONE	(RECDVERY 14%) AS ABOVE, SLICKENSIDED	NDAT	NDAT	
26.20	29.30	3.10	MUDSTONE	FAULT ZONE	(RECOVERY 61%) AS ABOVE, FRACTURED	NDAT	NDAT	

		CORE		DESCRIPTION				
TDP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					AND SLICKENSIDED, BRECCIATED INTERVALS, BROKEN			
29.30	37.80	8.50	MUDSTONE	FAULT ZDNE	(RECOVERY 62%) MEDIUM GREY, THIN TO MEDIUM BEDDED, INTERBEDDED WITH LIGHT GREY SILTSTONE AND MINOR FINE GRAINED SANDSTONE, EVEN PARALLEL BEDDING, OCCASIONAL VERY HARD IRON RICH BANDS, FRACTURED AND SLICKENSIDED, MINOR POLISH SURFACES, FAIR STICK	53.0	NDAT	
37.80	41.40	3.60	SLST	MDST/SS1	(RECOVERY 78%) LIGHT TO MEDIUM GREY, THIN TO MEDIUM BEDDED, INTERBEDDED WITH LIGHT GREY FINE GRAINED SANDSTONE AND MUDSTONE, EVEN PARALLEL TO UNDULATED BEDDING, OCCASIONAL CROSS-BEDDED SANDSTONE, FRACTURED AND SLICKENSIDED, OCCASIONAL BRDWN VERY HARD IRON RICH BANDS, FAULT GOUGE EVIDENT, FOLD AT APPROXIMATELY 40.2, RUBBLE TO FAIR STICK	NDAT	NDAT	
41.40	48.70	7.30	SLST	MDST/SS1	(RECOVERY 88%) LIGHT TO MEDIUM GREY, THIN TO MEDIUM BEDDED, INTERBEDDED WITH DARK GREY MUDSTONE AND LIGHT GREY FINE GRAINED SANDSTONE, WAVY	66.0	44.1	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					PARALLEL BEDDING, OCCASIONAL CROSS-BEDDED SANDSTONE, MINOR SOFT SEDIMENT DEFORMATION, OCCASIONAL BROWN VERY HARD IRDN RICH BANDS, OCCASIONAL RUBBLE INTERVALS, FRACTURED AND SLICKENSIDED, FAIR TO GOOD STICK			
48.70	51.60	2.90	SS1	SLST	(RECOVERED 2.14M) LIGHT GREY, FINE GRAINED, THINLY BEDDED, INTERBEDDED WITH DARK GREY SILTSTONE, WAVY PARALLEL BEDDING, OCCASIONAL BROWN VERY HARD IRONSTONE BANDS AND CLASTS, THIS UNIT IS MICRO FAULTED THROUGHOUT, RUBBLE TO BROKEN STICK (RECOVERY = 74%)	NDAT	NOAT	
51.60	52.90	1.30	SS2		LIGHT GREY, MEDIUM GRAINED, MASSIVE WITH OCCASIONAL DARK GREY MUDSTONE CLASTS, WELL CONSOLIDATED, MINOR CALCITE VEINS, CALCITE CEMENTED, FAIR STICK	NDAT	NDAT	
52.90	57.34	4.44	SLST	MDST	MEDIUM TO DARK GREY, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH DARK GREY MUDSTONE AND MINDR VERY FINE TO FINE GRAINED SANDSTONE, 50% SILTSTONE, 45%	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					MUDSTONE, WAVY PARALLEL TO UNDULATED BEDDING, MICRO FAULTING THROUGHOUT, OCCASIONAL BROWN VERY HARD IRON RICH NODULES AND BANDS, FRACTURED AND SLICKENSIDED SURFACES, GOOD STICK				
57.34	59.00	1.66	SLST	MDST	AS ABOVE WITH UNDULATED BEDDING, BRECCIATED, BEDDING IS 30 DEGREES AT TOP AND 0 DEGREES AT BASE, GOOD STICK	NDAT	NDAT		
59.00	59.76	.76	LOST CORE		SUSPECT AS ABOVE, COAL BAND, AND FINE GRAINED SANDSTONE	NDAT	NDAT		
59.76	60.56	.80	SS1	SLST	LIGHT GREY, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH SILTSTONE, CONVOLUTED BEDDING, MICRO FAULTED, LOWER .30 BECOMING CARBONACEOUS AND GRADING FINER, GOOD STICK	NDAT	NDAT		
60.56	60.76	.20	COAL	HIGH ASH	(RECOVERED .05M) BRIGHT, BRITTLE, RUBBLE, NOT SAMPLED (RECOVERY 25%)	NDAT	NDAT		
60.76	60.93	.17	MUDSTDNE		MEDIUM GREY, MASSIVE, SLIGHTLY SILTY, BRECCIATED, SLIGHTLY CARBONACEOUS	NDAT	NDAT		
60.93	61.60	.67	COAL	DIRTY	(RECDVERED .46M) DULL WITH MINOR BRIGHT BANDS,	NDAT	NDAT		437

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					HARD, BRITTLE, MINOR CALCITE ALONG CLEAT, FRACTURED AND SLICKENSIDED, POLISHED SURFACE, HIGH ASH BAND AT 61.16M (.12M THICK) SEPARATION WITH ROOF, VISUAL AND PHYSICAL GOOD; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL POOR (RECOVERY = 69%)			
61.60	61.90	.30	MUOSTONE	CARBONACE- OUS	DARK GREY TO BLACK, MASSIVE, BRECCIATED, COALY DEBRIS, FRACTURED AND SLICKENSIDED	30.0	61.9	
61.90	62.21	.31	MUDSTONE		BEIGE, MASSIVE, HARD, UPPER HALF BRECCIATED, MINOR COALY DEBRIS, FRACTURED AND SLICKENSIDED, UPPER HALF POSSIBLE FAULT GOUGE, GOOD STICK	NDAT	NDAT	
62.21	63.09	.88	MUOSTONE	CARBONACE- OUS	DARK GREY TO BLACK, MASSIVE, FRACTURED AND SLICKENSIDED, BROKEN (RECOVERY = 50%)	NDAT	NDAT	
63.09	63.35	.26	COAL	DIRTY	(RECOVERED .26M) DULL WITH MINOR BRIGHT BANDS, HARD, BRITTLE, MINOR CALCITE ALONG CLEAT, BROKEN; SEPARATION WITH ROOF, VISUAL AND PHYSICAL POOR; SEPARATION WITH FLOOR, VISUAL GOOD, PHYSICAL FAIR (RECOVERY = 100%)	NDAT	NDAT	438

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
63.35	63.84	.49	MUDSTONE		MEDIUM GREY, MASSIVE, SLIGHTLY CARBONACEOUS, SILTY, MINOR VERY FINE GRAINED SANDSTONE LAMINAE, BROKEN	NDAT	NDAT	
63.84	64.10	.26	COAL	DIRTY	(RECOVERY .08M) DULL WITH MINOR BRIGHT BANDS, HARD, BRITTLE, BROKEN; SEPARATION IS QUESTIONABLE DUE TO BREAKAGE, NOT SAMPLED (RECOVERY = 33%)	NDAT	NDAT	
64.10	64.80	.70	MUDSTONE	CARBONACE- OUS	DARK GREY, MASSIVE, FRACTURED AND SLICKENSIDED, POLISHED TALC DN FRACTURE SURFACE, BROKEN	NDAT	NDAT	
64.80	65.30	.50	COAL	HIGH ASH	BRIGHT, CALCITE VEINLETS THROUGHOUT, MINOR CALCITE ALONG CLEAT, GOOD STICK (NOT SAMPLED)	NDAT	NDAT	
65.30	65.50	.20	SS1		LIGHT GREY, VERY FINE TO FINE GRAINED, THINLY BEDDED, INTERBEDDED WITH SILTSTONE, CONVOLUTED BEDDING, TOP 10CM FAULT GOUGE	NDAT	NDAT	
65.50	66.13	.63	MUDSTONE	SLST	DARK GREY, THIN TO MEDIUM BEDDED, INTERBEDDED WITH SILTSTONE, UNDULATED BEDDING, MINOR CDAL CLASTS, GOOD STICK	NDAT	NDAT	
66.13	66.28	.15	COAL		DULL, MINOR CALCITE AND PYRITE ALONG CLEAT, HARD,	25.0	66.0	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					GOOD STICK (NOT SAMPLED)				
66.28	67.00	.72	SS1	SLST	LIGHT TO MEDIUM GREY, FINE GRAINED, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH SILTSTONE AND MINOR CARBONACEOUS MUDSTONE, CONVOLUTED BEDDING, FRACTURED AND SLICKENSIDED WITH POLISHED SURFACE, GOOD STICK	NDAT	NDAT		
67.00	67.98	.98	SS2	SS1	LIGHT GREY, MEDIUM GRAINED SANDSTONE, MEDIUM BEDDED, INTERBEDDED WITH DARK GREY MUDSTONE LAMINAE AND MUDSTONE CLASTS. UNDULATED BEDDING, LONG CURVED VERTICAL FRACTURE, SLICKENSIDED AND POLISHED, GOOD STICK	NDAT	NDAT		
67.98	68.10	.12	COAL		(RECOVERED .10M) DULL, HARD, MINOR CALCITE ALONG CLEAT, CUBIC FRACTURE, BROKEN (NOT SAMPLED)	NOAT	NDAT		
68.10	71.60	3.50	SLST	SS1	MEDIUM GREY, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH LIGHT GREY VERY FINE GRAINED SANDSTONE, WAVY PARALLEL TO DISCONTINUOUS BEDDING, SOFT SEDIMENT DEFORMATION, MICRO FAULTED, SLUMPING	55.0	AVG		

CORE		DESCRIPTION							
TDP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					EVIDENT, OCCASIONAL VERY HARD IRON RICH INTERVAL, OCCASIONAL LONG CURVED VERTICAL FRACTURE, LOWER .60M HAS UNDULATED BEDDING AT 0 TO 10 DEGREES				
71.60	72.14	.54	SS1	MDST	LIGHT GREY, VERY THINLY TO MASSIVE BEDDING, INTERBEDDED WITH DARK GREY MUDSTONE AND BROWN IRONSTONE CLASTS, CONVOLUTED BEDDING, MINOR IRON STAIN, GOOD STICK	NDAT	NDAT		
72.14	76.11	3.97	SLST		MEDIUM GREY, MASSIVE, MODERATELY HARD, OCCASIONAL BROWN VERY HARD IRON RICH BAND AND NODULES, EXCELLENT STICK	NDAT	NDAT		
76.11	76.62	.51	SLST		AS ABOVE, WITH CALCITE CEMENT	NDAT	NDAT		
76.62	88.35	11.73	SS1	SLST	LIGHT GREY, VERY THINLY TO MEDIUM BEDDED, INTERBEDDED WITH SILTSTONE AND DARK GREY MUDSTONE, NEAR VERTICAL CONVOLUTED BEDDING, CUT BY SMALL SCALE FAULTING, OCCASIONAL BROWN VERY HARD IRON RICH NODULE OR LAYER, ABUNDANT CALCITE VEINS AND CLASTS, OCCASIONAL COALY/CARBONACEOU-	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLDGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					S. MUDSTONE INTERCALATED, GOOD STICK			
88.35	90.00	1.65	SLST	SS1	MEDIUM GREY, THINLY LAMINATED TO MEDIUM BEDDED, INTERBEDDED WITH LIGHT GREY FINE GRAINED SANDSTONE, NEAR VERTICAL CONVOLUTED BEDDING, HIGHLY FRACTURED, SLICKENSIDED, FAIR STICK	NDAT	NDAT	
90.00	90.73	.73	CLST		BROWN, MASSIVE, HARD, EXCELLENT STICK	52.0	NDAT	
90.73	90.99	.26	SLST		MEDIUM GREY, THINLY LAMINATED, INTERBEDDED WITH VERY FINE GRAINED SANDSTONE AND COAL CLASTS, UNDULATED BEDDING, MINOR IRONSTONE CLASTS, WELL CONSOLIDATED STICK	NDAT	NDAT	
90.99	91.62	.63	SS1	SS2/SLST	LIGHT GREY, FINE TO MEDIUM GRAINED, THINLY BEDDED, INTERBEDDED WITH IRONSTONE AND MUDSTONE CLASTS, NEAR VERTICAL UNDULATED BEDDING, FINES TOWARDS BASE, GOOD STICK	NDAT	NDAT	
91.62	93.38	1.76	SLST	SS1	MEDIUM GREY, MEDIUM BEDDED, INTERBEDDED WITH LIGHT GREY VERY FINE TO FINE GRAINED SANDSTONE, NEAR VERTICAL CONVOLUTED BEDDING, LONG VERTICAL FRACTURES, FINES	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					TOWARDS BASE, OCCASIONAL COAL CLAST WITH PREDOMINANTLY CALCITE INFILL FRACTURES, BROKEN STICK			
93.38	93.56	.18	SS1	SLST	LIGHT GREY, FINE GRAINED, THINLY BEDDED, INTERBEDDED WITH DARK GREY SILTSTONE, WAVY CONTORTED BEDDING, NEAR VERTICAL, WELL CONSOLIDATED	NDAT	NDAT	
93.56	93.89	.33	MUDSTONE		MEDIUM GREY, MASSIVE, FRACTURED AND SLICKENSIDED, GOOD STICK	NDAT	NDAT	
93.89	94.00	.11	SS1		AS FINE GRAINED SANDSTONE UNIT ABOVE	NDAT	NDAT	
94.00	94.11	.11	MUDSTONE		AS MUDSTONE UNIT ABOVE	NDAT	NDAT	
94.11	94.28	.17	SS1		AS FINE GRAINED SANDSTONE UNIT ABOVE	NDAT	NDAT	
94.28	94.57	.29	LOST CORE		SUSPECT SAME AS ABOVE	NDAT	NDAT	
94.57	95.04	.47	COAL		(RECOVERED .26M) DULL, HARD, MINOR CALCITE VEINLETS, BROKEN (HIGH ASH INTERVAL AT 94.76), SEPARATION WITH ROOF, VISUAL AND PHYSICAL QUESTIONABLE; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL GOOD (RECOVERY = 55%)	NDAT	NDAT	439
95.04	96.85	1.81	SLST	SS1	MEDIUM GREY,	NDAT	NDAT	

