K-Shell-Line Creek 80(3)A

OPEN FILE

82-

DRILL HOLE DATA

C.L.#'s 293, 294, 297,
298, 301

VOL 2

422

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	Line Creek North
AREA	Line Creek, S.E. B.C.

DATE	
BEGIN	
END	

HOLE No. LC - 301

HOLE PARTICULARS

LOCATION			
ELEVATION		HOLE BEARING (AZ°)	
TOTAL DEPTH		HOLE ANGLE (°)#	

LOGGING

LOGS RUN	
LOGGED BY	
OTHER TESTS	

COAL CORING PERFORMANCE

CORE DIAMETER		
TOTAL	CORE RECOVERED	
	LENGTH CORED	
	CORE RECOVERY	%

EXAMINATION

LOG USED	
No. OF SEAMS SAMPLED	
EXAMINER (S)	
DATE	

BOX No.	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	▲ BEDDING ANGLE (°)	SUMMARY GEOTECH HARDNESS	FRAC. FREQ.	RQD	SAMPLE NO.	ANALYTICAL DATA MOIST % ar.b.	residual	ASH %	V.M. %	F.C. %	F.S.I.	C.V.
1	0	6.88	7.78	.9	shale	shale dk. grey, V rubbly, carboneous R3					0								
		7.78	7.98	.2	lost	lost core													
		7.98	9.59	1.61	shale	same as above 1.31 m reading		46'											
		9.59	9.99	.4	lost	lost core													
		9.99	10.46	.47	shale	same as above, V, broken													
		10.46	10.76	.3	lost	lost core													
		10.76	11.4	.64	shale	same as above, V broken to crushed		46'											
		11.4	12.99	1.59	shale	same as above, semi stick core													
2						some iron oxidazation on fracture planes R3		46											
						Calcite in filling													
						F - B1													
						3 - J1													
						4 - J2													
						5 - J3													
		12.99	13.7	.71	slst	minor sst fig bands semi stick to broken		28'											
						1 calcite infilled fracture													
						minor Fe Oxidation R3 - R4													
						1B2, 1J2 1B1													
		13.7	14.2	.5	lost	lost core													
		14.2	14.64	.44	sh/slst	V broken to crushed, med-dk. grey													
						weathered, concretions													
		14.64	15.14	.5	lost	lost core													
		15.14	15.59	.45	sh	V broken with minor slst bands, dk. grey													
						shale, slst bands yellow brown - fe													
						oxidation													
						1B2,													
		15.59	15.89	.3	lost	lost core													
		15.89	16.21	.32	sh	same as above calcite infilled		46'											
						fractures, at top bedding plane fault gouge													
						2 J2's													
		16.21	17.6	.49	sh	V rubbly-broken, 1B2, 1B1		40'											
						same as above													

422

ALL LINEAR UNITS IN METRES

\# : MEASURED FROM THE HORIZONTAL PLANE

▲ ANGLE MEASURED FROM CORE AXIS

† : R &/OR S — GOLDER ASSOCIATES HARDNESS CODE

• RQD — ROCK QUALITY DESIGNATION (%)

FF — FRACTURE FREQUENCY

HOLE No. LC - 301

FILE No. RA-267
REVISED Feb. 1981
FORMERLY FILE No. RA-211A

ROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	
AREA	

DATE	
BEGIN	
END	

HOLE No. LC - 301

PAGE 3 OF

HOLE PARTICULARS

LOCATION			
ELEVATION		HOLE BEARING (AZ°)	
TOTAL DEPTH		HOLE ANGLE (°)*	

LOGGING

LOGS RUN	
LOGGED BY	
OTHER TESTS	

COAL CORING PERFORMANCE

CORE DIAMETER	
TOTAL CORE RECOVERED	
TOTAL LENGTH CORED	
TOTAL CORE RECOVERY	%

EXAMINATION

LOG USED	
No. OF SEAMS SAMPLED	
EXAMINER (S)	
DATE	

CORE No.	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	▲ BEDDING ANGLE (°)	SUMMARY GEOTECH HARDNESS	FRAC. FREQ.	RQD	SAMPLE NO.	ANALYTICAL DATA MOIST % a.r.b.	MOIST % residual	ASH %	V.M. %	F.C. %	F.S.I.	C.V.
		16.7	16.9	.2	lost	lost core													
		16.9	17.73	.87	shale	minor yellow oxidation V, rubbly 1 drilling induced joint distinuishable R3													
		17.73	18.15	.42	shale	J1 joint with iron oxidation on surface, semi stick core, weathered dk. grey, 3-J2 same as above, R3					27/42								
		18.15	18.25	.1	lost	lost core													
		18.25	18.76	.51	shale	same as before, dk. grey, broken, R3													
		18.76	19.19	.43	shale	same as above, broken at top													
		19.19	19.42	.23	shale	dk. grey same as above broken R4													
		19.42	20.22	.80	sandy/slst	with fig. sandstone laminations fracture with calcite - Fe infilling stick core, R3, burrow traces					1.41/1.91								
		20.22	20.95	.73	sst	f.g.r. med. grey, stick core, R3		39											
		20.95	21.09	.14	slst	med. grey, R3, stick													
		21.09	21.8	.71	shale	med. dk. grey stick, plant fragments 6 - B1 fractures calcite infilling 2 - J1 calcite and iron infilling 7 - J2													
		21.8	22.7	.9	slst/sh	interbedded with minor fig. sandst. dk. grey, semi stick to broken iron staining, calcite infilling many joints.													
		22.7	22.8	.1	slst	concretionary, iron oxide weathering broken													
				.1	lost	lost core													
		22.8	23.14	.34	gouge	badly brecciated core-shale													
	4	23.14	23.26	.12	shale	dk. grey semi stick													

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ALL LINEAR UNITS IN METRES

* : MEASURED FROM THE HORIZONTAL PLANE

▲ ANGLE MEASURED FROM CORE AXIS

† : R &/OR S — GOLDER ASSOCIATES HARDNESS CODE

• RQD — ROCK QUALITY DESIGNATION (%)

FF —— FRACTURE FREQUENCY

HOLE No. LC - 301

FILE No BA-267
REVISED Feb.1981
FORMERLY FILE No. BA-211A

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT		DATE BEGIN		HOLE No.	LC-301
AREA		DATE END			

PAGE X3 OF

HOLE PARTICULARS

LOCATION			
ELEVATION		HOLE BEARING (AZ°)	
TOTAL DEPTH		HOLE ANGLE (°)*	

LOGGING

LOGS RUN	
LOGGED BY	
OTHER TESTS	

COAL CORING PERFORMANCE

CORE DIAMETER	
TOTAL CORE RECOVERED	
TOTAL LENGTH CORED	
TOTAL CORE RECOVERY	%

EXAMINATION

LOG USED	
No. OF SEAMS SAMPLED	
EXAMINER (S)	
DATE	

BOX No.	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	LITHO DESCRIPTION AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	▲ BEDDING ANGLE (°)	SUMMARY GEOTECH HARDNESS	FRAC. FREQ.	RQD	SAMPLE NO.	ANALYTICAL DATA MOIST % a.r.b.	MOIST % residual	ASH %	V.M. %	F.C. %	F.S.I.	C.V.
		23.26	23.36	.1	slst.	concretionary, Fe stain, broken													
		23.36	23.57	.21	shale	as above stock R3													
		23.57	23.63	.06	sst	fig med. brown to grey oxidized		42											
		23.63	23.68	.05	shale	same as above stick													
						joints are clean													
		23.68	23.71	.03	slst	yellow brown color stick													
		23.71	23.89	.18	shale	same as above stick													
						3 -J3 clean													
						2 - J2 clean													
						2 - B1 clean													
		23.89	24.1	.21	shale	sandstone laminations dk. grey stick core					1.27/								
											1.70								
		24.1	24.5	.4	slst	badly broken, concretionary													
						some Fe staining													
		24.5	25.29	.79	shale	stick core, R3, minor sst laminations													
						f.g.r.													
		25.29	25.59	.3	shale	as previously described		43											
						1 - J1 calcite on surface													
						3 - J2													
						4 - B2													
5		25.59	26.35	.76	sh/slst	interbedded dk. grey semi stick													
											.25/								
		26.35	26.45	.1	lost	lost core					1.57								
		26.45	26.51	.06	gouge	S3													
		26.51	26.75	.24	sh/slst	Fe stain, dk. grey, broken													
		26.75	26.84	.09	coal	powdery													

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ALL LINEAR UNITS IN METRES

* : MEASURED FROM THE HORIZONTAL PLANE

† : R &/OR S — GOLDER ASSOCIATES HARDNESS CODE

• RQD — ROCK QUALITY DESIGNATION (%)

FF —— FRACTURE FREQUENCY

▲ ANGLE MEASURED FROM CORE AXIS

HOLE No.	LC-301

FILE No. BA-267
REVISED Feb. 1981
FORMERLY FILE No. BA-211A

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT		DATE BEGIN		HOLE No.	LC - 301
AREA		DATE END		PAGE X 4 OF	

HOLE PARTICULARS

LOCATION			
ELEVATION		HOLE BEARING (AZ°)	
TOTAL DEPTH		HOLE ANGLE (°)*	

LOGGING

LOGS RUN	
LOGGED BY	
OTHER TESTS	

COAL CORING PERFORMANCE

CORE DIAMETER	
TOTAL CORE RECOVERED	
TOTAL LENGTH CORED	
TOTAL CORE RECOVERY	%

EXAMINATION

LOG USED	
No. OF SEAMS SAMPLED	
EXAMINER (S)	
DATE	

BOX	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	BEDDING ANGLE (°) ▲	SUMMARY GEOTECH HARDNESS	FRAC. FREQ.	RQD	SAMPLE NO.	MOIST % a.r.b.	MOIST % residual	ASH %	V.M. %	F.C. %	F.S.I.	C.V.
		26.84	27.26	.42	shale	med-dk. grey, carbonaceous													
						semi stick													
						7 - B2													
						8 - J2													
		27.26	27.86	.6	shale	dk. grey as before					.22/								
						V broken at bottom, semi stick at top		42'			1 90								
		27.86	28.36	.5	lost	lost core													
		28.36	28.89	.53	slst	light brown, concretionary													
						V broken and rubbly													
		28.89	29.66	.77	shale	as before-some Fe stain R3													
						9 - B2													
						1 - B1 clean													
						9 - J2													
		29.66	31.04	1.29	shale	minor coaly partings					.41/								
						dk. grey - semi stick to broken		42			1.29								
						minor iron on fracture surfaces, R3													
						7 - B2													
						3 - J2													
						3 - J1													
		31.04	31.42	.3	shale	dark grey, coaly streeks, broken													
		31.42	31.59	.5	shale	dark grey slick J-47°													
		31.59	31.83	.24		coal rubble (31.2 - 32.6)						338							
						(31.6 - 32.0)													
				1.25		lost core													
		33.08		1.75	sst	fine and med grain, minor interbed													
	33.8					SLTST and sh 2J - 67°		50°											
						cross bedded J - 45°		65°											
	35.4					evidents of calting J - 35°													
						disturbed bedding CFF													
						Calc													
				.23	shale	many slick falt zone CFF rubble													

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ALL LINEAR UNITS IN METRES

* : MEASURED FROM THE HORIZONTAL PLANE

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• RQD — ROCK QUALITY DESIGNATION (%)

FF —— FRACTURE FREQUENCY

▲ ANGLE MEASURED FROM CORE AXIS

HOLE No.	

FILE No. BA - 267
REVISED Feb. 1981
FORMERLY FILE No. BA-211A

OWS NEST RESOURCES LIMITED

ORE & COAL CORE DESCRIPTION

PROJECT	
AREA	

HOLE No. LC - 301 CONTINUED

PAGE 5 OF ....

DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	▲ BEDDING ANGLE (°)	SUMMARY GEOTECH HARDNESS	FRAC FREQ	RQD	SAMPLE NO	ANALYTICAL DATA MOIST % a.r.b.	MOIST % residual	ASH %	V M %	F.C. %	F.S.I.	C.V.
35.8																		
			.65	shale	rubble slick AA													
36.6																		
			.4		AA													
			.08	shale	Black CFF													
37.2																		
			.4	shale	AA rubble, broken													
37.8																		
			.13	shale	AA													
			.38	shale	Broken, stick CFF													
					2J - 50													
39.0																		
			.25	shale	slick, rubble, broken J - 42													
					J - 32													
39.6																		
			.64	shale	J - 50													
					J - 40													
40.4																		
			.8	shale	broke stick broken, silty													
41.1																		
			.85	shale	AA													
41.8																		
			.83	shale	AA stick, broken stick, J - 47													
43.0																		
			.54	shale	AA broken stick, broken		62°?											
43.9																		
			.71	shale	silty, broken stick J - 40													
					J - 50													
					J - 30													
44.8																		
44.96			.16	shale	AA					1.2/								
			1.34		Interbed sltst fine sst CFF		34°			1.34								
					coal wisps													
46.3																		
			.76	sltst	SST AA					.46/								
										.76								
47.2																		
			.73	sltst	minor interbedded SST CFF J ~ 50		45°			.48/								
					J ~ 23					.73								
47.8																		
			.34	sltst	AA slick disturbed bedding													
					possible minor falting													
48.5					(LOST CORE)													

422

ALL LINEAR UNITS IN METRES

* MEASURED FROM THE HORIZONTAL PLANE

▲ ANGLE MEASURED FROM CORE AXIS

† • R &/OR S — GOLDER ASSOCIATES HARDNESS CODE

• RQD — ROCK QUALITY DESIGNATION (%)

FF — FRACTURE FREQUENCY

HOLE No. LC - 301

FILE No BA-2e7
REVISED Feb. 1981
FORMERLY FILE No BA-212A

ROWS NEST RESOURCES LIMITED

ORE & COAL CORE DESCRIPTION

PROJECT	
AREA	

HOLE No. CONTINUED	LC - 301

PAGE 6 OF

BOX No	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	▲ BEDDING ANGLE (°)	SUMMARY GEOTECH HARDNESS	FRAC FREQ	RQD	SAMPLE NO	ANALYTICAL DATA MOIST % a.r.b	MOIST % residual	ASH %	V M %	F C %	F.S.I.	C.V.
0	48.5																		
				.28	sltst	rubble													
	49.1																		
				.33	sltst	rubble, iron stain, CFF													
						(Falt)													
	50.3																		
				1.32	shale	minor sltst Broken stick, rubble,													
						slick, iron stain, CFF (Falt)													
	52.0																		
				.45	shale	broken stick, some slick, iron stain													
	52.7					J or B - 40													
				.34	sltst	with minor interbed sst													
				.09	coal	shaly, shered,													
1				1.0	sltst	interbed sst, bioturbated		37°			.64/								
						CFF some iron stain, J-40					1.0								
				.06	shale	silty, slick J or B - 30													
	54.3																		
				1.0	shale	AA some iron stain J - 50													
						broken J - 37													
	55.2																		
				.77	shale	AA broken rubble													
	56.1																		
				.33		rubble shale sltst, CFF, iron stain, slick													
	56.9																		
				.1	rubble	SH coal													
				.48	coal	sheered													
12																			
				.35	shale	slick													
				.18	rubble	sh, coal,													
	58.5																		
				.44	shale	broken stick, rubble pirate noduals, slick													
	59.4																		
				1.0	shale	mild interbedded sltst stick,		38°			.6/1.0								
						broken stick													
	60.6																		
				1.55	shale	AA broken stick J - 35					.59/								
						minor CFF					1.55								
13	62.5																		
				1.16	shale	AA stick, broken stick J - 35					.47/								
						interbedded sltst & sh with minor SST, slick		38°			1.16								
	64.2																		
				.6		SLTST & sh, AA J - 43		38			5/.6								
						J - 30													

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ALL LINEAR UNITS IN METRES

® MEASURED FROM THE HORIZONTAL PLANE

† R &/OR S — GOLDER ASSOCIATES HARDNESS CODE

• RQD — ROCK QUALITY DESIGNATION (%)

FF —— FRACTURE FREQUENCY

▲ ANGLE MEASURED FROM CORE AXIS

HOLE No.	

FILE No BA-267
REVISED Feb. 1981
FORMERLY FILE No. BA-212A

ROWS NEST RESOURCES LIMITED

ORE & COAL CORE DESCRIPTION

PROJECT	
AREA	

HOLE No. LC - 301 CONTINUED

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BOX No.	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH	LITHO DESCRIPTION MAIN	LITHO DESCRIPTION AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	▲ BEDDING ANGLE (°)	SUMMARY GEOTECH HARDNESS	SUMMARY GEOTECH FRAC FREQ	SUMMARY GEOTECH RQD	SAMPLE NO	ANALYTICAL DATA MOIST % a.r.b.	MOIST % residual	ASH %	V.M. %	F.C. %	F.S.I.	C.V.
3				.28		SST & sltst biotubated		37°			.22/								
				.61	shale	silty, broken stick J - 13					.61								
	65.8																		
				.36	shale	AA broken					.36/								
4				.56	shale	black J - 50					.56								
						J or B - 37													
				.41		interbedded sh & sltst minor slick		40°											
						minor CFF													
	67.4																		
				1.47	shale	and sltst, AA					1.01/								
	68.9										1.47								
				1.26	shale	and sltst AA					1.04/								
	70.4										1.26								
				.08	shale	and sltst, AA													
				.85	shale	broken stick coal wisps J - 28													
15				.2	shale	rubble AA J - 50													
	71.9																		
				.46	shale	minor sltst bands J - 35													
						J or B - 40													
				.6	shale	minor interbeddes sltst					2.7/								
											.6								
				.48		interbedded sltst & SSt small scale		45°			3.4/								
						cross bedding stick					4.8								
	73.5																		
				1.54		interbedded sltst & sst, AA bioturbated					1.25/								
	75.0										1.54								
16				1.54		interbeded sltst & sst, AA		45°			1.16/								
	76.5										1.54								
				.57		sltst & sss, AA					100%								
				1.15		interbeded sh & sltst stick, broken					.49/								
						stick, slick					1.15								
	78.1																		
				.46	shale	black													
17				.89	shale	and sltst w minor sst, stick		38°											
	78.3			.14	shale	and sltst, AA													
				.32	shale	black stick					.23/32								
				1.14	shale	and sltst w minor sst, stick					100%								
	79.8																		
				.88	shale	and sltst AA stick & broken stick					.82/88								
				.08	shale	black													
	81.3																		
				.60	shale	AA broken stick					.20/60								

422

ALL LINEAR UNITS IN METRES

* MEASURED FROM THE HORIZONTAL PLANE

▲ ANGLE MEASURED FROM CORE AXIS

† • R &/OR S — GOLDER ASSOCIATES HARDNESS CODE

• RQD — ROCK QUALITY DESIGNATION (%)

FF —— FRACTURE FREQUENCY

HOLE No.

FILE No BA-267
REVISED Feb. 1981
FORMERLY FILE No. BA-212A

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	
AREA	

HOLE No. CONTINUED LC - 301

BOX No.	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	▲ BEDDING ANGLE (°)	SUMMARY GEOTECH HARDNESS	FRAC FREQ	RQD	SAMPLE NO	ANALYTICAL DATA MOIST % a.r.b.	MOIST % residual	ASH %	V.M. %	F.C. %	F.S.I.	C.V.
18				.49	sltst,	sst & minor sh					.36/								
											.49								
	82.5																		
				1.0	sltst.	massive and some irreg. bedding, stick, minor					.80/								
						interbed. sh & sst. B or J - 37°					.10								
	83.4																		
				.93	sltst	AA stick		44			100%								
	84.3																		
				1.6	sltst	AA stick & broken stick					100%								
	85.8																		
19				.70	sltst	AA					100%								
				.48	sh	silty stick & broken stick, coal wisps					.16/48								
						slicks													
	87.3																		
				1.46	sh	AA J - 52°					.42/								
											1/46								
	88.8																		
				.60	sh	A.A.					.37/								
											.60								
				.11	sst	co minor sh, slick		45°											
	90.3																		
				.05	sst	A.A.													
		90.5		.47	coal	rubble						339							
				.13	coal	dull broken stick													
				.17	coal	rubble													
				.12	coal	slick, dull broken stick													
20																			
				.33	coal	rubble and powder													
	91.8																		
		91.6		.50	coal	dull W br, broken						340							
				.14	coal	rubble													
				.09	coal	dull & br.													
				.01	sh														
				.09	coal	dull w br., broken													
				.02	sh														
				.08	coal	slick													
	93.3																		
				.21	coal	dull w br., broken and rubble													
				.17	coal	dull													
				.15	coal	dull w br., rubble													
				.03	sh														
				.01	coal														
				.26	sh	slick, coal wisps		40°											
				.02	coal														

422

ALL LINEAR UNITS IN METRES

● MEASURED FROM THE HORIZONTAL PLANE

▲ ANGLE MEASURED FROM CORE AXIS

† • R &/OR S — GOLDER ASSOCIATES HARDNESS CODE

• RQD — ROCK QUALITY DESIGNATION (%)

FF —— FRACTURE FREQUENCY

HOLE No.

FILE No BA-267
REVISED Feb. 1981
FORMERLY FILE No. BA-212A

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	
AREA	

HOLE No. LC - 301 CONTINUED

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BOX No.	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	▲ BEDDING ANGLE (°)	SUMMARY GEOTECH HARDNESS	FRAC FREQ	RQD	SAMPLE NO	MOIST % a.r.b.	residual	ASH %	V M %	F C %	F.S.I.	C.V.
20				.07	coal	dull													
		94.9	95.2	.26	sh	W coal wisps and stringers J-35,40		55°											
				.34	coal	dull to bright													
21				.13	coal	rubble, dull													
				.35	coal	powder													
	96.0																		
				.19	coal	broken, w thin sh (C.01)													
				.01	sh														
				.18	coal	dull w br, broken stick													
				.02	sh														
				.31	coal	dull W br. broken stick													
				.10	coal	rubble, dull W br.													
				.50	coal	dull w br. stick and broken stick													
	97.8																		
				.08	coal	A.A.													
				.07	sh	black, carb., coal wisps													
				.07	coal	sheared													
				.01	sh	carb.													
				.38	coal	dull w br. broken													
				.17	coal	dull, stick													
				.50	coal	dull w br. broken													
	99.3																		
				.13	coal	rubble, sheared													
				.06	coal	dull													
22				.28	coal	bright w dull													
				.01	sh														
				.35	coal	dull w br. thin sh. (C.01)													
				.02	sh														
				.14	coal	dull and br. broken stick													
				.02	sh	lensy													
				.24	coal	dull, heavy, stick													
				.21	coal	dull w br. broken													
	100.8																		
				.26	coal	dull w br. broken													
				.10	sh	coal wisps													
				.08	coal	dull and br.													
				.16	sh	coal wisps													
				.01	coal	br.													
				.02	coal	sharey, dull													
				.27	coal	dull w br.													
				.17	coal	dull, heavy													
				.11	coal	dull w br.													

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ALL LINEAR UNITS IN METRES

* MEASURED FROM THE HORIZONTAL PLANE

▲ ANGLE MEASURED FROM CORE AXIS

† R &/OR S — GOLDER ASSOCIATES HARDNESS CODE

• RQD — ROCK QUALITY DESIGNATION (%)

FF — FRACTURE FREQUENCY

HOLE No.

FILE No BA-267
REVISED Feb. 1981
FORMERLY FILE No BA-212A

ROWS NEST RESOURCES LIMITED

ORE & COAL CORE DESCRIPTION

PROJECT	
AREA	

HOLE No. LC - 301 CONTINUED

BOX No	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH	LITHO DESCRIPTION MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	BEDDING ANGLE (°)	SUMMARY GEOTECH HARDNESS	FRAC FREQ	RQD	SAMPLE NO	MOIST % a.r.b.	MOIST % residual	ASH %	V.M. %	F.C. %	F.S.I.	C.V.
	102.3																		
				.33	coal	dull w br.													
				.03	sh														
				.06	coal														
		102.4	102.6	.20	sh														
				.06	coal	shaley													
				.04	coal	dull w br., slightly shaley													
				.17	coal	rubble													
				.07	sh														
				.06	coal	rubble													
				.07	coal	dull													
23				.26	sh	coal wisps													
				.04	coal														
	103.8																		
				.10	coal														
				.04	sh														
				.04	coal														
				.03	sh														
				.10	coal														
				.02	sh														
			103.7	.02	coal														
				.38	sh	w coal wisps & lenses in lower half													
				.04	coal														
				.03	interbed coal and sh														
				.05	coal														
				.08	sh														
				.09	coal														
				.17	sh	w coal wisps													
	105.3																		
				.15	coal	dull and br.													
				.04	sh	coaly and coal wisps													
				.05	coal	br													
				.01	sh														
				.19	coal	dull w br.													
				.06	sh	coaly													
				.18	coal	dull w br., thin sh. (C.ol)													
				.19	coal	dull													
				.02	sh														
		106.2		.86	coal	dull w minor br.						341							
				.13	sh														
				.07	coal														
				.05	sh														
24				.08	coal														
				.20	sh														

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ALL LINEAR UNITS IN METRES

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CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

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HOLE No. LC - 301 CONTINUED

BOX No	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	LITHO DESCRIPTION AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	▲ BEDDING ANGLE (°)	SUMMARY GEOTECH HARDNESS	SUMMARY GEOTECH FRAC FREQ	SUMMARY GEOTECH RQD	SAMPLE NO	ANALYTICAL DATA MOIST % a.r.b.	MOIST % residual	ASH %	V M %	F C %	F.S.I.	C.V.
24				.09	coal	shaley						341							
				.23	coal	dull and br.													
				.01	sh														
				.01	coal														
	108.3																		
				.02	sh	carb.													
				.03	coal	dull													
				.05	sh	coaly													
				.11	coal	dull w br.													
				.05	sh	carb.													
				.10	sh	w coal wisps													
				.19	coal	dull w minor br.													
			108.6	.10	coal	dull and br., thin sh (C.01)													
				.15	sh														
		108.8		.14	coal	rubble						342							
				.09	sh														
				.04	coal														
				.17	sh	w coal wisps													
				.05	coal	rubble													
	109.3			.22	sh	stick					100%								
				.08	coal	dull and br.													
				.11	sh	coaly													
				.13	coal	dull and br.													
				.08	sh	carb.													
			111.8	.25	coal	dull w br. thin sh. (C.01)													
				.07	sh	w coal wisps													
				.58	sst	& sltst stick		55			100%								
	111.3																		
25				.62	sst	& sltst A.A.					100%								
				.80	sltst						100%								
				.07	sh	w coal wisps													
	113.8																		
				.04	sh	A.A.													
		113.8		.12	coal	dull w thkn sh (C.01)						343							
				.13	coal	dull and br.													
				.16	sh	minor coal wisps													
				.26	sh	w coal wisps and lenses													
				.12	sh	silty, distorted coal wisps													
				.25	coal	dull and br. sheared													
				.26	sltst	Broken stick													
	114.3																		
				.05	sltst	shaley													
				.06	coal	shaley, thin sh (C.01)													
				.22	sh	silty													

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ALL LINEAR UNITS IN METRES

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HOLE No.

