

MANALTA COAL LTD.

SHEET # 1 OF 5

PROJECT: TELKWA HOLE # T950-01 CONTRACTOR: CASING: COMMENTS: Cabinet Creek (Site 36)

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
01		core loss		6.10	0	6.10												casing to 20' (6.10m)
01/6.10		very brkn		0.45						OVB								broken boulders of igneous & volcanic rock as above
01/7.31		" "		1.83						OVB								" "
01/9.14		" "		2.21						OVB								" "
01/12.20		" "		0.30						OVB								" "
01/13.41		" "		0.66						OVB								" "
01/15.07		" "		0.96						OVB								" "
01/16.46		" "		0.87						OVB								" "
02/18.90		" "		0.82						OVB								" "
02/19.51		" "		3.06						OVB								" "
02/22.55		" "		1.10						OVB								" "
02/28.65		" "		0.16						OVB								" "
02/31.70		" "		0.10						OVB								" "
02/34.75		" "		0.45						OVB								" "
04		" "		0.29						OVB								" "
		very brkn		0.96						Mudst	silty		gry	dk.	massive			silty at top, no bedding features
04/40.23		very brkn		3.36						Mudst			gry	dk.	"			very man. carb. plant frags.
04/43.28		blocky		0.40						siltst.	mdy		gry	med				well indurated, associated

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SHEET # 2 OF 5

PROJECT: TELKWA HOLE # T95D-01 CONTRACTOR: CASING: COMMENTS: Cabinet Creek (site 36)

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH			SAMPLE #	DESCRIPTION								KEY BED		
					FROM	TO	UNIT THK		ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT		NOTES	
04		vry brkn		0.70					mudst.					gry	dk	massive		no bedding structures	
05		blky		0.86					mudst.					"	"	"		as above, mag. pyrite	
05/14.17		brkn		3.52					mudst.					"	med	"		no bedding structures	
05/16.02		blky		1.17					mudst.					"	"	"		mag. slickensides	
05		blky-brkn		3.45					mudst.					"	dk	"		as above	
06/14.46		brkn		0.40					SS		vry-fn-th			gry	lt	"		mudst. clasts at base, pyrite inclusions at base	
		brkn-vry brkn		1.01					mudst.	silty				gry	med	"		slickensides, silty or in base	
		brkn		0.11					siltst.					gry	med	thin			
06/17.68	69°	brkn		0.17					siltst.					"	"	"		becomes muddy towards base	
		vry brkn		0.56					mudst.					"	"	massive		no bedding structures	
07		vry brkn		1.08					mudst.					"	dk.	"		as above, silty towards base	
07/51.51	58°	blky		0.77					SS		fn-coar			"	med	fn-med		mic. grit, mag. coal stringers	
		blky		2.84					congl.					gry	lt	massive		rounded volcanic clasts up to 6cm, weathered grey-green to red	
07/01.86		blky		0.90					congl.					"	"	"		as above	
08	52°	solid		2.20					congl.					"	"	"		mag, ss lenticles	
08/54.71		solid		2.99					congl.					"	"	"		2cm coal inclusion at base, Barry Ryan samples for reflectance	

sample #11 see notes

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SHEET # 3 OF 5

PROJECT: TELKWA HOLE # T95D-01 CONTRACTOR: CASING: COMMENTS: Cabinet Creek (site 36)

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH		UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
					FROM	TO												
08/20.96		blk		0.61				Sample # 2 see notes	congl.				gry	lt	massive		near 1cm coal inclusion, at atten for reflectance	
09		solid		1.76					congl.				"	"	"			
	54°	solid		2.09					mudst.				gry	dk	"		no bedding features	
		solid		2.32					congl.				"	med	"		increased ss content	
	53°	solid		2.88					mudst.				blk.		laminated		fine silt laminations	
	63°	blk		2.41					siltst.				gry	dk	thin		becoming sandy towards base	
09/24.00		cave		(0.31)													cave material	
	65°	solid		1.30					SS		med-con		brn	med	thin-med		coal fragments throughout	
		solid		1.24					congl.				gry	lt			rounded volcanic clasts in ss matrix, near coal frags	
09/67.05	57°	solid		2.25					SS		med-con		gry	med	med		- near grit towards	
10		solid		2.77					SS		"		"	lt	"		- becoming coarser grain towards base	
10/70.10	59°	black		2.19					SS		"		"	"	"		or above	
		solid		2.84					congl				gry	lt	massive		- volcanic clasts in gritty ss matrix, clasts up to 8cm, rounded	
10/73.15																		
11		solid		3.01					congl				"	"	"		- as above	
11/76.20	48°	solid		1.43					congl				"	"	"		- sharp contact at base	

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SHEET # 4 OF 5

PROJECT: TELKWA HOLE # 7950-01 CONTRACTOR: CASING: COMMENTS: Cabinet Creek (site 36)

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH			SAMPLE #	DESCRIPTION								KEY BED	
					FROM	TO	UNIT THK		ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT		NOTES
11	52°	solid		0.25					Mudst.	silty.			gry.	dk.	very thin		becomes silty towards base mic. 2cm faulting, calcite veining mic. pyrite	
	58°	solid		1.25					SS	fin-coar.			gry	med	thin-med		mudst. rip upclasts at top mic. coal stringers in part coarser grain towards base	
12		solid		0.13					SS	coar-grit			"	"	massive		- congl. towards base	
12/79.27	61°	solid		3.02					congl.				gry	lt	massive		- SS-grit matrix, rounded gry-gre-red volcanic clasts up to 8cm	
12/82.29		solid		2.63					congl.				"	"	"		as above	
13		solid		0.34					congl.				"	"	"		as above	
13/85.34		solid		3.03					congl.				"	"	"		as above	
13/88.29		solid		2.43					congl.				"	"	"		as above	
14		solid		0.63					congl.				"	"	"		as above	
14/91.44	70°	solid		2.96					congl.				"	"	"		as above, mic. siltst parting	
14/94.47		solid		2.15					congl.				"	"	"		as above	
15		solid		0.90					congl.				"	"	"		as above	
15/97.33	53°	solid		9.05					congl.				"	"	"		as above	
15/100.57		solid		1.86					congl.				"	"	"		as above	
16		solid		1.17					congl.				"	"	"		as above	
16/103.63		solid		1.97					congl.				"	"	"		as above	



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SHEET # / OF

PROJECT: TELKWA HOLE # T95D-02 CONTRACTOR: JT. Thomas CASING:

COMMENTS: No geophys. log  
Cabinet Creek (site 37) abandon hole in orb.

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	UNIT THK											
01		very broken		1.59				OVB								igneous & volcanic rocks, unconsolidated, no matrix,		
01/13.10		very broken		1.00				OVB								as above		
02/13.25		very broken		0.59				OVB								as above		
01/19.20		very broken		0.44				OVB								as above		
01/22.25																no core remaining in casing		
01/34.44		very broken		0.33				OVB								OVB as above		
01/37.49		very broken		1.32				OVB								as above		
01/40.54		very broken		0.08				OVB								as above		
02/43.58		very broken		1.80				OVB								as above		
02/46.63		very broken		1.45				OVB								as above		
02/49.38		very broken		1.22				OVB								as above		
02/54.86		very broken		0.65				OVB								as above		
				Verbal comm. from drillers say hole only 165' deep marker shows - 180' below!												TD hole in orb, rig not able to set any more casing.		

TD  
hole  
drilled

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SHEET # 1 OF 5

PROJECT: TELKWA HOLE # T95D-03 CONTRACTOR: J.T. Thomas CASING: 34.44 COMMENTS: Cabinet Creek Area (Site 38)

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION									KEY BED	
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT		NOTES
1/34.44		vr. brkn.		0.15	0	34.44			Casing OVB									fragments of igneous volcanic rock, unconsolidated, base
1/39.62		vr. brkn.		0.41					OVB									as above
1/42.67		vr. brkn-brkn		0.67					OVB									as above
1/45.72		brkn		0.14					OVB									as above, sharp contact at base.
		blocky		1.14					mudst.	carb.			dry	dk.	massive			mor. coal laminations in part
1/48.77	60°	blocky		1.79					mudst.	"			"	"	mass/lam.			carb plant fragments in part
1/50.59		blocky		1.08					"	"			"	"	" "			as above, silty towards base
2	53°	solid		2.03					siltst	sandy			gry	dk.	fm-lam.			increasing sand content, mor carb. plant fragments
2/53.95		solid		1.78					ss	silty	fm-grt.		gry	med	fm-med			coarsens towards base, occasionally mudst., volc. clast
		solid		0.86					congl.	ss			gry	lt	massive			rounded volcanic clasts up to 3cm dia., ss matrix, friable
	45°	solid		0.42				smpl #1	mudst.	carb.			gry.	dk.	lam.			coal clast at top, sample #1 for Barry Ryan reflectance test @ 56.61m
2/56.99		blocky		0.64					congl.				gry.	lt.	massive			rounded volc clasts in ss matrix

PROJECT: TELKWA HOLE # T95D-03 CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH		UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
					FROM	TO												
3		blacky		0.31					congl.				gry.	lt	massive		as above	
		brkn.		0.12					mudst				gry.	dk	"		volc. clasts at top	
3/57.91		solid		3.08					congl.				gry	lt	"		sub-rounded-rounded volc. clasts, up to 5cm dia, mod. ss matrix	
3/60.96	65°	Solid		2.24					Congl.				"	"	"		as above, mod. ss bands	
4		Solid		0.79					Congl.				"	"	"		as above, sandy towards base	
4/64.00		Solid		1.10					Congl.				"	"	"		as above sand at top	
	65°	solid		1.68					SS		fin-grit		gry.	lt.	fin-med		grain size increase towards base	
		solid		0.23					congl.				gry.	lt.	massive		rounded volc. clasts, up to 3cm dia.	
4/67.05		solid		2.00					congl.				"	"	"		as above	
5/		solid		1.04					congl.	SS			"	"	"		as above, ss bed at base	
5/70.10		blacky		2.97					congl.	SS			"	"	"		as above, interbed. w. ss & grit. mod. coal inclusions	
5/73.15		solid		0.77					SS		med.		"	med	med.		mod. grit bands.	
	60°	solid		0.99					siltst	muddy			gry	dk	lamin.		mod. ss. bands	
6		solid		0.92					siltst	"			"	"	"		as above	



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SHEET # 3 OF

PROJECT: TELKWA HOLE # T95D-03 CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH		UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	DESCRIPTION				KEY BED	
					FROM	TO							COLOUR	MODIFIER	BEDDING	SED. STRUCT		NOTES
6/76.20		solid		2.91					siltst.	muddy			gry.	dk.	lam.		as above	
6/79.25	60°	solid		1.89					siltst	"			"	"	"		as above, sandy towards base	
7		solid		1.21					siltst	"			"	"	"		as above	
7/81.79		solid		0.39					siltst	"			"	"	"		" "	
		blocky		0.92					mudst.				gry	dk	lam.		stickensides	
	56°	blocky		1.80					ss		fin. cer. poor		gry	med	thin-med		mar. carb. laminations of coal inclusions	
7/85.34		solid		1.38					ss		med-grit	"	"	"	"		pebble bands in part	
8		blocky		1.39					ss		"	"	"	"	"		as above	
8/88.39	45°	solid		2.49					congl.				gry <sup>gr</sup>	lt.	massive		ss bands in part, pyritic, sub-rounded-rounded stalc. clasts up to 5cm dia, mar coal inclusions.	
		solid		0.61					ss		med-grit poor		gry	med.	med		pyritic, mar. coal lam. & inclusions pebble bands	
8/91.44		solid		0.54					ss		"	"	"	"	"		as above	
		solid		0.93					congl.				gry-gr, red	lt	massive		sub-rounded stalc. clasts up to 5cm dia, mar ss matrix well indicated	
9		solid		2.14					congl.				"	"	massive		as above	

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SHEET # 4 OF

PROJECT: TELKWA HOLE # 7951-03 CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH		UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
					FROM	TO												
9/94.48		solid		3.05					congl.				gr-y-gr-sd	lt	massive		as above	
9/97.53		solid		2.59					congl.				"	"	"		as above	
10		solid		2.39					congl.				"	"	"		as above	
10/100.58		solid		3.01					congl.				"	"	"		as above	
10/103.67		solid		0.48					congl.				"	"	"		as above	
11		solid		2.67					congl.				"	"	"		as above	
11/106.57		solid		1.65					congl.				"	"	"		as above	
	52°	blocky		1.53					mudst	carb			blk		lam.		carbonaceous mudst, carb plant frags of coal stringers, slickensides, sharp contact	
11/107.72																		
12		blocky		2.52					mudst	"			"		"		as above	
12/112.77		solid		3.06					mudst	silty			gr-y	dk.	"		as above, becoming less carbonaceous towards base, mic. ss, lam.	
12/116.82	71°	solid		0.18					mudst	"			"	"	"		as above, non carb.	
13		solid		2.67					mudst	"			"	"	"		as above, heavy laminations w. underlying weathered volcanic	
		solid		0.33					siltst	muddy			gr-y	dk.	lam.		lam. w. underlying weathered volcanic	
13/118.87		solid		1.31					"	sandy			"	"	"		as above, sandier towards base	

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SHEET # 5 OF

PROJECT: TELKWA HOLE # T95D-03 CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	ROD	DEPTH				DESCRIPTION										KEY BED	
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES		
13		solid		1.63															sub-rounded volcanic clasts up to 8cm dia. v. obs at top weathered to mud, well indurated sand matrix, possible fault
14		solid		0.05															as above
14/121.91		solid		2.99															as above
14/124.96		solid		2.79															as above
15		solid		0.27															as above
15/128.01		solid		3.15															as above
15/131.06		solid		2.50															as above
16		solid		0.57															as above
16/134.11		solid		3.08															as above
14/137.15		solid		2.22															as above
17		solid		0.83															as above
17/140.20																			T.O. (drillers 460')

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SHEET # / OF

PROJECT: TELKWA HOLE # T95R-07C CONTRACTOR: McAuley CASING: 6.04 COMMENTS: Tomar Ck. (Site 77) J. Sere

BOX MARK	BCA	CORE STATE	RQD	DEPTH				Seam	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	UNIT THK												
					0	6.50			OVR (rock)										
1 6.5-7.2		(core loss)		0.45	6.50	6.95	D		(coal)								No recovery		
		(core loss)		0.62	6.95	7.57			(rock)										
2 (7.2-8.5)		brkn		0.11	7.57	7.68			(rock)										
				0.13	7.68	7.81			mudst carb				blk				mod. coal stringers		
		Blky		0.63	7.81	8.44			mudst slty				gry	mod	massive		- weathered, very friable, Fe stain		
3 (8.5-10.2)	80°	Blky - solid		1.63	8.44	10.07			mudst slty				gry	dk	massive	lam	mod. silt lam. Fe stain, weather decreasing towards base		
4 10.2-11.6		blky		0.57	10.07	10.64			mudst				gry	dk	"	lam	mod. carb plant frags		
				0.30	10.64	10.94	C Roof	1	mudst				"	"			Roof sample, as above		
		blky		0.20	10.94	11.14	C	2	coal				blk				pyrite lam. at top, banded coal at 1cm-5cm		
		solid		0.24	11.14	11.38	C	3	mudst carb, partly				blk			lam	disseminated pyrite + mod pyrite inclusions, coal lam. throughout		
		solid		0.19	11.38	11.57	C	4	coal				blk				mod. pyrite inclusions		
		(core loss)		0.04	11.57	11.61	C		(coal)										
5 11.6-14.4		solid - brkn		1.10	11.61	12.71	C	4	coal				blk				@ 11.9m water at 50 gal/min. Coal as above mod < 1.0cm mudst bands at top		
		solid		0.30	12.71	13.01	C	5	coal				blk				as above, base of seam no visible pyrite, small redish veins, mod scale, very soft		
		blky		0.30	13.01	13.31	C (Floor)	6	Mudst				gry	dk		lam	(floor, rock) carb at top mod, silt lam.		
	81°	solid		1.04	13.31	14.35			Mudst				gry	dk/mod		lam	mod, slickenside surfaces, no visible pyrite		

MANALTA COAL LTD.

SHEET # 2 OF

PROJECT: TELKWA HOLE # T95R-07C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			Seam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
6 14.7 17.2	80°	solid-blky		0.80	14.35	15.15			Mudst	slty			gry	med	massive	lam	sltst. laminations throughout no visible pyrite.	
		solid		0.40	15.15	15.55			sltst.				gry	med	"		very hard - well indurated calcareous	
		solid		0.85	15.55	16.40			mudst	slty			gry	med	"	lam	silt lam, mar conc. nodules	
		solid		0.22	16.40	16.62			sltst.				gry	med	"		well indurated, calcareous	
		solid		0.58	16.62	17.20			mudst	slty			gry	med	"	lam	carb. plant frags on bed plane near base, mar coal inclusions near base	
7 17.2 19.6		brkn		0.14	17.20	17.34			mudst	slty			gry	med	"	lam	as above, no coal inclusions	
		solid		0.18	17.34	17.52			sltst.				gry	med	"		well indurated, slightly calc.	
		solid		0.85	17.52	18.37			mudst	slty			gry	med	"		mar carb plant frag	
		solid		0.09	18.37	18.46			sltst.				gry	med	"		well indurated, slightly calcareous	
		solid		0.77	18.46	19.25			mudst				gry	med-dk	"	lam	as above, mar pyrite lam. & inclusions	
		solid		0.25	19.25	19.50	b root	7	mudst				gry	med-dk	"	lam	roof, mar pyrite as above coaly towards base	
		brkn		0.15	19.50	19.65	b	8	coal				blk				mar. pyrite lam	
8 19.6 22.4		brkn		0.20	19.65	19.85	b	8	coal				blk				no visible pyrite, mudst lam. towards base	

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SHEET # 3 OF

PROJECT: TELKWA HOLE # T95R-07C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	seam UNIT THK											
		brn-solid		0.28	19.85	20.13	b-floor	9	mudst	carb.		gry	dk	massive		coal stringers of carb plant fragments decreasing towards base. floor		
	84°	solid		1.24	20.13	20.37			mudst	slty		gry	med	"	lam.	mod. carb plant frags, siltst. lam.		
		solid		0.25	21.37	21.62			sltst			gry	med	"		well indurated, calcareous		
		solid		0.84	21.62	22.46			mudst	slty		gry	med-dk	"	lam	mod. coal inclusions, slickensides at base, fractures @ 33° BCA		
9 22.4 24.4		solid		0.83	22.46	23.29			mudst	carb		gry	dk	"		mod. coal inclusions with pyrite holes, slickensides		
		solid		0.30	23.29	23.59	Lup Roof	10	mudst	carb		blk		"		pyrite inclusions increasing towards base. Roof		
		blk-sol		0.34	23.59	23.93	Lup	11	coal			blk				mod. disseminated pyrite & pyrite band 3cm thick 16cm from top mudst band-lam. at base * strong sulphur smell when * drilled		
		blk-sol		0.49	23.93	24.42	Lup	12	coal			blk				mod. pyrite inclusions, decreasing towards base, bright banded coal		
10 24.4 26.2		blk-sol		0.91	24.42	25.33	Lup	12	coal			blk				as above, no visible pyrite		
		solid		0.09	25.33	25.42	Lup	13	coal			blk-brn				mudst. band, coal cleaner towards base		
		solid-blk		0.76	25.42	26.18	Lup	14	coal			blk				no visible pyrite, bright banded coal.		

MANALTA COAL LTD.

SHEET # 4 OF

PROJECT: TELKWA HOLE # 795R-07C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED
				INTERVAL THK	FROM	TO	Seam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
11 26.2 29.3		(core loss) solid		(0.01) 0.08	26.18 26.22	26.22 26.30	1 Ptg 1 Ptg	15	(mudst?) mudst									pyrite inclusions throughout, well-inclined, very carb, coaly
		solid-blky		1.58	26.30	27.88	1	16	coal									bright-dull banded no visible pyrite
		solid		0.81	27.88	28.69	1	17	coal									mod pyrite in fractures of inclusions, mod mudst band 1cm or less
		solid-blky		0.25	28.69	28.94	1	18	coal									becomes muddier towards base, mod. pyrite incl at base (base of seam)
		solid		0.28	28.94	29.22	1 floor	19	mudst									carbonaceous, mod. pyrite incl, slickensides, (Floor)
12 29.8 32.3		(core loss) solid		(0.08) 0.67	29.22 29.30	29.30 29.97			mudst									carb plant frags, & pyrites streaks on bdy, plane
		solid		0.25	29.97	30.22	1/2 roof	20	mudst									(roof) increasing pyrite inclusions towards base
		solid-blky		0.31	30.22	30.53	1/2a	21	coal	noddy								pyrite band ± 0.5cm & lam at top, in thd in coaly, mudst
		blky		0.17	30.53	30.70	1/2a	22	coal									bright banded
		blky		0.13	30.70	30.83	1/2a	23	mudst/bentonite									2cm band bentonite (stiff) mudst very carb
		solid		0.31	30.83	31.14	1/2a	24	coal									carb, mudst bands, numerous pyrite laminations throughout
		solid		0.25	31.14	31.39	1/2a floor	25	mudst									(Floor) numerous pyrite lam. in top, 10cm, less carb at base

MANALTA COAL LTD.

14 37.2

SHEET # 5 OF

PROJECT: TELKWA HOLE # T95R-07C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				Seam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO													
		solid		0.48	31.39	31.87			mudst.				gry	med	massive		carb. plate frags on bdg plane		
		solid		0.25	31.87	32.12	1lb roof	26	mudst				gry		"		Roof, pyrite flamer on bdg. plane		
		solid		0.26	32.12	32.38	1lb	27	coal				blk				pyrite flowers on bdg. plane, carb mudst. beds at top		
13 32.3 35A		blk		0.21	32.38	32.59	1lb	27	coal				blk				no vis. pyrite		
		solid		0.25	32.59	32.84	1lb floor	28	mudst				gry	dk	massive		(Floor) mod pyrite on bdg. plane.		
		solid		0.60	32.84	33.44			mudst				gry	dk	"				
		solid		0.25	33.44	33.69	? Roof	29	mudst				gry	dk	"		(Roof) increasing pyrite inclusions at base		
		solid-Blk		0.42	33.69	34.11	?	30	Coal				blk				mod pyrite on bdg. plane		
	79°	solid		0.51	34.11	34.62	? Parting	31	Mudst.				gry	dk	"		(Parting) interseam parting mod pyrite incl. throughout		
		solid		0.18	34.62	34.80	?	32	Coal	muddy			blk				numerous mudst. lam. & bands through out, pyrite incl.		
		solid		0.33	34.80	35.13			mudst				gry	dk	massive		carb & coaly at top, mod pyrite incl.		
14 35.0 37B		solid		0.68	35.13	35.81			mudst				gry	dk	"		mod pyrite inclusions		



PROJECT: TELKWA HOLE # 795R-07C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			Seam UNIT / THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
		solid		0.22	35.81	36.03			mudst.	coaly			blk		lam.		coal bands throughout, numerous pyrite lams.	
		solid		0.48	36.03	36.51			mudst				gry	med	massive		mnr carb. plant frags on bdg plane	
		solid		0.47	36.51	36.98			siltst				gry-bm	med	massive	biotub	bivalves infilled w. calcite, calcite veining throughout.	
		solid		0.17	36.98	37.15			mudst				gry	med	"		mnr plant frags.	
15 37.2 38.8		solid		0.43	37.15	37.58			mudst				gry	med	"		as above	
		solid		0.25	37.58	37.83	1kc Roof	33	mudst				gry	med-dk	"		as above, increasing carb content towards base (Roof)	
		solid		0.56	37.83	38.39	1kc	34	Coal	muddy			blk				infilled w. carb. mudst. very dirty coal, no visible pyrite	
		solid		0.25	38.39	38.64	1kc floor	35	mudst				gry	med	massive		(Floor), no visible pyrite	
	73°	solid		0.33	38.64	38.97			mudst	carb			gry	dk-blk	"		coal bands up to 5cm	
16 38.8 41.7		solid		0.23	38.97	39.20	? Roof	36	mudst				gry	med	"		carb plant frags on bdg plane (Roof)	
		blky		0.22	39.20	39.42	?	37	coal				blk				mudst. bands up to 10cm, calcite veining no visible pyrite	

MANALTA COAL LTD.

SHEET # 7 OF

PROJECT: TELKWA HOLE # T95R-07C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	DESCRIPTION				KEY BED
				INTERVAL THK	FROM	TO	Seam UNIT THK						COLOUR	MODIFIER	BEDDING	SED. STRUCT	
		solid-blky		0.49	39.42	39.91	?	38	coal				blk				bright banded, mpr, coal mudst bands towards base
		solid		0.25	39.91	40.16	? floor	39	mudst	slty			gry	med	massive		floor, no visible pyrite
		solid		0.69	40.16	40.85	.		mudst	"			"	"	"		as above
		solid		0.50	40.85	41.35			sltst				gry	med	"	SSD	calcareous, bivalves, at base
		solid		0.20	41.35	41.55			SS	slty			gry	med	thin		coal stringer at base
		solid		0.40	41.55	41.95			mudst				gry	med	massive		carb rip up clasts, plant frags on bdg. plane, sliken sides
		(core loss)		0.06	41.95	42.01											
17 388 44.6		solid		0.15	42.01	42.16			sltst				gry	med		SSD	sliken sides, carb, plant frags on bdg. plane
		solid		0.50	42.16	42.66			mudst				gry	med-dk	massive		carb, plant frags
		solid		0.10	42.66	42.76			sltst				gry	med			calcareous
		solid		0.10	42.76	44.86			mudst				gry	med-dk	massive		coal stringers near base
18 446 47.7		solid		1.88	44.86	46.69			mudst	slty			gry	med	"		carb, plant frags throughout
		solid		0.42	46.69	47.11			sst.	slty	vtg		gry	med	thin		
		solid		0.52	47.11	47.63			mudst				gry	dk	massive		carb, no visible pyrite,
		solid		0.25	47.63	47.88	120.100	40	mudst				gry	"	"		(root) as above
		solid		0.07	47.88	47.95	120	41	coal				blk				dull, sandy

MANALTA COAL LTD.

SHEET # 8 OF

PROJECT: TELKWA HOLE # 795R-070 CONTRACTOR: Mc Auley CASING: COMMENTS: Texas Ck (Site 77)

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH			SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED	
					FROM	TO	Seam UNIT THK												
19 47.7 50.7	78°	blk		0.28	47.95	48.23	1.0	41	Coal				blk				light banded, no pyrite		
		solid		0.25	48.23	48.48	1.0 floor	42	mudst				gr	dk	massive	tan		floor, no pyrite	
		solid		2.55	48.48	51.03			mudst				"	"	"	bioturb.		increasing bioturbation towards base, none incl. several concretions nodules heavily laminated.	
30 50.7 53.8		solid		2.78	51.03	53.81			mudst				gr	dk	"	"		as above	
21 53.8 56.7		solid		2.79	53.81	56.60			mudst				gr	"	"			no laminations, mar. pyrite inclusions, & holes around few early incl.	
		solid		0.08	56.60	56.68			mudst	slty			gr	"	"	bioturb.		numerous bivalves	
		solid		0.18	56.68	56.86			mudst				gr	dk	"			-few bivalves	
																		End of hole	

MANALTA COAL LTD.

SHEET # / OF

PROJECT: TELKWA HOLE # T95R-15C CONTRACTOR: McAuley CASING: 6.5m

COMMENTS: Texas Ck (Site 3) L. Lewis

Run # BOX MARK	DEPTH							DESCRIPTION										KEY BED
	BCA	CORE STATE	RQD	INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
1-6.5-7.4 (-0.40)	66°	blk-blocky		0.50	6.50	7.00		A001	siltst	ss			gry	med	thin		slightly calc on scratch, no visible pyrite, no Fe stain, slickensides on some bedding planes	
2-7.4-9.9 (-0.76)		(core loss) brkn		(0.40)	7.00	7.40		A001	(rock) siltst	ss			gry	med	thin		as above	
		blocky		0.30	7.62	7.92		A002	ss	silty	v.fine		gry	med	massive		very calc, mod calcite veins, mod fractures, no visible pyrite	
		(core loss) brkn-blocky		(0.76)	7.92	8.68		A003	(rock) siltst	ss			gry	med			slightly calc on scratch, mod calcite veining at base, mod fractures @ 22° BCA, slickensides	
3-9.9-11.7 (-0.36)		blocky		1.44	9.90	11.34		A004	siltst	ss			gry	med	thin		mod-med fizz, mod calcite veins, slickensides, very mod pyrite flake on bedg plane	
4-11.7-13.2 (-0.16)	80°	(core loss) blocky		(0.36)	11.34	11.70		A005	siltst	ss			gry	med	thin		as above, slow-sustained-fizz, occas. small calcite vein, very mod pyrite flake at base	
5-13.2-15.2 (+0.08)		(core loss) solid		(0.31)	13.04	13.35		A006	(Rock) siltst	mudst			gry	med			as above, mod calcite on slickenside surface, no visible pyrite, slow-non-fizz on scratched surface	
		solid		1.25	14.18	15.43		A007	siltst	mudst			gray	med			as above, carb plant frags on bedg plane, dessem. pyrite mod on slicken surface, mod centricous fizz, pyrite halo around coal lam. at base	
6-16.2-17.0 (-0.18)		solid		1.62	15.43	17.05		A008	siltst	mudst			grey	med			as above, no fizz on scratch, very mod calcite veins on fracture surface, slight trace pyrite at base	

MANALTA COAL LTD.

SHEET # 2 OF

PROJECT: TELKWA HOLE # T95R-150 CONTRACTOR: CASING: 6.5 COMMENTS: Tenon CK ARD hole site 3

TUN #	BOX MARK	BCA	CORE STATE	RQD	DEPTH			SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
					INTERVAL THK	FROM	TO											
7	17.0 18.9	75°	solid		2.52	17.05	19.57	A009	siltst	mudst			grey	md	massive		non calc, several 3cm bands well indurated zones - mod sustained fizz, mar fractures @ 50° BCA, mar carb. ppt. frags. coal inclusions w. pyrite holes becoming muddier towards base	
	+0.62																	
8	18.9 20.6		solid		1.94	19.57	21.51	A010	mudst	silty			gry	md-dk	massive		non calc, coal inclusions w. pyrite holes increasing towards base, no fizz on scratch, mtr. calcite on fracture surface	
	+0.24																	
9	20.6 23.3		solid		2.64	21.51	24.15	A011	mudst				gry	md-dk	massive		non calc, coal inclusions throughout, pyrite holes on coal incl fractures @ 60° & 35° BCA, very mar calcite veins on frac surf. mar shell frags	
	(-0.06)																	
10	23.3 25.1		solid-blocky		1.81	24.15	25.96	A012	mudst				gry	dk	massive		as above, non calc, 11cm siltst bed @ 1.06m very calc, ore gas in shell frag, marked decrease in pyrite incl, incr fracturing-slickensides	
	+0.01																	
11	25.1 26.7		solid-blocky		1.34	25.96	27.30	A013	mudst				gry	dk	massive		as above, fracture zones 2-5cm thk, some w. calcite veins, mudst non calc, no fizz, mar-mod pyrite incl.	
	(-0.26)																	
12	26.7 29.4		solid blocky		0.54	27.30	27.84	A014	mudst	silty			gry	dk	massive		as above, non calc, pyrite infill of holes on coal incl.	
	(-0.37)																	
			solid		1.79	27.84	29.63	A015	siltst	ss			gry-gr	med	massive	SSD	mottled/birefracted silt/mudst, grey chloritic ss w. fa. gr, non calc, pyrite incl. assoc. w. coal incl.	

MANALTA COAL LTD.

SHEET # 3 OF

PROJECT: TELKWA HOLE # T95R-15C CONTRACTOR: CASING:

COMMENTS: *Texas Cr. (site #3) ARD core hole*

BOX MARK	BCA	CORE STATE	RQD	DEPTH			Seam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEYED
				INTERVAL THK	FROM	TO												
13 29.4 30.5 (-0.11)		solid		0.28	29.63	29.91		A016	siltst	ss			gry-gre	dk	massive	SSB	as above, increased carb, & coal incl., pyrite holes & incl., calcite lam streak with fill of coal incl.	
		solid		0.57	29.91	30.48		A017	mudst	silty			gry	dk	massive		non calc, incl carb-coal string content, pyrite incl, becoming more dissm. towards base	
		solid		0.14	30.48	30.62		A018	mudst	silty							as above (root rock)	
14 30.5 32.7 +0.17		solid		0.27	30.62	30.89		A018	mudst	coaly			blk		lam		pyrite dissm & incl, throughout slightly calc., slow sust. fizz in bands, increasing coal stringers toward base (root rock)	
		blocky		0.29	30.89	31.18	e	A019	Coal	mudst			blk				mudst lam. at top, dissm. pyrite at top.	
		solid		0.50	31.18	31.68		A020	mudst	carb			gry	med.	massive		(floor rock) non calc, mod coal lam decr. towards base, mod amount pyrite incl, & stringers.	
	75°	solid		1.29	31.68	32.97		A021	mudst	silty			gry	lt.	massive	bio, lam	non calc, bioturbated, pyrite infill of some burrows, carb plant frags, at top.	
15 32.7 35.5		solid		2.65	32.97	35.62		A022	mudst	silty			gry	m	massive	bio/lam	as above, non calc, pyrite incl at top decr. towards base, carb plant frags on hdy plane.	
16 35.5 38.4		blocky		0.35	35.62	35.97		A023	mudst	carb			gry	dk	massive	lam	mod. pyrite stringers & incl, no fizz. (root rock)	
		solid	e	0.46	35.97	36.43	d	1	Coal				blk				bright & dull banded, carb mudst bank up to lam. at top mod. pyrite lam.	

MANALTA COAL LTD.

SHEET # 4 OF

PROJECT: TELKWA HOLE # T95P-15C CONTRACTOR: CASING:

COMMENTS: Texas (k (site #3) Ard hole

Run # BOX MARK	BCA	CORE STATE	RQD	DEPTH			Seam UNIT /THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	DESCRIPTION				KEY BED	
				INTERVAL THK	FROM	TO							COLOUR	MODIFIER	BEDDING	SED. STRUCT		NOTES
		solid		0.54	36.43	36.97		A024	Mudst	carb			gry	dk	massive	lam.	coal stringers decreasing towards base, very mnr pyrite non calc. (floor rock)	
		solid		1.56	36.97	38.53		A025	Mudst	carb			gry	m	massive		coal lam, carb plant frags throughout, mnr amount pyrite incl, non calc.	
17 38.4 41.3		solid		0.49	38.53	39.02		A026	Mudst	carb			gry	dk	massive		numerous pyrite incl. increasing towards base, non calc. (roof rock)	
		solid		0.25	39.02	39.27	C	2	Coal				blk				pyrite (1cm band) at top	
		solid		0.36	39.27	39.63	C	3	Coal				blk				bright banded, mnr mudst lam near top	
		solid		0.35	39.63	39.98	C	4	Coal	carb			blk				intbed w. carb mud lam up to 2cm; pyrite lams near base.	
		solid-blaky		1.22	39.98	41.20	C	5	Coal				blk				bright banded, mnr pyrite inclusions @ 30cm from top	
		solid		0.03	41.20	41.23		A027	Mudst	carb			gry	dk	massive	lam	coal stringers throughout, non calc. Floor	
18 41.3 43.0	74°	solid		0.47	41.23	41.70		A027	Mudst	carb			gry	m	massive	lam	as above, coal stringers, carb plant frags decreasing towards base, mnr dissem. pyrite, lam pyrite incl. at base.	
		solid		1.27	41.70	42.97		A028	Mudst	slty			gry	m	massive	lam	mnr. calc. veins, mudst non calc. carb plant frags throughout no visible pyrite	

MANALTA COAL LTD.

SHEET # 5 OF

PROJECT: TELKWA

HOLE # T95R-15C

CONTRACTOR:

CASING:

COMMENTS:

Texas Ct (site #3) Ard hole

BOX MARK	BCA	CORE STATE	RQD	DEPTH		Seam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	DESCRIPTION				KEY BED
				INTERVAL THK	FROM							TO	COLOUR	MODIFIER	BEDDING	
19 430 450		solid		2.15	42.97	45.12	A029	mudst	silty calc			gry	med	massive	lam	as above, non calc, vry mnc pyrite balas on coal incl. mnc calcite veins, slickensides
20 450 478	72°	solid		0.75	45.12	45.87	A030	mudst	silty			gry	med	massive	lam/biot	as above, non calc, vry mnc pyrite balas
		solid		0.20	45.87	46.07	A031	stst	calc			gry	lf		SSD	vry calc, well indurated
		solid		1.86	46.07	47.13	A032	mudst	silty			gry	med	massive	lam/biot	mudst, non calc, mnc coal lam. at base, no visible pyrite at base
		solid		0.50	47.13	47.63	A033	mudst	silty			gry	med	massive	lam/SSD	as above, mnc disseminated pyrite at base, sharp contact w/ coal (Roof Rock)
		solid		0.29	47.63	47.92	A034	coal				blk				bright banded, mnc pyrite incl. sharp contact.
		solid		0.21	47.92	48.13	A035	mudst	silty			gry	lf	massive	lam	mnc calcite veins on fracture surfaces, coal lam. mudst non calc no visible pyrite (Floor rock)
21 478 495		solid		0.30	48.13	48.43	A035	mudst	silty			gry	med	massive	lam	mnc coal lam, carb plat frags on bdg plane, vry mnc pyrite lam
		solid		1.36	48.43	49.79	A036	mudst	silty			gry	med	massive	lam	lam. decreasing to base, soft white veins med. last 10cm not calc. mudst non calc.
22 49.5 51.0		solid		0.87	49.79	50.66	A037	mudst	silty			grey	med-dk	massive	lam	as above, non calc, carb plat frags on bdg plane, no visible pyrite



MANALTA COAL LTD.

SHEET # 6 OF

PROJECT: TELKWA HOLE # T95P-15C CONTRACTOR: CASING: COMMENTS: Texas Ck (site #3) Ard bak

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED
				INTERVAL THK	FROM	TO	Seam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
		solid		0.50	50.66	51.16		A038	Mudst				gry	dk	massive		(Roof Rock) non calc, no fizz, minor amount pyrite in incl	
		solid		0.26	51.16	51.42	14	6	Coal				blk				pyrite bands (upto 0.5cm) of laminations at top decreasing towards base.	
23 510 52.7		solid		0.35	51.42	51.77	14	7	Coal				blk				as above, pyrite lam decreasing 2cm mudst band @ 17cm from top	
		solid		1.27	51.77	53.04	14	8	Coal				blk				minimal pyrite lam-inclusions, clean coal	
24 527 551		solid-block		0.17	53.04	53.21	14	8	Coal				blk				as above	
		solid		0.26	53.21	53.47	14	9	coal				blk				as above, no visible pyrite sharp contact at base	
		solid		0.50	53.47	53.97		A039	Mudst	carb			gry	dk	massive	SSD	non calc, no fizz on scratch, coal lam of incl decreasing towards base, becoming silty, no visible pyrite. (Floor rock)	
		solid		0.88	53.97	54.85		A040	siltst	muddy			gry	med	massive		slightly carb, few coal lam, w small amount of pyrite balas non calc.	
		brkn		0.46	54.85	55.31		A041	Mudst	carb			gry	med-H	massive	SSD	coal stringers, last 13cm very calc-limy mud, top non calc.	
		(core loss)		(0.14)	55.31	55.45			(rock)									
25 551 571		solid		0.12	55.45	55.57		A041	Mudst				gry	H.	massive	SSD	as above very-calc. bentonitic at base	

MANALTA COAL LTD.

SHEET # 7 OF

PROJECT: TELKWA

HOLE # T95R-15C

CONTRACTOR:

CASING:

COMMENTS:

Texas (A) (site 3) Ard core

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED	
				INTERVAL THK	FROM	TO	Seam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES		
	78°	solid		0.83	55.57	56.40		A042	Mudst	carb				gry	med	massive		coal bands & lam. throughout non calc, no visible pyrite	
		solid		0.50	56.40	56.90		A043	Mudst	carb				gry	dk	massive		(Roof Rock) mac amount of pyrite inclusions, several calcite veins at top mudst, no fizz sharp contact w. coal	
		solid		0.25	56.90	57.15	1	10	Coal					blk				no visible pyrite bright green coal	
		solid-blocky		0.39	57.15	57.54	1	11	Coal					blk				bright & dull banded, mac mudst lam. at top	
26 57.1 57.1		solid		1.51	57.54	59.05	1	11	Coal					blk				as above	
		solid-brkn		0.33	59.05	59.38	1	12	Coal					blk				mac amounts of muddy coal bands and incl., no visible pyrite.	
27 59.1 61.5		solid		0.30	59.38	59.68	1	12	Coal					blk				as above mudst band (2cm) at base	
		solid		0.94	59.68	60.62	1	13	Coal					blk				dull & bright banded	
		solid		0.32	60.62	60.94	1	14	Coal	mudst				blk				band of incl. of muddy coal & mudst.	
		blkyl-brkn		0.28	60.94	61.22	1	15	Coal	mudst				blk				as above, no visible pyrite (base of seam)	



MANALTA COAL LTD.

SHEET # 3 OF

PROJECT: TELKWA HOLE # T95R-19c CONTRACTOR: CASING: COMMENTS: Texas CK (site 11)

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED
				INTERVAL THK	FROM	TO	Seam UNF THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
		solid blk		0.35	53.34	53.69	b	8	Coal				blk				mod. amount pyrite incl.	
8 53.3 55.4		solid		0.09	53.69	53.78	b	8	Coal				blk				sharp basal contact	
		solid		0.20	53.78	53.98	b floor	9	Mudst carb				dky	dk	massive		mod. amount pyrite lam.	
		solid		0.20	53.98	54.18	b floor	6-04	Mudst carb				gry	dk	massive		as above mod pyrite lam.	
	82°	solid		1.72	54.18	55.90			Mudst silty				gry	dk-med	massive	lam	geotechnical sample pyrite not visible past 10cm from top. no calc, no fiss on scratch.	
9 55.4 57.4		solid		2.06	55.90	57.96			mudst silty				gry	dk-med	massive	lam	as above	
10 57.4 59.4		solid-blk		1.70	57.96	59.66			mudst silty				gry	dk	massive	lam	as above fractures normal to bed, displacement along fracture 5cm, pyrite individual amount at base.	
		solid		0.10	59.66	59.76	14 roof	10	mudst				gry	dk	massive		(Rest Rock), pyrite lam. moderate amount.	
		(Core loss)		(0.06)	59.76	59.82	14		(Coal)									
11 59.4 61.4		solid		0.25	59.82	60.07	14	11	Coal				blk				dull-mod bright bands, mod amount of pyrite incl.	
		solid		0.32	60.07	60.39	14	12	Coal				blk				bright banded	
		solid		0.20	60.39	60.59	14	13	Coal				blk				pyritic bands up to 2cm @ 12cm	
		solid		1.21	60.59	61.80	14	14	Coal				blk				bright banded, 1cm pyrit band at 76cm	

MANALTA COAL LTD.

SHEET # 4 OF

PROJECT: TELKWA HOLE # T95R-19C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	Seam UNIT THK											
12 61.4 63.5		solid		0.05	61.80	61.85	1 up	14	Coal			blk				as above		
		solid		0.05	61.85	61.90	1 pitg	15	Tuff			brn	med			well indurated		
		solid		0.99	61.90	62.89	1	16	Coal			blk				bright banded, no visible pyrite		
		solid		0.16	62.89	63.05	1	17	Mudst	Coaly		blk		massive		large pyrite incl increasing coal content towards base		
		solid		1.02	63.05	64.07	1	18	Coal			blk				dull & bright banded		
13 63.5 66.6		brkn		1.10	64.07	65.17	1	18	Coal			blk				as above		
		solid		0.79	65.17	65.96	1	19	Coal	muddy		blk				muddy coal at top, no visible pyrite		
		solid		0.25	65.96	66.21	1	20	Coal			blk				dull banded, no visible pyrite		
		solid		0.32	66.21	66.53	1 floor	21	Mudst	Coaly		blk		massive		coaly at top, mod amount of dissem. pyrite at base (Floor Rock)		
		solid		0.23	66.53	66.76	1 floor	G-05	Mudst	carb		gr	dk	massive		moderate amount of dissem. pyrite, fracture plane @ 10° BCA, geotechnical sample		
		brkn		0.11	66.76	66.87			Mudst	carb		gr	dk	massive		as above		
14 66.6 69.3		solid		0.19	66.87	67.06			Mudst	carb		gr	dk	massive		coal laminations finish non calc		
		solid		0.30	67.06	67.36			Mudst	stly		gr	lt	massive	lane	very calc, strong fill		

MANALTA COAL LTD.

SHEET # 5 OF

PROJECT: TELKWA HOLE # T95R-19C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH		Seam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
					FROM	TO												
	75°	solid		1.84	67.36	69.20			Mudst	carb			gry	dk	massive		increasing amount pyrite bites around coal incl. y pyrite incl.	
		solid		0.21	69.20	69.41	11a roof	6-06	Mudst	carb			gry	dk	massive		mod-heavy amount of pyrite incl. dissem. geotechnical sample	
		solid		0.23	69.41	69.64	11a roof	22	Mudst	carb			gry	dk	massive		mod heavy pyrite lam. gradational contact w. coal (Roof Rock)	
15 69.3 70		brkn		0.33	69.64	69.97	11a	23	Coal	metst.			blk				dull banded, shagreened at top, mod amount pyrite incl. at top, muddy coal at base	
		brkn		0.09	69.97	70.06	11a	24	Tuff?				brn				well indurated, calc, mod. size	
		solid		0.88	70.06	70.94	11a	25	Coal				blk				bright & dull banded, mod amount pyrite lam. at top	
		solid		0.25	70.94	71.19	11a	26	Coal				blk				as above, no visible pyrite sharp basal contact	
		solid		0.25	71.19	71.44	11a floor	27	Mudst	carb			gry	dk	massive		Floor rock, mod amount of dissem pyrite increasing towards base.	
		solid		0.24	71.44	71.68	11a roof	28	Mudst	carb			gry	dk	massive		(Roof Rock) heavy <sup>amount</sup> pyrite lam. at base, gradational contact w. coal	
		solid		0.25	71.68	71.93	11b	29	Coal				blk				mod. amount pyrite lam.	

MANALTA COAL LTD.

SHEET # 6 OF

PROJECT: TELKWA HOLE # T95R-19c CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH		Seam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
					FROM	TO												
		solid		0.25	71.93	72.18	1lb	30	Coal				blk				mod amount pyrite lams	
		solid		0.25	72.18	72.43	1lb	31	Coal				blk				calcite boxwork at base mod amount pyrite lams.	
16 72.9 73.0		solid		0.25	72.43	72.68	1lb floor	32	Mudst carb				gry	dk	massive		(Elcar Rock) mod amount pyrite incl. of holes around coal stringers.	
		solid		0.13	72.68	72.81	1lb floor	6-07	Mudst coaly				blk		massive		coal bands, heavy amount pyrite lam at base, geotechnical sample	
		solid		0.67	72.81	73.48			Mudst coaly				gry	dk	thin		numerous 2-5cm bands of muddy coal, dissem. pyrite throughout	
	80°	solid		2.02	73.48	75.50			Mudst silty				gry	dk-red	massive lam		mod bioturbation, carb. plat frags on bdg plane, non calc no visible pyrite	
17 75.0 77.8		solid		1.46	75.50	76.96			Mudst silty				gry	dk-red	massive lam		becoming more carb. towards base	
		blocky		0.21	76.96	77.17			siltst muddy				gry	dk	massive lam		very calc, strong fizz, large pyrite incl. at base	
		solid		0.15	77.17	77.32			Mudst carb				blk		massive		no visible pyrite, sharp contact at base	
		blky		0.31	77.32	77.63	1lb	33	Coal muddy				blk				mudst bands throughout abundant pyrite at top	
		solid		0.24	77.63	78.68			Mudst carb				blk		massive		coal stringers throughout	

MANALTA COAL LTD.

SHEET # 7 OF

PROJECT: TELKWA HOLE # T95R-19c CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				Seam UNIT THK	SAMPLE #	DESCRIPTION								KEY BED	
				INTERVAL THK	FROM	TO	ROCK TYPE			MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES		
		solid		0.18	78.68	78.86	11c			Coal	muddy			blk				mudst bands throughout	
		blky		0.29	78.86	79.06				SS	slty	fn		brn	dk	massive	SSD	carbonaceous, non calc.	
18 77.8 80.5		solid		0.11	79.06	79.17				SS	slty	fn		brn	dk	massive	SSD	as above	
		blky		0.08	79.17	79.25				mudst	coaly			blk				numerous coal bands & lam	
		solid		0.29	78.44	78.73	?(11c-2) roof	34		mudst	slty			gry	dk	massive		no visible pyrite (Roof Rock)	
		blky		0.25	78.73	78.98	?(11c-2)	35		coal	muddy			blk				mudst bands up to 3cm no pyrite	
		solid		0.25	78.98	79.23	?(11c-2)	36		coal				blk				dull & bright banded	
		solid		0.25	79.23	79.48	?(11c-2)	37		coal	muddy			blk				mucky coal at base	
		solid		0.23	79.48	79.71	?(11c-2) floor	38		Mudst	carb			brn	dk	massive		carb-coaly at top, slightly calc, slow fizz, well indurated (Floor Rock)	
		solid		0.18	79.71	79.89				Mudst				brn	dk	massive		as above	
	71°	solid		0.74	79.89	80.63	11d			Mudst	coaly			gry-brn	med-dk	massive	lam	intbed mudst & coal bands up to 12cm	
		solid		0.29	80.63	80.92				Mudst				gry	dk	massive		no visible pyrite, minor calcite veins	
19 80.5 83.3		solid		1.89	80.92	82.81				Mudst	slty			gry	med	massive		minor carb plat frags	
		brkn		0.36	82.81	83.17	?			Mudst	coaly			blk				numerous bands of coal	
		blky		0.76	83.17	83.93				Mudst	carb/coaly			gry	dk	massive		coal lam & incl. throughout no visible pyrite	





MANALTA COAL LTD.

SHEET # / OF

PROJECT: TELKWA HOLE # T95R-19C CONTRACTOR: McAuley CASING: COMMENTS: Texas (k 1 site 11) G. here

Run # BOX MARK	BCA	CORE STATE	RQD	DEPTH			Seam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
1 35.6 38.4	73°	core loss solid		0.58 1.62	35.60 36.18	36.18 37.80			Mudst carb.				gry	dk	massive	lam	Carb. plant frags throughout mod-heavy amounts pyrite in bands (1cm) holes around coal incl. of dissm.	
		solid		0.35	37.80	38.15	e	1	Coal				blk				mod. amount pyrite incl. throughout	
		solid		0.65	38.15	38.80			Mudst carb.				gry	dk	massive	lam	heavy pyrite incl.	
2 38.4 41.0		solid		1.31	38.80	40.11			Mudst carb.				gry	dk	massive		no visible pyrite	
		broken		0.16	40.11	40.27	f		Coal				blk				muddy	
		solid		1.07	40.27	41.34			Mudst				gry	dk	massive		carb. plant frags on edge no visible plant frags	
3 41.0 42.8		solid		1.93	41.34	43.27			Mudst				gry	dk	massive	lam	as above, more silt. lam mod. bioturb. mod amount of pyrite incl. near base	
		solid		0.03	43.27	43.30	cu		Coal				blk				mudst bands	
4 42.8 45.1		blk/broken		0.17	43.30	43.47	cu		Coal				blk				as above	
		solid		0.54	43.47	44.01			Mudst carb.				gry	dk	massive	lam	mod. amount pyrite incl.	
		solid		0.20	44.01	44.21	C roof	G-01	Mudst carb.				gry	dk	massive	lam	as above sample for geotechnical tests	
		solid		0.25	44.21	44.46	C roof	2	Mudst carb.				gry	dk	massive	lam	as above, increasing amount pyrite in incl. & lam (Roof Rock)	

MANALTA COAL LTD.

SHEET # 2 OF

PROJECT: TELKWA HOLE # 795R-19C CONTRACTOR: CASING: COMMENTS: Texas Ck (site # 11)

BOX MARK	BCA	CORE STATE	RQD	DEPTH				Seam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO													
		solid		0.25	44.46	44.71	C	3	Coal				blk				mod. pyrite incl in top 5cm gradational contact w. roof		
				1.01	44.71	45.72	C	4	Coal				blk				dull & bright banded 10cm mudst & coal bands @ 68cm -pyrite incl. mod. amount.		
5 45.1 48.0		solid-blocky		0.40	45.72	46.12	C	4	Coal				blk				as above, (may be more contamination from downhole cuttings)		
		brkn		0.25	46.12	46.37	C	5	Coal				blk				no visible pyrite again may be more contamination w. downhole cuttings)		
		blkky		0.25	46.37	46.62	C floor	6	Mudst	carb			gry	dk			coal bands & stringer at top no visible pyrite. (Floor Rock)		
		solid		0.22	46.62	46.84	C floor	6-02	Mudst	carb			gry	dk			as above, geotechnical sample		
	75°	solid-blky		1.66	46.84	48.50			Mudst	slty			gry	dk-md	massive	lam	increasingly silty & well indicated towards base no visible pyrite		
6 48.0 51.1		solid		2.86	48.50	51.36			mudst	slty			gry	dk	massive	lam	several siltst bands up to 10cm very calc. strong fizz. some siltst bands green-chloritic, no visible pyrite till base		
7 51.1 53.3		solid		1.48	51.36	52.84			Mudst	slty			gry	dk	massive	lam	as above		
		solid		0.20	52.84	53.04	b roof	6-03	mudst	slty			gry	dk	massive	lam	roof geotechnical sample		
		solid		0.30	53.04	53.34	b roof	7	mudst	slty			gry	dk	massive	lam	pyrite incl. of lam increasing towards base (Roof mkt)		





MANALTA COAL LTD.

SHEET # 2 OF 4

PROJECT: TELKWA HOLE # T95R-22c CONTRACTOR: CASING: COMMENTS: Texas Ck (Site 20)

Run # BOX MARK	BCA	CORE STATE	RQD	DEPTH			Seam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
4 22.2 24.7		solid		0.38	22.53	22.91	1up	8	Coal				blk				dull banded, large amount of pyrite load at top	
		solid		0.25	22.91	23.16	1up (coal) 1 pty	9	Mudst	coaly			gry-blk				coal bands & stringers throughout, more amount of pyrite incl. (Floor rock)	
	45°	solid		0.74	23.16	23.90			Mudst	shy			gry	med.	massive	lam	slickensides on bdy plane very muc amount dissem pyrite on calc	
		solid		0.28	23.90	24.18	1 pty 1 root	10	Mudst	shy			gry	dk	massive	lam	sis above (Root rock) increasing amount of dissem pyrite towards base sharp contact w coal	
		solid		0.25	24.18	24.43	1	11	Coal				blk	1			dull banded, pyrite band 0.05 cm at top	
		solid		0.12	24.43	24.85	1	12	Coal				blk				dull & bright banded no visible pyrite	
	44°	solid		0.16	24.85	25.01	1	13	Mudst	coaly			blk				gradational contact at base very muc amount dissem pyrite	
5 24.7 27.0		solid		0.28	25.01	25.29	1	13	Mudst	coaly			blk				med amount of pyrite incl at base	
		solid		0.23	25.29	25.52	1	14	Coal	Muddy			blk				mudst bands, med amount of pyrite incl at top	
		solid		1.83	25.52	27.35	1	15	Coal				blk				bright banded, several 1.0 cm mudst bands, muc amount of calcite boxwork	

MANALTA COAL LTD.

SHEET # 3 OF 4

PROJECT: TELKWA HOLE # T95R-22C CONTRACTOR: CASING: COMMENTS: Tenas ck (site 20)

Run #	BOX MARK	DEPTH					DESCRIPTION										KEY BED	
		BCA	CORE STATE	RQD	INTERVAL THK	FROM	TO	Seam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING		SED. STRUCT
			(core loss)		(0.10)	27.35	27.45	1		(Coal)								
6	27.0 28.9		solid		0.06	27.45	27.51	1	15	Coal								as above
			solid		0.50	27.51	28.01	1	16	Mudst	Coaly							coal bands & stringers throughout large amount of pyrite later towards base
			solid		0.40	28.01	28.41	1	17	Coal								bright banded, gradational contact w/ floor increasing amount of pyrite towards base
	45°		solid		0.28	28.41	28.69	1 floor	18	Mudst	carb							large amount pyrite lens & dissem at top (Floor Rock)
			solid		0.63	28.69	29.32			Mudst	carb			gry	dk	massive		mod amount pyrite incl, coal stringers & bands
7	28.9 31.0		solid		2.09	29.32	31.41			Mudst	slty			gry	med	massive		mod amount coal bands & stringers, pyrite bal around coal, non coal.
8	31.0 33.0		solid		1.99	31.41	33.40			Mudst	carb			gry	dk	massive		increasing carb & coal stringers towards base, large amounts of pyrite around coal & inclusions
			solid		0.15	33.40	33.55	1La roof	19	Mudst	carb			gry	dk	massive		as above (Root Rock)
9	33.0 35.5		solid		0.05	33.55	33.60	1La roof	19	Mudst				gry	dk	massive		as above (Root Rock)
	42°		solid		0.25	33.60	33.85	1La	20	Coal				blk				muddy at top, large amount of pyrite at top.
			solid		0.44	33.85	34.29	1La	21	Coal				blk				bright banded, mod amount of pyrite at base

MANALTA COAL LTD.

SHEET # 4 OF 4

PROJECT: TELKWA HOLE # T95R-22c CONTRACTOR: CASING: COMMENTS: Texas ck (Site 20)

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	Seam UNIT THK											
		solid		0.24	34.29	34.53	16a floor	22	Mudst	carb				gry	dk	massive		1 Floor Rock, mod amount dissm. pyrite
		solid		0.25	34.53	34.78			Mudst	stly				gry	dk-med	massive	lam	mod. pyrite
		solid		0.15	34.78	34.93			Mudst	calc				gry	lt	massive	SSD	Very calc, strong sust. fizz
		solid		0.59	34.93	35.52			stlst	sst				gry	med	massive		carb at top, moderate calcite veining on fracture
		solid		0.42	35.52	35.94			mudst	carb				gry	dk	massive		interbed w coal bands, pyrite holes on coal
10 355 38.2		solid		0.45	35.94	36.39	11b Roof	23	mudst	carb				blk-gry	med			as above, mod-1/2 amount dissm pyrite at base (Roof Rock)
	48°	solid		0.28	36.39	36.67	11b	24	Coal					blk				pyrite incl. throughout bright banded
		solid		0.56	36.67	37.23	11b	25	Coal					blk				as above, mudst at base
		solid		0.25	37.23	37.48	11b floor	26	Mudst	carb				gry	med-dk	massive		1/2 amount of dissm pyrite at top (Floor Rock)
		solid		1.20	37.48	38.68			Mudst					gry	med	massive		coal bands at base, w. pyrite holes, non calc.  remainder of hole conventional drilling



# manalta Cuttings Description

Project \_\_\_\_\_ Contractor McAuley Driller T. Mulvan Lith. by T. Mulvan HOLE T95R-22C pg      of     

Remarks \_\_\_\_\_ Start \_\_\_\_\_ Geo-log \_\_\_\_\_ Depth 115.5 m  
 Finish \_\_\_\_\_ Date 23 July 95 lsd    S    T    R   

13	16
4	1

Depth ( ) from to	Lithology						Indurate			Coal				Other	Colour								Comments												
	Mdn	S/Md	S	S/SS	SS			Soft	Med	Hard	Clean	Dirty	Ox		Bone	Carb	Clay	Sand	Grav	Till	Light	Dark		Grey	Brown	Blue	Green	Black	White	Red	Orange	Yellow			
					F	M	C																												
0.0 15.5																✓			✓															Few cobbles	
15.5 15.9			✓	✓				✓	✓	✓																								Fractured	
15.9 16.1										✓	✓																✓								
16.1 38.2																																			CORE
38.2 51.5	✓	✓						✓	✓												✓	✓	✓				✓								
51.5 53.4									✓		✓	✓			✓												✓								
53.4 96	✓	✓						✓	✓												✓	✓	✓				✓								@ 63.7m 0.4m Carb. sh. + coal
96 97.5								✓	✓	✓											✓	✓	✓												some water 5 ppm
97.5 103									✓		✓										✓	✓	✓		✓			✓							Volcanics - conglomerate
103 109								✓	✓												✓	✓	✓												
109 115.5				✓				✓	✓												✓	✓	✓												

11  
12.5 m

MANALTA COAL LTD ID:4032656120 JUL '08 '95 11:31 No.007 P.01

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SHEET # / OF

PROJECT: TELKWA HOLE # 795R-35C CONTRACTOR: McAuley CASING:

COMMENTS: Tenas ck (Site 13) Aug 10/95  
G. Burr

Run # BOX MARK	BCA	CORE STATE	RQD	DEPTH		Seam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				FROM	TO												
1/747 776	70°	blky		1.18	75.56	76.74		Mudst	carb/ kaly			gry	dk	massive	lam	lam of sltst through; coal inclusions & stringers med. amount of dissm. pyrite	
		blky		0.28	76.74	77.02	1 Pctg	1	Mudst	carb		gry	dk	mass.	lam	(Foot Rock) as above	
		solid		0.28	77.02	77.30	1	2	Coal			bk				dull & bright banded, mac pyrite, mac mud lam. methane bubbling from coal	
	55°	solid		0.95	77.30	78.25	1	3	Coal			"				as above, mac (< 2cm) mudst band @ 42cm from top	
		(Core loss)		0.14	78.25	78.39	1		(Coal)								
2/776 80.8	60°	solid		0.66	78.39	79.05	1	3	Coal			"				as above, trace pyrite (adjust to core photo 80.6 → 80.8)	
		solid		0.25	79.05	79.30	1	4	Coal			"				as above, sharp basal contact.	
		brkn		0.42	79.30	79.72	1 floor	5	Mudst			brn	dk	med-thn		- badly fractured, slickenside throughout, no visible pyrite non calc (Floor Rock)	
		solid		0.35	79.72	80.07	1 floor	E-1	sltst	Muddy		gry-gr	med	thn	lam, ssd	int'd sltst, mudst, mac. chloritic sst, fracture, micro faults throughout; moderate calcite veining (Geotechnical Sample)	
		(Core loss)		0.22	80.07	80.29			(rock)								
	68°	solid		1.35	80.29	81.64			sltst	Muddy		gry-gr	med	thn	lam, bid.	as above, fracturing & faulting slowly decreasing in # & size <sup>(calc)</sup> towards base, narrow at base	
		solid		0.43	81.64	82.07			sltst	Muddy		gry	med	thn	lam	as above	
3/80.8 83.9		solid		1.98	82.07	84.05			Mudst	c		gry	med	mass.	lam	coal incl. increasing towards base (fracturing at BCA 60°) pyrite holes around coal incl.	

MANALTA COAL LTD.