CORE		DESCRIPTION						
TDP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					THINLY LAMINATED, INTERBEDDED WITH LIGHT GREY VERY FINE TO FINE GRAINED SANDSTONE, NEAR VERTICAL UNDULATED BEDDING, OCCASIONALLY SLICKENSIDED. FRACTURED, GOOD STICK			
96.85	97.37	.52	CDAL		(RECOVERED .22M) DULL WITH MINOR BRIGHT BANDS, HARD, MINOR CALCITE ALONG CLEAT AND FRACTURE, CUBIC AND CONCHOIDAL FRACTURE, GOOD STICK CORE; SEPARATION WITH ROOF, VISUAL AND PHYSICAL FAIR; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL QUESTIONABLE (RECOVERY = 42%) (NOT SAMPLED)	NDAT	NDAT	
97.37	97.96	.59	SS2	IRONSTONE	LIGHT GREY, MEDIUM GRAINED SANDSTONE, THINLY BEDDED, INTERBEDDED WITH BROWN VERY HARD IRONSTONE BANDS AND CLASTS, NEAR VERTICAL WAVY BEDDING, OCCASIONAL CDAL BAND, CUT BY MICRO FAULTING, EXCELLENT STICK	NDAT	NDAT	
97.96	98.88	.92	SS1	SLST	MEDIUM GREY, THINLY LAMINATED, INTERBEDDED WITH LIGHT GREY, VERY FINE TO FINE GRAINED SANDSTONE, NEAR VERTICAL UNDULATED BEDDING,	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					FINES TOWARDS BASE TO CARBONACEOUS SILTSTONE. GOOD STICK CORE				
98.88	100.26	1.38	COAL		(RECOVERED 1.38M) BRIGHT AND DULL BANDED. HARD, BLOCKY, MINOR CALCITE ALONG CLEAT, MINOR PYRITE BLEBS, HIGH ASH INTERVAL .06M THICK AT 99.84M, OCCASIONALLY SLICKENSIDED FRACTURE, FAIR STICK; SEPARATION WITH ROOF, VISUAL GOOD, PHYSICAL FAIR; SEPARATION WITH FLOOR, VISUAL POOR, PHYSICAL GOOD (RECOVERY = 100%)	NDAT	NDAT 3	440	
100.26	100.41	.15	SHALE	COALY	DARK GREY TO BLACK, THINLY LAMINATED, INTERBEDDED WITH SILTSTONE, SLICKENSIDED	NDAT	NDAT		
100.41	100.88	.47	SLST		BROWN IRON STAIN, VERY HARD, MASSIVE, ABUNDANT CALCITE INFILLED FRACTURES, GOOD STICK	NDAT	NDAT		
100.88	101.18	.30	LOST CORE		SUSPECT COAL AND MUDSTONE	NDAT	NDAT		
101.18	101.85	.67	MUDSTONE	CARBONACE- OUS	MEDIUM GREY, MASSIVE, HIGHLY FRACTURED AND SLICKENSIDED, BROKEN	NDAT	NDAT		
101.85	103.12	1.27	SLST		MEDIUM GREY, VERY THINLY BEDDED, INTERBEDDED WITH LIGHT GREY, VERY	NDAT	NDAT		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					FINE GRAINED SANDSTONE, NEAR VERTICAL CONVOLUTED BEDDING, MINOR BROWN VERY HARD IRONSTONE BANDS, GOOD STICK			
103.12	131.00	27.88	SLST	SS1	MEDIUM GREY, MASSIVE, OCCASIONAL VERY HARD CALCITE CEMENTED INTERVALS, VISIBLE PYRITE BLEBS, OCCASIONAL COAL WISPS, OCCASIONAL VERY FINE GRAINED SANDSTONE AND ARGILLACEOUS INTERVALS, EXCELLENT STICK	NDAT	NDAT	
131.00	136.18	5.18	SS1		LIGHT TO MEDIUM GREY, MASSIVE, MINOR PYRITE BLEBS, MINOR COAL WISPS, OCCASIONAL BROWN VERY HARD IRONSTONE BANDS AND LIGHT GREY VERY HARD CALCITE CEMENTED INTERVALS, EXCELLENT STICK	NOAT	NDAT	
136.18	138.60	2.42	SS1		LIGHT GREY, VERY FINE TO FINE GRAINED, THINLY LAMINATED TO VERY THINLY BEDDED, INTERBEDDED WITH DARK GREY SILTSTONE AND MUDSTONE, CONVOLUTED BEDDING, SOFT SEDIMENT DEFORMATION, MINOR BIOTURBATION, GOOD STICK	NDAT	NDAT	
138.60	139.70	1.10	SS1		LIGHT GREY, FINE	72.0	138.9	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					GRAINED, THICKLY BEDDED, INTERBEDDED WITH DARK GREY MUDSTONE LAMINAE, EVEN PARALLEL BEDDING, EXCELLENT STICK				
139.70	140.60	.90	SS1		AS ABOVE, WITH CONVOLUTED BEDDING	NDAT	NDAT		
140.60	144.63	4.03	SS1	SLST	LIGHT TO MEDIUM GREY, VERY FINE TO FINE GRAINED, THINLY LAMINATED, INTERBEDDED WITH DARK GREY SILTSTONE AND MINOR MUDSTONE, CONVOLUTED BEDDING CUT BY MICRO FAULTING, SOFT SEDIMENT DEFDRMATION, BECOMING FINER TOWARDS BASE, GRADING TO SILTSTONE, LOWER .06M, MEDIUM GRAINED SANDSTONE, EXCELLENT STICK	NDAT	NDAT		
144.63	170.50	25.87	SLST		MEDIUM GREY, MASSIVE, SANDY AND ARGILLACEOUS INTERVALS, OCCASIONAL LIGHT GREY CALCITE CEMENTED INTERVALS, OCCASIONAL BROWN VERY HARD IRON RICH BANDS, MINDR COAL WISPS, MINOR VISIBLE PYRITE BLEBS, MINOR CALCITE VEINS, OCCASIONAL LONG VERTICAL FRACTURE, SOME CAVING BETWEEN 146.0-148.0M, EXCELLENT STICK	NDAT	NDAT		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
170.50	170.62	.12	BENTONITE		BEIGE, SOFT, FRIABLE, ABUNDANT CALCITE VEINS	60.0	170.5	.
170.62	176.80	6.18	SLST		AS ABOVE SILTSTONE UNIT	NDAT	NDAT	
176.80	184.35	7.55	SS1	SLST	LIGHT GREY, VERY FINE GRAINED, THINLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH MEDIUM GREY SILTSTONE, CONVOLUTED BEDDING, OCCASIONAL BROWN VERY HARD IRON RICH INTERVALS WITH PREDOMINANTLY CALCITE INFILLED FRACTURE, OCCASIONAL LONG CURVED VERTICAL FRACTURE, OCCASIONAL MEDIUM GRAINED SANDSTONE INTERVAL, GOOD STICK	50.0	AVG	
184.35	186.62	2.27	SS1		LIGHT GREY, FINE TO MEDIUM GRAINED, MASSIVE, MINOR CARBONACEOUS SILTSTONE LAMINAE, WELL CONSOLIDATED, SLIGHTLY CALCAREOUS, MINOR IRON STAIN, GOOD STICK	NDAT	NDAT	
186.62	190.65	4.03	SLST	SS1	MEDIUM GREY, THINLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH LIGHT GREY VERY FINE GRAINED SANDSTONE, POORLY DEVELOPED, CONVOLUTED, CUT BY MICRO FAULTS, ABUNDANT CALCITE	NDAT	NDAT	

CORE		DESCRIPTION						
TDP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					VEINLETS, MINOR FAULT GOUGE AT 190.10M, GOOD STICK			
190.65	196.22	5.57	SS1	SLST	LIGHT TO MEDIUM GREY, VERY FINE TO FINE GRAINED, THINLY LAMINATED TO THINLY BEDDED, INTERBEDDED WITH MEDIUM GREY SILTSTONE AND MUDSTONE, CONVOLUTED BEDDING, OCCASIONAL BROWN VERY HARD, IRON RICH BANDS WITH CALCITE INFILLED FRACTURES, GOOD STICK	55.0	AVG	
196.22	197.97	1.75	SS1		LIGHT GREY, FINE TO MEDIUM GRAINED, MEDIUM BEDDED, INTERBEDDED WITH ABUNDANT CARBONACEOUS MUDSTONE LAMINAE, EVEN PARALLEL BEDDING, FRACTURES EASILY ALONG BEDDING PLANE, GOOD STICK	58.0	196.5	
197.97	200.10	2.13	SS1	SLST	LIGHT GREY, VERY FINE TO FINE GRAINED, THINLY BEDDED, INTERBEDDED WITH MEDIUM GREY SILTSTONE, CONVOLUTED BEDDING, MICRO FAULTING, MINOR BIOTURBATION, MINOR CALCITE VEINLETS, MINOR IRON STAIN, GOOD STICK	NDAT	NDAT	
200.10	203.74	3.64	SLST	SS1	MEDIUM GREY, THINLY LAMINATED	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					TO THINLY BEDDED, INTERBEDDED WITH LIGHT GREY, VERY FINE GRAINED SANDSTONE, CONVOLUTED BEDDING, MICRO FAULTED, ABUNDANT CALCITE VEINLETS, MINOR IRON RICH INTERVALS, GRADING COARSER TOWARDS BASE, GOOD STICK			
203.74	204.97	1.23	SS1		LIGHT GREY, FINE TO MEDIUM GRAINED, THICKLY BEDDED, MINOR CARBONACEOUS SILTSTONE LAMINAE THROUGHOUT, WELL CONSOLIDATED, GOOD STICK	55.0	NDAT	
204.97	206.69	1.72	SS1	SLST	LIGHT GREY, VERY FINE TO FINE GRAINED, THINLY LAMINATED, INTERBEDDED WITH SILTSTONE, CONVOLUTED BEDDING, SOFT SEDIMENT DEFORMATION, MICRO FAULTS, GOOD STICK	NDAT	NDAT	
206.69	207.46	.77	SS2		LIGHT GREY, MEDIUM GRAINED, THICKLY BEDDED WITH MINOR DARK GREY SILTSTONE LAMINAE, EXCELLENT STICK	NDAT	NDAT	
207.46	209.40	1.94	SLST	SS1	DARK GREY, THINLY LAMINATED, INTERBEDDED WITH VERY FINE GRAINED SANDSTONE, POORLY DEVELOPED, GOOD STICK	NDAT	NDAT	
209.40	216.71	7.31	SS1	SS2	LIGHT GREY, FINE TO MEDIUM GRAINED, SALT AND PEPPER, THIN TO MASSIVE	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					BEDDING, INTERBEDDED WITH MEDIUM GREY SILTSTONE LAMINAE, POORLY DEVELOPED, EXCELLENT STICK			
216.71	218.38	1.67	SLST	MOST	DARK GREY TO BLACK, MASSIVE, CARBONACEOUS, LONG VERTICAL FRACTURE, OCCASIONAL COAL BLEB, FRACTURED AND SLICKENSIDED, GOOD STICK	NDAT	NDAT	
218.38	232.50	14.12	SS1	SLST	LIGHT GREY, VERY FINE TO MEDIUM GRAINED, THIN TO MASSIVE BEDDED, INTERBEDDED WITH MEDIUM GREY SILTSTONE AND MINOR MUDSTONE, MEDIUM GRAINED SANDSTONE INTERVALS, NEAR VERTICAL CONVOLUTED UNDULATED BEDDING, EXCELLENT STICK CORE	NDAT	NDAT	
232.50	236.40	3.90	SS1		MEDIUM GREY, VERY FINE GRAINED, MASSIVE, ARGILLACEOUS, OCCASIONAL BROWN VERY HARD IRON RICH NODULES AND BANDS, EXCELLENT STICK	NDAT	NDAT	
236.40	263.12	26.72	SLST	SS1	MEDIUM TO DARK GREY, THIN TO MASSIVE BEDDED, INTERBEDDED WITH LIGHT GREY, VERY FINE GRAINED SANDSTONE, WAVY PARALLEL TO DISCONTINUOUS BEDDING, SOFT SEDIMENT	55.0	AVG	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					DEFORMATION, OCCASIONAL BROWN VERY HARD IRON RICH BANDS AND NODULES, MINOR CALCITE VEINLETS, OCCASIONAL LONG CURVED VERTICAL FRACTURE, GOOD TO EXCELLENT STICK			
263.12	263.94	.82	COAL		(RECOVERED .16M) DULL WITH BRIGHT BANDS, HARD, BRITTLE, CUBIC AND CONCHOIDAL FRACTURE, BROKEN; SEPARATION WITH ROOF, VISUAL GOOD, PHYSICAL FAIR; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL , QUESTIONABLE (RECOVERY = 20%)	NDAT	NOAT 2	442
263.94	264.30	.36	MUDSTONE	CARBONACE- OUS	DARK BROWN TO BLACK, MASSIVE, MINOR BRIGHT COAL LAMINAE, DISSEMINATED PYRITE THROUGHOUT, FRACTURED WITH SLICKENSIDED AND POLISHED SURFACES, BROKEN	NDAT	NDAT	
264.30	266.56	2.26	COAL	SHALY	(RECOVERED 1.65M) MAINLY BRIGHT WITH DULL BANDS, HARD, BRITTLE IN MOST PART, MINOR CALCITE ALONG CLEATS, MINOR PYRITE, CUBIC AND CONCHOIDAL FRACTURE, UPPER HALF HAS HIGH ASH INTERVALS INCLUDING A PYRITE BAND AT 265.16M, FAIR TO BROKEN STICK; SEPARATION WITH ROOF, VISUAL	NDAT	NOAT 1	443

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					AND PHYSICAL POOR; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL FAIR (RECOVERY = 73%)				
266.56	267.10	.54	MUDSTONE	CARBONACE- OUS	DARK GREY, MASSIVE, CARBONACEOUS, FRACTURED WITH SLICKENSIDED AND POLISHED SURFACES, MINOR PYRITE, BROKEN TO FAIR STICK	NDAT	NDAT		
267.10	270.72	3.62	COAL		(RECOVERED 2.23M) BRIGHT AND DULL BANDED, HARD, BRITTLE IN PLACES, BLOCKY IN PLACES, MINOR CALCITE ALONG CLEAT, MINOR PYRITE, FRACTURED AND SLICKENSIDED, BROKEN TO RUBBLE, HIGH ASH BAND AT 268.76M POSSIBLY BENTONITIC; SEPARATION WITH ROOF, VISUAL AND PHYSICAL FAIR; SEPARATION WITH FLOOR, VISUAL AND PHYSICAL GOOD (RECOVERY = 62%)	NDAT	NDAT 1	444	
270.72	271.37	.65	MUDSTONE	CARBONACE- OUS	MEDIUM GREY, MASSIVE, SLIGHTLY SILTY, FRACTURED AND SLICKENSIDED	NDAT	NDAT		
271.37	272.84	1.47	SLST	CARBONACE- OUS	MEDIUM TO DARK GREY, MASSIVE, COAL BLEBS, MINOR CALCITE VEINLETS, SANDY, MICRO FAULTED, GRADING TO SANDSTONE AT BASE, EXCELLENT STICK	NDAT	NDAT		
272.84	274.54	1.70	SS1		LIGHT GREY, VERY FINE TO FINE	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					GRAINED, THINLY LAMINATED TO THINLY BEDDED, CONVOLUTED BEDDING, BROWN VERY HARD IRON RICH INTERVAL WITH ABUNDANT CALCITE INFILLED FRACTURES AT 273.40M (.44M THICK) BECOMING COARSER TOWARDS BASE EXCELLENT STICK			
274.54	274.96	.42	LOST CORE		SUSPECT SAME AS ABOVE OR SANDSTONE AS BELOW	NDAT	NDAT	
274.96	275.33	.37	SS1		LIGHT GREY, FINE TO MEDIUM GRAINED, MASSIVE WITH MINOR CARBONACEOUS SILTSTONE LAMINAE, MINOR MUDSTONE CLASTS THROUGHOUT, SALT AND PEPPER, LOWER .05M COALY SILTSTONE, EXCELLENT STICK	55.0	275.0	
275.33	275.80	.47	COAL	DIRTY	(RECOVERED .33M) DULL, HARD, FRACTURED AND SLICKENSIDED, BROKEN; SEPARATION WITH ROOF, VISUAL AND PHYSICAL FAIR; SEPARATION WITH FLOOR, VISUAL FAIR, PHYSICAL POOR (RECOVERY = 70%)	NDAT	NDAT 1	445
275.80	276.62	.82	CLST		BROWN, MASSIVE, HARD, SILTY, BECOMING SANDY AT BASE, EXCELLENT STICK	NDAT	NDAT	
276.62	279.10	2.48	SS1		BROWN, FINE GRAINED, MASSIVE, HAS A VERY HARD ALTERED CLAYSTONE	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					MATRIX, EXCELLENT STICK			
279.10	-1.00	-1.00	UNKNOWN		TOTAL DEPTH	NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TW82D-266
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820923
 LOG DATE NO DATA
 EXAMINED BY C.LANGILL

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	62.50	62.50	DVERBURDEN			NDAT	NDAT	
62.50	62.79	.29	SLST	TUFF	MEDIUM BROWN-GREY, TUFFACEOUS, SILTSTONE CRUMBLED TO BROKEN	NDAT	NDAT	
62.79	63.31	.52	SS1		LIGHT GREY, MASSIVE WITH OCCASIONAL LAMINAE OF CARBONACEOUS FRAGMENTS, SEMI-STICK	82.0	63.3	
63.31	63.65	.34	MUDSTONE		DARK GREY, MASSIVE, BROKEN, OCCASIONAL SLICKENSIDES	NDAT	NDAT	
63.65	64.04	.39	SS1		LIGHT GREY, MASSIVE, HARD, SEMI-STICK, OCCASIONAL VAGUE LAMINAE	64.0	63.8	
64.04	66.60	2.56	MUDSTONE		DARK GREY, MASSIVE, SEMI-STICK WITH SOME CRUMBLED ZONES, SANDY LAMINAE AND BANDS FROM 65.74 TO 66.1	83.0	65.9	
66.60	67.37	.77	COAL		DULL WITH 30% BRIGHT, ABUNDANT PYRITE AND MINOR CALCITE, HARD, SEMI-STICK, CONTRAST WITH ROOF VERY GOOD, AT FLOOR POOR (RECOVERY .64/.77 = 83%)	NDAT	NDAT 1	378