FILE No BA-267
REVISED Feb. 1981
FORMERLY FILE No BA-212A

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

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HOLE No. CONTINUED	LC - 301

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BOX No	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	▲ BEDDING ANGLE (°)	SUMMARY GEOTECH HARDNESS	FRAC FREQ	RQD	SAMPLE NO	ANALYTICAL DATA MOIST % a.r.b.	residual	ASH %	V M %	F C %	F S I	C.V.
				.10	coal	dull and br.													
				.23	sh	w coal wisps													
				.03	coal	rubble													
				.31	sh	silty, coal wisps													
			115.2	.05	sh and	coal rubble													
				.35	sh	stick silty, coal wisps					100%								
	115.8																		
				.14	sh	A.A.													
26				.51	sltst and	sst, small scale X-bed		60°			.41/51								
				.19	sltst,	w minor sst													
				.62	sltst	stick					100								
	117.3																		
				.84	sltst	A.A. some minor sst.					100								
				.30	sh	silty, coal wisps													
				.42	sltst	w minor sst lenses, stick, sandy		55°											
	118.8																		
	119.3[illegible]			.55	sltst	A.A.					.51/55								
				.09	sh														
				.02	coal	shaley													
				.66	sh	silty w coal wisps					.54/66								
	120.3																		
				.25	sh	A.A.													
[illegible]7		122		.07	coal	slightly shaley						344							
				.13	coal	dull													
				.17	coal	dull w br. bands													
				.08	coal	dull													
				.19	coal	dull w br. bands													
				.16	coal	dull													
				.15	coal	dull w br. bands													
				.11	coal	rubble													
				.03	sh	CARB.													
	121.8																		
				.16	coal	br. and dull banded													
				.07	coal	dull w br. bands													
				.2	coal	rubble, sheared													
				.21	caol	dull w br. bands													
			124.0	.28	coal	brk. sheared													
				.32	sh														
				.02	sh	rubble					.13/ 32								
	123.3																		
				.5	sltst	slighrly snady													
				.23	sh														
				.14	sh	w coal wisps & minor CFF. brk.													
				.55	sh	stk.					.47/ 55								

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ALL LINEAR UNITS IN METRES

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FF —— FRACTURE FREQUENCY

HOLE No.	

FILE No BA-267
REVISED Feb.1981
FORMERLY FILE No BA-212A

ROWS NEST RESOURCES LIMITED

ORE & COAL CORE DESCRIPTION

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HOLE No. CONTINUED LC - 301

BOX No	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	BEDDING ANGLE (°)	HARDNESS	FRAC FREQ	RQD	SAMPLE NO	MOIST % a.r.b.	MOIST % residual	ASH %	V.M. %	F.C. %	F.S.I.	C.V.
				.06	sh	w coal wisps													
28	124.8																		
				.5	sltst	minor coal wisps					100%								
				.93	sst	minor interbed sltst F. gr. CFF													
						small scale X-bed.					8/.93								
				.06	sst	A.A. many CFF (minor fault zone)													
	125.3																		
				.08	sst	A.A.													
				1.4	sst	med gr, some small scale X-bed, minor CFF					100%								
	126.8																		
				.07	sst	A.A. grading down to med gr, erosional contact													
				.32	sst	/sltst interbed, some bioturb.					100%								
				.6	sltst /	sh interbed					46/.6								
				.36	sh						.15/.36								
29	128.3																		
				.12	sh	A.A.													
				1.45	sltst	w minor interbed sh & sst					100%								
	131.3																		
				1.03	sltst	A.A.													
30																			
				.48	sltst	CFF at bottom					100%								
	132.8																		
				.3	sltst	A.A.													
				.6	sh	minor CFF					35/.6								
				.07	sltst														
				.43	sst	minor interbeddes sltst, wavy bed													
	134.3																		
				1.31	sst	A.A.					1.15/1.31								
				.29	sltst	minor interbed sst					.2/.29								
	135.8																		
				.45	sltst	A.A.													
				.22	sst	minor interbed sltst													
31				.71	sltst	minor interbed sst		25°			100%								
	137.3																		
				.94	sltst	A.A.					100%								
				.08	sltst	rubble, CFF													
				.28	sltst	sandy joints 45°, 26°													
	138.8																		
				.9	sltst	slightly sandy joints 25°, 34°					100%								
				.62	sst	minor interbed sltst, minor CFF		35°											
	140.3																		
				.2	sst	A.A.					100%								
				.3	sltst	joints 44°, 40°					.2/.3								

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ALL LINEAR UNITS IN METRES

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▲ ANGLE MEASURED FROM CORE AXIS

HOLE No.

FILE No BA-267
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CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

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HOLE No. CONTINUED LC - 301

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BOX No	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	LITHO DESCRIPTION AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	▲ BEDDING ANGLE (°)	SUMMARY GEOTECH HARDNESS	SUMMARY GEOTECH FRAC FREQ	SUMMARY GEOTECH RQD	SAMPLE NO	ANALYTICAL DATA MOIST % a.r.b.	MOIST % residual	ASH %	V.M. %	F.C. %	F.S.I.	C.V.
32																			
				.1	slcst	A.A.													
				.86	sh	minor interbed sltst, some rubble					.25/.86								
	142.8					slick & CFF		65°											
				.21	sh	A.A.													
				.12	sh	rubble, slick, coal wisps													
				.13	sh	A.A.													
				.84	sh	silty joint 8°													
	144.3																		
				.2	sh														
				.48	sltst	minor interbed sst, CFF					100%								
				.07	sltst	many CFF, slick rubble													
				.79	sh	w interbed sltst													
33				.14	sltst														
				1.22	sst	minor interbed sltst, minor CFF		55°			100%								
	147.3																		
				.13	sst	A.A.													
				1.15	sh	coal wisps													
	148.8																		
				1.18	sh	joint 30°					.93/.18								
34				.22	sh	A.A.													
	150.3																		
				1.1	sh	A.A.		45°			.9/1.1								
				.39	sh	slightly silty w minor interbed sltst					.2/.39								
	151.8																		
				1.35	sh	A.A.					1.15/1.35								
	153.3																		
				.18	sh	A.A.					100%								
				.72	sltst	minor interbed sst					100%								
35																			
				.38	sltst	A.A.													
				.48	sh	minor sltst joint 20°		40°			100%								
	154.8																		
				.66	sh	A.A.		50°			100%								
				.45	sh	w. interbedded coal lens, brk. & rubble					0								
	156.3																		
				.86	sh	brk. and rubble, slick, CFF					0								
	157.5																		
				.94	sh	minor sltst interbeds, CFF, stk. & Brk.		64°											
36				.26	sh	A.A.													
	159.																		
				.22	sh	A.A.					100%								
				.9	sltst	minor interbed sst base joint 20°					100%								
				.44	sst	F. Gr.		60°			100%								

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ALL LINEAR UNITS IN METRES

* MEASURED FROM THE HORIZONTAL PLANE

▲ ANGLE MEASURED FROM CORE AXIS

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HOLE No.

FILE No BA-267
REVISED Feb. 1981
FORMERLY FILE No. BA-212A

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

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HOLE No. CONTINUED	LC - 301

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BOX No	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	LITHO DESCRIPTION AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	▲ BEDDING ANGLE (°)	SUMMARY GEOTECH HARD-NESS	SUMMARY GEOTECH FRAC FREQ	SUMMARY GEOTECH RQD	SAMPLE NO	ANALYTICAL DATA MOIST % a.r.b.	MOIST % residual	ASH %	V.M. %	F.C. %	F.S.I.	C.V.
	160.98																		
				.04	sst	A.A.													
				1.2	sltst	minor interbed sst minor CFF					100%								
				.2	sh	slightly silty, coal wisps, slick													
	162.18																		
				.83	sh	A.A.					.17/.83								
37																			
		165.1		.21	coal	dull, sheared, rubble						345							
				.23	coal	dull w br. bands													
	163.8										1.27/1.78								
				.22	coal	A.A.													
				.11	coal	dull													
				.03	sh														
				.05	coal	br.													
				.38	coal	dull													
				.44	coal	dull, sheared													
	165.3										1.23/1.5								
		(167)		.34	coal	dull						346							
				.23	coal	dull													
				.02	sh														
				.65	coal	dull													
	166.8										1.24/1.5								
				.23	coal	dull													
				.22	coal	dull w br bands													
38																			
				.15	coal	dull w br bands													
				.12	coal	dull													
				.07	coal	dull w br bands													
	ς			.1	coal	rubble sheared													
				.38	coal	sheared, brk.													
				.09	coal	dull					.36/1.5								
	168.3																		
				.05	coal	dull													
				.46	coal	dull, sheared, thin lens oolitic texture													
				.17	coal	dull, oolitic texture													
				.69	coal	sheared													
	169.8										1.37/1.5								
				.1	coal	sheared					.1/1.5								
	171.3																		
				.04	sh														
				.48	coal	sheared, dull													
	172.8										.52/1.5								
				.12	coal	dull													
				.46	coal	dull w br. bands, sheared													

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ALL LINEAR UNITS IN METRES

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▲ ANGLE MEASURED FROM CORE AXIS

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HOLE No.	

FILE No BA-267
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CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

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AREA	

HOLE No. LC-301 CONTINUED

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BOX No.	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH	LITHO DESCRIPTION MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM) COAL REC	SEAM DESIG	▲ BEDDING ANGLE (*)	SUMMARY GEOTECH HARD-NESS	FRAC FREQ	RQD	SAMPLE NO	ANALYTICAL DATA MOIST % a.r.b	MOIST % residual	ASH %	V M %	F C %	F.S.I.	C.V
				.26	coal	dull w br. bands													
39				.22	coal	dull													
	174.3					1.06/1.5													
				.31	coal	dull w br. bands													
				.05	coal	dull													
				.01	sh														
				.22	coal	dull w br. bands													
				.22	coal	dull, brk.													
				.08	coal	powder													
				.06	sh and	carb sh													
				.14	coal	dull													
				.18	coal	rubble													
	175.8					1.27/1.5													
				.27	coal	dull w br. bands													
				.35	coal	dull, stk.													
				.03	sh	carb.													
				.17	coal	dull													
				.02	sh														
				.22	coal	dull													
				.16	coal	dull w br. bands													
				.2	coal	dull													
	177.3					1.32/1.5													
				.18	coal	dull													
				.06	coal	dull w br. bands													
				.16	coal	dull													
				.18	coal	dull w br. bands													
				.08	coal	rubble													
40																			
				.14	coal	rubble to powder													
				.12	coal	dull w br. bands													
	178.8					.93/1.5													
				.38	coal	dull, sheared													
				.7	coal	dull w br. bands													
	180.3					1.08/1.5													
				.02	coal	dull w br. bands													
				.02	sh	carb													
				.02	coal	dull w br. bands													
				.91	coal	powder, rubble													
	181.8					.97/1.5													
				.06	coal	shaley													
				.17	coal	dull													
				.02	sh	carb.													
				.04	coal	shaley													
				.17	coal	dull w br. bands													

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ALL LINEAR UNITS IN METRES

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OWS NEST RESOURCES LIMITED

ORE & COAL CORE DESCRIPTION

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AREA	

HOLE No LC - 301 CONTINUED

	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM) COAL REC	SEAM DESIG	▲ BEDDING ANGLE (°)	SUMMARY GEOTECH HARD-NESS	FRAC FREQ	RQD	SAMPLE NO	MOIST % a.r.b.	residual	ASH %	V.M. %	F.C. %	F.S.I.	C.V.
				.62	coal	dull, sheared													
				.33	coal	dull, dull w br. bands, rubble 1.41/1.5													
	183.3																		
				.36	coal	dull													
				.08	coal	dull w. br. bands													
				.36	coal	dull													
				.1	coal	dull w br. bands													
				.04	coal	dull													
			186.8	.04	coal	rubble and powder													
				.19	sh and	sltst interbed coal wisps, brk.													
	184.8					1.25/1.5													
				.72	sh and	sltst A.A. CFF slick													
				.58	sh	silty Frac 22°					.35/	58							
	186.3																		
				1.17	sh	A.A.					.8/1	17							
	187.8																		
				.18	sh	A.A. Joint 27°													
				1.15	sltst	down to F gr. sst		65°			.4/1	15							
	189.3										.4/1	15							
				.6	sltst and	sst interbed, CFF w. slick at bottom													
				.2	sltst	many CFF (fault zone?)													
				.71	sltst	minor CFF					100%								
	190.8																		
43				1.43	sltst	A.A. CFF near bottom													
	192.3																		
				.08	sltst	A.A., many CFF (fault?)													
				.14	sltst														
				1.38	sst and	sltst interbedded, F GR. Minor CFF					100%								
	193.8																		
				1.38	sst and	sltst A.A.													
	195.3																		
				.42	sst and	sltst A.A.													
44																			
				1.03	sh	w interbedded sltst and minor sst					.66/	.03							
	196.8																		

422

ALL LINEAR UNITS IN METRES

* MEASURED FROM THE HORIZONTAL PLANE

▲ ANGLE MEASURED FROM CORE AXIS

† • R &/OR S — GOLDER ASSOCIATES HARDNESS CODE

• RQD — ROCK QUALITY DESIGNATION (%)

FF —— FRACTURE FREQUENCY

HOLE No.