SHEET # 2 OF

PROJECT: TELKWA HOLE # T95R-35C CONTRACTOR: CASING: COMMENTS: Texas ck (Site 13) Aug 11/95

run # BOX MARK	BCA	CORE STATE	RQD	DEPTH			Seam UNIT / THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
		solid		0.18	84.05	84.23	11b roof	6	Mudst				gry	med	mass		(Roof Rock) as above trace calcite veining	
		solid		0.31	84.23	84.54	11b	7	Coal				blk				dull & bright banded trace pyrite at top	
		solid		0.12	84.54	84.66	11b floor	8	Mudst	Coaly			blk				(Floor Rock) coal stringers throughout	
4/83.9 86.9	59°	solid		2.89	84.66	87.55			Mudst	shty			gry	med	massive	lam	non calc, well indurated shtst at 119m from top 14cm thick calc. Pyrite incl. of holes on coal incl. mgs amount	
5/86.9 88.3		(Core loss) blkly-bdr		0.16 1.74	87.55 87.71	87.71 89.45			(rock) mudst	shty coaly			gry	med	massive		- highly fractured @ 45° BCA 10 cm coaly mudst 35cm from base, slickensides throughout	
6/89.3 90.4	82°	solid		3.17	89.45	92.62			mudst	shty			gry	med	massive	lam	little fracturing, mgs bioludation shtst lam, no visible pyrite	
7/92.4 93.6		solid		1.28	92.62	93.90			mudst	shty			gry	med	mass		shtst lam gone at base, no visible pyrite	
8/93.6 96.3		solid		1.91	93.90	95.81			mudst	shty			gry	med	mass		as above, mgs coal incl at base in pyrite bales, mgs calcite veining, mgs pyrite on fracture surface	
		(core loss) blkly		0.60 0.28	95.81 96.41	96.41 96.69			(rock) shtst				gry	med			vry calcareous, brecciated * several shell frags, & coal incl	
		solid		0.16	96.69	96.85			mudst	shty			gry	med	mass		non calc, fractulous	

PROJECT: TELKWA HOLE # 795P-35C CONTRACTOR: CASING: COMMENTS: *Tenas Ct (Site 13)*

BOX MARK	BCA	CORE STATE	RQD	DEPTH		UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM TO												
<i>7/8.3</i> <i>97.0</i>		<i>solid</i>		<i>1.20</i>	<i>96.85</i>	<i>98.05</i>		<i>stst</i>	<i>muddy</i>			<i>gry</i>	<i>med</i>	<i>mass.</i>		<i>several coal incl. w. pyrite balas.</i>	
		<i>solid</i>		<i>0.46</i>	<i>98.05</i>	<i>98.51</i>		<i>stst</i>	<i>sandy</i>			<i>gry-grc</i>	<i>med</i>	<i>mass</i>		<i>-chloritic sand interbed w. stst.*</i>	
		<i>solid</i>		<i>0.48</i>	<i>98.51</i>	<i>98.99</i>		<i>stst</i>	<i>sandy</i>			<i>gry</i>	<i>med</i>	<i>mass</i>		<i>several shell frags.</i>	
		<i>solid</i>		<i>0.83</i>	<i>98.99</i>	<i>99.82</i>		<i>ss</i>	<i>slty</i>	<i>very fine</i>	<i>med.</i>	<i>gry</i>	<i>med</i>	<i>mass</i>		<i>shell frags (lag surface) at top</i>	
<i>10/99.0</i> <i>102.0</i>		<i>solid</i>		<i>0.98</i>	<i>99.82</i>	<i>100.80</i>		<i>ss</i>	<i>slty</i>	<i>very fine</i>	<i>med</i>	<i>gry</i>	<i>med</i>	<i>mass</i>		<i>as above</i>	
		<i>solid</i>		<i>1.34</i>	<i>100.80</i>	<i>102.14</i>		<i>stst</i>	<i>ss</i>			<i>gry</i>	<i>med</i>	<i>mass</i>		<i>several shell fragments *</i>	
	<i>81°</i>	<i>solid</i>		<i>0.59</i>	<i>102.14</i>	<i>102.73</i>		<i>ss</i>	<i>slty</i>	<i>very fine</i>	<i>med</i>	<i>gry</i>	<i>med</i>	<i>mass</i>		<i>calcite veining @ 10" BCA moderate</i>	
																<i>End of Core - drill deeper w. conventional bit</i>	



# manalta Cuttings Description

Project \_\_\_\_\_ Contractor \_\_\_\_\_ Driller McDule Lith. by McDule HOLE 95 25c pg      of     

Remarks \_\_\_\_\_ Start \_\_\_\_\_ Geo-log \_\_\_\_\_ Depth 74.7

13		18
4		1

Finish \_\_\_\_\_ Date Aug 29 1st    S    T    R   

Depth ( )	Lithology						Indurate			Coast				Other	Colour										Comments									
	From	to	Msdn	S/Md	S	S/SS	F	M	C	Soft	Med	Hard	Clean		Dirty	Ox	Bone	Carb	Clay	Sand	Grav	Till	Light	Dark		Gray	Brown	Blue	Green	Black	White	Red	Orange	Yellow
	0	16.6																																Till
	16.6	23																																Md Stn
	23	24.4																																S.S.
	24.5	29																																Siltstone
	29	30.5																																FG S.S.
	30.5	49																																FG S.S. Md Stn Stringers
	49	51																																Coarse S.S.
	51	53																																Siltstone
	53	56																																Md Stn
	56	58																																Siltstone
	58	64																																Md Stn
	64	68																																Coarse dk G. S.S.
	68	74.3																																Md Stn & Siltstone Interbedded
	74.3	74.7																																Core
																																		Trapped to Core

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SHEET # / OF

PROJECT: TELKWA HOLE # T95R-28C CONTRACTOR: McAuley CASING: COMMENTS: Tinas (K (site #)) ARD sampling

5.7m bedrocks geophys log shows bedrock @ 7.5m

Run # BOX MARK	DEPTH							DESCRIPTION							KEY BED		
	BCA	CORE STATE	RQD	INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER		BEDDING	SED. STRUCT
1/12.5 14.5	80°	solid		1.98	12.50	14.48		A001	siltst	muddy			gry	med-dk	very thin-mass	bioturb	non calc, no fizz on scratch, mod bioturbation, very mod. amount of pyrite flecks on bedg. plane;
2/14.5 16.0	69°	blky-bkn		1.00	14.48	15.48		A001	siltst	muddy			gry	med-dk	very thin-mass	bioturb	as above, mod increase in pyrite, non calc.
3/16.0 18.5		bkn (core lost) (no recovery)		0.12 (0.50) (2.50)	15.48 15.60 16.10	15.60 16.10 18.60		A002	siltst (rock) (rock)	muddy			gry	med	mass		as above, mod slickensides core lost in hole
4/18.5 20.55		solid		2.08	18.60	20.68		A002	mudst	stly			gry	med-dk	mass-thn	bioturb	bands of siltst up to 10cm thk, mod calc, siltst band at base incl. mod pyrite on fractures in some bands non calc, non pyritic in remainder
5/20.55 23.60		solid		3.02	20.68	23.70		A003	mudst	stly			gry	med-dk	mass	bioturb	mod siltst bands as above mod fractures at BCA 63° non calc; no fizz on scratch mod. carb plant frags on bedg plane, no visible pyrite
6/23.6 26.7		solid		3.09	23.70	26.79		A004	mudst				gry	dk	mass	bioturb	mod inclusions of coal w. pyrite holes (50.012) increasing towards base, calc. incl. siltst of very small shell frags & detritus
7/26.7 29.7		solid		1.71	26.79	28.50		A005	mudst				gry	dk	mass		as above, pyrite holes & inclusions increasing in amount (5.182) non calc; no shell frags.

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SHEET # 2 OF

PROJECT: TELKWA HOLE # T95R-28C CONTRACTOR: CASING: COMMENTS:

Run # BOX MARK	BCA	CORE STATE	RQD	DEPTH			Seam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
		solid		1.31	28.56	29.81		A006	mudst				gry	dk	massive	bioturb	pyrite incl. & holes around coal incl. incc. (1-2%), sparse calcitic lam. @ 55° BCA, very clay fiss on lamens, some pyritic infill of burrows	
8/29.7 32.7		solid		0.75	29.81	30.56		A006	mudst	silty			gry	dk	mass		as above, non calc, no calcite veins, pyrite holes - infill & 1%, becoming siltier towards base	
		solid		2.30	30.56	32.86		A007	siltst	sandy			gry-gr med		massive		increasing sand content towards base, pyrite holes on coal inclusions, < 0.5%, sand slightly chloritic, grades into vry. fine gr. silty sandst. at base	
9/32.7 35.8		solid		0.90	32.86	33.76		A008	sst	silty			gry-gr med		mass		pyrite 3-5%, becoming siltier towards base, chloritic, sharp contact at base	
	87°	solid		0.40	33.76	34.16		A009	mudst	carb			gry	dk	lam.		pyrite incl. < 0.05%, incr. coal incl. & lam., non calc.	
		solid		0.25	34.16	34.41		A010	mudst	coaly			blk				(Roof rock) 7 1/2% pyrite, non calcite boxwork in coal lam at base	
		solid		0.54	34.41	34.95	e	1	Coal				blk				- pyrite incl. throughout muddy towards base	
		solid		0.30	34.95	35.25		A011	Mudst	coaly			gry	dk	massive		(Floor Rock) gradational contact vry lithy, pyrite incl. < 0.01% non calc.	



PROJECT: TELKWA HOLE # T95R-28C CONTRACTOR: CASING:

COMMENTS: Texas Ct. (Site 16) Ard Sampling

Run # BOX MARK	BCA	CORE STATE	RQD	DEPTH			Seam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	DESCRIPTION				KEY BED	
				INTERVAL THK	FROM	TO							COLOUR	MODIFIER	BEDDING	SED. STRUCT		NOTES
1	80°	solid		0.53	35.25	35.78		A012	mudst	slty			gry	dk	lam		very little pyrite incl 20.01% non calc.	
10/35.8 38.8		solid		1.52	35.78	37.30		A012	mudst	slty			gry	dk	lam	bioturb	as above, non calc.	
		solid		0.95	37.30	38.25		A013	mudst	slty			gry	dk	lam	bioturb	incr. pyrite incl. (1-3%) non calc., mor. shell detritus	
		solid		0.67	38.25	38.92		A014	mudst	slty			gry	dk	lam		no visible pyrite, 10cm bed silt at base slightly calc, slow sustained fire	
11/38.8 41.9		solid		1.13	38.92	40.05		A014	mudst	slty			gry	dk	mass		inc - coal stringers, non calc carb plant frags throughout no visible pyrite	
		solid		0.25	40.05	40.30		A015	mudst	carb.			gry	dk	mass		(Root rock), no visible pyrite non calc.	
		solid		0.37	40.30	40.67	d	2	Coal	muddy			blk				some calcite boxworks, minor gas release from early muddy bands at top & base, no pyrite	
		solid		0.25	40.67	40.92		A016	Mudst	carb			gry-blk	dk	mass		(Kloor Rock) non calc, no visible pyrite, very carb-coaly	
	82°	solid		1.02	40.92	41.94		A017	Mudst	slty			gry	dk	mass-lam		non calc, no visible pyrite carb plant frags, many slickensides	
12/41.9 45.0		blk		0.83	41.94	42.77		A017	Mudst.	slty			gry	dk-med	lam		becoming silty, non calc no fire, several 5-10cm well indicated silt, very minor amount dissem pyrite	
		solid		0.73	42.77	43.50		A018	siltst	mud-s			gry	med-lt	lam		inthal siltst - mudst bands sandy towards base, rounded mudst clasts at base, non calc. no visible pyrite.	

MANALTA COAL LTD.

SHEET # 4 OF

PROJECT: TELKWA HOLE # T95R-28c CONTRACTOR: CASING: COMMENTS: Tenas CK (site 16) ARD Sampling Aug 6/95

Run # BOX MARK	BCA	CORE STATE	RQD	DEPTH		Seam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				FROM	TO												
		solid		1.14	43.50	44.64	A019	sst	silty	v.fine gr.		gry-gs	lt.	fn-med	min pyrite flour on fracture surface of calcite siltst band, interbed w. siltst & mudst bands, slightly obolitic sand.		
		solid		0.40	44.64	45.04	A020	mudst	coaly			blk		mass	sharp contact w. coaly mudst. slickensides, mar amount of pyrite ~ 0.5% incl.		
13/45.0 48.0		solid		1.47	45.04	46.51	A020	mudst	carb			gry	dk	mass	lean	non calc, no visible pyrite slickensides,	
		solid		0.25	46.51	46.76	A021	mudst	carb			gry	dk	massive		(Roof Rock) dissem pyrite & pyrite lam at base ~ 2%, non calc	
	77°	solid		0.25	46.76	47.01	C	3	coal			blk			bright banded, mar pyrite at contact w. roof.		
		solid		0.77	47.01	47.78	C	4	Coal			blk			2 bands of mudst at 20 cm from top 0.10 cm thick very pyrite, sl at 65 cm from top. From this mar pyrite *Very strong sulfur smell amount big when stream top penetrated.		
		Blky		0.21	47.78	47.99	C	5	Coal			blk			bright banded, no visible pyrite		
14/48.0 51.0		solid		0.38	47.99	48.37	C	5	Coal			"			as above		
		lckn		0.25	48.37	48.62	C	6	Coal						mod amount pyrite at base		
		solid		0.27	48.62	48.89	A022	Mudst	coaly			gry	dk	massive	non calc, mar pyrite at contact w. coal (Floor rock)		

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SHEET # 5 OF

PROJECT: TELKWA HOLE # T95R-280 CONTRACTOR: CASING: COMMENTS: Texas ck (site 16) ARD Sampling Aug 5/95

Run# BOX MARK	BCA	CORE STATE	RQD	DEPTH		Seam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	DESCRIPTION				KEY BED
				INTERVAL THK	FROM							TO	COLOUR	MODIFIER	BEDDING	
	75°	solid		2.29	48.89	51.18	A023	Mudst	silty			gry	med-dk	mass-lam		scattered calc. shell frags, minor pyrite incl at top (<0.05%)
15/51.0 /53.2		solid		2.15	51.18	53.33	A024	siltst	muddy			gry	med	lam		bands of shell frags (2mm) throughout (very calc) several beds very calc hard siltst up to 12cm thk
16/53.2 56.0		solid		0.29	53.33	53.62	A025	SS	silty	fin-coarse	poor	gry	lt.	massive		very calc, mixture of shell frags - sand, no pyrite, strong fiss
		solid		1.95	53.62	55.57	A026	Mudst	silty			gry	dk-mid	massive		pyrite lam in part (<0.5%) non coal incl w. pyrite holes non calc
		solid		0.15	55.57	55.72	b A027	coal	pyritic			blk				very pyritic at top (20-30%) 5cm
		solid		0.54	55.72	56.26	A028	Mudst	carb			gry-brn	dk	mass		mod amount pyrite inclusions (<1.0%) decreasing toward base, coal lam decreasing non calc.
17/56.0 57.25		solid		1.28	56.26	57.54	A028	Mudst				gry	dk	mass		as above, less carb toward base, minor pyrite incl (<0.25%)
18/59.25 60.40	77°	solid		1.74	59.54	59.28	A029	Mudst	silty			gry	dk-brn	lam		siltstone lam decrease at base non calc; no fizz, pyrite on few fracture surfaces
		solid		0.22	59.28	59.50	A030	Mudst	carb			gry	dk			coal incl w. pyrite holes slickensides, non calc, sharp contact w. coal (Rock Rash)
		solid		0.25	59.50	59.75	1up (E) 7	Coal				blk				dull & bright banded, dissem pyrite, muddy at top

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SHEET # 6 OF

PROJECT: TELKWA HOLE # T95R-28c CONTRACTOR: CASING: COMMENTS: Texas Ck (Site 16) Arcl Sampling Aug 6/95

Run # BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	Scam UNY THK											
		solid		0.52	59.75	60.27	14 (A)	8	Coal	muddy		blk				bands (up to 5cm) mudst. pyrite lam throughout (1-2%)		
		hcn		0.20	60.27	60.47	14 (A)	9	Coal			"				bright banded, clean, no visible pyrite		
19/60.4 63.3		solid		0.57	60.47	61.04	14 (A)	9	Coal			"				as above		
		solid		0.25	61.04	61.29	14 (A)	10	Coal			"				pyritic at base (last 5cm) (scam base)		
		solid		0.26	61.29	61.55		A031	Mudst	carb		gry-brn dk		massive		no visible pyrite, non calc. (Floor Rock)		
		solid		0.56	61.55	62.11		A032	Mudst	carb		gry dk		mass		as above, mac pyrite incl, non calc.		
		solid		0.28	62.11	62.39		A033	Mudst	carb		blk		mass		dissem pyrite last 15cm (~2%) calcite boxwork in coal stringers at base (Roof Rock)		
		solid		0.25	62.39	62.64	14 (D)	11	Coal			blk				dull banded, mac mudst. bands at top, mac pyrite incl. at top		
		solid		0.86	62.64	63.50	14 (D)	12	Coal			"				bright banded, thin (1cm) mudst. at top.		
20/63.3 66.3		blk/y		0.20	63.50	63.70	14 (D)	13	Coal			"				coal as above (base of scam) calcite boxwork at base of scam, no visible pyrite		
		solid		0.49	63.70	64.19		A034	Mudst.			blk		massive		(Floor Rock) glissim. incl. of pyrite (2-3%) incr. towards base		

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SHEET # 7 OF

PROJECT: TELKWA HOLE # T95P-28C CONTRACTOR: CASING:

COMMENTS: Texas Ck (Site 16) ARD Sample Aug 6/95

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	DESCRIPTION				KEY BED
				INTERVAL THK	FROM	TO	Seam UNPT THK						COLOUR	MODIFIER	BEDDING	SED. STRUCT	
		Solid		0.27	64.19	64.46	14 (C)	A035	Coal				blk			dull banded, muddy at top (1cm) band pyrite lam at top (Coal Parting)	
		Solid		0.53	64.46	64.99	1 Pitty	A036	Mudst carb.				gry	dk	massive	(Roof Rock) dissm pyrite throughout (5.1%), coal stringer	
		Solid		0.25	64.99	65.24	1 (AB)	14	Coal				blk			dull, few bright bands trace pyrite	
		Solid		0.34	65.24	65.58	1 (AD)	15	Coal muddy				"			as above 10cm mudst band at base	
		Solid		0.93	65.58	66.51	1 (AB)	16	Coal				"			dull & bright banded, trace pyrite	
21/66.3 69.4	77°	Solid		0.61	66.51	67.12	1 (AB)	16	Coal				"			as above	
		Solid		0.25	67.12	67.37	1 (AB)	17	Coal				"			as above no visible pyrite	
		Solid		0.27	67.37	67.64		A037	Mudst. Carb				blk			(Floor Rock) inhd w coal heavy pyrite lam zone at base (3cm 7.75% pyrite)	
		Solid		0.60	67.64	68.24		A038	Mudst Carb				blk			Mudst inhd w coal, med-calcite barrow in coal, pyrite inhd (5.0.5%)	
		Solid		1.38	68.24	69.62		A039	Mudst carb				gry	dk-med	massive	med-heavy pyrite incl dissm at top, non calc.	
22/69.4 72.4		Solid		1.39	69.62	71.01		A039	Mudst carb				gry	med	mass	as above	
		Solid		1.59	71.01	72.60		A040	Mudst. slty				gry	med-lt	mass	as above, top 35cm slty silty calc, strong fine, trace pyrite at base	

MANALTA COAL LTD.

SHEET # 8 OF

PROJECT: TELKWA HOLE # T95R-28c CONTRACTOR: CASING:

COMMENTS: Texas CK (Site 16) ARD Sampling Aug 7/9

Run # BOX MARK	BCA	CORE STATE	RQD	DEPTH			Scam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
23/72.4 75.4	72°	solid		1.92	72.60	74.52		A041	Mudst	slty			gry	dkm	massive	lom	non calc, pyrite incl. at base, last 10cm (3-5%) pyrite overlies the coal	
		solid		0.15	74.52	74.67	?	A042	Coal				blk				trace pyrite at top, calcite boxwork lower half	
		solid		1.03	74.67	75.70		A043	Mudst	carb			gry	dk	massive		upper 25cm, pyrite incl. & dissm. (1-2%) 25-45cm from top coal inclusions w. calcite boxwork	
24/75.4 78.5		blky		0.26	75.70	75.96		A043	Mudst	coaly/slty			gry	dk			slt-ss incls w. pyrite (3-5%) mor calcite boxwork in coal incl.	
		solid		0.26	75.96	76.22		A044	Mudst	coaly			blk				pyrite halos around coal incl. & pyrite incl. (1-3%), non calc (Roof Rock)	
		solid		0.25	76.22	76.47	11a	18	Coal				"				dull banded, pyrite lam in top 5cm	
		solid		0.54	76.47	77.01	11a	19	Coal				"				dull & bright banded, trace pyrite at base	
		solid		0.36	77.01	77.37		A045	Mudst	carb			blk		massive		dissm pyrite increasing towards base (4-5%), non calc.	
		solid		0.22	77.37	77.59	11b	A046	Coal				"				pyrite lam at top (<1%) mor calcite boxwork in coal	
		solid		0.38	77.59	77.97		A047	Mudst	coaly			blk		massive		coal lam through, mor pyrite lam (<0.5%) non calc	

MANALTA COAL LTD.

SHEET # 9 OF

PROJECT: TELKWA HOLE # T95R-28c CONTRACTOR: CASING: COMMENTS: Tenas Ck (site 16) ARD Sampling Aug 7/95

BOX MARK	BCA	CORE STATE	RQD	DEPTH			SEAM UNIT THK	SAMPLE #	DESCRIPTION								KEY BED
				INTERVAL THK	FROM	TO			ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	
		solid		0.41	77.97	78.38	1Lb	20	Coal				dk				stull banded, 1cm mudst band at top, mnr amount pyrite throughout.
		solid		0.27	78.38	78.65		A048	Mudst	carb							(Floor Rock) pyrite incl. (<1%) non calc. coal stringers at top w. mnr calcite boxwork
25/78.5 81.5		solid		0.83	78.65	79.48		A049	Mudst	carb			gry	dk	massive		mnr pyrite incl. (<1%) throughout non calc.
		solid		1.02	79.48	80.50	?	A050	Mudst	coaly			gry-blk		intbd		intbd mudst of coal (2-3%) pyrite incl. in top half non calc.
	75°	solid		1.28	80.50	81.78		A051	Mudst	slty			gry	med	massive	lam	trace pyrite incl, non calc.
26/81.5 84.6		solid		0.95	81.78	82.73		A051	Mudst	slty			gry	med	massive	lam	depth to corrected to 84.6m after core photo taken, non calc, no visible pyrite, some soft sed deformation
		blk-y		0.21	82.73	82.94		A052	slst				gry	lt	mass		calc., sustained strong fizz
		solid		1.99	82.94	84.93		A053	mudst	carb			gry	m-dk	mass		increasingly carb towards base, trace pyrite incl, sandy bands towards base
27/84.6 87.6		solid		1.10	84.93	86.03		A053	mudst	carb			gry	m-dk	mass		as above, no sand, no visible pyrite, non calc.
		solid		0.75	86.03	86.78	1Lc	21	Coal	muddy			blk-brn				intbd coal of mudst, (50-50) mnr calcite boxwork in coal

MANALTA COAL LTD.

SHEET # 70 OF

PROJECT: TELKWA HOLE # T95R-280 CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	DESCRIPTION								KEY BED
				INTERVAL THK	FROM	TO	Seam UNIT THK		ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	
		solid		0.50	86.78	87.28		A054	slst	loaly			brn	m	mass		(Roof Rock), no visible pyrite, non calc, coal incl. throughout
		solid		0.25	87.28	87.53	?(ILC-2)	22	Coal	slty			blk				5cm slst band 10cm from top, dull banded, trace pyrite
		solid		0.28	87.53	87.81	?(ILC-2)	23	Coal				"				dull & bright banded, trace pyrite
		(core loss)		(0.10)	87.81	87.91		23	(Coal)								
28/87L 90.7		blky		0.23	87.91	88.14	?(ILC-2)	24	Coal	muddy			"				incr. mudst content towards base, no visible pyrite
		solid		0.28	88.14	88.42		A055	Mudst	carb			brn	dk-m	mass		(Floor Rock), non calc, no visible pyrite, coal frags throughout
		solid		0.50	88.42	88.92		A056	Mudst	carb			brn	dk-m	mass		as above
		solid		0.25	88.92	89.17		A057	Mudst	Coaly			brn-gry	mi-lt	mass		12cm coal band at top, non calc, no visible pyrite (Roof Rock)
		blky		0.25	89.17	89.42	ILD?	25	Coal	Muddy			blk-brn				very dirty (50-50 mudst-coal), no pyrite, calcite boxwork in coal
		blky		0.34	89.42	89.76	ILD?	26	Mudst	Carb			gry	dk	mass		non calc, no pyrite
		solid		0.24	89.76	90.00	ILD?	27	Coal	muddy			blk				very dirty, incr mudst content towards base, gradational contact
		solid		0.38	90.00	90.38		A058	Mudst	Carb.			gry	dk-m	massive	ripup clast	(Floor Rock) some rounded mudst clasts at base, increasing coal incl. towards top, calcite boxwork in coal, no pyrite





MANALTA COAL LTD.

SHEET # / OF

PROJECT: TELKWA HOLE # T95R-38C CONTRACTOR: McAlister CASING:

COMMENTS: Tenas Ck. (Site 12) Aug 20/85  
H. Lane

Run # BOX MARK	BCA	CORE STATE	RQD	DEPTH		Seam UNT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM												
1/12.1 14.2	43°	solid		2.13	12.14	14.76		mudst	slty			gry	med	mass	lam	lt. gry. siltst. lam., non calc. (very fine) siltst. concretions, mod. coal incl., trace pyrite, carb. glob. fragm. on bdy plane.	
2/14.2 17.3	50°	solid		2.47	14.76	17.23		mudst	slty			gry	med	mass	lam	as above, siltst conc. from 57 - 0.82 from top, trace pyrite content in holes of lam. several coal inclusions.	
		solid		0.25	17.23	17.48	b roof	1	mudst	coaly		gry	m-dk	mass		Roof Rock, mod lam. inc. coal lam, dissem. pyrite (2-1%)	
		solid		0.38	17.48	17.86	b	2	Coal			blk				mudst. & pyrite lam. in top 5cm. dull & bright banded	
3/17.3 20.4		solid		0.43	17.86	18.29	b	3	Coal							as above, mod pyrite lam. and brown rock throughout (2-1%)	
		solid		0.25	18.29	18.54	b floor	4	Mudst			gry	dk	mass.		pyrite incl. throughout (1-2%) (Floor Rock)	
	42°	solid		1.91	18.54	20.45			mudst	slty		gry	dk	mass	lam	lt. gry. siltst. lam. throughout, trace pyrite, mod. bioturbation	
		solid		0.23	20.45	20.68			siltst	sandy		brn-gr	m-lt	mass-th		slightly calc, sandy, siltst. fining up, mod. calcite veining	
		solid		0.06	20.68	20.74			mudst	slty		gry	dk	mass	lam	lt. gry. siltst. lam. no visible pyrite	
4/20.4 23.5	42°	solid		3.01	20.74	23.75			mudst	slty		gry	dk	mass	lam	as above, mod siltst conc. (slightly calc)	

MANALTA COAL LTD.

SHEET # 2 OF

PROJECT: TELKWA HOLE # T95R-38C CONTRACTOR: CASING: COMMENTS: Texas Ck. (site 12) Aug 20/93

Run # BOX MARK	BCA	CORE STATE	RQD	DEPTH			Scam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT.	NOTES	KEY BED.
				INTERVAL THK	FROM	TO												
5/23.5 26.5	39°	(core loss) solid		(0.23) 2.82	23.75 23.98	23.98 26.80		(rock) Mudst	slty			gry	dk	mass	lam	as above, coal incl. at base, pyrite incl (<0.5%) at base, several small non calc concretions.		
6/26.5 29.3	45°	solid		1.00	26.80	28.00		mudst	slty			gry	dk	mass	lam	as above, no conc., dissim pyrite (<0.5%)		
		solid		0.25	28.00	28.25	14 roof	5	mudst	slty		gry	dk	mass	lam	(root rock), trace pyrite, sharp contact w. coal		
		solid		0.28	28.25	28.48	14	6	Coal			blk				trace pyrite, mod. calcite boxworks in coal, mudst lam. at btm 5cm. produces methane		
		solid		0.25	28.48	28.73	14	7	Coal			"				bright banded, pyrite lam. bot 6cm.		
		solid		0.94	28.73	29.67	14	8	Coal			"				bright banded, no visible pyrite		
7/29.3 32.3		solid		1.07	29.67	30.75	14	8	Coal			"				as above		
		solid		0.19	30.75	30.94	14	9	Coal			"				mod. pyrite incl. & mudst. lam.		
		(Core loss) brkn		(0.33) 0.08	30.94 31.27	31.27 31.35	14	(9) 10	(coal) Tuff				brn	med		- ash layer, calcareous		
		solid		0.25	31.35	31.60	14	11	Coal				blk			mod. mudst. lam. at top, pyrite boxwork in coal btm 5cm.		
		solid		0.75	31.60	32.35	14	12	Coal			"				bright banded		

MANALTA COAL LTD.

SHEET # 3 OF

PROJECT: TELKWA HOLE # T95R-38C CONTRACTOR: CASING: COMMENTS: Tenac Ck (Site 12) Aug 20/95

Run # BOX MARK	BCA	CORE STATE	RQD	DEPTH				Seam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO													
		solid		0.45	32.35	32.80	14	13	Coal				blk.				mudst bands of mnr lam bright banded		
8/32.3 /35.4		solid		0.36	32.80	33.16	14	13	Coal				"				mnr mudst. lam, pyrite lam at bot 2cm		
		solid		1.75	33.16	34.91	1	14	Coal				"				bright banded, no visible pyrite		
		solid		0.86	34.91	35.77	1	15	Coal	muddy			"				bands of muddy coal up to 8cm intbd w. bright coal, no pyrite		
9/35.4 38.4		solid		0.92	35.77	36.69	1	16	Coal								bright banded, no visible pyrite		
		solid		0.49	36.69	37.18	1	17	Coal	muddy							mnr 1/4" ash layer at base coal muddy in part, no visible pyrite		
		solid		1.23	37.18	38.41	1	18	Coal								bright banded, no visible pyrite		
		solid		0.25	38.41	38.66	1	19	Coal	muddy							Trace pyrite, increasingly muddy towards base		
		solid		0.24	38.66	38.90	1 floor	20	Mudst	Coaly			gry-blk		mass		decreasing coal content towards base, no visible pyrite (Floor rock)		
10/38.4 41.5		solid		0.75	38.90	39.65			Mudst	carb.			gry	dk-med	mass	SSD	decr. carb content towards base, seeds deformed, mnr pyrite holes around coal insl		
	49°	solid		1.42	39.65	41.07			mudst	stly			gry	med	mass	lam	th. grey stly. lam, mnr bit. carb, decreasing coal insl		

MANALTA COAL LTD.

SHEET # 4 OF

PROJECT: TELKWA HOLE # T95R-38c CONTRACTOR: CASING: COMMENTS: Texas ck (Site 12) Aug 20/95

Run # BOX MARK	BCA	CORE STATE	RQD	DEPTH		Seam UNIT THK	SAMPLE #	DESCRIPTION								KEY BED		
				INTERVAL THK	FROM			TO	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING		SED. STRUCT	NOTES
		solid		0.19	41.07	41.26		siltst	muddy				gry-brn	H	mass		vry. slightly calc, well indurated, no vis. pyrite	
		blkj		0.71	41.26	41.97		mudst	silty				gry	med	mass		mod carb, plat. frags, no visible pyrite	
11/41.5 44.5		solid		2.35	41.97	44.32		mudst	silty				gry	med-H	mass		mod coal incl. near base w. pyrite holes	
		solid		0.30	44.32	44.62	11a roof	21	mudst	coaly			gry-blk	dk	mass	SSD	(Roof rock) dissem pyrite (<1%) at top	
		solid		0.45	44.62	45.07	11a	22	Coal				blk				dull banded, trace pyrite mod. methane off gas	
12/44.5 47.6		solid		0.40	45.07	45.47	11a	23	Coal				"				trace pyrite, calcite horwark at base bright & dull banded	
		solid		0.15	45.47	45.62	11a floor	24	Mudst	carb			blk-gry		mass		calcite stringers, sharp contact at base (Floor Rock)	
		solid		0.15	45.62	45.77		25	Tuff?	calc.			gry	H	mass		heavy calcite veining, small coal ripup clasts in matrix	
	39°	solid		0.15	45.77	45.92			Mudst	coaly			gry blk		thin	lam	intbd. mudst, coal, muddy coal, pyrite stringers at top	
		solid		1.54	45.92	47.46			mudst	silty			gry	dk-m	mass	lam	dk gry. siltst. lam, fine sm. pyrite at base 20cm (1-2%)	
		solid		0.37	47.46	47.83	11b roof	26	mudst	coaly			gry blk		mass		(Roof Rock) intbd mudst-coal mod pyrite lam at top (<1%)	

MANALTA COAL LTD.

SHEET # 5 OF

PROJECT: TELKWA HOLE # T95R-38C CONTRACTOR: CASING:

COMMENTS: Tenas Ck. (Site 12) Aug 20/95

Run # BOX MARK	BCA	CORE STATE	ROD	DEPTH			Scam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
		blk		0.30	47.83	48.13	1Lb	27	coal				blk				dull banded, trace pyrite	
13/476 506		solid		0.50	48.13	48.63	1Lb	28	coal				"				dull & bright banded, methane effluence - trace pyrite, minor calcite barwork in coal	
		solid		0.26	48.63	48.89	1Lb	29	Coal				"				dull & bright banded, increasing pyrite incl. & lam. towards base (3-5%) calcite barwork last 1cm, sharp basal contact	
		solid		0.25	48.89	49.14	1Lb floor	30	Mudst				gry	dk	mass		no visible pyrite (Floor rock)	
	43°	solid		2.05	49.14	51.19			mudst	slty			gry	m-dk	mass	lam	trace pyrite, few H gry siltst lam, fractures @ 21° BCA & 38° BCA	
14/506 536		solid		0.39	51.19	51.58			mudst	carb			blk		mass		trace pyrite	
		solid		0.25	51.58	51.83	? roof	31	mudst	carb			"		mass		(Roof Rock) as above, trace pyrite incl towards base	
		solid		0.69	51.83	52.52	?	32	coal	muddy			"				mudst bands & muddy coal trace pyrite, inter in dull banded coal	
		solid		0.40	52.52	52.92	? floor	33	Mudst	coaly carb			blk-gry		mass		decreasing amount of coal lam towards base, minor calcite barwork in coal top 10cm, trace pyrite (Floor Rock)	
		solid		1.29	52.92	54.21			Mudst				gry	m-dk	mass		several large (1-2cm) pyrite infill inclusions @ 70cm from base, increasing carb. content towards base.	

MANALTA COAL LTD.

SHEET # 6 OF

PROJECT: TELKWA HOLE # T95R-38c CONTRACTOR: CASING: COMMENTS: Tenas Ck (site 12) Aug 20/95

Run # BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	Seam UNF THK											
15/536 58.7		solid		2.54	54.21	56.75		Mudst				gry	dk-mid	mass		mnr coal incl w. pyrite halos scattered throughout		
		solid		0.25	56.75	57.00	? roof	34	Mudst	coaly		blk-gry		very thin		(roof rock) intbed coal lam & mudst dissm. pyrite throughout (2-3%)		
		solid		0.17	57.00	57.17	?	35	Coal	muddy		blk				bright & dull banded, mudst lam throughout. Trace pyrite		
		brkn		0.09	57.17	57.26	? floor	36	Mudst	carb coaly		blk		mass		coal lam. intbed w. mudst no visible pyrite (Floor rock)		
16/567 59.8		solid		0.20	57.26	57.46	? floor	36	Mudst	carb coaly		blk-gry				as above (Floor Rock)		
	45°	solid		1.62	57.46	59.08			Mudst	carb silty		gry	dk	mass	lam	few Hgry. siltst. lam, trace pyrite		
		(Core loss)		(0.32)	59.08	59.40			(Mudst)									
		blkly		0.22	59.40	59.62	llc roof	37	Mudst	carb		gry	dk	mass		(Roof Rock) trace pyrite, siltst. lam		
		blkly		0.63	59.62	60.25	llc	38	coal	muddy		blk				muddy coal intbed w. carb mudst. 5cm diss. pyrite bands at top & base		
17/598 62.1		solid		0.35	60.25	60.60	llc floor	39	Mudst	carb silty		blk-gry		mass		decreasing carb content toward base. (Floor Rock)		
		solid		0.72	60.60	61.32			siltst	sandy carb		gry brn	med	mass	SSD	carb lam throughout, no calc, no visible pyrite		
		(core loss)		(0.32)	61.32	61.64			(siltst?)									
		brkn		0.32	61.64	61.96	?(inc-2) roof	40	Mudst	coaly		gry blk				coal top 10cm, possible ash layer 10cm middle, Hgry. base carb mud (Roof Rock)		





MANALTA COAL LTD.

SHEET # / OF

T95R-39c

PROJECT: TELKWA HOLE # T95R-39c CONTRACTOR: McAuliffe CASING: COMMENTS: Aug 12/95

Texas Ck (Site 10) ARD sampling of Pizometer  
L. Lee

Run # BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	DESCRIPTION				KEY BED
				INTERVAL THK	FROM	TO							COLOUR	MODIFIER	BEDDING	SED. STRUCT	
1/16.0 8.0 +0.06	75°	blk		2.06	6.39	8.45	A001	siltst	muddy				gry	med-ht	very thin-th	lam	non calc. 2 (5cm) slightly brn sideritic siltst @ 17cm from base of 61cm from base, mica & minor carb platif frags on bdy, place no visible pyrite
2/8.0 11.0 +0.0	80°	solid		1.00	8.45	9.45	A001	siltst	muddy				gry-brn	med-ht	very thin-th	lam	as above bands of thin siltst increasing, no fizz,
		solid		2.10	9.45	11.55	A002	siltst	muddy				gry-brn	med-ht	very thin-th	lam	as above, mudst content increasing towards base no visible pyrite
3/11.0 14.1 (0.24)	73°	solid		2.86	11.55	14.41	A003	siltst	muddy-ss				gry-brn	med-ht	with=med	lam	as above, 3 sandy siltst beds (slow sustained fizz) @ 19cm from top 0.21 thk, 4.04-19cm thk & 1.46-18cm thk, pyrite flour on fracture surface of calc. siltst (<0.5%) mor. pyrite flecks (<0.1%) on remainder of core
4/14.1 17.1 +0.08		solid		3.08	14.41	17.49	A004	siltst	mud-ss				gry-brn	med-ht	very th.	lam	as above, 1 slightly calc. very slow sustained fizz @ 1.04m from top @ 30cm thk, sandy, mor pyrite flecks on bdy, place (<0.1%) remainder core non calc as above
5/17.1 20.1 (0.08)	79°	solid		3.02	17.49	20.51	A005	mudst	silty				gry	med-ht	massive	lam	trace pyrite flecks - incl. in (<0.1%) mudst, 0.13cm siltst band, 0.37cm from base (slightly calc, very slow fizz)
6/20.2 23.4 (0.31)		solid		2.99	20.51	23.50	A006	mudst	silty				gry	dk	mass		decreasing siltst towards base several coal incl. at base w. pyrite holes, pyrite thick throughout (<0.1%) no fizz on scratch

MANALTA COAL LTD.

SHEET # 2 OF

PROJECT: TELKWA HOLE # T95R-37C CONTRACTOR: CASING: COMMENTS: Texas ck. (site 10) Acid Sampling - Piezo Aug 1978

Run # BOX MARK	BCA	CORE STATE	RQD	DEPTH			Seam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
7/234 26.3 +20		solid		3.10	23.50	26.60	A007	Mudst					gry	dk	mass		as above, increasing pyrite incl. & holes on coal incl. (2.10.78) non calc. (Core photo should read 26.3)	
8/263 29.4 -0		solid		3.10	26.60	29.70	A008	Mudst					gry	dk	mass		inc. pyrite cont. (1-2%) non calc, very featureless	
9/294 32.4 (11)		solid		0.54	29.70	30.24	A009	Mudst	slty				gry	dk	mass	SSD	as above, small incl. of chloritic slty sand, non calc, pyrite (<1%)	
		solid		1.59	30.24	31.83	A010	sst	slty	very-fn.	well	gre-gry	dk		mass		chloritic sand; non calc, * pyrite holes on coal incl. of pyrite incl (1-2%)	
		solid		0.25	31.83	32.08	A011	slty	sandy coaly				gre-gry	dk		lam	(Roof rock) (5-10% pyrite) coal lam & incl. incr. towards base	
		solid		0.27	32.08	32.35	e	A012	Coal	muddy			blk			lam	dull, pyrite lam & incl. throughout gassing	
		blky		0.24	32.25	32.59		A013	Mudst	Coaly			blk				(Floor rock) coal bands & lam throughout, no visible pyrite	
		(Core loss)		(0.13)	32.59	32.72			(Mudst)									
10/324 35.5	77°	solid		3.09	32.72	35.81		A014	Mudst	slty			gry	dk-med	massive	lam	non calc, pyrite incl. throughout (0.5-1%) (Roof rock included)	
11/355 38.5		solid		0.34	35.81	36.15	d	1	Coal				blk				dull banded, Trace pyrite (ca. 5%)	
		solid		0.30	36.15	36.45		A015	Mudst	carb			blk		mass		decreasing carb content, pyrite incl. (<0.5%) non calc (Floor rock)	
		solid		0.70	36.45	37.15		A016	Mudst				blk				very pyritic (4-6%) incl. & holes around coal	

MANALTA COAL LTD.

SHEET # 3 OF

PROJECT: TELKWA HOLE # T95R-39C CONTRACTOR: CASING: COMMENTS: Texas Ck (Site 10) ARD Sampling - Piczo Aug 12/95

Run # BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	UNIT THK											
	73°	solid		1.63	37.15	38.78		A017	Mudst	slty		gry	dk	massive	lam	-pyrite inclusions decreasing towards base, no fizz, incr. carb. at base		
12/385 416		solid		0.16	38.78	38.94	C-up	A018	Coal	muddy		blk				(1-2%) pyrite, mudst lam		
		solid		0.57	38.94	39.51		A019	Mudst	carb		blk		mass		coal lam. throughout, mod pyrite (<0.5%) no fizz		
		solid		0.27	39.51	39.78		A020	Mudst	carb		blk		mass		(root rock) as above 1-2% pyrite, no fizz		
		solid		0.25	39.78	40.03	C	2	coal			blk				pyrite on fracture & cleat (<0.5%) dull & bright banded		
		solid		0.30	40.03	40.33	C	3	coal			blk				dull & bright banded, bands of dissim pyrite		
		solid-brkn		0.40	40.33	40.73	C	4	coal			blk				dull, mod bright bands, badly brkn, very friable, trace pyrite		
		(core loss) solid		(0.14)	40.73	40.87	C	(5)	(Coal)									
		solid		0.56	40.87	41.43	C	5	coal	mudst		blk		lam		dull & bright banded, mudst lam throughout, pyrite stringers (<1%)		
		solid		0.43	41.43	41.86		A021	Mudst	carb		brn	dk	mass		(Floor Rock), coal stringers throughout, no visible pyrite, mod calcite veining		
13/416 445		solid		2.93	41.86	44.79		A022	Mudst	slty		gry	mod	mass		mod calc, no visible pyrite, 10cm band calc sltst at base, mod slickensides		

MANALTA COAL LTD.

SHEET # 4 OF

PROJECT: TELKWA HOLE # T95R-39c CONTRACTOR: CASING: COMMENTS: Tenas Ck (Site 10) ARD Sampling - Piezo Aug 13/88

Run # BOX MARK	DEPTH						DESCRIPTION											KEY BED
	BCA	CORE STATE	RQD	INTERVAL THK	FROM	TO	Scam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
14/44.5 47.6	72°	solid		0.96	44.79	45.75		A023	Mudst	silty			gry	med-dk mass	lam		non calc, pyrite lam & incl in last 5cm, coal lam at base, faulting at cm scale	
	47°	solid		2.13	45.75	47.88		A024	Mudst				gry	m-lt mass	SSD		non calc, beds deformed (slump or possible fault) trace pyrite, heavy slickensided	
15/47.6 50.5	72°	solid		2.16	47.88	50.04		A025	Mudst	silty			gry	med mass	lam		slump features in top 50cm only, non calc, pyrite incl (< 0.1%)	
		solid		0.25	50.04	50.29		A026	mudst	carb.			gry	med mass			pyrite stringers & incl. (1-2%) gradational contact w. coal (Red)	
		solid		0.32	50.29	50.61	b	6	Coal				blk				dull & bright banded, mudst lam at top, pyrite incl. at top (< 1%) calcite veins at base	
		solid		0.22	50.61	50.83		A027	Mudst	carb			brn	dk mass			(Floor Rock), coal stringers decr. towards base, non calc, pyrite incl (< 1%)	
16/50.5 53.6	61°	solid		2.70	50.83	53.53		A028	Mudst				gry	m-dk mass	lam-bit		Non calc, no fig, pyrite holes on coal stringers (< 1%) mod slickensides on this plane, carb plant frags throughout	
		solid		0.37	53.53	53.90		A029	Mudst	carb			gry-blk	mass			as above incl coal lam at base, no calc, pyrite incl (< 1%) (Roof Rock)	

MANALTA COAL LTD.

SHEET # 5 OF

PROJECT: TELKWA HOLE # 795R-39C CONTRACTOR: CASING: COMMENTS: Tenos Ct (Site 10) ARD sampling, Piezo Aug 13/95

Box Mark	BCA	CORE STATE	RQD	DEPTH			Seam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
17/53.6 56.7		(Core loss) Brkn		0.14	53.90	54.04	14	(7)	(Coal)								pyrite banding at base	
				0.32	54.04	54.36	14	7	Coal				blk				(last seam 60-70% pyrite) dull banded	
		solid		1.10	54.36	55.46	14	8	Coal				blk				bright banded, trace pyrite	
		solid		0.15	55.46	55.61	14	9	Mudst				brn	dk			intbd mudst-coal, pyrite lam (5.1%) ash layer in mudst at base	
		solid		0.37	55.61	55.98	14	10	Coal				blk				bright & dull banded, sharp contact w. mudst parting	
		solid		0.46	55.98	56.44	1 Ptg	A030	Mudst	carb/pyrite			brn	dk	mass		non coal, mainly last seam coal & pyrite (50-50%) (Parting)	
		solid		0.30	56.44	56.74	1	11	Coal				blk				dull & bright banded, dissm pyrite (1-2%?)	
		solid		0.29	56.74	57.03	1	12	Coal				"				dull & bright banded, mar calcite staining	
18/56.7 57.8		solid		0.08	57.03	57.11	1	12	Coal	muddy			"				mudst lam & pyrite at base	
		solid		0.31	57.11	57.42		A031	Mudst	Coaly			blk		mass		top 15cm - pyrite lam & incl (3-5%) mar calcite horwork in coal lam. (Floor Rock)	
		solid		1.76	57.42	59.18		A032	Mudst	carb			blk-gry	dk-rd	mass		coal lam & incl throughout, some calcite horwork in coal trace pyrite	
		solid		0.75	59.18	59.93		A033	Mudst	carb			gy	med	mass	SSD	mar-coal incl, carb, plat frag non calc, no visible pyrite	

MANALTA COAL LTD.

SHEET # 6 OF

PROJECT: TELKWA HOLE # T95R-39C CONTRACTOR: CASING: COMMENTS: Texas ck (site 10) ARD Sampling - Piezo Aug 13/9

Run # BOX MARK	BCA	CORE STATE	RQD	DEPTH			Seam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
19/598 62.8	56°	(Core loss) Lky		0.21	59.93	60.14		A033	mudst				gry	dk	lam		as above, slightly carb, silty lam towards base not calcite veining, no visible pyrite	
		Solid		1.70	61.20	62.90		A034	Sst	muddy	car-fa	poor	gry	#	med-thn	lam	abrupt contact w/ mudst above inltd w/ mudst bands of rounded rip up clasts, fine upward sequences (overbank deposit) non calc, more dissm pyrite (ca. 1%)	
		solid		0.36	62.90	63.26		A035	Mudst	coaly			blk-gry		mass		coal lam of bands top 18cm pyrite incl. (2%), no fizz	
20/62.8 65.9		solid		0.56	63.26	63.82		A035	mudst				gry	dk	mass		as above dissm pyrite (ca. 5%) non calc.	
		solid		0.71	63.82	64.53		A036	mudst	coaly			gry-blk	m-dk	mass		(Root Rock) non calc, silty at base, coal band (3cm) in middle trace pyrite incl. at base	
		solid		0.30	64.53	64.83	1La	13	Coal	muddy			blk				coal & mudst inltd, trace pyrite.	
		solid		0.27	64.83	65.10		A037	Mudst	coaly			blk-gry	dk	mass		coal lam decreasing towards base, trace pyrite incl. (floor rock)	
		solid		0.44	65.10	65.54		A038	sHst	sandy			gry	#	mass		coarse sand grains in part, fining upwards, each plat frags throughout, non calc, no visible pyrite	
		solid		0.33	65.54	65.87		A039	sHst				gry	#	mass		(Root Rock) as above, no sandy, no visible pyrite	

MANALTA COAL LTD.

SHEET # 7 OF

PROJECT: TELKWA HOLE # T95R-39c CONTRACTOR: CASING: COMMENTS:

Run # BOX MARK	BCA	CORE STATE	RQD	DEPTH			Seam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
		blky		0.26	65.87	66.13	1Lb	14	Coal	muddy			blk-brn				intbd mudst & coal, possible ash in mudst. at base, no vis pyrite	
		blky		0.33	66.13	66.46	1Lb	15	Coal				blk				dull & bright banded, no vis pyrite	
21/65.9 (68.9)		blky		0.28	66.46	66.74	1Lb	16	Coal	muddy			blk-brn				coal & mudst intbd calcite bar work, no visible pyrite	
		(Core loss) solid		0.09	66.74	66.83			(mudst)									
				0.26	66.83	67.09		A040	Mudst	Coaly			blk-brn	dk	mass		(Floor rock) coal bands & lam, calcite barwork, no visible pyrite.	
	61°	solid		0.46	67.09	67.55		A041	mudst	silty coaly			blk-brn	dk-lt	mass	lam	coal bands (5-7cm) at top and base, possible lt brn silty mud in cash incl.	
		solid		1.77	67.55	69.32		A041	mudst	carb			brn	m-dk	mass		silty in part, slickensides throughout, non calc, no visible pyrite, coal bands	
22/68.9 72.0		solid		0.70	69.32	70.02		A041	mudst	carb			brn	m-dk	mass		as above, calcite barwork in coal incl. & bands, no visible pyrite	
	67°	solid		1.20	70.02	71.22		A042	Sst	silty carb			grly	m-lt	m-thn	lam	intbd sst & silty mudst, coal lam at base, trace pyrite non calc.	
		solid		0.20	71.22	71.42	1Lc	A043	Coal				blk				bright banded, calcite barwork, no pyrite	
	77°	solid		0.99	71.42	72.41		A044	mudst	silty			grly	m	mass	lam biotrb.	non calc, no pyrite, lt grey silt lam, non coal stringers at top, mud decreasing	





 **manalta** Cuttings Description

Project \_\_\_\_\_ Contractor \_\_\_\_\_ Driller McAuley Lith. by \_\_\_\_\_ HOLE 39c pg.      of       
 Remarks ARD core hole see lithology description Start \_\_\_\_\_ Geo-log \_\_\_\_\_ Depth \_\_\_\_\_  
 Finish \_\_\_\_\_ Date Aug 12 1st S T R

13		16
4		1

Depth ( ) from to	Lithology							Indurate			Coal				Other	Colour										Comments							
	Mdn	S/Md	S	S/SS	SS			Soft	Med	Hard	Clean	Dirty	Ox	Bone		Carb	Clay	Sand	Grav	Till	Light	Dark	Grey	Brown	Blue		Green	Black	White	Red	Orange	Yellow	
					F	M	C																										
0	3																																Till + Gravel Siltstone.
3	6																																Cored @ 6" - 22 Runs

MANALTA COAL LTD.

SHEET # / OF

PROJECT: TELKWA HOLE # T95R-50C CONTRACTOR: McAuley CASING: 6.1m COMMENTS: Lenos Ck (site 5)

Aug 18/95

L. Rens

Run # BOX MARK	BCA	CORE STATE	RQD	DEPTH				Seam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO													
1/6.0 8.2		htky		0.20	6.14	6.34	d roof	1	Mudst				gry	dk	massive		mar pyrite flecks, non calc fractures @ 9° RCA, (Roof rock)		
		solid		0.25	6.34	6.59	d	2	Coal				blk				dull banded, mar vitrinite lam at base, pyrite inclusions in last 5cm (1-3%)		
		solid		0.28	6.59	6.87	d	3	coal				blk				dull banded, disseminated pyrite band, lam thk 8cm from base, bright banded last 8cm		
		solid		0.25	6.87	7.12	d Floor	4	Mudst carb				gry-blk	dk	mass.		coal stringers decreasing towards base, slickensides, impr pyrite (20.5%) non calc. (Floor rock)		
				0.42	7.12	7.54		6-1	Mudst carb				gry	dk	mass	SSD	mar pyrite incl, non calc slickensides. (Geotech Sample)		
		solid		0.77	7.54	8.31			Mudst slty				gry	dk md	mass		Trace pyrite, non calc		
2/8.2 10.2		solid		0.25	8.31	8.56		6-2	Mudst slty				gry	dk	mass		non calc, fractures @ 28° BCA trace pyrite (Geotech Sample)		
	76°	solid		0.31	8.56	8.87	Cup roof	5	Mudst slty				gry	dk	mass		(roof rock) as above, mar sltst lam. fractures & slickensides		
		solid		0.11	8.87	8.98	Cup	6	coal				blk				dull, mar H <sub>2</sub> S smell when drilled		
		solid		0.27	8.98	9.25	C Pctg	7	Mudst Carb				blk	dk			bands of dissim pyrite (solid) up to 3cm (5-7%) @ 8cm from top		
		solid		0.27	9.25	9.52	C	8	Coal				blk				dull banded, trace pyrite,		

MANALTA COAL LTD.

SHEET # 2 OF

PROJECT: TELKWA

HOLE # 795R-50C

CONTRACTOR:

CASING:

COMMENTS:

Tenas Ck (site 5)

Aug 19/95

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SEAM UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO													
		solid		0.23	9.52	9.75	C	9	Coal				blk				dissm pyrite at base (2.19%) slickensides, dull banded		
		blk		0.52	9.75	10.27	C floor	10	mudst	slty			gry	med	mass		(Floor Rock), mnr pyrite at top, slickensides, mnr calc lam, slightly calc on fracture		
2/10.2 12.8		blk		0.30	10.27	10.57		G-3	mudst				gry	med	mass		dissm pyrite (2-4%) coal lam, non calc (geotechnical sample)		
(-0.31)	58°	blk		1.99	10.57	12.56			mudst	slty			gry	med	mass		non calc, no visible pyrite sltst nodules at 55cm from base 13cm thk, 94cm from base 21cm thk, H gry sltst lam		
4/12.8 14.3		(Core loss) blk		0.30 0.31	12.56 12.86	12.86 13.17			(Rock) mudst	slty			gry	med	mass		as above, sharp basal contact, mnr slickenside		
(-0.54)	63°	solid		0.34	13.17	13.51			sltst	sandy			gry	H	gry thn	lam	non calc, sandy at top, thinning towards base, no visible pyrite		
		blk		0.31	13.51	13.82			mudst	slty			gry	med	mass	lam	non calc, trace pyrite, H gry sltst lam, mnr slickensides		
5/14.3 14.6 +0.48		solid		0.78	13.82	14.60			mudst				gry	med-th	mass		mnr H gry sltst lam, calc sltst frags throughout, trace pyrite at top		
6/14.6 17.3 +0.11	51°	blk		2.81	14.60	17.41			mudst	slty			gry	med-th	mass	lam	H gry sltst lam, trace pyrite, non calc, fractures @ 14° BCA, mnr soft sed deformation, mnr amount sltst nodules, slickensides		

MANALTA COAL LTD.

SHEET # 3 OF

PROJECT: TELKWA HOLE # T95P-500 CONTRACTOR: CASING:

COMMENTS: Tenas Ck (site 5) Aug 19/95

Run # BOX MARK	BCA	CORE STATE	RQD	DEPTH				Seam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO													
7/17.3 20.1 (1-0.2)	60°	(core loss) solid		(0.20) 2.59	17.41 17.61	17.61 20.20			(Rock) Mudst	slty			gry	m-dk	mass	lam	as above, non calc. (5cm slat nodular calc. @ 99cm from top pyrite incl. at 90cm from top infills nodules for 40cm (1%)		
8/20.1 23.2		solid		0.29	20.20	20.49	1u roof	6-4	Mudst				gry	m-dk	mass		trace pyrite, non calc. geotechnical sample		
		blky		0.42	20.49	20.91	1u roof	11	Mudst				gry	dk	mass		(Roof Rock), as above, dissm. pyrite throughout (1%), sharp contact w. coal, slickensides non calc.		
	51°	solid		0.24	20.91	21.15	1u	12	Coal				blk				dull banded, pyrite incl. at top		
		solid		0.09	21.15	21.24	1u	13	Mudst	coaly			brn	med			possible esp layer, pyritic, slickensides		
		solid		0.31	21.24	21.55	1u	14	Coal				blk				dull & bright banded pyrite lam. & incl. throughout (2-4%),		
		solid		1.11	21.55	22.66	1u	15	Coal				blk				dull & bright banded, trace dissm. pyrite at top.		
		solid		0.37	22.66	23.03	1u	16	Coal				blk				highly fractured, slickensides		
		(Core loss) brkn		(0.17) 0.09	23.03 23.20	23.20 23.29	1u 1partg	(16) 17	(Coal) Mudst	coaly			brn	dk			coal stringers throughout (Floor rock)		
9/23.7 26.2		(Core loss) blky		(0.03) 0.21	23.29 23.32	23.32 23.53	1partg 1partg	(17) 18	(mudst) Mudst				gry	med-H		breccia	mix of brecciated mudst & bentonite		

MANALTA COAL LTD.

SHEET # 4 OF

PROJECT: TELKWA

HOLE # T95R-50C

CONTRACTOR:

CASING:

COMMENTS:

Tenas ck (Site 5)

Aug 19/95

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED
				INTERVAL THK	FROM	TO	Seam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
		blky		0.39	23.53	23.92	1prt	19	Mudst	coaly				blk			(Roof Rock) coal lam. 7 inch throughout, no visible pyrite, calcite stringers	
	45°	solid		0.25	23.92	24.17	1	20	Coal					blk			dull & bright banded, no visible pyrite, muddy at top	
		solid-blky-blk		1.08	24.17	25.25	1	21	Coal					"			coal from 25.2 - 26.2m last clean, bright & dull banded trace pyrite	*
		(Core loss)		(1.24)	25.25	26.49	1	(21)	(Coal)									
10/26.2 28.1		blky		1.27	26.49	27.76	1	22	Coal					"			sheared, dull & bright banded, no visible pyrite	
		solid		0.22	27.76	27.98	1	23	Coal	mudst				"			mudst lam in part, no visible pyrite	
		solid		0.28	27.98	28.26	1	24	Coal					"			bright banded	
11/28.1 29.1	45°	solid		0.09	28.26	28.35	1	25	Coal	Mudst				"			pyrite replacement of coal in part, mudst lam	
		solid		1.07	28.35	29.42	1	26	Coal					"			bright banded, calcite box work at base	
12/29.1 32.2		blky		0.40	29.42	29.82	1	27	Coal	mudst				"		breccia	coal brecciated, mixed w. mudst floor rock, calcite veins, no pyrite	
		blky		0.33	29.82	30.15	1 floor	28	siltst	muddy sandy				gry	dk-med	breccia	(Floor Rock) heavy calcite veining & void replacement, muddier towards top, unit heavily brecciated	
		solid		0.41	30.15	30.56		G-5	siltst					gry	m-lt	breccia	as above, (geotechnical sample) probable fault at base of seam	

MANALTA COAL LTD.

SHEET # 5 OF

PROJECT: TELKWA HOLE # T95R-50c CONTRACTOR: CASING: COMMENTS: Tenas Ck (site 5) Aug 19/95

Run # BOX MARK	BCA	CORE STATE	RQD	DEPTH			Seam UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
		solid		1.38	30.56	31.94			siltst				gry	m-lt	mass	SSD	heavy soft sed. deformation trace pyrite.	
		solid		0.49	31.94	32.43			sst	silty	very fine	poor	gry	m-lt	mass	breccia	brecciated w. siltst, very calc in bottom 20 cm	
18/32.2 / 34.7		solid		0.33	32.43	32.76		6-6	siltst				gry	med-lt	mass	breccia	as above (Geotechnical Sample)	
		silky		0.44	32.76	33.20	11a roof	29	Mudst	silty			gry	med	mass	breccia	brecciated w. siltst, slightly chloritic sst inclusions (Roof Rock)	
		blk		0.50	33.20	33.70	11a	30	coal				blk				dull banded, muddy at base, no visible pyrite	
		brkn		0.125	33.70	33.95	11a floor	31	mudst	coaly			gry	dk	mass		badly brkn, heavily siltsided coal bands of lam. throughout (Floor Rock)	
		brkn		0.70	33.95	34.65			mudst	coaly			gry	m-dk			mudst interbed w. coal bands very broken	
		(core loss)		(0.34)	34.65	34.99			(rock)									
14/34.7 / 37.8		solid		0.40	34.99	35.39			mudst	silty			gry	m-lt	mass	SSD	non calc, no visible pyrite	
		blk		0.22	35.39	35.61	11b	32	Coal	muddy			blk			SSD	mudst bands in part, distorted beds	
		blk		0.89	35.61	36.50			mudst	carb			gry	dk	mass		pyrite incl. of lam. throughout	
		brkn		0.83	36.50	37.33			mudst	silty			gry	med	mass	lam	lt gry siltst lam, fractured, mod soft sed deformation, no visible pyrite	
		(core loss)		(0.76)	37.33	38.09			(rock)									

TD

# McAULEY DRILLING CO. LTD.

## SHOT HOLE DRILLING REPORT

Hole No. TXR-04C Prospect \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ Range \_\_\_\_\_ W \_\_\_\_\_ Left Base \_\_\_\_\_

Province BC Arrive Field \_\_\_\_\_

Date July 11-96 Left Field \_\_\_\_\_

Drill No. 96 Arrive Base \_\_\_\_\_

Water Truck No. \_\_\_\_\_ Total Hours \_\_\_\_\_

FEET		WASH OUT <input type="checkbox"/>	DRILLED <input type="checkbox"/>
From	To	TYPE OF CUTTINGS	
0	2	Mudlog	
2	10	Br + Reddish - Br Till - pebbles	
10	22	Mud. Str.	
22	28	Run #1	Cored - 6 Rec. 5-8
28	36	" #2	
36	42	" #3	
42	48	" #4	
48	58	" #5	
58	68	" #6	
68	78	" #7	
78	88	" #8	
88	98	" #9	
98	108	" #10	
108	118	" #11	
118	128	" #12	
		<u>TD</u>	
		TOTAL DEPTH	

DRILLER W McAuley

HELPER \_\_\_\_\_

HELPER \_\_\_\_\_

Mud Used: \_\_\_\_\_

Bran Used: \_\_\_\_\_

Bit \_\_\_\_\_

Casing \_\_\_\_\_

Field Repair Time \_\_\_\_\_ Hr.

Waiting on Water \_\_\_\_\_ Hr.

MANALTA COAL LTD.

SHEET # 1 OF

PROJECT: TELKWA HOLE # T96R-04C CONTRACTOR: McAuley CASING: b.o.m.

COMMENTS: SITE # 22 July 10/96 Start coring @ 22'

BOX MARK	BCA	CORE STATE	C.L. ROD	DEPTH				DESCRIPTION										KEY BED
				INTERVAL THK(m)	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
					0	3.05				TILL								Till - Reddish brown - Not cored. No sample.
					3.05	6.00				Mdsn								
		blocky		0.17	6.00	6.17		A001	SASN		Gr.		grey	H.	massive			
28'		broken		1.52	6.17	7.69		A002	SASN		v. Gr.		grey	dk	massive			
		"		0.58	7.69	8.27		A002	SASN		"		"	lt	"			
		"		0.12	8.27	8.39		A002	SASN		"		"	dk	"			
		"		0.60	8.39	8.99		A002	SASN	slty	"		"	dk	"			
36'	66°	broken	1.01 RL	0.84	8.99	10.84		A003	SASN		Gr				massive			sl. carb. pyrite banding
		v. "		0.07	10.84	10.91		A003	COAL				blk.					
		"		0.63	10.91	11.54		A004	SASN	slty			grey	dk				
		crushed	0.36 cut R	?	11.54	11.90		A004	COAL LOSS				blk					
	66°	"		0.22	11.90	12.12		A004	SASN	slty			grey	dk				plant frags th/out
42'-48'	64°	blocky	0.27 RL	1.79	12.12	13.38		A005	SASN	slty					massive			occ. siltst / coal lam / bands. Plant debris / coaly lams w/in. Minor pyrite band w. exal.
		broken		0.25	14.38	14.63		A006	siltst.	carb.			grey	dk	massive			
		broken	1.09 RL	0.45	14.63	15.17		1	COAL				blk					clean hard th/out. Upper lam = dark. Abrupt lower contact.
		blocky		0.02	15.17	15.19		A007	Mdsn.	carb								Very coaly.
	65°	blocky		1.50	15.19	16.74		A007	siltst.						lam			Mdsn / carb @ top; siltst in middle. Sandier towards base. Pyrite bits th/out
				0.05	16.74	16.74			Rock Loss									Pyrite banding
		blocky		0.18	16.74	16.92		2	COAL									
		"		0.02	16.92	16.94		A008	Mdsn									
		"		0.01	16.94	16.95		A008	COAL									
		"	RL 111	0.10	16.95	17.05		A008	Mdsn									
		"		0.07	17.05	17.16		A008	COAL									
				0.30	17.16	17.46		A008	Mdsn									
				0.09	17.46	17.55		3	COAL									
Run# 6 58-68'		blocky		0.40	17.55	17.95		3	Coal									Dull & bright banded, minor pyrite inclusions. < 0.5%
		blocky		0.42	17.95	18.37		4	Coal									dull banded, minor muds



MANALTA COAL LTD.