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
67.37	67.79	.42	MUDSTONE		DARK GREY TO BLACK, MASSIVE, HARD, CARBONACEOUS, SEMI-STICK, MINOR LENSES OF BRIGHT COAL	NDAT	NDAT	
67.79	68.58	1.79	SS2		LIGHT BROWN-GREY TO LIGHT GREY AT BOTTOM, MASSIVE, ABUNDANT CARBONACEOUS FRAGMENTS IN TOP 10CM, OCCASIONAL CARBONACEOUS LAMINAE IN BOTTOM 15CM	73.0	69.5	
69.58	72.20	2.62	SLST	MDST	DARK GREY CLAYEY SILTSTONE, MASSIVE, OCCASIONAL LAMINAE, OCCASIONAL COAL LENSES, 60CM OF SILTY MUDSTONE IN MIDDLE, BROKEN CORE	NDAT	NDAT	
72.20	72.45	.25	MUDSTONE	COAL	VERY CARBONACEOUS MUDSTONE WITH BANDS OF BRIGHT COAL, MINOR CALCITE VEINS IN COAL	NDAT	NDAT	
72.45	74.33	1.88	SLST	TUFF	LIGHT BROWN-GREY, TUFFACEOUS SILTSTONE, MASSIVE, VERY HARD, SEMI-STICK, GRADES TO FINE GRAINED SANDSTONE BELOW	NDAT	NDAT	
74.33	76.35	2.02	SS2	SS1	LIGHT GREY FINE GRAINED SANDSTONE, GRADES THROUGH FINE GRAINED SANDSTONE FROM SILTSTONE ABOVE, MASSIVE BECOMING LAMINAE TOWARDS	77.0	76.1	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	G/B ANGLE	DEPTH SEAM	SNUM
					BOTTOM, SEMI-STICK, OCCASIONAL LAMINAE OF COAL AND MUDSTONE AT BOTTOM, SEMI-STICK			
76.35	76.93	.58	SLST	SS1	LIGHT GREY WITH LAMINAE OF DARK GREY SILTSTONE AND OCCASIONAL MUDSTONE, ABUNDANT LENSES OF COAL, MINOR CALCITE VEINS, BROKEN CORE	77.0	76.5	
76.93	78.20	1.27	SLST		MEDIUM GREY, MASSIVE, HARD, SEMI-STICK	NDAT	NDAT	
78.20	78.83	.63	SS1		LIGHT GREY, MASSIVE, THICK CALCITE BANDS IN MIDDLE BECOMING SILTSTONE TOWARDS BOTTOM, THIN CALCITE VEINS AT BOTTOM	NDAT	NDAT	
78.83	80.67	1.84	MUDSTONE		DARK GREY, MASSIVE, HARD, SEMI-STICK, MINOR CALCITE VEINS	NDAT	NDAT	
80.67	81.92	1.25	SLST		MEDIUM GREY, OCCASIONAL VAGUE LAMINAE OF MUDSTONE, BROKEN CORE	NDAT	NDAT	
81.92	84.40	2.48	MUDSTONE		DARK GREY, MASSIVE, SLIGHTLY SILTY, LAMINAE OF FINE GRAINED SANDSTONE AT 82.65 TO 83.12M, CRUMBLD WITH ABUNDANT CURVED SLICKENSIDES AT BOTTOM 40CM	NDAT	NDAT	
84.40	86.98	2.58	MUDSTONE		CARBONACEOUS, DARK GREY, MASSIVE, BROKEN, OCCASIONAL	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					CALCITE VEINS				
86.98	88.02	1.04	SLST	TUFF	SLIGHTLY TUFFACEOUS, MEDIUM GREY SILTSTONE, VERY CARBONACEOUS AT TOP 30CM, BROKEN CORE, HARD	NDAT	NDAT		
88.02	88.70	.68	SLST	SS1	SANDY SILTSTONE, MASSIVE, VERY HARD, BROKEN CORE, VERY THICK VERTICAL CALCITE VEINS	NDAT	NDAT		
88.70	89.83	1.13	SS1	SLST	DISTORTED LAMINAE WITH ABUNDANT CALCITE VEINS AND CALCITE FILLED FAULTS, OCCASIONAL COAL LENSES, BROKEN TO CRUMBLD, FAULT AT 41 DEGREES AT 89.76	NDAT	NDAT		
89.83	90.45	.62	MUDSTONE	TUFF	LIGHT GREY, TUFFACEOUS MUDSTONE, HARD, OCCASIONAL CARBONACEOUS BANDS	68.0	90.3		
90.45	91.14	.69	SS1	SLST	LIGHT GREY FINE GRAINED SANDSTONE WITH DISTORTED BANDS OF MEDIUM GREY SILTSTONE, MINOR COAL AND MUDSTONE LENSES, ABUNDANT CALCITE VEINS, STICK	NDAT	NDAT		
91.14	91.65	.51	MUDSTONE	SLST/TUFF	MEDIUM GREY SILTY TUFFACEOUS MUDSTONE WITH CALCITE VEINS <2CM THICK, EXTREMELY HARD, SEMI-STICK	NDAT	NDAT		
91.65	92.18	.53	SLST		MEDIUM GREEN-GREY, SLIGHTLY SANDY, ABUNDANT THIN CALCITE VEINS IN	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					TOP HALF, CRUMBLLED AT BOTTOM 20CM			
92.18	92.94	.76	SLST	MDST	DARK GREY CLAYEY SILTSTONE, VERY FRIABLE, MASSIVE, CLAYEY WEATHERED SURFACE, CALCITE VEINS AT BOTTOM	NDAT	NDAT	
92.94	96.38	3.44	SLST		MEDIUM GREY, MASSIVE, OCCASIONAL BANDS OF MUDSTONE AND SLIGHTLY SANDY SILTSTONE, TUFFACEOUS IN BOTTOM 88CM, SEMI-STICK WITH A FEW BROKEN ZONES	NDAT	NDAT	
96.38	96.60	.22	SS1		LIGHT GREY MASSIVE, VAGUE LAMINAE OF CARBONACEOUS MUDSTONE AT TOP	46.0	96.4	

CORE DESCRIPTION

HOLE ID TW82D-267
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820925
 LOG DATE 820929
 EXAMINED BY D.HANDY

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	33.83	33.83	OVERBURDEN			NDAT	NDAT	
33.83	36.93	3.10	SS1	SLST	MEDIUM GREY, THIN BEDDED, WAVY, SOFT SEDIMENT SLUMPING, GOOD STICK CORE	40.0	35.7	
36.93	37.33	.40	GOUGE	FAULT	GOUGE MATERIAL	40.0	38.7	
37.33	40.31	2.98	SLST	MDST	MEDIUM GREY/LIGHT GREY INTERBEDDED, THIN BEDDING	NDAT	NDAT	
40.31	41.44	1.13	COAL		DULL WITH BRIGHT, POOR RECOVERY IN UPPER ONE THIRD OF THE SEAM, BROKEN STICK LOWER TWO THIRDS (RECOVERY .70/1.13 = 62%)	NDAT	NDAT	361
41.44	44.44	3.00	SS1	SLST/CARB	DARK GREY, THIN BEDDED FINE GRAINED SANDSTONE/SILTSTO- NE, MICA FLAKES VISIBLE, GOOD STICK, VERY WAVY DISTORTED BEDDING AT TOP OF UNIT (POSSIBLE FOLO)	25.0	45.9	
44.44	45.09	.65	MUDSTONE	CARBONACE- OUS	DARK GREY, MEDIUM BEDDED, CARBONACEOUS STRINGERS AND COALY LAYERS	NDAT	NDAT	
45.09	45.52	.43	IRONSTONE		LIGHT BROWN HARD, MASSIVE	NDAT	NDAT	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
45.52	46.32	.80	MUDSTONE	CARBONACEOUS	AS ABOVE	NDAT	NDAT	
46.32	46.62	.30	SHALE	COALY	BROKEN, COALY SHALE	NDAT	NDAT	
46.62	59.62	13.00	SLST		DARK GREY, MASSIVE, UNIFORM, MINUTE MICA FLAKES, GOOD STICK	NDAT	NDAT	
59.62	60.35	.73	COAL		DULL WITH THIN BRIGHT, VERY MINOR CALCITE ESPECIALLY NEAR FOOTWALL, COATING CLEAT HARD, BROKEN STICK (RECOVERY .60/.73 = 82%)	NDAT	NDAT	362
60.35	66.20	5.85	SLST		DARK GREY, MASSIVE, UNIFORM, MINUTE MICA FLAKES, HARD, BROKEN STICK	NDAT	NDAT	
66.20	67.26	1.06	COAL		DULL WITH BRIGHT/DULL AND BRIGHT IN UPPER HALF, CLEAN, HARD, STICK TO BROKEN STICK, GOOD CLEAN SEPARATION WITH HANGING WALL/FOOTWALL, MINOR CALCITE ALONG CLEAT, MINOR PYRITE BLEB (1CM) NEAR FOOTWALL (RECOVERY 1.06/1.06 = 100%)	50.0	66.2	363
67.26	78.14	10.88	MUDSTONE	SLST/CARB	DARK GREY, MASSIVE UNIFORM UNIT, CARBONACEOUS, OCCASIONAL COALY STRINGERS, GOOD STICK	NDAT	NDAT	
78.14	79.04	.90	COAL		MAINLY DULL, MINOR BRIGHT, HARD,	28.0	79.0	364

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH	SEAM	SNUM
					STICK, POOR FOOTWALL/HANGING WALL SEPARATION (IE SOLID CONTACTS WITH DARK MUDSTONE) VERY MINOR CALCITE AT FOOTWALL (RECOVERY .90/.90 = 100%)				
79.04	81.46	2.42	SLST	CARBONACE- OUS	DARK GREY, THIN BEDDED, CARBDNACEDUS WISPS, STICK	NDAT		NDAT	
81.46	82.65	1.19	COAL		DULL WITH BRIGHT, HARD, STICK, SHALY SPLIT DF 10CM (RECOVERY 1.10/1.19 = 92%)	NDAT		NDAT 10	365
82.65	88.37	5.72	SLST	MDST	MEDIUM GREY/DARK GREY INTERBEDDED, THIN BEDDED, STICK CORE	NDAT		NDAT	
88.37	89.01	.64	COAL		DULL, MINOR BRIGHT, BROKEN STICK (RECOVERY .61/.64 = 95%)	NDAT		NDAT 9	366
89.01	94.68	5.67	SLST	CARBONACE- OUS/SS1	DARK GREY SILTSTONE WITH MINOR THIN BEDDED LIGHT GREY FINE GRAINED SANDSTONE, GODD STICK	NDAT		NDAT	
94.68	98.30	3.62	COAL		DULL WITH BRIGHT, MINOR CALCITE AT HANGING WALL, HARD STICK (RECOVERY 3.0/3.62 = 83%)	35.0		94.7 8	367
98.30	103.80	5.50	SLST	CARBONACE- OUS/SS1	DARK GREY, AS ABDVE	NDAT		NDAT	
103.80	104.00	.20	COAL		STICK, NO SAMPLE	NDAT		NDAT	
104.00	119.68	15.58	SLST	SS1	DARK GREY/LIGHT GREY INTERBEDDED	NDAT		NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SILTSTONE WITH FINE GRAINED SANDSTONE, THIN BEDDED, OCCASIONAL BROWN IRONSTONE NODULE, OCCASIONAL FINE GRAINED SANDSTONE BED SORTED			
119.58	120.40	.82	SLST		DARK GREY, MINOR MICACEOUS, FAIRLY MASSIVE	38.0	119.8	
120.40	120.92	.52	COAL		DULL WITH BRIGHT (THIN VITRIMITE), THIN PYRITE LAYERS AT HANGING WALL AND ONE 2MM LAYER NEAR FOOTWALL, HARD STICK (RECOVERY .52/.52 = 100%)	NDAT	NDAT 7	368
120.92	126.54	5.62	SLST	SS1	DARK GREY, SILTSTONE WITH VERY THIN INTERBEDDED VERY FINE GRAINED SANDSTONE, OCCASIONAL IRONSTONE NODULE, STICK CORE	NDAT	NDAT	
126.54	128.60	2.06	COAL		DULL WITH THIN BRIGHT, MINOR CALCITE ON CLEAT, SPLIT 7CM NOT AS SHOWN ON LOG, STICK, HARD (RECOVERY 1.97/2.06 = 96%)	NDAT	NDAT 6	369
128.60	130.80	2.20	SLST		DARK GREY, MASSIVE, STICK	NDAT	NDAT	
130.80	136.57	5.77	COAL		DULL WITH BRIGHT, HARD, STICK, 131.65 TOP OF .09M SPLIT, VERY MINOR CALCITE ON CLEAT (RECOVERY 5.38/5.77 = 93%)	55.0	132.0 5	370

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
136.57	137.92	1.35	SLST		MEDIUM GREY, FAIRLY MASSIVE	NDAT	NDAT		
137.92	139.72	1.80	SS1		LIGHT GREY, MEDIUM TO THIN BEDDED, STICK	NDAT	NDAT		
139.72	141.38	1.66	SLST		AS ABOVE	NDAT	NDAT		
141.38	142.32	.94	COAL		DULL WITH BRIGHT, STICK, HARD, CLEAN, POOR FOOTWALL/HANGING WALL, SEPARATION WITH CARBONACEOUS UNITS ABOVE AND BELOW (RECOVERY .94/.94 = 100%)	NDAT	NDAT 4	371	
142.32	143.04	.72	MUDSTONE		DARK GREY, MASSIVE, STICK	NDAT	NDAT		
143.04	143.74	.70	COAL		DULL WITH BRIGHT, STICK, MINOR CALCITE ALONG CLEAT SURFACES (RECOVERY .63/.70 = 90%)	NDAT	NDAT 4	372	
143.74	144.32	.58	MUDSTONE	CARBONACE- OUS	DARK GREY, MASSIVE STICK	NDAT	NDAT		
144.32	144.68	.36	COAL		DULL WITH BRIGHT, MINOR CALCITE COATS CLEAT, BROKEN STICK AND FRAGMENTS (RECOVERY .33/.36 = 92%)	NDAT	NDAT 4	373	
144.68	145.19	.51	MUDSTONE	IRST/CARB- ONACEOUS	DARK GREY, MASSIVE	NDAT	NDAT		
145.19	145.49	.30	COAL		CLEAN, DULL WITH BRIGHT, MINOR TO TRACE PYRITE/CALCITE,	NDAT	NDAT 4	374	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					HANGING WALL/FOOTWALL CONTACTS NOT SHARP BUT RATHER GRADATIONAL WITH CARBONACEOUS UNITS ABOVE AND BELOW (RECOVERY .30/.30 = 100%)				
145.49	146.37	.88	MUDSTONE	IRST/CARB- ONACEOUS	AS ABOVE	NDAT	NDAT		
146.37	146.68	.31	COAL	DIRTY	UPPER 15CM CLEAN, FOLLOWED BY 2CM BENTONITE, REMAINDER SHALY COAL, STICK (RECOVERY .31/.31 = 100%)	NDAT	NDAT		375
146.68	150.67	3.99	SLST	MDST	DARK GREY MASSIVE STICK, OCCASIONAL IRONSTONE NODULE OR LAYER AND CDAL STRINGER	NDAT	NDAT		
150.67	152.77	2.10	COAL		DULL WITH BRIGHT, UPPER HALF BROKEN STICK AND FRAGMENTS (SOME SPLITS UP TO 3CM), 151.80 - 3.5CM BENTONITE LAYER, REMAINDER STICK, MINOR TO TRACE CALCITE ON CLEAT (RECOVERY 1.45/2.10 = 70%)	60.0	150.7 3		376
152.77	153.34	.57	MUDSTONE	CARBONACE- OUS	DARK GREY MASSIVE	60.0	153.0		
153.34	154.56	1.22	SLST	CARBONACE- OUS	LIGHT GREY TO DARK GREY, FAIRLY MASSIVE	NDAT	NDAT		
154.56	155.81	1.25	COAL		DULL WITH BRIGHT, STICK, TRACE TO MINOR CALCITE, HARD, CLEAN (RECOVERY	NDAT	NDAT 2		377

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					1.10/1.25 = 88%)			
155.81	160.91	5.10	SLST	SS1	DARK GREY/LIGHT GREY INTERBEDDED, THIN BEDDING, NUMEROUS BROWN IRONSTONE NOODLES, OCCASIONAL VUGGY WITH CALCITE, 156.31 BIOTURBATED ZONE	NDAT	NDAT	
160.91	169.71	8.80	SLST	IRONSTONE	DARK GREY, MASSIVE STICK, OCCASIONAL IRONSTONE NOODLES, COALIFIED WOOD FRAGMENTS	NDAT	NDAT	
169.71	180.68	10.97	SS1	SLST/CARB-ONACEOUS	LIGHT GREY FINE GRAINED SANDSTONE, THICK TO MEDIUM BEDDED, OCCASIONAL SILTSTONE LAYER, OCCASIONAL CARBONACEOUS FINE GRAINED SANDSTONE ZONE, OCCASIONAL BROWN IRONSTONE LAYER OR NODULE, STICK CORE	NDAT	NDAT	
180.68	226.52	45.84	SLST	IRST/CARB-ONACEOUS	DARK GREY, OVERALL MASSIVE UNIT WELL INDURATED, COMPETENT ROCK, GOOD STICK, OCCASIONAL ROUND IRONSTONE NODULES OFTEN FRACTURED AND CALCITE FILLED, NUMEROUS COALIFIED TWIG DR WOOD FRAGMENTS	NDAT	NDAT	
226.52	250.00	23.48	SS1	CARBONACE- OUS	PALE GREYISH-GREEN, THICK BEDDED, MINOR THIN BEDDED WITH CARBONACEOUS LAYERS, SOFT SEDIMENT DEFORMATION FEATURES EVIDENT	NDAT	NDAT	

		CORE		DESCRIPTION				
TDP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
250.00	-1.00	-1.00	UNKNOWN		TOTAL DEPTH	NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TW82D-268
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820926
 LOG DATE 821006
 EXAMINED BY P.LOCKWOOD

TOP	BASE	THICK	LITHDLGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	6.78	6.78	OVERBURDEN		DRILLED WITH ROCK BIT, LOST CORE	NDAT	NDAT	
6.78	8.38	1.60	SLST		MEDIUM TO DARK GREY, MASSIVE, MINOR CALCITE BANDS OVER 2CM THICK, MINOR IRONSTONE NODULES PRESENT, FAIR STICK	NDAT	NDAT	
8.38	16.33	7.95	SLST		LIGHT TO MEDIUM GREY, THINLY BEDDED, OCCASIONAL CALCITE VEINLETS, OCCASIONAL IRONSTONE NODULES, MINOR POLISHED FRACTURE SURFACES	NDAT	NDAT	
16.33	22.05	5.72	SLST	MDST/FAULT	MEDIUM TO DARK GREY, THINLY INTERBEDDED, OCCASIONAL THIN IRONSTONE BANDS AND NODULES, SOME NODULES ARE CALCAREOUS WITH IRON STAINING, MINOR CALCITE VEINS, MOST FRACTURED SURFACES ARE POLISHED OR SLICKENSIDED, GOOD STICK	NDAT	NDAT	
22.05	46.15	24.10	MUDSTONE	SLST	DARK GREY, MASSIVE, OCCASIONAL THIN SILTSTONE BEDDING, OCCASIONAL CALCITE VEINLETS, OCCASIONAL IRONSTONE NODULES,	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					MINOR CARBONACEOUS BLEBS, MICRO FAULTING, GOOD STICK				
46.15	47.50	1.35	SLST		LIGHT GREY, MASSIVE, WEATHERED, SINGLE CALCITE VEINLET, STICK FRACTURES EASILY	NDAT	NDAT		
47.50	51.01	3.51	SS1	SLST	GREYISH-GREEN, THINLY BEDDED, OCCASIONAL CALCITE VEINLETS, SOME CALCAREOUS NODULES WITH IRON STAINING, ONE 14CM BAND IS CALCAREOUS WITH CARBONACEOUS PLANT FRAGMENTS, MINOR CARBONACEOUS BLEBS, FAIR STICK	NDAT	NDAT		
51.01	54.63	3.62	MUDSTONE	COALY	MEDIUM GREY TO BLACK, FROM 51.18M-51.27M (9CM) IS COALY AND DIRTY, WEATHERED, OCCASIONAL PYRITE FLECKS, MINOR CALCITE VEINLETS, STICK FRACTURES EASILY	NDAT	NDAT		
54.63	55.00	.37	SS1		LIGHT GREY, MASSIVE, OCCASIONAL CALCITE VEINLETS, GOOD STICK	NDAT	NDAT		
55.00	62.63	7.63	MUDSTONE		MEDIUM TO LIGHT GREY, MASSIVE, BRECCIATED, A 47CM BAND OF HIGHLY CALCAREOUS WELL CONSOLIDATED MUDSTONE, OCCASIONAL CARBONACEOUS PLANT FRAGMENTS, MINOR PYRITE BLEBS, MINOR CALCITE	NDAT	NDAT		