FILE No BA-267
REVISED Feb.1981
FORMERLY FILE No. BA-212A

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	LINE CREEK NORTH
AREA	LINE CREEK S.E. B.C.

HOLE No. LC-302
CONTINUED

BOX No.	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	▲ BEDDING ANGLE (°)	SUMMARY GEOTECH HARDNESS	FRAC FREQ	RQD	SAMPLE NO	ANALYTICAL DATA MOIST % a.r.b.	MOIST % residual	ASH %	V.M. %	F.C. %	F.S.I.	C.V.
1				.01		rubble													
				1.01	sst	F Gr., irreg. bed Fr stain					100%								
	5.5																		
				.4	sst	A.A.					.28/.4								
	5.9																		
				.7	sst	A.A., minor CFF					100%								
	6.7																		
				.82	sst	A.A. some bioturb. Joint 38°		42°			.6/.82								
				.26	sltst	some Fe stain													
	8.2																		
				.1	sltst	A.A.													
				.38		rubble & powder, Fe stain													
				.15	sltst	w minor interbed sst													
	9.75																		
				.09	sltst	and sst A.A.													
				.17		rubble													
		10.0		.67	coal	rubble and powder						347							
	11.3																		
				.04		rubble, cave													
				.16	coal	dull w br. bands													
			11.9	.65	coal	rubble and powder													
	12.5																		
				.07	sltst	rubble													
				1.05	sltst	minor interbed sst					.38/1.05								
	14.2																		
				.66	sltst	A.A.													
3																			
				.05		powder													
				.64	sltst	w minor interbed sh, coal wisps, some Fe stain													
	15.5																		
				.14	sltst	A.A.													
				.17		rubble sltst, and sh.													
				.4	sst and	sltst interbed, irreg. bed													
				.05	sh	carb, soft													
				.78	sltst	and F. Gr., SST													
	17.2																		
				1.6	sltst	minor interbed sst minor CFF near top					100%								
						minor coal wisps													
	18.9																		
				1.5	sltst	A.A.					100%								
	20.4																		
				.57	sltst	A.A.					100%								
				.03	sltst	brk. Fe stain													
				.63	sh	joint 50°					.56/.63								

422

ALL LINEAR UNITS IN METRES

R MEASURED FROM THE HORIZONTAL PLANE

† • R &/OR S — GOLDER ASSOCIATES HARDNESS CODE

• RQD — ROCK QUALITY DESIGNATION (%)

FF —— FRACTURE FREQUENCY

▲ ANGLE MEASURED FROM CORE AXIS

HOLE No.

FILE No BA-267
REVISED Feb. 1981
FORMERLY FILE No. BA-212A

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	
AREA	

HOLE No. LC-302 CONTINUED

BOX No	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	LITHO DESCRIPTION AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	▲ BEDDING ANGLE (°)	SUMMARY GEOTECH HARDNESS	FRAC FREQ	RQD	SAMPLE NO	MOIST % a.r.b.	MOIST % residual	ASH %	V.M. %	F.C. %	F.S.I.	C.V.
	21.9																		
				.6	sst and sltst interbed														
				.78	sh	joint 65°		55°											
				.1	sltst														
5	23.4																		
				.55	sltst	Fe stain near top					.3/.55								
	24			.15	sltst	A.A.													
				.09		rubble, sltst, and coal													
				.24	sltst	W interbed SST													
				.05		rubble													
				.31	sst	F Gr. Coal wisps, irreg. bed													
	25																		
				.05	sst	A.A.													
				1.03	sltst	W interbed sst Joints 25,60°,30°					.6/1.03								
				.1	sltst	rubble, sltst carb. sh coal sh													
				.18	sst	interbed sltst													
	26.5																		
				1.18	sst	minor interbed sltst, CFF joints 15°,30°,65°					100%								
	28																		
				.88	sltst and sst interbed, small scale X-bed						100%								
				.64	sst	F. Gr., small scale X-Bed, minor CFF					.35/.64								
	29.6																		
				1.46	sst	A.A.					100%								
	31.1																		
				.26	sst	A.A.													
				.45	sst	A.A. Fe strain, weatherd, rubble													
	9			.41	sst	F. Gr., small scale X-bed, some irreg. bed.					100%								
				.15	sst	A.A., Fe stain, Brk. Evidence of gouge at top													
				.12	sst	interbed sltst & carb. sh, Fe stain													
				.12	sltst	grading down the sh., interbed carb. Sh													
	32.6																		
				.03	sh	carb.													
				.07	coal														
				.03	sh	carb.													
				.93	sltst	minor interbed sh., Fe stain on vert. joints													
	34.4																		
				.68	sltst	A.A.													
				.72	sltst	and F. Gr. sst		50°			100%								
	35.7																		
				.66	sltst	and F. Gr. sst interbed					.35/.66								
8				.64	sltst/sst	A.A. Fe stain at top													
	37.2																		
				.52	sltst/sst	A.A.													
				.07	sst	F.Gr., brk, Fe stain													

422

ALL LINEAR UNITS IN METRES

■ MEASURED FROM THE HORIZONTAL PLANE

▲ ANGLE MEASURED FROM CORE AXIS

† •R &/OR S — GOLDER ASSOCIATES HARDNESS CODE

• RQD — ROCK QUALITY DESIGNATION (%)

FF — FRACTURE FREQUENCY

HOLE No.

FILE No BA-267
REVISED Feb.1981
FORMERLY FILE No. BA-212A

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	
AREA	

HOLE No. LC-302 CONTINUED

BOX No	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	BEDDING ANGLE (°)	SUMMARY GEOTECH HARDNESS	FRAC FREQ	RQD	SAMPLE NO	ANALYTICAL DATA MOIST % a.r.b.	residual	ASH %	V M %	F C %	F.S.I.	C.V.
	37.8																		
				.43	sltst/sst	interbed, brk, Fe stain													
				.14	sltst / sh	interbed													
				.05	sh	carb.													
				1.05	sst	F Gr., irreg. bed					100%								
	39.3																		
9				1.24	sst	A.A., some Fe stain					.73/1.24								
	40.8			.88	sst	A.A.					.37/.88								
				.12	sst	brk. rubble, slight Fe stain													
				.13	sst	med. Gr., slight Fe stain					100%								
	42.1																		
				.15	sst	med. Gr., brk, rubble													
				.04	sh	blk, cark													
				.07	coal	brk, dull w br.													
				.29	sltst / sh	interbed					.23/.20								
				.3	sltst	Fe stain, Brk.													
	43.3																		
				.1	sltst	slick, CFF													
				.58	sst	F to Med Gr., wavy bed, Fe stain, weathered													
				.08	sltst/sst	interbed, Fe stain													
	44.45																		
				.09	sltst/sh														
		44.2	45.0	.23	coal														
				.08	sh	silty													
	45.4																		
				.4	sltst/grading	to interbed sltst/sst													
	46.0																		
				.3	sltst/sst	A.A.													
				.02	sh	carb.													
		46.1		.22	coal	weathered powder						349							
				.03	sh coaly														
				.25	coal	slicked sheared													
			47.5	.25	coal	dull w br. bands													
	47.5																		
				.38	sltst	minor interbed sst													
				.06	sh	carb.													
				.35	sh	rubble, powder													
				.23	sltst	interbed sh													
	49.4																		
				.2	sltst	A.A.													
				.33	sst	F. Gr., Fe stain, weathered													
				.09	sltst	Fe stain													
				.25		rubble, powder													
				.13	sh	carb													

422

ALL LINEAR UNITS IN METRES

* MEASURED FROM THE HORIZONTAL PLANE

▲ ANGLE MEASURED FROM CORE AXIS

† • R &/OR S — GOLDER ASSOCIATES HARDNESS CODE

• RQD — ROCK QUALITY DESIGNATION (%)

FF —— FRACTURE FREQUENCY

HOLE No.

FILE No BA-267
REVISED Feb. 1981
FORMERLY FILE No. BA-212A

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	
AREA	

HOLE No. LC-302 CONTINUED

PAGE 4 OF

BOX No	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	▲ BEDDING ANGLE (°)	SUMMARY GEOTECH HARDNESS	FRAC FREQ	RQD	SAMPLE NO	ANALYTICAL DATA MOIST % a.r.b.	residual	ASH %	V.M. %	F.C. %	F.S.I.	C.V.
				.04	sltst														
	50.6																		
				1.25	sltst	minor interbed W sst., Fe stain on Joints 40°		75°			.8/.25								
				.06	sltst	weathered, brk., Fe stain													
				.14	sltst	brk.													
	52.1																		
				.54	sltst	minor interbed sh, coal wisps					34/.54								
				.03	sh	coaly													
		52.3		.08	coal	dull						350							
				.12	coal	rubble, dull W br.													
				.3	coal	dull w br.													
				.14	coal	dull													
			53.3	.46	coal	dull w br., pyrite on cleat.													
	53.8			.03	sh	carb.													
				.06	sh	silty													
				.3	sst	F Gr., Wavy bed, Fe stain													
		53.8		.2	coal	dull w br., pyrite on cleat						351							
				.03	coal	shaley													
				.11	coal	dull w br.													
				.06	sh	silty													
				.1	sh	interbed coal stringers													
				.33	coal	dull w br.													
				.04	coal	dull													
				.13	coal	rubble													
	55.5																		
				.18	coal	rubble and powder													
12																			
			55.3	.12	coal														
				.14	sltst														
				.75	sst	w minor interbed sltst					100%								
				.04	coal	and coaly sh													
				.15	sltst	w minor sst													
	57.																		
				1.07	sltst	minor interbed sst, coal wisps top half													
						some Fe stain													
	58.5																		
				1.28	sltst	A.A. slick Fe stain on joint					.45/.28								
	60																		
13				.28	sltst	A.A.					100%								
				.31	sh and sltst	we coal wisps													
				.62	sltst and sst	interbed Fe stain joint 60°													
	61.6																		
				.22	sltst and sst	A.A.													
				.1		rubble (LOST CORE?)													

422

ALL LINEAR UNITS IN METRES

* MEASURED FROM THE HORIZONTAL PLANE

▲ ANGLE MEASURED FROM CORE AXIS

† • R &/OR S — GOLDER ASSOCIATES HARDNESS CODE

• RQD — ROCK QUALITY DESIGNATION (%)

FF —— FRACTURE FREQUENCY

HOLE No.

FILE No BA-267
REVISED Feb.1981
FORMERLY FILE No. BA-212A

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	
AREA	

HOLE No. CONTINUED LC-302

PAGE 5 OF

BOX No	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	▲ BEDDING ANGLE (°)	SUMMARY GEOTECH HARDNESS	FRAC FREQ	RQD	SAMPLE NO	ANALYTICAL DATA MOIST % a.r.b.	residual	ASH %	V.M. %	F.C. %	F.S.I.	C.V.
	62.2																		
				.1		rubble, sltst													
				1.62	sst/sltst interbed minor sh						90%								
	64.6																		
				.7	sltst	w interbed sst, minor sh													
14																			
				.05	sh														
				.03	sh	carb.													
				.06	sh	coaly													
				.19	sh	carb. w coal wisps													
				.1	coal	shaley													
	65.8																		
				.72	sltst	w interbed sst													
				.48	sltst	brk. Fe stain													
	67.7																		
				.26	sltst	A.A. coal wisps													
				.32	sst	F Gr., irreg. bed													
				.64	sst	F. to Med Gr., small scale X-bed													
	69.2																		
				1.25	sst	A.A. CFF													
	70.7																		
				.5	sst and sltst interbed														
				.46	sst	F. Gr., irreg bed, minor CFF													
	72.2																		
				1.04	sst	A.A.													
				.19	sst	A.A. brk, rubble, Fe stain													
	73.8																		
				.3	sst	A.A.													
				.81	sst	F. Gr., small scale X-bed, some Fe stain					90%								
	75.3										.76/1.31								
				1.31	sst	A.A.		65°											
	76.8																		
				.66	sst	A.A.													
				.63	sst	F Gr., massive, minor interbed sltst													
	78.2																		
				.43	sst	F. Gr., A.A. Grading down to sltst													
				.54	sst	F. Gr., irreg. bed					100%								
17																			
				.64	sst	A.A.					100%								
	79.9																		
				1.22	sst	A.A.					90%								
				.15	sltst	brk. Fe stain													
	81.4																		
				.26	sltst						.18/.26								

422

ALL LINEAR UNITS IN METRES

* MEASURED FROM THE HORIZONTAL PLANE

▲ ANGLE MEASURED FROM CORE AXIS

† • R &/OR S — GOLDER ASSOCIATES HARDNESS CODE

• RQD — ROCK QUALITY DESIGNATION (%)

FF —— FRACTURE FREQUENCY

HOLE No.