SHEET # OF

PROJECT: TELKWA HOLE # T96R04C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
		blocky		0.61		18.98		OS	Coal									dull & bright banded, mac mudst lam, no visible pyrite
		blocky		0.39	18.98	19.37		A009	mudst carb				dk grey		mass			- coal stringer & inclusions, no visible pyrite
	80°	blocky		1.04	19.37	20.41		A010	mudst				gy, m		mass			- no visible pyrite, non calc.
		Core loss		0.10	20.41	20.51			Rock									
Run #7 68'-78'		blocky		1.26	20.51	21.77		A011	mudst				m-grey		mass			- as above, no visible pyrite silty in part, no fizz, whack
	0.78°	blocky		1.71	21.77	23.48		A012	mudst silty				m-grey		lam			- silty lam throughout, very mac pyrite incl. 5.5% no fizz mac coal lam
Run #8 78'-88'		lky-solid		0.78	23.48	24.26		A012	mudst	"			"		"			as above, no fizz
		solid-lky		1.88	24.26	26.14		A013	mudst	"			"		"			as above, well indurated silty bands up to 20 cm pyrite flour on beds plane in silt bands, no fizz
		solid		0.31	26.14	26.45		6	Coal									dull & bright banded, mac dissm pyrite at base, muddy at base
		blocky		0.12	26.45	26.57		A014	Mudst carb				dk grey		lam			dissm pyrite 3-5%, no fizz
Run 9 88'-98'		solid		0.12	26.57	26.69		A014	mudst	"			"		"			as above

MANALTA COAL LTD.

SHEET # OF

PROJECT: TELKWA HOLE # CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
	80°	solid		2.42	26.69	29.11		A015	Mudst	slty			dk-gry	lam			no fizz, more visible dissem. pyrite, rock plate frags throughout	
		solid		0.36	29.11	29.47		7	coal	partly muddy							inter mudst & dull coal pyrite incl. of lam up to 50% in top 10cm decreasing towards base	
		blky		0.25	29.47	29.72		8	coal								bright banded, no visible pyrite	
Run 10 98-109		blky		1.08	29.72	30.80		8	Coal								as above, 2cm pyrite band at 35cm	
		blky/solid		0.29	30.80	31.09		9	Mudst	reefy			brn				interd mudst of coal bands no vis. pyrite	
		solid		1.55	31.09	32.64		10	Coal								more mudst, lam. throughout, bright & dull banded, very minor pyrite flour on top floor	
Run 11 108-118		blky-brkn		0.91	32.64	33.55		10	Coal								as above	
		solid		0.89		34.44		11	Coal								dull & bright banded, mudst lam. in part incl. pyrite inclusions	
	72°	solid		1.25	34.44	35.69		A016	mudst	carb			gr-y	dk-m			decreasing coal incl. of lam. towards base, no vis. pyrite more calcite staining at base	





MANALTA COAL LTD.

SHEET # 2 OF

PROJECT: TELKWA HOLE # T96R-05C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	DESCRIPTION				KEY BED	
				INTERVAL THK	FROM	TO							COLOUR	MODIFIER	BEDDING	SED. STRUCT		NOTES
		solid		0.31	29.91	30.22		A003	mudst	calc.			gry	lt	mass		mudst heavily stained & cemented w/ calcite, strong sustained fizz	
Box 7 30.24		solid		0.18	30.22	30.40		A003	mudst	calc			gry	lt	mass		as above	
		solid		0.70	30.40	31.10		A004	mudst				gry	dk	mass		non calc, no vis pyrite (full core taken)	
31.14		solid		0.51	31.10	31.61		A005	mudst				gry	dk	mass		trace dissem pyrite, minor coal incl. w/ pyrite holes non calc (full core taken)	
		blky		0.91	31.61	32.52		A006	siltst	mudst			gre-gry	clk	mass		chloritic siltst, pyrite holes around coal incl. th/out (3-5%) non calc (full core taken)	
32.60	53°	blky		0.48	32.52	33.00		A007	siltst	ssst			gre-gry	clk	mass		becoming sandier, decr. pyrite towards base (in 3%) non calc, abrupt basal contact (full core taken)	
Box 8		blky-brkn		0.86	33.00	33.86		A007	siltst	ssst			gry-gr	dk	mass		as above	
				0.62	33.86	34.48		A008	mudst				gry	dk	mass		mod amount siltst surfaces no vis. pyrite, non calc.	
34.64		lost core		(-1.25)	34.48	35.73												
35.64		brkn		1.32	35.73	37.05		A008	mudst				gry	dk	mass		as above, incr. siltst surfaces	
Box 9 37.07		blky		0.21	37.05	37.26		A008	mudst				gry	dk	mass		as above	
37.34	51°	blky		1.26	37.26	38.52		A009	mudst	silty			gry	dk	lam		incr. siltst lam in part pyrite incl. in part 1% non calc, (entire core taken)	
38.74		blky		0.99	38.52	39.51		A010	mudst				gry	dk	mass		incr. coal lam, towards base trace pyrite, non calc (entire core taken)	

7.25.06

MANALTA COAL LTD.

SHEET # 3 OF

PROJECT: TELKWA HOLE # T96R-05C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
		brkn		0.29	39.51			1	coal									dull & bright banded, trace pyrite
Box 10 39.95		blky		0.64				2	coal									dull banded, pyrite incl & lam 1-3%
	43°	blky		0.80		41.30		3	coal									dull & bright banded, no vis pyrite
		brkn - very brkn	0.06	0.88	41.30	42.12		A011	mudst				gry	dk	mass			dissem pyrite at top 1% non calc. coaly at base (entire core taken)
		very brkn		0.15	42.12			4	coal	mudst								mudst frags th/out
42.51				0.10				4	coal	mudst								as above
				0.26				5	coal									dull banded, mnc calcite lamwork, no vis pyrite
Box 11		solid		0.09				6	bertonite				brn	m-lt				coaly at top, well indurated
		blky		1.05				7	coal									dull banded
		brkn-blky		0.46		44.40		8	coal									dull banded 5cm mudst band at top
		blky		0.31	44.40			A012	mudst	coaly			gry	dk				coal lam th/last, dissem pyrite on slit/and surface (1-2%) non calc. (entire core taken)
44.88		blky		0.27		44.98		A012	mudst	coaly			gry	dk				as above
		blky		0.64	44.98	45.62		9	coal									dissem pyrite in part 1-2%

staken sides

MANALTA COAL LTD.

SHEET # 4 OF

PROJECT: TELKWA HOLE # T96R-052 CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
Box 12 45.72	45°	solid-blky	0.02	1.08	45.62	46.68		A013	mudst	slty			gry	dk	lam		min saltst lam near base non calc, no vis pyrite	
		blky		0.25	46.68			10	coal								no vis pyrite, dull & bright banded	
		solid		0.70				11	coal								dull & bright banded	
		solid		0.09				12	coal	muddy							mudst bands th/ant, no vis pyrite	
47.92		solid		0.10				12	coal	muddy							as above	
		blky		0.53				13	coal								dull, very mac. calcite towards	
		blky		0.10				14	coal								bright & dull banded,	
Box 13 48.67		solid		0.86				14	coal								as above	
		blky-brkn		0.63				15	coal								dull banded, min mudst bands no vis pyrite	
		blky		0.79				16	coal								4cm mudst band at top trace dissem pyrite	
50.90		blky		0.07	50.84			16	coal								becoming muddier towards base	
		blky		0.48	50.84			A014	mudst	coaly			gry	dk	mass		coal bands and lams th/ant, non calc, no vis pyrite	
Box 14 51.50		solid		0.19	51.51			A014	mudst	coaly			gry	dk	mass		as above	

MANALTA COAL LTD.

SHEET # 5 OF

PROJECT: TELKWA HOLE # CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	UNIT THK											
		blky		1.92	51.51	53.43	Geotec sample 53.8-53.94	A015	mudst								coal lam. 7 inch throughout, pyrite holes around coal 2-4% mar calcite on slickensided surfaces (entire core taken)	
53.94		blky (rock loss)		0.54 (0.20)	53.43 53.97	53.97 54.17		A016	mudst								mnr coal lam, no vis pyrite, mnr calcite on slickensided surfaces. (entire core taken)	
Box 15		brkn (rock loss)		0.61 (0.37)	54.17 54.78	54.78 55.15	Geotec sample 54.60-54.77 0.17	A017	mudst								incr. coal lam of bands, dissem pyrite th/out (3-4%) (entire core taken) (0.20RL)	
		blky		0.85	55.15	56.10		17	coal								pyrite lam at root, trace th/out	
	47°	blky		0.85	56.10			A018	mudst	slty							vry mnr, sltst lam, trace pyrite non calc.	
56.99		blky		0.34				A018	mudst	slty							blom calcite of mudst band at top, as above	
Box 16 57.35		blky (rock loss)		0.66 (0.11)	57.95	58.06		A018	mudst/ slty	slty/ sst							becoming sandier towards base, sltly, chloritic sand, no vis. pyrite, non calc.	
		brkn		0.46	58.06	58.52		A019	mudst	carb							pyrite incl. at top (3-4%) coal lam th/out	
		blky	-0.18	0.82	58.52	59.52		A020	coal								trace pyrite 1%	
		brkn		0.36	59.52			A021	mudst	slty							mnr sltst lam, calcite stringers on fracture surfaces no vis. pyrite.	



MANALTA COAL LTD.

SHEET # 6 OF

PROJECT: TELKWA HOLE # T96R-05C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	DESCRIPTION				KEY BED
				INTERVAL THK	FROM	TO	UNIT THK						COLOUR	MODIFIER	BEDDING	SED. STRUCT	
60.94		blky		0.50				A021	mudst	slty			gry	dk	lam		as above, mod amount of sstnsd surfaces
Box 17 60.55	51°	blky		1.02				Geot. Samp 60.85-61.0 61.45-61.6 A021	mudst	slty			gry	dk	lam		as above, mod calc veining in botm 20cm
62.11		blky		0.42				Geot. Samp 62.28- 62.52 A021	mudst	slty			gry	dk	lam		pyrite lam. in part, (1%)
63.09		blky		0.69				A021	mudst	slty			gry	dk	lam		as above, no vis. pyrite vry mod calc veining on fracture surface
Box 18 63.82	45°	blky		0.95		63.46		A021	mudst				gry	dk	lam		as above
		blky (rock loss)		0.26 (0.28)	63.46 63.72	63.72 64.00		A022	mudst	calc			gry	lt	brecciated		heavy calcite veining/banding in brecciated - brkn mudst (0.28 RL)
		solid (rock loss)		0.07 (0.22)	64.00 64.07	64.07 64.29		A023	mudst	slty			gry	dk	lam		vry mod sstnsd lam, non calc, no vis. pyrite
64.82		blky		1.43	64.29	65.75		Geot. Samp 64.97- 65.15 - 0.17 A023	mudst	slty			gry	dk	lam		as above
Box 19 64.47	45°	blky-solid (rock loss)		1.50 (0.64)	65.75 67.22	67.22 67.86		A023									as above (0.64 RL)
67.86		blky (rock loss)		1.17 (0.44)	67.86 69.03	69.03 69.47		A023	mudst	slty			gry	dk	lam	mod biot.	as above
69.19		x		to botm of box				Geot. Samp 69.17-69.17 - 0.28									(0.44 RL)
Box 20 69.47				2.73	69.47	72.20		A023	mudst	slty/sst			gry	dk-ll	lam	mod biot.	intbd mudst - slty, mod sstnsd lam in part, non calc, no vis pyrite

MANALTA COAL LTD.

SHEET # 7 OF

PROJECT: TELKWA HOLE # T96R-05C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
Box 21 72.23		blky		1.07	72.20	73.27		A024	mudst					gry	dk	mass		non calc. veining, pyrite incl. in part (1%), becoming coaly at base
		brkn (rock loss)		0.24 (0.07)	73.27 73.51	73.51 73.58		A024	coal									dull, no vis. pyrite, muddy at base (entire core taken)
		blky		1.56	73.58	75.14		A025	siltst	mudst				gry	m	mass		non calc, no vis. pyrite, carb. plat frags of coal layers in part
Box 22 75.27	51°	blky		0.37	75.14	75.51		A025	siltst	mudst				gry	dk	mass		as above, incr. carb. & coal content, abrupt basal contact
		blky (rock loss)		0.76 (0.31)	75.51 76.00	76.00 76.31		A026	coal	mudst								coaly mudst from 25-47cm trace pyrite (entire core taken)
		* (From log)		0.24	76.31	76.55			cont.									
		blky (rock loss)		1.08 (0.35)	76.55 77.63	77.63 77.98		A027	mudst					gry	m	mass		non calc, no vis. pyrite, carb. plat. frags, th/pur, coal bed at top (entire core taken)
		blky-brkn		0.56	77.98			A028	coal	mudst								muddy at top, bentonite band from 13-23cm, pyrite in mudst at top (1-3%) (Est. C. taken)
Box 23 78.37		very brkn		0.13		78.81		A028	coal									no vis. pyrite (Est. C. taken)
		blky		2.20	78.81	81.01		A029	mudst	coaly coaly				gry	dk	mass		Coal lam. of bands th/pur no vis. pyrite, non calc.
81.12		blky		0.50	81.01	81.51		A029	mudst	coaly				gry	dk	mass		as above, clean coal frags towards base

MANALTA COAL LTD.

SHEET # 8 OF

PROJECT: TELKWA HOLE # T96R-05C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
Box 24 81.65	H2°	blky		2.28	81.51	83.79		A029	mudst				gry	dk	mass/lam		several well indurated zones up to 30cm (mass, nodular) mnr calcite on fracture surfaces, calcite boxwork in scattered coal incl. 2cm calcite band from from base, no vis. pyrite	
83.87		blky (rock loss)		0.55 (0.27)	83.79 84.34	84.34 84.61		A029	mudst				gry	dk	mass/lam		as above	
Box 25 84.57		blky		0.47	84.61	85.08		A029	mudst				gry	dk	mass/lam		as above, sst lam at base	
		Solid * (from log) (rock loss)		0.24 0.20 (0.26)	85.08 85.32 85.52	85.32 85.52 85.78		A030	sst COAL	m	poor		gry-wht		mass		slightly calc, calc & coarse frags thout, no vis. pyrite	
		blky-bdm		0.84	85.78	86.62		A031	coal								trace pyrite, dull & bright bands	
86.55	51°	blky		0.76	86.62	87.38		A032	mudst	slty			gry	m-H	lam		int'd mudst-sltst carb at top non calc, trace pyrite at top	
87.47		blky (rock loss)		0.24 (0.54)	87.38 87.62	87.62 88.16		A032	mudst	slty			gry	m-H	lam		as above	
Box 26 87.72																		
		blky (rock loss)		2.25 (0.55)	88.16 90.41	90.41 90.96		A032	mudst	slty			gry	m-H	lam		as above, sltst lam - slight calc, slow fizz, no vis. pyrite	
90.51 Box 27	52°	blky (rock loss)		2.50 (0.18)	90.96 93.46	93.46 93.64		A032	mudst	slty			gry	m-H	lam		as above	

Geot. Sample  
87.72-88.20

Geot. Sample  
92.55-92.90

entire core below

MANALTA COAL LTD.

SHEET # 9 OF 9

PROJECT: TELKWA HOLE # T96R-05C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	UNIT THK											
Box 28																		
93.56 (-0.38)		blky (rock loss)		2.68 (0.38)	93.64	96.32	95.08-95.46	A032	mudst			gry	m-dk	lam		as above, decr silt content, mudst nodules well inter. in part		
Box 29		Solid		0.20	96.70	96.90		A033	mudst			gry	m-dk	lam		as above, no vis. pyrite		
96.62 (-0.71)		blky-solid (rock loss)		2.36 (0.71)	96.90	99.25	96.62-96.98	A033	mudst			gry	m-dk	lam/mass		becoming mass towards base non calc at base, no vis. pyrite		
Box 30		blky		-0.13	99.96	100.09		A033	mudst			gry	dk	mass		no vis. pyrite, non calc		
		blky-solid		2.68	100.09	102.77		A033	mudst			gry	dk	mass		as above, vry min. calcite stringers		
Box 31		blky		0.140	102.77	103.17		A033	mudst			gry	dk	mass		as above		
102.72 (-0.28)		blky (rock loss)		0.94 (0.28)	103.17	104.11	102.85-103.00	A033	mudst			gry	dk	mass		as above		
		blky		1.43	104.39	105.82		A034	mudst			gry	dk	mass		min coal incl. w. pyrite lam & holes 1-2%, non calc.		
Box 32		blky		0.65	105.82	106.47		A034	mudst			gry	dk	mass		as above		
105.77																		

3.06

6.1

3.05

712



MANALTA COAL LTD.

SHEET # / OF

PROJECT: TELKWA HOLE # T96R-07C CONTRACTOR: CASING: COMMENTS: Test Pit site 74

Run # BOX-MARK	BCA	CORE STATE	C.L. RCD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
1 2.41/ 4.41	-84°	blky		1.05	2.87	3.92			mudst	carb			Grey	dk			carb. plat frags of coal band-lam throughout	
		"		0.25	3.92	4.17		1	Coal								dull banded, pyrite inclusions 4-5%, muddy top 5cm (root sample)	
		"		0.29	4.17	4.46		2	Coal								as above, decreasing pyrite content	
		"		0.20	4.46	4.66		3	Coal								bright banded	
		"		0.16	4.66	4.82		4	Coal	muddy							dirty coal v. bands of mudst.	
2 4.41/ 7.46		blky		0.34	4.82	5.16		5	Coal								dull banded, 1-3% pyrite incl.	
		"		0.25	5.16	5.41		6	Coal								as above, sharp basal contact, (floor sample)	
				0.44	5.41	7.85			Mudst	carb			Grey	dk-med	mass		coal stringers of lam at top decreasing towards base concretions in part, siltst bands, no visible pyrite siltst vry calcareous, strong sustained fizz	
3 7.46/ 10.50	78°	blky		3.05	5.41	10.90			mudst				Grey	med	mass		as above, 30cm vry calc. siltst band 30cm from top mud pyrite flow on big plate at top	

MANALTA COAL LTD.

SHEET # OF

PROJECT: TELKWA HOLE # 796R-07C CONTRACTOR: CASING: COMMENTS:

Run # BOX-MARK	BCA	CORE STATE	CL RQD	DEPTH				SAMPLE #	DESCRIPTION								KEY BED
				INTERVAL THK	FROM	TO	UNIT THK		ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	
4 10.5/ 13.58				1.42	10.90	12.32			mudst	shy			gry	med	lam.		as above, lam pyrite band at base
				0.29	12.32	12.61	0.29	7	coal								mar. mudst incl, mar pyrite incl.
5 13.57/ 15.07	78°			1.29	12.61	13.90			mudst	carb			"	"	"		coal lam. at top, pyrite incl. 5-10% in top 10 cm
				1.45	13.90	15.35			mudst				gry	med	mass		becoming carb. at base mod- heavy amount pyrite low on bed, 1/2 inch
				0.17	15.35	15.52		8	coal	pyrite							3-5% pyrite on cleat *(strong methane smell)
6 15.07/ 18.18				0.09	15.52	15.61		8	coal	"							as above
				0.13	15.61	15.74		9	coal	muddy pyritic							coal interbed. w. mudst. & pyrite lam (up to 50% FeS)
				1.30	15.74	17.04		10	Coal								dull & bright banded, mar pyrite
				0.40	17.04	17.44		11	mudst	carb							coal bands in part, possible 5cm each layer at base
				1.16	17.44	18.60		12	Coal								bright banded, no visible pyrite

MANALTA COAL LTD.

SHEET # OF

PROJECT: TELKWA HOLE # T95R-07C CONTRACTOR: CASING: COMMENTS:

Run # BOX-MARK	BCA	CORE STATE	RCD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	UNIT THK											
7 18.18/ 20.65		blky		0.35	18.60	18.95		12	Coal								as above	
		"		0.61	18.95	19.56		13	Coal								dull banded, mod mudst lam, no visible pyrite	
		"/brkn		0.43	19.56	19.99		14	coal								dull banded, vry fissile mod mudst lam	
		solid		0.65	19.99	20.64		15	coal								dull & bright banded mod pyrite incl., 2cm mudst band 16 cm from top	
				0.25	20.64	20.89		16	coal								as above, muddier towards base (floor sample)	
				0.17	20.89	21.06			mudst carb.			gry	dk	mass			aliquanted, mod pyrite incl. & lam 2-4%	
8 20.65/ 23.20		solid		0.70	21.06	21.76			mudst			"	dk-m	"			-plant frags throughout	
		brkn		0.33	21.76	21.98			mudst	slty		gry	lt				fractured, calcite veins throughout	
				0.11	21.98	22.09											Too much mdsn/silty	
		solid		0.83	21.98	22.81			mudst			gry	m-dk	massive			pyritic in last 5 cm (10-20%)	
		"		0.32	22.81	23.13		17	coal								dull & bright banded, mod mudst lam	
		blky		0.07	23.13	23.20		18	mudst			brn	m				no visible pyrite	







MANALTA COAL LTD.

SHEET # / OF

PROJECT: TELKWA HOLE # T96R-12C CONTRACTOR: CASING: COMMENTS: Test Pit Area

Run # BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	UNIT THK											
1 0.76-1.00		no core			0.76	1.00	1	Coal									subcrop coal, weathered sample taken from cuttings	
2 1.00-1.90		core loss brkn		0.22	1.73	1.95	2	Coal loss Coal									partial cuttings sample little core recovery, iron stain on harder pieces in core barrel. most of sample removed from diverter barrel	
3 1.90-4.74	82°	blk		0.48	1.95	2.43	3	Coal									Dull banded, mnr. Fe stain	
4 4.74-8.06	77°	blk-solid		2.30	2.43	4.73		mudst				gry	m	massive			mnr. coal stringers at top mnr. amount dissem. pyrite	
5 8.06-11.10	80°	blk-solid		3.08	11.73	17.81		mudst	slty			gry	m	mass-lm			- silty lam towards base 20cm vrn. calc. mudst - 30cm from top. coal spar w/ pyrite holes < 1%	
		"		1.26	7.81	9.07		mudst				gry	m	"			as above, 1cm hard pyrite at base	
		"		0.30	9.07	9.37	4	coal									pyrite lam throughout 3-5% dull & bright banded	
	80°	"		1.52	9.37	10.89		mudst				gry	dk-m	"			carb-coaly at top, pyrite inclusions in top 25cm, 5% dissem. pyrite on bdy, planes 1-2%	







MANALTA COAL LTD.

SHEET # / OF

0-0.36 total  
0.36 - 105/211

PROJECT: TELKWA HOLE # 796R-13C CONTRACTOR: CASING: COMMENTS: Test Pit

Run # BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	UNIT THK											
1 1.98 - 5.03	82°	blk - solid		2.87				mudst	silty			grey	med	lamin		- silty laminations throughout vry. much pyrite on bed plane		
2 5.03 - 8.08		"		1.29				mudst	silty			"	"	"		as above, inc. pyrite content - dissem of inclusions toward base 2-5%		
		"		0.33	6.48	6.81	1	coal	pyrite							- top 10 cm, pyrite lam. 8-12%, - dull & bright banded		
		"		1.39		8.20		mudst	silty			grey	"	"		coal lam at top, more pyrite incl. of holes around coal spec.		
3 8.08 - 11.22		"		1.30		9.50		mudst	silty			"	"	"		as above, pyrite increasing towards base - 2cm band at btm.		
		"		0.24		9.74	2	coal								pyrite lam. & incl. throughout 5-8%, 2cm silty mudst at base		
		"		1.34		11.08	3	coal								dull & bright-banded, 4cm pyrite & coal band 7.6cm from top		
				-0.08 0.26	11.08 11.00	11.00 11.26	4	overmeasure mudst	real/silty			grey	dk-m	lamin.		coal bands & lam. decreasing towards base		
4 11.22 - 14.27				0.33		11.59	4	mudst				grey	"	"		as above, coal lam. increasing towards base		





# McAULEY DRILLING CO. LTD.

## SHOT HOLE DRILLING REPORT

Hole No. 170 Prospect \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ Range \_\_\_\_\_ W \_\_\_\_\_ Left Base \_\_\_\_\_

Province B.C. Arrive Field \_\_\_\_\_

Date July 15 - 96 Left Field \_\_\_\_\_

Drill No. 96 Arrive Base \_\_\_\_\_

Water Truck No. \_\_\_\_\_ Total Hours \_\_\_\_\_

FEET		WASH OUT <input type="checkbox"/>	DRILLED <input type="checkbox"/>
From	To	TYPE OF CUTTINGS	
0	1.91	Till	
1.91	2.1	Gr Mdstn	
2.1	5.15	Run # 1	
5.15	8.19	" # 2	
8.19	11.24	" # 3	
11.24	14.24	" # 4	
14.24	17.38	" # 5	
<u>IBC</u>			
0	1.91	Br Till	
1.91	1.98	Gr Mdstn	
1.98	4.93	Run # 1 Cored	
4.93	7.85	" # 2 "	
7.85	10.89	" # 3 "	
10.89	13.87	" # 4 "	
		TOTAL DEPTH	

DRILLER John McAuley

HELPER \_\_\_\_\_

HELPER \_\_\_\_\_

Mud Used: \_\_\_\_\_

Bran Used: \_\_\_\_\_

Bit \_\_\_\_\_

Casing \_\_\_\_\_

Field Repair Time \_\_\_\_\_ Hr.

Waiting on Water \_\_\_\_\_ Hr.

MANALTA COAL LTD.

SHEET # 1 OF

196R-17C

PROJECT: TELKWA HOLE # 796R-17C CONTRACTOR: CASING: COMMENTS: Test Pit

Run # BOX-MARK	DEPTH							DESCRIPTION										KEY BED
	BCA	CORE STATE	RQD	INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
1 1.11 - 2.10 = 5.15	79°	blky-brkn		1.17	0.0	0.91			mudst	slty			gr	m	lam.		fractured core, minor fe stain to 60 cm, mod pyrite inclusions, 1%	
		blky		0.28	3.47	3.75		1	coal								dissm. pyrite 1-2%, gradational contact at top.	
	76°	"		1.36	3.75	5.05			mudst	slty			gr	m	lam		fracturing decreasing trace pyrite on log plane around carb. plat. frags	
2 5.15 - 8.17		core adjustment blky		-0.05	5.05	5.00			overmassy mudst	slty			"	"	"		as above, increasing carb content last 30 cm	
		solid		0.27	6.71	7.00		2	coal								pyrite stringers throughout 5-8% dull banded, mod mudst bands	
		solid-blky		1.00	7.00	8.00		3	coal								bright & dull banded trace pyrite	
3 8.17 - 11.22		solid		0.26	8.00	8.36		3	coal								as above	
		"		0.45	8.36	8.81		4	mudst	carb.							gradational contact at top sharp basal contact, possible 5cm ash band at base	
		"		1.60	8.81	10.41		5	coal								bright & dull banded, trace dissm. pyrite	
		blky-brkn		0.69	10.41	11.10		6	coal								mudshy bands, mod dissm pyrite (2-5%) top 4cm, 11-17cm & 54cm to base mudshy / friable	



MANALTA COAL LTD.

SHEET # / OF

PROJECT: TELKWA

HOLE # 796R-18C

CONTRACTOR:

CASING:

COMMENTS:

Test Pit Area

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	DESCRIPTION							KEY BED		
				INTERVAL THK	FROM	TO	UNIT THK		ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING		SED. STRUCT	NOTES
0.-0.91									SUB									
0.91-1.98									mudst brn									
1	81°	blky		1.89	2.08	3.97			mudst slty				gry	m.	lam			Fe stain on fractures to 50cm, pyrite lam at base
1.98-4.93																		
		blky		0.23	3.97	4.20		1	coal									dull brown coal, med-heavy pyrite lam. - 8-10%
		solid		0.66	4.20	4.86		2	coal									more pyrite on cleat bright & dull banded as above
2		solid		0.73	4.86	5.59		2	coal									
4.93-7.85		blky		0.46	5.59	6.05		3	mudst carb-coaly				gry	brn-bk				coal lam at top, abrupt basal contact w. coal, pass carb byer. 4cm
		solid		1.73	6.05	7.78		4	coal									bright & dull banded trace pyrite
3		solid		+14 0.39	7.78 7.92	8.31		4	coal									as above
7.85-10.89		blky		0.35	8.31	8.66		5	coal muddy									20cm at muddy coal at top - several 2.5-1cm mudst bands towards base
		solid		0.72	8.66	9.38		6	coal									dull & bright banded, pyrite lam 2-1%
	77°	blky		1.40	9.38	10.78			mudst slty				gry	dk-m	lam			coal lam. at top, dissem pyrite 2-1%
4		blky		0.38	10.78	11.16		7	coal									pyrite lam throughout 5-8%
10.89-13.87																		





T96R-20C

MANALTA COAL LTD.										SHEET # / OF							
PROJECT: TELKWA		HOLE # T96R-20C		CONTRACTOR:		CASING:		COMMENTS: <i>Test Pit</i>									
Run # BOX-MARK				DEPTH				DESCRIPTION								KEY BED	
	BCA	CORE STATE	RQD	INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING		SED. STRUCT
0-3.04									DVB								
3.04 - 4.10									mudst								drilled out & cased
1 4.10 - 7.15	70°	blky		0.73					mudst carb				gry	m-dk	lam		dissm. pyrite & incl. throughout; incr. towards base (3-5%)
		solid		0.61	5.27	5.88		1	coal								dull & bright banded, pyrite incl. 2-4%
	71°	blky		1.58		7.46			mudst				gry	m.	lam		med. pyrite incl. (3-5%) slickensided surfaces
2 7.15 - 8.36				1.12		8.58			mudst				gry	m.	mass		as above, vry carb. at base
3 8.36 - 11.40		blky		0.30		8.88		2	coal								dull banded, mnr mudst band at top
		blky		1.09		9.97		3	coal								dull & bright banded, pyrite incl. in part (1-2%)
		blky-bitn		1.45					mudst				gry	dk-m	mass		carb. w. coal incl. at top trace pyrite, 6 cm chloritic set band at 6cm
4 11.40 - 14.44	80°	blky		3.02					mudst				gry	m.	mass-lam		several hard siderite siltst bands - 33cm one at base non calc, trace dissm pyrite

# McAULEY DRILLING CO. LTD.

## SHOT HOLE DRILLING REPORT

Hole No. 196-23c Prospect \_\_\_\_\_

Sec# \_\_\_\_\_ Twp. \_\_\_\_\_ Range \_\_\_\_\_ W \_\_\_\_\_ Left Base \_\_\_\_\_

Province Be Arrive Field \_\_\_\_\_

Date July 17-96 Left Field \_\_\_\_\_

Drill No. 96 Arrive Base \_\_\_\_\_

Water Truck No. \_\_\_\_\_ Total Hours \_\_\_\_\_

FEET		WASH OUT <input type="checkbox"/>	DRILLED <input type="checkbox"/>
From	To	TYPE OF CUTTINGS	
35.75	38.76	Run	# 1
38.76	41.80	" "	# 2
41.80	44.84	" "	# 3
44.84	47.92	" "	# 4
47.92	51.04	" "	# 5
51.04	53.90	" "	# 6
53.90	56.94	" "	# 7
56.94	59.89	" "	# 8
59.89	62.93	" "	# 9
62.93	65.97	" "	# 10
65.97	69.01	" "	# 11
69.01	72.05	" "	# 12
72.05	75.18	" "	# 13
75.18	78.23	" "	# 14
78.23	81.28	" "	# 15
81.28	81.58	" "	# 16
TOTAL DEPTH			

Mud Used: \_\_\_\_\_

Brn Used: \_\_\_\_\_

Bit \_\_\_\_\_

Casing \_\_\_\_\_

Field Repair Time \_\_\_\_\_ Hr.

Waiting on Water \_\_\_\_\_ Hr.

DRILLER \_\_\_\_\_

HELPER \_\_\_\_\_

HELPER \_\_\_\_\_





MANALTA COAL LTD.

SHEET # OF

PROJECT: TELKWA HOLE # T92R-23C CONTRACTOR: CASING: COMMENTS:

Run # BOX MARK	DEPTH							DESCRIPTION										KEY BED
	BCA	CORE STATE	RQD	INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
0-12.17									OV3								Till	
12.19- 12.80									with bedrock								drill out to set casing	
1 12.80- 14.56 (0.07)	76°	blky		1.67	12.23	13.92		A001	mudst				gry-grc	m	lam		no visible pyrite, no fizz v. HCl mod amount siltst lam at base	
2 14.56- 17.69 (0.02)		blky		0.70	13.92	14.62		A001	mudst								as above	
3 17.69- 20.70		"		2.45	14.62	17.07		A002	mudst	silty			gry-grc	m	lamin.	bioturbated	strong sustained fizz, trace pyrite inclusions & dissem on bedg plane, mica frags on bedg plane	
4 20.70- 23.53		blky		1.03	17.07	18.10		A003	mudst	silty			" "	" "	" "	" "	as above, very slight fizz, increasing pyrite incl (1-2%)	
		solid (rock loss)		0.69 (0.04)	18.10 18.79	18.79 18.83		A004	siltst	sandy			gry	lt	mass		strong sustained fizz, no visible pyrite	
		blky		1.22	18.83	20.05		A005	mudst	silty			gry	m-lt	lam	bioturb	very slight fizz, no visible pyrite	
		solid		1.22	20.05	21.27		A005	mudst	"			"	"	"	"	as above, mica frags on bedg plane	
		solid		1.73	21.27	23.00		A006	mudst				gry	m	mass		minimal fizz, no visible pyrite	
5 23.53- 26.57	76°	solid		1.90	23.00	24.90		A006	"	silty			gry	m-lt	mass-lam		increasing silt content, bioturb. at base mod. fizz, no visible pyrite	
		solid (rock loss)		1.11 (0.56)	24.90 26.01	26.01 26.57		A007	sst	silty			gry	m-lt	mass		strong sustained fizz, very fine gr mod calcite veining	

MANALTA COAL LTD.

SHEET # OF

PROJECT: TELKWA HOLE # T96R-23c CONTRACTOR: CASING: COMMENTS:

Run # BOX MARK	DEPTH							DESCRIPTION								KEY BED	
	BCA	CORE STATE	RQD	INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING		SED. STRUCT
6 26.57 29.61 1	76°	solid		3.04	26.57	29.61		A008	siltst	muddy			gry	med	lam		siderite inclusions throughout → strong fizz, no visible pyrite
7 29.61 - 32.62 (0.05)		solid		3.06	29.61	32.67		A009	siltst	muddy			"	"	"		as above
8 32.62 - 35.75 (-0.10)	77°	solid		3.03	32.67	35.70		A010	siltst	muddy			"	"	"		increasing lam., no fizz on inclusions, several gry-grc sandy siltst. bands
9 35.75 - 38.76 (+0.01)		solid (core loss)		3.02 (-0.09)	35.70 38.72	38.72 38.81		A011	siltst	muddy			"	"	"		non calc. - no visible pyrite, several very hard siltst bands up to 10 cm
10 38.76 - 41.80 (+0.02)	77°	solid		3.06	38.81	41.87		A012	mudst	silty	silty		gry	m	lam	bedded	no visible pyrite, non calc no fizz, carb. plant frags & coal stringers on bed above, siltst lam & bands throughout
11 41.80 - 44.84 (-0.02)		solid		3.02	41.87	44.89		A013	mudst	silty			"	"	"	"	as above, no fizz, no visible pyrite
12 44.84 - 47.92		blky		3.08	44.89	47.97		A014	mudst	silty			"	"	"	"	non calc, trace pyrite ground, as above carb plant frags 20.1%
13 47.92 - 51.04 (-0.05)		solid		3.07	47.97	51.04		A015	mudst	silty			"	"	"	"	mar. very fm. gr sst bands no-fizz on scratch, no visible pyrite
14 51.04 - 53.90 (+0.15)		blky		3.01	51.04	54.05		A016	mudst	silty			"	"	"		as above

MANALTA COAL LTD.

SHEET # OF

PROJECT: TELKWA HOLE # 796R-23c CONTRACTOR: CASING: COMMENTS:

Run # BOX MARK	DEPTH							DESCRIPTION										KEY BED
	BCA	CORE STATE	RQD	INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
15 53.70- 56.74 (+0.15)		blk		2.89	54.05	56.94		A017	mudst	slty			gry	m	lam		as above, more mudst. with intbds of slst, lam decreasing, no visible pyrite, non calc, no fiss	
16 56.94- 59.89 (+0.12)		blk - solid		3.07	56.94	60.01		A018	mudst				gry	m-dk	mass		no visible pyrite, non calc	
17 59.89- 62.75 (+0.09)		blk - solid		2.97	60.01	62.98		A019	mudst				gry	dk-m	mass		non calc, trace pyrite 2 or 3%	
18 62.95- 65.97 (+0.04)		blk - solid		1.58	62.98	64.56		A020	mudst				gry	dk	mass		as above, gradational contact with underlying unit trace pyrite 2 or 3%	
		solid		1.40	64.56	65.96		A021	slst	sandy			gry-grc	dk	mass		chloritic sandy silt, coal * spor increasing towards base pyrite halos around spor 2-4%	
19 65.97- 67.01 (+0.03)		solid (more loss)		2.39 (+0.04)	65.96 66.35	66.35 66.39		A021	slst	sandy			gry-grc	dk	mass		pyrite inclusions throughout 5-7% siltier towards base, increasing coal spor & carb content no fiss	
		solid		1.91	66.39	68.30		A022	mudst	slty			gry	dk	mass		increasing coal & carb content, pyrite inclusions & dissem 5-7% 3cm muddy pyrite band at base, no bel fiss, more chloritic slst bands	
		solid		0.34	68.30	68.64		A023	mudst	coaly			blk				very coaly mudst, F seam equivalent, pyrite incl. 2-3%	

MANALTA COAL LTD.

SHEET # OF

PROJECT: TELKWA HOLE # 796R-23C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
20		blky		0.37	68.67	69.01		A024	mudst	carb			blk		mass		muddy pyritic bands in part 3-5%, no fiss	
69.01-72.05 (10.10)		solid		0.72	69.01	69.73		A024	mudst	carb			blk		mass		as above, decreasing carb content	
	75°	solid		2.42	69.73	72.15		A025	mudst				gry	dk-m	mass		decreasing carb-coal spec content pyrite incl. 2-4% throughout, more siltst lam at base	
21		blky-solid	10.24	2.12	72.15	75.03		A026	mudst	silty			gry	m-dk	lam		increasing siltst in thds, slightly greenish color, no visible pyrite non calc	
72.05-75.18 (10.01)		blky-solid		3.05	75.03	78.08		A027	mudst	silty			gry	medk	lam		decreasing siltst lam towards base, non calc, no visible pyrite	
22	73°	blky-solid	0.25	3.10	78.08	80.93		A028	mudst	silty			gry	m-dk	lam		as above, no visible pyrite	
78.23-81.28 (10.05)		blky-solid		1.45	80.93	82.38		A029	mudst				gry	medk	lam		as above, no visible pyrite non calc, coal frags at base	
23		blky		1.07	82.38	83.45		A030	mudst	coaly			gry	m-blk	lam		coal bands of inch throughout pyrite lam in part 1-2%	
		blky		0.26	83.45	83.71		A031	Coal								dull & bright banded, mostly at base, no visible pyrite	
		blky-solid (core loss)		0.53 (0.06)	83.71	84.24		A032	mudst	carb-coaly			gry	m-dk	mass		increasing carb & coal lam at base, trace lam pyrite < 1%	
84.24-87.64 (10.03)		blky		0.14	84.30	84.44		A032	mudst	"	"		gry	m-blk	mass		as above	



MANALTA COAL LTD.

SHEET # OF

PROJECT: TELKWA		HOLE # T9LR-23C		CONTRACTOR:		CASING:		COMMENTS:										
Run # BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
29 96.67 99.76 (-0.16)	i	blk (rock loss)		2.93 (0.16)	96.35 99.28	99.28 99.44		A038	mudst	shy			gry	m-dk	lam		- no visible pyrite, non calc, nor carb frags on bdg, planes. min. silt bands	
30 99.76- 102.70	63°	blk (rock loss)		2.81 (0.14)	99.44 102.25	102.25 102.39		A039	mudst	shy			"	"	"		as above, "hard" part nodules from 98-116 cm	
31 102.80- 105.71		blk		1.49	102.39	103.88		A039	mudst				"	"	"		trace pyrite incl, non calc.	
		blk-solid		0.69	103.88	104.57		A040	mudst				gry	m-dk	lam-massive		- pyrite incl increasing toward base, 1-2%, non calc. sharp contact w. coal	
		blk (core loss)		0.26 (0.55)	104.57 104.83	104.83 105.38		3	coal								pyrite incl decreasing toward base 3-4%, non mudst bands top 5 cm, dull & bright banded	
32 105.77- 108.20 (-0.34)		blk (core loss)		0.75	105.38	106.13		4	coal								dull & bright banded, trace pyrite dissem < 1%	
		blk (core loss)		1.01 (0.24)	106.13 107.15	107.15 107.39		5	coal								6 cm muddy coal band at top, trace dissem, quite sh/flat	
		blk		0.10	107.39	107.49		6	mudst	coaly			blk				pyrite incl at top: 3-5% coal lams th/flat, slickensides	
		solid (core loss)		0.22 (0.13)	107.49 107.71	107.71 107.84		7	coal								trace pyrite dissem, bright & dull banded	
33 108.20- 111.26 (-0.19)		blk (core loss)		0.49 (0.16)	107.84 108.33	108.33 108.49		8	mudst	coaly			brn-blk				top 19 cm heavy calcite veins very hard, 12 cm sm coal band & 18 cm basal gry mudst, abrupt basal contact w. coal	

MANALTA COAL LTD.

SHEET # OF

PROJECT: TELKWA HOLE # T93R-23C CONTRACTOR: CASING: COMMENTS:

Run # BOX MARK	DEPTH							DESCRIPTION										KEY BED
	BCA	CORE STATE	RQD	INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
		blk;		1.06	108.49	109.55		9	coal								dull banded, trace pyrite	
		blk - brkn		0.38	109.55	109.93		10	coal								dull & bright banded, top 15cm very friable	
		blk (rock less)		0.27 (0.10)	109.93 110.20	110.20 110.30		11	coal								mudst lam. th/frag	
		blk		0.43	110.30	110.73		12	coal								dull banded, no visible pyrite	
		blk		0.24	110.73	110.97		13	coal								as above, basal unit	
84		brkn		0.06	110.97	111.03		13	coal	muddy							gradational contact with base dissm pyrite 1-2%	
111.85 - 114.01 (0.13)		blk (rock less)		2.56 (0.13)	111.03 113.59	113.59 113.72		A041	mudst	coaly			gry	dk-m	mass		coal lam. in top 15cm, diss. pyrite 3-5% top 10cm only, no visible pyrite in remainder, slickensides clear downwards, non calc.	
25		blk		1.45	113.72	115.17		A041	mudst								as above	
114.01 - 116.75 (0.19)		blk		0.90	115.17	116.07		A042	mudst	coaly			gry	dk	mass		inner coal lam towards base pyrite incl. near base 2-4%	
		blk - brkn	0.19	0.20	116.07	116.37		A043	coal	muddy							pyrite lam th/frag, rounded lam interw. coal top 10cm	
		brkn		0.28	116.37	116.65		A044	mudst				gry	m-lt	mass		coal lam at top, no visible pyrite	



MANALTA COAL LTD.

SHEET # / OF 10

PROJECT: TELKWA HOLE # T96R-28C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	UNIT THK											
Box 1 12.50		brkn - very brkn (core loss)		1.59 (-0.23)	12.50 14.09	14.09 14.32	A001	siltst	mudst			gry	m	massive		no visible pyrite, non calc.		
14.32		brkn - blk		0.22 (-0.14)	14.32 14.54	14.54 14.68	A002	siltst	mudst/sst			gry	m	massive		as above, traces of v. fr. gr. sst. chloritic, non calc, no visible pyrite, abrupt basal contact		
		blk		0.40	14.68	15.08	A003	sst	silty	v. fr. gr.		gre-gry	m	mottled		pyrite lam & bands 6-8% decreasing towards base, pyrite holes around coal inclusions, gradational contact at base, non calc.		
	88°	blk		0.37	15.08	15.45	A004	siltst	mudst			gry	m-lt	lam.	bioturb	no vis. pyrite, non calc, mod. bioturbation.		
Box 2		blk		1.62	15.45	17.07	A004	siltst	mudst			gry	"	"	"	as above, muddier towards base		
17.07		blk (core loss)		0.66 (-0.13)	17.07 17.73	17.73 17.86	A005	mudst	silty			gry	m	lam		- mod siltst lam, no vis. pyrite non calc.		
		blk		0.54	17.86	18.40	A006	siltst	mudst			gry	m	lam		no vis. pyrite, non calc, trace pyrite at base		
		blk - solid		1.26	18.40	19.66	A007	siltst				gry	m	lam		as above, pyrite inclusions 4-6% decr. towards base		
		blk		0.22	19.66	19.88	A008	siltst				gry	m	lam	bioturb	no vis. pyrite, non calc, inc. bioturb		
Box 3		blk		0.23	19.88	20.11	A008	siltst				"	"	"	"	as above, more v. fr. sst bands, non fizz		

MANALTA COAL LTD.

SHEET # 2 OF

PROJECT: TELKWA HOLE # T96R-28C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH			SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
					FROM	TO	UNIT THK											
✓ 20.11	80°	blk		0.88	20.11	20.99		A009	siltst	sst			gr	m-lt	lam	biotub	no vis. pyrite, slow sustained fizz on some sandy bands decreases towards base	
		blk		0.26	20.99	21.25		A010	siltst	sst			gr	m-lt	lam		non calc, no vis. pyr	
Box 4		lky (core loss)		1.61 (-0.39)	21.25 22.86	22.86 23.25		A010	siltst	"			"	"	"		as above, very slight fizz at base	
23.15		blk		0.82	23.25	24.07		A010	siltst	"			"	"	"		as above, dec. sand content towards base	
Box 5		blk		2.12	24.07	26.19		A010	siltst				gr	m-lt		biot.	trace <sup>dissem.</sup> pyrite, non calc, some bioturbation	
✓ 26.19		lky		0.73	26.19	26.92		A010	siltst				"	"			as above, becoming mudier towards base	
Box 6		blk - solid		2.26	26.92	29.18		A011	siltst	mudst			gr	m	massive		trace dissem pyrite on fracture surface	
29.24		blk		0.65	29.18	29.83		A011	siltst				gr	m	massive		dissem pyrite on fracture 1-2%, non calc.	
Box 7		blk		1.92	29.83	31.75		A011	siltst				"	"	"		large 1-2cm burrows at top trace pyrite < 0.5%, non calc	
32.89		solid		0.93	31.75	32.68		A011	siltst				"	"	"		non calc, no vis pyrite	
Box 8		solid		0.22	32.68	32.90		A011	siltst				"	"	"		as above	
32.89		blk (core loss)		2.15 (-0.04)	32.90 35.05	35.05 35.09		A011	siltst				"	"	"		no vis pyrite, non calc	
35.64		solid		0.55	35.09	35.64		A012	siltst				"	"	"		slow sust. fizz, no vis pyrite	



MANALTA COAL LTD.

SHEET # 4 OF

PROJECT: TELKWA HOLE # T96R-28c CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
53.91	82°	blk		1.87	53.85	55.72		A015	siltst	mudst		gry	m-lt	lam		bands of siltst interbedded with mudst, non calc, no vis pyrite, mudier towards base		
		blk		0.62	55.72	56.34		A016	mudst	silty		gry	m-dk	lam/mass		more siltst bands, non calc, no vis pyrite.		
Box 16		blk	-0.05	0.67	56.34	56.96		A016	mudst	silty		"	"	"		as above		
56.96		blk-solid (GEO. SAMPLE)		2.23 (-0.09)	56.96	59.19	57.21-57.28	A016	mudst	silty		"	"	"		as above, non calc, no visible pyrite		
Box 17		blk-solid		0.72	59.28	60.00		A016	mudst	silty		"	"	"		as above		
60.00		" "		2.13	60.00	62.13		A016	mudst	silty		"	"	"		as above, more siltst bands with calcite on fracture surfaces, no vis pyrite		
Box 18		blk-solid (core loss)		0.65 (0.18)	62.13	62.78		A016	mudst	silty		dry	"	lam		no vis pyrite, non calc.		
63.08		blk-brkn		0.90	62.96	63.86		A016	mudst	silty		gry	"	massive		as above		
		blk		1.23	63.86	65.09		A017	mudst	silty		gry	m-dk	mass		scattered coal inclusions with pyrite replacement of halos ~1% non calc.		
Box 19		blk-brkn		0.94	65.09	66.03		A017	mudst	silty		"	"	"		becoming mudier towards base, no vis pyrite, non calc.		
✓ 66.03		blk-brkn		1.91	66.03	67.94		A017	mudst			"	"	"		pyrite incl. < 2%, pyrite bands around coal incl. < 1%, non calc		
Box 20		blk-solid (core loss)		0.52 (-0.06)	67.94	68.46		A017	mudst			"	"	"		as above, no vis pyrite, non calc.		

MANALTA COAL LTD.

SHEET # 5 OF

PROJECT: TELKWA HOLE # T96R-28c CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	UNIT THK											
		solid		0.12	68.52	68.64		A018	Breccia mudst			wh-gry	lt-m				brecciated mudst w/ calcite infill matrix, strong sustained fizz	
		solid-blky		0.39	68.64	69.03		A019	mudst			gry	m-dk	mass			no vis pyrite, non calc	
69.06		solid-blky		0.90	69.03	69.93		A019	mudst siltst			gry	m-dk	mass			becoming silty towards base, minor amount chloritic siltst, trace diasm, pyrite < 1%	
		solid-blky		0.92	69.93	70.85		A020	siltst sst			gry	m-dk	mass			chloritic vfg, sst bands pyrite incl 1-3%, minor coal incl, non calc	
Box 21		solid blky		1.16	70.85	72.01		A020	siltst sst			"	"	"			as above, pyrite content decreasing to 0.5%, non calc	
									Geot. Samp 71.90-									
72.1		solid		0.07	72.01	72.08	72.10	A020	siltst sst			"	"	"			increasing coal incl, calc content	
		75° brkn-solid		1.11	72.08	73.19		A021	mudst siltst			gry	dk	mass/lam			incr carb-coal lam towards base, no vis pyrite, non calc, slightly chloritic	
73.19		blky		0.42	73.19	73.61	Seam C	A022	coal muddy								minor pyrite incl at 22cm shall bedded, interbed w/ carb mudst top 16 cm	
		solid		0.09	73.61	73.70		A022	mudst coaly			gry	blk-dk	mass			no vis pyrite, non calc	
Box 22		solid		0.11	73.70	73.81		A022	mudst coaly			"	"	"			as above	

MANALTA COAL LTD.

SHEET # 6 OF

PROJECT: TELKWA HOLE # T96R-28c CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
	83°	solid		1.11	73.81	74.92		A023	mudst	slty			gry	m-dk	lam	mnr. biot.	inthal lam of mudst & sltst mnr pyrite incl at top <1%	
75.14		solid-blky		1.73	74.92	76.65		A023	mudst	slty			"	"	"	"	as above, no vis pyrite, mnr calcite on fracture surfaces	
Box 23		"		1.37	76.65	77.95	Geot. Samp 77.70- 78.10	A023	mudst	slty			"	"	"	"	no vis. pyrite, mnr calc.	
78.18		"		1.60	77.95	79.55		A023	mudst	slty			"	"	"	"	pyrite incl. from 0.60 to 0.80m 5-8%	
Box 24		"		1.45	79.55	81.00		A023	mudst	slty			"	"	"	mnr biot.	very mnr calcite veining in part. no vis. pyrite	
81.22		" (core loss)		0.63 1-0.06)	81.00 81.63	81.63 81.69		A023	mudst	slty			"	"	"			
		"		0.21	81.69	81.90		A024	sltst				gry	H	mass		very calc. strong sustained fizz	
		"		0.62	81.90	82.52	Geot. Samp 82.93-	A025	mudst				"	m-dk	mass/lam		mnr sltst lam, mnr calc, no vis. pyrite	
Box 25		"		1.34	82.52	83.86	83.25	A025	mudst				gry	m-dk	mass/lam		as above	
84.28		"		1.64	83.81	85.50		A025	mudst				"	"	"		as above, 2 well indurated bands up to 12cm mn calc BCA change at 89cm, poss. slump	
Box 26	66°			1.44	85.50	86.94		A025	mudst				"	"	"		as above	
87.26				1.48	86.94	88.42		A025	mudst				"	"	"		as above, no vis pyrite, mnr calc, incr carb content towards base	

MANALTA COAL LTD.

SHEET # 7 OF

PROJECT: TELKWA HOLE # T96R-28C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	UNIT THK											
Box 27		blky		0.58	89.42	89.00		A026	mudst	sst/ coaly		gry	dk	mass/lam		mm. inch. of f.g. sst. coal lam & bands th/out no vis. pyrite, non calc.		
		blky	-0.01	0.14	89.00	89.13		A026	coal							dull & bright banded, no vis pyrite		
		blky (core loss)		0.78 (-0.06)	89.13 89.91	89.91 89.97		A026	mudst	coaly		gry-blk		mass		coal lam th/out, non calc, no visible pyrite		
		blky		0.06	89.97			1	coal							dull banded, trace dissm. pyrite		
		brkn-blky	-0.03	0.42				1	coal							dull & bright banded, trace pyrite < 0.5%, 0.07cm carb mudst band at base		
		blky		0.73		91.21		2	coal							dull & bright banded, no vis pyrite, muddy at base		
		blky		0.17	91.21	91.38		A027	mudst	coaly		gry	dk	mass		coal bands at top, mm calcite boxwork in coal, no vis. pyrite		
Box 28		blky (core loss)		1.61 (0.19)	91.38 92.99	92.99 93.18	Geot. Samp. 93.47 - 93.66	A027	mudst			gry	dk-m	mass		no vis pyrite, 0.07cm calcite cemented mudst band at base strong sust. fizz.		
93.29		blky		1.32 (-0.13)	93.18 94.50	94.50 94.63		A027	mudst			gry	m-dk	mass		no vis pyrite, vry mm calcite veins at base		
Box 29	79°	blky		1.66	94.63	96.29		A027	mudst	slty		gry	m-lt	lam		no vis pyrite, mm calcite veining on fracture surfaces, carb-coaly at base		

MANALTA COAL LTD.

SHEET # 8 OF

PROJECT: TELKWA HOLE # T96R-28c CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	UNIT THK											
96.39		blky		1.22	96.29	97.51		A027	mudst			gry	med	mass		no vis pyrite, very muc calcite veining on fracture surface		
Box 30		blky-solid		1.53	97.51	99.03		A027	mudst			"	"	"		as above, carb of coal lam at base, no vis pyrite, non calc.		
		bctn	0.10	0.10	99.03	99.23		A028	coal							3 cm muddy pyrite band 50% at top, dull & bright banded		
99.36		bctn		0.21	99.23	99.44		A028	coal							dull & bright banded, no vis pyrite		
		blky		1.04	99.44	100.48	Geot. Samp 99.70 - 99.98	A029	mudst			gry	med	mass		no vis. pyrite, non calc, mod coal lam		
Box 31		blky-bctn (core loss)		1.69 (-0.06)	100.48 102.17	102.17 102.23		A029	mudst			"	"	"		as above.		
102.40		blky		1.23	102.23	103.46		A029	mudst			"	"	"		as above		
Box 32		blky-solid		1.30	103.46	104.76		A029	mudst			"	"	"		incr. carb content, trace pyrite < 0.2% at base non calc.		
		blky-bctn		0.48 (0.14)	104.76 105.24	105.24 105.38		3	coal							mod pyrite flour at top < 1% muddy at top, dull & bright banded		
105.46		bctn-blky		1.05	105.38	106.43		4	Coal							dull & bright banded trace pyrite < 1%		
		solid		0.05	106.43	106.48		5	coal							incr. mud content, no vis pyrite		
Box 33		blky		0.47	106.48	106.95		5	coal							becoming bright banded towards base.		



MANALTA COAL LTD.

SHEET # 9 OF

PROJECT: TELKWA HOLE # T96R-28c CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	UNIT THK											
		solid		0.06	106.95	107.01		6	hent			brn	m-lt	mass		slightly calc. at base		
		blk		1.08	107.01	108.09		7	coal							dull & bright banded 0.02cm mudst @ 0.70cm		
		blk-bkn		0.31	108.09	108.40		8	coal							muddy at top, dissem pyrite at top 3-4%		
108.50		blk-bkn	0.02	1.03	108.40	109.41		9	coal							dull & bright banded, no vis pyrite		
Box 34		blk		0.39	109.41	109.80		10	coal							dull banded, 2cm mudst band @ 7cm		
		blk		0.59	109.80	110.39		11	coal							bright & dull banded, friable no vis. pyrite		
		blk		0.92	110.39	111.31		12	coal							0.04 cm mudst band at top, no vis pyrite, gradational contact at base		
		solid		0.13	111.31	111.44		A030	mudst carb			gry	dk	mass		mar coal lam at top; no vis pyrite		
111.54		solid		0.86	111.44	112.32	Best. Samp 112.94-113.20	A030	mudst	"		"	"	"		mar pyrite holes around coal lam < 1%; non calc		
Box 35	77°	blk (core loss)		0.91 (0.09)	112.32	113.23		A030	mudst			gry	dk	mass/lax		mar silt lam, no vis pyrite		
		blk		0.76	113.23	114.08		A031	mudst			gry	m	mass		strong fizz, calcite cement no vis pyrite		



MANALTA COAL LTD.

SHEET # / OF

PROJECT: TELKWA

HOLE # T96R-40C

CONTRACTOR:

CASING:

COMMENTS: ARD core Pit 3 Sept 16/96

L. Sen

Entire core taken for samples in both ARD & Coal

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				FROM	TO	INTERVAL THK												
					0	5.20			Till									
6.28					5.20	6.28			DVB / weathered siltst									
Box 1	68°	(core loss) blky		2.06	6.47	8.53		A001	siltst mudst			gry	dk-m	thin-lam	slight bit	intbed siltst & mudst, no visible pyrite, non calc in majority of core, calc siltst nodules from 7.6-8.7m, slow sush. fizz, non calc intbed burrows in part		
8.53	70°	blky (core loss)		0.75 (-0.20)	8.53 9.28	9.28 9.48		A001	siltst mudst			gry	dk-m	thin-lam	"	as above		
Box 2		blky		2.88	9.48	12.36		A001	siltst mudst			gry	dk-m	thin-lam		as above, several slightly calc siltst nodules up to 0.97cm, slow sush. fizz, no vis. pyrite		
Box 3		blky		2.27	12.36	14.63		A002	siltst mudst			gry	dk-m	thin-lam		as above		
14.63		blky		0.54	14.63	15.17		A002	siltst mudst			gry	dk-m	thin-lam		as above		
Box 4		blky		2.37	15.17	17.54		A002	siltst mudst			gry	dk-m	thin-lam		as above, decr. number of calc. siltst nodules		
17.68		blky		0.56	17.54	18.10		A002	siltst mudst			gry	dk-m	thin-lam		as above		
Box 5	74°	blky-brkn (core loss)		2.49 (-0.06)	18.10 20.59	20.59 20.65		A003	siltst mudst			gry	dk-m	thin-lam		as above, loka zone w. heavy calcite veining from 1.74-1.83 m		
20.73		blky		0.29	20.65	20.94		A003	siltst mudst			gry	dk-m	thin-lam		as above		
Box 6		blky		2.26	20.94	23.20		A003	siltst mudst			gry	dk-m	thin-lam		as above		
23.13		blky		0.52	23.20	23.72		A003	siltst mudst			gry	dk-m	thin-lam		as above, incr. mudst content		
Box 7	70°	blky		2.46	23.72	26.18		A004	mudst silty			gry	dk-m	lam-mass		non calc, no vis. pyrite, non calcite & frag. places		

MANALTA COAL LTD.

SHEET # 2 OF

PROJECT: TELKWA HOLE # T96R-40C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	DESCRIPTION				KEY BED
				INTERVAL THK	FROM	TO							COLOUR	MODIFIER	BEDDING	SED. STRUCT	
✓ 26.18		core lost		(-3.07)	26.18	29.25											1 run lost
29.25		blky - brkn (core loss)		0.29 (-2.65)	29.25 29.54	29.54 32.19		A004	mudst				gry	dk	mass		as above, non calc. mudst nodules in part
Box 8		blky		0.81	32.19	33.00		A004	mudst				gry	dk	mass		as above
✓ 33.00		blky - brkn (core loss)		1.34 (-1.31)	33.00 34.34	34.34 35.65		A004	mudst				gry	dk	mass		as above, 8cm calc sst nodular at base, abundant slickenside surfaces
		brkn		0.40	35.65	36.05		A005	sltst	sst			gry-grc	m	mass		incr. sst content, lining up, calcite stringers in top 10cm, no vis. pyrite
✓ 36.05																	
Box 9	6.5°	blky		1.11	36.05	37.16		A005	sst	slty	vfg	poor	gry-grc	m-H	lam.	biot.	slightly calc. - weak fizz, no vis pyrite, mudst lam. thout
37.42		brkn (core loss)		0.49 (-0.75)	37.16 37.66	37.66 38.40		A005	sst	slty/ mudst.	vfg	poor	gry-grc	m-H	lam.		as above, incr. sst & mudst content, gradational contact at base
		blky		0.53	38.40	38.93		A006	mudst	sltst			gry	dk	mass		non calc, no vis. pyrite, carb. plat frags on bdy plane
38.70		blky		0.41	38.93	39.34		A006	mudst	slty			gry	dk	mass		as above
Box 10		blky		0.18	39.34	39.52		A006	mudst	slty			gry	dk	mass		as above, incr coal stringers towards base
✓ 39.52		blky	-0.10	0.92	39.52	40.34		1	Coal								mod. dissm. pyrite in top 10cm, dull & bright banded

MANALTA COAL LTD.

SHEET # 3 OF

PROJECT: TELKWA HOLE # T96R-40C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT.	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
		very brkn (core loss)		0.48 (-0.55)	40.34 40.82	40.82 41.37		A007	mudst (rock)				gry	dk	mass		carb plant frags & coal stringers th/vert, non calc. no vis pyrite	
40.20		very brkn		0.26	41.37	41.63		A007	mudst				gry	dk	mass		as above, mor pyrite string at base 1-3%	
		very brkn	0.53	0.23	41.63	41.86		2	coal								puberized, no vis. pyrite (roof)	
		brkn		0.16	41.86	42.02		3	coal								dull & bright banded	
42.02		very brkn (core loss)		0.86 (0.53)	42.02 42.88	42.88 43.41		3	coal (coal)								as above	
		brkn		0.20	43.41	43.61		4	coal								as above, (floor)	
43.61		brkn		0.52	43.61	44.13		A008	mudst	sltst			gry	m-dk	lam		no vis. pyrite, non calc, mor. sltst lam.	
44.19		brkn		0.49	44.13	44.62		A008	mudst	sltst			gry	m-dk	lam		as above, incr. sltst content	
45.11		very brkn (core loss)		0.53 (-1.96)	44.62 45.15	45.15 47.11		A009	sltst	sst/mudst			gry	m-dk	lam		intbd sltst & mudst, mor sst bands incl. towards base non calc., no vis. pyrite	
47.11 Box 12	72°	brkn		1.90	47.11	49.01		A009	sltst	sst/mudst			gry-gr	m-dk	lam		as above	
49.55		brkn (core loss)		0.69 (-0.67)	49.01 49.70	49.70 50.37		A009	sltst	sst/mudst			gry-gr	m	lam		as above	
Box 13		blky		0.76	50.37	51.13		A009	sltst	sst/mudst			gry-gr	m	lam		as above	
		blky		0.25	51.13	51.38		A010	sst	slty	f-vfg	mod	gry-gr	m-lt	intbd		sst intbd. w. sltst calc., mod sust. fizz no vis. pyrite	
51.38	79°	blky		1.72	51.38	53.10		A010	sst	slty	v.fg	poor	gry-gr	m-lt	intbd		as above, most non calc., mor calc. mudst rip up clasts	

MANALTA COAL LTD.