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					VEINLETS, FAIR STICK				
62.63	64.60	1.97	SS1		MEDIUM GREY, FINE TO VERY FINE GRAINED, MASSIVE, OCCASIONAL CALCITE FILLED FRACTURES, ONE BCM BAND WELL CONSOLIDATED HIGHLY CALCAREOUS FINE GRAINED SANDSTONE, MINOR CARBONACEOUS BLEB 3CM WIDE, MINOR CARBONACEOUS PLANT FRAGMENTS ON SOME FRACTURES	NDAT	NDAT		
64.60	68.30	3.70	SLST	SS1	MEDIUM TO LIGHT GREY, MASSIVE, 40CM FINE GRAINED SANDSTONE IS CALCAREOUS, MINOR CARBONACEOUS BLEBS, MINOR CALCITE VEINLETS, FAIR STICK	NDAT	NDAT		
68.30	71.75	3.45	MUDSTONE	SLST	DARK GREY, MASSIVE, A 20CM BAND OF WELL CONSOLIDATED CALCAREOUS MUDSTONE WITH CALCITE FILLED FRACTURES ON SURFACE, TWO BROWN IRONSTONE NODULES 4CM WIDE, MINOR SLICKENSIOD FRACTURE SURFACES, FAIR STICK	NDAT	NDAT		
71.75	72.53	.78	SS1	SLST	MEDIUM TO LIGHT GREY, THINLY BEDDED, A 10CM BAND IS CALCAREOUS, MINOR CALCITE VEINLETS, MICRO FAULTING, GOOD STICK	NDAT	NDAT		
72.53	75.26	2.73	MUDSTONE	SLST	DARK GREY,	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					MASSIVE, MINOR CALCITE VEINLETS, MICRO FAULTS, FAIR STICK			
75.26	77.23	1.97	SLST		MEDIUM TO DARK GREY, MASSIVE, ABUNDANT CARBONACEOUS PLANT FRAGMENTS, OCCASIONAL SLICKENSIDED FRACTURE SURFACES WITH CALCITE, MINOR CALCITE VEINLETS, FAIR STICK	NDAT	NDAT	
77.23	82.42	5.19	SS1		LIGHT TO MEDIUM GREY, FINE TO VERY FINE GRAINED, LAMINAR BEDDING, FAIRLY WELL CONSOLIDATED, SOME TALC PRESENT ON FRACTURE SURFACES, ABUNDANT MICRO FAULTING, MINOR CARBONACEOUS PLANT FRAGMENTS, MINOR CALCITE, MINOR BROWN IRONSTONE NODULES, GOOD STICK	NDAT	NDAT	
82.42	85.50	3.08	SLST		MEDIUM GREY, MASSIVE, OCCASIONAL CARBONACEOUS PLANT FRAGMENTS, TWO BROWN NODULES WELL CONSOLIDATED AND CALCAREOUS, SOME FRAGMENTS APPEAR SLICKENSIDED ON FRACTURE SURFACES, FAIR STICK	NDAT	NDAT	
85.50	95.85	10.35	SS1		MEDIUM TO LIGHT GREY, FINE TO VERY FINE GRAINED, LAMINAR BEDDING, A 20CM BAND OF HIGHLY CALCAREOUS	NDAT	NDAT	

CORE		DESCRIPTION							
TDP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					WELL CONSOLIDATED FINE GRAINED SANDSTONE, ABUNDANT CARBONACEOUS PLANT FRAGMENTS, SOME CALCITE VEINS, SOME BROWN IRONSTONE NODULES. GOOD STICK				
95.85	96.94	1.09	MUDSTONE		DARK GREY, MASSIVE, ABUNDANT CARBONACEOUS MATERIAL, POLISHED FRAGMENTS, MINOR BROWN IRONSTONE NODULES WITH CALCITE VEINLETS ON SURFACE, STICK IS HIGHLY FRACTURED TO FRAGMENTS	NDAT	NDAT		
96.94	102.95	6.01	SS1		MEDIUM TO LIGHT GREY, LAMINAR BEDDING, ABUNDANT CALCITE, OCCASIONAL CARBONACEOUS PLANT FRAGMENTS, OCCASIONAL MICRO FAULTING. GOOD STICK	NDAT	NDAT		
102.95	103.55	.60	COAL		DULL WITH SHINY BANDS, SOME SLICKENSIDED SURFACES, BROKEN STICK (RECOVERY .40/.60 = 67%)	NDAT	NDAT 6		412
103.55	105.00	1.45	MUDSTONE	FAULT	DARK GREY, MASSIVE, ABUNDANT SLICKENSIDED SURFACES ON FRAGMENTS, MINOR TALC PRESENT, STICK HIGHLY FRACTURED TO FRAGMENTS	NDAT	NDAT		
105.00	106.10	1.10	COAL		DULL WITH ABUNDANT SLICKENSIDED	NDAT	NDAT 6		413

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SURFACES, STICK IS FRAGMENTS (RECOVERY .54/1.10 = 49%)			
106.10	106.44	.34	MUDSTONE	FAULT	DARK GREY, MASSIVE, ABUNDANT SLICKENSIDED FRACTURE SURFACES WITH TALC, STICK BROKEN TO FRAGMENTS	NDAT	NDAT	
106.44	106.75	.31	COAL		DULL WITH SHINY BANDS, SOME SLICKENSIDED SURFACES WITH TALC, STICK IS FRAGMENTS (RECOVERY .33/.33 = 100%)	NDAT	NDAT 6	414
106.75	107.58	.83	MUDSTONE	CARBONACE- OUS/FAULT	MEDIUM GREY, MASSIVE, ABUNDANT SLICKENSIDED FRAGMENTS, OCCASIONAL TALC DN FRACTURE SURFACES. STICK HIGHLY FRACTURED, BROKEN TO FRAGMENTS, SOME CORE LOSS	NDAT	NDAT	
107.58	110.48	2.90	COAL		DULL WITH SHINY BANDS, SOFT, FIRST 20CM OF COAL IS FRACTURED TO POWDER, MINOR TALC PRESENT, MINOR SLICKENSIDED SURFACES, BROKEN STICK (RECOVERY .95/2.90 = 33%)	NDAT	NDAT 6	415
110.48	110.72	.24	MUDSTDNE	FAULT	DARK GREY, MASSIVE, ABUNDANT TALC, ABUNDANT SLICKENSIDED SURFACES, POOR STICK	NDAT	NDAT	
110.72	112.04	1.32	COAL		DULL WITH SHINY, SOME POLISHED FRACTURE SURFACES,	NDAT	NDAT	416

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					HARD, OCCASIONAL TALC, POOR STICK (RECOVERY .69/1.32 = 52%)			
112.04	115.53	3.49	MUDSTONE	FAULT	MEDIUM GREY, UPPER .5M HIGHLY BROKEN INTO FRAGMENTS, SLICKENSIDED, REMAINDER IS STICK TO BROKEN STICK, CALCITE ALONG FRACTURE SURFACES	NDAT	NDAT	
115.53	115.75	.22	COAL	SHALY	DULL WITH BRIGHT, FRAGMENTED, APPEARS SHEARED, POOR FOOTWALL/HANGWALL CONTACTS (IE POOR DEFINITION) (RECOVERY .22/.22 = 100%)	NDAT	NDAT	417
115.75	117.96	2.21	MUDSTONE	SLST/CARB- /FAULT	MEDIUM GREY, SOFT, CRUMBLY MUDSTONE, CARBONACEOUS, OCCASIONAL SILTY AND MORE COMPETENT, SLICKENSIDES ON FRACTURE SURFACES, MINOR COALY LENSES	NDAT	NDAT	
117.96	119.16	1.20	COAL		DULL WITH BRIGHT, BROKEN STICK, FRAGMENTS, POWDER (RECOVERY .17/1.20 = 14%)	NDAT	NDAT 5	418
119.16	119.74	.58	SS1		LIGHT GREY, MASSIVE, BROKEN STICK	NDAT	NDAT	
119.74	120.68	.94	SLST	CARBONACE- OUS	LIGHT TO MEDIUM GREY, HIGHLY BROKEN, CARBONACEOUS SILTSTONE, BECOMING MORE CARBONACEOUS TOWARD HANGING WALL OF COAL SEAM BELOW	NDAT	NDAT	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
120.68	121.05	.37	COAL		DULL WITH BRIGHT, HARD, STICK TO BROKEN STICK. GOOD FOOTWALL/HANGING WALL SEPARATION (RECOVERY .37/.37 = 100%)	NDAT	NDAT 4	419	
121.05	123.90	2.85	MUDSTONE	CARBONACE- OUS	DARK GREY, BROKEN, SOFT, FAIRLY MASSIVE, OCCASIONAL COAL WISPS	NDAT	NOAT		
123.90	124.42	.52	SS1		LIGHT GREY TO PALE GREEN, THIN BEDDED	NDAT	NDAT		
124.42	125.71	1.29	SS1	SLST	PALE GREY, INTERBEDDED WITH DARK GREY (THIN), MICRO FAULTING, OCCASIONAL BROWN IRONSTONE NODULES	NDAT	NDAT		
125.71	127.28	1.57	SS1	SLST	PALE GREY, MAINLY MASSIVE, OCCASIONAL THIN BEDDED SILTSTONE, OCCASIONAL BROWN IRONSTONE NODULES	NDAT	NDAT		
127.28	137.90	10.62	SS1	MDST/SLST	PALE GREY TO GREEN WITH THIN INTERBEDDED DARK GREY MUDSTONE, OCCASIONAL SILTSTONE, OCCASIONAL BROWN IRONSTONE NODULES AND LAYERS, WAVY BEDDING, SOFT SEDIMENT DEFORMATION, GOOD STICK CORE, OCCASIONAL MICRO FAULTS	NDAT	NDAT		
137.90	138.38	.48	COAL		DULL WITH BRIGHT, HARD, STICK, TRACE CALCITE NEAR HANGING WALL, FOOTWALL/HANGING	NDAT	NDAT 3	420	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					WALL SEPARATION, VISUAL AND PHYSICAL GOOD, OCCASIONAL PYRITE BLEBS (RECOVERY .48/.48 = 100%)			
138.38	139.43	1.05	MUDSTONE		MEDIUM GREY, THIN BEDDED, CRUMBLY	NDAT	NDAT	
139.43	140.78	1.35	COAL		DULL WITH BRIGHT, HARD, STICK, CLEAN, SEPARATION, PHYSICAL AND VISUAL GOOD (RECOVERY 1.35/1.35 = 100%)	NDAT	NDAT 3	421
140.78	141.73	.95	MUDSTONE	CARBONACE- DUS	DARK GREY, MASSIVE, BROKEN	NDAT	NDAT	
141.73	142.09	.36	COAL		DULL WITH BRIGHT, STICK, HARD, MINOR CALCITE AT FOOTWALL, FOOTWALL/HANGING WALL SEPARATION GOOD (RECOVERY .36/.36 = 100%)	NDAT	NDAT 3	422
142.09	142.77	.68	MUDSTONE	CARBONACE- DUS	AS ABOVE	NDAT	NDAT	
142.77	143.13	.36	COAL		DULL, MINOR BRIGHT, STICK, MINOR CALCITE AT HANGING WALL, HANGING WALL/FOOTWALL SEPARATION GOOD, VERY THIN BENTONITE BED (RECOVERY .36/.36 = 100%)	NDAT	NDAT 3	423
143.13	144.53	1.40	MUDSTONE	SLST	MEDIUM GREY, THIN BEDDED, LOWER HALF OF UNIT IS RUBBLE	NDAT	NDAT	
144.53	145.35	.82	SS1	SLST/MDST	LIGHT TO DARK GREY, INTERBEDDED,	NDAT	NDAT	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					THIN BEDDED, MINOR IRONSTONE				
145.95	148.40	3.05	MUDSTONE		MEDIUM GREY, MASSIVE, BROKEN STICK, MINOR RUBBLE, CARBONACEOUS TOWARD BOTTOM	NDAT	NDAT		
148.40	148.98	.58	COAL		148.40-148.50 DULL WITH BRIGHT, MINOR CALCITE ALONG CLEAT, STICK, GOOD CLEAT, 148.50-148.58 COALY SHALE, 148.58-148.98 COAL, AS ABOVE (RECOVERY .58/.58 = 100%)	NDAT	NDAT	424	
148.98	151.20	2.22	MUDSTONE	CARBONACE- OUS	DARK GREY, MASSIVE, STICK TO BROKEN STICK, MINOR PYRITE, LARGE BLEB 2CM THICK	NDAT	NDAT		
151.20	151.62	.42	COAL		DULL WITH BRIGHT, BROKEN STICK, HARD, HANGING WALL/FOOTWALL SEPARATION, PHYSICAL GOOD, VISUAL POOR (RECOVERY .36/.42 = 86%)	NDAT	NDAT 2	425	
151.62	151.84	.22	MUDSTONE	CARBONACE- OUS	DARK GREY	NDAT	NDAT		
151.84	153.22	1.38	COAL		151.84-152.14 COAL, BROKEN STICK, DULL WITH BRIGHT, HARD, 152.14-152.20 BENTONITE, 152.20-153.22 COAL, AS ABOVE (RECOVERY 1.30/1.38 = 94%)	NDAT	NDAT 2	426	

		CDRE		DESCRIPTION					
TDP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
153.22	154.08	.86	MUDSTDNE	CARBONACE- DUS	DARK GREY, MASSIVE STICK	NDAT	NDAT		
154.08	154.20	.12	COAL		DULL WITH BRIGHT, STICK	NDAT	NDAT		
154.20	154.32	.12	MUDSTDNE		AS ABOVE	NDAT	NDAT		
154.32	154.48	.16	COAL		DULL WITH BRIGHT, STICK	NDAT	NDAT		
154.48	155.14	.66	MUDSTDNE		AS ABOVE	NDAT	NDAT		
155.14	155.35	.21	COAL		DULL WITH BRIGHT, STICK	NDAT	NDAT		
155.35	156.12	.77	MUDSTONE	CARBONACE- DUS	AS ABOVE	NDAT	NDAT		
156.12	156.70	.58	COAL		DULL WITH BRIGHT, HARD, STICK, MINOR PYRITE BLEBS, HANGING WALL/FOOTWALL SEPARATION, VISUAL POOR, PHYSICAL GOOD (RECOVERY .58/.58 = 100%)	NDAT	NDAT 2	427	
156.70	166.32	9.62	SLST	MDST/SS1	LIGHT TO DARK GREY INTERBEDDED, THIN BEDDED, WAVY, SOFT SEDIMENT DEFDRMATION, STICK CORE, OCCASIONAL BROWN IRONSTONE NODOULES	NDAT	NDAT		
166.32	184.47	18.15	SLST		DARK GREY, MASSIVE, OCCASIONAL BROWN IRONSTONE NODOULES, OCCASIONAL COALY STRINGERS	NDAT	NDAT		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
184.47	184.83	.36	IRONSTONE		LIGHT GREY, VERY HARD	NDAT	NDAT	
184.83	211.31	26.48	SLST		AS ABOVE, WITH PYRITE TRACES	NDAT	NDAT	
211.31	214.58	3.27	SS1		PALE GREYISH-GREEN, MASSIVE, CARBONACEOUS WISPS	NDAT	NDAT	
214.58	216.98	2.40	SLST		MEDIUM GREY, MASSIVE, GRADES INTO UNIT BELOW	NDAT	NDAT	
216.98	219.48	2.50	SS1		PALE GREYISH-GREEN, THICK BEDDED, OCCASIONAL THIN BEDDED SEGMENT, OCCASIONAL ROUNDED IRONSTONE NODULES	NDAT	NDAT	
219.48	228.49	9.01	SLST	SS1/CARBONACEOUS	DARK GREY, MASSIVE, OCCASIONAL COALY STRINGERS, OCCASIONAL INTERBEDDED FINE GRAINED SANDSTONE, OCCASIONAL IRONSTONE	NDAT	NDAT	
228.49	229.31	.82	SS2	CARBONACEOUS	SALT AND PEPPER, MASSIVE, STICK	NDAT	NDAT	
229.31	241.71	12.40	SS1	SLST	PALE GREYISH-GREEN, MEDIUM BEDDED, OCCASIONAL THIN BEDDED, OCCASIONAL MEDIUM GRAINED SANDSTONE BEDS, NUMEROUS CALCITE HEALED FRACTURES, CARBONACEOUS IN SPOTS	NDAT	NDAT	
241.71	243.45	1.74	SLST		MEDIUM GREY, MASSIVE, STICK	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
243.45	246.03	2.58	SS1	CARBONACE- OUS	MEDIUM GREY, MASSIVE, STICK	NDAT	NDAT	
246.03	246.83	.80	SS1	FOSSIL	LIGHT GREY, VERY FINE GRAINED, ABUNDANT CALCIFIED SHELL FRAGMENTS, MASSIVE, STICK	NDAT	NDAT	
246.83	266.40	19.57	SS1	CARBONACE- OUS	PALE GREYISH-GREEN, BEDDING POORLY DEVELOPED, BIOTURBATED, NUMEROUS BROWN IRONSTONE NODULES, ABUNDANT CALCITE FILLED FRACTURES, STICK	NDAT	NDAT	
266.40	266.60	.20	COAL		DULL WITH BRIGHT, HARD, STICK, MINOR CALCITE ALONG CLEAT, TRACE OF BENTONITE (RECOVERY .20/.20 = 100%)	NDAT	NDAT	428
266.60	266.82	.22	SHALE	CARBONACE- OUS	FOOTWALL/HANGING WALL SEPARATION, VISUAL FAIR, PHYSICAL POOR	NDAT	NDAT	
266.82	267.31	.49	COAL		DULL WITH BRIGHT, HARD, MINOR CALCITE, STICK, CLEAT WELL DEVELOPED, SEPARATION PHYSICAL GOOD, VISUAL FAIR (RECOVERY .49/.49 = 100%)	NDAT	NDAT	429
267.31	267.64	.33	SLST	CARBONACE- OUS	DARK GREY	NDAT	NDAT	
267.64	268.67	1.03	COAL		DULL WITH BRIGHT, HARD, STICK, MINOR PYRITE ON CLEAT,	NDAT	NDAT	430