FILE No BA-267
REVISED Feb.1981
FORMERLY FILE No. BA-212A

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	
AREA	

HOLE No. CONTINUED LC - 302

PAGE 6 OF

BOX No	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	LITHO DESCRIPTION AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	BEDDING ANGLE (°)	SUMMARY GEOTECH HARDNESS	SUMMARY GEOTECH FRAC FREQ	SUMMARY GEOTECH RQD	SAMPLE NO	ANALYTICAL DATA MOIST % a.r.b.	MOIST % residual	ASH %	V.M. %	F.C. %	F.S.I.	C.V
				1.32	sst	F. Gr., irreg. bed minor CFF SSD													
	82.9																		
				1.56	sst	A.A.													
	84.4																		
				.06	sst	A.A.													
				1.35	sst	F. Cr., massive & irreg. bed, minor interbed					1.1[illegible]								
						sltst					1.35								
	85.9																		
				1.65	sst	A.A.													
	87.5																		
				.74	sst	A.A.													
				.14	sst	irreg bed, F. Gr., CFF													
				.43	sst	F. Gr., massive													
	89.																		
				.36	sst	A.A.													
				.55	sst	A.A., brk, stlk, CFF, Fe stain, Joint 15°													
				.61	sst	F. Gr., irreg. bec., CFF (N10 - 15°)					100%								
	90.5																		
				1.59	sst	A.A., 2 large CFF (.01 - .02)					100%								
	92																		
				.47	sst	A.A., CFF 12° on joint					100%								
				1.12	sst	F. Gr., massive, irreg. bed					100%								
	93.6																		
				.49	sst	A.A., CFF, minor coal wisps													
				.5	sh	w. carb. and coaly stringers throughout													
				.24	sst	w interbed sltst, Fe stain													
	95.1																		
				.45	sst	w interbed sltst & minor sh, Fe stain													
				.04	sh	carb.													
		95.1	95.6	.12	coal	cull w br. bands						352							
				.09	sh	coaly, carb.													
	96.6																		
				.13	sh	carb.													
		96.0	96.8	.52	coal	rubble						353							
				.08	sh														
				.07	sh	carb.													
		97.2		.25	coal	rubble to powder						354							
				.04	sh														
				.18	coal	rubble													
	98.1																		
				.06	sh														
				.07	sh carb	w coal interbed													
		98.1		.13	coal	rubble, dull w br. bands						355							
	99.7																		

422

ALL LINEAR UNITS IN METRES

MEASURED FROM THE HORIZONTAL PLANE

▲ ANGLE MEASURED FROM CORE AXIS

† R &/OR S — GOLDER ASSOCIATES HARDNESS CODE

• RQD — ROCK QUALITY DESIGNATION (%)

FF —— FRACTURE FREQUENCY

HOLE No.

FILE No BA-267
REVISED Feb. 1981
FORMERLY FILE No. BA-212A

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	
AREA	

HOLE No. LC-302 CONTINUED

PAGE 7 OF [illegible]

BOX No	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	▲ BEDDING ANGLE (°)	SUMMARY GEOTECH HARD-NESS	FRAC FREQ	RQD	SAMPLE NO	ANALYTICAL DATA MOIST % a.r.b	MOIST % residual	ASH %	V.M. %	F.C. %	F.S.I.	C.V.
				.2	coal	dull, w br bnads													
				.04	coal	oolitic texture													
				.36	coal	dull w br. bands													
				.22	coal	dull													
				.32	coal	dull w br. bands													
	101.2																		
				.35	coal	dull w br. bands													
				.07	coal	dull													
				.36	coal	dull w br. bands													
				.06	sh	carb., coal wisps													
22																			
				.01	sh														
			102.3	.56	coal	dull w br. bands													
	102.7																		
				.33	sltst and sh w coal wisps														
	104.1																		
				1.	sltst	w minor sh and sst interbeds, some Fe stain on joints													
				.34	sst	w interbed sltst, irreg. bed													
	105.6			.64	sltst	w minor sst Fe stain joints near bottom					.15/.64								
				.78	sst	w minor interbed sltst, some small scale X-bed													
	107.1																		
				.45	sst	F Gr., SSX-bed													
				.65	sltst	w minor sst interbed., CFF													
				.13	sltst	2 joints 40°, 67°													
	108.5																		
				.55	sltst and sh interbed						.27/.55								
	109.1																		
				.72	sltst and sh A.A.														
	110.																		
				.18	sltst and sh A.A., coal wisps														
				.8	sltst						.5/.8								
				.29	sst	F. Gr., ssx-bed, brk.													
	111.6																		
				.95	sst	F. Gr., w interbed sltst, ssx-bed some Fe stain on brk zones													
	112.8			CORE CHANGES TO NQ ∴ THICKNESS ONLY APPROXIMATE															
				.35	sst/sltst A.A.														
	113.3																		
				.05	sltst/sst A.A.														
				.53	sh	coal wisps throughout													
	114.																		
				.42	sh	A.A.													
		114.5		.05	coal	shaley						356							

422

ALL LINEAR UNITS IN METRES

■ MEASURED FROM THE HORIZONTAL PLANE

▲ ANGLE MEASURED FROM CORE AXIS

† •R &/OR S — GOLDER ASSOCIATES HARDNESS CODE

•RQD — ROCK QUALITY DESIGNATION (%)

FF —— FRACTURE FREQUENCY

HOLE No.

FILE No BA-267
REVISED Feb. 1981
FORMERLY FILE No. BA-212A

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	
AREA	

HOLE No. CONTINUED LC-302

BOX No	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	▲ BEDDING ANGLE (°)	SUMMARY GEOTECH HARD-NESS	FRAC FREQ	RQD	SAMPLE NO	MOIST % a.r.b.	MOIST % residual	ASH %	V M %	F C.%	F.S.I.	C.V.
				.4	coal	dull w br. bands													
	114.9																		
				.3	coal	dull w br. bands													
				.04	sh														
				.18	coal	brk.													
				.02	sh														
				.1	coal	rubble													
				.04	sh														
				.03	coal	rubble													
	116.7																		
				1.53	coal														
	119.2																		
			120.2	.4	coal														
				.05		rubble													
	121.3																		
						rubble													
	121.7																		
						rubble													
	122.7			.65		A.A., brk stk sltst, F. Gr., sst													
	123.7																		
				.23	sst	w sltst interbed, brk to rubble, CFF													
	125.6																		
				.16	sst	F. Gr., ssx-bed, CFF													
					sst	rubble A.A.													
				.5	sst	F. Gr., wavy bed, CFF													
				.76	sltst and	F. Gr., sst interbed, rubble, brk.													
	126.5																		
				.45	sltst /	sh interbed													
	127.4																		
				.6	sltst/	sh A.A., brk, rubble													
	128.6																		
				.28	sltst /	sh A.A.													
				1.41	sst	w minor / bed sltst, ssx-bed, CFF													
				.37	sltst	grading to sh, coal wisps, Joint 50°		60°											
	131.5																		
		131.4		.3	coal	slicked						357							
				.13	sh	carb, coal wisps													
				.07	coal														
				.04	coal	shaley													
				.05	sh	carb, coal wisps													
	132.9																		
				.13	sh	A.A.													
				.03	coal														
				.1	sh	coal wisps													

422

ALL LINEAR UNITS IN METRES

* MEASURED FROM THE HORIZONTAL PLANE

† • R &/OR S — GOLDER ASSOCIATES HARDNESS CODE

• RQD — ROCK QUALITY DESIGNATION (%)

FF —— FRACTURE FREQUENCY

▲ ANGLE MEASURED FROM CORE AXIS

HOLE No.

FILE No BA-267
REVISED Feb.1981
FORMERLY FILE No. BA-212A

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	
AREA	

HOLE No. CONTINUED LC-302

BOX No	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH	LITHO DESCRIPTION MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	▲ BEDDING ANGLE (°)	SUMMARY GEOTECH HARD-NESS	FRAC FREQ	RQD	SAMPLE NO	ANALYTICAL DATA MOIST % a r b	MOIST % residual	ASH %	V M %	F C %	F.S.I.	C.V.
			133.2	.15	coal														
				.18	sh	carb													
	133.7																		
				.04	sh	A.A.													
		133.4	135.8	.76	coal							358							
				.14	sh	carb.													
	135.5																		
				.61	sh	coal wisps & coal stringers throughout													
				.16	sltst						100%								
				.6	sst/sltst	ssx-bed					100%								
				.5	sltst	w minor / bed sst													
				.04	sst	F. Gr.													
	138.7																		
				.37	sst	A.A. minor / bed sltst													
				1.3	sltst	minor / bed sst		60°			80%								
	141.4																		
				.23	sh	minor coal wisps													
	142.																		
				.04	sh	A.A.													
				1.62	sltst	minor sst, coal wisps, CFF					80%								
				.4	sh	silty coal wisps & stringers throughout													
		143.6		.45	coal							359							
	145.1																		
				.05	coal														
				.04	sh	carb.													
				.05	coal	powder													
				.05	sh	coaly													
				.57	coal														
	146.6																		
			147	.43	coal														
				.09	sltst	w coal wisps													
				.7	sst	F, Med. Gr., lamillar bed, minor CFF		50°			100%								
	148.1																		
				2.95	sst	A.A., some ssx-bed, minor ssd,													
						salt & pepper near bottom													
	151.2																		
				.9	sst	salt and pepper inc. coal wisps down section													
						coarsening down section.													
32				.67	sst	A.A., erosional lower contact					100%								
				.33	sh	silty, coal stringers													
				.31	sltst	and minor sst, coal wisps					100%								
				.68	sst	w minor sltst, irreg. bed.					100%								
	154.2																		
				.7	sst	A.A.					100%								

422

ALL LINEAR UNITS IN METRES

* MEASURED FROM THE HORIZONTAL PLANE

▲ ANGLE MEASURED FROM CORE AXIS

† R &/OR S — GOLDER ASSOCIATES HARDNESS CODE

• RQD — ROCK QUALITY DESIGNATION (%)

FF — FRACTURE FREQUENCY

HOLE No.

FILE No BA-267
REVISED Feb. 1981
FORMERLY FILE No. BA-212A

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	
AREA	

HOLE No CONTINUED	LC-302

PAGE [illegible] OF

BOX No.	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	▲ BEDDING ANGLE (°)	SUMMARY GEOTECH HARDNESS	FRAC FREQ	RQD	SAMPLE NO	ANALYTICAL DATA MOIST % a.r.b.	MOIST % residual	ASH %	V M %	F C %	F.S.I.	C V
				.62	sltst	grading to sst, coal wisps, minor CFF													
				.73	sst	F. Gr., irreg. bed. ssd					100%								
				.52	sltst/	sh minor coal wisps													
				.13	coal														
	157.3																		
				.18	coal/	sh													
				1.06	sltst	minor / bed, minor coal wisps to bottom					50%								
				1.37	sst/	sltst, minor CFF					100%								
	160.3																		
				2.9	sst	minor / bed sltst, coal wisps, salt & pepper		65°			40%								
	163.4																		
				.83	sst	A.A.													
				1.	sst	coal wisps, F. Gr., irreg. bed													
				.64	sst	minor sltst, F. Gr., irreg. bed													
				.48	sst	F. Gr., massive													
	166.4																		
				2.44	sst	F. to Med. Gr., lam. bed some ssx-bed													
						minor coal wisps.													
				.28	sst	A.A., large CFF, Fe stain													
				.12	sst	grading to sltst													
	169.5																		
				1.	sst/sltst,	massive, ssx-bed, Fe stain, minor													
						coal wisps					90%								
				.98	sltst	w/bed sst, minor coal wisps					90%								
				.1	sltst	rubble, coal wisps													
				.5	sltst	w minor F. Gr., sst, minor coal wisps													
	172.5																		
				1.32	sltst	grading to F. Gr., sst, massive & lam.		65°			90%								
						bed, minor coal wisps													
37																			
				1.01	sst	F. Gr., irreg. bed					100%								
				.66	sst/ sltst						90%								
	175.6																		
				1.74	sst	F. Gr. massive					95%								
				1.12	sst/ sltst,	massive, irreg. bed													
				.1	sst	irreg. bed., F. Gr., CFF at top													
	178.6																		
				1.37	sst/	minor sltst, massive, irreg. bed					100%								
				1.64	sst	F. Gr., irreg. bed., ssx-bed					40%								
	181.7																		
				.36	sst	A.A.													
				1.22	sst	w minor / bed sltst, irreg. bed													
				1.23	sst	F. Gr., Lam. Bed., ssx-bed					60%								
	184.7																		

422

ALL LINEAR UNITS IN METRES

* MEASURED FROM THE HORIZONTAL PLANE

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FF —— FRACTURE FREQUENCY

▲ ANGLE MEASURED FROM CORE AXIS

HOLE No.	

FILE No BA-267
REVISED Feb.1981
FORMERLY FILE No BA-212A

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	
AREA	

HOLE No. LC-302 CONTINUED

BOX No	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH	LITHO DESCRIPTION MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	▲ BEDDING ANGLE (°)	SUMMARY GEOTECH HARDNESS	FRAC FREQ	RQD	SAMPLE NO	ANALYTICAL DATA MOIST % a.r.b.	residual	ASH %	V M %	F C %	F.S.I.	C.V.
				2.9	sst	F Gr., Minor /bed sh. inc. coal wisps		50°											
						down section, minor CFF													
	187.8																		
				.14	sst	A.A.													
		187.5	188.5	.62	coal							360							
				.17	sh	coaly and carb.													
				.2	sltst														
				.31	sst	F Gr., massive													
				.34	sh	silty, carb													
				.36	sst	minor sltst /bed, massive, some irreg. bed.													
	190.8																		
				.54	sst	A.A., CFF throughout					100%								
				.16	sh	minor coal wisps													
	191.4																		
				.17	sh	A.A.													
				.47	sst/ sltst						100%								
	192.3																		
				3.17	sltst/sst	A.A.		58°			90%								
42				1.25	sh	silty		53°			100%								
	196.9																		
				.47	sh/sltst	A.A. slicks, carb													
				.43	sltst	some slicks, some shale parts		53°											
				.19	sltst	A.A. rubble, brk.													
	197.9																		
				.22	sh	brk.													
				.32	sh and	coaly rubble													
	198.7																		
		198.0		.12	coal	dull w br.						361							
				.57	coal	dull and br.													
				.7	coal	dull, slicked													
	199.9																		
43				.92	coal	shaley, slicked, brk.													
			200.2	.11	coal														
				.19	sh	carb partings, slick along frac.					.12/	19							
				.29	sh	becoming silty, carb. partings					100%								
				.13	sltst	carb partings													
				.51	sst	F Gr					.44/	51							
				1.12	sst/sltst	F gr., massive Frac. 45°					90%								
				.07	sst	F Gr., irreg. bed													
	203																		
				2.9	sst/sltst	ireg. bed some ssx-bed minor CFF					100%								
	206			.12	sltst														
				.56	sltst	A.A.		60°											
	206.7																		

422

ALL LINEAR UNITS IN METRES

* MEASURED FROM THE HORIZONTAL PLANE

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FF —— FRACTURE FREQUENCY

▲ ANGLE MEASURED FROM CORE AXIS

HOLE No.