SHEET # 4 OF

PROJECT: TELKWA HOLE # 796R-40c CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	DESCRIPTION								KEY BED	
				INTERVAL THK	FROM	TO			ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT		NOTES
Box 14		blky		0.86	53.10	53.96		A010	sst	slty	vfg		gry-gr	m-H	intbd		as above	
✓ 54.43		blky		1.98 (-1.21)	53.96 55.94	55.94 57.15		A010	sst	slty	vfg		gry-gr	m-H	intbd		as above, minor coal stringers, minor calcite veining in fractures	
Box 15		blky		0.42	57.15	57.57		A010	sst	slty	vfg		gry-gr	m-H	intbd		as above, no coal stringers	
		blky		0.33	57.57	57.90		A011	mudst	slty			gry	m-dk	lam		non calc, no vis. pyrite, siltst lam. th/out, carb. phos frags th/out	
57.48		blky		2.11	57.90	60.01		A011	mudst	slty			gry	m-dk	lam		as above	
Box 16		blky		0.47	60.01	60.48		A011	mudst	slty			gry	dk	lam		as above	
60.53	72°	blky		0.44	60.48	60.92		A011	mudst	slty			gry	dk	lam		as above, incr carb content	
✓ 60.92		core loss	0.11	0.11	60.92	61.03		5	(coal loss)								dull & bright banded, pyrite lam. on cleat th/out 1-2%, minor calcite veining at base	
		brkn		0.94	61.03	61.97		5	coal									
		blky-brkn (core loss)		0.83 (-0.60)	61.97 62.80	62.80 63.40		A012	mudst	slty			gry	dk	mass		coal stringers th/out, non calc, no vis. pyrite	
✓ 63.40		blky		2.78	63.40	66.18		A012	mudst	slty			gry	dk-m	lam		incr siltst lam, slightly calc. mudst nodules in part	
66.47		(core loss) solid		(0.81) 0.06	66.18 66.39	66.39 66.45		A012	mudst	slty			gry	dk-m	lam		as above	
Box 18		solid		0.07	66.45	66.52		A012	mudst	slty			gry	dk-m	lam		as above	
		blky		0.74	66.52	67.26		A013	sst	slty	fg	mod.	gre-gr	m	lam-mass		shaly sst w/ siltst-mudst lam - intbd, pyrite flour on (1%) fracture surfaces; calcite stringers on fracture surfaces	

1.43

PROJECT: TELKWA HOLE # 796R-40C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
		solid		0.22	67.26	67.48		A014	coal									abrupt upper contact, pyrite incl. at base (1%) sharp basal contact
		blky		1.24	67.48	68.72		A014	mudst	sooty			gry-blk		intbd			coal bands & stringers thout mnr. calcite boxwork in coal, pyrite incl. thout (1-2%) large pyrite incl. at base 2-3cm across.
		solid		0.19	68.72	68.91		6	coal									dull banded, lam bentonite band at 10cm, trace pyrite, mnr. calc boxwork in top 5cm, (roof)
		very brkn (core loss)		0.39	68.91	69.30		7	coal									dull - no vis pyrite
Box 19		very brkn		0.26	69.30	69.56		7	coal									as above
69.67		blky		0.12	69.56	69.68		7	coal									as above
		blky		0.93	69.68	70.61		7	coal									dull & bright banded, as above
		solid		0.18	70.61	70.79		8	coal									bright & dull banded calc. stringers in last 2cm, no vis pyrite
	77°	blky (rock loss)		1.60	70.79	72.39		A015	mudst	ilty			gry	slt-m	lam			mnr. sltst lam thout, no calc, no vis. pyrite
Box 20		blky		0.94	72.39	73.33		A015	mudst	ilty			gry	dk-m	lam			as above.
		blky		0.12	73.33	73.45		A015	mudst	ilty			gry	dk-m	lam			as above, coal from 73.78-76.90 trace pyrite
Box 21		brkn		2.73	73.45	76.18		A015	mudst	ilty			gry	dk-m	lam			as above
				0.26	76.18	76.44		A015	mudst	ilty			gry	dk-m	lam			as above

MANALTA COAL LTD.

SHEET # 6 OF

PROJECT: TELKWA HOLE # 796P-40C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	DESCRIPTION								KEY BED
				INTERVAL THK	FROM	TO			ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	
75.75	76°	blky-solid (over measure)		2.61 (0.70)	76.44 79.05	79.05 78.35		A015	mudst	slty			gry	dk-m	lam		as above, inc. mudst content, several calc mudst nodules up to 15cm (mod sust fix)
Box 22		blky		0.21	78.35	78.56		A015	mudst	slty			gry	dk-m	lam		as above
78.82		solid		0.53	78.56	79.09		A016	mudst	slty			gry	dk	lam		non calc, pyrite bands at base, 1-2%, sharp basal contact.
		solid		0.19	79.09	79.28		9	coal								dull & bright banded, no vis pyrite (leaf)
		blky		1.17	79.28	80.45		10	coal								as above, <sup>2cm</sup> mudst band at 45cm & 2cm bentonite band at 81cm
		blky		0.79	80.45	81.24		11	coal								dull, mudst bands at top 25cm pyrite incl in part (1-2%)
Box 23		solid		0.24	81.24	81.48		12	coal								mudst & bentonite lam. in top 8cm, mudst lam in last 7cm (floor)
81.57		blky (core loss)		2.40 (0.17)	81.48 (83.24)	83.67 (83.41)	within	A017	mudst	scaly			gry	dk	mass		pyrite incl th/out (1-2%), non calc. * coal from 1.19-1.46 & 1.76-2.02
Box 24		blky (core loss)		0.46 (0.43)	83.67 84.13	84.13 84.56		A017	mudst (rock loss)				gry	dk	mass		as above
84.52		solid-blky		0.64	84.56	85.20		13	coal								dull banded, pyrite incl in part (<1%) calcite barwork in block 4cm
	72°	blky		1.57	85.20	86.79		A018	mudst	slty			gry	dk	lam		no vis, pyrite, non calc. slty lam th/out, sharp basal contact



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SHEET # 7 OF

PROJECT: TELKWA HOLE # T96R-WDC CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	DESCRIPTION								KEY BED
				INTERVAL THK	FROM	TO			ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	
		solid		0.20	86.79	86.99		A019	sst	slty	vfg	good	gre-gry	m	thn	biot	mudst lam. th/out, non calc, no pyrite
Box 25		blky (rock loss)		0.58 (0.15)	86.99 87.57	87.57 87.72		A019	sst	slty	vfg	g	gre-gry	m	thn	biot	as above
87.67		blky		0.30	87.72	88.02		A019	sst	slty	vfg	g	gre-gry	m	thn	biot	as above, calcite veining in top 10 cm
		blky-solid		2.04	88.02	90.06		A020	siltst	sst			gry	m-dk	intbd	biot	intbd siltst-sst-mudst lam non calc, mac calcite on fracture surfaces, no vis. pyrite, med-heavy biot.
Box 26		blky		0.63	90.06	90.69		A020	siltst	sst			gry	m-dk	intbd		as above
90.69		blky		1.61	90.69	92.30		A020	siltst	sst			gry	m-dk	intbd		as above
		blky		0.61	92.30	92.91		A021	sst	slty	vfg	good	gre-gry	m	thn		small calc. mudst nodules th/out med-sst fizz, no vis. pyrite
Box 27		blky (rock loss)		0.74 (0.28)	92.91 93.65	93.65 93.93		A021	sst	slty	vfg	g	gre-gry	m	thn		as above
93.74		blky		1.85	93.93	95.78		A021	sst	slty	vfg	g	gre-gry	m	thn-m		as above
	72°	solid		0.28	95.78	96.06		A022	siltst	mudst			gry	m-dk	lam		non calc, no vis. pyrite
Box 28		blky		0.42	96.06	96.48		A022	siltst	mudst			gry	m-dk	lam		as above
96.79		blky		2.44	96.48	98.92		A022	siltst	sst/ mudst			gry	m-dk	lam		as above, intbd w. vfg sst incr. towards base.
Box 29	74°	blky		0.54	98.92	99.46		A023	sst	slty	vfg	g	gry	m	thn-med		mac mudst lam, non calc, no vis. pyrite

MANALTA COAL LTD.

SHEET # 8 OF

PROJECT: TELKWA HOLE # T96R-40c CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	UNIT THK											
99.48		blky		0.71	99.46	100.17		A023	sst	slty	vfg	g	gry	m-lt	thin-med		as above	
x.01 100.18		blky		1.64	100.17	101.81		A023	sst	slty	vfg	g	gry	m	thin-med		as above, min calc, mudst nodules in part	
x.01 Box 30		blky		0.94	101.81	102.75		A023	sst	slty/mudst	vfg	g	gry	m	thin-med		as above, incr. mudst-silt content at base	
		blky		0.47	102.75	103.22		A024	mudst	slty/ls			gry	dk-m	mass/lam	*	non calc, carb. plat frags thout no vis. pyrite, coal frags 33cm to 47cm	
103.22		blky (core loss)		1.45	103.22 (103.22)	104.67 (103.30)		A024	mudst (coal loss)	slty/ls			gry	slk-m	mass-lam	*	as above, coal in top 9cm, lsy, w/ pyrite incl at base (1-2%)	
Box 31		blky		0.20	104.67	104.87		14	coal								dull & bright banded, trace pyrite incl (<0.5%) (rest)	
		blky		0.82	104.87	105.69		15	coal								dull & bright banded, as above, min calcite boxwork in part	
		blky-brkn (overmeasure)		0.23 (=0.06)	105.69 105.92	105.92 105.86		16	coal								dull banded, muddy in bitm 10cm, no vis. pyrite (floor)	
		brkn (rock loss)		0.20 (0.25)	105.86 106.06	106.06 106.31		A025	mudst	carb			gry	dk	mass		coal lam. thout, no vis. pyrite non calc.	
106.33	76°	blky		1.48	106.31	107.79		A025	sst	slty/mudst	fg-vfg	med	gry	m	thin		top 5cm carb mudst, non calc matrix, calcite stringers med. thout	
Box 32		blky		0.59	107.79	108.38		A025	sst	slty	vfg-fg	med	gry	m	thin		as above, muddier, siltier towards base	
		solid		0.40	108.38	108.78		A025	siltst	sst			gry	m-dk	lam		incr. carb. content, gradual contact	

MANALTA COAL LTD.

SHEET # 7 OF

PROJECT: TELKWA HOLE # T96R-40c CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	DESCRIPTION								KEY BED	
				INTERVAL THK	FROM	TO			ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT		NOTES
		blky		0.35	108.78	109.13		A026	coal									pyrite lam & incl. in middle (1-2%) incr. mudst lam. at base
		brkn		0.11	109.13	109.24		A026	mudst	coaly carb			gry-blk					non calc, no vis. pyrite
109.38		blky-brkn (overmeasure)		1.50 (-0.14)	109.24 110.74	110.74 110.60		A027	mudst	slty			gry	dk	lam			non calc, no vis. pyrite coal stringers in part
		vy brkn		0.16	110.60	110.76		17	coal	muddy								mudst bands thout, no vis pyrite (roof)
		vry-brkn		1.08	110.76	111.84		18	coal									dull banded, slickenside surfaces thout
		(core loss)		(0.20)	111.84	112.04			(coal loss)									
		vry brkn		0.19	112.04	112.23		19	Coal	muddy								mudst lam. in part (floor)
		(core loss)		(0.08)	112.23	112.31			(coal loss)									
112.33		brkn		0.10	112.31	112.41		19	Coal	muddy								as above (floor)
		blky		1.15	112.41	113.56		A028	mudst				gry	dk-m	mass			non calc. matrix, calcite stringer in part, no vis. pyrite
Box 24		blky-brkn		1.47	113.56	115.03		A028	mudst				gry	dk-m	mass			as above, incr. carb. content towards base, dissem. pyrite in btm 5cm
		(core loss)		(0.45)	115.03	115.48			(rock loss)									
		blky		0.52	115.48	116.00		20	coal									dull banded, no vis. pyrite, calcite stringers in part
	74°	blky		0.68	116.00	116.68		A029	mudst	slty			gry	dk-m	lam			decr. carb. content, non calc, no vis. pyrite
Box 25		blky		1.56	116.68	118.24		A029	mudst	slty			gry	dk-m	lam			as above
118.40		blky		1.39	118.24	119.63		A029	mudst	slty			gry	dk-m	lam			as above, more calcite stringers in part

MANALTA COAL LTD.

SHEET # 10 OF

PROJECT: TELKWA HOLE # T96R-40C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
Box 36		blk (rock loss)		1.46 10.36	119.63 121.09	121.09 121.45		A029	mudst	slty			gry	dk	lam-mass		as above, dec. silt content	
21.45		blk-solid		1.36	121.45	122.81		A029	mudst	slty			gry	dk	mass-lam		as above, occ. silt lam of mudst nodules	
Box 37		blk-solid		0.87	122.81	123.68		A030	mudst				gry	dk	mass		glauconite granules from 34cm-41cm contains shell frags, calc mudst nodule in top 15cm	
																	TD 124.00	



MANALTA COAL LTD.

SHEET # 2 OF

PROJECT: TELKWA HOLE # *FGR-42C* CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
✓ 26.51 +0.01		brkn-blky		0.62	26.37	26.99		A006	mudst				gry	dk	mass		non calc, no vis pyrite	
Box 6		" "		2.43	26.99	29.42		A006	mudst				gry	dk	mass		as above, mod shdls	
29.55		solid		0.28	29.42	29.70		A006	mudst				gry	dk	mass		as above	
Box 7		brkn-blky (rock loss)		1.60 (0.23)	29.70 31.30	31.30 31.53		A006	mudst				gry	dk	mass		as above, mod shdls	
-0.10		" "		1.07	31.53	32.60		A007	siltst	muddy			gry	dk	mass		non calc, no vis. pyrite, gradual incr. in siltst content	
Box 8 32.60 -0.31		blky		2.74	32.60	35.34		A007	siltst	muddy			gry	dk	mass		as above, mod to heavy calcite veining from 64 to 89 cm	
35.65																		
Box 9 +0.06		blky (rock loss)		0.89 (-0.25)	35.34 36.04	36.04 36.93 37.18		A009	sst	silty	vt. gr.		gre-gry	m	mass		cool inclusions with pyrite holes (1-2%) poss. calcite cement around coal incl. mod. fizz	
61°		brkn-blky		1.21	37.18	38.39		A010	siltst	mudst			gry-gr	mod	lam		initial siltst & mudst, lam silt chloritic sst decreasing toward base, trace pyrite incl, non calc.	
Box 10 38.70		brkn-blky		0.31	38.39	38.70		A010	siltst	mudst			gry-gr	mod	lam		as above	
-0.57		brkn-blky		0.76	38.70	39.46		A010	siltst	mudst			gry-gr	mod	lam		as above, slump feature w. chloritic sand clasts in mudst.	



MANALTA COAL LTD.

SHEET # 4 OF

PROJECT: TELKWA HOLE # T96R-42C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	DESCRIPTION					KEY BED
				INTERVAL THK	FROM	TO							COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
Box 15		solid		0.42	53.68	54.10		A014	siltst	mudst			gry	m	mass		as above,	
53.89		solid		2.34	54.10	56.44		A014	siltst	mudst			gry	m	mass		as above	
Box 16		solid		0.16	56.44	56.60		A015	siltst	mudst			gry	m	mass		as above,	
-0.21		solid		2.66	56.60	59.26		A015	siltst	mudst			gry	m	mass		as above, more banding of siltst incl strong sust. fizz in matrix from 122-210cm no vis pyrite	
Box 17		blky-solid		0.30	59.26	59.56		A015	siltst	mudst			gry	m	mass		as above	
59.86	58°	solid		2.55	59.56	62.11		A015	siltst	mudst			gry	m	mass/lam		as above, decreasing calcite incl.	
Box 18		(core loss)		0.29	62.11	62.40		A016	siltst	mudst			gry	m	mass/lam		no calcite incl, <sup>min</sup> scattered bivalve shell frags, very conc. fizz in part, no vis pyrite	
-0.63				(-0.53)	62.93													
	57°	solid		2.47	62.93	65.40		A016	siltst	mudst			gry	m	lam		as above	
Box 19		solid		0.21	65.40	65.61		A016	siltst	mudst			gry	m	lam		as above	
65.71		solid		2.68	65.61	68.29		A016	siltst	mudst			gry	m	lam		as above, med-strong fizz from 136-160cm	
+1.01																		
Box 20																		
68.33	56°	solid		0.95	68.29	69.24		A017	siltst	mudst			gry	m-dk	lam		very conc calc lam, weak fizz, no vis pyrite, mudclastic towards base	
-0.04																		
69.19		solid		1.88	69.24	71.12		A018	mudst	silty			gry	m-dk	lam/mass		more calc bands, more amount of siltst lam or bands, no vis pyrite	
-1.06																		

5.67  
-0.21





MANALTA COAL LTD.

SHEET # 6 OF

PROJECT: TELKWA HOLE # T96R-42C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	DESCRIPTION					KEY BED
				INTERVAL THK	FROM	TO	UNIT THK						COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
		blky-solid		0.29	87.19	87.48		A022	mudst				gry	dk	mass			- coal spar w. pyrite below 1-2%, mar calcite inclusions,
✓ 87.48 -0.19		blky-solid		0.66	87.48	88.14		A022	mudst				gry	dk	mass			as above
Box 27 88.33		blky-solid (note loss)		1.18 (-0.37)	88.14 89.32	89.32 89.69		A022	mudst				gry	dk	mass			as above
		Solid		0.22	89.62	89.91		A023	mudst				gry	dk	breccia			broken mudst w. calcite infill 50/50
	*	blky-brkn		0.85	89.91	90.76		A024	mudst				gry	dk	mass			mar pyrite incl. 1%, mar calcite stringers <0.5%
90.53		solid		0.14	90.76	90.90		A024	mudst	slty			gry	dk	mass			as above, becoming slty towards base
		blky		0.38	90.90	91.28		A025	siltst	sst			gre-gry	dkm	mass			chloritic sandy siltst, coal incl. w. surrounding pyrite 5-7%
91.40 Box 28	45°	solid		0.28	91.28	91.56		A025	siltst	sst			gre	m	mass			as above, pyrite 7-10% abrupt basal contact
	38°	solid-brkn		2.32	91.56	93.88		A026	mudst				gry	dk	mass			pyrite incl. decreasing (4-6%) towards base, mar calc, very mar. siltst loc in part
73.58 Box 29	44°	solid-blky		2.75	93.88	96.63		A026	mudst				gry	dk	mass/lean			as above, pyrite 2-3%, mar calc, becomes silty towards base
✓ 96.63 Box 30	37°	blky-brkn (note loss)		2.35 (-0.36)	96.63 98.98	98.98 99.34	Geot. Samp 99.79 - 99.10 -0.31	A027	siltst	mudst			gry	m-dk	lean	hirst.		interbed siltst & mudst, mar calc, no vis. pyrite





MANALTA COAL LTD.

SHEET # 9 OF

PROJECT: TELKWA HOLE # T96R-42C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
✓ 116.70		brkn - blk		0.49	116.77	117.30		2	Coal								mor calcite boxwork, no vis pyrite	
		solid		0.59	117.30	117.89		A038	mudst				gry	m-dk	mass		pyrite incl. 1%, no calc	
117.95		brkn		0.15	117.89	118.04		A038	mudst				gry	m-dk	mass		as above	
✓ 118.04		blk	0.02	0.56	118.04	118.60		3	Coal								dull & bright banded, mor calcite veining, no vis pyrite muddy at root	
		blk		1.06	118.60	119.66		A039	mudst				gry	dk	mass		non calc, coal lam & incl. th/out, lam pyrite band @ 74cm	
Box 36	63°	blk		1.34	119.66	121.00		A039	mudst				gry	dk	mass/lam		as above, no vis pyrite, calcite boxwork in coal incl.	
✓ 121.00		blk		0.30	121.00	121.30		A039	mudst				gry	dk	mass		as above	
		blk		0.86	121.30	122.16	Geot 2m 121.48 - 0.23 121.71	A040	sst	slky	v.f.g		gry	lt	mass/lam		fining up, mottled bdg at top (soft sed def) becoming more calc, no vis pyrite	
Box 39		blk		0.96	122.16	123.12		A040	sst	f-c.g.	poor		gry	lt	thin-m		mor rip up clasts, fining upwards, coal lam th/out strong sus. fizz, overbank or cross splay, no vis pyrite	
		blk		0.63	123.12	123.75		A041	sst	sst			gry	dk			decreasing sst content, coal bands & lam th/out, calcite boxwork in coal, no vis pyrite	

MANALTA COAL LTD.

SHEET # 10 OF

PROJECT: TELKWA HOLE # T96R-42C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	ROD	DEPTH				DESCRIPTION										KEY BED
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
124.06		blky		1.13	123.75	124.88		A041	siltst	mudst				gry	m-dk	lam		in bed - siltst/mudst, BCA's 70-80° heavy calcite veining in part
Box 40		blky		1.22	124.88	126.10		A041	siltst	mudst				gry	m-dk	lam		as above, btm 30 cm vertical bdg, no vis pyrite abrupt basal contact.
		(core loss)		(-0.35)	126.10	126.45												
		blky-brkn		0.65	126.45	127.10		A042	mudst					gry	dk	mass		no-vis pyrite, non calc, numerous slickenside surfaces
127.10		brkn		0.07	127.10	127.17		A042	mudst					gry	dk	mass		as above, coal frags thout
				(-0.28)	127.17	127.45												
		vry brkn		0.83	127.45	128.28		A043	siltst	mudst/sst				gry	dk	mass		more sandy bands at base, 8 cm coal band at 68 cm mod. calcite box work in coal, no vis pyrite.
Box 41		blky-brkn		1.87	128.28	130.15		A043	siltst	mudst/sst				gry	dk	mass		as above
130.15		blky		0.99	130.15	131.14		A043	siltst	mudst/sst				gry	dk	mass		as above
Box 42		blky-brkn		1.47	131.14	132.61		A043	siltst	mudst/sst				gry	dk	mass		as above, coaly mudst from 0.19cm - 0.30cm
				(-0.46)	132.61	133.07												
133.20		blky-brkn		0.83	133.07	133.90		A043	siltst	mudst				gry	dk	mass		as above, decr siltst content
		blky		0.42	133.90	134.32		A044	mudst					gry	dk	mass		non calc, no vis pyrite, non coal incl.
Box 43		blky		0.89	134.32	135.21		A044	mudst					gry	dk	mass		as above
135.21		solid		0.36	135.21	135.57		A045	coal									dull / bright banded, no vis pyrite



MANALTA COAL LTD.

SHEET # / OF

PROJECT: TELKWA HOLE # TQBR 54C CONTRACTOR: CASING: 21A COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
Run 1 6.55 8.23 -0.68		Blocky		(-0.68) 1.00	6.55 7.23	7.23 8.23		A001	SLSN				Grey	Light	Massive		Non-calcareous, decalcified to pink -1% clay visible in hand spec	
Run 2 8.23 10.67 -0.10		Blocky (core loss)	(254)	2.54 (-0.18)	8.23 10.77	10.77 10.95		A001	SLSN	SS	VEG		Grey	Med	Massive		Calcareous beds though, no pebbles.	
Run 3 10.67 13.72 -0.28		Blocky	(277)	0.06	10.95	11.01		A001	SLSN	SS	as above							
		Blocky		0.82	11.01	11.83		A002	SLSN		VEG		Grey	Med	Massive		Non-calcareous, no visible vegetal matter through.	
		Blocky		0.05	11.83	11.88					as above							
		Blocky		1.94	11.88	13.72		A002			as above							



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SHEET # 2 OF

PROJECT: TELKWA HOLE # CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	DESCRIPTION								KEY BED	
				INTERVAL THK	FROM	TO	UNIT THK		ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT		NOTES
Run 4 13.72 14.33 -0.61	No recovery			(-0.61)	13.72	14.33												
Run 5 14.33 16.15 -0.17	Block Broken Blocky			0.05 0.10 1-0.11 1.84	14.33 14.38 14.48 14.59	14.38 14.48 14.59 16.43		A002	SASN	M4		GREY	Grn	Massive Lamin.			Non Calcareous, No visible pyrite. Green/Gray SASN Laminations to 5cm.	
Run 6 16.15 18.90 -0.28	Blocky		2.43	1.51	16.43	17.94	00	A003	above									
	Blocky			0.96	17.94	18.90		A004	CLST			Grey	Light				Non Calcareous; No visible Pyrite	
Run 7 18.90 20.42 +0.29	Blocky			(-0.29) 1.81	18.90	20.42		A004	SLSN					Bedded thin ss			Non Calcareous, No visible pyrite. Fracture planes through.	



MANALTA COAL LTD.

SHEET # OF

PROJECT: TELKWA HOLE # CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK.	FROM	TO	UNIT THK											
Run 13 30.48		Blocky	0.35	0.35	30.48	30.83	A005	MDSN				Grey	Dark	Massive	Layer	Man. Calc. No visible pyrite		
30.90	79°																	
-0.07																		
Run 14 30.90		Blocky	1.85	1.89	30.83	32.72	A006	MDSN				Grey	Dark	Massive	Banded	Man. Calcareous, Disconformity Pyrite, Amorphous L.P. beds > 10 cm long, grey, grey quartz Black MDSN beds to 10cm, brown SLSN beds to 5cm		
32.62																		
-0.17																		
Run 15 32.62	75°	Blocky	2.145 (0.20)	3.14	32.72	35.66	A006	SLSN	1:1							Man. Calcareous, No visible pyrite Amorphous beds to 5cm through		
35.12																		
30.09																		
Run 16 35.67			(0.30)	2.99	35.66	38.35	No above	SLSN										
39.77																		
-0.06																		
Run 17 39.77	78°			3.15	38.35	41.50	A007	MDSN	No above							Man. Calc. no visible pyrite		
41.76																		
40.11																		
Run 18 41.76				2.96	41.50	44.46	A008	MDSN				Grey	Dark	Massive		Man. Calcareous, Pyrite beds around coalified vegetal matter L.P. Calcite lamination within SLSN beds to 5cm th. Disconformity within SLSN beds, bedded		
44.91																		
-1.01																		

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SHEET # OF

PROJECT: TELKWA HOLE # CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
Run 18 44.81		Blocky		1.10	44.46	45.56		A008	MDSN			as above	Grey	Dark	Massive		Non Calcareous, Pyrite thin around vegetal material & 12	
Run 18 47.86 -1.10				1.95	45.56	47.51		A009	MDSN				Grey	Dark	Massive		As above except Pyrite content 42% Pyrite thin, scattered lenses through. Calcite veining < 5mm thick	
Run 19 47.86 50.90 -0.16	72			2.88	47.51	50.39		A009				as above					158 x 168 Calcite veining, fractured fracture planes through	
Run 20 50.90 53.95 -0.06				0.76	50.39	51.15		A010	SLSN				Grey	Mild	Massive		Non Calc. Visible Pyrite through 42% Visible material through 12	
				2.19	51.15	53.30		A011	SASN		MF	WS	Green	Grey	Massive		Non Calcareous, Visible pyrite; fine lenses, nozzles & 5%	
				0.10	53.30	53.40		A011	SASN	Coal			Green	Black	Massive lenses		Non Calc. Visible pyrite gradational contact with coal in carb. sand & coal lenses Coal lenses & flecks through	
				0.10	53.40			A012	Coal								Thin, clean; no visible pyrite	
Run 21 53.95 57.00	80	Blocky	2.00-21 5.11	0.05		53.83		A012	Coal								11	
				0.05	53.83	53.88		A013	Coal	MDSN							Thin, white, clay flecks through Pyrite lenses through 12%	
				2.92	53.88	56.80		A013	MDSN								Massive lenses Non Calc. Visible pyrite through 5%	

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SHEET # OF

PROJECT: TELKWA HOLE # CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED		
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES			
Run 22 57.00 62.04		Blocky	306	0.67	56.80	57.47		A013	MDSN	as above										
				0.05	57.47	57.52		A013	MDSN	Coaly				Black dull bedded						3cm Pyrite lenses through
				0.15	57.52	57.67		A014	Coal											Hard, clean, visible Pyrite through 1.5%
				0.44	57.67	58.11		A015	MDSN					Grey	Soft	Massive				Visible pyrite through, thin calc. nodules contact with coals top & bottom
			(0.08)	0.25	58.11	58.44		A016	Coal											Hard clean, visible pyrite 2%
			(0.12)	1.44	58.44	59.68		A017	MDSN					Grey						Visible pyrite 3% through thin calc. veins
Run 23 61.04 63.09			799.15	(0.21)	1.93	59.68	61.40	A017	MDSN					Grey		Massive				Thin calc. veins, some visible pyrite 2%, some calc. nodules less than 2cm through
				0.05	61.40	61.45		A017	Coal											
				0.10	61.45	61.55		A017	MDSN					Grey		as above				
				0.31	61.55	61.86		1	Coal											Hard, clean, as visible, pyrite
				0.02	61.86	61.88		2	Sand					Brown		Massive				Pyrite lenses through 12% visible quartz through
				0.08	61.88	62.96		2	Coal											Hard clean Pyrite lenses & flake through 3%

MANALTA COAL LTD.

SHEET # OF

PROJECT: TELKWA HOLE # CONTRACTOR: CASING: COMMENTS:

BOX MARK	DEPTH							DESCRIPTION										KEY BED
	BCA	CORE STATE	RQD	INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
Run 24 63.09 66.14		Broken	5.04	0.27	62.96	63.23		2	Coal								Hand clean	
		Slacky	2.81	2.81	63.23	66.04		A018	MDSN				Heavy	Dark	Massive		Discontinuous contact @ coal contact. Non calc. some visible pyrite @ coal < 1% but some pyrite	
Run 25 66.14 69.19		Slacky	3.04	3.04	66.04	69.08			NO above								White veins a lower through no visible pyrite	
		Slacky	2.21	2.21	69.08	71.29		A018	NO above								abrupt coal contact, some visible pyrite or vegetal matter < 1%	
		Slacky	0.32	0.32	71.29	71.61		3	Coal								Hand clean.	
		Slacky (core loss)	0.57	0.37	71.61	71.93		A019	MDSN				Heavy	Dark	Massive		Non calcareous. Pyrite holes on vegetal matter 1.5%. Vegetal matter through	
		Slacky	0.19	0.19	71.93	72.12												
Run 27 72.24 75.29	175°	Slacky	3.07	3.07	72.12	75.19		A019	MDSN				Heavy	Dark	Massive		Visible Pyrite < 1% non calcareous. Heavy pyrite at 3m fractured shaly like	



MANALTA COAL LTD.

SHEET # OF

PROJECT: TELKWA HOLE # CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH			SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
					FROM	TO	UNIT THK											
81.39					81.29	81.77	0.48	10	Coal								Hard, clean	
84.41	blaky				81.77	81.79	0.02	11	Bank				Brown	Massive				
					81.79	82.40	0.75	11	Coal									Hard, clean
					82.40	83.49	1.09	A020	MDSN				Grey	Light	Massive			Non Calc. Whittle Pyrite through increasing towards base. 1% Abundant vegetable matter as above
					83.49	84.14	0.65	A020	MDSN	Banky			Grey	dark				as above
Run 31 84.41 87.49			3.05		84.14	84.56	0.42	12	Coal				Black					Hard, clean
					84.56	84.69	0.13	13	MDSN				Grey	Light	Massive			Banky top 5' no visible pyrite
					84.69	85.05	0.36	14	Coal									Hard, clean
					85.05	87.20	2.15	A021	MDSN				Grey	Med	Massive			Non Calcareous, no visible pyrite
Run 32 87.49					87.20	88.49	1.29	A021										as above
90.54	rock loss				88.49	88.88	(-0.39)											
					88.88	90.54	1.66	A022	SLSN				Grey	Light	bedded			Calcareous band up to 5cm thick no visible pyrite



T96 R56C

MANALTA COAL L

SHEET # 1 OF 12

PROJECT: TELKWA

HOLE # T96R-56C

CONTRACT:

GRADING: 12.5m

COMMENTS:

P. Walilko

RQD	BCA	CORE STATE	RQD	DEPTH		UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM TO												
1		Blocky		1.78	12.5	14.32	A001	MDSN				Grey	DK	Massive	Massive	Non Calcareous Massive Minor SLSN blebs through No visible Pyrite. Med-Hard.	
2		Blocky		3.08	14.32	17.40	A001	MDSN				Grey	DK	Massive	Massive	Calcite lacing on fracture. Plants Minor calcite. Veining 1/62 to 1/65m. No visible pyrite	
3		Blocky		0.86	17.40	18.26	A001	MDSN				Grey	DK	Massive		As above, slickensides	
		Crushed Core loss		0.10		18.36	A001									Core loss	
		Blocky		0.87			A001										
		Blocky		0.10			A002	SLSN				Grey	dk	Massive		Massive Hard. No Calcite No visible Pyrite	
		Blocky		0.26			A002									No visible calcite or Pyrite. Core jammed in barrel.	
		Core loss					A002	(Rock)									
4		Block		3.08			A002	MDSN				Grey	dk	Massive		Calcite Veining <sup>small</sup> 215 to 263 MDSN, Massive Non calcareous no pyrite visible. Fracture planes foliated	
5		Blocky		0.33			A003	MDSN				Grey	dk	Massive		no visible calcite or pyrite	
				0.76			A003	SLSN				Grey	dk	massive		Slightly calcitic, slightly brittle 0.25	

MANALTA COAL LTD.

SHEET # 2 OF

PROJECT: TELKWA HOLE # CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH			SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
					FROM	TO	UNIT THK											
5		bluish grey		0.30				A004	SS		VFG		Green		Massive		Coal frag & vegetable matter through, pyrite halos on coal matter, Pyrite nodules, 5% pyrite. No fiss	
		Blackish		0.06				A004	Coal								Coal, pyrite halos around coal lumps, pyrite to 15mm	
		Blackish		0.35				A005	MDSN	Blue			Brown		Massive		Coarse MDSN, pyrite scattered at base. 3% pyrite, thin calcareous l. chlorite ss. variegation @ top.	
	85	Blackish		0.10				A006	MDSN	grey			Grey				No fiss, No pyrite within bands till 3mm dia or less	
	85	black		0.09				A006	"	"			Grey				Small fragments, coarse, calcareous matter	
5	85	Blackish		0.91				A006	"	"			Grey		Laminated		massive, laminated 3-5mm non-calcareous, No visible Pyrite	

MANALTA COAL LTD.

SHEET # 3 OF

PROJECT: TELKWA HOLE # T96R-56C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH			SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
					FROM	TO	UNIT THK											
6 26.52- 29.57	85 3.05	Blocky 247		0.52				A006	MDSN			Grey		Laminated		Non Calcareous, no visible pyrite. Calcite on fracture planes.		
		Blocky		0.09				A007	SLSN			Grey	Dark	Massive		Calcareous, pyrite scattered No visible pyrite		
		Blocky		0.22				A007	MDSN			Grey	Dark	Massive		Non Calcareous, Pyrite Pockets (3%)		
		Dark		0.12				A007	MDSN			Grey	Dark	Massive		as above.		
	85	Blocky		1.06				A008	MDSN	SLSN		Grey	Light	Laminated		Non calcareous, No visible pyrite		
7 29.57 32.17	2.60	Blocky		0.13				A008	Sasn		VFG	Grey	Light	Massive		Non Calcareous, no visible pyrite		
		Blocky		2.60				A009	MDSN			Grey	Black	Banded		Non Calcareous, bands to 11cm, No visible pyrite Bioturbated, Calcareous to base, slight, shaly, shaly like		
8 32.17 35.21	3.04 70			2.27				A009	MDSN			Grey	Black	Laminated		Calcareous Banding <sup>in 5-5 FE</sup> though, no visible pyrite Bioturbated.		

MANALTA COAL LTD.

SHEET # 4 OF

PROJECT: TELKWA HOLE # CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				FROM	TO	INTERVAL THK												
9																		
35.21	2.01	B. lachy		1.98			A009	mosal				gray	med	massive	lean		Non Calcareous Coarsening Down, SLSN inclusions: No visible pyrite	
37.22				0.53			A010	Sasn		F-MG		Gray	med	Massive			Pyrite: Resists < 5mm @ 11% Lean; Non Calcareous, SLSN	
10	1.49		2.03	1.70			A010	Sasn		FG		Gray	med	Massive			as above, limited pyrite nodules to 5mm @ 1% fracture plane @ base, chert bit	
37.22				0.33			A011	SLSN	Sand			Gray	Light	Massive			Calcareous, rapid-subsided no visible pyrite Chert veining through	
38.71																		
11		2.95		0.48			A011	as	above									
37.22																		
41.76			0.15	2.47			A012	SLSN				Gray	lean				Non Calcareous no visible pyrite. Fracture plane @ 72 pyrite on fracture plane, white to 5mm through zone 10cm thk. (5% pyrite) Boulders, 11% part on surface	
11	3.05	B. lachy 3.18	0.16	2.34			A012		as above									
41.76																		
44.81		B. lachy		0.84			A013	SLSN	Sand			Gray	lean	Massive			Calcareous, rapid subsided plant matter no pyrite visible	

MANALTA COAL LTD.

SHEET # 5 OF

PROJECT: TELKWA HOLE # CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
12 44.81 47.88	3.01	Blocky			0.05			A013	as above									
		Blocky			3.03			A014	SLSN Sand				Grey	thin	Massive	low	Non calcareous, no visible pyrite, thin bedded though.	
13 47.88 50.92		Blocky			3.06			A014	as above									
14 50.92 52.97		Blocky			3.05			A015	as above									
15 53.97 57.02		Blocky	3.01		3.04			A015	SLSN Sand				Grey	thin	Massive		Non calcareous, Very little pyrite only on fracture planes 21%	
16 57.02 60.05	3.05	Blocky			3.05			A016	SLSN				Grey	green	Massive	low	Non calcareous, Bituminous. Grey clay lenses to 10cm. Black nodular lignite to 5cm. No visible pyrite.	

MANALTA COAL LTD.

SHEET # 6 OF

PROJECT: TELKWA HOLE # CONTRACTOR: CASING: COMMENTS:

BOX MARK	DEPTH							DESCRIPTION										KEY BED
	BCA	CORE STATE	RQD	INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
17 60.05 63.09	3.04	Blocky		0.20				A016	SLSN	Sand			Grey		Massive	Loam	As above	
		Blocky		2.91				A017	MOSN				Grey	light	Massive	Loam	Calcareous shales - short bedded plan as above interbedded: No visible pyrite as matrix. Pyrite located on fracture planes (<1%) No cross-bedding	
18 63.09 65.21	2.62	Blocky		0.55				A017									As above	
		Broken		0.17				A018	MOSN				Grey	Dark			Non Calcareous, No visible Pyrite Very blocky fractured. Shale beds in place. Interbedded.	
		Blocky		0.33				A018									As above	
		Broken fractured		0.09				A018									As above	
		Blocky		1.23				A018									As above	
19 65.21 67.73	2.02	Blocky	2.04	0.09				A018									As above	
	65	Blocky		0.51				A019	SASN				Grey	Green	Massive	Loam	Calcareous, shales & shaly. NO visible pyrite.	
		Blocky		1.44				A020	MOSN				Grey	Dark			Non Calcareous, No visible Pyrite, blocky fractured	

MANALTA COAL LTD.

SHEET # 7 OF

PROJECT: TELKWA HOLE # CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK.	DEPTH		UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
					FROM	TO												
20 67.73 69.19	1.46	Blocky		1.44				A020	MOSN				Black		Massive		Non Calcareous, No visible Pyrite	
		Blocky		0.25				A020	MOSN	No above								
				0.04				A020									Sharp contact with coal Pyrite lenses to 5cm @ contact Non Calcareous.	
				0.14				A021	Loch								Hard, clean	
21 69.11 72.24	3.07		0.02	1.07				A022	MOSN				Grey	Dark	Massive		Non Calcareous No visible Pyrite slight fracture, calcified Vegetal matter	
			0.11	0.31				A022	SLSN				Grey	Light	Massive		Non Calcareous No visible Pyrite. White overlying band	
		Blocky	0.11	1.47				A022	MOSN				Grey	Dark	Massive		Non Calcareous No visible Pyrite. Calcified Vegetal Matter	

MANALTA COAL LTD.

SHEET # 8 OF

PROJECT: TELKWA HOLE # CONTRACTOR: CASING: COMMENTS:

BOX MARK	DEPTH							DESCRIPTION										KEY BED
	BCA	CORE STATE	RQD	INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
22 72.24 75.29	3.05	Blocky S06		2.89				A023	MOSN				Khaki	Dk	Massive		MOSN, massive, thin plate Pyrite lenses & nodules through 3.2m interval with weathered pyrite lenses.	
				0.22				A024	MOSN	Coal			Black	Dk	Massive		Coalified lignite with pyrite, large, fracturing contact with coal. Calcite veining through fractures.	
	3.07																	
				0.03				1	Coal								Hard, clean, pyrite lenses and nodules through.	
23 75.29	3.00	Blocky		0.17				1	Coal				Same as above					
78.29				0.05				2	Seat				Beige		Massive			
	3.07			0.03				2	MOSN	Coaly					Massive		Pyrite through in 3%.	
				1.22	75.49			3	Coal								Hard, clean, pyrite lenses through.	
				0.56	76.71			4	MOSN	Coal			Brown	Md	Massive		Abundant flat matter pyrite lenses through. Black nodules.	
				0.52	77.27			5	Coal				Coal				Hard, clean, pyrite through.	
				0.06	77.79	77.85		6	SLSN				SLSN	Coaly	Massive		No pyrite.	
				0.48	77.85			7	Coal				Coal				Hard, clean, no visible pyrite.	



MANALTA COAL LTD.

SHEET # 9 OF

PROJECT: TELKWA HOLE # CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
23																		
78.29																		
81.38	3.03	Blocky		0.56				7	Coal									Hard clean 0.5cm parting (MOSN) @ 19.
				0.29	78.89	79.18		8	MOSN Carb				Black		Massive			Pyrite lenses bottom 10cm
				0.17	79.18			9	Coal									Top 22cm slightly dirty
				0.11	80.35			10	Coal									Hard, clean in middle pyrite 3cm dirty zone @ top (MOSN) 4cm pyrite influence @ 6.4 (6.5) 65% coal / 35% carbon
24																		
81.38	3.05	Blocky		0.14	81.54	81.68		10	Coal									Coal, hard, clean
84.47		Blocky		0.02				11	MOSN Carb				Brown	Ulf	bedded			
	75°	Blocky		0.36				11	Coal									Hard, clean
		Blocky		0.11				11	Coal									"
		Blocky		0.46		82.63		11	Coal									Hard, clean pyrite leaf bottom 20cm
		Blocky		0.24		flow sample		A025	MOSN Carb				Brown					pyrite matter through hardened plant matter through quaternary contact, MOSN ends
	90°	Blocky		1.63				A026	MOSN				Black	lyt				Non calcareous, oxidized matter with pyrite, hole through 20' dip on fracture planes discovered Pyrite content 5%

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SHEET #/0 OF

PROJECT: TELKWA HOLE # CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO											
25 87.45 87.48	75°	Blocky		0.76			A026	MDSN				Grey	light	massive		Non Calc. Pyrite tabular with 2% 15 bedding @ Coal contact, vestigial through. Gradational contact.	
		Blocky		0.26			A026.02	above									
				0.15			12	Coal								Hard, clean pyrite bearing to 5 cm @ base	
				0.10			13	MDSN	Coal			Brown		Massive		Pyrite @ coal contact	
				0.41			14	Coal								Hard, clean	
				0.30			A027	SLSN				Grey	light			Non Calc. 1 cm contact @ top 5 cm, gradational contact No pyrite visible	
	65°	Blocky		D30			A028	SLSN				Grey	light	Bedded		Calcareous, also, anhydrous No pyrite, pyrite, siliceous lensing through	
		Blocky		0.09			A028	SLSN				Grey	light	"			
		Blocky		0.48			A028	SLSN				Grey	light	"			

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SHEET # 11 OF

PROJECT: TELKWA HOLE # CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH			SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
					FROM	TO	UNIT THK											
26 47.48 90.53	3' 05"	Blocky		0.08				A028	SASN		MG.		Light	Massive		Calcareous plus, short Pyrite lamination @ coal contact Caulified, irregular bedding Irregular coal contact		
		Blocky		0.07			15	Coal								Hard, clean, pyrite lamination		
		Blocky		0.03			15	MDSN	Carb				Brown	Massive		Visible Pyrite sh		
				0.35			15	Cl.								Pyrite on cleat 22 Hard, clean		
		Blocky	-0.07	0.92				A029	MDSN					Massive		Non Calcareous, Calc. peeing Pyrite lamination & Sulphide strand		
		Blocky		0.25				A030	Coal							Hard, clean, pyrite weather through 22		
		Blocky		1.01				A031	SLSN					Massive		Non Calcareous, irregular Contact, pyrite lamination Caulified, irregular bedding 3.20 pyrite		
				0.21														
		Blocky		0.29				16	Coal							Hard, clean, pyrite lamination 72 Top 5 cm, not clean		

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SHEET # 12 OF 17

PROJECT: TELKWA HOLE # CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH			SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
					FROM	TO	UNIT THK											
27 90.53 93.58		Blocky		0.08				16	Coal								Hard, clean, no pyrite	
		Blocky		0.98				A032A	MOSN				Grey	Dark	Massive		Non calcareous, visible pyrite nodules & blots through 50. Condensed vegetal matter	
		Blocky		0.19				A032	Coal								Hard, clean, pyrite laminations, 60%	
		Blocky		0.75				A033	MOSN	SLSN			Grey	Light	Massive		Non Calcareous, pyrite nodules through 27. Calcifer plant, etc. through	
		Blocky		0.11				A033	Coal								Hard, clean	
		Blocky		0.79				A033	MOSN				Grey	Dark	Massive		Non Calcareous, no visible pyrite. Fractured, shaly	

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SHEET # / OF 11

PROJECT: TELKWA HOLE # T9LR-65C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH		UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				FROM	TO												
Box 1 18.90		blky		0.99	18.90	19.89	A001	mudst	slty			gry	m	mass		iron stained in part, non calc, no vis. pyrite. (entire core taken)	
20.11	52°	blky (core loss)		0.92 (-0.31)	19.89 20.81	20.81	A001	mudst	slty			gry	m	mass/lam	min biot	incl. siltst content, decr iron stain (entire core taken)	
		blky		0.72	21.12	21.84	A002	siltst	mudst			gry	m	mass/lam	biot.	non calc, no vis. pyrite, vis. mar. iron stain on fractures	
Box 2 21.88		blky		0.92	21.84	22.76	A002	siltst	mudst			gry	m	mass/lam	biot.	as above, no iron stain at base	
		blky		1.83	22.76	24.59	A002	siltst	mudst			gry	m	mass/lam		as above	
Box 3 24.57	50°	blky (core loss)		1.17 (-0.23)	24.59 25.76	25.76	A002	siltst	mudst			gry	m	mass/lam		as above, mar. slickenside surfaces	
25.83		blky		1.57	25.99	27.56	A002	siltst	mudst			gry	m	mass/lam		as above	
Box 4 27.45	48°	blky - solid		1.52	27.56	29.08	A003	siltst	mudst			gry	med	lam	biot.	intbd siltst - mudst, non calc, no vis pyrite	
28.95		blky		1.37	29.08	30.45	A003	siltst	mudst			gry	med	lam	biot	as above	
Box 5 30.38		blky		1.43	30.45	31.88	A003	siltst	mudst			gry	med	lam	biot	as above, trace shell frags, slightly calc.	
31.88		blky		1.40	31.88	33.28	A003	siltst	mudst			gry	med	lam	biot, mar	as above,	

MANALTA COAL LTD.

SHEET # 2 OF 3

PROJECT: TELKWA HOLE # T96R-65C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH		UNIT THK	SAMPLE #	DESCRIPTION									KEY BED	
				INTERVAL THK	FROM TO			ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES		
Box 6 33.23		blk-y-bktn (core loss)		0.94 (-0.03)	33.28 34.22	34.22 34.25	A003	siltst	mudst				gry	m-dk	mass-lam	mor. biot	as above	
34.20		blk-y-bktn		1.75	34.25	36.00	A003	siltst	mudst				gry	m-dk	mass-lam		as above, incr. mudst content	
Box 7 36.09		blk-y		2.42	36.00	38.42	A004	mudst	silty				gry	dk-m	mass-banded		mor bands of lam of siltst, esp. silty mudst conc.; non calc, no vis. pyrite	
38.40		blk-y		0.28	38.42	38.70	A004	mudst	silty				gry	dk-m	mass-bnd		as above	
Box 8 39.10		blk-y		1.71	38.70	40.41	A004	mudst	silty				gry	dk-m	mass-bnd		as above,	
40.54		blk-y		1.04	40.41	41.45	A004	mudst	silty				gry	dk-m	mass-bnd		as above, decr. siltst content	
Box 9 41.67		blk-y		0.82	41.45	42.27	A004	mudst	silty				gry	dk-m	mass		as above	
42.87		blk-y		1.89	42.27	44.16	A004	mudst	silty				gry	dk	mass		as above	
Box 10 44.16		blk-y-bktn		0.26	44.16	44.42	A005	mudst					gry	dk	mass		med-heavy siltseds, non calc, no vis. pyrite	
44.50		bktn-blky		2.03	44.42	46.45	A005	mudst					gry	dk	mass		as above	
46.63		blk-y		0.35	46.45	46.80	A005	mudst					gry	dk	mass		as above	
Box 11 (core loss)		blk-y-bktn (core loss)		1.60 (-0.43)	46.80 48.40	48.40 48.83	A005	mudst					gry	dk	mass		as above, mor coal incl. / lam. at base	
		blk-y-bktn		0.82	48.83	49.65	T A006	mudst					gry	dk	mass		Coal incl. w. pyrite holes, 1-3% non calc	

2 bags



MANALTA COAL LTD.

SHEET # 4 OF

PROJECT: TELKWA HOLE # T96R-65C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
		blky		0.10	56.46	56.56		A011	mudst.	slty			gry	dk	mass-lam		non calc, no vis. pyrite	
56.69		blky		1.64	56.56	58.20		A011	mudst.	slty			gry	dy	mass-lam		decr. sltst. content, no vis. pyrite non calc.	
Box 15 58.34		blky (core loss)		1.31 (0.11)	58.20 59.51	59.51 59.62		A011	mudst	slty			gry	dk	mass-lam		as above	
59.74	56°	solid		0.61	59.62	60.23		A011	mudst	slty			gry	dk	mass-lam		as above	
		solid		0.74	60.23	60.97		A012	mudst				gry	dk	mass		no vis. pyrite, non calc. trace shell frags in part.	
Box 16 60.99		solid		1.01	60.97	61.98		A012	mudst				gry	dk	mass		as above, 10cm scattered shell frags at top, 2cm dissem pyrite in mudst band at base (entire core taken)	
62.01		blky		0.26	61.98	62.24		1	coal								shell banded, trace dissem. pyrite at top. (root sample)	
		blky		0.30	62.24	62.54		2	coal								shell & bright banded	
		solid		0.11	62.54	62.59		3	coal	mudst/ best							0.5cm bentonite band at top, trace pyrite, muddy in part.	
62.79		solid		0.47	62.59	63.12		3	coal	mudst							muddy in part, more pyrite incl 1%	
		solid		0.57	63.12	63.69		4	coal								shell banded, no vis. pyrite	
Box 17 63.73		blky		0.12	63.69	63.81		4	Coal								as above	

70.11



MANALTA COAL LTD.

SHEET # 5 OF

PROJECT: TELKWA HOLE # T96R-65C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH		UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
					FROM	TO												
		solid		0.28	63.81	64.09		5	coal								dull, banded, minor mudst bands at base (floor sample)	
		blky-brkn		1.63	64.09	65.72		A013	mudst				gry	dk	mass		coal lam 9 inch dec. towards base, no vis. pyrite, non calc.	
65.84	50°	blky		0.77	65.72	66.49		A014	mudst	slty			gry	dk-in	mass-lam		minor amount silt lam, well indur. mudst conc. in part, non calc, no vis. pyrite, minor micro faults	
		blky		2.11	66.49	68.60		A014	mudst	slty			gry	dk-m	mass-lam		as above	
		blky-solid		0.75	68.60	69.35		A014	mudst	slty			gry	dk-m	mass-lam		as above	
Box 19 69.35		blky-brkn		1.72	69.35	71.27		A014	mudst	slty			gry	dk-m	mass-lam		as above	
71.39		brkn		0.83	71.27	72.10		A014	mudst	slty			gry	dk-m	mass-lam		as above, minor slickensid surfaces	
Box 20 72.30		blky-brkn		1.04	72.10	73.14		A014	mudst	slty			gry	dk-m	mass-lam		as above	
73.40		blky-brkn (core loss)		0.74 (-0.46)	73.14 73.88	73.88 74.33		A014	mudst	slty			gry	dk-m	mass-lam		as above	
74.15		blky-brkn		0.71	74.33	75.04		A014	mudst	slty			gry	dk-m	mass-lam		as above	
74.98		solid		0.10	75.04	75.14		A014	mudst	slty			gry	dk-m	mass-lam		as above	
Box 21 75.12	50°	blky-solid		2.92	75.14	78.06		A015	mudst	slty			gry	dk-m	lam		no vis. pyrite, non calc., coal incl. in part	
Box 22 78.03		blky-solid		2.40	78.06	80.46		A015	mudst	slty			gry	dk-m	lam		as above, well indur. mudst conc. in part.	

MANALTA COAL LTD.

SHEET # 6 OF

PROJECT: TELKWA HOLE # 796R-65C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	DESCRIPTION								KEY BED	
				INTERVAL THK	FROM	TO			ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT		NOTES
80.65		blk		0.42	80.46	80.88		A015	mudst	slty			gry	dk-m	lam		as above	
Box 23 80.65	53°	slky-solid		2.50	80.88	83.38		A015	mudst	slty			gry	dk-m	lam		as above, carb & coaly from 1.81-2.54	
		solid		0.25	83.38	83.63		6	coal								trace pyrite at top, muc mudst lam decr towards base (roof sample)	
		solid		0.13	83.63	83.76		7	coal								dull banded	
Box 24 83.79		blk		0.27	83.76	84.03		7	coal								as above, pyrite flow on cleat 1-2%	
84.12		blk		0.13	84.03	84.16		8	benstonite	coaly			gry	lt-dk			intd benstonite & pyritic muddy coal (8-10%)	
		blk-solid		2.16	84.16	86.32		9	coal								dull & bright banded, 0.5cm band benstonite 1.8cm from base, trace pyrite in part	
		blk		0.16	86.32	86.48		10	benstonite	coaly							8cm band followed by decr muddy coal towards base	
Box 25 87.17		blk		0.58	86.48	87.06		11	Coal								dull banded	
		blk-solid		0.91	87.06	87.93		11	Coal								as above, trace mudst lam at base	
		blk-solid		1.07	87.93	89.11		12	Coal								bright & dull banded, no vis. pyrite	

MANALTA COAL LTD.

SHEET # 7 OF

PROJECT: TELKWA HOLE # T96R-65C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	DESCRIPTION								KEY BED	
				INTERVAL THK	FROM	TO			ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT		NOTES
		solid		0.22	89.11	89.33		13	coal								dull banded	
Box 26		blky		0.86	89.33	90.19		13	coal								as above	
90.25		blky		0.27	90.19	90.46		13	coal								as above	
		puke-blky (Coal loss)		0.67 (-0.11)	90.46 91.13	91.13 91.24		14	coal	mudst pyrite							coal w. mudst & bent. lam towards base, top 12cm heavy dissm. pyrite 15-20%	
		blky-solid		0.92	91.24	92.16		15	coal								dull banded	
Box 27		solid		0.18	92.16	92.34		16	coal								as above, gradational contact w. base, (floor sample)	
		blky		0.77	92.34	93.11		A016	mudst carb				gry-blk		mass		dec. coal lam - carb content towards base, pyrite incl. at base 1-3% (entire core taken)	
93.27	50°	blky-solid		1.40	93.11	94.51	Geot. Samp 93.97-93.97 92.63-92.88 -0.59	A017	mudst silty				gry	m-dk	lam		mor coal stringers at top; no vis pyrite, silty lam. slightly calc, weak fizz	
Box 28		blky-solid (rock loss)		0.54 (-1.34)	94.51 95.05	95.05 96.39		A018	mudst silty				gry	m-lt	lam		- strong fizz, very calcific, entire core taken	
		brkn-blky		0.50	96.39	96.89		A019	mudst silty				gry	m-dk	lamin-mass		dec. silty lam., mod. calcific in silty lam. no vis pyrite	
96.32		blky		1.45	93.89	98.34	Geot. Samp 96.70-97.00 -0.30	A019	mudst				gry	dk	mass		non calc, no vis pyrite	
Box 29		blky-solid		0.52	98.34	98.86		A019	mudst				gry	dk	mass		as above, abrupt basal contact	
		blky		0.60	98.86	99.46		A020	sst		fin. m	poor	gry	H	mass		non calc, coal clasts thrd rearsuring up, no vis. pyrite. (entire core taken)	

-1134

MANALTA COAL LTD.

SHEET # 8 OF

PROJECT: TELKWA HOLE # T96R-R5C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	DESCRIPTION				KEY BED.
				INTERVAL THK	FROM	TO							COLOUR	MODIFIER	BEDDING	SED. STRUCT	
99.37		blk		0.70	99.46	100.16		A020	sst	slty	sf-f		gry	ll-m	lam		incl. carb silt stringers & coal lam. towards base, no vis. pyrite (ent. core tak.)
		brkn - pulv.		0.92	100.16	101.08		A021	mudst	coaly			gry	dk-m	mass		mudst w/ coal bands, 10cm coal band at top, dissem pyrite 1-2%
		brkn - pulv.		0.29	101.08	101.37		A021	mudst	coaly			gry	dk	mass		as above, trace pyrite
		brkn - pulv. (rock loss)		0.17 (-0.75)	101.37 101.54	101.54 102.29		A022	coal	muddy							dull, mudst lam. th/out (marker 1.0 metre lost) trace pyrite
102.42		blk		0.22	102.29	102.51		A022	coal								dull banded
	53°	blk - solid (rock loss)		2.10 (-0.13)	102.51 104.61	104.61 104.74		A023	mudst				gry	dk	mass-lam		no vis. pyrite, non calc, vry mn. calcite stringers
Box 31		blk		0.56	104.74	105.30		A023	mudst				gry	dk-m	lam		mudst medyak from 8cm-28cm vry calcareous in part, no vis. pyrite
105.47		blk		0.18	105.30	105.48		A024	coal								dull, mn. mudst. lam, no vis. pyrite
		blk - solid		2.12	105.48	107.60		A024	mudst	carb/coaly			gry	dk	mass		pyrite stringers top 1cm (3-4%), coal incl. & lam th/out, no other vis. pyrite, calcite box work in coal incl.
Box 32		blk		0.60	107.60	108.20		A024	mudst	carb/coaly			gry	dk	mass		as above
108.52		blk (rock loss)		1.63 (0.07)	108.20 109.83	109.83 109.90		A024	mudst	carb			gry	dk	mass		as above

MANALTA COAL LTD.

SHEET # 9 OF

PROJECT: TELKWA HOLE # T96R-65C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
		solid		0.37	109.90	110.27		A025	coal								dull & bright banded, minor med carb. mudst bands, dissim of pyrite 1-2% (entire core taken)	
		blky		0.13	110.27	110.40		A025	mudst	coaly			gry	dk			dissim. pyrite at basal 1cm (entire c. taken)	
		solid		0.16	110.40	110.56		A025	coal								trace pyrite on cleat (entire c. taken)	
Box 33		brkn (coal loss)		0.18 (0.12)	110.56 110.74	110.74 110.86		A025	coal								bright & dull banded, trace pyrite (entire c. taken)	
		blky		0.24	110.86	110.10		A025	mudst	coaly			gry	dk			dissim. pyrite 1-2% (entire c. taken)	
		blky (coal loss)		0.25 (-0.08)	110.10 111.35	111.35 111.43		A025	coal								pyrite stringers in part, 2-3% becoming muddy at base (entire c. taken)	
114.57		blky		1.22	111.43	112.65		A026	mudst	carb coaly			gry	dk			pyrite incl. in part c. 1%, non calc. (entire core taken)	
		blky-solid		0.38	112.65	113.03		A027	coal								dull banded, trace pyrite (entire c. taken)	
		blky		0.30	113.03	113.33		A027	mudst	carb coaly			gry	dk	mass		no vis. pyrite (entire c. taken)	
		brkn (coal loss)		0.09 (-0.21)	113.33 113.42	113.42 113.63		A027	coal								bright & dull banded (entire c. taken)	
Box 34		brkn		0.06	113.63	113.69		A027	coal								as above (entire c. taken)	
		blky		0.84	113.69	114.53		A028	mudst	carb coaly							gradational contact w. coal, clear carb coal content, numerous calcite stringers in top 10cm no vis. pyrite	
114.62		blky-solid		1.97	114.53	116.50		A028	mudst	carb			gry	m-dk	mass		as above, clear carb content siltier towards base	

MANALTA COAL LTD.

SHEET # 10 OF

PROJECT: TELKWA HOLE # T96R-65C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	DESCRIPTION				KEY BED
				INTERVAL THK	FROM	TO	UNIT THK						COLOUR	MODIFIER	BEDDING	SED. STRUCT	
Box 35		Blky		0.83	116.50	117.33	Geol. Samp 116.62-116.83	A028	mudst	carb/ silty			gry-brn	m-dk	mass		no vis. pyrite, siltst inths, non calc
117.67		blky		1.81	117.33	119.14		A028	mudst	silty			gry-brn	m-dk	mass		etc above, decr. carb content
Box 36		blky-brkn		1.23	119.14	120.37		A028	mudst				gry	dk	mass		as above decr. siltst. content no vis. pyrite, mac calcite barwork in occ. coal incl.
120.72		blky-solid		1.23	120.37	121.60		A028	mudst				gry	dk	mass		incr. carb content, gradational basal contact.
		blky		0.20				A029	Coal								shell banded, lentic calc taken) no vis. pyrite
Box 37		blky		0.28				A029	Coal								as above, incr. calcite barwork towards base strong sust. A22 (lentic s. taken)
	1	blky		1.11				A030	mudst	silty			gry	dk-m	lam		interd mudst & siltst lam, non calc, no vis. pyrite
123.77	47°	blky		1.49				A030	mudst	silty			gry	dk-m	lam		as above
Box 38		blky		1.47				A030	mudst	silty			gry	m-dk	lam		as above, siltst lamms become very slightly calc. in part
126.82		blky		1.17			Geol. Samp 126.82-127.10	A030	mudst	silty			gry	m-dk	lam		as above
Box 39		blky		1.33			Geol. Samp 129.08-129.40	A030	mudst	silty			gry	m-dk	lam		as above; mac biturbid
129.85		blky-solid		1.23				A030	mudst	silty			gry	m-dk	lam		as above, decr. siltst content



T 96 R 74c

MANALTA COAL LTD.