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					MINOR CALCITE ON CLEAT, GOOD CLEAT DEVELOPMENT, HANGING WALL SEPARATION, VISUAL AND PHYSICAL POOR, FOOTWALL SEPARATION, VISUAL FAIR, PHYSICAL POOR, THIN LAYER OF BENTONITE <1CM (RECOVERY 1.03/1.03 = 100%)			
268.67	274.40	5.73	MUDSTONE	SLST	DARK GREY, FAIRLY MASSIVE, OCCASIONAL COALY WISPS	NDAT	NDAT	
274.40	274.50	.10	COAL		DULL WITH BRIGHT, CLEAN	NDAT	NDAT	
274.50	275.97	1.47	MUDSTONE	SLST	AS ABOVE	NDAT	NDAT	
275.97	276.28	.31	COAL		DULL WITH BRIGHT, HARD, STICK (RECOVERY .31/.31 = 100%)	NDAT	NDAT 1	431
276.28	276.31	.03	SLST		DARK GREY	NDAT	NDAT 1	431
276.31	277.88	1.57	COAL		DULL WITH BRIGHT, MINOR CALCITE, SILTSTONE LAYER AT 276.84, 2CM THICK, CLEAN, FOOTWALL AND HANGING WALL SEPARATION, PHYSICAL POOR, VISUAL POOR (RECOVERY 1.57/1.57 = 100%)	NDAT	NDAT 1	431
277.88	278.10	.22	SHALE	CARBONACE- OUS	DARK GREY, BROKEN	NDAT	NDAT	
278.10	279.02	.92	COAL	SHALY	FIRST 22CM DULL WITH BRIGHT,	NDAT	NDAT 1	432

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					STICK, REMAINDER IS RUBBLE, SPLIT INDISCERNIBLE, MINOR CALCITE ON FRACTURE PLANES IN FIRST 22CM (RECOVERY .70/.92 = 76%)				
279.02	279.88	.86	SLST	CARBONACE- DUS	MEDIUM GREY, MASSIVE, OCCASIONAL CARBONACEDUS PLANT FRAGMENTS, GOOD STICK	NDAT	NDAT		
279.88	281.60	1.72	COAL		279.88-280.77 COAL, DULL WITH BRIGHT, HARD, MINOR CALCITE, BROKEN STICK TO STICK; 280.77-280.86 CARBONACEOUS SHALE WITH PYRITE BLEBS; 280.86-281.60 COAL, AS ABOVE WITH PYRITE BLEBS; FOOTWALL/HANGING WALL SEPARATION, VISUAL FAIR TO GOOD, PHYSICAL POOR TO FAIR (RECOVERY OVERALL 1.72/1.72 = 100%)	NDAT	NDAT 1	433	
281.60	281.98	.38	SLST	CARBONACE- OUS	DARK GREY, MASSIVE, SLICKENSIDED FRACTURES	NDAT	NDAT		
281.98	282.20	.22	COAL		DULL WITH BRIGHT, HARD, STICK, WELL DEVELOPED CLEAT (RECOVERY .22/.22 = 100%)	NDAT	NDAT 1	434	
282.20	283.04	.84	SLST	CARBONACE- OUS	MEDIUM GREY, MASSIVE, MINOR PYRITE, ABUNDANT CARBONACEOUS FRAGMENTS	NOAT	NDAT		
283.04	284.11	1.07	COAL		DULL WITH BRIGHT,	NDAT	NDAT 1	435	

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					HARD, STICK, MINOR CALCITE, BOTDM THIRD OF SEAM BEDDING SHALY WITH CALCITE; HANGING WALL SEPARATION, VISUAL AND PHYSICAL GOOD; FOOTWALL SEPARATION, VISUAL GOOD, PHYSICAL POOR (RECOVERY 1.07/1.07 = 100%)			
284.11	287.61	3.50	MUDSTONE	SLST	MEDIUM GREY, MASSIVE, OCCASIONAL COALY LENSES, OCCASIONAL BROWN IRONSTONE NODULES, THIN BEDDED SILTSTONE (FINE GRAINED SANDSTONE?) TOWARDS BOTDM	NDAT	NDAT	
287.61	288.36	.75	SS1	CARBONACE- OUS	LIGHT GREY, THIN BEDDED, WAVY, COALIFIED WOOD AND PLANT FRAGMENTS, STICK	NDAT	NDAT	
288.36	289.46	1.10	COAL	SHALY	7CM COAL, 5CM BENTONITE AT TOP OF UNIT, COAL IS DULL WITH BRIGHT, HARD, DIRTY TOWARD FOOTWALL; FOOTWALL/HANGING WALL SEPARATION, VISUAL AND PHYSICAL POOR (RECOVERY .94/1.10 = 85%)	NDAT	NDAT	436
289.46	291.31	1.85	SLST	SS1	DARK GREY, MASSIVE, STICK	NDAT	NDAT	
291.31	294.30	2.99	SS1		LIGHT GREY, MEDIUM BEDDED, CARBONACEOUS WISPS, STICK	NDAT	NDAT	
294.30	297.23	2.93	SS2		WHITISH GREY,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					MASSIVE, MINOR CARBONACEOUS, STICK, MINOR CALCITE HEALED FRACTURES			
297.23	299.00	1.77	SSS	CARBONACE- OUS	WHITISH GREY, MASSIVE, COALY LENSES, BRDKEN STICK	NDAT	NDAT	
299.00	300.60	1.60	MUDSTONE	SLST	DARK GREY, MASSIVE, STICK	NDAT	NDAT	

CORE DESCRIPTION

HOLE.ID TW82D-269
 PROJECT TELKWA
 AREA SMITHERS
 DRIL.DATE 820926
 LOG.DATE NO.DATA
 EXAMINED.BY

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	96.00	96.00	OVERBURDEN			NDAT	NDAT	

CORE DESCRIPTION

HOLE.ID TW82D-270
 PROJECT TELKWA
 AREA SMITHERS
 DRIL.DATE 820927
 LOG.DATE NO.DATA
 EXAMINED.BY C.LANGILL

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	94.50	94.50	OVERBURDEN		TRICONE DRILLING, NO CORE	NDAT	NDAT	
94.50	96.75	2.25	SLST		LIGHT GREY, MASSIVE IN TOP 20CM, VAGUE, THIN LAMINAE OF MUDSTONE AND CARBONACEOUS FRAGMENTS BECOMING SILTY CARBONACEOUS MUDSTONE AT BOTTOM, VERY BROKEN, OCCASIONAL CALCITE VEINS ALONG BEDDING WITH STRONG RUST STAINS	46.0	95.6	
96.75	99.71	2.96	SS1	SLST	LIGHT GREY, POORLY SORTED, ABUNDANT CARBONACEOUS FRAGMENTS AND DARK GREY LAMINAE OF SILTSTONE, EXTREMELY HARD 50CM SANDY SILTSTONE ZONE IN MIDDLE, SEMI-STICK CORE, VERY BROKEN IN MIDDLE	37.0	97.3	
99.71	102.40	2.69	SS4		LIGHT GREY, MODERATELY SORTED, SUB-ROUNDED, SUB-SPHERICAL CLASTS OF 2 TO 5MM, MATRIX OF LIGHT GREY COARSE GRAINED SANDSTONE, OCCASIONAL LAMINAE OF CARBONACEOUS FRAGMENTS, MASSIVE, STICK	51.0	99.8	
102.40	103.32	.92	MUDSTONE		CARBONACEOUS, DARK	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					GREY TO BLACK, MASSIVE, OCCASIONAL THIN CALCITE VEINS, BROKEN CORE			
103.32	103.50	.18	COAL		BRIGHT WITH 30% DULL, VERY THIN BANDS OF ALTERNATING VITRINITE, ETC. HARD COAL, SOME IS CRUMBLD (RECOVERY .12/.18 = 67%)	NDAT	NDAT	
103.50	106.84	3.34	MUDSTONE		CARBONACEOUS, DARK GREY TO BLACK, MASSIVE, OCCASIONAL SLICKENSIDES, OCCASIONAL VITRAIN LENSES, SEMI-STICK CORE, BROKEN NEAR TOP	NDAT	NDAT	
106.84	107.41	.57	SLST		MEDIUM GREY, GRADES FROM MUDSTONE BELDW AND INTO SANDSTONE BELOW, MASSIVE, ABUNDANT CARBONACEOUS FRAGEMENTS	NDAT	NDAT	
107.41	107.89	.48	SS4		SAME AS CONGLOMERATE AT 99.71-102.40, GRADES THROUGH SANDSTONE TO SILTSTONE ABOVE, MINOR COAL STRINGERS	NDAT	NDAT	
107.89	108.17	.28	COAL		DULL WITH BRIGHT THIN BANDING, OCCASIONAL CALCITE, BROKEN TO CRUMBLD CORE, HARD COAL (RECOVERY .9/.28 = 32%)	NDAT	NDAT	
108.17	109.80	1.63	SLST		DARK GREY, MASSIVE, ABUNDANT	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					CARBONACEOUS FRAGMENTS, OCCASIONAL SLICKENSIDES, PLANAR POLISHED TOWARDS BOTTOM			
109.80	110.98	1.18	SLST	MDST	DARK BROWN TO GREY, MASSIVE, EXTREMELY HARD, WHITE MOTTLED APPEARANCE DN WEATHERED SURFACE, CARBONACEOUS FRAGMENTS, POSSIBLY TUFFACEOUS	NDAT	NDAT	
110.98	111.09	.11	SS3		LIGHT GREY, MEDIUM SORTED, MASSIVE, STICK, ABUNDANT CARBONACEOUS FRAGMENTS	NDAT	NDAT	
111.09	111.50	.41	MUDSTONE		CARBONACEOUS, MASSIVE, BLACK, OCCASIONAL VITRAIN LENSES, BROKEN CORE	NDAT	NDAT	
111.50	112.63	1.13	MUDSTONE	TUFF	DARK BROWN TO GREY, EXTREMELY HARD, SEMI-STICK, ABUNDANT CARBONACEOUS FRAGMENTS	NOAT	NDAT	
112.63	113.01	.38	MUDSTONE	CARBONACE- OUS	DARK GREY TO BLACK, MASSIVE, CALCITE VEINS AT TOP	NDAT	NDAT	
113.01	114.60	1.59	SLST	TUFF	DARK BRDWN TD GREY SILTSTONE, VERY HARD, MASSIVE, ABUNDANT CARBONACEOUS FRAGMENTS WITH BAKED APPEARANCE, GRADES TO VOLCANIC BELOW	NDAT	NDAT	
114.60	115.80	1.20	VOLCANICS		APHANITIC, MEDIUM BROWN TO GREY,	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					OCCASIONAL BLACK FRAGMENTS (PERHAPS CARBONACEOUS MATERIAL), MICRO CRYSTALLINE APPEARANCE, HARD, STICK CORE. GRADES TO VOLCANIC BELOW			
115.80	116.50	.70	VOLCANICS		LIGHT PINK TO GREY, APHANITIC, MASSIVE, HARD, STICK	NDAT	NDAT	
116.50	120.70	4.20	VOLCANICS		AS ABOVE WITH ABUNDANT CLASTS OF FELSIC MATERIAL, SUB-ROUNDED, NON-SPHERICAL, POSSIBLY RIP-UP CLASTS IN A FLOW, MOST CLASTS ARE 1-3CM IN DIAMETER, BUT ONE AT 119.20 IS 15CM LONG	NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TWB2D-271
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820928
 LOG DATE 821006
 EXAMINED BY S. CAMERON

TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	18.30	18.30	OVERBURDEN		OCCAS. SMALL PYRITIC BAND, HARD, DULL	NDAT	NDAT	
18.30	20.35	2.05	SLST	SS1	GREY-BLACK SILTSTONE INTERBEDDED WITH LIGHT GREY SANDSTONE, BOTH SANDSTONE AND SILTSTONE ARE VERY MICACEOUS, CARBONACEOUS FLECKS THROUGHOUT UNIT, SMALL SCALE TROUGH CROSS-BEDDING	NDAT	NDAT	
20.35	20.68	.33	MUDSTONE	CARBONACEOUS	OCCASIONALLY GRADES INTO COALY MUDSTONE, THIN COAL BANDS THROUGHOUT UNIT	NDAT	NDAT	
20.68	21.20	.52	COAL	CLEAN	HARD, DULL WITH OCCASIONAL BRIGHT BANDS	NDAT	NDAT 7	407
21.20	25.77	4.57	MUDSTONE	CARBONACEOUS	INTERBEDDED WITH VERY THIN LAMINAE OF PALE GREEN SANDSTONE, THE BANDS OF SANDSTONE BECAME THICKER AND MORE ABUNDANT NEAR THE BOTTOM OF THE UNIT	NDAT	NDAT	
25.77	26.00	.23	SS1		PALE GREEN, MICACEOUS FLECKS THROUGHOUT, GREEN COLOUR MAY BE DUE TO PRESENCE OF CHLORITE, COALY FLECKS THROUGHOUT THE SANDSTONE	NDAT	NDAT	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
26.00	26.88	.88	MUDSTONE	CARBONACE- OUS	GREY-BLACK, OCCASIONAL THIN BANDS OF PALE GREEN SANDSTONE INTERBEDDED WITH MUDSTONE	NDAT	NDAT		
26.88	28.40	1.52	COAL		(RECOVERY = 0%)	NDAT	NDAT		
28.40	30.00	1.60	MUDSTONE	CARBONACE- OUS		NDAT	NDAT		
30.00	30.52	.52	COAL	RUBBLE	THICKNESS IS NOT EXACT DUE TO VERY BAD CASE (RECOVERY = 18% NO SAMPLE TAKEN)	NDAT	NDAT		
30.52	36.60	6.08	MUDSTONE	CARBONACE- OUS	GREY-BLACK, OCCASIONAL THIN COAL BAND (RECOVERY = 100%)	NDAT	NDAT		
36.60	36.85	.25	BRECCIA	SMALL FAULT	ANGULAR IRONSTONE FRAGMENTS BOUND IN CALCITE CEMENT (RECOVERY 100%)	NDAT	NDAT		
36.85	38.60	1.75	MUDSTONE	CARBONACE- OUS	GREY-BLACK (RECOVERY 100%)	NDAT	NDAT		
38.60	38.85	.25	COAL	VERY BROKEN	VERY BROKEN TO RUBBLE	NDAT	NDAT		
38.85	39.86	1.01	MUDSTONE	CARBONACE- OUS	GREY-BLACK, OCCASIONAL CALCITE FILLED FRACTURE, OCCASIONAL THIN INTERBEDDED SILTSTONE BED	NDAT	NDAT		
39.86	40.95	1.09	COAL	RUBBLE	(RECOVERY = 73%)	NDAT	NDAT 4	408	
40.95	45.21	4.26	SLST	SS1	THIN INTERBEDS OF GREY-BLACK SILTSTONE AND	NDAT	NDAT		