FILE No BA-267
REVISED Feb.1981
FORMERLY FILE No. BA-212A

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	
AREA	

HOLE No. CONTINUED: LC-302

PAGE 12 OF

BOX No	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	LITHO DESCRIPTION AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	▲ BEDDING ANGLE (°)	SUMMARY GEOTECH HARDNESS	SUMMARY GEOTECH FRAC FREQ	SUMMARY GEOTECH RQD	SAMPLE NO	MOIST % a.r.b.	MOIST % residual	ASH %	V M %	F C %	F.S.I.	C.V.
				.27	sltst	A.A.													
				1.	sst/sltst	CFF at bottom													
				.26	sltst	minor sst interbed													
				.03	coal														
				.31	sst	F Gr., lam bed, minor CFF and coal wisps													
		208.5		.02	coal														
				.01	sst														
				.03	coal														
				.09	sst														
				.07	coal	dull													
				.02	sh														
			209.	.17	coal	dull w br. bands						362							
	209.1																		
				.71	sltst	minor sh/beds minor coal wisps													
				.08	sh	carb, coal wisps													
				.03	sh	carb.													
				.04	coal														
				.12	sh	w/ bed coal stringers													
			210.5	.26	coal														
				.17	sh	slightly carb.													
	211.2																		
				.12	sltst														
		211.0		.13	coal	shaley													
			211.5	.04	coal														
				1.08	sh	minor sltst, minor coal wisps					.4/1	08							
	212.1					LOST CORE?													
	213.7																		
				.2	sltst	A.A.													
				.53	sst	F Gr., irreg. bed													
				.13	sh	silty, coal wisps													
				.25	sltst	minor/bed sst, brk, minor CFF													
				.27	sst	minor sltst, F Gr., SSX- Bed													
	215.2																		
				1.37	sst	A.A.													
				1.48	sltst	minor sst interbed, minor coal wisps					90%								
	218.2																		
				.45	sltst	A.A.													
				2.57	sltst	w/bed sh, minor coal stringers													
	221.3																		
				1.6	sltst	A.A.													
				.4	sltst	and / bed sst, brk, and rubble													
	223.7																		
				.43	sltst	and sst A.A.													
				.15	sltst	/ bed sh													

422

ALL LINEAR UNITS IN METRES

* MEASURED FROM THE HORIZONTAL PLANE

▲ ANGLE MEASURED FROM CORE AXIS

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FF — FRACTURE FREQUENCY

HOLE No.

FILE No BA-267
REVISED Feb.1981
FORMERLY FILE No. BA-212A

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	
AREA	

HOLE No. LC-302 CONTINUED

BOX No	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	▲ BEDDING ANGLE (°)	SUMMARY GEOTECH HARDNESS	FRAC FREQ	RQD	SAMPLE NO	MOIST % a.r.b.	MOIST % residual	ASH %	V.M. %	F.C. %	F.S.I.	C.V.
	224.3																		
				1.3	sltst	A.A.													
	225.9																		
		225.4		.04	coal							363							
				.04	coal	shaley													
				.45	coal	dull grading to dull w br. bands													
				.03	coal	shaley													
				.08	sh	carb.													
				.03	coal														
	227.1																		
				.4	sh	coal wisps													
				.1	coal	dull w br. bands													
				.02	sh	carb.													
				.12	coal														
			227.	.05	coal	shaley													
				.13	sh														
	227.7																		
				.1	coal														
				.48	sh	coal wisps and stringers throughout													
				.03	coal														
				.88	sltst	w minor sst/beds, coal wisps throughout													
				.03	coal														
				.63	sltst	minor sst/beds, coal wisps													
	230.4																		
				.07	sltst	A.A.													
				.65	sltst /	sst minor coal lens													
				1.91	sst	F Gr., massive, minor/beds sltst, coals wisps		55°											
	233.5																		
				.2	sst	A.A.													
				1.83	sst	F Gr., Lam bec, minor SSX-bed													
				.07	sst	F Gr., massive													
				.03	coal														
				.8	sst	F Gr., massive, minor coal wisps near top minor CFF at top													
	236.5																		
				1.31	sst	F Gr., massive, minor CFF					90%								
				1.53	sst	F Gr., Lam bec, coal wisps throughout trace SSD													
	239.7																		
				.14	sltst														
				.16	sh	carb., coal wisps													
				.2	sh	coal wisps													
				.24	sst	W interbed sltst													
				.09	sh														

422

ALL LINEAR UNITS IN METRES

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HOLE No.

FILE No BA-267
REVISED Feb.1981
FORMERLY FILE No. BA-212A

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	
AREA	

HOLE No. CONTINUED LC-302

PAGE 14 OF ....

BOX No	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	▲ BEDDING ANGLE (°)	SUMMARY GEOTECH HARDNESS	FRAC FREQ	RQD	SAMPLE NO	ANALYTICAL DATA MOIST % a.r.b.	residual	ASH %	V M %	F C %	F.S.I.	C V
		240.2		.18	coal														
				.03	sh														
				.07	coal														
				.14	sh	carb.													
				.21	coal														
				.1	sh	carb.													
			241.7	.39	coal	shaley (heavy dull)													
	242.3																		
				.5	sh	slightly carb, coal wisps & stringers													
						inc. to bottom													
				.09	coal	dull													
				.59	sh	coal wisps and stringers in lower half.													
				.08	coal	dull													
				.17	sh	slightly carb., coal wisps													

422

ALL LINEAR UNITS IN METRES

★ MEASURED FROM THE HORIZONTAL PLANE

† H R &/OR S — GOLDER ASSOCIATES HARDNESS CODE

• RQD — ROCK QUALITY DESIGNATION (%)

FF — FRACTURE FREQUENCY

▲ ANGLE MEASURED FROM CORE AXIS

HOLE No.

FILE No BA-267
REVISED Feb.1981
FORMERLY FILE No. BA-212A

ENC 14

LCN - 301

422

K-Shell-Line Creek 80(3)A

STRATIGRAPHIC SECTION

PROJECT: LINE CREEK NORTH		DESIGNATION: LCN - 301	PART ___ OF ___
AREA: S.E.B.C.		AUTHOR:	DATE: 19
LOCATION:		SOURCE OF DATA:	

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

shale
siltstone
shale
siltstone + sandstone
shale, interbedded siltstone
shale
siltstone
shale
coal
lost core
interbedded siltstone + sandstone
shale, silty
interbedded siltstone + sandstone
siltstone
shale
coal
shale, siltstone
interbedded siltstone + sandstone
interbedded shale + siltstone
siltstone
shale
sandstone
coal
sandstone + siltstone
shale
siltstone w. sandstone + shale
shale, silty
coal
shale, siltstone-interbed
siltstone
sandstone, fine - medium
siltstone, shale interbeds
sandstone, minor siltstone
siltstone, sandstone interbeds
shale, minor siltstone
sandstone, minor siltstone
shale
shale, slightly silty
siltstone
shale
siltstone, sandstone interbeds
coal
interbedded shale + siltstone
siltstone, sand
interbedded sandstone + siltstone
shale, interbedded siltstone + sandstone

HE-75

ROKE OIL ENTERPRISES LTD. CALGARY, ALBERTA

GAMMA RAY SIDEWALL DENSILOG CALIPER

K-S-WB-Line Creek 80(3)A 14

FILE NO. | COMPANY CROWS NEST RESOURCES LIMITED

LSD | SEC | TWP | RGE | W M | WELL 301 | LOCATION

FIELD LINE CREEK

PROVINCE BRITISH COLUMBIA

Permanent Datum GROUND LEVEL Elev.

Log Measured from GROUND LEVEL Above Perm. Datum

Well Depths Measured from GROUND LEVEL

Other Services: GRN DIR

K.B. | CSG | G.L.

Run No.	ONE
Date	28 AUG 1980
First Reading	182
Last Reading	0
Footage Logged	182
Depth Reached	182.5
Depth Driller	200
Casing Roke	12.5
Casing Driller	10.5
Fluid Type	AIR/GEL
Liquid Level	33.5
Min. Diam.	NA
Operating Time	3 HOURS
Truck No.	37
Recorded By	JOHNSON
Witnessed By	

422

GENERAL				GAMMA RAY				SIDEWALL DENSILOG			
RUN NO.	DEPTHS FROM	DEPTHS TO	SPEED m/MIN	T.C. SEC.	SENS SETTINGS	ZERO DIV. L OR R	API G.R. UNITS PER LOG DIV.	T.C. SEC.	SENS SETTINGS	ZERO DIV. L OR R	CPS/DIV
1	0	182	6	4	100	0L	15API	.2	5K	2.65R	239.60
	0	182	5	CALIPER							

REMARKS HOLE BRIDGED AT 182 METERS

DENS TOOL# IBRAS

GR TOOL# R-GRN185A001

CAL TOOL# 5105

GAMMA RAY API | DEPTHS | CALIPER DIAMETER - cm | BULK DENSITY (GRAMS/CC)

ROKE

GAMMA RAY NEUTRON LOG

OIL ENTERPRISES LTD. CALGARY, ALBERTA

E-Shell Line Creek: 80(3)A 14

FILE NO.

COMPANY CROWS NEST RESOURCES LIMITED

WELL 301

LOCATION

FIELD LINE CREEK

PROVINCE BRITISH COLUMBIA

LSD SEC TWP RGE W M

Permanent Datum GROUND LEVEL Elev.

Log Measured from GROUND LEVEL Above Perm. Datum

Well Depths Measured from GROUND LEVEL

Other Services: G.R.-DENS-CAL DIR

K.B. CSG G.L.

Run. No.	ONE
Date	24 AUG 1980
First Reading	199
Last Reading	0
Footage Logged	199
Depth Reached	199.3
Depth Driller	200
Casing Roke	12.5
Casing Driller	12.5
Fluid Type	AIR/GEL
Liquid Level	33.5
Min. Diam.	HQ
Rm @	
Operating Time	8 HOURS
Truck No.	37

Recorded By JOHNSON

Witnessed By

422

EQUIPMENT DATA

GAMMA RAY		NEUTRON	
RUN NO.	ONE	RUN NO.	ONE
TOOL MODEL NO.		LOG TYPE	NEUTRON/NEUTRON
DIAMETER	3.175cm	TOOL MODEL NO.	
DETECTOR MODEL NO.		DIAMETER	3.175cm
TYPE	SCINTILLATION	DETECTOR MODEL NO.	
LENGTH	10.16cm	TYPE	PROPORTIONAL
DISTANCE TO N. SOURCE	2m	LENGTH	
		SOURCE MODEL NO.	MRC-N-SS-W
GENERAL		SERIAL NO.	856
HOIST TRUCK NO.	37	SPACING	43.18cm
INSTRUMENT TRUCK NO.	37	TYPE	AmBe
TOOL SERIAL NO.	R-GRN 125A001	STRENGTH	3CURIES

LOGGING DATA

GENERAL				GAMMA RAY				NEUTRON			
RUN NO.	DEPTHS FROM	TO	SPEED m/MIN	T.C. SEC.	SENS SETTINGS	ZERO DIV. L OR R	API G. R. UNITS PER LOG DIV.	T. C. SEC.	SENS SETTINGS	ZERO DIV. L OR R	API N. UNITS PER LOG DIV.
	0	3	4	4	100	0L	15API	3	1000	30L	200API
	3	12.5	4	4	100	0L	15API	3	1000	4L	200API
	12.5	33	4	4	100	0L	15API	3	1000	10L	200API
REMARKS	33	199	4	4	100	0L	15API	3	500	1L	100API

K-Shell-Line Creek 80(3) A

14

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	NLC - 301
LOCATION	North Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Natural GAmma & Neutron
DATE	Aug. 24 1980
DRILLED DEPTH	197 m
LOGGED DEPTH	194 m
ZERO DATUM	G.L.
HOLE DIAMETER	HQ.
CASING LENGTH	T.D.
REMARKS:	

422

0 Natural Gamma 40 100 Neutron 700

K-Shell-Line Creek 80(3)A

14

DAVIES EXPLORATION LOGGING LTD.

COMPANY Crows Nest Resources

HOLE NUMBER NLC. - 301

LOCATION North Line Creek

PROVINCE B.C.

ELEVATION

LOG TYPE: CALIPER, NATURAL GAMMA, RESISTIVITY, DENSITY

DATE Aug. 24 1980

DRILLED DEPTH 200 m

LOGGED DEPTH

ZERO DATUM G.L.

HOLE DIAMETER HQ.