SHEET # / OF

PROJECT: TELKWA HOLE # 796R-74c CONTRACTOR: CASING: COMMENTS: Pit 3 Sept. 12/96  
 Entire core taken for samples in both ARD & coal

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	DESCRIPTION								KEY BED		
				INTERVAL THK	FROM	TO			ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT		NOTES	
0-20																			
3.0-4.5																			not cored, weathered
Box 1																			
4.55	79°	blk - blk (rock loss)		2.31 (0.24)	4.55	7.26		A001	mudst	slty			gry	dk	lam.				non calc., no visible pyrite, vry. mn. sltst. lam.
7.50																			
Box 2																			
7.50		blk (rock loss)		0.18 (0.37)	7.50	7.68		A001	mudst	slty			gry	dk					as above, sharp basal contact
		blk blk		2.46	8.05	10.51		A002	sltst	ss/mudst			gry-gr m		intbd				sltst. intbd. w. vfg. ss. of mudst. lam. mn. calc. coating on fracture surfaces, non calc. in remainder, no vis. pyrite several fining upward sequences
Box 3		(rock loss)		(0.20)	10.51	10.71													
10.51		blk		0.39	10.71	11.10		A002	sltst	ss/mudst			gry-gr m		intbd				as above, decr. ss content
11.16		blk		2.40	11.10	13.50		A002	sltst	ss/mudst			gry-gr m		intbd				as above, abrupt basal contact 8cm calc. sltst nodular 10cm from top
13.70																			
Box 4		solid		0.24	13.50	13.74		A003	coal										no vis. pyrite, mn. calc. barwork
		solid		0.23	13.74	13.97		A004	sltst	mudst			gry-gr m-lt		lam.				mudst lam. thglvty, non calc, no vis. pyrite, coal lam. & incl. clear towards base
		(rock loss)		(0.23)	13.97	14.20													
14.20	76°	blk		1.17	14.20	15.39		A004	sltst	mudst			gry-gr m-lt		lam				as above, gradational contact at base



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SHEET # 2 OF

PROJECT: TELKWA HOLE # T9CR-74C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
		solid-blky		1.25	15.39	16.54		A005	mudst	siltst				gry	dk	mass/lam		carb. plat frags of coal incl. in part. mnr. calcite or fracture surfaces. non calc. no vis. pyrite
Box 5		solid-blky		0.69	16.54	17.23		A005	mudst					gry	dk	mass		as above; decr. siltst
17.25		solid-blky		2.09	17.23	19.32		A005	mudst	siltst				gry	dk	mass-lam		as above
Box 6		solid-blky		0.49	19.32	19.81		A005	mudst	siltst				gry	dk	mass-lam		as above
19.6		solid-blky		0.46	19.81	20.27		A005	mudst	siltst				gry	dk	mass-lam		as above, incr. carb content
20.30		solid-blky (rock loss)		(0.14)	20.27	20.41												
		blky		0.25	20.41	20.66		1	coal									muddy at top, pyrite stringers & incl. 2-3% dull and bright banded (root sample)
		blky		0.70	20.66	21.36		2	coal									dull pyrite stringers at base 1-2%
		blky		0.32	21.36	21.68		3	coal									4cm mudst band at top pyrite lam. below mudst 3-5%, dull & bright banded
		solid		0.52	21.68	22.20		A006	mudst					gry	m-dk	mass		decr. carb content towards base, non calc., no vis. pyrite
22.15		blky		0.72	22.20	22.92		A006	mudst	siltst				gry	m-dk	mass-lam		as above, mnr. siltst lam. incr. towards base
		(rock loss)		(0.12)	22.92	23.04												
23.04	90°	blky		1.99	23.04	25.03		A007	siltst	mudst				gry	dk-m	lam		intbd siltst/mudst, non calc. no vis. pyrite, calc. mudst nodal from 69 to 105cm - slow sustained fire

MANALTA COAL LTD.

SHEET # 3 OF

PROJECT: TELKWA HOLE # T96R-74C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	DESCRIPTION								KEY BED
				INTERVAL THK	FROM	TO			ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	
Box 8		blky		0.71	25.03	25.74		A007	sst	mudst			gry	dk-m	lam		as above, sst lam. & bands towards base
		solid		0.06	25.74	25.80		A008	sst	sst	fig.	mod-wll	gre	m-lt	lam	min. biot	chloritic sst w. mudst lam. & bands, min. bioturb., non calc.
26.09		solid		(0.19)	25.80	25.99		A008	sst	sst	fig.	mod-wll	gre	m-lt	lam	min. biot	no vis. pyrite, abrupt basal contact
		solid		0.72	25.99	26.71		A008	sst	sst	fig.	mod-wll	gre	m-lt	lam	min. biot	no vis. pyrite, abrupt basal contact
		blky		0.34	26.71	27.05		4	coal								dull, pyrite incl th/aut 1-3%
		blky		0.46	27.05	27.51		A009	mudst	carb			gry	dk	mass		coal bands in part, non calc, no vis. pyrite
		blky		0.24	27.51	27.75		5	coal	mudst							pyrite band - lam at top 3-5% from mudst band at base
		blky		0.23	27.75	27.98		6	coal								dull & bright banded, trace pyrite.
Box 9		blky		0.52	27.98	28.50		6	coal								as above
		solid		0.19	28.50	28.69		7	coal	mudst							mudst bands in part, floor sample
		solid		0.30	28.69	28.99		A010	mudst	carb.			gry	dk	mass		non coal incl, non calc, no vis. pyrite
29.24		solid		0.62	28.99	29.61		A010	mudst	carb			gry	dk	mass		as above, mod. pyrite incl at top 1%, sandy at base, non calc.
		solid		(0.12)	29.61	29.73		A010	mudst	carb			gry	dk	mass		as above, mod. pyrite incl at top 1%, sandy at base, non calc.
		blky		0.20	29.73	29.93		8	coal								dull & bright banded, pyrite lam in part 1-2%, 1 coal sample

MANALTA COAL LTD.

SHEET # 4 OF

PROJECT: TELKWA HOLE # T96P-74C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	ROD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
		blky		0.95	29.93	30.88		9	Coal								dull & bright banded, no vis pyrite	
		solid		0.14	30.88			10	Coal								dull banded (floor samp) no vis pyrite	
Box 10		solid		0.14		31.16		10	Coal								as above (floor samp)	
		blky		0.83	31.16	31.99		A011	mudst				gry	dk			very muc pyrite flour on bed, plus non calc. coal stringers desc towards base	
32.18	78°	blky-brkn		1.72	31.99	33.71		A011	mudst	siltst			gry	dk-m	lam		as above, muc siltst lam in part	
Box 11		blky-brkn		0.72 (0.31)	33.71 34.48	34.48 34.79		A011	mudst	siltst			gry	dk-m	lam		as above, very muc pyrite incl 20.5% 8cm coal band near base	
35.23		blky		0.40 (0.32)	34.79 35.19	35.19 35.51		A011	mudst	siltst			gry	dk-m	lam		as above, no vis pyrite	
		blky-brkn		1.70	35.51	37.21		A012	siltst	mudst			gry	m-lt	lam		int'd lam of siltst & mudst calc nodules from 53-70cm no vis pyrite	
Box 12		blky-solid		0.99	37.21	38.20		A012	siltst	mudst			gry	m-dk	lam		as above, incr mudst content	
38.28		blky-solid		0.48	38.20	38.68		A012	mudst	sily			gry	m-dk	lam		as above, incr. carb content no vis pyrite	
		solid (core loss)		0.21 (0.12)	38.68 38.89	38.89 39.01		11	Coal								dull & bright banded, no vis. pyrite (roof sample)	
		blky		0.87	39.01	39.88		12	Coal								dull & bright banded, trace pyrite at top 20.5%	

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SHEET # 5 OF

PROJECT: TELKWA HOLE # 796R-74C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
Box 13		blky		1.25	39.88	41.13		13	coal								dull & bright banded, 3cm mudst band at top, no vis pyrite	
		blky		0.13	41.13	41.26		14	coal								dull, no vis pyrite (floor sample)	
H1142		blky		0.16	41.26	41.42		14	coal								as above, muddy at base (floor sample)	
		blky		1.60	41.42	43.02		A013	mudst				gry	dk-m	mass		non calc. trace pyrite, incl (<1%) mod. sst and surfaces deep carb. content	
		(rock loss)		(0.07)	43.02	43.09												
Box 14		blky		0.61	43.09	43.70		A013	mudst				gry	dk-m	mass		as above, sharp basal contact	
		blky		0.69	43.70	44.39		15	coal								dull banded, trace pyrite	
H4.38		solid		0.87	44.39	45.26		A014	mudst carb.				gry	dk	mass		pyrite incl. in top 15cm 2-4% gradational centered at base, non calc.	
		solid		0.71	45.26	45.97		16	coal								pyrite incl in top 5cm, becoming muddy at base	
Box 15	75°	blky		1.32	45.97	47.29		A015	mudst				gry	dk	mass-lam		incr. sst content, calc. mudst nodul from 66-78cm - weak - fine no vis pyrite	
		blky		0.14	47.29	47.43		A015	mudst	slty			gry	dk-m	lam		as above, incr sst content, mod. sst bands	
47.43		(rock loss)		(0.19)	47.43	47.62												
		blky		1.39	47.62	49.01		A016	sst	slty/mudst	vfg	poor	gre-gry	m-th	intbd	hiat.	chloritic sst intbd w. mudst bands & lams, no vis pyrite or calc. slightly calc. sst nodul from 87-90cm,	

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SHEET # 6 OF

PROJECT: TELKWA HOLE # T96R-74C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	DESCRIPTION									KEY BED
				INTERVAL THK	FROM	TO			ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
Box 16		blky-solid		1.49	49.01	50.50		A016	sst	silt/mudst	vfg	poor	gr-gry	m-lt	intbd	biot	as above	
50.48		blky-solid		1.35	50.50	51.85		A016	sst	silt/mudst	vfg	poor	gr-gry	m-lt	intbd	biot	as above, dark mudst contd towards base	
Box 17		blky-solid (rock loss)		0.73 (0.06)	51.85 52.58	52.58 52.64		A016	sst-silt	mudst	vfg	poor	gry-gr	m	intbd		as above, very stky	
52.58	74°	blky		2.15	52.64	54.79		A017	sst	silt/mudst	vfg-fg	mod-poor	gry-gry	m-lt	lam		no vis. pyrite, nor calcite on fracture surfaces, numerous small scale faults at top 1-5cm depth.	
Box 18		blky		0.82	54.79	55.61		A017	sst	silt/mudst	fg-vfg	mod-poor	gr-gry	m-lt	lam		as above	
55.63		blky		1.55	55.61	57.16		A017	sst	"	"	"	"	"	"		as above	
57.18		blky		0.34	57.16	57.50		A017	sst	"	"	"	"	"	"		as above	
Box 19		blky		0.31	57.50	57.81		A017	sst	"	"	"	"	"	"		as above, coal lam. & incl. at base, calcite boxwork in coal incl.	
		blky		0.40	57.81	58.21		17	coal								dull banded, muddy at top & base, no vis. pyrite	
		blky (rock loss)		0.67 (0.02)	58.21 58.88	58.88 58.90		A018	mudst	carb.			gry	dk	mass		coal stringers thout, no vis. pyrite, nor carb.	
		blky		0.33	58.90			18	Coal								pyrite incl & lam. at top 3-4% lam bentonite band at base	
		blky		0.58		59.81		19	Coal								dull banded, no vis. coal	

MANALTA COAL LTD.

SHEET # 7 OF

PROJECT: TELKWA HOLE # T96R-74C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	UNIT THK											
		blky-brkn (rock loss)		0.28 (0.09)	59.81 60.09	60.09 60.18		A019	mudst			gry	dk	mass		no vis. pyrite, non calc, coal stringers th/put, pyrite at basal contact		
60.23 Box 20		blky		0.72	60.18	60.90		A019	mudst			gry	dk	mass		as above		
		blky		0.35	60.90	61.25		20	coal							dull & bright banded, minor pyrite lam top 3cm, sharp basal & upper contact		
		blky		0.44 (0.04)	61.25 61.69	61.69 61.73		A020	mudst			gry	dk	mass		coal stringers th/put, non calc, no vis. pyrite		
		solid		0.34	61.73	62.07		21	coal							muddy at top, trace pyrite benzoite bands in middle 10cm		
		blky		1.04	62.07	63.11		A021	mudst	slty		gry	dk-m	mass		non calc., no vis. pyrite		
63.28 Box 21		blky (overmeasure)		2.49 (0.11)	63.11 65.60	65.60 65.49		A021	mudst	slty		gry	dk-m	mass		as above, coal band from 190-208cm very sealy btm 20cm top 22cm brkn w. calcite infill		
		pulverized (core loss)		0.21 (0.25)	65.49 65.70	65.70 65.95		22	coal							pulverized, no vis. pyrite		
66.23 Box 22		blky (rock loss)		0.94 (0.34)	65.95 66.89	66.89 67.23		A022	mudst carb			gry	dk	mass		coal stringers th/put, non calc., no vis. pyrite		
		pulverized (core loss)		0.25 (0.19)	67.23 67.48	67.48 67.67		23	coal							no vis. pyrite, silty surfaces		
		blky		1.26	67.67	68.93		24	coal							dull & bright banded, no vis. pyrite		

MANALTA COAL LTD.

SHEET # 8 OF

PROJECT: TELKWA HOLE # T96R-74C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
		blky		0.10	68.93	69.03		A023	mudst	coaly				gry	dk	mass		pyrite incl. th/out 5-8% non calc, coal stringers th/out
Box 23		blky		0.23	69.03	69.26		A023	mudst	coaly				gry	dk	mass		as above, pyrite bands at base 3-5%
69.37		blky		0.19	69.26	69.45		25	coal									mar. calc. boxwork, slow sst fizz, trace pyrite at top (roof sample)
		blky (core loss)		1.14 (0.04)	69.45 70.59	70.59 70.63		26	coal									dull & bright banded, trace pyrite stringers < 1%
		blky (core loss)		0.04	70.63	70.67												
		blky		0.27	70.67	70.94		27	coal									as above, no vis. pyrite muddy at base (floor sample)
		blky		0.86	70.94	71.80		A024	mudst	siltst				gry	dk-m	mass		coal stringers at top, non calc no vis pyrite, sst stringers at base
Box 24		blky - solid		0.40	71.80	72.20		A024	sst	siltst	vfg	poor	gre-gry	m-ll	banded			intbed. sst & siltst w. mar. mudst lams, small scale faulting 5-10cm displacement, no vis pyrite, non calc.
72.42	68°	blky (rock loss)	x	2.49 (0.12)	72.20 74.69	74.69 74.81		A024	sst	siltst	vfg	poor	gre-gry	m-ll	banded			as above, fracture zone with calc. infill from 39-60cm. becoming mudlier towards base
Box 25		blky		0.32	74.81	75.13		A024	siltst	mudst				gry	dk	mass		decc. siltst contact, sharp basal contact, no vis. pyrite non calc.
		blky		0.18	75.13	75.31		28	coal									dull banded, no vis. pyrite (roof sample)

MANALTA COAL LTD.

SHEET # 9 OF

PROJECT: TELKWA HOLE # T96R-74C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	ROD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
75.47		vry brkn (core loss)		0.76 (0.02)	75.31 76.07	76.07 76.09		29	coal								dull & bright banded; no vis. pyrite	
		blky		0.24	76.09	76.33		30	coal								as above, mod. calc. boxwork at base (floor sample) no vis. pyrite.	
		blky		1.37	76.33	77.70		A025	mudst				gry	dk	mass		coal stringer th/ent, non calc, no vis. pyrite.	
Box 26		lky (rock loss)		0.61 (0.05)	77.70 78.31	78.31 78.36		A025	mudst				gry	dk	mass		as above, incr. coal-calc content.	
78.52		blky		0.81	78.36	79.17		31	coal								dull banded, no vis. pyrite, mod calcite boxwork in bot 20cm, muddy at base	
62°-0		blky-brkn (rock loss)		1.41 (0.24)	79.17 80.58	80.58 80.82		A026	mudst				gry	m-dk	lam		potential fault zone, BCA from 60° to vertical at base mudst nodules w. calcite stringers, no vis. pyrite	
Box 27	0-45°	brkn-blky		0.75	80.82	81.57		A026	mudst				gry	m-dk	lam		as above	
81.57	72°	(rock loss)		1.89 (0.14)	81.57 83.46	83.46 83.60		A026	mudst	sltst			gry	m-dk	lam	biot.	BCA's flatten and become consistent, as above, becoming silty towards base	
Box 28		blky-solid		1.07	83.60	84.67		A027	sltst	mudst			gry	m-dk	lam		slightly calc, weak fizz, in part, no vis. pyrite	
84.60		blky-solid		1.86	84.67	86.53		A027	sltst	mudst			gry	m-dk	lam		as above, several mudst nodules w. calc. stringers	
Box 29		solid		0.18	86.53	86.71		A027	sltst	mudst			gry	m-dk	lam		as above	





MANALTA COAL LTD.

SHEET # / OF many

PROJECT: TELKWA HOLE # T96R-96c CONTRACTOR: McAuley CASING: 60' COMMENTS:

Run	BCA	CORE STATE	RQD	DEPTH		UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM TO												
Run 1 18.60 (Rin 1)	1.83 cont. 47°	Blocky		1.40	18.60 20.00	20.00 20.42	A001 A001	MDSN Rock loss				Grey med	laminated			Non calcareous, med white pyrite, finely laminated. Slightly fractured. One less (maybe) joint in fracture plane. White gypsum like powder on fracture plane. Coal, ind. clean.	
Run 2 20.43 23.33	3.07 24°	3.03		0.52	20.43 20.95	20.95	A001 A001	Coal.								hard, glass, abundant pyrite (5%) through. Beddy fractured. small long patchy lenticles. Sharp contact with coarse sh. 100% 1/5° Pyrite band half way through.	
Run 3 23.50 24.25	3.0°			2.51	20.95 23.46	23.46	A002 A002	MDSN				Grey Med	laminated thin			Non calcareous, Pyrite bedding, lenticles, coarse, strongly laminated, weathered matter. Coal lenticles. 1/2 in thick, fractured, shaly.	
				0.88	23.46 24.28	24.28	A002					As above.				Fractured, white gypsum like powder on fracture plane. Non calcareous. Moderate pyrite.	

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SHEET # 2 OF

PROJECT: TELKWA HOLE # T910-96C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	UNIT THK											
Run 4 24.15 26.55	(2.30) 25°	Blocky		2.18	24.28	26.46	1.18	A003	mosw			Grey	Med	Laminated		Non calc. no visible pyrite coal laminae, weather with through		
Run 5 26.55 29.55	3.00	(rock loss) Blocky	3.03	(0.38) 0.68	26.46 26.84	26.84 27.52		A003	as above							Unconformal contact		
				0.69	27.52	28.21		2	Coal							7% pyrite in bedding & shls non calcareous		
				0.02	28.21	28.23		3	Transition							Non calc, lignite		
				1.64	28.23	29.87		3	Coal							Coal, hard, clean, 32 pyrite in lens, roots, shls, no calc veining		
Run 6 29.55 31.94	(2.29)	Blocky		0.55	29.87	30.42		3								Hard, clean, no visible pyrite		
		Crushed		0.22	30.42	30.64		4	Coal							Hard, 2cm transition parting mixed with coal		
		Blocky		0.10	30.64	30.74		4	Coal							Hard, clean, abrupt Contact with mdsn parting		
		Block		1.09	30.74	31.83		A004	mosw			Grey				Non calcareous, pyrite nodules Coal laminations, shls appear like powder on fracture planes. Mudstone. abrupt contact with coal (top of butte)		

over

MANALTA COAL LTD.

SHEET # 3 OF

PROJECT: TELKWA HOLE # 796R-96C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
Run 6 29.55 31.94		blky		0.53	31.83	32.16		5	Coal								Hard, clean; no visible pyrite	
Run 7 31.94- 35.08		blky-brkn (coal loss)		0.61 (0.11)	32.16 32.77	32.77 32.88		6	Coal								dull banded, 5cm mudst band at base, mnc mudst bands in part	
		(coal loss) blky		(-0.11) 1.91	32.88 32.99	32.99 34.90		7	coal								dull & bright banded trace pyrite on cleat	
		blky		0.43	34.90	35.33		8	coal								-dull banded, carb. mudst in part top 10cm, no vis pyrite	
Run 8 35.08 38.12		brkn-solid (coal loss)		0.62 (0.07)	35.33 35.95	35.95 36.02		8	coal								as above, 2cm bentonite band at base	
		solid		0.92	36.02	36.94		9	coal								dull & bright banded	
		solid		0.26	36.94	37.20		10	coal								dull banded, sharp contact w. carb. coal, mudst at base 1 floor sample	
		solid		1.06	37.20	38.26		A005	mudst	carb /carb							dec. carb. content, calcite incl. from 55-65cm, no vis pyrite (entire core sampled)	
Run 9 38.12- 41.17		solid		0.56	38.26	38.82		A006	mudst	carb			gry	dk			coal lam 4 inch thkout - pyrite incl. in part 1 floor calc. (entire core sampled)	
				2.52	38.82	41.34		A007	mudst				gry	m	mass		coal lam in part, pyrite assoc. w. all coal lam 2-3% (entire core sampled) - non calc	

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SHEET # 4 OF

PROJECT: TELKWA HOLE # T96R-76C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
Run 10 41.73- 43.73		brkn-blky (rock loss)		0.39 (-0.03)	41.73	41.76		A008	mudst carb				gry-blk		mass		mudst w. 8cm pyritic coal (4-5%) at top, gradational contact at base, entire core sampled non calc	
		brkn-blky		0.45	41.76	42.21		11	coal								dull banded, no vis pyrite	
		solid		0.14	42.21	42.35		12	beaenite								coal bands at top	
		solid-brkn (coal loss)		1.21 (-0.42)	42.35 43.56	43.56 43.98		13	coal								dull & bright banded, pyrite incl. in part 1-2%	
Run 11 43.73- 46.77		brkn		0.07	43.98	44.05		13	coal								as above, (core loss in seam)	
		blky		1.75	44.05	46.33		A009	mudst				gry	m-dk	mass		no vis pyrite, non calc, carb silty surfaces (entire core sampled)	
		solid		0.32	46.33	46.65		A010	coal								pyrite lam & incl. in top half 3-5% (entire core sampled)	
		blky		0.23	46.65	47.10		A011	mudst carb				gry-brn dk		mass		no vis pyrite, non calc (ent. c. samp.)	
Run 12 46.77- 49.81		brkn (rock loss)		0.22 (-0.11)	47.10	47.21		A011	mudst carb				gry-brn dk		mass		as above	
		blky		0.94	47.21	48.15		A012	coal								int'd w. mudst top 20cm pyrite incl. lam. th/out 1-3%, carb. calcite horwork (entire core sampled)	
				1.81	48.15	49.96		A013	mudst carb				gr	dk	mass		coal incl. th/out, pyrite incl. th/out 1% non calc (entire core samp.)	

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SHEET # 1 OF 1

T96R-123C

PROJECT: TELKWA HOLE # T96R-123C CONTRACTOR: CASING: COMMENTS: ARD Core Hole (Pit 3) Sept 24/96  
 Entire core sampled for both ARD & coal E. Ave

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	DESCRIPTION								KEY BED		
				INTERVAL THK	FROM	TO			ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT		NOTES	
				3.6	0	3.6													
				2.9		6.5													
Box 1	72°	blky-brkn		1.94	6.59	8.53		A001	mudst				gry	dk	mass				occasional siltst lam, non calc, no vis. pyrite
8.53		blky-brkn		0.60	8.53	9.13		A001	mudst				gry	dk	mass				as above
Box 2		blky-brkn		1.60	9.13	10.73		A001	mudst				gry	dk	mass				as above
10.59		(rock loss)		(-0.59)	10.73	11.32													
		brkn		0.26	11.32	11.58		A002	mudst	slty			gry	dk-m	lam				non calc, no vis. pyrite
11.58	70°	blky-brkn		0.61	11.58	12.19		A002	mudst	slty			gry	dk-m	lam				as above
		(rock loss)		(-1.04)	12.19	13.23													
Box 3		brkn		1.40	13.23	14.63		A002	mudst	slty			gry	dk-m	lam				as above
14.63		blky		1.06	14.63	15.69		A002	mudst	slty			gry	dk-m	lam				as above
		blky		0.12	15.69	15.81		A003	mudst	slty			gry-gre	dk-m	mass				slightly chloritic, non calc, no vis. pyrite
		(rock loss)		(-0.36)	15.81	16.17													
16.15		blky		0.86	16.17	17.03		A003	mudst	slty			gry-gre	dk-m	mass				as above, incr. siltst & v.fg chloritic sst towards base
17.40		(rock loss)																	mar. coal incl. w. pyrite holes (<1%) gradational contact
		solid blky		1.85	17.03	18.88		A004	sst	slty	v.fg	good	green	m-dk	mass				chloritic sst w. scattered coal clasts of lam, th/inst, mar. pyrite incl. & holes around coal (<1%), non calc.
19.20		solid		0.18	18.88	19.06		A004	sst	slty	fg	g	gre	m-dk	mass				as above
Box 5		solid-blky		0.51	19.06	19.57		A004	sst	slty	fg	g	gre	m-dk	mass				as above, incl. pyrite incl. towards base (3-4%), sharp basal contact

MANALTA COAL LTD.

SHEET # 2 OF

PROJECT: TELKWA HOLE # T96R-123c CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	UNIT THK											
		solid		0.17	19.57	19.74	1	coal	pyrite								small pyrite incl. elect. towards base (5-7%) 1cm chlorite sst band at base, several sst incl th/out (roof) mar calcite borings	
		blky		0.50	19.74	20.24	2	coal									dull & bright banded, mar chlorite sst lam, mar pyrite stringers (1%)	
		blky		0.21	20.24	20.45	3	coal									dull banded, trace pyrite (floor)	
		blky		0.18	20.45	20.63	A005	mudst	slty/ mud			gry	m	lam.			incr. sst lam towards base mudst lam th/out, pyrite band 0.25m thk at contact w/ coal	
20.72	72°	blky-solid		0.38	20.63	21.01	A005	sltst	mudst/ sst			gry	m-lt	lam			non calc., no vis. pyrite, incr. vfg sst lam.	
-0.21		blky		0.89	21.01	21.90	A006	sst	slty	vfg		gry	m-lt	lam	biot.		interd sst-sltst-mudst, slightly chloritic, bioturbated th/out. non calc., no vis. pyrite.	
		(rock loss)		(-0.54)	21.90	22.44												
Box 6		blky		1.05	22.44	23.49	A006	sst	slty	vfg		gry	m-lt	lam	biot.		as above, decr. bioturb.	
23.16		blky		1.81	23.49	25.30	A006	sst	slty	vfg fg		gry	m-lt	lam			as above, decr. sltst-mudst content	
Box 7		blky		0.95	25.30	26.25	A006	sst	slty	vfg		gry	m-lt	lam			as above, gradational contact at base	
26.21		blky		0.42	26.25	26.67	A007	sltst	mudst/ sst			gry	m-lt	lam	mar. biot.		non calc., no vis. pyrite, mar sst filled burrows	
26.82		blky		0.36	26.67	27.03	A007	sltst	mudst			gry	dk-m	lam	mar. biot.		as above, incr. mudst content towards base	

MANALTA COAL LTD.

SHEET # 3 OF

PROJECT: TELKWA HOLE # T96R-123C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	UNIT THK											
	690	blky		0.85	27.03	27.88		A008	mudst			gry	dk	mass-lam		non calc., trace shell frags incr. carb. content, no vis. pyrite		
Box 8		blky		0.39	27.88	28.27		A008	mudst carb.			gry	dk	mass		as above, incr. carb content & coal stringers, pyrite holes around coal (2-4%), gradational contact w. coal		
		blky-solid		0.24	28.27	28.51		4	coal							dull & bright banded, mudst lam. in top 5cm, trace pyrite (roof)		
		blky		0.51	28.51	29.02		5	coal							as above, mac pyrite lam. or cleat (5-1%)		
		blky		0.16	29.02	29.18		6	coal							as above, pyrite on cleat (2-3%) (floor)		
		brkn		0.31	29.18	29.49		A009	mudst			gry	m-dk	mass		non calc, no vis. pyrite, mac coal stringers		
		(core loss)		(0.17)	29.49	29.66			(mudst)									
29.74		blky		0.89	29.66	30.55		A009	mudst			gry	m-dk	mass		as above, pyrite incl. in top 5cm, gradational contact		
		blky		0.22	30.55	30.77		7	coal							dull & bright banded, mac mudst lam. in top 5cm, dissem pyrite (1%) calcite bar-nack in top 10cm (roof)		
Box 9		blky		0.49	30.77	31.26		8	coal							dull banded, trace pyrite 5cm bentonite band at base *		
		blky-solid		0.94	31.26	32.20		9	coal							as above, mac muddy layer between 26cm & 36cm		



MANALTA COAL LTD.

SHEET # 4 OF

PROJECT: TELKWA HOLE # T96R-123C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	UNIT THK											
		blky		0.38	32.20	32.58		10	Coal							dull & bright banded 4cm bentonite band at top no vis. pyrite		
		vry-brkn (over measure)		0.16 (-0.04)	32.58 32.74	32.74 32.70		11	Coal							dull banded, mudst lam. at base, no vis. pyrite (floor)		
32.79	76°	blky		0.77	32.70	33.47		A010	mudst	slty		gry	dk-m	lam		non calc., no vis. pyrite coal stringers in top 15cm		
Box 10		blky-brkn (rock loss)		2.13 (0.115)	33.47 35.60	35.60 35.75		A010	mudst	slty		gry	dk-m	lam	mic biot.	as above		
35.84		blky		0.70	35.75	36.45		A010	mudst	slty		gry	dk-m	lam		as above, 8cm calc. mudst nodul 18cm from top - strong fizz		
Box 11		blky		0.83	36.45	37.28		A010	mudst	slty		gry	dk	lam		as above, decr sltst lam. content towards base		
		blky (rock loss)		0.78 (0.119)	37.28 38.06	38.06 38.25		A011	sltst	sst		gry	dk-m	lam-thn		sltst, interbed. w. sst-mudst lam and bands, calc. mudst nodules in part - mod. sustained fizz, no vis. pyrite		
38.22		blky		0.72	38.25	38.97		A011	sltst	sst		gry	dk-m	lam-thn		as above, vry calc. sltst nodul from 50-24cm - strong sust. fizz.		
39.10		blky		0.36	38.97	39.33		A011	sltst	sst		gry	dk-m	lam		as above		
Box 12		blky		2.56	39.33	41.89		A011	sltst	sst		gry	dk-m	lam-thn		as above, incr. sst content		
42.06		brkn		0.20	41.89	42.09		A011	sltst	sst		gry	m-dk	thin		as above		
Box 13		blky-solid		1.12	42.09	43.21		A011	sltst	sst		gry	m-dk	thin		as above		

MANALTA COAL LTD.

SHEET # 5 OF

PROJECT: TELKWA HOLE # T96R-123C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
	70°	blky		1.75	43.21	44.96		A012	sst	slty	fg-vfg	mod	gry-grc	m-lt	thn-lam		lam. of mudst & siltst. sl-mod calc. mudst nodules th/out, no vis. pyrite	
45.11 Box 14	70°	blky		1.91	44.96	46.87		A013	siltst	mudst			gry	dk-m	lam		intbed silt & mudst mod. calc. mudst nodules th/out, no vis. pyrite	
		solid		0.17	46.87	47.04		A014	coal								mudst lam. at top 5cm, no vis. pyrite	
	73°	blky - solid		0.88	47.04	47.92		A015	siltst	mudst			gry	m	lam		non calc., no vis. pyrite, coal stringers in top 10cm	
Box 15		blky - broken (rock loss)		0.07	47.92	47.99		A015	siltst	mudst			gry	m	lam		as above	
				(0.26)	47.99	48.25												
48.16		blky		0.84	48.25	49.09		A015	siltst	sst			gry	m	lam		as above, thn. beds of vfg sst, several slightly calc. mudst nodules	
		blky		1.78	49.09	50.87		A016	mudst	slty			gry	dk-m	lam		non calc., no vis. pyrite mod. calcite on fracture surfaces	
Box 16		blky		0.16	50.87	51.03		A016	mudst	slty			gry	dk-m	lam		as above	
51.21		blky		0.96	51.03	51.99		A016	mudst	slty			gry	dk-m	lam		as above,	
		blky		0.21	51.99	52.20		12	coal	mudst							lam. of mudst down towards base, pyrite incl in part (1-3%) (roof)	
		blky		0.62	52.20	52.82		13	coal								dull banded, pyrite lam. on cleat (1-2%) mod. mudst lam.	



MANALTA COAL LTD.

SHEET # 7 OF

PROJECT: TELKWA HOLE # T96R-123C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
		vry-brkn (rock loss)		0.57 (0.20)	60.41 60.98	60.98 61.18		A021	mudst	carb.			gry	dk-m			mudst & coal interbed, non calc., no vis. pyrite	
		vry brkn (core loss)		0.32 (0.42)	61.18 61.50	61.50 61.92		17	coal (cool)								pyritized coal, 1.00" calc lost at base	**
		vry brkn		0.14	61.92	62.06		A022	mudst	sst			gry	m-ft	thin		interbed siltst-sst w. mudst lam, small scale faulting th/out, min. calc. mudst nodules, no vis. pyrite	
62.67		vry brkn (rock loss)		0.24 (0.69)	62.06 62.30	62.30 62.99		A022	mudst	sst			gry	m-ft	thin		as above	
Box 20		vry brkn		0.44	62.99	63.43		A022	mudst	sst			gry	m-ft	thin		as above	
63.39		blkly		1.46	63.43	64.89		A022	mudst	sst			gry	m-ft	thin		as above	
		blkly-brkn		0.58	64.89	65.47		18	coal								dull & bright banded, min. mudst lam. at top 5cm, & base pyrite lam. in part (<1%)	
		blkly		0.19	65.47	65.66		19	coal								as above, 8cm carb. siltst. band at top.	
Box 21		blkly		0.40	65.66	66.06		19	coal								as above, more pyrite lam. at base (<1%)	
		vry-brkn (rock loss)		0.20 (0.27)	66.06 66.26	66.26 66.53		A023	mudst				gry	m	mass		non calc., no vis. pyrite	
66.44		brkn		0.22	66.53	66.75		A023	mudst				gry	m	mass		as above	
		blkly		0.69	66.75	67.44		20	coal								dull & bright banded, trace pyrite (<1%), mudst band from 82-88cm & 56-58cm	

MANALTA COAL LTD.

SHEET # 8 OF

PROJECT: TELKWA HOLE # 7962-123C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
		very brkn		0.24	67.44	67.68		A024	mudst	slty			gry	m-dk	mass		no vis. pyrite, non calc.	
67.90		blky - brkn (rock loss)		0.71 (0.67)	67.68 68.39	68.39 69.06		A024	mudst	slty			gry	m-dk	mass-lam		as above	
Box 22		very-brkn		0.55	69.06	69.61		A024	mudst	slty			gry	m-dk	mass		as above	
69.19		brkn		0.26	69.61	69.87		A024	mudst	slty			gry	dk	mass		as above, incr. carb. content	
		blky		0.37	69.87	70.24		21	coal	mudst							no vis. pyrite, muddy in part	
		very brkn (rock loss)		0.70 (0.03)	70.24 70.94	70.94 70.97		A025	mudst				gry	dk	mass		non calc, no vis. pyrite carb.	
72.11		brkn (rock loss)		0.20 (1.12)	70.97 71.17	71.17 72.29		21b	coal (coal-rock)								dull & bright banded, (rock loss 1.12m on marker) *	
		blky		0.38	72.29	72.67		A026	mudst	carb			gry	dk	mass		coal stringers th/out, non calc, no vis. pyrite	
Box 23		(rock loss) blky		(0.07) 0.12	72.67 72.74	72.74 72.86		A026	mudst	carb			gry	dk	mass		as above	
		blky		0.36	72.86	73.22		23	coal								dull & bright banded, no vis. pyrite	
		blky		0.15	73.22	73.37		24	mudst	coaly							no vis. pyrite	
		blky		0.33	73.37	73.70		25	coal								dull & bright banded	
73.81		blky (rock loss)		0.14 (0.35)	73.70 73.84	73.84 74.19		25	coal								as above, more calc. banding at base	
71°		solid blky		1.40	74.19	75.59		A027	mudst	slty			gry	dk	lam		coal stringers in top 20cm sltt lam, slightly calc in part no vis. pyrite	

MANALTA COAL LTD.

SHEET # 9 OF

PROJECT: TELKWA HOLE # 796R-123C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
75.59		blky		0.21 (0.19)	75.59	75.80		A027	mudst	slty			gry	dk	lam		as above	
Box 24		blky		2.19	75.99	78.18		A027	mudst	slty			gry	dk	lam		as above, calc siltst nodular from 1.05 - 1.27cm	
78.18		blky		0.71	78.18	78.89		A027	mudst	slty			gry	dk	lam		as above, calc siltst nodular 11cm at top	
Box 25		blky		2.15	78.89	81.04		A027	mudst	slty			gry	dk	lam		as above, calc. siltst nodulars from 2 - 15cm, 43-50cm & 113-125cm	
81.07		blky (rock loss)		0.74 (0.23)	81.04	81.78		A028	mudst	slty			gry	dk	lam		as above, decr. siltst lam, non calc, no vis pyrite	
Box 26		blky		2.19	82.01	84.20		A028	mudst				gry	dk	mass-lam		as above	
84.20	76°	blky		0.72	84.20	84.92		A028	mudst				gry	dk	mass-br		as above	
Box 27		blky		2.22	84.92	87.14		A028	mudst				gry	dk	mass		as above	
																	TD 87.17	

MANALTA COAL LTD.

SHEET # / OF

PROJECT: TELKWA HOLE # T96R-132C CONTRACTOR: CASING: COMMENTS: West Pit Texas Cr. ARD Sept 29/96 at 10.00

Entire core sampled for ARD & coal

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED	
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES		
0.0				0															
0.40				0.40	0	2.40													
				0.64RL		3.04													
2.40		very brkn		0.29		3.33		A001	mudst				gry	dk	mass				weathered mudst, Fe stain th/out, non calc., no visible pyrite
				0.60RL		3.93			ROCKLOSS										
2.90		very brkn		0.57		4.50		A002	mudst				gry	dk	mass				as above, decr. Fe stain
				0.14RL	4.50	4.64			ROCKLOSS										
3.81		blk-y-brkn		1.60		6.24		A003	mudst	slty			gry	dk-m	mass				mod. Fe stain in top 15cm, non calc., no vis. pyrite
5.94		blk-y-brkn		1.28		7.52		A003	mudst	slty			gry	dk-m	mass				as above
Box 2																			
7.31		blk-y		0.87		8.39		A003	mudst	slty			gry	dk-m	mass				as above, trace shell frags, trace pyrite on fracture surface.
8.30		blk-y		0.43		8.82		A003	mudst	slty			gry	dk	mass/				as above, mod. calc. siltst bands.
Box 3		blk-y		0.36		9.18		A003	mudst	slty			gry	dk	mass/				as above, incr carb content
		blk-y		0.28		9.46		1	coal										full of bright banded, no vis. pyrite, sharp upper contact
9.60	60°	solid		0.13		9.59		1	coal										as above, sharp lower contact
				0.06RL	9.59	9.65			ROCKLOSS										
	50°	blk-y		1.46		11.11		A004	mudst				gry	dk-m	mass/lam				non calc., coal from 49-56cm, coal lam. at base with heavy pyrite lam.
	45°	solid		0.29	11.11	11.40		2	coal										full of bright banded, heavy pyrite lam 1/2 incl. (2-10%) (roof)





MANALTA COAL LTD.

SHEET # 3 OF

PROJECT: TELKWA HOLE # T96R-132C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	DESCRIPTION				KEY BED	
				INTERVAL THK	FROM	TO							COLOUR	MODIFIER	BEDDING	SED. STRUCT		NOTES
		blky		1.34	22.34	23.68		A010	mudst				gry	dk	mass		coal bands at 29-39cm and at 129-134cm, non coal, no vis. pyrite, sst band from 44-65cm	
Box 8		blky		0.09	23.77			A010	mudst	coaly			gry-blk				no vis. pyrite, 250% coal	
23.77		blky		1.11	24.88			A010	mudst	coaly			gry-blk		mass		coal in top 17cm of 6m 10cm.	
	67°	blky		0.66	25.54			A011	mudst	carbon			gry-whit	lt	brassiated		brassiation decr. towards base very calc., strong sust. fizz	
		blky		0.96	26.50			A012	mudst	slty			gry	dk	mass		no vis. pyrite, mg carb. plat. frags. on hdy plane	
Box 9		blky		0.19	26.50	26.69		A012	mudst	slty			gry	dk	mass		as above	
																	TD 26.82	

MANALTA COAL LTD.

SHEET # / OF

PROJECT: TELKWA HOLE # T97R-08C CONTRACTOR: Caralynn CASING: COMMENTS: ARD Core Hole site 42 July 31/97 J. Lee

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	UNIT THK											
				19.00	0.00	19.00		ONB										
				2.00		21.00												
Box 1	80°	brkn-vbrkn		0.27		21.27		A001	sst	slty	fin-vg	gry	med	sh.	lam	slty. at top, mac. mudst below no vis. pyrite, no fizz w. HCl		
		(core loss) nbrkn		(2.17) 0.51		23.44 24.05		A002	(rock loss) sltst	mdy		gry	m-dk		lam	calc. on fractures in top 25-cm. mpr. siltstone surfaces, mac. Fe stain		
		vbrkn-pulv. (core loss)		0.25 (0.25)	24.05 24.30	24.30 24.55		1	coal (coal loss)							core pulverized, 1-3% pyrite.		
23.7		solid blk		1.08		25.63		A003	mudst	slty		gry-gr	m-dk			weathered, vry soft, mac. Fe stain, no vis. pyrite, non calc no fizz.		
25.0		blk		0.21		25.84		A003	mudst	slty		gry-gr	m-dk			as above		
		blk		0.18		26.02		A004	sltst			gry	m.			no vis. pyrite, non calc		
Box 2		blk		0.28		26.30		A004	sltst	sst		gry	m			as above; calc. fracture infill at base		
		blk		0.26		26.56		A005	mudst	slty		gry	m-dk			carbonaceous, coal lam. throat btw 8cm vry coal, no vis. pyrite, non calc.		
	54°	blk		0.95		27.51		A006	sltst			gry	m-lt			no vis. pyrite; slow fizz, micro faults throat,		
		blk		0.51		28.02		A007	mudst	early coaly		gry-brn	m-dk			coal bands 5cm @ 4cm from top, no vis. pyrite, non calc		



MANALTA COAL LTD.

SHEET # 3 OF 3

PROJECT: TELKWA HOLE # T97R-D8C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
		(core loss) vbkn		(1.25) 0.18		38.57 38.75			(rock loss) sltst									
	65°	blky		0.14	38.75	38.89		A011	coal									no vis. pyrite
		brkn		0.28		39.17		A011	sltst	mudst			gry	m-dk	lam			intbd. w. mudst. lam, no vis. pyrite, non calc
Box 5		vbkn - pulv. (core loss)		0.85 (0.86)		40.02 40.88		A001 A011	sltst (rock loss)	mudst			gry	m-dk	lam			as above
		vbkn		0.12		41.00		A012	sst	slty	vfg		gry	m				intbd. w. sst. mar. siliceous surfaces, no vis. pyrite, non calc.
44.1	28°	brkn		1.12		42.12		A012	sst		fgy		gry	m-lt				mar. calc. infill of fracture micro fractures throat, no vis. pyrite
		vbkn - pulv. (core loss)		0.22 (1.50)		42.34 43.84		A013 A013	sltst ROCKLOSS				gry	m				no vis. pyrite, slightly calc, weak fizz in part
Box 6		vbkn		0.18		44.02		A013	sltst				gry	m				as above
44.1	78°	brkn - blky		0.45		44.47		A013	sst		vfg		gry	m-lt				mar. mudst. lam, non calc, no vis pyrite
	66°	vbkn - pulv. (core loss)		0.89 (1.30)		45.36 46.66		A014 A014	sltst (rock loss)	sst/mudst			gry-grc	m-dk	lam			intbd sst - vfg sst & mudst lam no vis. pyrite, non calc.
47.2	0°	vbkn		0.54		47.20		A014	sltst	sst/mudst			gry-grc	m-dk	lam			as above * probable fault
Box 7	0°	blky - pulv. (core loss)		0.86 (2.24)		48.06 50.30		A014 A014	sltst (rock loss)	sst/mudst			gry-grc	m-dk	lam			as above



MANALTA COAL LTD.

SHEET # 5 OF 9

PROJECT: TELKWA HOLE # T97R-08C CONTRACTOR: CASING: COMMENTS:

BOX MARK					DEPTH		DESCRIPTION										KEY BED
	BCA	CORE STATE	RQD	INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	
Box 11	75°	brkn - blk		0.38		62.38		A016	siltst	mudst			gry-gr	m-dk		lam	as above
		vbkn - blk		1.11		63.49		A017	mudst				gry	m-dk			no vis. pyrite, non calc
64.0		(core loss)		(0.51)		64.00		A017	(rock loss)								
		blk		1.05		65.05		A017	mudst				gry	m-dk			siltst surfaces, mac coal inclusions, incr. towards base, mac calc. boxwork in coal.
Box 12		(core loss)		(1.17)		66.22		A017									
		brkn - vbkn		0.36		66.58		A018	mudst				gry	m-dk			as above, roof rock
		brkn - vbkn		0.25	66.58	66.83		4	coal								dull & bright banded, vis. mac pyrite lam at top 1-2% (roof)
		blk		0.13	66.83	66.96		5	coal								dull & bright banded, no vis. pyrite
65.8		(core loss)		(0.33)	66.96	67.29			(coal loss)								
		brkn - vbkn		0.40	67.29	67.69		5	coal								as above, trace pyrite on cleat surface 1-2%
		blk		0.15	67.69	67.84		6	coal								as above, (floor)
	71°	blk - vbkn		1.00		68.84		A019	mudst				gry	dk			diss. & incl. of pyrite in part 2-3%, calc. siltst nodules 6cm @ 76cm from top, mac siltst lam. thout.
Box 13		brkn		0.26		69.10		A020	siltst	mudst			gry	m-dk			no vis. pyrite, non calc, incr. siltst cont.
		(core loss)		(0.40)		69.50		A020	(rock loss)								
68.4		blk brkn		0.94		70.44		A020	siltst	mudst			gry	m-dk			as above, 20cm nodules at top strong Fe <sub>2</sub> O <sub>3</sub>

MANALTA COAL LTD.

SHEET # 6 OF

PROJECT: TELKWA HOLE # 7972-08C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
		(core loss)		(0.76)		71.12		A020	(rock loss)									
70.1	73°	blky		1.37		72.57		A020	sst				gry	m-H	lam		as above	
Box 14		blky-brkn (core loss)		0.13 (0.57)		72.70 73.27		A020	sst				gry	m-H	lam		as above	
	71°	blky		1.26		74.53		A021	sst	slty	vfg		gre-gry	m-H	lam		no vis. pyrite, non calc.	
73.1		solid		0.11		74.64		A021	sst	slty	vfg		gre-gry	m-H	lam		as above	
		blky		0.43	74.64	75.07		7	coal								dull w. mod. bright lam, no vis. pyrite, mic calc boxwork	
		blky		0.60	75.07	75.67		A022	mudd	carb.			gry	dk			coal lam. thout, mod. pyrite incl. 2-4%, non calc (roof rock)	
		solid		0.09	75.67	75.76		8	coal								dull & bright bedded, mod. pyrite dissem. & incl. 5-8% (roof)	
Box 15		(core loss) blky		(0.27) 0.49	75.76 76.03	76.03 76.52		9	(Coal loss) coal								bright & dull bedded, muddy in bot 5cm with lam pyrite band at base	
		blky		1.03	76.52	77.55		10	coal								dull bedded, pyrite incl. in part 1-2%	
76.2		blky		0.46	77.55	78.01		10	coal								as above, trace pyrite	
		solid		0.15	78.01	78.16		11	coal								dull, calc. boxwork thout, no vis. pyrite (floor)	

MANALTA COAL LTD.

SHEET # 7 OF 9

PROJECT: TELKWA HOLE # T97R-08C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO													
		blky brkn		0.47	78.63		A023	mudst	carb coaly				gry	dk			coal lam throat, 12cm coal w. calc. base work @ 26cm, no vis. pyrite		
Box 16		brkn-vbrkn		0.63	79.26		A023	mudst					gry	dk			decc. coal lam, 22cm calc nodules 10cm from top		
78.5		(core loss)		(0.87)	80.12		A024	(rock loss)											
	70°	blky-brkn		1.37	81.50		A024	mudst	stly				gry	m-dk	lam.		silt lam. throat, micro fracturing in part. no vis. pyrite		
		(core loss)		(0.64)	82.14		A024	(rock loss)											
		brkn		0.29	82.43		A025	mudst	coaly				gry	dk			no vis. pyrite, non calc, 12cm dirty coal at top		
80.7																			
Box 17		vbrkn		1.18	83.61		A025	mudst	stly				gry	m-dk			as above 10cm calc. nodules nodules 20cm from top, carb top 20cm, no vis. pyrite		
		(core loss)		(0.52)	84.13			(rock loss)											
82.3	60°	blky		1.04	85.17		A025	mudst	stly				gry	m-dk	lam		as above, no vis. pyrite, silt lam. thought, non coal lam. in part		
Box 18		blky		0.23	85.40		A025	mudst	stly/carb				gry	dk	lam		as above, incr. carb. content non calc, no vis. pyrite (roof rock)		
		solid		0.22	85.62	85.62	12	coal									pyrite incl. at top 3-5% dull non-bright bands (roof)		
	65°	solid-blky		0.58	85.62	86.20	13	coal									dull & bright banded, 4cm mudst band at base, no vis. pyrite		
		solid-blky		0.47	86.20	86.67	14	coal									as above, 9cm mudst band at base		



MANALTA COAL LTD.

SHEET # 8 OF 8

PROJECT: TELKWA HOLE # T97R-08C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
		blky		0.38	86.67	87.05		15	coal									dull banded, mar. bright coal lam,
85.3		blky-brkn		0.96	87.05	88.01		15	coal									as above, no vis pyrite
Box 19		solid		0.18	88.01	88.19		15	coal									as above, mar. calc. boxwork
		solid		0.36	88.19	88.55		16	coal									dull banded, mar. bentonite lam. in top 7cm, muddier towards base (floor).
		blky		0.46	88.55	89.01		A026	mudst				gry	medk				non calc, trace incl. pyrite 1-2% at top mod. silty surf. throat,
		blky-solid		0.54	89.01	89.55		17	coal									dull & bright banded, muddy in top 5cm trace pyrite at top mod. pyrite on frac. surface last 10cm 2-3%.
		brkn.		0.28		89.83		A027	mudst carb/coal				gry	medk				coal lam. throat, no vis. pyrite, non. calc
88.4	60°	blky-brkn		0.91		90.74		A027	mudst carb/coal				gry	medk				as above mar. pyrite incl. 1% in part. silty surfaces throat
Box 20		solid		0.16	90.74	90.90		18	coal									dull, no vis pyrite (roof) slightly muddy top 3cm.
		blky		0.40	90.90	91.30		19	coal									dull, as above
		blky		0.17	91.30	91.47		20	coal									dull as above, mar. calc boxwork in bot. 10cm (floor)

MANALTA COAL LTD.

SHEET # 9 OF 9

PROJECT: TELKWA HOLE # T97R-08C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED	
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES		
		blky-brkn		1.17	91.47	92.64		A028	mudst					gry	m			no vis. pyrite, coal lami. in top 5cm, 12cm calc. mudst nodules 36cm from top	
91.4		brkn		0.19		92.83		A028	mudst	slty				gry	m			95 above, micro fractures in part, becoming siltier towards base	
		brkn		0.39		93.22		A029	ssst	slty	vfgr			gry	m-H			intbd w. siltst, mnr. calc. on fractures, no vis. pyrite	
Box 21		brkn		1.78		95.00		A029	ssst	slty	vfgr			gry	m-H			95 above - no vis. pyrite, 23cm heavily cemented w. calcite strong sustained fizz @ 36cm from top, mnr. calc. fracture coating thout. micro faults in part	
		(core loss)		(0.64)		95.64		A029	(rock loss)										
94.2		blky		0.24		95.88		A029	ssst	slty	vfgr			gry	m-H			95 above, 7cm calc siltst nodules at top, no vis. pyrite	
		brkn		0.39		96.27		A030	siltst	mudst				gry	m-dk			intbd. w. mudst, micro faults thout.	
Box 22		57° blky brkn		0.92		97.19		A030	siltst	mudst				gry	m-dk			95 above, sandy in part, 14cm calc siltst nodules 10cm from base, weak fizz.	
		55° blky brkn		1.31		98.50		A031	ssst	slty	fgr			gry	m			no vis. pyrite, mnr. calc coating on fracture surface, slty. calc. siltst nodules thout.	

MANALTA COAL LTD.

SHEET # 10 OF 3

PROJECT: TELKWA HOLE # T97R-08C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
97.2	66°	blky-brkn		0.40		98.90		A031	sst	slty	vfgr		gry	m			cls above, 10cm mod. calc. siltst nodules at base, weak fizz, no vis pyrite	
		(rock loss)		(0.55)		99.45		A031	(rock loss)									
Box 23		blky-brkn		0.83		100.28		A031	sst	slty	vfgr		gry	m			qs above, micro faulting thout,	
		blky		1.56		101.84		A032	siltst				gry	m-dk			mottled thout, micro faults thout, slickensides surfaces, calc. siltst nodules thout, slow fizz *poss fault zone*	
100.2																		
Box 24	16°	blky		1.35		103.19		A032	siltst				gry	m-dk	lam		mudst lam thout, micro faults in part, no vis. pyrite, mod. calc. siltst nodules, slow sustained fizz	
	40°	blky		1.44		104.63		A033	sst	slty	vfgr		gry	m	lam		calc. siltst nodules in top 75cm, strong sustained fizz on nodules, no vis pyrite	
Box 25		blky		0.10		104.73		A033	sst	slty	vfgr		gry	m	lam		as above	
		(rock loss)		(0.41)		105.14		A033	(rock loss)									
103.30		blky		2.41		107.55		A033	sst	slty	vfgr		gry	m	lam		as above, several calc siltst nodules @ 16cm, 67cm, 163cm w. calcite veins, micro faults in part, no vis. pyrite	
Box 26		solid		0.29		107.84		A033	sst	slty	vfgr		gry	m	lam		as above	





MANALTA COAL LTD.

SHEET # 23 OF

PROJECT: TELKWA HOLE # 797R-08C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH		UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
					FROM	TO												
Box 32	61°	blky-brkn		1.65		128.60		A038	mudst				gry	m-dk			as above	
		vrbkn		0.28	128.60	128.88		27	coal								dull, no vis. pyrite, mnr. calc. boxwork.	
		(core loss)		(0.30)	128.88	129.18			(coal loss)									
		vrbkn		0.10		129.28		A039	mudst				gry	m			no vis. pyrite, non calc.	
128.0	60°	blky		0.41		129.69		A039	mudst				gry	m	lam		as above, mnr. bioturbation mnr. siltst lam	
Box 33		brkn-blky		1.47		131.16		A039	mudst				gry	m-dk	lam		as above, mnr. calc. siltst nodules, strong fizz. no pyrite	
		(core loss)		(1.12)		132.28		A039	(Rock loss)									
131.0		blky-brkn		0.79		133.07		A039	mudst				gry	m-dk	lam		as above	
Box 34		brkn		1.07		134.14		A039	mudst				gry	m-dk	lam		as above	
		(core loss)		(0.64)		134.78		A039	(Rock loss)									
133.5		blky-brkn		0.78		135.56		A039	mudst				gry	m-dk	lam		as above, no calc. nodules	
Box 35		vbrkn		0.20		135.76		A039	mudst				gry	m-dk	lam		as above	
		(core loss)		(0.82)		136.58		A039	(Rock loss)									
135.3	42°	brkn		1.62		138.20		A040	mudst				gry	dk	lam		as above, no calc. nodules	
136.8		blky		2.54		140.74		A040	mudst				gry	dk			as above, lam decr. towards base, slightly calc. mudst nodules	
Box 36		(core loss)		(0.25)		140.99		A040	(Rock loss)								9cm @ 12.5cm & 13cm @ 1.57cm no vis. pyrite	

-0.37



# GEOMECHANICAL PROPERTIES LOGGING FORM

1/3

CLIENT/PROJECT: MANALTA COAL PROJECT #: 1558 LOGGER: CB DATE: 3/1/7/97

CORE HOLE #: T-97-R-08C NORTHING: \_\_\_\_\_ EASTING: \_\_\_\_\_ ELEVATION: \_\_\_\_\_

ORIENTATION AT COLLAR - TREND: \_\_\_\_\_ PLUNGE: ? CORE SIZE: 40

DEPTH TO	LENGTH OF RUN	LITH.	RECOVERY		RQD		NO. OF FRACT'RS		JOINT COND.	DEGREE OF BREAK	ALT'N/ WEATH.	HDN.	COMMENTS
			LENGTH (%)	(%)	LENGTH (%)	(%)	B	J					
2370									10	F-E			Coal from 23.7-24.0
2500			160		0	25				B+	B+	R10	
2740			245		0	25				C	C-	R10	
3050			120		0	25				C-	C	R10	Coal from 27.4-28.3
3200			060		0	25	1	10					BCA- 55°
3350		COL	040		0	25				B-	B-	R05	
3500		COL	080		0	25				B-	B-	R10	
3740		MST	070		0	25				B-	B-	R10	
3960		MST	070		0	25	1	108		B	B-	R10	same jointing; rock highly crushed
4110		MST	050		0	25				B	B-	R10	
4410		FST	150		0	25							From 42 in to 43, bigger pieces still highly jointed no RQD
4720		FST	090		0	25	2	-08		B+	F	R10	R2-2.5 For bigger pieces
5030		FST	130		0	25	2	108		C-	F-	R20	Some big pieces w/ jnts, no RQD BCA- 60°
5180		FST	095		0	25	2			C-	F	R20	
5480		FST	120		0	25	-	110		B+	F	R20	
5660		FST	140		0	25	-	310		C+	F	R20	JCA- 40°
5800		SST	080		0	25	-	-		B+	F	R10	
5970		SST	070		0	25	1			B+	F	R20	
6200		SST	100		0	25				B-	F	R20	
6400		MST	200		60	30	2	308		C	F	R20	BCA- 59° JCA- 35°
6580		MST	100		0	25				B-	F	R10	Coal from 65.3 to 66.3
6840		SST	170		0	25	2	108		C-	F	R20	2 big pieces have 11 to CA Jnt running through them
7010		SST	070		0	25				C-	F	R20	
7310		SST	280		0	25	20	08		C	F	R20	Drill marks on core, suspect all drill breaks
7620		COL	280		0	25				C+	F	R10	Just coal from 73.3 to 77.4
7850		MST	150		0	25				B+	F	R10	coal ends at 77.4





# GEOMECHANICAL PROPERTIES LOGGING FORM

CLIENT/PROJECT: MANALTA COAL PROJECT #: 1558 LOGGER: CB DATE: July 31, 1997

CORE HOLE #: T-97-R-08C NORTHING: \_\_\_\_\_ EASTING: \_\_\_\_\_ ELEVATION: \_\_\_\_\_

ORIENTATION AT COLLAR - TREND: \_\_\_\_\_ PLUNGE: \_\_\_\_\_ CORE SIZE: \_\_\_\_\_

DEPTH TO	LENGTH OF RUN	LITH.	RECOVERY		RQD		NO. OF FRACT'RS		JOINT COND.	DEGREE OF BREAK	ALT'N/ WEATH.	HDN.	COMMENTS
			LENGTH	(%)	LENGTH	(%)	RJ	XJ					
8070		MST	155		0	25	1	0	10	C	F	R20	BCA 64°
8230		MST	080		0	25	3	3	10	C	F	R20	BCA 65°
8530		COL	180		0	25	10	4	09	C	-F	R20	BCA 52°, JCA=39°, coal from 83-86.7
8840		COL	270		20		2	2	10	C	F	R20	coal from 87.4 to 88.4 BCA=53°
9140		MST	250		30		2	4	09	C	F	R20	BCA=66°, JCA=30°
9420		FST	210		35		-	-	-	C	-F	R20	
9720		MST	280		20		3	1	10	C	F	R20	
10020		MST	270		160		1	1	10	C	F	R20	
10330		FST	280		210		-	1	10	C	+F	R20	
10630		FST	270		245		7	3	09	D	+F	R20	BCA=32-48°, JCA=20°, 32°
10880		SST	203		101		2	3	10	C	+F	R20	
11060		MST	134		0	25	8	4	10	C	-F	R20	coal from 110.28 - 110.60
11270		COL	125		0	25	5	4	09	B	+F	R20	
11590		SST	183		21		7	2	10	C	-F	R20	BCA 50°, JCA=24°
11850		MST	210		33		2	2	10	C	F	R20	
12100		MST	114		0	25	1	2	09	B	+F	R20	coal from 118.50 - 118.86
12280		MST	135		19		3	-	09	B	+F	R20	
12500		MST	140		65		2	2	10	C	+F	R20	BCA 50° JCA 33°
12800		MST	206		99		6	2	10	C	+F	R20	coal 26cm at 10cm from botm
13100		MST	177		37		4	5	09	C	-F	R20	
13350		MST	183		31		1	3	10	C	-F	R20	
13530		MST	098		17		3	1	10	C	F	R20	BCA 54° JCA 23°
13680		MST	160		63		3	2	10	C	F	R20	
13990		MST	285		230		7	1	10	D	+F	R20	BCA 55° JCA 22°
14320		MST	230		200		5	1	10	E	-F	R20	
14630		MST	274		258		1	2	10	E	-F	R20	BCA 56° JCA 20-30°
14940		MST	238		229		-	1	10	D	+F	R20	





Site #42

T97R-082

0-19 0B

19-21 FRAE

21-23.7 Core Run Box 1

23.7-25 Box 1

25-27.4 (90) Box 1+2

27.4-30.5 (100) Box 2+3

30.5-32 105 Box 3

32-33.5 110 Box 3

33.5-35 115 Box 3+4

35-37.4 123 Box 4

37.4-39.6 130 Box 4+5

39.6-41.1 135 Box 5

41.1-44.1 145 Box 5+6

44.1-47.2 155 Box 6

47.2-50.3 165 Box 6+7

50.3-51.8 170 Box 7+8

51.8-54.8 180 Box 7+8

54.8-56.0 185 Box 8+9

56-58 190 Box 9

58-59.7 195 Box 9+10

59.7-62 203.5 Box 10

62-64 210 Box 11

28

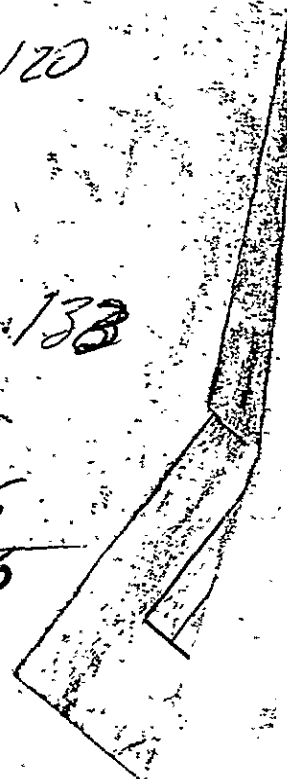
120

138

196

75

270.6



64	65.8	216 <sup>1</sup>	Box 11 + 12
65.8	68.4	224.5 <sup>1</sup>	Box 12 + 13
68.4	70.1	230	Box 13
70.1	73.1	240	Box 13 + 14
73.1	76.2	250	Box 14 + 15
76.2	78.5	257.5	Box 15 + 16
78.5	80.7	265	Box 16
80.7	82.3	270	Box 17
82.3	85.3	280	Box 18
85.3	88.4	290	Box 18 + 19
88.4	91.4	300	Box 19 + 20
91.4	94.2	309	Box 20 + 21
94.2	97.2	318	Box 21 + 22
97.2	100.2	329	Box 22 + 23
100.2	103.3	339	Box 24 + 25
103.3	106.3	349	Box 25 + 26
106.3	108.8	357	Box 26
108.8	110.6	363	Box 27
110.6	112.7	370	Box 27 + 28
112.7	115.9	379	Box 28 + 29
115.9	118.5	389	Box 29 + 30
118.5	121	397	Box 30

121 122.8 403 Box 30 + 31

122.8 125 410 Box 31

125 128 420 Box 32

128 131 430 Box 33

131 133.5 438 Box 33 + 34

133.5 135.3 444 Box 34 + 35

135.3 136.8 449 Box 35

136.8 139.9 459 Box 36 + 37

139.9 143.2 470 Box 37

143.2 146.3 480 Box 38 + 39

146.3 149.4 490 Box 39 + 40

149.4 151 496 Box 40 + 41

151.1 153.6 504 Box 41

FINISH T97R03C



MANALTA COAL LTD.

SHEET # 2 OF 3

PROJECT: TELKWA HOLE # T97R-21C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED	
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES		
22.7		blky		2.15		25.64		A002	mudst					gry	dk			as above, trace calc. on frag. surf. decr. coal lam. content, siltier towards base	
20x.5		blky		0.52 (0.33)		26.16 26.49		A002 A002	mudst ROCKLOSS					gry	m-dk			as above	
25.7		blky-solid		0.51		27.00		A003	siltst					gry	m	lam		non calc., no vis. pyrite, incr. coal lam at base	
		blky-brkn		0.51	27.00	27.51		1	coal									dull banded, trace pyrite lam. 1-2%	
		blky-brkn (core loss)		0.47 (0.24)	27.51 27.98	27.98 28.22		A004 A004	mudst (rock loss)					gry	dk			non calc., no vis. pyrite	
		blky		0.20	28.22	28.42		2	coal									dull, muddy top 3cm, trace pyrite 1%, (roof)	
		blky-solid		0.82	28.42	29.24		3	coal									dull banded, mod calc. boxwork trace pyrite	
		blky		0.18	29.24	29.42		4	coal									dull banded, pyrite incl. in part 1-2% (floor)	
		blky (core loss)		0.18 (0.33)		29.60 29.93		A005 A005	mudst (rock loss)					gry	dk-m			carb-coaly at top, mod calc., no vis. pyrite	
28.9		blky		0.72		30.65		A005	mudst					gry	m			as above, mod. coal incl.	
		solid		0.35	30.65	31.00		5	coal									dull, trace pyrite at top 1%, mod. calc. boxwork 4cm 5cm	

MANALTA COAL LTD.