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					LIGHT GREY SANDSTONE, CARBONACEOUS MATERIAL THROUGHOUT, OCCASIONAL THIN COAL BAND, SOME THIN CALCITE FILLED FRACTURES ALONG BEDDING, THE SILTSTONE BEDS PREDOMINATE TOWARD THE BOTTOOF THE UNIT, OCCASIONAL IRONSTONE BAND, SDME SMALL SCALE FAULTING IS EVIDENT				
45.21	46.02	.81	MUDSTONE	CARBONACE- OUS	BLACK, SOME INTERBEDDED SILTSTONE AND LIGHT GREY FINE GRAINED SANDSTONE	NDAT	NDAT		
46.02	49.11	3.09	COAL	RUBBLE/PO- WDER	THICKNESS NOT EXACT DUE TO VERY BAD CAVE (RECOVERY = 42%)	NDAT	NDAT 3		409
49.11	52.11	3.00	MUDSTONE	CARBONACE- OUS	BLACK, OCCASIONAL THIN COAL BAND, VERY BROKEN	NDAT	NDAT		
52.11	52.23	.12	COAL	SHALY	ABUNDANCE OF CALCITE FILLED FRACTURES	NDAT	NDAT		
52.23	53.21	.98	MUDSTONE	CARBONACE- OUS	BLACK, VERY BROKEN	NDAT	NDAT		
53.21	54.24	1.03	COAL	RUBBLE	(RECOVERY = 43%)	NDAT	NDAT 2		410
54.24	55.09	.85	MUDSTONE	CARBONACE- OUS	BLACK, RUBBLE	NDAT	NDAT		
55.09	55.61	.52	COAL	RUBBLE	(RECOVERY = 38%)	NDAT	NDAT		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
55.61	56.26	.65	MUDSTONE	CARBONACE- OUS	THIN BANDS OF COAL THROUGHOUT, OCCASIONAL CALCITE FILLED FRACTURE	NDAT	NDAT	
56.26	56.54	.28	COAL	SHALY	SHALY COAL WITH OCCASIONAL THIN BRIGHT BAND	NDAT	NDAT	
56.54	57.26	.72	MUDSTONE	CARBONACE- OUS	THINLY BEDDED WITH THIN LAMINAE OF SILTSTONE	NDAT	NDAT	
57.26	57.78	.52	COAL	RUBBLE/SH- ALY	(RECOVERY = 52%)	NDAT	NDAT	
57.78	58.20	.42	MUDSTONE	CARBONACE- OUS	BLACK, ABUNDANCE OF THINLY INTERBEDDED COAL BANDS	NDAT	NDAT	
58.20	58.58	.38	COAL	RUBBLE/SH- ALY	(RECOVERY = 63%)	NDAT	NDAT	
58.58	59.09	.51	MUDSTONE	CARBONACE- OUS	BLACK, OCCASIONAL THIN COAL BAND	NDAT	NDAT	
59.09	60.12	1.03	SLST	CARBONACE- OUS	GREY-BLACK, ABUNDANCE OF SLICKENSIDES ALONG BEDDING SURFACES, OCCASIONAL THIN COALY BAND	NDAT	NDAT	
60.12	68.62	8.50	SS1	SLST	GREY FINE GRAINED SANDSTONE WITH THIN INTERBEDS OF GREY-BLACK SILTSTONE, CALCITE FILLED FRACTURES ARE COMMON, SMALL SCALE NORMAL FAULTING, SOME SOFT SEDIMENT DEFORMATION AND BIOTURBATION	NDAT	NDAT	
68.62	75.32	6.70	SLST	SS1	GREY-BLACK CARBONACEOUS SILTSTONE	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					INTERBEDDED WITH THIN BANDS OF LIGHT GREY FINE GRAINED SANDSTONE, OCCASIONAL CALCITE FILLED FRACTURES, OCCASIONAL VERY HARD IRONSTONE BAND, GRADATIONAL CONTACT WITH THE ABOVE UNIT			
75.32	81.35	6.03	MUDSTONE	SLST	BLACK, MASSIVE, OCCASIONAL CARBONACEOUS FLECKS THROUGHOUT, IRONSTONE BANDS AND NODULES ARE COMMON, IRONSTONES CONTAIN AN ABUNDANCE OF CALCITE FILLED FRACTURES, UNIT OCCASIONALLY GRADES INTO A MUDDY SILTSTONE	NDAT	NDAT	
81.35	95.10	13.75	SLST	MDST	GREY-BLACK SILTSTONE INTERBEDDED WITH BLACK MUDSTONE, OCCASIONAL THIN BAND OF LIGHT GREY SANDSTONE, OCCASIONAL SLICKENSIDED JOINT AND CALCITE FILLED FRACTURES, OCCASIONAL IRONSTONE CONCRETION	NDAT	NDAT	
95.10	107.90	12.80	SLST	SS1	GREY-BLACK, MASSIVE, UNIT VARIES BETWEEN VERY FINE GRAINED SANDSTONE AND SILTSTONE, OCCASIONAL THIN COAL BAND WITHIN THE UNIT, OCCASIONAL SLICKENSIDE AND CALCITE FILLED	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					FRACTURE			
107.90	109.10	1.20	SS2		MEDIUM GRAINED, SALT AND PEPPER SANDSTONE, ABUNDANCE OF COALY DEBRIS THROUGHOUT, OCCASIONAL BAND OF BRIGHT COAL	NDAT	NDAT	
109.10	111.70	2.60	SLST	SS1	GREY-BLACK, MASSIVE, INTERBEDDED SILTSTONE AND VERY FINE GRAINED SANDSTONE	NDAT	NDAT	
111.70	115.10	3.40	SS1		PALE GREEN, FINE TO MEDIUM GRAINED, SOME VERY THIN INTERBEDS OF CARBONACEOUS MUDSTONE	NDAT	NDAT	
115.10	122.70	7.60	SLST	MDST	GREY-BLACK, SOME THIN INTERBEDS OF MUDSTONE	NDAT	NDAT	
122.70	131.60	8.90	MUDSTONE	SLST	BLACK MUDSTONE INTERBEDDED WITH GREY-BLACK SILTSTONE	NDAT	NDAT	
131.60	146.20	14.60	SLST	SS1	GREY-BLACK, VARIES BETWEEN SILTSTONE AND FINE GRAINED SANDSTONE OF THE SAME COLOUR	NDAT	NDAT	
146.20	148.50	2.30	MUDSTONE	SLST	GREY-BLACK, THINLY BEDDED, WEATHERS QUICKLY, RUBBLE	NDAT	NDAT	
148.50	163.10	14.60	SLST	SS1	SILTSTONE INTERBEDDED WITH VERY FINE GRAINED SANDSTONE, SOME IRONSTONE BANDS AND CONCRETIONS WITHIN THE UNIT, CALCITE HAS FILLED SOME 30 DEGREE JOINTS WITHIN THE UNIT	NDAT	NDAT	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
163.10	166.30	3.20	SLST	MDST	GREY-BLACK SILTSTONE GRADING DOWN INTO MUDSTONE, OCCASIONAL THIN COAL BAND, OCCASIONAL SMALL IRONSTONE CONCRETION	NDAT	NDAT		
166.30	171.30	5.00	SLST		GREY-BLACK, MASSIVE	NDAT	NDAT		
171.30	180.20	8.90	SS1		PALE GREEN TO LIGHT GREY COLOUR, OCCASIONAL THIN BAND OF CARBONACEOUS SHALE INTERBEDDED SOME THIN PEBBLE BANDS ARE ALSO PRESENT, OCCASIONAL CALCITE FILLED FRACTURE, SOME SMALL SCALE NORMAL FAULTING IS ALSO SEEN	NDAT	NDAT		
180.20	184.80	4.60	SLST	CARB/FAULT	GREY-BLACK, OCCASIONAL IRONSTONE NODULE IN SILTSTONE, OCCASIONAL THIN BAND OF MUDSTONE, OCCASIONAL SLICKENSIDED SURFACE ALONG VERTICAL JOINTS	NDAT	NDAT		
184.80	187.80	3.00	SS1	SLST	PALE GREEN TO GREY FINE GRAINED SANDSTONE WITH INTERBEDS OF GREY-BLACK SILTSTONE, OCCASIONAL IRONSTONE NODULES, SOME THIN PYRITIC LENSES, SOME BIOTURBATION IN UNIT	NDAT	NDAT		
187.80	189.60	1.80	SLST	SS1	GRADATIONAL	NDAT	NDAT		

		CORE		DESCRIPTION				
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					CONTACT WITH ABOVE UNIT, GREY-BLACK, OCCASIONAL COAL BLEB AND THIN COAL BAND, OCCASIONAL IRONSTONE NODULE			
189.60	190.20	.60	SS2	CALCITE CEMENT	MEDIUM GRAINED SALT AND PEPPER SANDSTONE	NDAT	NDAT	
190.20	191.00	.80	SS1		DARK GREY SANDSTONE, ABUNDANCE OF COAL FLECKS AND LENSES THROUGHOUT UNIT, OCCASIONAL THIN BED OF CARBONACEOUS MUDSTONE	NDAT	NDAT	
191.00	192.23	1.23	SLST		GREY-BLACK, MASSIVE, OCCASIONAL VERY THIN BED OF LIGHT GREY SANDSTONE	NDAT	NDAT	
192.23	193.74	1.51	SS1		PALE GREEN, ABUNDANCE OF COAL BLEBS, FLECKS AND THIN BANDS, OCCASIONAL CLAST OF IRONSTONE IN UNIT	NDAT	NDAT	
193.74	200.45	6.71	SS2		PALE GREEN, SALT AND PEPPER SANDSTONE, SOME THIN INTERBEDS OF CARBONACEOUS MUDSTONE AND COAL (1MM THICK). CALCITE FILLED FRACTURES THROUGHOUT, OCCASIONAL BIOTURBATION	NDAT	NDAT	
200.45	203.85	3.40	SS1	SLST	PALE GREEN, FINE GRAINED SANDSTONE, INTERBEDDED WITH GREY-BLACK SILTSTONE, CALCITE FILLED FRACTURES	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHDLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					THROUGHOUT			
203.85	205.35	1.50	SLST		GREY-BLACK, OCCASIONAL THIN COAL BAND AND LIGHT GREY SANDSTONE BED, ABUNDANCE OF CALCITE FILLED FRACTURES	NDAT	NDAT	
205.35	212.70	7.35	SS1	SLST	GREY FINE GRAINED SANDSTONE INTERBEDDED WITH GREY-BLACK SILTSTONE, OCCASIONAL CALCITE FILLED FRACTURE ALONG JOINT PLANES	NDAT	NDAT	
212.70	214.79	2.09	SS2		MEDIUM GRAINED SALT AND PEPPER SANDSTONE, GREAT ABUNDANCE OF CALCITE FILLED FRACTURES THROUGHOUT	NDAT	NDAT	
214.79	215.50	.71	MUDSTONE	CARBONACE- OUS	BLACK, ABUNDANCE OF POLISHED SLICKENSIDES	NDAT	NDAT	
215.50	215.58	.08	COAL	BRIGHT		NDAT	NDAT	
215.58	216.80	1.22	MUDSTDNE	CARBONACE- OUS	ABUNDANCE OF COAL BANDS UP TO 2CM IN THICKNESS	NDAT	NDAT	
216.80	216.96	.16	COAL	DIRTY	SHALY BANDS THROUGHOUT, OCCASIONAL THIN PYRITIC BANDS	NDAT	NDAT	
216.96	217.52	.56	MUDSTONE	CARBONACE- OUS	THIN COAL BANDS THROUGHOUT, OCCASIONAL CALCITE FILLED FRACTURE	NDAT	NDAT	
217.52	218.35	.83	COAL		HARD, DULL WITH THIN BRIGHT BANDS (RECOVERY = 100%)	NDAT	NDAT 1	411

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
218.35	222.00	3.65	MUDSTONE	CARBONACE- OUS	BLACK, THIN COAL BANDS AT TOP OF UNIT, OCCASIONAL CALCITE FILLED FRACTURE, ABUNDANCE OF SLICKENSIDES AT BOTTOM OF UNIT	NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TW82D-271A
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820928
 LOG DATE 821005
 EXAMINED BY S. CAMERON

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	3.90	3.90	OVERBURDEN			NDAT	NDAT	
3.90	4.78	.88	MUDSTONE	CARBONACE- OUS		NDAT	NDAT	
4.78	6.40	1.62	COAL		BROKEN, DULL WITH OCCASIONAL BRIGHT BANDS (RECOVERY = 68%)	NDAT	NDAT 8	406
6.40	8.20	1.80	MUDSTONE	CARBONACE- OUS	GREY BLACK	NDAT	NDAT	
8.20	18.30	10.10	NO DATA	NO CORE	TW82D-271A TDAL DEPTH AT 8.2, TW82D-271 BEGINS COREING AT 18.3	NDAT	NDAT	

CORE DESCRIPTION

HOLE ID TW82D-272
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820929
 LOG DATE 821004
 EXAMINED BY J. RYLEY

TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	6.10	6.10	OVERBURDEN		OCCAS. SMALL PYRITIC BAND, HARD, DULL	NDAT	NDAT	
6.10	28.20	22.10	SLST	SS1	LIGHT TO MEDIUM GREY, VERY FINE GRAINED, INDISTINCT BEDDING, VERY FRIABLE, OCCASIONAL SLICKENSIDES, POORLY CEMENTED, GDUGE, MICRO FAULTING, OCCASIONAL FOLDING, TRACE CALCITE, OCCASIONAL BANDS HARD LIGHT BROWN SILTSTONE, CRYPTOCRYSTALLINE, LOST CORE 8.2M	NDAT	NDAT	
28.20	29.20	1.00	SS1		LIGHT TO MEDIUM GREY, FINE GRAINED, OCCASIONAL CALCITE BANDS, BECOMES POORLY CEMENTED IN LAST 10CM, OCCASIONAL SLICKENSIDES, MICRO FAULTING	NDAT	NDAT	
29.20	38.39	9.19	SLST	SS1	LIGHT TO MEDIUM GREY, VERY FINE GRAINED, MICRO FAULTING AND FOLDING, OCCASIONAL SLICKENSIDES, POORLY CEMENTED, ONE 12CM BAND HARD LIGHT GREY CALCAREOUS	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					SANDSTONE, FINE GRAINED, GOUGE, FRIABLE CRYPTOCRYSTALLINE, BROKEN INDISTINCT BEDDING			
38.39	41.00	2.61	SS1	BRECCIATE-D/SLST	LIGHT TO MEDIUM GREY-GREEN, FIRST 30CM BRECCIATED WITH MEDIUM GREEN MATRIX, SANDSTONE AND CALCAREOUS CEMENTING, HARD, GOOD STICK CORE, GRADES INTO THICK LAMINAE TO VERY THINLY BEDDED SANDSTONE/SILTSTONE, MICRO FAULTING, WAVY PARALLEL, FINE TO MEDIUM GRAINED, OCCASIONAL SLICKENSIDES, FRIABLE IN PLACES, TRACE CALCITE, SILICATE CEMENT	55.0	39.7	
41.00	42.94	1.94	SLST	SS1	DARK GREY WITH THIN LAMINAE SANDSTONE, VERY FINE GRAINED, FISSILE, FRIABLE, OCCASIONAL SLICKENSIDES, TRACE TALC	NDAT	NDAT	
42.94	44.10	1.16	COAL	LC	BRIGHT, TRACE PYRITE, FAIR CLEAT, SEPARATION WITH ROOF VISUAL FAIR, PHYSICAL POOR, SEPARATION WITH FLOOR, VISUAL AND PHYSICAL FAIR (RECOVERED 52CM - RECOVERY = 45%)	NDAT	NDAT 7	400
44.10	48.51	4.41	SLST	SS1	MEDIUM TO DARK GREY, THIN TO THICK LAMINAE SANDSTONE, VERY FINE TO FINE	63.0	45.3	

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					GRAINED, TRACE TUFF, OCCASIONAL SLICKENSIDES, FISSILE AND FRIABLE IN PLACES, TRACE CALCITE				
48.51	49.30	.79	SS2	SLST	LIGHT GREEN-GREY, FINE TO MEDIUM GRAINED, THIN TO THICK LAMINAE SILTSTONE, SOFT, FRIABLE, FISSILE, CRYPTOCRYSTALLINE	NDAT	NDAT		
49.30	49.76	.46	COAL	LC	BRIGHT, BADLY BROKEN, SEPARATION WITH ROOF, VISUAL GOOD, PHYSICAL FAIR, SEPARATION WITH FLOOR, VISUAL AND PHYSICAL POOR (RECOVERED 5CM = 11% RECOVERY) POOR RECOVERY, DID NOT SAMPLE	NDAT	NDAT		
49.76	53.95	4.19	SLST	SS1	DARK GREY, THIN LAMINAE SANDSTONE, VERY FINE GRAINED, MICRO FAULTING, OCCASIONAL SLICKENSIDES, BROKEN	NDAT	NDAT		
53.95	55.80	1.85	COAL	LC	SEMI-DULL, OCCASIONAL BRIGHT BANDING, OCCASIONAL SLICKENSIDES, SEPARATION WITH ROOF AND FLOOR QUESTIONABLE (RECOVERED 1.51M - RECOVERY = 81%)	NDAT	NDAT 5		401
55.80	59.12	3.32	SLST	CARBONACE- OUS SHLE	DARK GREY, GRADES FROM CARBONACEOUS SHALE TO SILTSTONE, CARBONACEOUS DEBRIS THROUGHOUT, FAIR STICK CORE, ONE BAND HARD	NDAT	NDAT		

CORE		DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					LIGHT BROWN SILTSTONE, OCCASIONAL SLICKENSIDES, MICRO FAULTING				
59.12	59.64	.52	COAL		BRIGHT, BROKEN, OCCASIONAL SLICKENSIDES, OCCASIONAL BRIGHT BANDING, SEPARATION WITH ROOF, VISUAL FAIR, PHYSICAL POOR, SEPARATION WITH FLOOR, VISUAL AND PHYSICAL FAIR (RECOVERED 52CM - RECOVERY = 100%)	NDAT	NDAT 4	402	
59.64	73.46	13.82	SS±	SLST	LIGHT GREY-GREEN TO MEDIUM GREY, THIN TO THICK LAMINAE SILTSTONE, OCCASIONAL NODULES FINE GRAINED SANDSTONE, GOUGE IN PLACES, FRIABLE AND FISSILE THROUGHOUT, TRACE CALCITE, MICRO FAULTING, TRACE TUFF, OCCASIONAL SLICKENSIDES, OCCASIONAL BANOS HARD LIGHT BROWN SLIGHTLY CALCAREOUS SANDSTONE	59.0	71.7		
73.46	73.98	.52	COAL	SHALY/LC	BLACK, RUBBLE, VERY DIRTY, SLICKENSIDES THROUGHOUT, LOST CORE 39CM, NOT SAMPLED	NDAT	NDAT		
73.98	74.44	.46	SHALE	COALY/LC	DARK GREY TO BLACK, VERY SOFT, BADLY BROKEN, FRIABLE	NDAT	NDAT		
74.44	74.78	.34	COAL	DIRTY/LC	DIRTY, DULL, TRACE PYRITE, SEPARATION	NDAT	NDAT		