CASING LENGTH

REMARKS:

422

CALIPER NATURAL GAMMA RESISTIVITY DENSITY

K-Shell-Line Creek 80(3)A 17

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	NLC.- 301
LOCATION	North Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	CALIPER, NATURAL GAMMA, ~~RESISTIVITY~~, DENSITY
DATE	Aug. 24 1980
DRILLED DEPTH	200 m
LOGGED DEPTH	199 m
ZERO DATUM	G.L.
HOLE DIAMETER	HQ.
CASING LENGTH	
REMARKS:	Drift 29° Bearing S. 70° W. @ 195 m " 29° " S. 75° W. @ 100 M

422

~~CALIPER~~ NATURAL GAMMA ~~RESISTIVITY~~ Caliper DENSITY

K-Shell-Line Creek 80(3)A 15

422

STRATIGRAPHIC SECTION

PROJECT: NORTH LINE CREEK	DESIGNATION: LC - 302	PART ____ OF ____	
AREA: S.E. BRITISH COLUMBIA	AUTHOR: T.H.	DATE: 19	
LOCATION:	SOURCE OF DATA: LC - 302		

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

1:200

Rubble and fgr sndstn , Fe stain

Sndstn - some cff

Sltstn - Fe stain , rubble and powder , .92m LOST

1.52m Coal , .38m LOST

Sltstn - sndstn and sh interbeds , carbonaceous , minor coal wisps, minor cff , some rubble

Sh
Sndstn/Sltstn interbeds
Sh

Sltstn - sndstn interbeds , coal wisps , rubble , carbonaceous sh, coaly sh

Sndstn - sltstn interbed , Fe stain , some carbonaceous sh

Sltstn - interbedded with sh and .07m coal split , .74m lost in sh/coal/sh, sndstn interbeds, carbonaceous sh interbeds

Sndstn - Fe stain , some rubble

Sltstn - sh and sndstn, Fe stain , .76m LOST

.23m Coal , .57m LOST
Sltstn/Sndstn interbeds - little carbonaceous sh
.75m Coal with sh split , .65m LOST

Sltstn - sndstn and sh interbeds , .72m LOST , some rubble and powder , weathered , coaly near bottom

1.1m Coal
Sh - carbonaceous , then silty , then sndstn with Fe stain
1.23m Coal with sh splits
Sndstn - sltstn interbeds , .04m coal split

Sltstn - sndstn and sh interbeds with coal wisps

Rubble - .98m LOST

Sndstn - sltstn interbed with minor sh
Sh - carbonaceous and coaly with .1m shaley coal

Sltstn - Fe stain , coal wisps

1.83m LOST

Sndstn - few sltstn interbeds , Fe stain , cff , minor coal wisps

Sh - carb. and coaly stringer
Sndstn - interbedded sltstn and minor carbonaceous sh
.12m Coal , .38m LOST
Sh - carbonaceous , coaly
.52m coal

3.04m Coal, 1.82m LOST

Sltstn - sh & sndstn interbeds, Fe stain

Sndstn - minor sltstn interbeds

Sltstn/Sh - coal wisps

Sndstn - interbedded sltstn

Sh - coal wisps

2.99m Coal - sh splits , 2.61 LOST , some rubble

Rubble

Sndstn
Lost
Sndstn

Sltstn - sh interbeds

Sndstn - minor interbedd sltstn
Sltstn - grading to sh , coal wisps

.59m Coal , .75m LOST
Sh - carbonaceous

.76m Coal , 1.64m LOST

Sh - carbonaceous , coal wisps

Sltstn / Sndstn

Sh - minor coal wisps

Sltstn - sndstn , coal wisps , cff

1.55m Coal 2.35m LOST

Sndstn

Sh - silty , coal stringer

Sltstn/ Sndstn - coal wisps

.31m coal
Sltstn

Sndstn - sh , sltstn , coal wisps , cff , Fe stain

Sltstn - sndstn, coal wisps

Sndstn - sh, sltstn

.62m Coal, .38m LOST
Sh - sltstn, sndstn
Sndstn

Sltstn - sndstn interbeds

Sh - silty, carbonaceous
Sltstn - some rubble
Sh & coaly rubble

1.59 Coal , .61m LOST

Sh - carbonaceous partings , silty

Sltstn - sndstn

Sltstn

Sndstn - sltstn interbeds with coal split .03m
.29m Coal - sndstn & sh splits , .21m LOST
Sltstn
.39m Coal , .41m LOST
Sh & Sltstn
.17m Coal , .33m Coal
Sh - minor sltstn and coal wisps

Sh / Sltstn

Sndstn - minor sltstn

Sltstn - minor sndstn interbeds, coal wisps

86m coal, .24m LOST

Sh - coal wisps

Sltstn - sndstn beds, coal wisps and lens

Sndstn - coal wisps

Sltstn
.85m Coal , .14m LOST

Sh

HI - 75B

ORIGINAL FILE NO.

VQ-24E

15

K-Shell Line Creek 80(3)A

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	LC - 302
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Natural Gamma & Neutron
DATE	Sept. 13 1980
DRILLED DEPTH	244 m
LOGGED DEPTH	243.5 m
ZERO DATUM	G.L.
HOLE DIAMETER	NQ.
CASING LENGTH	T.D.
REMARKS:	

422

0 Natural Gamma 25 200 Neutron 1.2

K-Shell-Line Creek 80(3)A 15

CALIPER

NATURAL GAMMA

RESISTIVITY

DENSITY

Caliper

DAVIES EXPLORATION LOGGING LTD.

COMPANY Crows Nest Resources

HOLE NUMBER LC - 302

LOCATION Line Creek

PROVINCE B.C.

ELEVATION

LOG TYPE: CALIPER, NATURAL GAMMA, RESISTIVITY, DENSITY

DATE Sept. 13 1980

DRILLED DEPTH 244 m

LOGGED DEPTH 243 m

ZERO DATUM G.L.

HOLE DIAMETER NQ. to 112 m HQ to G.L.

CASING LENGTH 21 m

REMARKS: Drift 2.2° Bearing S. 59°E. @ 240 m

422

K-Seam - Line Creek 80(3) #

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	LC - 302
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Long Spaced Density
DATE	Sept.13 1980
DRILLED DEPTH	244 m
LOGGED DEPTH	243.5 m
ZERO DATUM	G.L.
HOLE DIAMETER	NQ.
CASING LENGTH	T.D.
REMARKS:	

422

12K L.S.D. 4K

G.L.

K-Shell-Line Creek 80(3)A

16

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Rrsources
HOLE NUMBER	LC - ~~304~~ 303
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Longe Spaced Density
DATE	Sept. 12 1980
DRILLED DEPTH	226 m
LOGGED DEPTH	225 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	T.D.
REMARKS:	

422

14K LSD 109 to G.L. 10K

6K L.S.D. 4K

16

K-Shell-Line Creek
8D(3)A

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	18 - 304 3-3
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Natural Gamma & Neutron
DATE	Sept. 12 1980
DRILLED DEPTH	226M
LOGGED DEPTH	225 m
ZERO DATUM	G.L.
HOLE DIAMETER	3 1/8"
CASING LENGTH	T.D.
REMARKS:	

422

0 Natural Gamma 18 - 150 Neutron 750

16

K-Shell-Line Creek 80(3)A

424

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	LC - 303
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	~~CALIPER, NATURAL GAMMA, RESISTIVITY~~, DENSITY
DATE	Oct. 6 1980
DRILLED DEPTH	
LOGGED DEPTH	
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	
REMARKS:	Detail

~~CALIPER~~ ~~NATURAL GAMMA~~ ~~RESISTIVITY~~

DENSITY

K-Shell - Line Creek 80(3)A 17

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	LC - 304
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Natural Gamma & Neutron
DATE	Sept. 5 1980
DRILLED DEPTH	156 m
LOGGED DEPTH	156 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	T.D.
REMARKS:	

422

200 50 m to G.L. 1/2K
0 Natural Gamma 20 100 Neutron 700

K-Shell-Line Creek 80(3)A 17

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	LC - 304
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Natural Gamma & Neutron
DATE	Sept. 9 1980
DRILLED DEPTH	225 m
LOGGED DEPTH	225 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	T.D.
REMARKS:	

422

K-Shell-Line Creek 80(3)A. 17

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	LC - 304
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Long Spaced Density
DATE	Sept. 5 1980
DRILLED DEPTH	156 m
LOGGED DEPTH	156 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	T.D.
REMARKS:	

422

11K 50 m to G.L.
2K L.S.D.

7K
6K

K-Shell-Line Creek 80(3)A 17

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	LC - 304
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Long Spaced Density
DATE	Sept. 9 1980
DRILLED DEPTH	225 m
LOGGED DEPTH	225 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	T.D.
REMARKS:	

422

K Shell-Line Creek 80(3)A 18

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	LC - ~~307~~ 305
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Long Spaced Density
DATE	Sept. 14 1980
DRILLED DEPTH	147 m
LOGGED DEPTH	144 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	T.D.
REMARKS:	

422

12K 0 to 28 m
8K L.S.D.

8K
4K

K-Shell-Line Creek 80 (3)A 18

422

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	LC - ~~327~~ 305
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Natural Gamma & Neutron
DATE	Sept.14 1980
DRILLED DEPTH	147 m
LOGGED DEPTH	143 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	T.D.
REMARKS:	

0 Natural Gamma ≠ 30 100 Neutron 110

K-Shell-Line Creek 80(3)A18

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	LC - 305
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Long Spaced Density
DATE	Oct. 4 1980
DRILLED DEPTH	?
LOGGED DEPTH	144 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	142.5 m
REMARKS:	

422

K-Shell-Line Creek 80(3)A 18

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	LC - 305
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Natural Gamma & Neutron
DATE	Oct. 4 1980
DRILLED DEPTH	?
LOGGED DEPTH	144 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	T.D.
REMARKS:	

422

0 Natrual Gamma 30 100 Neutron 900

K-Shell-Line Creek 80(3)A

19

8K L.S.D. 3K

14K 64.5 m to G.L. 9K

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	LC - 306
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Long Spaced Density
DATE	Sept. 16 1980
DRILLED DEPTH	194 m
LOGGED DEPTH	193.5 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	T.D.
REMARKS:	

422

19

K-Shell-Line Creek 80(3)A

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	LC - 306
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Natural Gamma & Neutron
DATE	Sept. 16 1980
DRILLED DEPTH	194 m
LOGGED DEPTH	193.5 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	T.D.
REMARKS:	

422

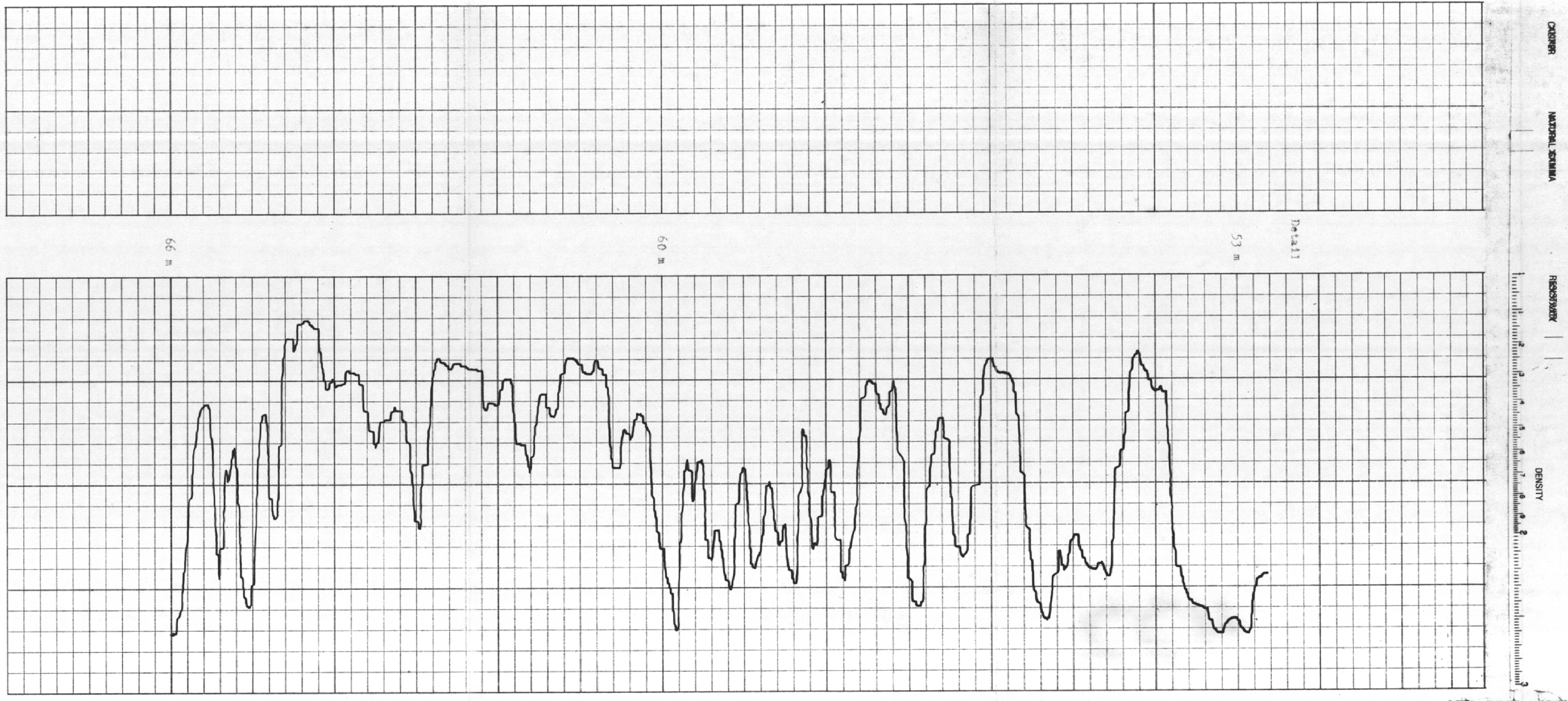
0 Natural Gamma 20 100 Neutron 1100

K-Shell-Line Creek 80(3)A 20

DAVIES EXPLORATION LOGGING LTD.