SHEET # 3 OF 3

PROJECT: TELKWA HOLE # T97R-21C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
		blky-solid		0.40		31.40		A006	mudst				gry	m			no vis. pyrite, coal bands in part w. calc. boxwork	
Box 7		blky		0.37		31.77		A006	mudst				gry	m			as above	
		solid		0.37	31.77	32.14		6	coal								dull, calc. boxwork top 2.5m 5cm, no vis. pyrite	
	65°	blky		0.70		32.84		A007	mudst				gry	m-lt			non calc, no vis. pyrite	
31.9		blky		1.27		34.11		A007	mudst				gry	m-lt			as above, 7cm slty calc. mudst residual @ 64cm	
		(core loss)		(0.28)		34.39		A007	(rock loss)									
33.5		b																
Box 8		blky		0.94		35.33		A007	mudst				gry	m-dk			incr. carb content, slickenside surfaces	
		blky		0.43	35.33	35.76		7	coal								dull bedded, pyrite lam at base 1-3%, mac. calc boxwork at top 10cm	
	51°	blky		1.18		36.94		A008	mudst								coal lam. & incl. decreasing towards base, no vis. pyrite, non calc.	
		(core loss)		(0.39)		37.33		A008	(rock loss)									
36.5		Bctn		0.22		37.65		A008	mudst				gry	m-dk			as above, coal lam. incr towards base, no vis. pyrite	
		blky		0.24	37.65	37.89		8	coal								dull bedded, no vis. pyrite (roof)	



MANALTA COAL LTD.

SHEET # 4 OF 5

PROJECT: TELKWA HOLE # T97R-21C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	UNIT THK											
		solid-blky		0.69	37.89	38.58		9	coal								dull bedded, mac bright bands, no vis. pyrite, mod. calc. boxwork 2cm 10cm	
		(core loss)		(0.12)	38.58	38.70		9	COALLOSS									
		solid-blky		0.54	38.70	39.24		10	coal									dull & bright bedded, 3 1-2cm bentonite bands at top & 1cm at 22cm from base
		solid-blky		1.08	39.24	40.25		11	coal									dull & bright bedded, no vis. pyrite, trace calc. boxwork
39.5		solid		0.19	40.25	40.44		11	coal									as above
		blky		0.27	40.44	40.71		12	coal									dull & bright bedded, mod. calc. boxwork throughout, no vis. pyrite. 1 floor
	74°	blky		2.29		43.00		A009	mudst	slty		gry	m-dk	lam				mudst. interbed. w/ sltst, mod. bioturb., slightly calc. sltst. nodules @ 40cm from top 13cm thick, weak fizz, no vis. pyrite
Box 11		blky		0.18 (0.20)		43.18 43.38		A009	mudst	slty		gry	m-dk	lam				as above
42.5		blky		2.50		45.88		A009	mudst	slty		gry	m-dk	lam				as above, thin (<1cm) sandy sltst bands throughout, mod. fizz, trace pyrite on frac. plane
Box 12		blky		0.29		46.17		A010	sltst	csst		gry	H	mass				strong sustained fizz
	76°	blky		0.21		46.38		A011	mudst	slty		gry	m-dk	lam				interbed. mudst/sltst, calc sltst bands in part, no vis. pyrite

PROJECT: TELKWA HOLE # T97R-210 CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED	
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES		
45.5		blk		2.20		48.58		A011	mudst	slty				gry	m-dk		lam	as above, calc siltst lam thru, calc. fracture infill for 2cm @ 110cm from top decr. siltst content towards base	
Box 13		blk		0.69		49.27		A011	mudst	slty				gry	m-dk		lam	as above - decr. siltst content towards base	
				(0.20)RL		49.47		A011	ROCK LOSS										
48.5	74°	blk solid		2.06		51.53		A012	mudst					gry	m-dk			as above, occasional calc siltst stringer, no vis. pyrite slightly calc mudst nodules 1/2cm at base & 5cm @ 86cm from base	
Box 14		blk		0.12		51.65		A012	mudst					gry	dk			as above	
		blk		0.92		52.57		A013	mudst					gry	dk		mass	featureless mudst, no vis. pyrite non calc, 1 slightly calc mudst nodule 9cm @ 13cm from top	
51.5		blk		1.56		54.13		A013	mudst					gry	dk		mass	as above	
Box 15		blk		1.13		55.26		A013	mudst					gry	dk		mass	as above, 14cm calc. fract. infill @ 57cm, strong fizz	
				(0.30)		55.56													
54.5		blk		1.45		57.01		A013	mudst					gry	dk-m		mass	as above, strong sustained fizz from 47-86cm	

MANALTA COAL LTD.

SHEET # 6 OF 6

PROJECT: TELKWA HOLE # 797R-21c CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
Box 16		blk-y-solid		1.52	58.53			A014	mudst				gry	dk		mass	mt. coal incl. w. pyrite halos 1%, non calc	
57.5		blk-y-solid		2.99	59.52			A014	mudst				gry	dk		mass	as above, strong sustained fizz in top 28cm, pyrite <0.5%	
Box 17		blk-y		1.81	61.33			A014	mudst				gry	dk		mass	as above; trace coal w. pyrite halo <0.5%, strong fizz 5cm 21cm	
60.5		blk-y-solid		(0.30) 0.75	61.63 62.38			A014	mudst				gry	dk		mass	as above, non calc.	
Box 18		blk-y-solid		0.62	63.00			A014	mudst				gry	dk		mass	as above,	
		blk-y solid		1.61	64.61			A015	mudst				gry	dk		mass	disseminated & inclusions of pyrite throughout, 2-3% non calc	
63.6		blk-y-solid		0.33	64.94			A016	mudst				gry	dk		mass	trace dissm. pyrite <1%	
Box 19		blk-y-solid		1.98	66.92			A016	mudst				gry	dk		mass	trace dissm. pyrite in top 20cm 80cm strong sust. fizz 110cm from top	
66.7		solid		(0.43)R 0.71	67.35 68.06			A016	Rock Loss mudst silty				gry	dk		mass	mt. coal incl. w. pyrite halos <1%, becoming silty towards bot	

MANALTA COAL LTD.

SHEET # 7 OF

PROJECT: TELKWA HOLE # T97R-21c CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH			SAMPLE #	DESCRIPTION									KEY BED
					FROM	TO	UNIT THK		ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
Box 20	75°	solid		1.31	69.37		A017	siltst	sst				gry/gr	m		mass	incr. sst content, last 41cm to sst, strong sst. fizz in last 19cm, abrupt basal contact, slightly chloritic in top 90cm, pyrite incl. @ 69cm - 78cm w. coal incl 1-2%	
68.3		solid-blky		1.36	70.73		A018	mudst				gry	m		mass	mn. coal incl. w. trace pyrite halos <1%, non calc		
69.9				(0.35)R	71.08		A019	ROCKLOSS										
Box 21		solid-blky		2.67	73.75		A019	siltst	mudst			gry	m		mass	mn. coal incl. w. trace pyrite halos <1%, non calc, slightly calc silt nodules 10cm @ 1.31 & 5cm @ 2.37, muddier towards base		
Box 22		solid		0.31	74.06		A020	mudst	silty			gry	m-dk		mass	no vis. pyrite, non calc		
73.0		solid-brkn		2.01	76.07		A020	mudst				gry	m-dk		mass	as above, mod. calc mudst nodules 5cm @ 1.04 & 14cm @ 1.80		
75.4				(0.45)R	76.52		A020	ROCKLOSS										
Box 23		brkn-blky		(0.44)R 1.05	76.96 78.01		A020	ROCKLOSS mudst				gry	m-dk		mass	very mn. coal incl. w. pyrite halos		
		blky		0.68	78.69		A021	siltst	sst			gry	m	thn		siltst intbd w. sst, fining upwards mod. calc. veining, no vis. pyrite		
77.5				(0.71)	79.40		A021	(rock loss)										
Box 24		blky		0.57	79.97		A021	sst	silty	vfgr.		gry	m-lt	thn		as above, mod. calc. veining, abrupt basal contact		



MANALTA COAL LTD.

SHEET # 9 OF

PROJECT: TELKWA HOLE # 797R-21C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED	
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT.	NOTES		
		blky		0.37		87.98		A025	mudst					gry	m-dk			as above	
Box 27	85°	blky		0.58		88.56		A025	mudst					gry	m-dk			as above	
		blky		0.28	88.56	88.84		18	coal									dull if bright bedded, muddy in top & btm 3cm, no vis. pyrite	
		blky		0.34		89.18		A026	mudst					gry	m-dk			coaly mudst. no vis. pyrite	
		blky-solid		0.81	89.18	89.99		19	coal									no vis. pyrite, mac calc. boxwork	
		blky		0.49		90.78		A027	mudst					gry	m-dk			coal lam. thout, mac calc boxwork	
89.50		blky		0.21		90.69		A028	mudst					brn	H			calcite cemented, strong sustained fizz.	
Box 28		blky		0.70		91.39		A029	siltst	est				gry	m-H			incr. sst content, strong sustained fizz in btm 30cm calc frac infill	
		blky		2.01		93.40		A030	mudst					gry	m-dk			non calc, no vis. pyrite	
92.5	Box 29	Blky brkn		0.69		94.09		A030	mudst					gry	m-dk			as above, incr. coal lam towards base	
				(0.48)		94.57		A030											
		blky		0.43	94.57	95.00		20	coal									mac calc. boxwork, no vis. pyrite	
		blky		0.16		95.16		A031	mudst	slty				gry	m			non calc, no vis. pyrite	
94.5		blky		1.30		96.46		A031	mudst	slty				gry	m			as above	



Site # 28

T97R21C

From	To	Box
13.1	15.2	1
15.2	18.2	1+2
18.2	21.2	2+3
21.2	22.7	3+4
22.7	25.7	4+5
25.7	28.9	5+6
28.9	31.9	6+7
31.9	33.5	7
33.5	36.5	8
36.5	39.5	9
39.5	42.5	10
42.5	45.5	11+12
45.5	48.5	12+13
48.5	51.5	13+14
51.5	54.5	14+15
54.5	57.5	15+16
57.5	60.5	16+17
60.5	63.6	17+18
63.6	66.7	18+19
66.7	68.3	19+20
68.3	69.9	20+21
69.9	73	21+22
73	75.4	22+23
75.4	77.5	23
77.5	80.2	24
80.5	83.5	24+25

1.5' Coal

All Coal  
some coal

Coal  
Coal



Bex

83.5 - 86.5      25 + 26

86.5 - 87.5      26 + 27

89.5 - 92.5      27 + 28

92.5 - 94.5      29

94.5 - 97.6      29 + 30

# GEOMECHANICAL PROPERTIES LOGGING FORM

CLIENT/PROJECT: Tclkwa PROJECT #: \_\_\_\_\_ LOGGER: G.S. DATE: Aug 14/97

CORE HOLE #: T97R-21C NORTHING: \_\_\_\_\_ EASTING: \_\_\_\_\_ ELEVATION: \_\_\_\_\_

ORIENTATION AT COLLAR - TREND: \_\_\_\_\_ PLUNGE: \_\_\_\_\_ CORE SIZE: \_\_\_\_\_

DEPTH TO	LENGTH OF RUN	LITH.	RECOVERY		RQD		NO. OF FRACT'RS		JOINT COND.	DEGREE OF BREAK.	ALT'N WEATH.	HDN.	COMMENTS
			LENGTH	(%)	LENGTH	(%)	BT	XJ					
1310		OV B											cased off no rec
1520		SLT	178		141		8	1	11	E-F	R20		BT 74° XJ 13°
1820		SLT	236		206		8	2	11	D+F	R20		
2120		SLT	206		173		7	0	11	D+F	R20		
2270		SLT	109		55		5	0	10	D-F	R20		
2570		MST	249		100		15	0	10	C+F	R20		BT 70°
2870		COL	293		202		6	0	10	D-F	R20		silt top 49cm
3190		MST	291		238		5	4	9	D+F	R20		BT 70° XJ 55°-68°
3350		MST	125		46		3	3	9	D-F	R20		
3650		MST	255		194		8	1	9	D-F	R20		BT 68°-51° XJ 34°
3950		COL	264		237		6	0	10	D+F	R20		
4250		MST	290		122		16	2	10	C+F	R20		BT 75° XJ 49° coal in top 45cm
4550		MST	294		156		6	1	10	D-F	R20		
4850		MST	284		219		10	0	10	D-F	R20		
5150		MST	272		266		6	2	10	E-F	R20		
5450		MST	256		211		8	1	10	D+F	R20		BT 75° XJ 50°
5750		MST	284		243		5	2	10	E-F	R20		
6050		MST	285		270		5	1	10	E-F	R20		
6360		MST	285		285		2	2	10	E-F	R20		BT 74° XJ 55°-40°
6670		MST	233		233		2	0	10	E-F	R20		
6830		SLT	215		215		1	2	10	E-F	R20		sst btm 45cm
6990		MST	140		140		2	2	10	D+F	R20		
7300		SLT	301		301		3	0	10	E-F	R20		
7540		MST	192		192		0	1	10	D-F	R20		numerous mechanical breaks
7750		SLT	176		158		1	3	10	D-F	R20		
8050		SST	301		269		8	2	10	D-F	R20		BT 85° XJ 52
8350		COL	260		236		5	4	10	D-F	R20		





MANALTA COAL LTD.

PROJECT: TELKWA HOLE # T97R-32C CONTRACTOR: A. LEDA CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
14.90	80°	(core loss) V. Broken		(0.43)	12.80	13.23		A001	SLST (rock loss)				Grey	med	massive	-	No visible pyrite. Non-calc.	
17.95	83°	(core loss) Broken		(0.40)	15.30	18.21	2	A002	ROCKLOSS SLTS				"	"	"	-	Massive thout. Some muddy silt. Massive thout. Non calc. Occ. pyritized coal blebs. Decm. pyrite.	
21.00		Broken		2.97	21.18	21.18	2	A003	SLST				Grey	med	Massive	-	A/A	
24.00	80°	Broken		2.80	23.98	23.98	2	A004	SLST				"	"	"	-	A/A but occ. bivalves below 120m. Non-calc except for loc. tal. 26; slow sust. Grz.	
		(core loss)		(0.36)	24.34	24.34		A004	ROCKLOSS								Pyrite blebs occ. assoc w. coal bands.	
27.00		Broken		2.96	27.30	27.30	2	A005	SLST	ssy.			Grey	med	Massive	-	Occ. pyrite blebs. Non calc except occ thin well-semented zones up to 15cm. V. rare bivalves.	
		Broken		1.98	29.28	29.28	1	A006	SLST	ssy			Grey	lt.	Massive	-	Silt. A/A grading down to v. gr. ss @ base.	
30.1		Broken		0.98	30.26	30.26		A007	SASN				grey	lt.	Massive	-	Occ. bivalves upto 4cm. Pyritized coal Grz @ top Non-calc.	
33.1		Broken		3.05	33.31	33.31	2	A008	SLSN	ssy.			grey	med	Massive	-	Non-calc. Occ. bivalves Minor bioturbation.	
		Broken		0.97	34.08	34.08		A009	SASN				grey		Massive	-	Grades to silt @ base. Non- calc. V. little visible pyrite.	
		V. Broken		0.20	34.28	34.28	1	A010	SLSN	ssy			grey	dk	Massive	-	Brachioid. Calcite fracture fill Occ. bivalves to 2cm.	
36.2	80°	Broken		2.12	36.40	36.40	2	A011	SLSN	ssy			"	med	"	-	Non calc. Nodules.	
39.2		Broken		2.85	39.25	39.25	2	A012	SLSN				grey.		Massive	-	A/A	
42.3		(core loss)		2.94	42.34	42.34	2	A013	ROCKLOSS SLSN				"	"	"	-	A/A but no nodules. No visible pyrite. Non-calc. Minor @ base	
45.3		(core loss) Broken		(0.16)	42.50	42.50		A013	ROCKLOSS							-	Non-calc. No visible pyrite.	
48.4		Broken		2.91	45.41	45.41	2	A014	SLSN				grey	lt	Massive	-	A/A except w. occ. well cemented calc. silt up to 15cm.	
		(core loss)		(0.21)	48.64	48.64		A015	ROCKLOSS				"	"	"	-	A/A	
51.50	81°	Broken		2.97	51.61	51.61		A016	SLSN				"		"	-	A/A. Rare pyritized coal spar	
54.50		(core loss)		2.94	54.68	54.68		A017	ROCKLOSS				"		"	-	A/A	
57.60		"		3.03	57.71	57.71		A018	"				"		"	-	A/A	
	83°	(core loss)		1.40	59.21	59.21		A019	SLSN				"		"	-	A/A Transitional to v. gr. ss V. dense calc silt w. minor amounts of coal. Slow sustained Grz.	
				0.14	59.35	59.35		A019	SLSN				"		"	-		

MANALTA COAL LTD.

SHEET # 2 OF 5

PROJECT: TELKWA HOLE # CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
60.60	83°	Broken (core loss)		1.13 (0.37)	60.48	60.85	3	A019	SLSN				grey		Massive.		Non-calc. No visible pyrite. Transitional to vGr. SS.	
62.70		Broken (core loss)		2.80 (0.35)	63.65	64.00	2	A020 A020	SLSN ROCKLOSS				"		"		Non-calc. No visible pyrite except occ. pyritized coal spor.	
66.70	85°	Broken (core loss)		2.77 (0.21)	66.77	66.98	2	A021 A021	SLSN ROCKLOSS				"		"		A/A Transitional to vGr SS towards base.	
69.80		v. broken (core loss)		2.87 (0.25)	69.85	70.10	2	A022 A022	SLSN. ROCKLOSS				"		"		A/A. Minor cuts of indsn.	
70.80		Broken		0.81	70.91	70.91	1	A023	SLSN								Massive A/A Minor wood debris	
70.80		SOLID		0.07	70.98	70.98	1	A024	SLSN								v.Calc. v. hard siltst. Rapid sust. Gr.	
72.90		SOLID		0.10	71.98	71.98		A024	SLSN								AA	
72.90		Broken		2.04	73.12	73.12		A025	SLSN				grey		Massive.		Non-calc. Calcite fracture Gill @ 1.30m. Veining up to 1cm.	
75.90		Broken (core loss)		2.89 (0.11)	76.01	76.12	2	A026 A026	SLSN ROCKLOSS				"		"		A/A. No fracture Gill.	
78.90	82°	Broken		3.11	79.72	79.72	2	A027	SLSN								A/A - Some pyritized coal spor.	
		Broken		1.46 (0.21)	80.69	80.90		A028 A028	SLSN ROCKLOSS				grey		Massive.		A/A. Gradational to vGr SS @ base. Occ. bivalves.	
82.00		Broken		1.48	82.17	82.17		A029	SASN	vGr			grey		within	SSD	Within bedded ind. ss/siltst Coarser gr. bands near base More massive near base.	
		Blocky		0.88	83.05	83.05		A030	SASN	Fig.			grey	lt	Massive.		Non-calc. No visible pyrite Clean S&P SS. Bivalves to 4cm common. Rapid sust. Gr.	
84.50	85°	vBroken		1.49	84.54	84.54		A031	SASN.	vGr.					Thin.		Sl calc. slow sust Gr. No visible pyrite. Minor ind. bed. siltst. incr. towards base. Also breccia @ base.	
86.60	85°	vBroken		0.42	84.96	84.96		A031	SASN	"			"		Thin		A/A.	
86.60		Broken		2.28	87.24	87.24		A032	SLSN				grey	med	Massive.		v. sl. calc. No visible pyrite.	
89.00		Broken		2.11	89.35	89.35		A033	SLSN				"	"	"		A/A.	
		Broken		0.11	89.46	89.46		A033	"				"	"	"		A/A. Grading to vGr SS.	
		Broken		0.82	90.28	90.28		A034	SASN.	vGr.			grey	med	Thin		Int. bed. vGr ss/siltst 60/80 Beds up to 2cm. Non-calc Bivalves up to 6cm.	
92.00		Broken		3.02	93.30	93.30		A035	SLSN				grey		Massive		Occ. bivalves	

MANALTA COAL LTD.

SHEET # 3 OF 5

PROJECT: TELKWA HOLE # CONTRACTOR: CASING: COMMENTS:

BOX MARK	DEPTH							DESCRIPTION									KEY BED
	BCA	CORE STATE	RQD	INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	
1		Broken.		0.30	93.30	93.60		A036	SLSN				grey	med	Massive	—	Non calc. A/A
	86°	Solid		0.30		94.90		A037	SLSN				grey	light	Massive	—	V. dense. Rapid sust. Gzz.
		Broken		2.96		96.86		A038	SASN				"	med	Massive		Non calc. Some Cgr. ss from 0.50 - 0.75 m from top. Minor pyrite banded coal spec.
97.10		Blocky		1.104	96.86	97.90		A039	SASN				grey	med	Massive		Grad. Gr. ss to siltst to sasn. Non calc. Minor bivalves
		Blocky		0.32		98.22		A039	SASN	silty			"	"	Massive		Siltier @ base. A/A
	82°	Blocky		2.45		100.68		A040	SASN				"	lt	Thick		Intbed. Gr. ss/med gr ss, clean & sl. calc. with slow sust. Gzz. Occ. bivalves. Channel by Cgr. ss @ base with rip-up clasts up to 1cm.
		Broken		0.29		100.97		A041	SLSN				grey	med	Thin		Common v. gr. ss within beds. Non calc. No pyrite
		Broken		0.68		101.65		A042	SASN				"	"	Thin		Intbed. v. gr. ss/siltst 90/10
103.20		Broken		2.12		103.77		A043	SASN				grey	med	Massive		Coar. lams with Non calc. No visible pyrite
	82°	Broken		0.70		104.47		A044	SASN				"	"	"		A/A Occ. carb/slt. lams.
105.70		Broken		2.06		106.53		A045	SASN				"	"	"		A/A v. sl. calc
108.90		Broken		2.74		109.27		A046	SASN				grey	med	Massive		Siltier to carb base. Occ. bivalves & occ. v. sl. calc.
		Broken		1.41		110.68		A047	SASN				"	"	Massive		A/A
		Solid		0.29		110.97		A048	SLSN				"	H.	Massive		v. calc. dense Rapid sust. Gzz.
114.0		Broken		3.74		114.71		A049	SASN				"	"	"		A/A
		Blocky		0.76		115.47		A050	SLSN				grey		Massive		Sandy siltst. Occ. Bivalves. No pyrite
117.10		Blocky		2.33		117.80		A051	SLSN				"	"	Massive		A/A
		Blocky		0.20		118.00		A051	"				"	"	"		A/A
118.50		Broken		1.27	118.00	119.27		A052	SASN				grey		Massive		v. gr. ss grading down to m. gr. ss. Bivalves: up to 4cm.
121.50	83°	Broken		2.98		122.25		A053	SASN				"	"	"		A/A Non calc - v. sl. calc.
		Blocky		0.33		122.58		A053	SASN				"	"	"		A/A
		Blocky		0.44		123.02		A054	SASN		m. gr.		grey		Massive		Calc. slow sust. Gzz.
124.60	85°	Broken		2.13		125.15		A055	SASN		v. gr.		"	med	"		Non calc. Occ. pyrite banded coal spec.
		Broken		1.38		126.53		A056	SASN		v. gr.		grey	med	Massive		Silty Non calc. Occ coal spec w. pyrite.

MANALTA COAL LTD.

SHEET # 1 OF 5

PROJECT: TELKWA HOLE # T92R-32C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
127.60		V Broken		1.72		128.25		A057	SASN	silty	VG	well	grey	med	Massive		Non-calc - v. sl. calc. No visible pyrite. Occ. bivalves.	
130.60	82°	Broken		2.88		131.13		A058	SASN		VG	well	grey	med	Massive		AA. Minor nodules	
133.30		Broken		3.02		134.15		A059	SASN		VG	"	"	"	"		AA " "	
136.30		Broken		3.03		137.18		A060	SASN		VG	well	grey	med	Massive		AA	
139.80		Broken		3.05		140.23		A061	SASN	silty	VG	"	"	"	"		AA Non-calc. Calc. vein filling	
142.90	85°	Broken		3.08		143.25		A062	SASN		VG	"	"	"	"		AA Minor Gr. ss within beds.	
145.90		Broken		3.08		146.33		A063	SASN		VG	"	"	"	"		AA. Massive without Non-calc.	
		Broken		2.62		148.95		A064	SASN		VG	well	grey	med	Massive		No visible pyrite	
148.90		Broken		0.41		149.36		A065	SASN		VG	well	grey	med	"		Non-calc AA.	
		Broken		1.77		151.13		A065	SASN	silty	VG	"	grey	med	Massive		Plant debris. Non-calc. No pyrite.	
	83°	V. Broken		0.14		151.27		A065	MDSN	carb			grey	dk	Thin		Intbed. carb/mn/carl 60/40	
				0.62		151.89		A065	SASN	carb			"	"	"		Mdsn & carb lens.	
152.0		Broken (core loss)		0.42	151.89	152.31		1	COAL				blk.				Clean hard. Minor vein filling	
		V. Broken		0.84	152.31	152.15		2	COAL				"				pyrite @ top.	
		Broken		1.47	153.15	154.62		3	COAL				"				Possible loss @ top. Clean.	
																	Clean & hard. Occ. dirtier zones @ 1.87-1.89, 1.03-1.05 & 1.31-1.38 m. Minor pyrite along cleavage planes.	
155.0		V. Broken		0.67	154.62	155.29		4	COAL				blk.				AA. Nodular pyrite @ 0.15. Minor dirt zones.	
		"		0.08	155.27	155.37		4	COAL				"				Sl. dirty. dull & Gable.	
		Broken (core loss)		0.08	155.37	155.57		5	COAL				grey	dk	Massive		V. hard. Thin coal lens with	
		V. Broken		1.64	155.65	157.29		6	COAL				blk.				Clean, hard. Minor pyrite.	
157.1		Broken		0.08	157.29	157.48		7	COAL				"				Dirty coal. Coal/Mdsn 60/40.	
		"		0.24	157.48	157.56		7	COAL				"				Sl. dirty.	
		"		0.12	157.56	157.80		7	COAL				grey	dk	Massive.		V. carb.	
		Broken		0.06	157.80	157.92		7	MDSN	carb			grey	dk	Massive.		Hard & clean.	
		Broken		0.34	157.92	157.98		7	COAL				blk.				Dirty coal.	
		V. Broken		0.34	157.98	158.32		8	COAL				blk.				Clean & hard.	
		Broken		0.35	158.32	158.82		8	COAL				blk.				Carb.	
		Broken		0.81	158.82	158.93		A067	MDSN	silty			grey	dk	Massive		Hard & clean.	
		Broken		0.91	158.93	159.76		9	COAL				blk.				Dirty coal w. intbed. mdsn.	
158.90		Broken		0.15	159.76	159.91		10	COAL				"				Carb siltst @ top grading quickly to siltst & then into f. gr. ss.	
	86°	Broken		0.77	160.68			A068	SASN	silty					Massive.		Non calc. No visible pyrite. Sasn component is v. sl. calc.	

MANALTA COAL LTD.

SHEET # OF

PROJECT: TELKWA HOLE # CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
		V. Broken		0.39		161.07		A069	SLSN.	ssy.			grey		Thin		Intbd coarse slsn vls ss & man (70/25/5) slsn wst. Gz. No pyrite	
161.2		V. Broken		0.64		161.71		A070	MSDN				grey	alk	Massive.		Non-carb. No visible pyrite	
		V. Broken		0.80		162.51		A070	MSDN				"	"	"		A/A. Siltst. Com 0.25-0.6B	
		Broken		1.22		163.73		A071	SLSN				"	"	"		Non-carb. Dirtier towards base.	
		V. Broken		0.14		163.87		A072	MSDN	carb.			"	"	"		Non-carb. No pyrite. Almost constant w. underlying coal	
		Broken		0.63	163.87	164.50		11	COAL				black.				Lower 10cm sl. dirty. Otherwise clean & hard.	
		Blocky		0.04		164.54		A073	MSDN.	carb.			black				V. carb. mdsn 50/50.	
		V. Broken		0.34		164.88		A073	MSDN	carb			"		Massive.		Carb mdsn @ top grading to slsn.	
166.8	86°	Broken		2.13		167.01	2	A074	SLSN.	carb.							Carb slsn @ top grading to vls. intbd ss/slsn @ base	
		Broken		1.03		168.04		A075	SLSN				grey.		Massive		Non-carb. No pyrite.	
		Broken		0.36		168.40		A076	MSDN	Carb			blk		"		Sl. carb A/A. Plant fossils.	
170.0		Blocky		1.20		169.60		A077	SASN.	Carb.	vls.	well	grey.		Massive		V. carb. Calcite fracture fill.	
																	Carb slsn @ top grading to carb slsn. @ base. Plant fossils common.	



# GEOMECHANICAL PROPERTIES LOGGING FORM

CLIENT/PROJECT: TELKWA - MANAJTA COAL PROJECT #: TELKWA      LOGGER: A. LENDA      DATE: Aug. 16/97

CORE HOLE #: T97R-32C      NORTHING: \_\_\_\_\_      EASTING: \_\_\_\_\_      ELEVATION: \_\_\_\_\_

ORIENTATION AT COLLAR - TREND: \_\_\_\_\_      PLUNGE: \_\_\_\_\_      CORE SIZE: 3"

DEPTH TO	LENGTH OF RUN	LITH.	RECOVERY		RQD		NO. OF FRACT'RS		JOINT COND.	DEGREE OF BREAK.	ALT'N WEATH.	HDN.	COMMENTS
			LENGTH	(%)	LENGTH	(%)	B5	X3					
1490		SLT	167		35		7	2	10	C+	F	R20	BCA = 80°
1795		SLT	291		262		9	6	10	D+	F	R20	BCA = 83°    XTA = 16°
2100		SLT	297		264		5	4	10	D-	F	R20	XTA = 10-45°
2400		SLT	280		268		5	2	10	D+	F	R20	XTA = 20°    BCA = 80°    Massive. bds.
2700		SLT	296		256		9	2	10	D+	F	R20	XTA = 23°    BCA = 84°
3010		SLT	294		294		2	3	10	E	F	R20	Lower 98cm = SASN    BCA = 74°
3310		SLT	305		305		2	0	18	E	F	R25	Some Sash.
3620		SLT	305		293		4	1	10	D+	F	R25	SASN @ top.
3920		SLT	285		270		2	2	10	E	F	R20	BCA = 80°
4230		SLT	294		223		6	4	12	D-	F	R20	BCA = 85°    XTA = 35°    Massive bds.
4530		SLT	291		271		5	3	9	D	F	R20	
4840		SLT	302		302		2	1	10	F-	F	R20	XTA = 60°    BCA = 80°    Massive
5150		SLT	297		297		1	2	10	F-	F	R20	
5450		SLT	294		294		2	0	10	E-	F	R20	
5760		SLT	303		293		4	1	10	D	F	R20	
6060		SLT	291		291		1	0	10	D+	F	R20	BCA = 83°
6370		SLT	280		280		1	2	10	E-	F	R20	
6670		SLT	277		277		0	1	10	F-	F	R20	XTA = 30°    BCA = 85°
6980		SLT	287		287		1	2	10	D+	F	R20	XTA = 63°
7080		SLT	088		88		1	1	10	D+	F	R20	XTA = 60°    Massive.
7290		SLT	214		214		2	0	8	D-	F	R20	
7590		SLT	289		289		0	1	10	E-	F	R20	
7890		SLT	311		311		1	3	10	E	F	R20	BCA = 87°.
8200		SSN	292		292		0	2	10	E	F	R25	Upper 1.40m = sltsh.
8450		SSN	237		160		2	6	10	D+	F	R25	XTA = 42°    BCA = 85°
8660		SLT	270		270		2	4	10	D	F	R20	Upper 86cm = SASN grading to SLSN. Massive
8900		SLT	211		171		2	5	10	D	F	R20	XTA = 42°



# GEOMECHANICAL PROPERTIES LOGGING FORM

CLIENT/PROJECT: \_\_\_\_\_ PROJECT #: \_\_\_\_\_ LOGGER: \_\_\_\_\_ DATE: \_\_\_\_\_

CORE HOLE #: \_\_\_\_\_ NORTHING: \_\_\_\_\_ EASTING: \_\_\_\_\_ ELEVATION: \_\_\_\_\_

ORIENTATION AT COLLAR - TREND: \_\_\_\_\_ PLUNGE: \_\_\_\_\_ CORE SIZE: \_\_\_\_\_

DEPTH TO	LENGTH OF RUN	LITH.	RECOVERY		RQD		NO. OF FRACT'RS		JOINT COND.	DEGREE OF BREAK.	ALT/W WEATH.	HDN.	COMMENTS
			LENGTH	(%)	LENGTH	(%)	BJ	XJ					
9200	<del>302</del>	SLT	302		187		3	2	10	D-	F	R20	BCA = 85°
9410		SLT	162		162		1	1	15	D+	F	R25	XJA = 50°
9710		SLT	298		298		1	0	12	E-	F	R25	
10020		SSN	292		272		0	3	12	E-	F	R25	Some vertical jointing.
10320		SSN	300		285		1	2	12	E	F	R25	XJA = 28°
10570		SSN	276		264		1	4	12	E	F	R20	
10870		SSN	274		255		2	1	12	E	F	R20	XJA = 37°
11130		SSN	240		240		2	0	10	E-	F	R22	
11400		SSN	298		298		1	0	10	E	F	R20	
11710		SLT	309		309		1	0	10	E+	F	R20	
11850		SSN	147		135		2	0	10	D+	F	R20	Siltstone @ top.
12150		SSN	298		298		1	1	12	E	F	R20	BCA = 83°
12460		SSN	287		287		1	0	12	E-	F	R20	Siltstone common &/or silty SS.
12760		SSN	308		286		4	3	12	C+	F	R25	XJA = 33°
13060		SSN	288		288		2	1	12	D+	F	R25	
13370		SSN	302		302		1	2	12	E	F	R25	
13670		SSN	303		303		0	1	12	E-	F	R25	
13980		SSN	305		305		0	1	12	E-	F	R25	
14290		SSN	300		300		2	0	12	E-	F	R25	BCA = 78°
14590		SSN	308		308		0	1	12	E	F	R25	XJA = 65°
14890		SSN	301		301		1	0	12	E	F	R25	
15200		SLT	293		280		4	0	12	E-	F	R20	Coal for lower 42m.
15500		COL	298		203		7	6	6	C+	F	R20	
15710		COL	188		098		9	6	6	C-	F	R20	
15890		COL	276		241		6	4	8	D-	F	R20	Introd coal & ss. XJA = 15-30°
16120		SSN	180		167		4	2	8	D-	F	R20	SSN @ top grading to MDSSN @ base. BCA = 86°
16430		SLT	295		260		7	4	8	D+	F	R20	Coal & minor SS as well XJA = 0-60° Most = 10-25°





Core Run

T97R-32-C

10' - 3.05

START	FINISH	Box
12.8	14.9	1
14.9	17.95	1+2
17.95	21	2+3
21	24	4+5
24	27	5+6
27	30.1	6+7
30.1	33.1	7+8
<del>33.2</del>	36.2	8+9
36.2	39.2	9+10
39.2	42.3	10+11
42.3	45.3	11+12
45.3	48.4	12+13
48.4	51.5	13+14
51.5	54.5	14+15
54.5	57.6	15+16
57.6	60.6	16+17
60.6	63.7	17+18
63.7	66.7	19
66.7	69.8	20

T 97R - 32C

10' = 3.05

Core Run

START

FINISH

Box

69.8

70.8

21.

70.8

72.8

21+22

72.9

75.9

22+23

75.9

78.9

23+24

78.9

82.

24+25

82

84.5

25+26

84.5

86.6

26+27

86.6

89.

27+

89

92

27+28

92

94.1

29

94.7

97.1

29+30

97.1

100.2

30+31

100.2

103.2

31+32

103.2

105.7

32+33

105.7

108.7

33+34

108.7

111.3

34+35

111.3

114.0

35+36

114

117.1

36+37

117.1

118.5

37+38

118.5

121.5

38+39

121.5

124.6

39+40

124.6

127.6

40+41

127.6

130.6

41+42

130.6

133.7

42+43

From	To	Box	
133.7	136.7	43+44	
136.7	139.8	44+45	
139.8	142.9	45+46	
142.9	145.9	47+48	
145.9	148.9	48+49	
148.9	152.9	49+50	Box 50 START of Coal
152.9	155	50+51	ALL COAL
155	157.1	51	ALL COAL
157.1	158.9	51+52	MOSTLY COAL
158.9	161.2	52+53	COAL IN BOTH
161.2	164.3	53+54	COAL ST.
164.3	166.8	54+55	DEAN SAYS NO COAL
166.8	170	55+56	T.D.

MANALTA COAL LTD.

SHEET # / OF

T97R-42C

PROJECT: TELKWA HOLE # T97R-42C CONTRACTOR: CASING: COMMENTS: ARD Core Hole Pit 3 Aug 22/97 G. Lee

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
					0	4.50				0VB								
Box 1	75°	blk		1.95		6.45		A001	siltst	mudst				gry	m		bioturb	non calcareous, no visible pyrite, very fine shell fragments slow fizz.
		(core loss)		(0.15)		6.60			(rock loss)									
6.6		blk		0.62		7.22		A001	siltst	mudst				gry	m		bioturb	as above
Box 2	66°	blk		1.42		8.64		A001	siltst	mudst				gry	m		bioturb	as above, slight incr in shell casts
		(core loss)		(0.38)		9.02			(rock loss)									
9.0		blk		1.02		10.04		A001	siltst	mudst				gry	m		bioturb	as above
Box 3		blk-brkn		1.70		11.74		A002	siltst	mudst				gry	m		bioturb	no vis. pyrite mod. amount of shell frags in top 50 cm mod. fizz, slow fizz on fractures
		(core loss)		(0.24)		11.98		A002	(rock loss)									
12.0		very brkn - shattered		0.66		12.64		A003	siltst	mudst				gry	m			completely brkn, slickensided in part, slow sustained fizz on fracs, trace calc. veining at base, no vis. pyrite
Box 4		very brkn - shattered		0.53		13.17		A003	siltst	mudst				gry	m			as above
				(1.77) RL		14.96		A003	Rock loss									
15.1		brkn - shat.		0.58		15.54		A003	siltst	mudst				gry	m			as above, slight fizz in part
		(core loss)		(0.88) RL		15.92		A003	(rock loss)									
16.1		(core loss)		(0.72) RL		16.64		A003	(rock loss)									
		brkn - shat.		0.56		17.20		A003	siltst	mudst				gry	m			as above
	43°	blk-brkn		0.53		17.73		A004	siltst	mudst				gry	m			increasing mudst content, sltly calc. on frac. surfaces, no vis. pyrite.





MANALTA COAL LTD.

SHEET # 3 OF

PROJECT: TELKWA HOLE # T97R-42c CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH		UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				FROM	TO												
Box 9		brkn-blky		1.50	32.18		A006	mudst				gry	dk			as above.	
33.1		brkn-vbrkn		0.71	32.89		A007	mudst				gry	dk			slightly calc siltst lam. in part, no vis. pyrite	
Box 10	62°	blky		1.79	34.68		A007	mudst				gry	dk			as above, trace shell fragments towards base	
35.8		blky-brkn		0.67	35.35		A007	mudst				gry	dk			as above	
Box 11		brkn-vbrkn		1.03	36.38		A008	mudst				gry	dk			very muc. siltst lam., muc shreds, non calc, no vis. pyrite	
		(core loss)		(0.46)	36.84		A008	(rock loss)									
38.0	65°	blky		0.86	37.70		A008	mudst				gry	dk			as above	
Box 12		blky solid		1.89	39.59		A008	mudst siltst				gry-gr	dk			as above, gradational contact w. s. glauconitic-chloritic silt sand no vis. pyrite, 8cm calc. mudst band at 12cm from top, strong sustained fizz	
		(core loss)		(0.45)	40.04		A009	(rock loss)									
41.1		blky-brkn		0.76	40.80		A009	siltst sst				gre	dk			chloritic-glauconitic, muc. calc lam. & incl. w. pyrite halos 2-3%, non calc.	
		(core loss)		(0.25)	41.05		A009	(rock loss)									
Box 13		blky		0.22	41.27		A009	siltst sst				gre	dk			as above, no vis. pyrite	



MANALTA COAL LTD.

SHEET # 5 OF 5

PROJECT: TELKWA HOLE # T97R-42C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	UNIT THK											
Box 16	82°	brkn		0.56		49.83		A015	sltst	sst		gry	m-lt		lam	incr. sst content, non calc, no vis. pyrite		
		blky-solid		0.64		50.47		A016	sst	slky	vfg	gry	m-lt		bioturb.	pyrite incl. at top 1%, non calc, heavy bioturbation		
		blky		0.80		51.27		A017	sst		fg	gry	m-lt		bioturb.	incr. calc. content, mod. sustained fizz, worm burrows at base, no vis. pyrite		
51.9		blky-solid		0.64		51.91		A017	sst		fg	gry	m-lt		bioturb.	as above		
Box 17	82°	blky-		2.28		54.19		A017	sst		vfg	gry	m-lt		lam	as above, decr. calc content, micro faults in part		
55.0		blky		0.34		54.53		A017	sst		vfg	gr	m-lt		←	minor calc. veining in part		
Box 18		blky		1.11		55.64		A017	sst		vfg	gr	m-lt		←	as above		
57.0		(core loss)		(0.58)		56.16			(rock loss)									
		blky		0.27		56.43		A017	sst	sltst	vfg	gry	m-lt		lam	as above, intbed w. siltst		
		blky		1.45		57.88		A018	sltst	sst		gry	m-dk		lam	siltst intbed w. vfg sst, mudst lam thout, mod. bioturb. very minor calc. nodules, no vis. pyrite		
Box 19		blky		0.86		58.74		A019	mudst	carb						coal lam. thout, pyrite incl. of lam. at botm 25cm < 2%, non calc., gradational contact at base		
		blky		0.20	58.74	58.94		A020	coal							lam of dissim. pyrite 5-8%		

MANALTA COAL LTD.

SHEET # 6 OF 3

PROJECT: TELKWA HOLE # T97R-42C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO											
		brkn		0.30		59.24	A021	sst	slty	vfq		gry	m-H			slump features thruout, calc veining at top, no vis. pyrite	
		(core loss)		(0.22)		59.46		(rockless)									
59.4	74°	blky		1.01		60.47	A021	sst	slty	vfq		gry	m-H			calc siltst nodules w. calc veins thruout, matrix mod firm, slightly chaotic in bot 25cm, sharp basal contact, no vis. pyrite	
		blky		0.21	60.47	60.68	2	coal	pyrite							pyrite band at top 8-10% (root)	
		blky		0.16	60.68	60.84	3	coal								dull & bright banded, no vis. pyrite	
Box 20		blky		0.63	60.84	61.47	3	coal								as above, min. pyrite lam. in part 1-2%	
		blky		0.23	61.47	61.70	4	coal								dull, 2cm mudst band at base	
		brkn		0.08	61.70	61.78	5	coal								dull & bright banded, no vis. pyrite	
62.5		blky		0.58	61.78	62.36	5	coal								as above, 8cm carb mudst & bentonite band at base	
		blky		0.27	62.36	62.63	6	coal								dull & bright banded, no vis. pyrite (floor)	
	85°	blky		1.01		63.64	A022	siltst	mudst			gry	m	lam		intbd, siltst w. mudst lam no vis. pyrite, sharp upper contact, non calc.	



MANALTA COAL LTD.

SHEET # 8 OF 9

PROJECT: TELKWA HOLE # T97R-42C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO											
		blky		0.32		72.82	A027	siltst-sst	mudst			gry-grc	m-dk			as above, scattered mudst nodules - slightly calc	
Box 24	87°	blky-solid		1.67	72.82	74.49	A027	siltst-sst				gry-grc	m			8 cm coal seam 63 cm from top, pyrite inclusions in coal 2-3%, incr. silty towards base, non calc, no vis. pyrite in siltst	
		brkn-brkn		0.65		75.14	A028	siltst	sst			gry-grc	m			calc. veining in part, slightly calc. siltst nodules scattered thru, no vis. pyrite	
75.7		brkn-blky		0.22		75.36	A028	sst	silty	vfg		gry-grc	m			as above	
Box 25		blky		0.25		75.61	A028	sst	silty	vfg		gry-grc	m			as above, sharp basal contact	
		brkn		0.16		75.77	A029	mudst				gry	dk			carb., no vis. pyrite, non calc.	
		(core loss)		(0.15)		75.92	A029	(rock loss)									
		solid		0.39	75.92	76.31	7	coal								pyrite incl. at top 4-6% 2cm bentonite band at base (roof)	
	87°	blky-brkn		0.68	76.31	76.99	8	coal								dull & bright banded dissm. pyrite in part 3-4%	
		(core loss)		(0.26)	76.99	77.25		(coal loss)									
		solid		0.23	77.25	77.48	9	coal								5cm bentonite band at top, no vis. pyrite (floor)	
		brkn		0.91		78.39	A030	mudst				gry	m-dk			no vis. pyrite, non calc	







MANALTA COAL LTD.

SHEET # 11 OF 13

PROJECT: TELKWA HOLE # T97R-42C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED	
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES		
		vbrkn		0.34		98.59		A035	mudst	slty				gry	dk		lam	as above	
		shatt.-brkn (core loss)		0.96 (0.82)		99.55 100.37		A036 A036	mudst (rock loss)					gry	dk	massive		non calc., no vis. pyrite	
Box 32		blky-brkn		0.08		100.45		A036	mudst					gry	dk	mass.		as above, vry sheared	
100.50		brkn-shatt (core loss)		1.25 (0.60)		101.70 102.30		A036 A036	mudst (rock loss)					gry	dk	mass.		as above	
102.30		vbrkn-brkn (core loss)		0.78 (1.35)		103.08 104.83		A036	mudst (rock loss)					gry	dk	mass.		as above, mnc. calc. veining at top	
Box 33		blky		0.33		105.16		A036	mudst					gry	dk			as above, mnc. sltst lam. at base, pyrite incl. at base < 1%	
105.00	56°	brkn- (core loss)		0.97 (1.52)		106.13 107.65		A037 A037	mudst (rock loss)					gry	dk			carb. in matrix non calc. 5cm mod. calc. veining at base, trace pyrite incl.	0.05%
107.40		brkn		1.25		108.90		A037	mudst					gry	dk			as above, trace calc. veining no vis. pyrite	
Box 24		vbrkn (core loss)		0.25 (1.01)		109.15 110.16		A037	mudst (rock loss)					gry	dk			as above	
109.18		shatt		0.10		110.26		A037	mudst					gry	dk			as above, incr. carb content	
		blky		0.28	110.26	110.54		15	Coal									dull, lam. of pyrite in top 5cm 2-3% (root)	

MANALTA COAL LTD.

SHEET # 12 OF 13

PROJECT: TELKWA

HOLE # T97R-420

CONTRACTOR:

CASING:

COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO											
	75°?	blk <sub>y</sub>		0.61	110.54	111.15	16	Coal								dull, trace pyrite lamin 1-2%	
		(core loss)		(0.13)	111.15	111.28		(coal loss)									
		blk <sub>y</sub>		0.23	111.28	111.51	17	coal								dull, no vis. pyrite	
		shatt		0.25		111.76	A038	mudst				gr <sub>y</sub>	m			bodily broken, trace calc veining, no vis. pyrite	
		(core loss)		(1.30)		113.06	A038	(rock loss)									
112.7		shatt-blk <sub>y</sub>		0.27		113.33	A038	mudst				gr <sub>y</sub>	m			as above, heavy calc veining in botm. 9cm silted towards base	
Box 35		shatt		0.25		113.58	A039	siltst mudst				gr <sub>y</sub>	m			intracl. w. mudst, mod. calc. veining, no vis. pyrite	
		(core loss)		(2.50)		116.08	A039	(rock loss)									
115.70		shatt-blk <sub>y</sub>		1.37		117.45	A039	siltst mudst				gr <sub>y</sub>	dk-m			as above, decr. mudst content	
		(core loss)		(1.45)		118.90	A039	(rock loss)									
	60°	blk <sub>y</sub>		0.30		119.20	A040	sst	silty	vfg		gr <sub>y</sub> -gr <sub>e</sub>	m			trace bivalve frags, matrix non calc, no vis. pyrite, slightly chloritic	
118.8		blk <sub>y</sub>		0.40		119.60	A040	sst		fg-m		gr <sub>y</sub> -gr <sub>e</sub>	m			as above, calc in part mod. fizz	
Box 36	57°	blk <sub>y</sub>		0.45		120.05	A040	sst		vfg		gr <sub>y</sub> -gr <sub>e</sub>	m			as above, heavy calc veining in botm 10cm	
		blk <sub>y</sub>		0.61		120.66	A041	mudst				gr <sub>y</sub>	dk			mod.-heavy calc veining in part, no vis. pyrite	



MANALTA COAL LTD.

SHEET # 14 OF

PROJECT: TELKWA HOLE # T97R-42C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	UNIT THK											
		brkn		0.90	130.32	131.22		A046	mudst	carb/coal			gry	dk-blk			coaly from 20 to 50 cm no vis. pyrite	
131.00	60°	blky		0.92	131.22	132.14		A046	mudst	carb/coal			gry	dk-blk			as above	
Box 40		brkn (core loss)		0.88 (0.60)	132.14 133.02	133.02 133.62		A046 A046	mudst (rock loss)	carb/coal			gry	dk-blk			as above	
133.40		brkn		1.68		135.30		A047	mudst				gry	m-dk			coal incl. in part, non calc, no vis. pyrite, silty-sst bands in part	
Box 41		shatti (core loss)		0.25 (0.57)		135.55 136.12		A048 A048	sst (rock loss)	slty	vfg		gry	m-lt			no vis. pyrite, non calc,	
135.8	53°	blky (core loss)		0.70 (0.60)		136.82 137.42		A048 A048	sst (rock loss)	slty	vfg		gry	m	lam		as above, micro faults throat	
137.0		blky-brkn		1.20		138.62		A048	sst	slty	vfg		gry	m	lam		as above, mgc calc. veining in part	
Box 42		blky-brkn (core loss)		0.92 (0.74)		139.54 140.28		A048 A048	sst (rock loss)	slty	vfg		gry	m	lam		as above	
139.70		blky-brkn		1.02		141.30		A048	sst	slty	vfg		gry	m	lam		as above, sharp basal contact	
		blky		0.33	141.30	141.63		18	coal								dull banded, pyrite bands 9 inch throat # = 10% (roof)	
		blky		0.47	141.63	142.10		19	coal								dull & bright banded no vis. pyrite	

MANALTA COAL LTD.

SHEET # 15 OF

PROJECT: TELKWA HOLE # T97R-42C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
Box 43	65°	blk-solid		0.55	142.10	142.65		19	Coal									as above, no vis. pyrite
		blk		0.34	142.65	142.99		20	Coal									full banded, no vis. pyrite (floor)
142.7		brkn-vbrkn (core loss)		0.62 (1.20)		143.61 144.81		A049 A049	mudst (rock loss)				gry	dk	mass			non calc., no vis. pyrite
144.5		vbrkn		0.28		145.09		A049	mudst				gry	dk	mass			as above
		vbrkn-blk		0.55		145.64		A050	sst		fg		gry	m				slty at top 30 cm, mod. sustained fizz in clean sst no vis. pyrite
Box 44		solid		0.18		145.82		A050	sst		fg		gry	m-lt	mass			as above, mod calc veining in fractures
		brkn		0.45		146.27		A051	siltst				gry	m	mass			non calc., no vis. pyrite
146.00	59°	blk		0.60		146.87		A051	siltst				gry	m	mass			as above, scattered brindle frags
		blk-solid		1.38		148.25		A052	siltst				gry	m	mass			pyrite incl. incr. towards base 3-5%, non calc.
Box 45		blk-solid (core loss)		0.64 (0.15)		148.89 149.04		A052 A052	siltst (rock loss)				gry	m	mass			as above
148.7		blk-solid		2.18		151.22		A053	sst	slty	vfg		gry-gr	m	mass			pyrite incl. in part 2-3% slightly calc. in part, slow sustained fizz, slightly chertic



# GEOMECHANICAL PROPERTIES LOGGING FORM

CLIENT/PROJECT: MANALIA COAL PROJECT #: TELKWA LOGGER: \_\_\_\_\_ DATE: AUG.20/97

CORE HOLE #: T97R-42C NORTHING: \_\_\_\_\_ EASTING: \_\_\_\_\_ ELEVATION: \_\_\_\_\_

ORIENTATION AT COLLAR - TREND: \_\_\_\_\_ PLUNGE: \_\_\_\_\_ CORE SIZE: \_\_\_\_\_

DEPTH TO	LENGTH OF RUN	LITH.	RECOVERY		RQD		NO. OF FRACT'RS		JOINT COND.	DEGREE OF BREAK.	ALT'N/ WEATH.	HDN.	COMMENTS	
			LENGTH	(%)	LENGTH	(%)	B	J						
450		OV B												
660		SLT	200	0	200	0	2	0	1	0	E	F	R20	BCA - 62° - 75°
900		SLT	220	0	220	0	4	2	1	0	E	F	R20	BCA - 67° JCA - 43°
1200		SLT	258		250		4	2	1	0	E	F	R20	BCA - 65° JCA - 35°
1510		SLT	95		0		0	0	1	B+	F	F	R20	
1610		SLT	58		0		2	0	1	0	B+	F	R20	BCA - 44°
1810		SLT	97		47		0	1	1	0	C+	F	R20	JCA - 25°
2080		MST	135		75		2	1	1	0	C	F	R20	BCA - 59° JCA - 32°
2380		MST	240		160		4	2	1	0	D-	F	R20	
2530		MST	70		0		0	0	1	B+	F	F	R20	
2740		MST	153		135		5	3	1	0	C	F	R20	BCA - 74° JCA - 53°
3010		MST	189		170		2	0	1	2	D-	F	R20	
3310		MST	178		100		5	0	1	0	C	F	R20	BCA = 42°
3580		MST	245		158		7	2	1	0	D-	F	R20	BCA 59° JCA 39°
3800		MST	187		147		8	2	1	0	C+	F	R20	
4110		MST	273		218		3	1	1	0	D+	F	R20	
4400		SST	245		171		6	0	1	2	D+	F	R20	BCA 63° heavy calcite fracture in <sup>bottom 25cm</sup>
4700		SST	292		192		7	1	1	2	D	F	R20	
5010		SST	266		90		19	1	1	0	C+	F	R20	coal begins @ 1.44 to bottom
5190		SST	195		145		6	1	1	2	D+	F	R20	BCA 81° JCA 15°
5500		SST	282		166		14	1	1	2	D-	F	R20	
5700		SST	141		48		9	0	1	2	C+	F	R20	BCA 83°
5940		SLT	290		137		15	1	1	0	C	F	R20	coal @ 53.0 cm from base 22cm thick
6250		COL	240		110		11	4	1	0	C+	F	R20	5st in top 1.07m JCA 45°
6550		SLT	296		159		15	7	1	0	C+	F	R20	coal in top 86cm, BCA 84° JCA 28°
6800		SLT	220		148		12	1	1	0	D-	F	R20	
6860		SLT	48		48		0	1	1	2	D	F	R25	



# GEOMECHANICAL PROPERTIES LOGGING FORM

page 2

CLIENT/PROJECT: \_\_\_\_\_ PROJECT #: \_\_\_\_\_ LOGGER: \_\_\_\_\_ DATE: \_\_\_\_\_

CORE HOLE #: T97R-42C NORTHING: \_\_\_\_\_ EASTING: \_\_\_\_\_ ELEVATION: \_\_\_\_\_

ORIENTATION AT COLLAR - TREND: \_\_\_\_\_ PLUNGE: \_\_\_\_\_ CORE SIZE: \_\_\_\_\_

DEPTH TO	LENGTH OF RUN	LITH.	RECOVERY		RQD		NO. OF FRACT'RS		JOINT COND.	DEGREE OF ALT'N BREAK.	WEATH.	HDN.	COMMENTS
			LENGTH	(%)	LENGTH	(%)	BJ	XJ					
70 00		SST	80		17		5	1	10	C-F		R20	
73 00		SLT	289		91		28	2	10	C-F		R20	PCA & JCA 39°
75 70		SLT	264		113		16	2	10	C+F		R20	
78 80		COL	290		165		13	2	10	C+F		R20	coal from .62m - 1.96
81 80		SLT	246		246		2	2	10	D-F		R20	
84 90		SLT	280		195		13	1	10	C+F		R20	coal from 1.6m → 2.60
87 40		COL	119		98		3	1	10	C-F		R20	BCA 77°
89 00		MST	130		85		3	1	10	C-F		R20	
91 30		SLT	100		0	25%	0	1		B+F		R20	core very broken BCA 45° prob. fault zone
94 40		SLT	84		0	25	0	0		B-F		R20	
96 00		MST	110		0	25	0	0		B-F		R20	PCA 33°
98 40		MST	165		29		1	0	7	B+F		R20	
100 50		MST	124		20		0	1	8	B+F		R20	
102 30		MST	128		0	25	0	0		B-F		R10	
105 60		MST	105		0	25	0	0		B+F		R20	
107 40		MST	97		0	25	3	0	8	C-F		R15	BCA 58°
109 80		MST	130		23		2	1	10	C-F		R20	BCA 73°
112 70		COL	138		20		4	0	10	C-F		R20	coal at 15cm from top ends 25cm from base
115 70		SLT	50		0	25	0	0		B-F		R20	heavy calcite veining in few intact fragments
118 80		SST	175		78		3	2	10	C-F		R20	BCA 65°
121 70		SST	298		235		7	2	10	D-F		R20	
125 00		SLT	293		268		1	5	10	D+F		R20	
127 40		MST	171		143		2	0	10	C-F		R20	
128 40		MST	51		12		0	0		B-F		R20	calcite veining in part
131 00		MST	145		0	25	0	0		B-F		R15	coaly bands up to 10cm, slickensides than
133 40		MST	180		162		4	2	10	C+F		R15	BCA 58° JCA 18°
135 80		MST	190		0	25	0	0		B+F		R15	





# GEOMECHANICAL PROPERTIES LOGGING FORM

page 3

CLIENT/PROJECT: \_\_\_\_\_ PROJECT #: \_\_\_\_\_ LOGGER: LL DATE: \_\_\_\_\_

CORE HOLE #: T97R-N2C NORTHING: \_\_\_\_\_ EASTING: \_\_\_\_\_ ELEVATION: \_\_\_\_\_

ORIENTATION AT COLLAR - TREND: \_\_\_\_\_ PLUNGE: \_\_\_\_\_ CORE SIZE: \_\_\_\_\_

DEPTH TO	LENGTH OF RUN	LITH.	RECOVERY		RQD		NO. OF FRACT'RS		JOINT COND.	DEGREE OF BREAK.	ALT'N WEATH.	HDN.	COMMENTS	
			LENGTH	(%)	LENGTH	(%)	BT	XJ						
13700		SST	70		70		2	0	10	D	-	F	R20	micro faults throughout
13970		SST	210		140		8	1	10	D		F	R20	BCA 66° JCA 40° calc. veining in part
14270		COL	283		220		10	2	10	D	+	F	R20	coal at 1.03 to bottom of run
14450		MST	56		0	25	0	0		R		F	R20	
14600		SST	150		32		0	1	12	B	+	F	R20	1 solid piece of sst 30cm
14870		SLT	256		240		4	0	12	E	-	F	R20	BCA 48° JCA
15170		SST	298		298		1	1	10	E		F	R20	BCA 34°
15470		SLT	288		268		2	7	10	E	-	F	R20	
15780		MST	279		279		-	-		E		F	R20	
16090		MST	284		284		-	-		E		F	R20	



T97 R-42C

START	FINISH	BOX	
4.5	6.6	1	
6.6	9	142	
9	12	243	
12 <del>12.1</del>	15.1	344	
15.1	16.1	4	
16.1	18.1	422	
18.1	20.8	5	
20.8	23.8	546	
23.8	25.3	647	
25.3	27.4	7	
27.4	30.1	748	
30.1	33.1	849	
33.1	35.8	9410	
35.8	38	10411	
38	41.1	11412	
41.1	44	12413	
44	47	13414	
47	50.1	14415	Coal in 15' (1 FOOT)
50.1	51.9	16	
51.9	55	16417	
55	57	17418	
57	59.4	18419	Coal in 19 ?
59.4	62.5	19420	Coal some } 2A
62.5	65.5	20421	Coal some } 2A
65.5	68	21422	

From	To	Box
68	68.6	<del>22</del>
68.6	70	22
70	73	22+23
73	75.7	23+24
75.7	78.8	24+25 lots Coal Box 25 (1m)
78.8	81.8	<del>26</del> 26
81.8	84.9	27+28 Corn (1m)
84.9	87.4	28 &
87.4	89.8	28+29
89.8	91.8	29
<del>94.8</del>	94.4	29+30 Coal st
94.4	96	30
96	98.4	30+31
98.4	100.5	31+32
100.5	102.3	32
102.3	105	32+33
105	107.4	33
107.4	109.8	33+34
109.8	112.7	34
112.7	115.7	34+35
115.7	118.8	35+
118.8	121.9	35+36
121.9	125	<del>37</del> 38
125	127.4	38

CRAP

Riley  
B. 16

Crap

127.4

128.4

38 + 39

128.4

131

~~38~~ + 39

Coal St.

131

133.4

39 + 40

133.4

135.8

40 + 41

135.8

137

41

137

139.7

41 + 42

139.7

142.7

42 + 43

1 m. Coal St. 141-142

142.7

144.5

43

144.5

146

43 + 44

146

148.7

44

148.7

151.7

45 + 46

151.7

154.7

46 + 47

154.7

157.8

47 + 48

157.8

160.9

48 + 49

MANALTA COAL LTD.

SHEET # / OF

PROJECT: TELKWA HOLE # 797R-82C CONTRACTOR: Cora Lynn CASING: COMMENTS: Telkwa ARD Core Hole Sept 22 G. Seve

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
Box 1	43°	blocky		1.46	29.50	30.96	A001	Mudst					gry	dk	mass		- minor silty laminations, several well indurated siltst bands up to 8cm, non calcareous, no visible pyrite	
34.5				0.85 RL	30.96	31.81	A001	ROCK LOSS										
		blk		1.15	31.81	32.96	A001	mudst					gry	dk	mass		as above	
Box 2		blk		1.92	32.96	34.88	A001	mudst					gry	dk	mass		as above, mnr. slickensides on fracture surface	
37.5				1.00 RL		35.88	A001	ROCK LOSS										
		broken		0.82		36.70	A001	mudst					gry	dk-m	mass		as above, mnr. calcite veining in 10cm siltst nodul	
Box 3				0.71 RL	36.70	37.41	A002	ROCK LOSS										
		blk-solid		2.26	37.41	39.67	A002	mudst silty					gry	dk-m			mnr. lt. gry mudst inclusions, slightly bioturbated, calc. no vis. pyrite, becoming silty towards base, trace coal inclusions	
40.5	38°	blk-solid		0.34	39.67	40.01	A003	mudst silty					gry	m-dk			as above, coal incl with pyrite balas < 1%, slightly blk. & gry mudst. incl. weak fizz	
Box 4				0.34 RL	40.01	40.35	A003	ROCK LOSS										
		solid-blk		2.68	40.35		A003	mudst					gry	m-dk			as above, pyrite balas < 1%	
43.5		solid		0.14	43.03	43.17	A003	mudst					gry	m-slk			as above	
Box 5																		

MANALTA COAL LTD.

SHEET # 2 OF 3

PROJECT: TELKWA HOLE # 797R-82C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT.	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
	40°	blky-solid		2.85	43.17	46.62		A003	mudst				gry	m-dk			as above, trace calcite veins in part, trace pyrite incl. few grains of glauc-chloritic sand	
Box 6		solid		0.28	46.02	46.30		A003	mudst	slty			gry	m-dk			as above	
46.70		solid		1.17	46.30	47.47		A004	sst	ss			gry-grc	m-dk			glauc-chloritic, coal incl. in pyrite halos 2-3%, trace calc. veining	
	45°	solid-blky		1.45	47.47	48.92		A005	ss	slty	vfg		gry-grc	m-dk			glauc-chloritic, coal incl. in pyrite halos 1-2%, trace calc. veining, non calc.	
Box 7		solid-blky		0.53	48.92	49.45		A005	ss		vfg		gry-grc	m-dk			as above, <1% pyrite	
49.8		solid-blky		2.30		51.75		A005	ss		vfg		gry-grc	m-dk			as above 1-2% pyrite, non calc. veining	
Box 8		solid-blky		0.64	51.75	52.39		A005	ss		vfg		gry-grc	m-dk			as above <1% pyrite, non calc. veining	
53.0		solid		0.42	52.39	52.81		A005	ss		vfg		gry-grc	m-dk			as above 1-2% pyrite	
		solid		0.77	52.81	53.58		A006	sst	ss			gry-grc	m-dk			pyrite incl. & halos around coal incl. where basal contact, non calc.	