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					WITH ROOF, VISUAL AND PHYSICAL POOR, SEPARATION WITH FLOOR, VISUAL POOR, PHYSICAL FAIR (RECOVERED 10CM - RECOVERY = 29%) NOT SAMPLED			
74.78	79.48	4.70	SS1	SLST	MEDIUM GREY, VERY FINE GRAINED, OCCASIONAL BANDS HARD LIGHT BROWN SANDSTONE, TRACE CALCITE, FRIABLE AND FISSILE THROUGHOUT, OCCASIONAL SLICKENSIDES, MICRO FAULTING, TRACE TUFF	NDAT	NDAT	
79.48	79.72	.24	SHALE	COALY	BLACK, TRACE PYRITE, SLICKENSIDES, RUBBLE	NDAT	NDAT	
79.72	80.93	1.21	SLST	SHALY	DARK GREY TO BLACK, NUMEROUS SLICKENSIDES, FRIABLE, BECOMES CARBONACEOUS IN LAST 15CM	NDAT	NDAT	
80.93	82.01	1.08	VOLCANICS		LIGHT GREY, MEDIUM TO COARSE GRAINED, GOOD STICK, HARD, NODULES QUARTZ (0-1CM), CONTAINS 5CM BAND CARBONACEOUS SHALE	NDAT	NDAT	
82.01	82.65	.64	SHALE	CARBONACEOUS	BLACK, HARD, SLICKENSIDES, FAIR STICK	NDAT	NDAT	
82.65	82.84	.19	CDAL		SEMI-DULL, POOR CLEAT, MINOR BRIGHT BANDING, NOT SAMPLED, SEPARATION WITH FLOOR, VISUAL VERY POOR, PHYSICAL POOR, SEPARATION	NDAT	NDAT	

		CORE		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B	ANGLE	DEPTH SEAM	SNUM
					WITH FLOOR, VISUAL AND PHYSICAL FAIR				
82.84	83.42	.58	SHALE		DARK GREY TO BLACK, SLIGHTLY FRIABLE TO SOFT, SLIGHTLY BENTONITIC IN FIRST 10CM, BECOMES SLIGHTLY CARBONACEOUS IN LAST 15CM	NDAT		NDAT	
83.42	83.67	.25	COAL	RUBBLE	BRIGHT, RUBBLE, SLICKENSIDES, FAIRLY CLEAN	NDAT		NDAT	
83.67	83.88	.21	SHALE	CARBONACEOUS	DARK GREY TO BLACK, FRIABLE, SOFT, SLICKENSIDED	NDAT		NDAT	
83.88	84.18	.30	COAL		SEMI-DULL, BADLY BROKEN TO GOOD STICK, SEPARATION WITH ROOF, VISUAL AND PHYSICAL POOR, SEPARATION WITH FLOOR, VISUAL FAIR, PHYSICAL POOR (RECOVERED 30CM - RECOVERY = 100%)	NDAT		NDAT	403
84.18	85.59	1.41	SHALE	SILTY	DARK GREY, TRACE CARBONACEOUS DEBRIS, SLICKENSIDES, VERY FRIABLE IN PLACES, TRACE PYRITE, GOUGE IN PLACES	NDAT		NDAT	
85.59	86.08	.49	SHALE	CARBONACEOUS	BLACK, NUMEROUS SLICKENSIDES THROUGHOUT, FRIABLE, HARD SECTION (13CM) AT END	NOAT		NDAT	
86.08	87.43	1.35	SS2	LIMONITIC	LIGHT GREY, MEDIUM GRAINED, CALCAREOUS, LIMONITIC TEXTURE, CONTAINS BANDS (3-7CM)	NDAT		NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					CARBONACEOUS SHALE AT THE END			
87.43	87.90	.47	COAL		SEMI-DULL, NUMEROUS SLICKENSIDES, BADLY BROKEN, TRACE CHALCOPYRITE, SEPARATION WITH ROOF AND FLOOR, VISUAL AND PHYSICAL QUESTIONABLE (RECOVERED 47CM - RECOVERY = 100%)	NDAT	NDAT 2	404
87.90	88.08	.18	SHALE	COALY	BLACK, RUBBLE, POLISHED	NDAT	NDAT	
88.08	88.84	.76	COAL		BRIGHT TO SEMI-DULL, VERY BADLY BROKEN, SLICKENSIDES THROUGHOUT, SLIGHTLY DIRTY, FAIR CLEAT, SEPARATION WITH ROOF, VISUAL AND PHYSICAL POOR, SEPARATION WITH FLOOR, VISUAL GOOD, PHYSICAL FAIR (RECOVERED 68CM - RECOVERY = 89%)	NDAT	NDAT 2	405
88.84	94.18	5.34	SLST	SS1	MEDIUM GREY, THIN TO THICK LAMINAE VERY FINE GRAINED SANDSTONE, OCCASIONAL BANDS HARD LIGHT BROWN SILTSTONE, MICRO FAULTING, FRIABLE IN PLACES, OCCASIONAL SLICKENSIDES, TRACE CALCITE	68.0	94.0	
94.18	94.38	.20	SS1		LIGHT GREY, FINE GRAINED, ONE 2CM CALCITE BAND	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
					(POSSIBLE FRACTURE). HARD, GOOD STICK			
94.38	107.61	13.23	SLST		MEDIUM TO DARK GREY, FRIABLE, OCCASIONAL HARD LIGHT BROWN BANDS* SILTSTONE, TRACE CALCITE, OCCASIONAL SLICKENSIDES, POORLY CEMENTED, OCCASIONAL TRACE CARBONACEOUS DEBRIS, TRACE PYRITE	NDAT	NDAT	
107.61	107.94	.33	SS1	SLST	LIGHT TO DARK GREY, NUMEROUS MULTI-DIRECTIONAL CALCITE FILLED FRACTURES, RESEMBLES BIOTURBATION, DARK GREY TO BLACK, FRESH WHEN BROKEN, WHOLE SECTION IS CALCAREOUS, ONE 12CM BAND HARD LIGHT BROWN CALCAREOUS SILTSTONE	NDAT	NDAT	
107.94	120.86	12.92	SS1		MEDIUM GREY, VERY FINE GRAINED, TRACE CALCITE, NUMEROUS VERTICAL FRACTURES (10-50CM), FRIABLE, TRACE CARBONACEOUS DEBRIS, TRACE PYRITE, BECOMES LESS FRIABLE AND ATTAINS A SLIGHT GREEN TINGE IN THE LAST 1.50M, ALSO THIS IS WHERE PYRITE BECOMES ABUNDANT, 2 LARGE FOSSILS RESEMBLING AMMONITES	NDAT	NDAT	

CORE		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
120.86	121.46	.60	SS2		LIGHT GREY, MEDIUM GRAINED SANDSTONE, HARD, GOOD STICK CORE, FIVE HEALED FRACTURES, CALCITE FILLED	NDAT	NDAT	
121.46	121.92	.46	SLST		MEDIUM GREY, FRIABLE, LAST 10CM VERY CALCAREOUS WITH POSSIBLE CALCITE INFILLING OF FOSSIL BIVALVES	NDAT	NDAT	

\$37.78, \$51.57T

CHIP SAMPLE DESCRIPTIONS

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		CHIP	DESCRIPTION				
HOLE.ID	TW82R-203						
PROJECT	TELKWA						
AREA	SMITHERS						
DRIL.DATE	820219						
LOG.DATE	820200						
EXAMINED.BY	L.PETRAS						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM
.00	9.37	9.37	OVERBURDEN			NDAT	NDAT
9.37	9.83	.46	COAL			NDAT	NDAT 3
9.83	11.90	2.07	SLST			NDAT	NDAT
11.90	12.60	.70	COAL			NDAT	NDAT 2
12.60	12.90	.30	SLST			NDAT	NDAT
12.90	13.73	.83	COAL			NDAT	NDAT 2
13.73	33.00	19.27	SLST			NDAT	NDAT
33.00	39.00	6.00	SLST			NDAT	NDAT
39.00	42.00	3.00	SLST	MDST		NDAT	NDAT
42.00	45.00	3.00	MUDSTONE	SLST		NDAT	NDAT
45.00	69.00	24.00	SLST			NDAT	NDAT
69.00	72.00	3.00	SS1	SLST		NDAT	NDAT

		CHIP	DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
72.00	75.00	3.00	SLST		TRACE CALCITE	NDAT	NDAT	
75.00	78.00	3.00	SLST	SS1	TRACE CALCITE	NDAT	NDAT	
78.00	81.00	3.00	SS1	SLST		NDAT	NDAT	
81.00	84.00	3.00	SS1	SLST		NDAT	NDAT	
84.00	87.00	3.00	MUDSTONE	SLST		NDAT	NDAT	
87.00	90.00	3.00	SLST	MDST		NDAT	NDAT	
90.00	93.00	3.00	SLST	MDST		NDAT	NDAT	
93.00	96.00	3.00	SLST	SS1/MDST	CARBONACEOUS	NDAT	NDAT	
96.00	99.00	3.00	SLST	MDST		NDAT	NDAT	
99.00	108.00	9.00	SLST			NDAT	NDAT	
108.00	111.00	3.00	SS2	SLST		NDAT	NDAT	
111.00	114.00	3.00	SS1	SLST		NDAT	NDAT	
114.00	117.00	3.00	SLST	MDST		NDAT	NDAT	

		CHIP	DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
117.00	120.00	3.00	SS1	SLST		NDAT	NDAT	
120.00	123.00	3.00	SS1	SLST		NDAT	NDAT	
123.00	126.00	3.00	SS1	SLST		NDAT	NDAT	
126.00	132.00	6.00	MUDSTONE	CALCITE	TRACE PYRITE (VOLCANIC SILL OR DYKE?)	NDAT	NDAT	
132.00	138.00	6.00	SS2	MDST		NDAT	NDAT	
138.00	141.00	3.00	SS2	MDST	CARBONACEOUS	NDAT	NDAT	
141.00	144.00	3.00	SS1	SLST/MDST		NDAT	NDAT	
144.00	147.00	3.00	SS1	MDST		NDAT	NDAT	
147.00	150.00	3.00	SS1	SLST/MDST		NDAT	NDAT	
150.00	231.00	81.00	VOLCANICS			NDAT	NDAT	
231.00	-1.00	-1.00	UNKNOWN		TOTAL DEPTH	NDAT	NDAT	

CHIP DESCRIPTION

HOLE ID TW82R-205
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820221
 LOG DATE 820200
 EXAMINED BY L.PETRAS

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	24.00	24.00	OVERBURDEN			NDAT	NDAT	
24.00	30.00	6.00	MUDSTONE	CARB/SLST		NDAT	NDAT	
30.00	33.00	3.00	MUDSTONE		TRACE CALCITE	NDAT	NDAT	
33.00	36.00	3.00	MUDSTONE			NDAT	NDAT	
36.00	39.00	3.00	SLST	MDST		NDAT	NDAT	
39.00	42.00	3.00	MUDSTONE	SLST		NDAT	NDAT	
42.00	45.00	3.00	MUDSTONE			NDAT	NDAT	
45.00	48.00	3.00	SLST	MDST		NDAT	NDAT	
48.00	51.00	3.00	SLST			NDAT	NDAT	
51.00	54.00	3.00	SLST	MDST		NDAT	NDAT	
54.00	57.00	3.00	SLST	MDST		NDAT	NDAT	
57.00	60.00	3.00	SLST	MDST		NDAT	NDAT	

		CHIP		DESCRIPTION				
TDP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
60.00	63.00	3.00	SLST	MDST		NDAT	NDAT	
63.00	66.00	3.00	SLST			NDAT	NDAT	
66.00	69.00	3.00	SLST		TRACE CALCITE	NDAT	NDAT	
69.00	72.00	3.00	SS1			NDAT	NDAT	
72.00	75.00	3.00	SS1			NDAT	NDAT	
75.00	78.00	3.00	SS1		TRACE CALCITE, SLIGHTLY OXODIZED	NDAT	NDAT	
78.00	81.00	3.00	SS1			NDAT	NDAT	
81.00	84.00	3.00	SS1	SLST		NDAT	NDAT	
84.00	96.00	12.00	SS1	SLST		NDAT	NDAT	
96.00	99.00	3.00	SS1	SLST	OXODIZEDED	NDAT	NDAT	
99.00	102.00	3.00	SS1	SLST	TRACE CALCITE, OXODIZED	NDAT	NDAT	
102.00	105.00	3.00	SS1	SLST	TRACE CALCITE, OXODIZED	NDAT	NDAT	
105.00	111.00	6.00	SS1	SLST		NDAT	NDAT	

		CHIP	DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
111.00	114.00	3.00	SS1	SLST	TRACE CALCITE	NDAT	NDAT	
114.00	120.00	6.00	SS1	SLST	VERY FINE GRAINED	NDAT	NDAT	
120.00	123.00	3.00	SS1	SLST	TRACE CALCITE, SLIGHTLY OXIDIZED	NDAT	NDAT	
123.00	127.00	4.00	SS1	SLST	VERY FINE GRAINED	NDAT	NDAT	
127.00	136.32	9.32	SS1	SLST	VERY FINE GRAINED	NDAT	NDAT	
136.32	141.25	4.93	COAL			NDAT	NDAT 1	50
141.25	142.00	.75	MUDSTONE	SLST	TRACE CALCITE	NDAT	NDAT	
142.00	144.17	2.17	SLST	MDST		NDAT	NDAT	
144.17	144.96	.79	COAL		NO SAMPLE	NDAT	NDAT 1	
144.96	148.00	3.04	SLST			NDAT	NDAT	
148.00	202.00	54.00	VOLCANICS			NDAT	NDAT	
202.00	-1.00	-1.00	UNKNOWN		TOTAL DEPTH	NOAT	NDAT	

CHIP DESCRIPTION

HOLE ID TW82R-206
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820222
 LOG DATE 820200
 EXAMINED BY L.PETRAS

TDP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	11.90	11.90	OVERBURDEN			NDAT	NDAT	
11.90	13.90	2.00	SS1		TRACE PYRITE	NDAT	NDAT	
13.90	14.20	.30	COAL			NDAT	NDAT	
14.20	23.31	9.11	SS1			NDAT	NDAT	
23.31	24.08	.77	MUDSTONE	CARBONACE- OUS		NDAT	NDAT	
24.08	25.02	.94	COAL			NDAT	NDAT	9
25.02	26.88	1.86	SILTSTONE	MDST		NDAT	NDAT	
26.88	27.94	1.06	COAL			NDAT	NDAT	8
27.94	38.10	10.16	SS1	SLST	VERY FINE GRAINED SANDSTONE, TRACES OF PYRITE AND CALCITE	NDAT	NDAT	
38.10	39.00	.90	SS2	SLST	LIGHT GREEN, TRACE PYRITE	NDAT	NDAT	
39.00	41.80	2.80	SS2	SS1	LIGHT GREEN, VERY FINE GRAINED	NDAT	NDAT	
41.80	45.00	3.20	SS1	SLST/MDST	VERY FINE GRAINED	NDAT	NDAT	

		CHIP		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					SANDSTONE, MINOR CARBONACEOUS				
45.00	48.00	3.00	SS1		TRACE CALCITE	NDAT	NDAT		
48.00	51.70	3.70	SS1		VERY FINE GRAINED	NDAT	NDAT		
51.70	52.92	1.22	COAL		NO SAMPLE	NDAT	NDAT	6	
54.18	54.52	.34	MUDSTONE			NDAT	NDAT		
54.52	54.72	.20	COAL			NDAT	NDAT	5	
54.72	55.09	.37	MUDSTONE			NDAT	NDAT		
55.09	55.82	.73	COAL			NDAT	NDAT	5	
55.82	56.08	.26	MUDSTONE			NDAT	NDAT		
56.08	56.26	.18	COAL			NDAT	NDAT	5	
56.26	63.00	6.74	SS2	SS1	LIGHT GREEN, VERY FINE GRAINED SANDSTONE	NDAT	NDAT		
63.00	66.00	3.00	SS1	SS2	LIGHT GREEN	NDAT	NDAT		
66.00	69.00	3.00	SS1	SS2	LIGHT GREEN	NDAT	NDAT		
69.00	72.00	3.00	SS1	SLST	VERY FINE GRAINED SANDSTONE	NDAT	NDAT		

CHIP		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
72.00	75.00	3.00	SS1	SLST	VERY FINE GRAINED SANDSTONE, MINDR CARBONACEOUS	NDAT	NDAT	
76.30	77.30	1.00	COAL		NO SAMPLE	NDAT	NDAT	
77.13	78.00	.87	SS1	SLST	VERY FINE GRAINED SANDSTONE	NDAT	NDAT	
78.00	81.00	3.00	SS1	MDST	VERY FINE GRAINED SANDSTONE, MINDR CARBONACEOUS	NDAT	NDAT	
81.00	87.00	6.00	SS1		VERY FINE GRAINED	NDAT	NDAT	
87.00	90.00	3.00	SS1	SLST	VERY FINE GRAINED	NDAT	NDAT	
90.00	123.00	33.00	SS1		VERY FINE GRAINED	NDAT	NDAT	
123.00	132.00	9.00	SS2		LIGHT GREEN, TRACE PYRITE	NDAT	NDAT	
132.00	150.00	18.00	SS2	SS1		NDAT	NDAT	
150.00	153.00	3.00	SS1	SS2		NDAT	NDAT	
153.00	156.00	3.00	SS2	SS1		NDAT	NDAT	
156.00	159.00	3.00	SS2	SS1		NDAT	NDAT	
159.00	165.00	6.00	SS1	SS2		NDAT	NDAT	
165.00	174.00	9.00	SS2	SS1		NDAT	NDAT	

		CHIP DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
174.00	177.00	3.00	SS1		TRACE CALCITE	NDAT	NDAT		
177.00	180.00	3.00	SLST			NDAT	NDAT		
180.00	183.00	3.00	SS1	SLST		NDAT	NDAT		
183.00	186.00	3.00	SS1		VERY FINE GRAINED	NDAT	NDAT		
186.00	189.88	3.88	SS1	SS2	VERY FINE GRAINED	NDAT	NDAT		
189.88	193.90	4.02	COAL			NDAT	NDAT 1	49	
193.90	198.00	4.10	MUDSTONE	SS1	MAJOR CARBONACEOUS, 20% VERY FINE GRAINED SANDSTONE, IGNEOUS APPEARANCE	NDAT	NDAT		
198.00	204.00	6.00	SS1		VERY FINE GRAINED, VERY LIGHT GREY	NDAT	NDAT		
204.00	210.00	6.00	SS1		VERY FINE GRAINED	NDAT	NDAT		
210.00	213.00	3.00	SS1	VOLCANICS	VERY FINE GRAINED SANDSTONE	NDAT	NDAT		
213.00	231.00	18.00	VOLCANICS			NDAT	NDAT		
231.00	-1.00	-1.00	UNKNOWN		TOTAL DEPTH	NDAT	NDAT		

CHIP DESCRIPTION

HOLE ID TW82R-207
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820225
 LOG DATE 820200
 EXAMINED BY L.PETRAS

TOP	BASE	THICK	LITHOLOGY	MIN LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	9.00	9.00	DVERBURDEN			NDAT	NDAT	
9.00	15.00	6.00	SS1		VERY FINE GRAINED	NDAT	NDAT	
15.00	27.00	12.00	SS1			NDAT	NDAT	
27.00	30.00	3.00	SS1		VERY FINE GRAINED	NDAT	NDAT	
30.00	45.00	15.00	SS1			NDAT	NDAT	
45.00	48.00	3.00	SS1		VERY FINE GRAINED	NDAT	NDAT	
48.00	54.00	6.00	SS1		VERY FINE GRAINED SANDSTONE, TRACE OF CALCITE AND PYRITE	NDAT	NDAT	
54.00	60.00	6.00	SS1		VERY FINE GRAINED SANDSTONE, SLIGHTLY OXODIZED	NDAT	NDAT	
60.00	72.00	12.00	SS1		VERY FINE GRAINED	NDAT	NDAT	
72.00	75.00	3.00	SS1			NDAT	NDAT	
75.00	78.00	3.00	SS2		TRACE CALCITE	NDAT	NDAT	
78.00	81.00	3.00	SS1	SS2	VERY FINE GRAINED	NDAT	NDAT	

		CHIP		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	

SANDSTONE									
81.00	93.00	12.00	SS1		VERY FINE GRAINED	NDAT	NDAT		
93.00	108.00	15.00	SS2		TRACE CALCITE, SLIGHTLY OXODIZED	NDAT	NDAT		
108.00	111.00	3.00	SS1	SS2		NDAT	NDAT		
111.00	114.00	3.00	SS1	SS2		NDAT	NDAT		
114.00	120.00	6.00	SS1		VERY FINE GRAINED	NDAT	NDAT		
120.00	132.00	12.00	SS1		TRACE CALCITE	NDAT	NDAT		
132.00	135.00	3.00	SS1		VERY FINE GRAINED	NDAT	NDAT		
135.00	138.00	3.00	MUDSTONE	SS1	MAJOR CARBONACEOUS, VERY FINE GRAINED SANDSTONE	NDAT	NDAT		
138.08	141.79	3.71	COAL			NDAT	NDAT	1	30-37
141.79	144.00	2.21	SLST	MDST	SILTSTONE IS MINOR CARBONACEOUS, MUDSTONE IS MAJOR CARBONACEOUS	NDAT	NDAT		
144.00	150.00	6.00	SS1		VERY FINE GRAINED, SLIGHTLY OXODIZED	NDAT	NDAT		
150.00	153.00	3.00	SLST	SS1	VERY FINE GRAINED SANDSTONE	NDAT	NDAT		
153.00	156.00	3.00	SS1	SLST	VERY FINE GRAINED	NDAT	NDAT		

		CHIP DESCRIPTION							
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	

SANDSTONE									
156.00	168.00	12.00	SS1		VERY FINE GRAINED, SLIGHTLY OXIDIZED	NDAT	NDAT		
168.00	172.00	4.00	SS1			NDAT	NDAT		
172.00	200.00	28.00	VOLCANICS			NDAT	NDAT		
200.00	-1.00	-1.00	UNKNOWN		TOTAL DEPTH	NDAT	NDAT		

CHIP DESCRIPTION

HOLE.ID TW82R-209
 PROJECT TELKWA
 AREA SMITHERS
 DRIL.DATE 820227
 LOG.DATE 820200
 EXAMINED.BY L.PETRAS

TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	24.00	24.00	DVERBURDEN			NDAT	NDAT	
24.00	27.00	3.00	SS1			NDAT	NDAT	
27.00	42.00	15.00	SS1		VERY FINE GRAINED, TRACE OF CALCITE	NDAT	NDAT	
42.00	54.00	12.00	SS1			NDAT	NDAT	
54.00	60.00	6.00	SS1		VERY FINE GRAINED	NDAT	NDAT	
60.00	63.00	3.00	SS2	SS1	LIGHT GREEN, TRACE PYRITE	NDAT	NDAT	
63.00	66.80	3.80	SS1	MDST/CARB	VERY FINE GRAINED SANDSTDNE, CARBONACEOUS MUDSTONE	NDAT	NDAT	
66.80	67.15	.35	SLST	SS1	LOG COAL CHIPS, MINOR CARBONACEOUS SILTSTONE, VERY FINE GRAINED SANDSTDNE	NDAT	NDAT	
67.15	69.00	1.85	SLST	SS1	CHIPS, MINOR CARBONACEOUS SILTSTONE, VERY FINE GRAINED SANDSTDNE	NDAT	NDAT	
69.00	72.00	3.00	SLST	SANDSTONE		NDAT	NDAT	
72.00	75.00	3.00	SS1		TRACE PYRITE	NDAT	NDAT	

		CHIP		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
75.00	77.55	2.55	SS1	MDST/CARB	CARBONACEOUS MUDSTONE	NDAT	NDAT		
77.55	78.35	.80	COAL		NO SAMPLE	NDAT	NDAT		
78.35	81.00	2.65	SLST	SS1	VERY FINE GRAINED SANDSTONE	NDAT	NDAT		
81.00	90.00	9.00	SLST			NDAT	NDAT		
90.00	93.00	3.00	MUDSTDNE	CARB/SS1	VERY FINE GRAINED SANDSTONE, CARBONACEOUS	NDAT	NDAT		
93.00	93.82	.82	MUDSTONE	CARB/SS1	VERY FINE GRAINED SANDSTONE, CARBONACEOUS	NDAT	NDAT		
93.82	97.73	3.91	COAL	SHALE		NDAT	NDAT 1	38-40	
97.50	100.05	2.55	SS1	MDST/CARB	VERY FINE GRAINED SANDSTONE, TRACE PYRITE, CARBONACEOUS	NDAT	NDAT		
100.05	102.79	2.74	COAL		NO SAMPLE	NDAT	NDAT		
102.79	111.00	8.21	SS1			NDAT	NDAT		
111.00	112.08	1.08	SS1	PYRITE	VERY FINE GRAINED SANDSTONE	NDAT	NDAT		
112.08	118.87	6.79	COAL	COALY SHALE		NDAT	NDAT		
118.87	121.50	2.63	SS1	SLST	VERY FINE GRAINED SANDSTONE	NDAT	NDAT		

		CHIP	DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
121.50	144.00	22.50	VOLCANICS			NDAT	NDAT	
144.00	-1.00	-1.00	UNKNOWN		TOTAL DEPTH	NDAT	NDAT	

HOLE ID		CHIP		DESCRIPTION				
PROJECT AREA	TW82R-211							
DRIL. DATE	TELKWA							
LOG. DATE	SMITHERS							
EXAMINED. BY	820302							
	820300							
	L. PETRAS							
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	6.00	6.00	OVERBURDEN			NDAT	NDAT	
6.00	18.08	12.08	SS1			NDAT	NDAT	
18.08	19.15	1.07	COAL			NDAT	NDAT 1	42-45
19.15	20.34	1.19	MUDSTONE			NDAT	NDAT	
20.34	21.95	1.61	COAL			NDAT	NDAT 1	42-45
21.95	22.66	.71	MUDSTONE			NDAT	NDAT	
22.66	23.28	.62	COAL			NDAT	NDAT 1	
23.28	23.96	.68	MUDSTONE			NDAT	NDAT	
23.96	24.30	.34	COAL			NDAT	NDAT 1	
24.30	24.94	.64	MUDSTONE			NDAT	NDAT	
24.94	25.13	.19	COAL			NDAT	NDAT 1	
25.13	26.79	1.66	MUDSTONE			NDAT	NDAT	

		CHIP	DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH	SEAM	SNUM
26.79	27.49	.70	COAL			NDAT	NDAT	1	
27.49	29.32	1.83	MUDSTONE			NDAT	NDAT		
29.32	29.59	.27	COAL			NDAT	NDAT	1	
29.59	31.00	1.41	SS1	MDST/CARB	VERY FINE GRAINED SANDSTONE, MAJOR CARBONACEOUS	NDAT	NDAT		
31.00	32.00	1.00	COAL		NOT INDICATED ON BD LOG	NDAT	NDAT	1	46
32.00	33.00	1.00	SS1	MDST/CARB	MINOR CARBONACEOUS	NDAT	NDAT		
33.00	36.00	3.00	SLST	CARB/SS1	MINOR CARBONACEOUS, VERY FINE GRAINED SANDSTONE	NDAT	NDAT		
36.00	39.00	3.00	SS1			NDAT	NDAT		
39.00	43.00	4.00	SS1		70% VERY FINE GRAINED SANDSTONE	NDAT	NDAT		
43.00	45.00	2.00	COAL		NOT INDICATED ON BD LOG	NDAT	NDAT	1	47
45.00	48.76	3.76	MUDSTONE	CARB/SS1	MAJOR CARBONACEOUS MUDSTONE, VERY FINE GRAINED SANDSTONE	NDAT	NDAT		
48.76	50.00	1.24	COAL		NOT INDICATED ON BD LOG	NDAT	NDAT	1	48
50.00	51.00	1.00	SS1	MDST/CARB	VERY FINE GRAINED SANDSTONE, TRACE	NDAT	NDAT		

		CHIP		DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM	
					CALCITE, MINOR CARBONACEOUS				
51.00	54.00	3.00	SLST	SS1	VERY FINE GRAINED SANDSTONE	NDAT	NDAT		
54.00	66.00	12.00	SS1		TRACE CALCITE AND PYRITE	NDAT	NDAT		
66.00	69.00	3.00	SS2	SS1		NDAT	NDAT		
69.00	72.00	3.00	SS1		TRACES OF CALCITE	NDAT	NDAT		
72.00	81.00	9.00	SS1		VERY FINE GRAINED, TRACES OF CALCITE	NDAT	NDAT		
81.00	84.00	3.00	SS1		TRACES OF CALCITE	NDAT	NDAT		
84.00	87.00	3.00	SS1			NDAT	NDAT		
87.00	89.00	2.00	SS1	MDST/CARB	VERY FINE GRAINED SANDSTONE, MAJOR CARBONACEOUS	NDAT	NDAT		
89.00	90.00	1.00	MUDSTONE	SS1	MINOR CARBONACEOUS, VERY FINE GRAINED SANDSTONE	NDAT	NDAT		
90.00	102.00	12.00	SS1		VERY FINE GRAINED, TRACE CALCITE	NDAT	NDAT		
102.00	144.00	42.00	VOLCANICS			NDAT	NDAT		
144.00	-1.00	-1.00	UNKNOWN		TOTAL DEPTH	NDAT	NDAT		

CHIP DESCRIPTION

HOLE ID TWB2R-212
 PROJECT TELKWA
 AREA SMITHERS
 DRIL DATE 820304
 LOG DATE 820300
 EXAMINED BY L.PETRAS

TOP	BASE	THICK	LITHOLOGY	MIN LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
.00	6.00	6.00	OVERBURDEN			NDAT	NDAT	
6.00	9.00	3.00	SLST	SS1		NDAT	NDAT	
9.00	12.00	3.00	SS1			NDAT	NDAT	
12.00	15.00	3.00	SS2	SLST/SS1		NDAT	NDAT	
15.00	18.00	3.00	SLST	SS2		NDAT	NDAT	
18.00	22.52	4.52	SS1	SS2		NDAT	NDAT	
22.58	22.82	.24	MUDSTONE			NDAT	NDAT	
22.82	23.44	.62	COAL			NDAT	NDAT 4	41,60
23.44	23.84	.40	MUDSTONE			NDAT	NDAT	
23.84	24.91	1.07	COAL			NDAT	NDAT 4	41,60
24.91	27.00	2.09	SLST	SS1		NDAT	NDAT	
27.00	30.00	3.00	SS1	MDST/CARB	CARBONACEOUS	NDAT	NDAT	

		CHIP	DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
30.00	33.00	3.00	SS1		VERY FINE GRAINED	NDAT	NDAT	
36.58	38.54	1.96	COAL			NDAT	NDAT 2	61
38.54	39.00	.46	SS1	MDST/CARB	VERY FINE GRAINED SANDSTONE, CARBONACEOUS	NDAT	NDAT	
39.00	42.00	3.00	SS1			NDAT	NDAT	
42.00	45.00	3.00	SS1		20% VERY FINE GRAINED SANDSTONE	NDAT	NDAT	
45.00	48.00	3.00	SS1		VERY FINE GRAINED, TRACE CALCITE	NDAT	NDAT	
48.00	51.00	3.00	SS1		30% VERY FINE GRAINED SANDSTONE	NDAT	NDAT	
51.00	60.00	9.00	SS1			NDAT	NDAT	
60.00	63.00	3.00	SS3		ABUNDANCE OF CALCITE	NDAT	NDAT	
63.00	66.00	3.00	SS2			NDAT	NDAT	
66.00	87.00	21.00	SS1			NDAT	NDAT	
87.00	90.00	3.00	SS1		OXODIZED	NDAT	NDAT	
90.00	108.00	18.00	SS1			NDAT	NDAT	

		CHIP	DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
108.00	111.00	3.00	SS1		VERY FINE GRAINED	NDAT	NDAT	
111.00	114.00	3.00	SS2			NDAT	NDAT	
114.00	117.00	3.00	SS2		OXIDIZED	NDAT	NDAT	
117.00	120.00	3.00	SS2	SS1		NDAT	NDAT	
120.00	123.00	3.00	SS1	SS2		NDAT	NDAT	
123.00	129.00	6.00	SS1			NDAT	NDAT	
129.00	132.00	3.00	MUDSTONE	SS1	MAJOR CARBONACEOUS	NDAT	NDAT	
132.00	135.00	3.00	SS2			NDAT	NDAT	
135.00	138.00	3.00	SS2	SS1		NDAT	NDAT	
138.00	141.00	3.00	MUDSTONE	SS1	MAJOR CARBONACEOUS	NDAT	NDAT	
141.00	142.62	1.62	SS1		20% VERY FINE GRAINED SANDSTONE	NDAT	NDAT	
142.62	144.03	1.41	COAL		NO SAMPLE	NDAT	NDAT	1
144.03	147.00	2.97	SS1	MDST/CARB	MAJOR CARBONACEOUS	NDAT	NDAT	
147.00	150.00	3.00	MUDSTONE	CARB/SLST	MAJOR CARBONACEOUS	NDAT	NDAT	

CHIP		DESCRIPTION						
TOP	BASE	THICK	LITHOLOGY	MIN.LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
150.00	153.00	3.00	MUDSTONE	CARB/SS1	MINOR CARBONACEOUS, VERY FINE GRAINED SANDSTONE, TRACE CALCITE	NDAT	NDAT	
153.00	156.00	3.00	SS1	MDST/CARB	VERY FINE GRAINED SANDSTONE, MINOR CARBONACEOUS	NDAT	NDAT	
156.48	157.10	.62	COAL		OCAS. SMALL PYRITIC BAND, HARD, DULL	NDAT	NDAT	1
157.10	159.00	1.90	SS1			NDAT	NDAT	
159.00	162.00	3.00	SS1	SS2		NDAT	NDAT	
162.00	165.00	3.00	SS1	MDST		NDAT	NDAT	
165.00	171.00	6.00	SS1			NDAT	NDAT	
171.00	174.00	3.00	SS1	SS2		NDAT	NDAT	
174.00	177.00	3.00	SS1	SLST		NDAT	NDAT	
177.00	183.00	6.00	SS1		ABUNDANCE CALCITE	NDAT	NDAT	
183.00	186.00	3.00	SS1	MDST		NDAT	NDAT	
186.00	189.00	3.00	SS2			NDAT	NDAT	
189.00	192.00	3.00	SS1	SS2	VERY FINE GRAINED	NDAT	NDAT	

		CHIP	DESCRIPTION					
TOP	BASE	THICK	LITHOLOGY	MIN. LITH	DESCRIPTION	C/B ANGLE	DEPTH SEAM	SNUM
192.00	195.00	3.00	SS1		VERY FINE GRAINED	NDAT	NDAT	
195.00	198.00	3.00	SS1	SS2	VERY FINE GRAINED	NDAT	NDAT	
198.00	207.00	9.00	SS1		VERY FINE GRAINED	NDAT	NDAT	
207.00	210.00	3.00	MUDSTONE	CARB/SS1	MINOR CARBONACEOUS, VERY FINE GRAINED SANDSTONE	NDAT	NDAT	
210.00	213.00	3.00	SS1	MDST	VERY FINE GRAINED	NDAT	NDAT	
213.00	219.00	6.00	SS1		VERY FINE GRAINED	NDAT	NDAT	
219.00	264.00	45.00	VOLCANICS			NDAT	NDAT	
264.00	-1.00	-1.00	UNKNOWN		TOTAL DEPTH	NDAT	NDAT	