MANALTA COAL LTD.

SHEET # 3 OF 3

PROJECT: TELKWA HOLE # T97R-82C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
	35°	solid-blky		0.30	53.58	53.88		1	coal									sltst incl. throughout, pyrite incl. thout 2-3%
		solid-blky		0.82	53.88	54.70		2	coal									as above, 5-8% pyrite incl., mnr. calc. boxwork in top 19cm
				0.05	54.70	54.75		2	COALLOSS									
Box 9		blky-brkn		0.20	54.75	54.95		3	coal									as above 5-7%
				0.04	54.95	54.99		3	COALLOSS									
		brkn		0.37	54.99	55.38		A007	mudst				gry	m				coaly at top, pyrite on calc. plant fragments 1%, non calc.
				0.17	55.38	55.55		A007										
56.0	36°	solid		1.89	55.55	57.44		A008	mudst				gry	m-dk				pyrite incl. thout 3-5% non calc., coal incl. in part
Box 10		solid		0.54		57.98		A008	mudst	sltst			gry	m-dk				as above, sltst lam towards base
57.1		blky		0.44	57.98	58.42		A009	sltst				gry	m-dk	lam			non calc., no vis. pyrite mnr. bioturb.
59.1		blky		0.48		58.90		A009	sltst				gry	m-dk	lam			as above
		blky-solid		0.58	58.90	59.48		A010	mudst				gry	dk				mnr. sltst lam, mnr. bioturb non calc. trace pyrite holes
		solid		0.73	59.48	60.21		A011	mudst				gry	dk				as above, large pyrite incl. up to lam in part 5-7%
Box 11		solid		0.27		60.48		A011	mudst				gry	dk				as above decreasing pyrite incl.





MANALTA COAL LTD.

SHEET # 5 OF 5

PROJECT: TELKWA HOLE # T97R-82C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED	
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES		
		solid-blky		1.13	67.51	68.64		A015	siltst					gry	m-lt	lam	bioturb	as above	
Box 14				0.11 RL	68.64	68.75		A015	ROCK LOSS										
		solid-blky		1.90	68.75	70.65		A015	siltst	mudst				gry	m-dk	lam	bioturb	as above, mnc. calc. veining, no vis. pyrite, muddier towards base	
71.2		solid		0.28	70.65	70.93		A016	mudst	carb				gry-blk				- coal incl. throat, shell fragments calc., no vis. pyrite,	
		blk		0.30	70.93	71.23		6	coal									dull banded, no vis. pyrite	
				0.11 CL	71.23	71.34		6	COAL LOSS										
	37°	solid		0.10	71.34	71.44		A017	mudst	carb				gry-blk				coal lam. throat. no vis. pyrite	
Box 15		solid-blky		2.38		73.82		A017	mudst	silty				gry	dk-m			as above, mnc. coal incl. w. trace calc. boxwork siltier towards base 6cm coal 20cm from base	
74.3		solid-blky		0.41		74.23		A018	siltst	mudst				gry	m-dk	lam	biot	no vis. pyrite, non calc.	
Box 16		solid-blky		2.64		76.87		A018	siltst	mudst				gry	m-dk	lam	biot	as above	
77.3		blky		0.23		77.10		A018	siltst	mudst				gry	m-dk	lam	biot	as above	
Box 17				0.02 RL	77.12			A018	ROCK LOSS										
	47°	blky-solid		2.06		79.18		A018	siltst	mudst				gry	m-dk	lam	biot	as above, incl. mudst content	





MANALTA COAL LTD.

SHEET # 8 OF 13

PROJECT: TELKWA HOLE # T97R-82C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED	
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES		
		solid		0.33	99.56	99.89		A024	siltst	sst				gry	m	intbd		as above, incr. sst content	
	32°	blk		1.42		101.31		A025	sst	slty	vfg			gry	m			calc siltst nodules in part, slow-weak fizz, no vis. pyrite	
101.5		blk		0.34		101.65		A025	sst	slty	vfg			gry	m			as above	
		blk		0.77		102.42		A026	siltst	mudst				gry	m-dk	lam		slightly calc mudst. lam. in part - weak fizz, no vis. pyrite	
Box 26		blk-bkn		0.30 RL 1.91		102.72 104.63		A026 A026	ROCK LOSS siltst	mudst				gry	m-dk	lan		as above, incr. mudst content	
104.50		blk-solid		0.67		105.30		A027		mudst				gry	dk	mass		no vis. pyrite, non calc	
Box 27		solid		0.87		106.17		A027		mudst				gry	dk	mass		as above, stinger of shell frags near base	
		blk		0.02 CL 0.89	106.17 106.19	106.19 107.08		11 11	COAL LOSS coal									dull & bright banded, mnc pyrite lam. in top 10 cm. 2-3%	
		solid		0.51	107.08	107.59		A028		mudst	coaly/ lam.			gry	dk	mass		carb plant frags and coal frags. heavy, no vis. pyrite, non calc.	
107.6		solid-blk		0.42		108.01		A028		mudst	coaly/ lam.			gry	dk	mass		as above	
Box 28	32°	solid		2.37		110.38		A028		mudst	coaly/ calc.			gry	dk			as above, dec. plant-coal content, mnc siltst lam	







MANALTA COAL LTD.

SHEET # 12 OF 13

PROJECT: TELKWA HOLE # T97R-82C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	UNIT THK											
		blky		0.48	138.99	139.47		A036	mudst			gry	dk	mass		non calc, no vis. pyrite		
				0.09 RL	139.47	139.56		A036	ROCK LOSS									
		blky		0.25	139.56	139.81		21	coal							dull banded, no vis. pyrite trace bentonite lam in bitm. 3cm		
		solid		0.16		139.97		22	coal							dull banded, no vis. pyrite		
Box 39				0.06 CL	139.97	140.03		22	COAL LOSS									
		blky		0.64		140.67		22	coal							as above		
		blky-solid		1.04		141.71		23	coal							dull banded, 6cm carb. mudst at top, no vis. pyrite		
141.00		blky-solid		0.99		142.70		23	coal							as above		
Box 40				0.08 CL	142.70	142.78		23	COAL LOSS									
		solid		0.15	142.78	142.93		23	Coal							as above		
		blky		1.69		144.62		24	Coal							5cm bentonite band at top, dull w. mnc. bright bands, no vis. pyrite		
144.0				0.23 CL	144.62	144.85		24	COAL LOSS									
		blky		0.92		145.77		24	Coal							as above		
Box 41		solid		0.29		146.06		24	Coal							as above		
		blky		0.32		146.38		25	Coal							mudst lam. in bitm. 5cm		
				0.10 CL		146.48		25	COAL LOSS							calc. barwork at base no visible pyrite		
		blky-solid		1.40	146.48	147.88		A037	mudst	silt/sst		gry	dk-m	lam		mnc. siltst content sst bands near base, no vis. pyrite		





MANALTA COAL LTD.

SHEET # 11 OF 13

PROJECT: TELKWA HOLE # 797R-82C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	DESCRIPTION				KEY BED
				INTERVAL THK	FROM	TO						UNIT THK	COLOUR	MODIFIER	BEDDING	
		blky-solid		0.31	157.16	157.47	27	coal								as above
		blky		0.86	157.47	158.33	A041	mudst	rocky coaly			gry	dk			mar. pyrite incl. in part 1% coal bands throat, non calc.
	62°	solid		0.35		158.68	28	coal								no vis. pyrite, mudst bands at base
		blky-solid		0.77	158.68	159.45	A042	mudst				gry	dk			pyrite incl. in part 1% non calc.
		blky		0.32		159.77	29	coal								dull banded, trace pyrite < 1%, mar. calc. horwork
Box 46				0.06 cl	159.77	159.83	29	COALLOSS								
		blky		0.38	159.83	160.25	A043	mudst				gry	dk			non calc., no vis. pyrite
158.6	61°	blky		2.14	160.25	162.35	A043	mudst				gry	dk			as above, trace pyrite on fracture surface, rocky mudst from 1.02 - 1.36
Box 47		blky		0.95		163.30	A043	mudst				gry	dk			as above, mar. coal incl.
161.6				0.14 RL		163.44	A043	ROCKLOSS								
		blky		1.78		165.22	A043	mudst				gry	dk			as above
Box 48		blky		0.44	165.22	165.66	A044	mudst				brn	m	lam		slightly calc, very weak fizz, no vis. pyrite
164.5	59°	blky		0.60	165.66	166.26	A045	mudst				gry	dk	lam		non calc, no vis. pyrite





# GEOMECHANICAL PROPERTIES LOGGING FORM

CLIENT/PROJECT: \_\_\_\_\_ PROJECT #: Talkurs LOGGER: J. Sene DATE: Sept 20/97

CORE HOLE #: T97R-82C NORTHING: \_\_\_\_\_ EASTING: \_\_\_\_\_ ELEVATION: \_\_\_\_\_

ORIENTATION AT COLLAR - TREND: \_\_\_\_\_ PLUNGE: \_\_\_\_\_ CORE SIZE: \_\_\_\_\_

DEPTH TO	LENGTH OF RUN	LITH.	RECOVERY		RQD		NO. OF FRACT'RS		JOINT COND.	DEGREE OF BREAK.	ALT'N WEATH.	HDN.	COMMENTS
			LENGTH (%)	(%)	LENGTH (%)	(%)	BT	XJ					
3450		MST	134		121		-	3	10	E	F	R20	BCA 42°
3750		MST	290		240		2	9	10	F-F		R20	
4050		MST	285		220		3	7	9	E-F		R20	BT 44° XJ 79°
4350		MST	299		283		1	8	10	E+F		R20	
4670		MST	304		278		4	2	10	E	F	R20	
4980		SST	308		308		3	7	12	E+F		R20	BT 38° XJ 75-80°
5300		SST	290		290		-	3	14	E+F		R20	
5600		COL	252		227		3	4	12	E-F		R20	coal between @ 0.75cm → 2.19
5910		MST	290		290		-	4	12	E	F	R20	BCA 33° XJ 75°
6210		MST	300		300		-	6	12	E	F	R20	
6510		MST	310		295		1	8	12	E	F	R20	coal in bottom 65cm
6820		MST	287		269		5	6	12	E-F		R20	BT 40° XJ 83° coal from 1.39cm → 2.15
7120		SLT	305		178		2	13	12	D+F		R20	
7430		MST	300		273		3	5	12	E	F	R20	
7730		SLT	304		232		1	11	12	E-F		R20	
8040		SLT	303		213		5	9	10	D+F		R20	coal from 2.38 to base BT 45° XJ 82°
8340		COL	293		266		3	7	12	E-F		R20	coal fill 2.14
8750		MST	296		167		1	14	10	D	F	R20	BT 26° XJ 72°
9050		MST	309		205		1	13	10	D+F		R20	
9360		SLT	315		198		1	9	10	D+F		R20	
9540		SLT	283		180		1	17	10	D+F		R20	
9840		SLT	300		175		-	18	12	D+F		R20	
10150		SST	297		156		-	17	12	D	F	R20	XJ 83°
10450		SLT	307		207		2	11	12	D+F		R20	BT 39°
10760		MST	303		252		-	9	12	E	F	R20	coal from 2.13 to 2.53
11060		MST	273		190		-	9	12	E-F		R20	



# GEOMECHANICAL PROPERTIES LOGGING FORM

CLIENT/PROJECT: \_\_\_\_\_ PROJECT #: \_\_\_\_\_ LOGGER: \_\_\_\_\_ DATE: \_\_\_\_\_

CORE HOLE #: T97R-82C NORTHING: \_\_\_\_\_ EASTING: \_\_\_\_\_ ELEVATION: \_\_\_\_\_

ORIENTATION AT COLLAR - TREND: \_\_\_\_\_ PLUNGE: \_\_\_\_\_ CORE SIZE: \_\_\_\_\_

DEPTH TO	LENGTH OF RUN	LITH.	RECOVERY		RQD		NO. OF FRACT'RS		JOINT COND.	DEGREE OF BREAK.	ALT'N/ WEATH.	HDN.	COMMENTS
			LENGTH	(%)	LENGTH	(%)	B	X					
11360		MST	177		149		1	3	12	E		FR 20	
11670		MST	394		280		1	1	12	D		FR 20	BJ 40° XT 79°
11970		MST	301		232		-	6	12	E		FR 20	
12280		MST	305		225		-	11	12	E		FR 20	
12580		COL	282		235		1	7	12	E		FR 20	coal starts at 0.77 → base
12890		COL	291		220		1	6	12	D		FR 20	
13190		MST	172		30		2	-	09	C	+	FR 25	coal from 1.32 heavy slickensides embank per
13500		MST	277		236		5	5	10	D	+	FR 20	coal from top to 0.91cm
13700		MST	197		111		1	4	10	D		FR 20	
13800		MST	86		71		1	3	10	D		FR 20	BJ 41° XT 65°
14100		COL	310		226		4	5	12	E		FR 20	coal from 0.97 to base
14400		COL	285		190		5	4	12	D		FR 20	
14700		COL	297		230		4	1	12	E		FR 20	coal to 1.57
15000		SST	302		256		-	6	12	E		FR 25	
15300		SST	272		207		1	6	12	E		FR 25	
15550		MST	298		240		3	7	12	E		FR 20	coal from 1.01 → 2.06 BJ 59° XT 81°
15860		MST	300		247		2	9	12	E		FR 20	
16160		MST	310		280		3	4	12	E		FR 20	
16450		MST	282		239		1	6	12	E		FR 20	
16700		MST	299		193		1	13	12	D		FR 20	coal from 2.27 - 2.99
17060		COL	280		182		-	11	12	D		FR 20	coal from top to 1.24
17370		MST	305		255		2	10	12	E		FR 20	coal from 1.62 - base
17670		SLT	303		240		4	7	12	D	+	FR 20	
18000		SLT	273		216		5	3	12	E		FR 20	



T97R-82C

START

STOP

Box

32	34.5	1
34.5	37.5	1+2
37.5	40.5	2+3
40.5	43.5	3+4
43.5	46.7	4+5+6
<del>46.7</del> 46.7	49.8	6+7
49.8	52.0	7+8
52	56	8+9 Coal
56	59.1	9+10
59.1	62.1	10+11
62.1	65.1	11+12 Coal
65.1	68.2	12+13 Coal
68.2	71.2	13+14
71.2	74.3	14+15 Coal
74.3	77.3	15+16
77.3	80.4	16+17 Coal
80.4	83.4	17+18 Coal
83.4	87.5	19+20 Coal (not much)
87.5	90.5	20+21
90.5	93.6	21+22
93.6	95.4	22+23
95.4	98.4	23+24
<del>98.4</del> 98.4	101.5	24+25
101.5	104.5	25+26
104.5	107.6	26+27 Coal
107.6	110.6	27+28
110.6	113.6	28+29

T97R-82C

Rick Vincke  
Sept 14/97

113.6  
 116.7  
 119.7  
 122.8  
 125.8  
 128.9  
 131.9  
 135  
 137  
 138  
 141  
 144  
 147  
 150  
 153  
 155.5  
 158.6  
 161.5  
 164.5  
 167.6  
 170.6  
 173.7  
 176.7  
 176.7

116.7  
 119.7  
 122.8  
 125.8  
 128.9  
 131.9  
 135  
 137  
 138  
 141  
 144  
 147  
 150  
 153  
 155.5  
 158.6  
 161.5  
 164.5  
 167.6  
 170.6  
 173.7  
 176.7  
 180.

~~30~~ + 31  
 31 + 32  
~~32~~ + 33  
 33 + 34 Coal  
 34 + 35 Coal  
 35 + 36 Coal SF  
 36 + 37  
 37 + 38  
 38  
 38 + 39 Coal  
 39 + 40 "  
 40 + 41 "  
 41 + 42  
 42 + 43  
 43 + 44  
 44 + 45  
 45 + 46  
 47 + 48  
 48 + 49 Coal  
 49 + 50  
 50 + 51  
 51 + 52  
 52 + 53



MANALTA COAL LTD.

SHEET # 1 OF 3

PROJECT: TELKWA HOLE # T92R-95C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO													
					1.00	1.60	R.L.	—											
		Crushed.		0.43	1.60	2.03		A001	MDSN				brwn.					Very well sorted orange brown. Plant debris common. Non-calc.	
3.00		Broken.		0.78	2.03			A002	SLSN				grey.	med.	Massive.			Non-calc. No visible pyrite. Carb laminae.	
		Broken.		0.15	2.81			A003	SLSN.				grey	lt.	massive			Very calc. v hard. Siltst.	
	70°	Broken.		0.90		3.71		A003	SLSN				grey	med	massive.			Sl. calc. @ top Non calc through most. Mdsn towards base. No visible pyrite	
		Broken.		0.04		3.90		A003	MDSN				grey	dk				Frail carb. Abrupt lower contact.	
		Broken.		0.27	3.90	4.17		1	COAL				black.					Clean, hard.	
				0.02	4.17			A004	MDSN.	carb			black						
	72°			1.47	4.19	5.66		A004	SLSN	carb			grey	dk	thin.			introd. via ss/siltst & minor carb mdsn Non-calc. Occ. coal bands	
		Broken.		0.23	5.66	5.89		A005	SLSN.						Massive.			Extremely fracture-filled by calcite & quartz.	
				0.13	5.89	6.02	RL	A006											
		Broken.		0.41	6.02	6.43		A006	SLSN.				grey	med.	Massive.			Pyrite blebs common. Non calc.	
		Crushed.		0.05	6.43	6.48		A006	MDSN.	carb.			blk.					Coaly.	
		Crushed.		0.05	6.48	6.53	CL	1	COAL				blk						
		Blocky		0.11	6.60	6.71		2	COAL				"					Clean.	
		V. Broken		0.34	6.71	7.05	CL	3	COAL				"					Minor pyrite laminae	
	74°	Broken.		0.71	7.14	7.85		4	COAL				"					Clean, hard. Occ. pyrite blebs	
		Blocky		0.20	7.85	8.05		5	COAL				blk.					Dirty bands & common pyrite blebs & bands esp @ base.	
		Blocky		0.13	8.05	8.18		A008	MDSN	carb.			blk.						
9.00		Broken.		0.75				A007	SLSN.				grey		Massive.			Sl. grading down to Fgr. SS	
		Broken.		0.30	8.43	8.73	RL	A009	MDSN	slty.			grey	dk				Plant debris common.	
		Broken.		0.26	9.03	9.29	RL	A010	SLSN	mdsn.			grey	dk				Common plant debris. Introd mdsn & coal. Lower laminae = Mdsn. Non calc.	
		Broken		0.13	11.20	11.33		6	COAL									Clean & hard. Dirty in upper 4cm.	
		Blocky.		0.06	11.33	11.39	CL	6	COAL									Dirty st.	
12.00		Blocky		0.68	11.42	12.10		7	COAL									Clean thout. No visible pyrite.	

MANALTA COAL LTD.

SHEET # 2 OF 3

PROJECT: TELKWA HOLE # T92R-95C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
		Blocky		0.91	12.10	13.01		8	COAL								Dirty zone from 0.45-0.46 & 0.56-0.58. No pyrite.	
		Broken		0.26	13.01	13.27		9	COAL								Sl. dirty esp @ base.	
		Broken		0.21	13.27	13.48	CL	10	MDSN	carb							Common plant debris.	
		Blocky		0.18	13.54	13.72		11	COAL								Sl. dirty. No pyrite.	
	66°	Broken		0.43	13.72	14.15	RL	A011	MDSN	carb							Non-calc except common calcite fracture. All veins. Common plant debris.	
		V. Broken		0.18	14.15	14.33	CL	12	COAL								Sl. dirty th/out. V. dirty in upper 5cm.	
		Blocky		0.03	14.44	14.47		12	ASH					lt.			ML transition.	
15.00		Blocky		0.65		15.12		13	COAL								Hard & clean th/out. No pyrite.	
		Broken		0.23		15.35		14	COAL								Clean	
				0.58	15.35	15.93	RL	A012	MDSN	silty							Sl. carb. Non-calc. No pyrite.	
		Crushed		0.26	16.14	16.40		15	COAL								Dirty crushed @ top. Sl. cleaner near base. No pyrite.	
		"		0.05	16.40	16.45	RL	A013	MDSN	carb								
		Blocky		0.08	16.45	16.53		A013	RENT								Barren ash layer. Non-calc.	
				0.32	16.53	16.85	0.04 RL	A013	MDSN									
	73°	Broken		0.40	16.85	17.11		A013	MDSN	carb							Vary carb Non-calc.	
		Blocky		0.56	17.11	17.67		16	COAL								Sl. dirty th/out esp @ top & base.	
18.00		Broken		0.50	17.67	18.17	0.05 RL	A014	MDSN								Non-calc. Common plant frags	
				0.29	18.21	18.51		A014	MDSN	carb							A/A Carb th/out minor calcite vein filling. Non-calc.	
		Broken		0.22	18.51	18.73		A015	COAL								No visible pyrite.	
		"		0.63		19.36		A016	MDSN	carb							Non-calc th/out lower common	
				0.30		19.66		A017	SASN		fin						Clean carb. S+P. Non-calc.	
21.00	75°	V. Broken		1.22		20.88		A018	MDSN	carb							No visible pyrite.	
					20.88	21.18	0.30 RL										Carb to early mid-stn. Non-calc. No pyrite. Siltier & harder in mid-stn here.	
	45°	V. Broken		0.15	21.18	21.33		A018	MDSN	carb							A/A V. Coaly mid-stn.	
		Broken		0.20		21.53		A019	SASN								Non-calc except for calcite fracture. All. Pyrite fracture. All as well as well developed pyrite xls along fractures.	

Xls along fractures.









MANALTA COAL LTD.

SHEET # 2 OF 3

PROJECT: TELKWA HOLE # T97P-100C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	ROD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK.	FROM	TO	UNIT THK											
		blky		1.91	14.98	16.89	A007	siltst	mudst			gry	dk-lt			as above		
Box 6	81°	blky		0.94		17.83	A007	siltst	mudst			gry	dk-lt			as above		
		blky-brkn		1.65		19.48	A007	siltst	mudst			gry	dk-lt			as above, calc. siltst band		
				0.854L		20.33	A007	Reckless								from 1.21 - 1.32		
		blky-solid		0.22		20.55	A008	mudst				gry	dk-m			non calc., no vis. pyrite, wide spaced siltst bands trace calc. content in siltst bands		
Box 7		blky-solid		1.07		21.62	A008	mudst				gry	dk-m			as above		
21.0		blky-solid		1.60		23.22	A008	mudst				gry	dk-m			as above		
Box 8		solid		0.20		23.42	A008	mudst				gry	dk-m			as above		
		blky		1.25		24.67	A009	mudst				gry	dk	mass		non calc., no vis. pyrite, scattered mudst nodules		
24.0		blky		1.17		25.84	A009	mudst				gry	dk	mass		as above		
Box 9	81°	blky-solid		0.87		26.71	A009	mudst				gry	dk	mass		as above		
		blky		0.85	26.71	27.56	A010	mudst				gry	dk	mass		pyrite holes around coal incl. 1-2%, non calc.		
27.0		blky		1.12		28.68	A010	mudst				gry	dk	mass		as above		

MANALTA COAL LTD.

SHEET # 3 OF 3

PROJECT: TELKWA HOLE # T97R-100C CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO													
Box 10		blky		1.78	28.68	30.46		A010	mudst				gry	dk	mass		as above		
30.0		slky		0.39		30.85		A010	mudst				gry	dk	mass		as above, sharp basal contact		
				0.06 CL	30.85	30.91		A011	COAL LOSS										
	55°	blky-brkn		0.44	30.91	31.35		A011	coal								pyrite lam in top 2cm		
				0.06 CL	31.35	31.41		A011	COAL LOSS								dull & bright banded		
		brkn		0.13	31.41	31.54		A012	mudst	coaly			blk				no vis. pyrite, non calc.		
Box 11		brkn		0.05		31.59		A012	mudst	coaly			blk				as above		
		blky		1.73	31.59	33.32		A013	coal								dull & bright banded, trace pyrite on cleat 1-2%		
				0.21 CL	33.32	33.53		A013	COAL LOSS										
33.0		brkn	U	0.09		33.62		A013	coal								as above		
				0.34 CL	33.62	33.96		A014	COAL LOSS										
		blky		0.76	33.96	34.72		A014	coal								11 cm mudst band at top		
																	no vis. pyrite		
Box 12		blky		0.20	34.72	34.92		A014	coal								as above		
		blky		0.25	34.92	35.17		A015	coal								dull banded, no vis. pyrite,		
				0.07 CL	35.17	35.24		A015	COAL LOSS								muddy at base		
		blky-solid		0.47	35.24	35.71		A016	mudst				gry	dk			pyrite incl. at top 2-3%, non calc.		
				0.09 CL	35.71	35.80		A017	COAL LOSS										
		blky		0.84	35.80	36.64		A017	coal								dull & bright banded, no vis.		
				0.09 CL	36.64	36.73		A017	COAL LOSS								pyrite, contact from 0.53-0.57		





# GEOMECHANICAL PROPERTIES LOGGING FORM

CLIENT/PROJECT: \_\_\_\_\_ PROJECT #: \_\_\_\_\_ LOGGER: \_\_\_\_\_ DATE: Sept 28/97

CORE HOLE #: T97R-100C NORTHING: \_\_\_\_\_ EASTING: \_\_\_\_\_ ELEVATION: \_\_\_\_\_

ORIENTATION AT COLLAR - TREND: \_\_\_\_\_ PLUNGE: \_\_\_\_\_ CORE SIZE: \_\_\_\_\_

DEPTH TO	LENGTH OF RUN	LITH.	RECOVERY		RQD		NO. OF FRACT'RS		JOINT COND.	DEGREE OF BREAK.	ALT/W. WEATH.	HDN.	COMMENTS
			LENGTH	(%)	LENGTH	(%)	BJ	XJ					
600		SLT	295		170		1	2	1	2	D-	FR20	BJ 87° XJ 66°
900		SLT	285		152		6	3	1	2	D+	FR20	
1200		SLT	305		172		14	2	1	2	D-	FR20	
1500		SLT	316		198		18	-	1	2	D-	FR20	
1800		SLT	291		232		7	7	1	2	D+	FR20	BJ 82° XJ 42°
2100		SLT	304		260		6	-	1	2	D	FR20	
2400		MST	306		270		6	2	1	2	E	FR20	
2700		SLT	293		273		2	8	1	2	E	FR20	XJA=32-47° BCA=81°
3000		SLT	305		283		4	5	1	2	E-	FR20	XJA=45°
3300		COL	279		236		4	14	1	2	D+	FR20	XJA=40°-50° BCA=55° @ top 85° = Avg. Dom. eoz. Minor sltst.
3600		COL	291		199		10	14	1	2	D-	FR20	XJA=20-50° Dombly 40° XJA BCA=90° @ top 75° @ base.
4000		SSN	300		300		5	1	1	5	E+	FR20	BCA=77°
4300		SSN	304		291		8	1	1	5	D-	FR20	XJA=70° BCA=80°
4600		SLT	278		258		7	4	1	4	E	FR20	XJA=40° BCA=81°



T97R-108C

MANALTA COAL LTD.

SHEET # 1 OF

PROJECT: TELKWA HOLE # T97R-108C CONTRACTOR: CASING: COMMENTS: SITE # 154

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
					0	28.2		CASING	OVERBURDEN									
30.00	95°	Broken.		2.37		30.57		A001	SLSN.				grey	med.	Massive		Non-calc. except where minor calcite. Calcite fill is present. Dissem. pyrite or.	
				0.07 RL		30.64		A001	ROCKLOSS									
		Broken.		1.86		32.50		A001	SLSN				"	"	"		NA Minor v. G. ss.	
		Blocky		0.2A		32.74		A002	SLSN				grey	lt.	Massive.		Calc. dense siltst. No pyrite	
				1.05 RL		33.79		A003	ROCKLOSS								Rept. sulphid. Gzz.	
33.00		Broken.		0.30		34.09		A003	SLSN				"	med	Massive.		Dissem. E. framed pyrite & low	
				0.75 RL		34.84		A003	ROCKLOSS								acc. blebs & pyrite halos.	
36.00		Broken		2.58		37.42		A003	SLSN				"	"	Massive.			
38.50		Crushed		2.10		39.52		A003	SLSN				"		Massive			
				0.50 RL		40.02		A004	ROCKLOSS									
41.50		V. Broken.		2.30		42.32		A004	SLSN				grey		"		NA. More dissem. pyrite. Non-calc.	
				0.50 RL		42.82		A004	ROCKLOSS				"		"			
44.50		V. Broken.		2.21		45.03		A004	SLSN				"		"			
				0.50 RL	RL	45.53		A004	ROCKLOSS									
		Broken.		0.10	45.53	45.63		A005	COAL									
				0.03 CL	45.63	45.66		A005	COAL LOSS									
		Crushed.		0.7A				A005	MDSN	carb.			grey	dk	Massive		Common siltstones. Non-calc.	
																	No visible pyrite. Minor siltst. Plant frags common.	
		V. Broken		0.20				A005	MDSN	carb			"	"	"		NA	
		Broken		0.45	46.60	47.05		A006/1	COAL				blk				Clean & hard. C-seam.	
				0.10 CL	47.05	47.15		"	COAL LOSS									
		Blocky		0.01	47.15	47.16		A006/1	COAL				blk				Dirty	
				0.03 CL	47.16	47.19		"	COAL LOSS									
	50°	Broken.		0.39	47.19	47.58		A006/1	COAL				blk				"log" & hard.	
				0.32 R	47.98	48.30		A007	ROCK LOSS									
47.50		Crushed.		0.15	48.30			A007	MDSN									
50.50	62°	V. Broken		2.93		51.38		A007	MDSN	carb			grey	dk	Massive.		Carb mudst grading to siltst. Non-calc. No visible pyrite	

MANALTA COAL LTD.

SHEET # OF

PROJECT: TELKWA HOLE # CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	UNIT THK											
55.00	78°	Broken		3.96		55.34	A008	SLSN	ssy			grey	iron	v. thin		Intbed siltst / ss. Beds up to 0.5cm each. Non-calc. Finely disseminated pyrite. Minor amounts of calcite vein filling.		
				0.31 RL		55.65												
		Broken		0.96		56.61	A009	SLSN				"	"	v. thin		A/A but grading down to carb siltst & mudst.		
		Blocky		0.30	56.61	56.91	A010	COAL				blk.				clean & hard th/out. No pyrite. "B-seam"		
		v. Broken		0.09		57.00	A011	MDSN										
58.00	88°	Broken		0.92		57.92	A011	SLSN	ssy.			grey	med	v. thin		Carb mudst. grading down to siltst ss. 55/45. Beds up to 0.5cm. Non-calc. No visible pyrite.		
				0.48			A012	SLSN	ssy.							A/A		
61.00	88°	Broken		2.65			A012	SLSN	ssy			grey	med	v. thin		Intbed siltst/ss (65/35) Non-calc. No pyrite.		
				0.13 RL	61.05	61.18	A012	Rock Loss										
				0.13 RL	61.18	61.32	A013	Rock Loss										
		Broken		0.74		62.05	A013	SLSN								A/A but grading down to silty mudst towards base. Non-calc. Abrupt contact w/ underlying coal. Reef 11)		
		Broken		0.29	62.05	62.34	2	COAL				black				Hard, clean. No visible pyrite		
		Broken		0.12		62.46	3	COAL				black				Slt dirty @ base. Clean @ top.		
		Broken		0.03		62.49	3	MDSN				brown.				Mdsn parting - minor coal.		
				0.06		62.55	3	COAL				blk.				Dirty coal. Mdsn. bands th/out		
		Blocky		0.69		63.24	4	COAL				black				Clean & hard th/out. No pyrite		
		Broken		0.80		64.04	5	COAL				black				A/A. No pyrite.		
64.00		Broken		0.27		64.31	6	COAL				black				Slt. dirty @ base.		
		Coal Loss		0.04 CL	64.31	64.35	6	COAL LOSS										

265  
29  
313



MANALTA COAL LTD.

SHEET # OF

PROJECT: TELKWA HOLE # CONTRACTOR: CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				FROM	TO	INTERVAL THK												
		Broken.		0.66		70.00		14	COAL				black				Hard & clean th. l. st.	
		Blocky		0.20		70.20		15	COAL				blk.				Hard & Clean th. l. st. Possible core loss @ base.	
	85°	Blocky		0.14				A015	MDSN.				blk.		Massive.		carb. very coarse in uppermost 2cm. Non-calc.	
70.00		V. Broken.		0.15		70.49		A015	MDSN.				grey.		Massive.		Pre-oxidized mudst. Calcite fracture fill. No pyrite.	
				0.21 RL	70.49	70.70		A015	ROCK LOSS									
		Broken.		2.66				A016	SLSN.				grey	lt.	Massive.		Sl carb clean st. l. st @ top grading down to v. carb st. l. st & carb mudst. near base. Pyrite blebs near base. Dense. Pyrite @ top Non-calc.	
		Blocky		0.14		73.50		A016	MDSN	carb			brown.					
73.00		Crushed.		0.10	73.50	73.60		A017	COAL								Crushed.	
				0.05a		73.65			COAL LOSS									
		Blocky		0.05		73.70		A017	COAL				black				Calcite fracture fill.	
				0.07 CL		73.77			COAL LOSS									
		Broken.		0.03		73.80		A017	COAL								Dirty. Pyrite band th. l. st	
		Broken.		0.10		73.90		A017.	COAL				blk.				Clean - Calcite veining.	
74.50		Crushed.		0.36		74.26		A018	MDSN.				grey.				Pre-oxidized mudstn w. common calcite fracture fill. Calc. w. rapid surf. Cr. Pyrite w/in.	
		Blocky		0.22		74.48		A019	SLSN				grey	med.	Massive.		Non calc. dense st. l. st Pyrite blebs & bands, resp. at basal contact with coal.	
		Blocky		0.10		74.58		A020	COAL								Hard. Dirty. Calcite fracture fill. Minor pyrite visible.	
		Crushed.		0.08		74.66		A020	MDSN	carb.			brown				Coaly mudst.	





# GEOMECHANICAL PROPERTIES LOGGING FORM

CLIENT/PROJECT: \_\_\_\_\_ PROJECT #: \_\_\_\_\_ LOGGER: \_\_\_\_\_ DATE: \_\_\_\_\_

CORE HOLE #: T97R-108c NORTHING: \_\_\_\_\_ EASTING: \_\_\_\_\_ ELEVATION: \_\_\_\_\_

ORIENTATION AT COLLAR - TREND: \_\_\_\_\_ PLUNGE: \_\_\_\_\_ CORE SIZE: \_\_\_\_\_

DEPTH TO	LENGTH OF RUN	LITH.	RECOVERY		RQD		NO. OF FRACT'RS		JOINT COND.	DEGREE OF BREAK	ALTIV WEATH.	HDN.	COMMENTS	
			LENGTH	(%)	LENGTH	(%)	NS	XS						
3000		SLN	237		217		5	1	15	D+	FR	1.8	XJA = 33° PCA = 80° Massive siltst th/out.	
3300		SLN	270		240		3	9	15	D-	FR	1.8	XJA = 35°	
3600		SLN	288		272		3	5	15	D	FR	1.8	PCA = 55°	
3850		SLN	210		150		6	10	15	B	FR	1.8	Very Broken th/out	
4150		SLN	230		180		5	5	15	C+	FR	1.8	PCA = 68°	
4450		SLN	221		175		5	8	12	C-	FR	1.8		
4750		COL	232		181		1	2	8	12	D	FR	1.8	PCA = 80° XJA = 50° ConQ and mudstone "C-seam"
5050		SLN	293		203		7	1	3	12	D+	FR	1.8	XJA = 35° PCA = 62°
5200		SLN	104		83		2	4	1	2	D+	FR	2.0	PCA = 70°
5500		SLN	292		280		4	2	1	2	E-	FR	2.0	Intbd. G. ss/siltst. V. thinly bedded. PCA = 78°
5800		SLN	234		199		6	7	1	2	D	FR	2.0	XJA = 10-70° Avg = 60° Some conQ "B"-seam
6100		SLN	313		303		5	4	1	5	E-	FR	2.0	XJA = 20-32° PCA = 80°
6400		COL	302		280		4	6	1	5	D+	FR	2.0	XJA = 20-45° PCA = 85° 4U-seam







T98R-01	0.00	7.50 OB
T98R-01	7.50	86.00 SASN
T98R-01	86.00	86.49 COAL
T98R-01	86.49	86.72 MDSN
T98R-01	86.72	86.95 COAL
T98R-01	86.95	115.00 SASN
T98R-01	115.00	132.00 VOLC



T98R-02	0.00	17.25 OB
T98R-02	17.25	19.00 SASN
T98R-02	19.00	22.50 SLSN
T98R-02	22.50	23.75 SASN
T98R-02	23.75	26.50 SLSN
T98R-02	26.50	29.75 SASN
T98R-02	29.75	30.25 SASN
T98R-02	30.25	35.50 SLSN
T98R-02	35.50	40.25 SASN
T98R-02	40.25	45.00 SASN
T98R-02	45.00	46.00 MDSN
T98R-02	46.00	47.25 SLSN
T98R-02	47.25	48.00 MDSN
T98R-02	48.00	48.75 SLSN
T98R-02	48.76	51.25 MDSN
T98R-02	51.26	52.75 SLSN
T98R-02	52.76	53.00 SASN
T98R-02	53.01	55.75 SLSN
T98R-02	55.76	56.00 SASN
T98R-02	56.01	57.00 MDSN
T98R-02	57.01	57.35 SLSN
T98R-02	57.36	57.65 COAL
T98R-02	57.66	57.90 MDSN
T98R-02	57.91	58.05 COAL
T98R-02	58.06	60.33 SLSN
T98R-02	60.34	61.40 COAL
T98R-02	61.41	62.06 MDSN
T98R-02	62.07	62.55 COAL
T98R-02	62.56	63.95 MDSN
T98R-02	63.96	64.96 COAL
T98R-02	64.97	65.30 MDSN
T98R-02	65.31	65.88 COAL
T98R-02	65.89	66.75 MDSN
T98R-02	66.76	67.00 SLSN
T98R-02	67.01	74.51 SLSN
T98R-02	74.52	75.06 COAL
T98R-02	75.07	79.00 SLSN
T98R-02	79.01	80.00 MDSN







T98R-02C	0.00	17.56 OB
T98R-02C	17.56	20.56 SLSN
T98R-02C	20.56	21.02 SLSN
T98R-02C	21.02	21.76 SLSN
T98R-02C	21.76	22.66 SLSN
T98R-02C	22.66	24.02 lost
T98R-02C	24.02	24.52 SLSN
T98R-02C	24.52	25.25 SASN
T98R-02C	25.25	26.52 lost
T98R-02C	26.52	26.75 SASN
T98R-02C	26.75	27.02 lost
T98R-02C	27.02	29.52 SASN
T98R-02C	29.52	30.02 SASN
T98R-02C	30.02	32.02 SASN
T98R-02C	32.02	33.02 SASN
T98R-02C	33.02	34.84 SASN
T98R-02C	34.84	35.30 SASN
T98R-02C	35.30	36.02 SASN
T98R-02C	36.02	37.52 SASN
T98R-02C	37.52	38.82 SASN
T98R-02C	38.82	39.02 SASN
T98R-02C	39.02	40.27 SASN
T98R-02C	40.27	40.87 MDSN
T98R-02C	40.87	42.02 SASN
T98R-02C	42.02	43.05 SASN
T98R-02C	43.05	45.02 SASN
T98R-02C	45.02	45.27 SASN
T98R-02C	45.27	46.12 SASN
T98R-02C	46.12	48.02 SASN
T98R-02C	48.02	49.32 SASN
T98R-02C	49.33	50.02 SASN
T98R-02C	50.03	51.02 SASN
T98R-02C	51.03	51.59 SASN
T98R-02C	51.60	51.89 MDSN
T98R-02C	51.90	53.52 MDSN
T98R-02C	53.53	54.17 MDSN
T98R-02C	54.18	55.40 MDSN
T98R-02C	55.41	55.52 COAL
T98R-02C	55.53	55.67 COAL
T98R-02C	55.68	57.02 MDSN
T98R-02C	57.03	57.15 MDSN
T98R-02C	57.16	58.28 MDSN
T98R-02C	58.29	58.55 MDSN
T98R-02C	58.56	59.75 MDSN
T98R-02C	59.76	60.02 COAL
T98R-02C	60.03	60.62 COAL
T98R-02C	60.63	60.95 COAL
T98R-02C	60.96	61.62 MDSN
T98R-02C	61.63	61.70 MDSN
T98R-02C	61.71	61.90 COAL
T98R-02C	61.91	62.02 COAL
T98R-02C	62.03	62.14 COAL
T98R-02C	62.15	62.69 MDSN
T98R-02C	62.70	63.02 MDSN
T98R-02C	63.03	63.29 MDSN
T98R-02C	63.30	63.39 MDSN
T98R-02C	63.40	65.52 COAL
T98R-02C	65.53	66.02 COAL
T98R-02C	66.03	67.18 COAL
T98R-02C	67.19	68.00 COAL
T98R-02C	68.01	68.22 MDSN

T98R-02C	68.23	68.52 MDSN
T98R-02C	68.53	68.74 MDSN
T98R-02C	68.75	69.02 MDSN
T98R-02C	69.03	69.10 MDSN
T98R-02C	69.11	69.39 COAL
T98R-02C	69.40	70.09 COAL
T98R-02C	70.10	71.02 MDSN
T98R-02C	71.03	72.02 MDSN

MANALTA COAL LTD.

SHEET # 1 OF 6

PROJECT: TELKWA HOLE # T98R-01C CONTRACTOR: Cora Lynn CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
Box 1		very broken		3.00	17.20	20.20	3.00	A001	SLSN				gy	med.			Fe stained fractures	
		very broken		0.46	20.20	20.66		A001	SLSN				gy	med			Fe stained fractures	
		very broken		0.74	20.66	21.40		A001	SLSN				gy	med			Fe stained fractures	
Box 2		broken		0.90	21.40	22.30		A001	SLSN				gy	med			Fe stained fractures	
		—		1.36	22.30	23.66			LOST									
		broken		0.50	23.66	24.16		A001	SLSN				gy	med.			Fe stained fractures	
		broken / soft		0.73	24.16	24.89		A002	SASN	silty	fgr		gy	med	thick		Fe stained fractures, very soft	
		—		1.27	24.89	26.16			LOST								53-73cm - strongly calc	
Box 3		soft		0.23	26.16	26.39		A002	SASN	silty	fgr		gy	med	thick		very soft no visible py, non calc	
		soft		0.27	26.39	26.66			LOST									
		soft soft		2.50	26.66	29.16		A001	SASN	silty	fgr		gy	med	thick		very soft no visible py, non calc	
Box 4		blocky / soft		0.50	29.16	29.66		A002	SASN	silty	fgr		gy	med	thick		very soft no visible py, non calc	
		blocky / soft		2.00	29.66	31.66		A002	SASN	silty	fgr		gy	med	thick		soft no visible py, non calc	

MANALTA COAL LTD.

SHEET # 2 OF 6

PROJECT: TELKWA HOLE # T98R-02C CONTRACTOR: Cora Lynn CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION									KEY BED
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	
Box 5		blocky		1.00	31.66	32.66		A003	SASN	silty	car		gy	med	thick		2mm calcite @ 15° at 32.31m.
		blocky		1.82	32.66	34.48		A003	SASN	silty	fgr		gy	med	thick		no vis py, non calc no vis py, non calc
Box 6		blocky		0.46	34.48	34.94		A003	SASN	silty	fgr		gy	med	thick		no vis py, non calc
	70°	blocky		0.72	34.94	35.66		A004	SASN		mgr fgr		gy	med/ lt	thick		no vis py, non calc
		blocky / solid		1.50	35.66	37.16		A004	SASN		mgr/ fgr		gy gy	med/ lt	thick		no vis py, non calc
Box 7		blocky		1.30	37.16	38.46		A004	SASN		mgr/ fgr		gy	med/ lt	thick		no vis py, non calc
		blocky		0.20	38.46	38.66		A005	SASN	silty	fgr		gy	med	thick		a/a
		blocky		1.25	38.66	39.91		A005	SASN	silty	fgr		gy	med	thick		a/a
Box 8		blocky / broken		0.60	39.91	40.51		A006	MDSN	silty			gy	dk	thick		-gradational contact @ top no vis py, non calc
	65°	blocky / broken		1.15	40.51	41.66		A007	SASN		med/ fgr		gy (greenish)	lt	thick		no visible py slightly calcareous
		blocky / broken		1.03	41.66	42.69		A007	SASN		med/ fgr		gy (greenish)	lt	thick		no visible py slightly calcareous 5mm calcite @ 32° at 42.43

MANALTA COAL LTD.

SHEET # 3 OF 6

PROJECT: TELKWA HOLE # T98R-02G CONTRACTOR: Cora Lynn CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
Box 9		blocky / broken		1.97	42.69	44.66		A007	SASN		med.		gy (grn-ish)	H.	med / thin		no vis pyrite scatt'd calcite strags-irregular	
		blocky / broken		0.25	44.66	44.91		A007	SASN		med		gy (grn-ish)	H.	med / thin		abu calcite El slickensides at base of section - possible fault no visible py, calcareous	
		blocky / broken		0.85	44.91	45.76		A008	SASN		med		gy (grn-ish)	H.	med / thin		scatt'd mudsn lenses and v. thin beds (carbonaceous) no visible pyrite, non calc.	
Box 10	60°	blocky / broken		1.90	45.76	47.66		A008	SASN		med		gy (grn-ish)	H.	med / thin	rip up clasts	a/a calcite assoc w/ mudsn ptgs no visible py,	
	63°	blocky / broken soft		1.30	47.66	48.96		A008	SASN		med		gy (grn-ish)	H.	med / thin	rip up clasts	a/a calcite assoc w/ mudsn ptgs no visible py	
Box 11		blocky / broken soft		0.70	48.96	49.66		A009	SASN		med.		gy (grn-ish)	H.	med / thin	rip up clasts	a/a - 25 to 45cm abu rip up clasts no visible py, non calc	
		blocky / broken soft		1.00	49.66	50.66		A009	SASN		med		gy (grn-ish)	H.	med / thin		a/a - no visible py, non calc	
		blocky		0.57	50.66	51.23		A009	SASN		med		gy (grn-ish)	H.	med / thin	rip up clasts	a/a - 0-15cm abu rip up clasts no visible py, non calc	

MANALTA COAL LTD.

SHEET # 4 OF 6

PROJECT: TELKWA HOLE # T98R-02C CONTRACTOR: Cora Lynn CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED	
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES		
		broken		0.30	51.23	51.53		A010	MDSN	carb				gy	dk	thick		0-3 cm - coaly -abu slickensides throughout no vis py, non calc	
BOX 11		broken		1.63	51.53	53.16		A010	MDSN	carb				gy	dk	thick		-slickensides throughout no vis py, non calc	
		broken		0.65	53.16	53.81		A010	MDSN	carb				gy	dk	thick		-slickensides throughout no vis py, non calc	
		-		1.35	53.81	55.16		-	LOST					T1	1/2	-			
		broken		0.15	55.16	55.31		1	COAL							thin		dull, broken	
		broken		1.35	55.31	56.66		A011	MDSN	carb				gy	dk	thick		slickensides throughout no visible py, non calc	
		broken		0.13	56.66	56.79		A011	MDSN	carb				gy	dk	thick		slickensides throughout no visible pyrite, non calc	
BOX 13	65°	broken		1.13	56.79	57.92		A011	MDSN	carb				gy	dk	thick		slickensides throughout no visible py, non calc	
		broken		0.27	57.92	58.19		A012	MDSN	carb				gy	dk	thick		-fewer slickensides -abu pyrite, non calc	
		-		1.47	58.19	59.66		-	LOST					-	-	-			
		broken		0.60	59.66	60.26		2	COAL									-dull, few vitrain bands no visible pyrite	

MANALTA COAL LTD.

SHEET # 5 OF 6

PROJECT: TELKWA

HOLE # T98R-02C

CONTRACTOR: Cora Lynn

CASING:

COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO	UNIT THK											
Box 14	/	broken/ blocky		0.33	60.26	60.59	3	COAL								dull, banded - scatt'd v-bands to 0.5cm		
		broken/ blocky		0.67	60.59	61.26	A013	MDSN				gy	dk	thick		slickensided throughout no visible pyrite, non calc.		
		broken		0.12	61.26	61.38	4	COAL								dull - clayrain		
		-		0.28	61.38	61.66	-	LOST				-	-	-				
Box 15		broken		0.12	61.66	61.78	4	COAL								dull - clayrain		
		broken/ blocky		0.55	61.78	62.33	A014	MDSN				gy	dk	thick		- slickensided surfaces no visible pyrite, non calc.		
		-		0.33	62.33	62.66		LOST				-	-	-				
				0.27	62.66	62.93	A014	MDSN				gy	dk	thick		slickensided surfaces no vis pyrite, non calc.		
Box 15		broken		0.10	62.93	63.03	A014	MDSN				gy	dk	thick		slickensided surfaces no vis pyrite, non calc.		
		blocky/ broken		2.13	63.03	65.16	5	COAL								banded coal, v-bands to 1cm - abn. shearing 3-5cm - mdsn / ash		
		-		0.50	65.16	65.66	-	LOST				-	-	-				





T98R-03C	0.00	6.00 OB
T98R-03C	6.00	9.49 ROCK
T98R-03C	9.49	9.75 SLSN
T98R-03C	9.75	11.40 COAL
T98R-03C	11.40	11.96 SLSN
T98R-03C	11.96	18.10 ROCK
T98R-03C	18.10	18.35 COAL
T98R-03C	18.35	19.90 ROCK
T98R-03C	19.90	20.60 SLSN
T98R-03C	20.60	22.70 COAL
T98R-03C	22.70	22.93 SLSN
T98R-03C	22.93	23.03 COAL
T98R-03C	23.03	23.55 MDSN
T98R-03C	23.55	25.45 COAL
T98R-03C	25.45	25.58 MDSN
T98R-03C	25.58	25.88 COAL
T98R-03C	25.88	25.91 LOST
T98R-03C	25.91	26.65 COAL
T98R-03C	26.65	27.00 MDSN
T98R-03C	27.00	27.53 COAL
T98R-03C	27.53	27.66 MDSN
T98R-03C	27.66	27.80 COAL
T98R-03C	27.80	28.10 MDSN
T98R-03C	28.10	28.28 SLSN
T98R-03C	28.28	28.63 MDSN
T98R-03C	28.63	28.88 COAL
T98R-03C	28.88	28.96 LOST
T98R-03C	28.96	36.80 ROCK

MANALTA COAL LTD.

SHEET # 1 OF 4

PROJECT: TELKWA HOLE # T98R-03C CONTRACTOR: McAuley CASING: COMMENTS: Run 1 - from 9.3 to 11.7. Recovered length 2.48

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH			SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
					FROM	TO	UNIT THK											
																	Run 1 - from 9.3 to 11.7 Recovered length 2.48	
							0.26	1	SLSN				grey	med	thick		- solid - roof C seam - broken @ coal contact	
							0.30	2	COAL								1cm diss. pyrite @ base	
							0.40	3	COAL								clean, blocky - scall thin py bands - bright v bands	
							0.52	4	COAL								a/a.	
							0.31	5	COAL								a/a.	
							0.12	6	COAL	dirty				dull			70/30 coal to mdsn.	
							0.16	7	SLSN				grey	med	thick		floor C seam	
							0.39		SLSN				grey	med	thick			

MANALTA COAL LTD.

SHEET # 2 OF 4

PROJECT: TELKWA HOLE # T98R-030 CONTRACTOR: CASING: COMMENTS: Run 2 - from 20.0 to 23.05. Recovered length 2.98 (65.6') (75.6')

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	DESCRIPTION				KEY BED	
				INTERVAL THK	FROM	TO							COLOUR	MODIFIER	BEDDING	SED. STRUCT		NOTES
							0.45		SLSN	mdsn.			grey	med	thick.		solid;	
							0.25	8	SLSN	mdsn			grey	med	thick		solid, Roof of 1U	
							0.44	9	COAL	dull							mdsn 0.30 - 0.32 mdsn frags 0.32 - 0.44 p	
	80°						0.59	10	COAL								- abv. bright bands - 2 cm py at base	
							0.50	11	COAL								- abv bright bands - occas. py blebs	
							0.45	12	COAL								- 1.5 cm mdsn - / grey	
							0.12	13	COAL	MDSN							- interbedded bright coal & carb. mdsn.	
							0.19	14	SLSN				grey	med	thick		- FW of 1U	

MANALTA COAL LTD.

SHEET # 3 OF 4

PROJECT: TELKWA HOLE # CONTRACTOR: CASING: COMMENTS: Run 3- from 23.05 to 26.09. Recovered Length 3.03 (75.6) (65.6)

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH		UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
					FROM	TO												
							0.05	15	SLSN				gray	med			streaks of lt gy slsn or tuff	
							0.10	15	COAL								- bright bands	
							0.52	16	MDSN	silty			gray	med			- streaks of bright coal of lt gy slsn	
							0.50	17	COAL								- carb at contact - Ref of 1.5cm	
							0.50	17	COAL								py on ptejs	
	80°						0.50	18	COAL								2cm py hand @ 28cm	
							0.50	19	COAL								1.5cm mdsn @ 7cm 2.0cm carb mdsn @ 35cm	
							0.40	20	COAL								- bright bands	
							0.13	21	MDSN	carb			black	dk				
							0.30	22	COAL								- broken (shaz) - bright bands	

MANALTA COAL LTD.

SHEET # 4 OF 4

PROJECT: TELKWA HOLE # T98R-03C CONTRACTOR: CASING: COMMENTS: Run 4 - from 26.03 to 29.15, Rec. length = 3.05  
(856) (956)

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH			SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
					FROM	TO	UNIT THK											
							0.26	23	COAL								2.90 - barrel 0.15 - shoe	
							0.46	24	COAL								- 2cm mdsn (pyritic) @ 2cm. - handed coal. - handed coal, occas. dull muddy hand to 4mm.	
	820						0.35	25	MDSN carb.			gy	dk	thick			- coal plates toward base - abv by bn lthy c. fractures	
							0.53	26	COAL								0-15: handed - abv py blebs 15-53 - dull coal w/ carb mdsn bands 1mm calcite strgs @ 17cm	
							0.19	27	MDSN carb.			gy	dk				- very carb @ top	
						0.14	COAL											handed.
							0.30	28	MDSN carb.			gy	dk	thick			- abv vitrain strgs - floor of seam	
							0.18		SLSN			gy	med.	thick				
							0.35		MDSN carb.			gy	dk	thick			- scatt vitrain strgs	
							0.25		COAL								- bright bands	

T98R-04	0.00	5.00	OB
T98R-04	5.00	5.79	SLSN
T98R-04	5.79	8.38	COAL
T98R-04	8.38	31.20	SLSN



T98R-05	0.00	4.50	4.5 OB
T98R-05	4.50	82.00	77.5 SLSN
T98R-05	82.00	96.00	14 SASN
T98R-05	96.00	103.50	7.5 VOLC





T98R-06	0.00	3.00 OB
T98R-06	3.00	34.04 SLSN
T98R-06	34.04	34.70 COAL
T98R-06	34.70	98.00 SLSN



T98R-07C	0.00	19.00	OB
T98R-07C	19.00	61.04	ROCK
T98R-07C	61.04	61.13	SLSN
T98R-07C	61.13	61.32	SASN
T98R-07C	61.32	61.45	MDSN
T98R-07C	61.45	61.73	SASN
T98R-07C	61.73	62.03	MDSN
T98R-07C	62.03	62.57	SLSN
T98R-07C	62.57	63.07	MDSN
T98R-07C	63.07	63.36	SLSN
T98R-07C	63.36	63.94	SLSN
T98R-07C	63.94	64.02	MDSN
T98R-07C	64.02	66.12	COAL
T98R-07C	66.12	67.10	SLSN
T98R-07C	67.10	83.50	ROCK
T98R-07C	83.50	84.87	LOST
T98R-07C	84.87	86.30	COAL
T98R-07C	86.30	91.86	COAL
T98R-07C	91.86	92.00	MDSN
T98R-07C	92.00	92.87	SLSN
T98R-07C	92.87	97.50	ROCK

MANALTA COAL LTD.

SHEET # 1 OF 6

PROJECT: TELKWA HOLE # T98R-07C CONTRACTOR: McAuley CASING: COMMENTS: Run 1 from 60.50 to 62.93. Rec'd length 2.03 (198.4) (206.4)

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH			SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT.	NOTES	KEY BED
					FROM	TO	UNIT THK											
							0.09	SLSN	msn				gy	med.				broken, ground core
	50°						0.19	SASN	slsn	vfg			gy	med/lt	thin bed	thbed		
							0.13	MASN	slsn				gy	dk				carb pty, broken core
	70°						0.28	SASN	slsn	vfg			gy	med/lt	th bed	to lam.		
							0.30	MASN					gy	dk				minor tan/buff inclusions - broken core
							0.22	SLSN	sasn	vfg			gy	med	thbed to lam.			
	55°						0.20	SLSN	sasn	fg			tan/buff.	med.				-sandy at base
							0.17	SLSN	sasn	vfg			gy	dk	thbed to lam.			
							0.50	MASN	slsn				gy	dk	thick			pyrite inclusions





MANALTA COAL LTD.

SHEET # 4 OF 6

PROJECT: TELKWA

HOLE # T98R-07C

CONTRACTOR: McAuley

CASING:

COMMENTS: Run 4 - from 84.45 to 87.50  
 (277.0) (289.0) Rec'd length 3.00  
 Top of 11 seam

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH			SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
					FROM	TO	UNIT THK											
							0.50	9	COAL								fine 2.80 shoe - 0.20	
																	Tap dull w scatt'd v-bands 32 to 35 cm - pyrite	
							0.26	10	COAL								banded coal, v-bands to 1.5 cm.	
							0.12	11	COAL								dull coal, diss pyrite	
							0.55	12	COAL								banded coal, v-bands to 1 cm	
		55					0.20	13	COAL								dull coal, scatt'd v-bands to 0.5 cm. 0 to 5 cm - volc ash - 17 gy.	
							0.60	14	COAL								banded coal, v-bands to 0.05 cm	
		60					0.26	15	COAL								dull coal w/scatt'd thin v-bands. 0 to 2 cm - volc ash - 17 gy	
							0.43	16	COAL								banded coal, v-bands to 2 cm.	



MANALTA COAL LTD.

SHEET # 5 OF 6

PROJECT: TELKWA HOLE # T90R-07C CONTRACTOR: McAuley CASING: COMMENTS: Run 5' from 87.50 to 90.55, Rec'd length 3.17 (287.0) (297.0)

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH		UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
					FROM	TO												
							0.50	17	COAL								the 3.10 shoe 0.07	
																	banded coal w/v bands to 2cm - solid thru run	
54							0.50	18	COAL								banded coal w/v bands to 1.5cm	
							0.50	19	COAL								banded coal w/v bands to 1.5cm	
							0.50	20	COAL								banded coal w/v bands to 1.5cm	
																	23 to 26 cm - volc ash	
56							0.50	21	COAL								banded coal w/v bands to 1.5cm	
							0.44	22	COAL								banded coal w/v bands to 1.5cm	
							0.23	23	COAL								0-2cm - volc ash banded coal w/v bands to 1.5cm	

MANALTA COAL LTD.

SHEET # 6 OF 6

PROJECT: TELKWA HOLE # T98R-09C CONTRACTOR: McAuley CASING: COMMENTS: Run 6 - from 90.55 to 92.38, Rec'd length. 1.83 (297.0) (303.0)

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED	
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES		
							0.50	24	COAL									the 1.90 shoe 0.13	
																		banded coal w/v-bands to 1cm - noticeable gas release	
	54°						0.32	25	COAL									banded coal w/v-bands to 1cm - noticeable gas release	
							0.14	26	MDSN carb				gy	dk	thick			- minor thin coal (v) inclusions along bedding. FW - 1 seam	
							0.72		SLSN				gy	med	thick			- scattered rip-up clasts along bedding - 1cm v-band @ 56cm and at base of section	
							0.15		SLSN				gy	lt	thick				

T98R-08	0.00	8.50 OB
T98R-08	8.50	9.50 SLSN
T98R-08	9.50	10.15 COAL
T98R-08	10.15	18.08 SLSN
T98R-08	18.08	18.25 COAL
T98R-08	18.25	18.41 MDSN
T98R-08	18.41	19.10 COAL
T98R-08	19.10	26.06 SLSN
T98R-08	26.06	26.43 COAL
T98R-08	26.43	26.57 MDSN
T98R-08	26.57	28.53 COAL
T98R-08	28.53	47.77 SLSN
T98R-08	47.77	48.95 COAL
T98R-08	48.95	49.06 MDSN
T98R-08	49.06	49.22 COAL
T98R-08	49.23	58.52 SLSN
T98R-08	58.53	59.80 COAL
T98R-08	59.81	81.50 SLSN
T98R-08	81.51	81.85 COAL
T98R-08	81.85	100.60 SLSN
T98R-08	100.60	101.25 COAL
T98R-08	101.25	110.45 SLSN
T98R-08	110.45	111.15 COAL
T98R-08	111.15	111.28 MDSN
T98R-08	111.28	112.87 COAL
T98R-08	112.87	113.26 MDSN
T98R-08	113.26	114.68 COAL
T98R-08	114.68	125.70 SLSN
T98R-08	125.70	125.94 COAL
T98R-08	125.94	126.30 ROCK
T98R-08	126.30	126.57 COAL
T98R-08	126.57	128.05 SLSN
T98R-08	128.05	128.58 COAL
T98R-08	128.58	133.44 SLSN
T98R-08	133.44	134.53 COAL
T98R-08	134.53	134.76 ROCK
T98R-08	134.76	135.39 COAL
T98R-08	135.39	136.81 SLSN
T98R-08	136.81	137.84 COAL
T98R-08	137.84	137.92 ROCK
T98R-08	137.92	138.64 COAL
T98R-08	138.64	145.00 SLSN



T98R-09C	0.00	15.06	OB
T98R-09C	15.06	17.16	SLSN
T98R-09C	17.16	17.39	SLSN
T98R-09C	17.39	17.86	SLSN
T98R-09C	17.86	18.28	SLSN
T98R-09C	18.28	18.74	SASN
T98R-09C	18.74	20.21	SLSN
T98R-09C	20.21	21.00	SLSN
T98R-09C	21.00	21.02	SLSN
T98R-09C	21.02	23.79	SLSN
T98R-09C	23.79	23.97	SLSN
T98R-09C	23.97	24.02	SLSN
T98R-09C	24.02	24.49	SLSN
T98R-09C	24.49	24.83	SLSN
T98R-09C	24.83	26.34	SLSN
T98R-09C	26.34	26.57	SLSN
T98R-09C	26.57	27.02	SLSN
T98R-09C	27.02	29.49	SLSN
T98R-09C	29.49	30.02	SLSN
T98R-09C	30.02	32.02	SLSN
T98R-09C	32.02	32.51	SLSN
T98R-09C	32.51	32.75	SLSN
T98R-09C	32.75	33.02	MDSN
T98R-09C	33.02	35.30	MDSN
T98R-09C	35.30	36.02	MDSN
T98R-09C	36.02	38.26	MDSN
T98R-09C	38.26	39.02	MDSN
T98R-09C	39.02	40.52	MDSN
T98R-09C	40.52	41.31	MDSN
T98R-09C	41.31	42.02	MDSN
T98R-09C	42.02	44.22	MDSN
T98R-09C	44.22	44.52	MDSN
T98R-09C	44.52	44.81	MDSN
T98R-09C	44.81	45.02	SLSN
T98R-09C	45.02	45.83	SLSN
T98R-09C	45.83	46.26	COAL
T98R-09C	46.26	46.92	MDSN
T98R-09C	46.92	48.02	MDSN
T98R-09C	48.02	48.86	MDSN
T98R-09C	48.86	49.09	COAL
T98R-09C	49.09	49.31	MDSN
T98R-09C	49.31	49.61	COAL
T98R-09C	49.61	49.66	MDSN
T98R-09C	49.67	50.21	MDSN
T98R-09C	50.22	51.02	SLSN
T98R-09C	51.03	52.52	SLSN
T98R-09C	52.53	52.82	COAL
T98R-09C	52.83	52.92	MDSN
T98R-09C	52.93	54.02	COAL
T98R-09C	54.03	54.53	COAL
T98R-09C	54.54	55.23	MDSN
T98R-09C	55.24	56.71	MDSN
T98R-09C	56.72	57.02	SLSN
T98R-09C	57.03	58.02	SLSN
T98R-09C	58.03	58.15	SLSN
T98R-09C	58.16	58.45	SLSN
T98R-09C	58.46	58.89	SLSN
T98R-09C	58.90	60.22	MDSN
T98R-09C	60.23	60.98	MDSN
T98R-09C	60.99	61.10	MDSN
T98R-09C	61.11	61.29	COAL

T98R-09C	61.30	62.22 MDSN
T98R-09C	62.23	62.97 MDSN
T98R-09C	62.98	63.02 SLSN
T98R-09C	63.03	63.77 SLSN
T98R-09C	63.78	66.02 SLSN
T98R-09C	66.03	66.87 SLSN
T98R-09C	66.88	67.52 SLSN
T98R-09C	67.53	68.79 SLSN
T98R-09C	68.80	68.87 SLSN
T98R-09C	68.88	69.02 COAL
T98R-09C	69.03	70.04 COAL
T98R-09C	70.05	70.70 COAL
T98R-09C	70.71	72.02 COAL
T98R-09C	72.03	72.32 COAL
T98R-09C	72.33	72.72 COAL
T98R-09C	72.73	74.42 COAL
T98R-09C	74.43	75.02 MDSN
T98R-09C	75.03	75.12 MDSN
T98R-09C	75.13	75.25 SLSN
T98R-09C	75.26	75.53 SLSN
T98R-09C	75.54	77.18 SLSN
T98R-09C	77.19	77.63 COAL
T98R-09C	77.64	77.75 MDSN
T98R-09C	77.76	78.02 COAL

T-98R-09C

ARD.

T.D. 77.86m.

RUN	DEPTH	LENGTH	BOX	COMMENTS
1	15.0 - 17.0	2	1	
2	17.0 - 20.0	3	1+2	
3	20.0 - 20.86	.86	2+3	
4	20.86 - 23.86	3	3+4	
5	23.86 - 26.86	3	4+5	
6	26.86 - 29.86	3	5+6	
7	29.86 - 31.86	2	6	
8	31.86 - 32.86	1	6+7	
9	32.86 - 35.86	3	7+8	
10	35.86 - 38.86	3	8+9	
11	38.86 - 40.36	1.5	9	
12	40.36 - 41.86	1.5	9+10	
13	41.86 - 44.36	2.5	10+11	
14	44.36 - 44.86	.5	11	
15	44.86 - 47.86	3	11+12	coal 45.6 - 46.0
16	47.86 - 50.86	3	12+13	coal 48.6 - 49.4
17	50.86 - 53.86	3	13+14	coal 52.3 - 55.2
18	53.86 - 56.86	3	14+15	
19	56.86 - 57.86	1	15	
20	57.86 - 60.06	2.2	16	
21	60.06 - 62.06	2	16+17	coal 60.9 - 61.1
22	62.06 - 62.86	.8	17	
23	62.86 - 65.86	3	17+18	
24	65.86 - 67.36	1.5	18	
25	67.36 - 68.86	1.5	18+19	
26	68.86 - 71.86	3	19+20	coal 68.86 - 74.28
27	71.86 - 72.16	.3	20	
28	72.16 - 74.86	2.7	20+21	
29	74.86 - 74.96	.1	21	
30	74.96 - 77.86	2.9	21+22	

**MANALTA COAL LTD.**

SHEET # 1 OF 7

PROJECT: TELKWA HOLE # T98R-09c CONTRACTOR: Cora Lynn CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
Box 1		blocky		2.10	14.90	17.00	A001	SLSN	sandy			gy	med	thin/lam		bedding very faint no visible py - non calc		
		blocky		0.23	17.00	17.23	A001	SLSN	sandy			gy	med	thin/lam		a/a		
		blocky		0.47	17.23	17.70	A001	SLSN				gy	med	thick		no vis. py, non calc		
Box 2		blocky		0.42	17.70	18.12	A001	SLSN				gy	med	thick		a/a		
	80°	blocky		0.46	18.12	18.58	A001	SASN	silty	fg/lfy		gy	med/lt	thin		no vis. py, non calc		
		blocky		1.42	18.58	20.00	A002	SLSN	sandy			gy	med	thin/lam		no visible py, non calc		
		blocky		0.79	20.00	20.64	A001	SLSN	sandy			gy	med	thin/lam		a/a		
Box 3		blocky		0.02	20.64	20.86	A002	SLSN	sandy			gy	med	thin/lam		no visible py, non calc		
	82°	blocky		2.77	20.86	23.63	A002	SLSN	sandy			gy	med	thin/lam		no visible py, non calc		
		blocky			21.91	22.14		SLSN										
Box 4		blocky		0.18	23.63	23.81	A002	SLSN	sandy			gy	med	thin/lam		no visible py, non calc		
		last		0.05	23.81	23.86												
		blocky		0.47	23.86	24.33	A002	SLSN	sandy			gy	med	thin/lam		no visible py, non calc		
		blocky		0.34	24.33	24.67	A002	SASN	silty	vfg/lfy		gy	lt			no visible py, non calc		
	80°	blocky		1.51	24.67	26.18	A003	SLSN	sandy			gy	med/lt	thin/lam		no visible py, non calc		
		blocky		0.23	26.18	26.41	A004	SLSN	muddy			gy	med/lt	thick		scat'd vfg ss beds - no vis py, non calc		



MANALTA COAL LTD.

SHEET # 2 OF 7

PROJECT: TELKWA HOLE # T98R-09C CONTRACTOR: Core Lynn CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
Box 5		blocky		0.45	26.41	26.86		A004	SLSN	muddy			gy	med/dk	thick		scatt'd vfg sasn beads no vis py, non calc 1.40-1.45 - med gr sasn X-bedded.	
					26.86	27.33												
	81°	blocky		2.47	26.86	29.33		A004	SLSN	muddy			gy	med/dk	thick		a/a	
Box 6		blocky		0.53	29.33	29.86		A004	SLSN	muddy								
		blocky		2.00	29.86	31.86		A004	SLSN	muddy			gy	med/dk	thick		a/a	
	82°	blocky		0.49	31.86	32.35		A004	SLSN	muddy								
Box 7		blocky		0.24	32.35	32.59		A004	SLSN	muddy			gy	med/dk	thick		a/a	
		blocky		0.27	32.59	32.86		A005	MDSN	silty			gy	dk	thick		no vis py, non calc	
		blocky		2.28	32.86	35.14		A005	MDSN	silty			gy	dk	thick		no vis py, non calc	
Box 8		blocky		0.72	35.14	35.86		A005	MDSN	silty			gy	dk	thick		no vis py, non calc	
	83°	block/solid		2.24	35.86	38.10		A005	MDSN	silty			gy	dk	thick		no vis py, non calc 1cm vitrain @ 38.10 calcite @ 36.00 - irregular	
Box 9		blocky		0.76	38.10	38.86		A006	MDSN	silty			gy	dk	thick		no vis py, non calc calcite @ 38.37 - 2mm @ 70°	
		blocky / broken		1.50	38.86	40.36		A006	MDSN				gy	dk	thick		no vis py, non calc	
		blocky / broken		0.79	40.36	41.15		A006	MDSN	silty			gy	dk	thick		no vis py, non calc	

MANALTA COAL LTD.

SHEET # 3 OF 7

PROJECT: TELKWA HOLE # T982-09C CONTRACTOR: Cora Lynn CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
				INTERVAL THK	FROM	TO												
Box 10		blocky / broken		0.71	41.15	41.86		A006	MDSN	silty			gy	dk	thick		no vis pyrite, non calc	
		blocky		2.20	41.86	44.06		A006	MDSN	silty			gy	dk	thick		no vis pyrite, non calc	
Box 11		blocky		0.30	44.06	44.36		A006	MDSN	silty			gy	dk	thick		no vis pyrite, non calc	
		solid		0.29	44.36	44.65		A006	MDSN	silty			gy	dk	thick		- gradational lower contact w/ slsn.	
		solid		0.21	44.65	44.86		A007	SLSN				gy / greenish	med.	thick		- no vis pyrite, non calc no vis pyrite, non calc	
		blocky		0.81	44.86	45.67		A007	SLSN				gy / greenish	med	thick		35 to 51 cm - scatt'd irreg v-bands to 1.5 cm no vis pyrite, non calc	
		broken		0.43	45.67	46.10		1	COAL								bright banded coal w/ v-bands to 1 cm.	
		blocky		0.66	46.10	46.76		A009	MDSN	silty			gy	med	thick		no visible pyrite, non calc	
Box 12		blocky		1.10	46.76	47.86		A008	MDSN	silty			gy	med	thick		no visible pyrite, non calc	
		blocky		0.84	47.86	48.70		A008	MDSN	silty			gy	med	thick		minor py blebs & streaks, non calc	
		blocky		0.23	48.70	48.93		2	COAL								bright banded, v-bands to 0.5 cm, no vis py, "	
		solid		0.22	48.93	49.15		F-3.3	MDSN				gy	dk	thick		no visible pyrite, non calc	
		blocky		0.30	49.15	49.45		4	COAL								bright banded, v-bands to 0.5 cm.	

MANALTA COAL LTD.

SHEET # 4 OF 7

PROJECT: TELKWA HOLE # T96R-090 CONTRACTOR: Cora Lynn CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	DESCRIPTION				KEY BED	
				INTERVAL THK	FROM	TO							COLOUR	MODIFIER	BEDDING	SED. STRUCT		NOTES
		blocky		0.05	49.46	49.51		A008	MDSN	carb.			gy	dk	thick		- v stringer - 0.5cm no visible pyrite, non calc.	
Box 13		blocky		0.55	49.51	50.06		A009	MDSN	silty			gy/fin	med.	thick		no vis py, non calc.	
	80°	blocky		0.80	50.06	50.86		A009	SLSN	sandy			gy	med.	lam.		no vis py, non calc. vfg sasn + mdsn lam's a la.	
		solid.		1.50	50.86	52.36		A009	SLSN	sandy			gy	med	lam		no vis py, non calc.	
Box 14		blocky		0.30	52.36	52.66		5	COAL								handed, dull, vis 1mm pyrite strags.	
		solid.		0.10	52.66	52.76		6	MDSN	carb.			gy	dk			streaks & blebs of pyrite	
		blocky		1.10	52.76	53.86		7	COAL								handed, bright, abv v-bands to 0.5cm. 0.5cm ash @ 53.71 -no vis pyrite.	
		blocky		0.51	53.86	54.37		7	COAL								handed, abv v-bands to 0.5cm no vis pyrite. - fault contact @ base @ 55°	
		blocky		0.70	54.37	55.07		A010	MDSN	silty			gy	med.	thick		-0 to 5cm - slightly carb. no visible pyrite, non calc.	
Box 15		blocky		1.48	55.07	56.55		A010	MDSN	silty			gy	med.	thick		no vis pyrite, non calc.	
		blocky		0.31	56.55	56.86		A011	SLSN	sandy			gy	med	thin/lam		vfg sasn & mdsn lam's no vis pyrite, non calc.	

MANALTA COAL LTD.

SHEET # 5 OF 7

PROJECT: TELKWA HOLE # T96R-09C CONTRACTOR: Coira Lynn CASING: COMMENTS:

BOX MARK	DEPTH							DESCRIPTION										KEY BED
	BCA	CORE STATE	RQD	INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
		blocky		1.00	56.86	57.86		A011	SLSN	sandy			gy	med	thin/lam		vfg sasn & mdsn lam's no visible py, non calc	
Box 16		blocky		0.13	57.86	57.99		A011	SLSN	sandy			gy	med	thin/lam		a/a.	
		blocky		0.30	57.99	58.29		A011	SLSN				tan	med.	thick.		no vis pyrite, <sup>stromatolite</sup> calcareous #	
		blocky		0.44	58.29	58.73		A011	SLSN	sandy			gy	med.	thin/lam		vfg sasn & mdsn lam's no visible py, non calc. 1 cm v-band @ 58.67	
		blocky		1.33	58.73	60.06		A012	MDSN	silty			gy	med/ dk	thick		no vis py, non calc	
		blocky		0.76	60.06	60.82		A012	MDSN	silty			gy	med/ dk	thick		no vis py, non calc	
Box 17		blocky		0.12	60.82	60.94		A012	MDSN	silty			gy	med/ dk	thick		no vis py, non calc	
		blocky		0.19	60.94	61.13		8	COAL								bright banded, v-bands to 0.5cm	
		blocky		0.93	61.13	62.06		A013	MDSN	silty			gy	dk	thick		no vis py, non calc	
		blocky		0.75	62.06	62.81		A013	MDSN	silty			gy	dk	thick		no vis py, non calc	
80°		blocky		0.05	62.81	62.86		A014	SLSN	sandy			gy	dk	thin/lam		vfg sasn & mdsn lam's no vis py, non calc	
		blocky		0.75	62.86	63.61		A014	SLSN	sandy			gy	dk	thin/lam		no vis py, non calc vfg sasn & mdsn lam's	

MANALTA COAL LTD.

SHEET # 6 OF 7

PROJECT: TELKWA HOLE # T98R-00C CONTRACTOR: Cora Lynn CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
Box 18	81°	blocky		2.25	63.61	65.86		A014	SLSN	Sandy			gy	med			vfg sasn 8' mdsn lam's no visible py, non calc.	
	79°	blocky		0.85	65.86	66.71		A014	SLSN	Sandy			gy	med			vfg sasn 5' mdsn lam's no visible py, non calc.	
Box 19		blocky		0.65	66.71	67.36		A014	SLSN	Sandy			gy	med			a/a, no vis py, non calc 66.95 - 67.28 - tan color	
	82°	blocky		1.27	67.36	68.63		A014	SLSN				gy	med			a/a, no vis py, non calc 67.42 - 67.55 - tan color	
				0.23	68.63	68.86			LSST								- ground coal @ contact	
		blocky		1.02	68.86	69.88		9	COAL								bright, banded w/ v-bands to 1cm 8 to 10 cm - volc ash - carb 34 to 36 cm - abn. pyrite - scatt'd py on fractures	
Box 20					69.88	70.54		10	COAL								bright banded as above no vis pyrite	
		blocky		1.32	70.54	71.86		11	COAL								banded - dull - scatt'd v-bands 2 to 3 cm - volc ash	
		blocky / broken		0.30	71.86	72.16		12	COAL								bright, banded, partly broken	
		blocky		0.40	72.16	72.56		13	COAL								bright banded, v-bands to 1cm, no vis py.	

MANALTA COAL LTD.

SHEET # 7 OF 7

PROJECT: TELKWA HOLE # T98R-09C CONTRACTOR: Cora Lynn CASING: COMMENTS:

BOX MARK	BCA	CORE STATE	RQD	DEPTH			UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	DESCRIPTION				KEY BED	
				INTERVAL THK	FROM	TO							COLOUR	MODIFIER	BEDDING	SED. STRUCT		NOTES
Box 21	81°	Blocky		1.70	72.56	74.26		14	COAL								bright, banded w/ v-bands to 0.5cm 77 to 79 mm - white, full band. no visible pyrite	
		shid.		0.60	74.26	74.86		A015	MDSN	silty			gg	med.	thick		0-5 cm - carb, dk gy scatt'd v-bark, small amt of pyrite, non calc	
		broken / ground.		0.10	74.86	74.96		A015	MDSN	silty			gy	med	thick.		no vis pyrite, non calc gradational contact @ base	
		blocky		0.13	74.96	75.09		A015	SLSN	muddy			gy	med	thin		- faint bedding no vis. py, non calc	
Box 22	70°	blocky		0.28	75.09	75.37		A015	SLSN	muddy			gy	med /	thin		- faint bedding no vis py, non calc	
		blocky / broken		1.65	75.37	77.02		A015	SLSN	muddy			gy	med /	thick		no vis pyrite, non calc	
		blocky		0.45	77.02	77.47		15	COAL								banded, dull, scatt'd v-bands to 0.5 cm 0-10cm - abv pyrite	
	79°	blocky / broken		0.12	77.47	77.59		16	MDSN	carb			gy	dk			9 to 12 cm - mixed ash & mdsn no visible py, non calc	
		blocky		0.27	77.59	77.86		17	COAL								banded, dull, scatt'd v-bands to 0.5cm	

T98R-10	0.01	5.20 OB
T98R-10	5.20	23.80 ROCK
T98R-10	23.80	24.31 COAL
T98R-10	24.31	35.53 ROCK
T98R-10	35.53	35.72 COAL
T98R-10	35.72	36.80 ROCK
T98R-10	36.80	36.93 COAL
T98R-10	36.93	37.51 ROCK
T98R-10	37.51	37.87 COAL
T98R-10	37.87	43.75 ROCK
T98R-10	43.75	46.06 COAL
T98R-10	46.07	63.72 ROCK
T98R-10	63.73	65.16 COAL
T98R-10	65.17	75.44 ROCK
T98R-10	75.45	75.90 COAL
T98R-10	75.91	76.22 ROCK
T98R-10	76.23	77.08 COAL
T98R-10	77.09	77.23 ROCK
T98R-10	77.24	78.26 COAL
T98R-10	78.27	87.90 ROCK
T98R-10	87.91	89.15 COAL
T98R-10	89.15	122.00 ROCK

T98R-11	0.01	5.70 OB
T98R-11	5.70	122.00 SLSN





T98R-12	0.00	10.50 OB
T98R-12	10.50	32.44 SLSN
T98R-12	32.44	33.45 COAL
T98R-12	33.45	33.62 SLSN
T98R-12	33.62	34.76 COAL
T98R-12	34.76	36.06 SLSN
T98R-12	36.06	36.07 COAL
T98R-12	36.08	65.28 SLSN
T98R-12	65.29	65.80 COAL
T98R-12	65.81	66.12 SLSN
T98R-12	66.13	67.01 COAL
T98R-12	67.02	67.86 SLSN
T98R-12	67.87	70.33 COAL
T98R-12	70.34	71.13 SLSN
T98R-12	71.14	75.58 COAL
T98R-12	75.59	76.60 SLSN
T98R-12	76.61	79.75 COAL
T98R-12	79.76	83.11 SLSN
T98R-12	83.12	83.98 COAL
T98R-12	83.98	105.48 SLSN
T98R-12	105.48	106.59 COAL
T98R-12	106.59	106.74 SLSN
T98R-12	106.74	107.16 COAL
T98R-12	107.16	107.23 SLSN
T98R-12	107.23	107.68 COAL
T98R-12	107.68	113.95 SLSN
T98R-12	113.95	114.14 COAL
T98R-12	114.14	114.63 SLSN
T98R-12	114.63	116.10 COAL
T98R-12	116.10	116.28 SLSN
T98R-12	116.28	116.41 COAL
T98R-12	116.41	116.68 SLSN
T98R-12	116.68	117.03 COAL
T98R-12	117.03	123.80 SLSN
T98R-12	123.80	124.20 COAL
T98R-12	124.20	124.50 SLSN
T98R-12	124.50	125.00 COAL
T98R-12	125.00	128.00 SLSN



MANALTA COAL LTD.

SHEET # 1 OF 6

PROJECT: TELKWA HOLE # T98R-13C CONTRACTOR: McAuley CASING: COMMENTS: Run # 1 from 70.73 to 73.70 Rec length = 2.99  
(232.00) (242.0) HW C Seam

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH		UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
					FROM	TO												
							1.91		MDSN	silty			gy	dk	thin/med		tube - 2.07 shoe - 0.12 -1cm pyritic zone @ 1.55m bedding very faint; some lighter colored beds - solid a/a - solid.	
							0.20	0.1	MDSN	silty			gy	dk	thin/med		sharp contact w/ coal	
	85°						0.40	0.25	COAL								handed vitrain e dull hands - v-bands to 1cm -irregular pyrite lenses and v fine strags	
							0.48	3	COAL								handed coal w/ v bands to 1cm.	





**MANALTA COAL LTD.**

SHEET # 4 OF 6

PROJECT: TELKWA HOLE # T98R-13C CONTRACTOR: McAulay CASING: COMMENTS: Run #4 from 88.26 to 91.31 Rec'd length 3.09 (289.5) (299.5)

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH		UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
					FROM	TO												
							0.25		SLSN				gy	med	thick		tube 3.03 shoe 0.06 solid to coal.	
							0.20		SLSN				gy	med	thick		v-inclusions to 2cm "coalified wood"	
							0.54		SLSN				gy	med	thick			
	78°						0.30		SASN	sltn			gy	med/lt	thick to lam		distinct bedding	
							1.33		SLSN				gy	med	thick			
							0.07		MASN	carb			gy	dk			finely streaked w/ pyrite.	
							0.28	06	SLSN				gy	med	thick		HW 1U seam	
							0.12	072	COAL								laminated coal w/ v-bands to 1.5cm. (broken coal pounded out of shoe)	

MANALTA COAL LTD.

SHEET # 5 OF 6

PROJECT: TELKWA HOLE # T982-130 CONTRACTOR: McAvley CASING: COMMENTS: Run #5 from 91.31 to 94.21. Red length 2.99 m (299.5) (309.0)

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
							0.24	8	COAL								tube 2.83 shoe 0.16	
																	banded coal w/v bands to 0.5cm 9cm + 12cm - disseminated pyrite. 22 to 24cm - v. ash	
							0.59	9	COAL								banded coal w/v-bands to 2cm 30 to 40cm - pyritic patches 40 to 41cm - pyritic nod. 56 to 58cm - pyrite w/v-train.	
	84°						0.50	10	COAL								banded coal w/v-bands to 1cm	
							0.43	11	COAL								a/a.	
							0.17	12	COAL								banded coal w/v-bands to 2cm. 0 to 1cm - tuff band - irregular 13 to 17cm - tuff band - irregular	
							0.50	13	COAL								banded coal w/v-bands to 1cm	
							0.56	14	COAL								banded coal w/v-bands to 1cm 0.5cm tuff band @ 15cm	



**MANALTA COAL LTD.**

SHEET # 6 of 6

PROJECT: TELKWA HOLE # T98R-13C CONTRACTOR: McAuley CASING: COMMENTS: Run #6 from 94.21 to 97.26. Rec'd leng th. = 3.15 (309.0) (319).

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH			SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
					FROM	TO	UNIT THK											
							0.50	15	COAL								take 2.82 shoe 0.33	
							0.50	16	COAL								banded coal w/v-bands to 2cm	
																	banded coal w/v-bands to 2cm.	
																	19 to 22 cm - broken soft coal.	
							0.43	17	COAL								36 to 39 cm - hard bone banded coal w/v bands to 2cm.	
							0.41	18	COAL								1cm bone @ 13 cm banded coal w/v-bands to 1.5cm.	
																	0-11 cm - soft broken coal.	
							0.10	19	COAL	mudsn							hard dull coal, muddy "bone"	
							0.50	20	COAL								banded coal w/v-bands to 1cm	
							0.40	21	COAL								0-13 - banded coal. 13-40 - scatt'd v-bands soft coal	
																	Sharp contact @ 90cm FW 1-seam	
							0.15	22	MDSN				gy	dk			carbonaceous, v-bark to 0.5cm	
							0.16		SLSN				gy	med.			-irregular faint bedding.	

T98R-13C	0.00	12.00	OB
T98R-13C	12.00	72.93	ROCK
T98R-13C	72.93	74.84	MDSN
T98R-13C	74.84	75.04	MDSN
T98R-13C	75.04	75.44	COAL
T98R-13C	75.44	75.92	COAL
T98R-13C	75.92	76.00	COAL
T98R-13C	76.00	76.06	MDSN
T98R-13C	76.06	76.83	SLSN
T98R-13C	76.83	85.74	ROCK
T98R-13C	85.74	86.05	COAL
T98R-13C	86.05	88.60	ROCK
T98R-13C	88.60	88.66	SLSN
T98R-13C	88.66	88.91	SLSN
T98R-13C	88.91	89.11	SLSN
T98R-13C	89.11	89.65	SLSN
T98R-13C	89.65	89.95	SASN
T98R-13C	89.95	91.28	SLSN
T98R-13C	91.28	91.35	MDSN
T98R-13C	91.35	91.63	SLSN
T98R-13C	91.63	91.75	COAL
T98R-13C	91.75	91.99	COAL
T98R-13C	91.99	92.58	COAL
T98R-13C	92.58	93.08	COAL
T98R-13C	93.08	93.51	COAL
T98R-13C	93.51	93.68	COAL
T98R-13C	93.68	94.18	COAL
T98R-13C	94.18	94.74	COAL
T98R-13C	94.74	95.24	COAL
T98R-13C	95.24	95.74	COAL
T98R-13C	95.74	96.17	COAL
T98R-13C	96.17	96.58	COAL
T98R-13C	96.58	96.68	COAL
T98R-13C	96.68	97.18	COAL
T98R-13C	97.18	97.58	COAL
T98R-13C	97.58	97.73	MDSN
T98R-13C	97.73	97.89	SLSN
T98R-13C	97.89	103.60	ROCK

T98R-14	0.00	3.80 OB
T98R-14	3.80	11.25 SLSN
T98R-14	11.25	16.50 MDSN
T98R-14	16.50	18.25 SLSN
T98R-14	18.25	21.00 MDSN
T98R-14	21.00	24.00 SLSN
T98R-14	24.00	26.75 MDSN
T98R-14	26.75	30.25 SLSN
T98R-14	30.25	30.75 MDSN
T98R-14	30.75	35.50 SLSN
T98R-14	35.50	38.00 MDSN
T98R-14	38.00	41.00 SLSN
T98R-14	41.00	46.25 MDSN
T98R-14	46.25	48.00 SLSN
T98R-14	48.00	49.50 MDSN
T98R-14	49.51	60.00 SLSN
T98R-14	60.01	61.25 MDSN
T98R-14	61.26	63.00 SLSN
T98R-14	63.01	63.25 MDSN
T98R-14	63.26	78.00 SLSN
T98R-14	78.01	84.40 MDSN





T98R15	0.01	9.50 OB
T98R15	9.50	13.49 ROCK
T98R15	13.49	14.45 COAL
T98R15	14.45	21.45 ROCK
T98R15	21.45	21.80 COAL
T98R15	21.80	22.55 ROCK
T98R15	22.55	24.53 COAL
T98R15	24.53	39.00 ROCK
T98R15	39.00	39.40 COAL
T98R15	39.40	44.03 ROCK
T98R15	44.03	45.45 COAL
T98R15	45.46	54.92 ROCK
T98R15	54.93	55.79 COAL
T98R15	55.80	59.70 ROCK
T98R15	59.71	60.92 COAL
T98R15	60.93	97.52 ROCK
T98R15	97.53	99.19 COAL
T98R15	99.19	140.00 ROCK



T98R-16	0.00	22.00	OB
T98R-16	22.00	25.16	MDSN
T98R-16	25.16	26.98	COAL
T98R-16	26.98	35.20	SASN
T98R-16	35.20	35.57	COAL
T98R-16	35.57	47.12	MDSN
T98R-16	47.12	49.75	COAL
T98R-16	49.75	49.86	MDSN
T98R-16	49.87	55.30	COAL
T98R-16	55.31	56.55	MDSN
T98R-16	56.56	57.34	COAL
T98R-16	57.35	57.70	MDSN
T98R-16	57.71	57.80	COAL
T98R-16	57.81	65.50	SLSN





T98R-17	0.00	10.50	OB
T98R-17	10.50	30.50	ROCK
T98R-17	30.50	31.05	COAL
T98R-17	31.05	31.80	ROCK
T98R-17	31.80	32.40	COAL
T98R-17	32.40	33.13	ROCK
T98R-17	33.13	34.13	COAL
T98R-17	34.13	36.92	ROCK
T98R-17	36.92	37.19	COAL
T98R-17	37.19	38.52	ROCK
T98R-17	38.52	38.75	COAL
T98R-17	38.75	40.19	ROCK
T98R-17	40.19	40.31	COAL
T98R-17	40.31	41.26	ROCK
T98R-17	41.26	41.39	COAL
T98R-17	41.39	170.50	ROCK



T98R-18	0.00	3.00 OB
T98R-18	3.00	3.29 SLSN
T98R-18	3.29	3.83 COAL
T98R-18	3.83	6.60 SLSN
T98R-18	6.60	7.23 MDSN
T98R-18	7.23	7.34 COAL
T98R-18	7.34	8.11 SLSN
T98R-18	8.11	9.52 COAL
T98R-18	9.52	15.90 SLSN
T98R-18	15.90	16.45 COAL
T98R-18	16.45	19.50 SLSN
T98R-18	19.50	20.39 MDSN
T98R-18	20.39	22.09 COAL
T98R-18	22.09	22.21 MDSN
T98R-18	22.21	23.80 COAL
T98R-18	23.80	23.91 MDSN
T98R-18	23.91	25.75 COAL
T98R-18	25.75	27.85 SLSN
T98R-18	27.85	28.69 COAL
T98R-18	28.69	29.82 MDSN
T98R-18	29.82	30.15 COAL
T98R-18	30.15	30.83 MDSN
T98R-18	30.83	31.29 COAL
T98R-18	31.29	34.70 SLSN



T98R-19	0.01	6.00 OB
T98R-19	6.00	20.97 ROCK
T98R-19	20.97	21.97 COAL
T98R-19	21.97	41.55 ROCK
T98R-19	41.55	42.84 COAL
T98R-19	42.85	54.60 ROCK
T98R-19	54.61	57.14 COAL
T98R-19	57.15	66.50 ROCK
T98R-19	66.51	67.55 COAL
T98R-19	67.56	68.00 ROCK
T98R-19	68.01	68.40 COAL
T98R-19	68.41	69.54 ROCK
T98R-19	69.55	70.75 COAL
T98R-19	70.76	91.18 ROCK
T98R-19	91.19	91.57 COAL
T98R-19	91.57	114.46 ROCK
T98R-19	114.46	115.10 COAL
T98R-19	115.10	115.52 ROCK
T98R-19	115.52	115.75 COAL
T98R-19	115.75	116.92 ROCK
T98R-19	116.92	117.10 COAL
T98R-19	117.10	128.28 ROCK
T98R-19	128.28	128.86 COAL
T98R-19	128.86	129.85 ROCK
T98R-19	129.85	130.12 COAL
T98R-19	130.12	130.55 ROCK
T98R-19	130.55	130.73 COAL
T98R-19	130.73	131.30 ROCK
T98R-19	131.30	131.81 COAL
T98R-19	131.81	134.55 ROCK
T98R-19	134.55	137.00 COAL
T98R-19	137.00	142.60 ROCK
T98R-19	142.60	143.10 COAL
T98R-19	143.10	148.70 ROCK
T98R-19	148.70	149.20 COAL
T98R-19	149.20	176.00 ROCK



T98R-22	0.00	12.00 OB
T98R-22	12.00	12.93 ROCK
T98R-22	12.93	13.70 COAL
T98R-22	13.70	20.62 ROCK
T98R-22	20.62	21.57 COAL
T98R-22	21.57	28.33 ROCK
T98R-22	28.33	28.80 COAL
T98R-22	28.80	28.94 ROCK
T98R-22	28.94	30.70 COAL
T98R-22	30.70	49.07 ROCK
T98R-22	49.07	49.61 COAL
T98R-22	49.61	58.66 ROCK
T98R-22	58.66	60.02 COAL
T98R-22	60.02	60.13 ROCK
T98R-22	60.13	60.33 COAL
T98R-22	60.33	66.38 ROCK
T98R-22	66.38	66.69 COAL
T98R-22	66.69	67.73 ROCK
T98R-22	67.73	68.25 COAL
T98R-22	68.25	68.88 ROCK
T98R-22	68.88	70.79 COAL
T98R-22	70.79	71.36 ROCK
T98R-22	71.36	71.50 COAL
T98R-22	71.50	72.37 ROCK
T98R-22	72.37	72.58 COAL
T98R-22	72.58	73.80 ROCK
T98R-22	73.80	74.50 COAL
T98R-22	74.50	92.20 ROCK
T98R-22	92.20	92.95 COAL
T98R-22	92.95	93.53 ROCK
T98R-22	93.53	94.58 COAL
T98R-22	94.58	97.32 ROCK
T98R-22	97.32	97.54 COAL
T98R-22	97.54	97.96 ROCK
T98R-22	97.96	99.07 COAL
T98R-22	99.07	100.09 ROCK
T98R-22	100.09	100.39 COAL
T98R-22	100.39	115.37 ROCK
T98R-22	115.37	115.64 COAL
T98R-22	115.64	115.72 ROCK
T98R-22	115.72	116.71 COAL
T98R-22	116.71	158.01 ROCK
T98R-22	116.71	158.01 ROCK



# manalta Cuttings Description

Project \_\_\_\_\_ Contractor \_\_\_\_\_ Driller \_\_\_\_\_ Lith. by \_\_\_\_\_ HOLE T98R-22 pg      of       
SITE 5

Remarks \_\_\_\_\_ Start 08-02-98 Geo-log \_\_\_\_\_ Depth \_\_\_\_\_

13		16
4		1

Finish 08-03-98 Date \_\_\_\_\_ Isd    S    T    R   

Depth ( )	Lithology								Coal		Other	Colour										Indurate			Comments						
	Till	Grav	Sand	Sasn			Slsn	Mdsn	Dirty	Clean		Light	Dark	Red	Yellow	Green	Blue	Violet	White	Gray	Brown	Black	Soft	Med.		Hard					
				C	M	F																									
0-12	✓																											CSG to 15m			
12-13																			X												
13-14																					X							TOP coal seam behind			
14-20.5																			X									CSG.			
20.5-21.5																					X										
21.5-28																			X												
28-31																					X								Big Boulders in O.B.		
31-49																			X												
49-49.5																					X										
49.5-58.5																			X												
58.5-60																					X										
60-69																			X												
69-70																					X										
70-74																			X												
74-75																					X										
75-92																			X												
92-94.5																					X										
94.5-115																			X												
115-116																					X										
116-126																			X												
126-127.5																			X												
127.5-158																			X												

7.0154m

T98R-21C	0.00	12.00 OB
T98R-21C	12.00	59.32 ROCK
T98R-21C	59.32	59.37 COAL
T98R-21C	59.37	61.02 ROCK
T98R-21C	61.02	61.12 SLSN
T98R-21C	61.12	61.25 MDSN
T98R-21C	61.25	61.75 COAL
T98R-21C	61.75	62.31 MDSN
T98R-21C	62.31	63.26 SLSN
T98R-21C	63.26	63.34 MDSN
T98R-21C	63.34	63.59 COAL
T98R-21C	63.59	63.63 MDSN
T98R-21C	63.63	63.72 COAL
T98R-21C	63.72	63.82 MDSN
T98R-21C	63.82	63.90 MDSN
T98R-21C	63.90	64.29 SLSN
T98R-21C	64.29	64.35 MDSN
T98R-21C	64.35	64.83 COAL
T98R-21C	64.83	65.28 COAL
T98R-21C	65.28	65.78 COAL
T98R-21C	65.78	66.23 COAL
T98R-21C	66.23	66.31 MDSN
T98R-21C	66.31	66.42 SLSN
T98R-21C	66.42	66.85 SLSN
T98R-21C	66.85	73.54 ROCK
T98R-21C	73.54	73.63 SLSN
T98R-21C	73.63	73.73 SLSN
T98R-21C	73.73	74.53 SLSN
T98R-21C	74.53	74.87 SLSN
T98R-21C	74.87	75.08 SLSN
T98R-21C	75.08	75.15 MDSN
T98R-21C	75.15	75.46 COAL
T98R-21C	75.46	75.64 COAL
T98R-21C	75.64	75.87 COAL
T98R-21C	75.87	76.13 COAL
T98R-21C	76.13	76.58 COAL
T98R-21C	76.58	77.16 COAL
T98R-21C	77.16	77.34 COAL
T98R-21C	77.34	77.40 TUFF
T98R-21C	77.40	77.90 COAL
T98R-21C	77.90	78.40 COAL
T98R-21C	78.40	78.92 COAL
T98R-21C	78.92	79.07 MDSN
T98R-21C	79.07	79.23 COAL
T98R-21C	79.23	79.32 COAL
T98R-21C	79.32	79.51 MDSN
T98R-21C	79.51	80.01 COAL
T98R-21C	80.01	80.51 COAL
T98R-21C	80.51	81.01 COAL
T98R-21C	81.01	81.51 COAL
T98R-21C	81.51	81.70 COAL
T98R-21C	81.70	82.08 COAL
T98R-21C	82.08	82.33 COAL
T98R-21C	82.33	82.41 COAL
T98R-21C	82.41	82.72 COAL
T98R-21C	82.72	82.86 MDSN
T98R-21C	82.86	83.26 SLSN

T98R-21C	83.26	84.94	ROCK
T98R-21C	84.94	85.86	COAL
T98R-21C	85.86	86.09	ROCK
T98R-21C	86.09	87.15	COAL
T98R-21C	87.15	89.28	ROCK
T98R-21C	89.28	89.45	COAL
T98R-21C	89.45	91.75	ROCK

**MANALTA COAL LTD.**

SHEET # 1 OF 6

PROJECT: TELKWA HOLE # T98R-21C CONTRACTOR: McAuley CASING: COMMENTS: Run #1 from 60.98 to 63.72, Rec'd length 2.79  
(200.0) (209.0)

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH		UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
					FROM	TO												
							0.10		SLSN				gy	med.	thick.		tube 2.69 shoe 0.10	
							0.13		MDSN	carb.			gy	dk	thick		broken core 0 to 7 cm below fault contact.	
							0.50	1	COAL	mdsn							dull, very little vitrain. 7 to 9 cm - dark mdsn hard 42 to 44 cm - abu diss py. broken at contact - muddy throughout - slickensided	
							0.56		MDSN				gy	dk			more silty toward base	
	83°						0.95		SLSN				gy	med.			0 to 19 cm - broken core 80 to 95 cm - vfg ss laminations 87 to 89 cm - pyritic.	
							0.08		MDSN				gy	dk				
							0.25		COAL								dull, very little vitrain very muddy @ upper contact.	
							0.04	2	MDSN				gy	dk			very carbonaceous.	
							0.09	3	COAL								dull, very little vitrain muddy at base adjacent to contact w/ mdsn	
							0.10	4	MDSN				gy	dk			very carb w/ v-bark to 2mm	

MANALTA COAL LTD.

SHEET # 2 OF 6

PROJECT: TELKWA HOLE # T98R-21C CONTRACTOR: McAuley CASING: COMMENTS: Run 2 from 63.72 to 66.77 Rec'd length (209.0) (219.0)

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH		UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
					FROM	TO												
							0.08		MDSN				gy	dk	thick		tube - 3.03 shoe -	
	78°						0.39		SLSN				gy	med.	thin to lam		abv. pyrite streaks scattered vfg SLSN laminations 21 to 32 cm very pyritic.	
							0.06	5	MDSN				gy	dk.			pyrite blebs to 5 mm	
							0.48	6	COAL								- broken at HWL contact. - soft, few v-bands.	
							0.45	7	COAL								- banded coal, v-bands to 1.5 cm 0 to 3 cm - dull band 41 to 45 cm - dull band 1 cm mdsn @ 3 cm	
							0.50	8	COAL								- only scattered v-bands 5 to 7 cm - very soft coal fractures @ 61°	
	80°						0.45	9	COAL								scattered v-bands 22 to 27 cm - py blebs and elongated inclusions 41 to 45 cm - dull band, hard and muddy	
							0.08	10	MDSN				gy	dk	thick			
							0.11		SLSN				gy	med			very broken - fault gouge appears to be @ 65°	
	50°						0.43		SLSN				gy	med	thick		very fractured small vfg such lamination @ 27 cm fractures @ 42° perpendicular to bedding	

MANALTA COAL LTD.

SHEET # 3 OF 6

PROJECT: TELKWA HOLE # T38R-21C CONTRACTOR: CASING: COMMENTS: Run 3 from 73.46 to 76.07, Rec'd length = 2.59  
(241.0) (249.5)

BOX MARK	BCA	CORE STATE	RQD	DEPTH				DESCRIPTION										KEY BED
				INTERVAL THK	FROM	TO	UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	
							0.09		SLSN	sasn			gy	med	thbed/lam		tube 2.98 shoe - 0.11	fault @ contact @ 58°
	70°						0.10		SLSN	sasn			gy	med/lt	lam.			
	65°						0.80		SLSN				gy	med				abu joints @ 50° - perp to bedding.
							0.34		SLSN				gy	med				very broken - fault zone top contact @ 60°
							0.21		SLSN				gy	med				
							0.67	11	MDSN				gy	dk				very carbonaceous, abu pyrite
							0.31	12	COAL									banded coal - thin v-bands 6-7.5cm - dk mdsn.
							0.18	13	COAL									banded coal - thin v-bands 0 to 1cm - mdsn or tuft band 10cm to 13cm - dk carb msdn - pyritic. 13cm to 15cm - tuft band very pyritic.
							0.23 0.41	14	COAL									banded coal - v-bands to 1cm.
	82°						0.26	15	COAL									banded coal - v-bands to 2cm - abu pyrite strings, kicks and on vitrinite fractures.

**MANALTA COAL LTD.**

SHEET # 4 OF 6

PROJECT: TELKWA HOLE # T98R-21C CONTRACTOR: McAuley CASING: COMMENTS: Run 4 from 76.07 to 79.12, Rec'd length = 3.08 (249.5) (259.5)

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH		UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	NOTES	KEY BED
					FROM	TO												
							0.45	16	COAL								toke 2.97 shoc 0.11	
																	banded coal - v-bands to 1.5cm - soft broken coal @ 27 & 40 cm to 45 cm.	
							0.58	17	COAL								banded coal, v-bands to 2cm. - solid core	
							0.18	18	COAL								banded coal, v-bands to 1cm; 0 to 5cm - soft broken clastic coal.	
	83°						0.06	19	TOFF				tan	med.				
							0.50	20	COAL								banded coal - v-bands to 1cm; 0 to 7cm - dull, muddy	
							0.50	21	COAL								a/a; 24 to 25cm - mdsn.	
	69°						0.52	22	COAL								a/a; 18 to 20cm - mdsn carb.	
	75°						0.15	23	MDSN	CARB			gy	dark			0-4cm, mdsn carb 4-9cm - mdsn, v-streys 1cm pyrite band 8 to 9cm 9-15cm mdsn.	
							0.16	24	COAL								banded coal, v-bands to 1cm	

MANALTA COAL LTD.

SHEET # 5 OF 6

PROJECT: TELKWA HOLE # T98R-21C CONTRACTOR: M. Auleq CASING: COMMENTS: Run 5 from 79.12 to 82.09, Res'd. length = 3.10 (259.5) (263.25)

BOX MARK	BCA	CORE STATE	RQD	INTERVAL THK	DEPTH		UNIT THK	SAMPLE #	ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	MODIFIER	BEDDING	SED. STRUCT	fabc shoe	NOTES	KEY BED
					FROM	TO													
							0.09	25	COAL									handed coal w/v-bands to 1 cm	
							0.19	26	MDSN				gy	med					
							0.50	27	COAL									handed coal w/v-bands to 1.5 cm	
	75°						0.50	28	COAL									also; 1 x 2 cm pyrite patch @ 37 cm	
							0.50	29	COAL									also; soft broken coal 11 to 16 cm; mdsn or tuft 19 to 20 cm	
							0.50	30	COAL									handed coal, v-bands to 2 cm 2mm calcite along bedding @ 10 cm - soft coal 12 to 13 cm	
							0.19	31	COAL									a/a	
							0.30	32	COAL									dull coal w a few v-bands to 0.5 cm 3x5 cm pyrite patch @ 5 cm	
							0.25	33	COAL									dull coal, possibly muddy	





T98R-22C	0.00	15.69 OB
T98R-22C	15.69	16.04 SASN
T98R-22C	16.04	16.10 LOST
T98R-22C	16.12	16.55 SASN
T98R-22C	16.55	18.65 LOST
T98R-22C	18.65	18.78 SASN
T98R-22C	18.78	19.66 MDSN
T98R-22C	19.66	19.75 COAL
T98R-22C	19.75	20.32 LOST
T98R-22C	20.32	20.52 LOST
T98R-22C	20.52	20.56 COAL
T98R-22C	20.56	20.81 MDSN
T98R-22C	20.81	20.93 COAL
T98R-22C	20.93	21.03 COAL
T98R-22C	21.03	21.60 COAL
T98R-22C	21.62	21.86 MDSN
T98R-22C	21.86	21.92 MDSN
T98R-22C	21.92	22.74 SLSN
T98R-22C	22.74	27.06 SASN
T98R-22C	27.06	27.35 LOST
T98R-22C	27.35	28.65 MDSN
T98R-22C	28.65	29.13 COAL
T98R-22C	29.13	29.17 MDSN
T98R-22C	29.17	29.27 LOST
T98R-22C	29.27	29.57 COAL
T98R-22C	29.57	29.83 COAL
T98R-22C	29.83	30.18 COAL
T98R-22C	30.18	31.25 COAL
T98R-22C	31.25	31.48 MDSN
T98R-22C	31.48	32.02 SLSN
T98R-22C	32.02	33.25 SASN
T98R-22C	33.25	34.40 SLSN
T98R-22C	34.40	34.65 SASN
T98R-22C	34.65	38.83 SASN
T98R-22C	38.83	39.46 SLSN
T98R-22C	39.46	39.46 LOST
T98R-22C	39.46	43.00 SASN
T98R-22C	43.00	43.03 MDSN
T98R-22C	43.03	43.18 COAL
T98R-22C	43.18	43.30 MDSN
T98R-22C	43.30	44.75 SASN
T98R-22C	44.75	45.05 MDSN
T98R-22C	45.05	45.38 LOST
T98R-22C	45.38	46.80 SASN
T98R-22C	46.80	48.36 LOST
T98R-22C	48.36	49.69 LOST
T98R-22C	49.69	49.89 SASN
T98R-22C	49.89	49.98 MDSN
T98R-22C	49.98	50.16 COAL
T98R-22C	50.16	51.20 COAL
T98R-22C	51.20	51.33 COAL
T98R-22C	51.33	51.53 MDSN
T98R-22C	51.53	52.57 SASN
T98R-22C	52.57	52.89 LOST
T98R-22C	52.89	54.97 SASN
T98R-22C	54.97	57.20 LOST
T98R-22C	57.20	58.49 SASN
T98R-22C	58.49	58.53 COAL
T98R-22C	58.53	58.72 LOST
T98R-22C	58.72	58.92 COAL
T98R-22C	58.92	60.25 LOST

T98R-22C	60.25	60.90 MDSN
T98R-22C	60.90	61.47 LOST
T98R-22C	61.47	62.40 MDSN
T98R-22C	62.40	63.30 LOST
T98R-22C	63.30	64.26 MDSN
T98R-22C	64.26	66.67 SASN
T98R-22C	66.67	67.14 SLSN
T98R-22C	67.14	67.18 COAL
T98R-22C	67.18	67.26 LOST
T98R-22C	67.26	67.34 MDSN
T98R-22C	67.34	67.40 MDSN
T98R-22C	67.40	67.60 LOST
T98R-22C	67.60	67.70 MDSN
T98R-22C	67.70	67.91 SLSN
T98R-22C	67.91	68.14 MDSN
T98R-22C	68.14	68.35 LOST
T98R-22C	68.35	69.02 SLSN
T98R-22C	69.02	69.06 MDSN
T98R-22C	69.06	69.30 LOST
T98R-22C	69.30	69.50 COAL
T98R-22C	69.50	69.50 MDSN
T98R-22C	69.50	69.71 MDSN
T98R-22C	69.71	69.93 COAL
T98R-22C	69.93	70.22 LOST
T98R-22C	70.22	70.92 COAL
T98R-22C	70.92	71.13 LOST
T98R-22C	71.13	71.33 MDSN
T98R-22C	71.33	72.17 LOST
T98R-22C	72.17	72.30 MDSN
T98R-22C	72.30	72.50 COAL
T98R-22C	72.50	72.79 COAL
T98R-22C	72.79	72.84 LOST
T98R-22C	72.84	72.86 MDSN
T98R-22C	72.86	72.91 LOST
T98R-22C	72.91	73.51 SLSN
T98R-22C	73.51	73.82 LOST
T98R-22C	73.82	74.17 SLSN
T98R-22C	74.17	74.73 LOST
T98R-22C	74.73	75.41 SLSN
T98R-22C	75.41	75.57 LOST
T98R-22C	75.57	76.02 SASN
T98R-22C	76.02	76.52 SLSN
T98R-22C	76.52	76.64 LOST
T98R-22C	76.64	77.17 MDSN
T98R-22C	77.17	77.25 LOST
T98R-22C	77.25	78.05 MDSN
T98R-22C	78.05	78.25 LOST
T98R-22C	78.25	78.58 MDSN
T98R-22C	78.58	78.86 LOST
T98R-22C	78.86	79.06 MDSN
T98R-22C	79.06	79.50 LOST
T98R-22C	79.50	80.00 MDSN
T98R-22C	80.00	80.25 SASN
T98R-22C	80.25	80.68 SASN
T98R-22C	80.68	81.43 LOST
T98R-22C	81.43	82.09 SASN
T98R-22C	82.09	83.19 SASN
T98R-22C	83.19	83.43 LOST
T98R-22C	83.43	83.78 SASN
T98R-22C	83.78	84.01 SASN
T98R-22C	84.01	84.31 SASN

T98R-22C	84.31	84.52 LOST
T98R-22C	84.52	85.02 SASN
T98R-22C	85.02	85.34 SASN
T98R-22C	85.34	85.50 LOST
T98R-22C	85.50	86.25 SASN
T98R-22C	86.25	86.50 LOST
T98R-22C	86.50	86.93 SASN
T98R-22C	86.93	87.62 LOST
T98R-22C	87.62	87.79 SASN
T98R-22C	87.79	88.36 SASN
T98R-22C	88.36	88.66 LOST
T98R-22C	88.66	89.10 SASN
T98R-22C	89.10	89.28 COAL
T98R-22C	89.28	89.49 COAL
T98R-22C	89.49	89.61 LOST
T98R-22C	89.61	89.96 COAL
T98R-22C	89.96	90.31 MDSN
T98R-22C	90.31	90.64 LOST
T98R-22C	90.64	90.95 MDSN
T98R-22C	90.95	91.48 COAL
T98R-22C	91.48	92.43 COAL
T98R-22C	92.43	92.59 LOST
T98R-22C	92.59	92.64 LOST
T98R-22C	92.64	93.89 SLSN
T98R-22C	93.89	94.72 LOST
T98R-22C	94.72	95.32 SASN
T98R-22C	95.32	95.72 LOST
T98R-22C	95.72	95.97 SASN
T98R-22C	95.97	96.80 LOST
T98R-22C	96.80	97.05 SASN
T98R-22C	97.05	97.32 COAL
T98R-22C	97.32	97.47 MDSN
T98R-22C	97.47	97.80 MDSN
T98R-22C	97.80	97.85 MDSN
T98R-22C	97.85	98.80 COAL
T98R-22C	98.80	99.30 COAL
T98R-22C	99.30	99.45 COAL
T98R-22C	99.45	99.76 MDSN
T98R-22C	99.76	100.16 MDSN
T98R-22C	100.16	100.36 MDSN
T98R-22C	100.36	100.76 LOST
T98R-22C	100.76	101.01 MDSN
T98R-22C	101.01	101.26 LOST
T98R-22C	101.26	101.61 MDSN
T98R-22C	101.61	102.26 LOST
T98R-22C	102.26	102.56 MDSN
T98R-22C	102.56	102.76 LOST
T98R-22C	102.76	103.26 LOST
T98R-22C	103.26	103.66 MDSN
T98R-22C	103.66	103.81 MDSN
T98R-22C	103.81	104.26 LOST
T98R-22C	104.26	104.76 MDSN
T98R-22C	104.76	104.90 LOST
T98R-22C	104.90	105.20 MDSN
T98R-22C	105.20	105.40 SASN
T98R-22C	105.40	105.90 LOST
T98R-22C	105.90	106.13 SASN
T98R-22C	106.13	106.45 LOST
T98R-22C	106.45	106.90 LOST
T98R-22C	106.90	107.40 SASN
T98R-22C	107.40	107.62 SASN

T98R-22C	107.62	107.90 SASN
T98R-22C	107.90	108.70 SASN
T98R-22C	108.70	109.40 LOST
T98R-22C	109.40	109.50 SASN
T98R-22C	109.50	109.78 MDSN
T98R-22C	109.78	110.21 LOST
T98R-22C	110.21	110.71 MDSN
T98R-22C	110.71	111.04 LOST
T98R-22C	111.04	111.16 MDSN
T98R-22C	111.16	111.71 LOST
T98R-22C	111.71	111.93 MDSN
T98R-22C	111.93	112.01 COAL
T98R-22C	112.01	112.51 COAL
T98R-22C	112.51	112.59 COAL
T98R-22C	112.59	112.69 COAL
T98R-22C	112.69	112.94 MDSN
T98R-22C	112.94	113.21 LOST
T98R-22C	113.21	113.46 MDSN
T98R-22C	113.46	113.76 LOST
T98R-22C	113.76	114.01 MDSN
T98R-22C	114.01	114.42 MDSN
T98R-22C	114.42	114.57 COAL
T98R-22C	114.57	114.65 MDSN
T98R-22C	114.65	114.77 COAL
T98R-22C	114.77	115.07 LOST
T98R-22C	115.07	115.32 COAL
T98R-22C	115.32	115.42 COAL
T98R-22C	115.42	115.57 LOST
T98R-22C	115.57	116.08 LOST
T98R-22C	116.08	116.14 COAL
T98R-22C	116.14	116.49 MDSN
T98R-22C	116.49	117.08 LOST
T98R-22C	117.08	117.60 MDSN
T98R-22C	117.60	117.73 SASN
T98R-22C	117.73	118.25 LOST
T98R-22C	118.25	119.23 SASN
T98R-22C	119.23	119.43 SASN
T98R-22C	119.43	119.48 LOST
T98R-22C	119.48	120.88 SASN
T98R-22C	120.88	121.18 LOST

Core SamplesSHEET \_\_\_\_\_  
DATE \_\_\_\_\_  
JOB NO. \_\_\_\_\_

BY \_\_\_\_\_ CHKD. \_\_\_\_\_

	Samples	Description
T98R-22C	A001 - A042	ARD samples
	1	19.41 - 20.31 - coal
	2	26.56 - coal
	3 - 5	- 31.10 - coal
	6	45.16 - 45.34 - coal
	7	50.58 - coal
	8	58.07 - coal
	9	66.80 - coal
	10 - 13	68.90 - coal
	14	71.77 - coal
	15	88.82 - 89.68 - coal
	16 - 17	90.67 - coal
	18	96.69 - 96.96 - coal
	19	111.58 - 112.26 - coal
	20	113.93 - coal

th	from	to		
15.34		15.69	ovb	
0.35	15.69	16.04	sasn	
0.06	16.04	16.10	lost	lost
0.45	16.10	16.55	sasn	
2.10	16.55	18.65	lost	lost
0.13	18.65	18.78	sasn	A001
0.88	18.78	19.66	mdsn	A002
0.09	19.66	19.75	coal	1
0.57	19.75	20.32	lost	lost
0.20	20.32	20.52	coal	lost
0.04	20.52	20.56	coal	1
0.25	20.56	20.81	mdsn	A003
0.12	20.81	20.93	coal	2
0.10	20.93	21.03	coal	lost
0.57	21.03	21.60	coal	2
0.26	21.60	21.86	mdsn	lost
0.06	21.86	21.92	mdsn	
0.82	21.92	22.74	slsn	A004
4.32	22.74	27.06	sasn	A005
0.29	27.06	27.35	lost	
1.30	27.35	28.65	mdsn	A006
0.48	28.65	29.13	coal	3
0.04	29.13	29.17	mdsn	3
0.10	29.17	29.27	lost	
0.30	29.27	29.57	coal	3
0.26	29.57	29.83	coal	4
0.35	29.83	30.18	coal	4
1.07	30.18	31.25	coal	5
0.23	31.25	31.48	mdsn	
0.54	31.48	32.02	slsn	A007
1.23	32.02	33.25	sasn	A008
1.15	33.25	34.40	slsn	A009
0.25	34.40	34.65	sasn	
4.18	34.65	38.83	sasn	A011
0.63	38.83	39.46	slsn	A012
0.00	39.46	39.46	lost	
3.54	39.46	43.00	sasn	A013
0.03	43.00	43.03	mdsn	6
0.15	43.03	43.18	coal	6
0.12	43.18	43.30	mdsn	
1.45	43.30	44.75	sasn	A014
0.30	44.75	45.05	mdsn	A015
0.33	45.05	45.38	lost	
1.42	45.38	46.80	sasn	
1.56	46.80	48.36		
1.33	48.36	49.69	lost	

0.20	49.69	49.89	sasn		
0.09	49.89	49.98	mdsn		A016
0.18	49.98	50.16	coal		7
1.04	50.16	51.20	coal	lost	
0.13	51.20	51.33	coal		7
0.20	51.33	51.53	mdsn		A017
1.04	51.53	52.57	sasn		
0.32	52.57	52.89		lost	
2.08	52.89	54.97	sasn		A018
2.23	54.97	57.20		lost	
1.29	57.20	58.49	sasn		A019
0.04	58.49	58.53	coal		8
0.19	58.53	58.72	lost	lost	
0.20	58.72	58.92	coal		8
1.33	58.92	60.25	lost	lost	
0.65	60.25	60.90	mdsn		
0.57	60.90	61.47		lost	
0.93	61.47	62.40	mdsn		
0.90	62.40	63.30		lost	
0.96	63.30	64.26	mdsn		A020
2.41	64.26	66.67	sasn		A021
0.47	66.67	67.14	sisn		A022
0.04	67.14	67.18	coal		9
0.08	67.18	67.26	coal	lost	
0.08	67.26	67.34	mdsn	lost	
0.06	67.34	67.40	mdsn		
0.20	67.40	67.60		lost	
0.10	67.60	67.70	mdsn		
0.21	67.70	67.91	sisn		
0.23	67.91	68.14	mdsn		A023
0.21	68.14	68.35		lost	
0.67	68.35	69.02	sisn		
0.04	69.02	69.06	mdsn		A024
0.24	69.06	69.30		lost	
0.20	69.30	69.50	coal		10
	69.50	69.50	mdsn		
0.21	69.50	69.71	mdsn		11
0.22	69.71	69.93	coal		12
0.29	69.93	70.22		lost	
0.70	70.22	70.92	coal		13
0.21	70.92	71.13		lost	
0.20	71.13	71.33	mdsn		
0.04	71.33	72.17		lost	
0.13	72.17	72.30	mdsn		A025
0.20	72.30	72.50	coal		14
0.29	72.50	72.79	coal		14
0.05	72.79	72.84	lost	lost	
0.02	72.84	72.86	mdsn		
0.05	72.86	72.91	lost	lost	





0.60	72.91	73.51	slsn		
0.31	73.51	73.82	lost	lost	
0.35	73.82	74.17	slsn		
0.56	74.17	74.73	lost	lost	
0.68	74.73	75.41	slsn		A026
0.16	75.41	75.57	lost	lost	
0.45	75.57	76.02	sasn		
0.50	76.02	76.52	slsn		A027
0.12	76.52	76.64	lost	lost	
0.53	76.64	77.17	mdsn		
0.08	77.17	77.25	lost	lost	
0.80	77.25	78.05	mdsn		
0.20	78.05	78.25	lost	lost	
0.33	78.25	78.58	mdsn		
0.28	78.58	78.86	lost	lost	
0.20	78.86	79.06	mdsn		
0.44	79.06	79.50	lost	lost	
0.50	79.50	80.00	mdsn		A028
0.25	80.00	80.25	sasn		
0.43	80.25	80.68	sasn		
0.75	80.68	81.43	lost	lost	
0.66	81.43	82.09	sasn		
1.10	82.09	83.19	sasn		
0.24	83.19	83.43	lost	lost	
0.35	83.43	83.78	sasn		
0.23	83.78	84.01	sasn		A030
0.30	84.01	84.31	sasn		
0.21	84.31	84.52	lost	lost	
0.50	84.52	85.02	sasn		
0.32	85.02	85.34	sasn		
0.16	85.34	85.50	lost	lost	
0.75	85.50	86.25	sasn		
0.25	86.25	86.50	lost	lost	
0.43	86.50	86.93	sasn		
0.69	86.93	87.62		lost	
0.17	87.62	87.79	sasn		
0.57	87.79	88.36	sasn		
0.30	88.36	88.66		lost	
0.44	88.66	89.10	sasn		
0.18	89.10	89.28	coal		15
0.21	89.28	89.49	coal		15
0.12	89.49	89.61	lost	lost	
0.35	89.61	89.96	coal		15
0.35	89.96	90.31	mdsn		
0.33	90.31	90.64	lost	lost	
0.31	90.64	90.95	mdsn		A031
0.53	90.95	91.48	coal		16
0.95	91.48	92.43	coal		17
0.16	92.43	92.59		lost	swapped

0.05	92.59	92.64	lost	lost	
1.25	92.64	93.89	sln		A032
0.83	93.89	94.72	lost	lost	
0.60	94.72	95.32	sasn		
0.40	95.32	95.72	lost	lost	
0.25	95.72	95.97	sasn		
0.83	95.97	96.80	lost	lost	
0.25	96.80	97.05	sasn		A033
0.27	97.05	97.32	coal		
0.15	97.32	97.47	mdsn		A034
0.33	97.47	97.80	mdsn	lost	
0.05	97.80	97.85	mdsn	lost	
0.95	97.85	98.80	coal	lost	
0.50	98.80	99.30	coal	lost	
0.15	99.30	99.45	coal	lost	
0.31	99.45	99.76	mdsn	lost	
0.40	99.76	100.16	mdsn	ground	A035
0.20	100.16	100.36	mdsn		
0.40	100.36	100.76	lost	lost	
0.25	100.76	101.01	mdsn		
0.25	101.01	101.26	lost	lost	
0.35	101.26	101.61	mdsn		A036
0.65	101.61	102.26	lost	lost	
0.30	102.26	102.56	mdsn		
0.20	102.56	102.76	lost	lost	
0.50	102.76	103.26	lost	lost	
0.40	103.26	103.66	mdsn		
0.15	103.66	103.81	mdsn		
0.45	103.81	104.26	lost	lost	
0.50	104.26	104.76	mdsn		
0.14	104.76	104.90	lost	lost	
0.30	104.90	105.20	mdsn		A037
0.20	105.20	105.40	sasn		
0.50	105.40	105.90	lost	lost	
0.23	105.90	106.13	sasn		
0.32	106.13	106.45	lost	lost	
0.45	106.45	106.90	lost	lost	
0.50	106.90	107.40	sasn		
0.22	107.40	107.62	sasn		
0.28	107.62	107.90	sasn		
0.80	107.90	108.70	sasn		
0.70	108.70	109.40	lost	lost	
0.10	109.40	109.50	sasn		A038
0.28	109.50	109.78	mdsn		
0.43	109.78	110.21	lost	lost	
0.50	110.21	110.71	mdsn		
0.33	110.71	111.04	lost	lost	
0.12	111.04	111.16	mdsn		
0.55	111.16	111.71	lost	lost	



0.22	111.71	111.93	mdsn		A039
0.08	111.93	112.01	coal	lost	
0.50	112.01	112.51	coal		
0.08	112.51	112.59	coal	lost	
0.10	112.59	112.69	coal		
0.25	112.69	112.94	mdsn		
0.27	112.94	113.21	lost	lost	
0.25	113.21	113.46	mdsn		
0.30	113.46	113.76	lost	lost	
0.25	113.76	114.01	mdsn		
0.41	114.01	114.42	mdsn	lost	
0.15	114.42	114.57	coal	lost	
0.08	114.57	114.65	mdsn		A040
0.12	114.65	114.77	coal		
0.30	114.77	115.07	lost	lost	
0.25	115.07	115.32	coal		
0.10	115.32	115.42	coal		
0.15	115.42	115.57	lost	lost	
0.51	115.57	116.08	lost	lost	
0.06	116.08	116.14	coal		
0.35	116.14	116.49	mdsn		
0.59	116.49	117.08	lost	lost	
0.52	117.08	117.60	mdsn		A041
0.13	117.60	117.73	sasn		
0.52	117.73	118.25	lost	lost	
0.98	118.25	119.23	sasn		
0.20	119.23	119.43	sasn		
0.05	119.43	119.48	lost	lost	
1.40	119.48	120.88	sasn		A042
0.30	120.88	121.18	lost	lost	

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A041

A042