COMPANY: Crows Nest Resources
HOLE NUMBER: LC - 307
LOCATION: Line Creek
PROVINCE: B.C.
ELEVATION:
LOG TYPE: ~~CALIPER NATURAL GAMMA RESISTIVITY~~, DENSITY
DATE: Oct. 2 1980
DRILLED DEPTH:
LOGGED DEPTH:
ZERO DATUM: G.L.
HOLE DIAMETER: 5 1/8"
CASING LENGTH:
REMARKS: Detail

422



26

K-Shell-Line Creek 82J3/1A

422

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	LC - 307
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	CALIPER, NATURAL GAMMA, DENSITY
DATE	Oct. 2 1980
DRILLED DEPTH	?
LOGGED DEPTH	112.5 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	17.8 m
REMARKS:	Drift 5° Bearing S. 67° W. @ 110 m

NATURAL GAMMA | Caliper | DENSITY

K Shell-Line Creek 80C3A

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	LC - 307
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Long Spaced Density
DATE	Sept. 18 1980
DRILLED DEPTH	112 m
LOGGED DEPTH	111 m
ZERO DATUM	C.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	
REMARKS:	

422

L.S.D.

K-Shell-Line Creek 80(3)A

20

DAVIES EXPLORATION LOGGING LTD.

COMPANY: Crows Nest Resources

HOLE NUMBER: LC - ~~306~~ 307

LOCATION: Line Creek

PROVINCE: B.C.

ELEVATION:

LOG TYPE: Natural Gamma & Neutron

DATE: Sept, 18 1980

DRILLED DEPTH: 112 m

LOGGED DEPTH: 111 m

ZERO DATUM: G.L.

HOLE DIAMETER: 5 1/8"

CASING LENGTH: T.D.

REMARKS:

422

K-Shell-Line Creek 80(3)A3

82-

OPEN FILE

GEOPHYSICAL

ANALYSIS

C.C.# 293, 294, 297,

298, 301

422

21

K-Shell-Line Creek 80(3)A

DAVIES EXPLORATION LOGGING LTD.

COMPANY Crows Nest Resources
HOLE NUMBER LC - 308
LOCATION Line Creek
PROVINCE B.C.
ELEVATION
LOG TYPE: Natural Gamma & Neutron
DATE Sept. 20 1980
DRILLED DEPTH 183 m
LOGGED DEPTH 182.5 m
ZERO DATUM G.L.
HOLE DIAMETER 5 1/8"
CASING LENGTH T.D.
REMARKS:

422

0 Natural Gamma 25 100 Neutron 900

21

K-Shell-Line Creek 80(3)A

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	LC.- 308
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	CALIPER, NATURAL GAMMA, ~~RESISTIVITY~~, DENSITY
DATE	Sept. 30 1980
DRILLED DEPTH	?
LOGGED DEPTH	166 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	109.5 m
REMARKS:	Log to casing @ 109.5 m

422

~~CALIPER~~ NATURAL GAMMA ~~RESISTIVITY~~ Caliper DENSITY

21

K-Shell-Line Creek 80(3)A

DAVIES EXPLORATION LOGGING LTD.

422

COMPANY	Crows Nest Resources
HOLE NUMBER	LC - 308
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Long Spaced Density
DATE	Sept. 20 1980
DRILLED DEPTH	183 m
LOGGED DEPTH	183 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	T.D.
REMARKS:	

12K 130 m to G.L. 8K

8K L.S.D. 4K

22

E-Shell-Line Creek 80(3)A

422

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	LC- 399
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Long Spaced Density
DATE	Sept. 28 1980
DRILLED DEPTH	253 m
LOGGED DEPTH	250 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	T.D.
REMARKS:	

7K Long Spaced Density 3K

22

K-Shell-Line Creek 80(3)A

DAVIES EXPLORATION LOGGING LTD.

COMPANY: Crows Nest Resources
HOLE NUMBER: LC - 309
LOCATION: Line Creek
PROVINCE: B.C.
ELEVATION:
LOG TYPE: Natural Gamma & Neutron
DATE: Sept. 28 1980
DRILLED DEPTH: 253 m
LOGGED DEPTH: 249.5 m
ZERO DATUM: G.L.
HOLE DIAMETER: 5 1/8"
CASING LENGTH: T.D.
REMARKS:

424

0 Natural Gamma 25 200 Neutron 1K

K-Shell-Line Creek 80(3)A 23

ROKE OIL ENTERPRISES LTD. CALGARY, ALBERTA

GAMMA RAY NEUTRON LOG

FILE NO.

COMPANY CROWS NEST RESOURCES LIMITED

WELL LC-310

LOCATION

FIELD LINE CREEK

PROVINCE BRITISH COLUMBIA

LSD
SEC
TWP
RGE
W M

Permanent Datum GROUND LEVEL Elev.
Log Measured from GROUND LEVEL Above Perm. Datum
Well Depths Measured from GROUND LEVEL

Other Services: NONE
K.B.
CSG
G.L.

Run. No.	ONE
Date	20 SEPT 1980
First Reading	236
Last Reading	0
Footage Logged	236
Depth Reached	236.3
Depth Driller	245
Casing Roke	2
Casing Driller	2
Fluid Type	AIR/WATER
Liquid Level	87
Min. Diam.	12.7 cm
Rm @	
Operating Time	1 1/2 HOURS
Truck No.	37

Recorded By JOHNSON Witnessed By HANNAH

422

EQUIPMENT DATA

GAMMA RAY		NEUTRON	
RUN NO.	ONE	RUN NO.	ONE
TOOL MODEL NO.		LOG TYPE	NEUTRON/NEUTRON
DIAMETER	3.175 cm	TOOL MODEL NO.	
DETECTOR MODEL NO.		DIAMETER	3.175 cm
TYPE	SCINTILLATION	DETECTOR MODEL NO.	
LENGTH	10.16 cm	TYPE	PROPORTIONAL
DISTANCE TO N. SOURCE	2 m	LENGTH	
GENERAL		SOURCE MODEL NO.	MRC-N-SS-W
		SERIAL NO.	126
HOIST TRUCK NO.	37	SPACING	43.18 cm
INSTRUMENT TRUCK NO.	37	TYPE	AmBe
TOOL SERIAL NO.	R-GRN125R004	STRENGTH	3 CURIES

LOGGING DATA

GENERAL				GAMMA RAY				NEUTRON			
RUN NO.	DEPTHS FROM	DEPTHS TO	SPEED m/MIN	T.C. SEC.	SENS SETTINGS	ZERO DIV. L OR R	API G. R. UNITS PER LOG DIV.	T. C. SEC.	SENS SETTINGS	ZERO DIV. L OR R	API N. UNITS PER LOG DIV.
1	0	82	4	4	100	0L	8API	3	1000	0L	140API
	82	236	4	4	100	0L	8API	3	500	0L	70API

REMARKS LOGGED THROUGH DOUBLE WALL DRILL STEM

GAMMA RAY	DEPTHS	NEUTRON
GAMMA RAY INCREASES → API 8		NEUTRON INCREASES → API 140
0 — 80		0 — 140 — 2800

24

K-Shell-Line Creek 80(3)A

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	311
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	LOng Spaced Density
DATE	Oct 18 1980
DRILLED DEPTH	?
LOGGED DEPTH	258 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	nil
REMARKS:	

422

28 k 65 m to G.L.
14K L.S.D.

14K
7K

K-Shell-Line Creek 80(3)A

24

DAVIES EXPLORATION LOGGING LTD.

COMPANY: Crows Nest Resources
HOLE NUMBER: LC - 311
LOCATION: Line Creek
PROVINCE: B.C.
ELEVATION:

LOG TYPE: Natural Gamma & Neutron

DATE: Oct. 18 1980
DRILLED DEPTH: ?
LOGGED DEPTH: 259 m
ZERO DATUM: G.L.
HOLE DIAMETER: 5 1/8"
CASING LENGTH: T.D.
REMARKS:

422

0 Natural Gamma 30 150 Neutron 250

K-Shell-Line Creek 80(3)A 24

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	LC - 311
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Long Spaced Density
DATE	Sept. 25 1980
DRILLED DEPTH	262 m
LOGGED DEPTH	158.5 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	T.D.
REMARKS:	

422

16K 69 m to G.L. 8K

8 K Longe Spaced Density 4K

K-Shell-Line Creek 80C35A 24

422

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	LC - 311
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Natural Gamma & Neutron
DATE	Sept.25 1980
DRILLED DEPTH	262 m
LOGGED DEPTH	258.5 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	T.D.
REMARKS:	

0 Natural Gamma 30 — 400 100 — 68 m to G.L. — Neutron — 1400 1100

K-Shell-Line Creek 80(3)A 25

4224

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	LC - 312
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Natural Gamma & Neutron
DATE	Oct. 9 1980
DRILLED DEPTH	290 m
LOGGED DEPTH	286 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	T.D.
REMARKS:	

0 Natural Gamma 30 100 Neutron 70

K-Shell-Line Creek 80(3)A 25

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	LC-312
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Long Spaced Density
DATE	Oct. 9 1980
DRILLED DEPTH	290 m
LOGGED DEPTH	286 M
ZERO DATUM	G.L.
HOLE DIAMETER	5 1/8"
CASING LENGTH	T.D.
REMARKS:	

422

7K, L.S.D. 3K

K-Shell-Line Creek 80(3)A

26

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	LC - 313
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Natural Gamma & Neutron
DATE	Oct. 16 1980
DRILLED DEPTH	178 m
LOGGED DEPTH	176.5 m
ZERO DATUM	G.L.
HOLE DIAMETER	5"
CASING LENGTH	T.D.
REMARKS:	

424

0 Natural Gamma 25 100 Neutron 70

K-Shell-Line Creek 80(3)A 26

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	LC - 313
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Long Spaced Density
DATE	Oct. 16 1980
DRILLED DEPTH	178 m
LOGGED DEPTH	177 m
ZERO DATUM	G.L.
HOLE DIAMETER	5"
CASING LENGTH	T.D.
REMARKS:	

4C4

8K L.S.D. 3K

K-Shell-Line Creek 80(3)A 27

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	LC - 314
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Long Spaced Density
DATE	Oct. 18 1980
DRILLED DEPTH	78 m
LOGGED DEPTH	77 m
ZERO DATUM	G.L.
HOLE DIAMETER	5"
CASING LENGTH	T.D.
REMARKS:	

422

8X L.S.D.

K-Shell-Line Creek 80(3)A

27

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	LC - 314
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Long Spaced Density
DATE	Oct. 20 1980
DRILLED DEPTH	140 m
LOGGED DEPTH	139.5 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 "
CASING LENGTH	T.D.
REMARKS:	

422

16K 50 m to G.L.
8K L.S.D.

6K
3K

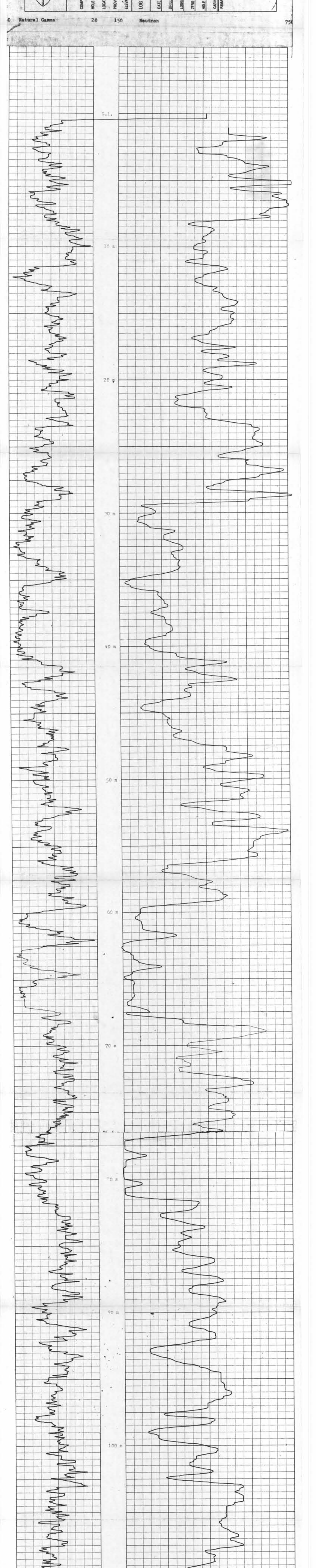
K-Still-Line Creek 80(3)A 27

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	LC - 314
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Natural Gamma & Neutron
DATE	Oct. 18 1980
DRILLED DEPTH	78 m
LOGGED DEPTH	76.5 m
ZERO DATUM	G.L.
HOLE DIAMETER	5 "
CASING LENGTH	T.D.
REMARKS:	

422

0 Natural Gamma 20 150 Neutron 750



K-Shell-Line Creek-80(3)A 28

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	LC - ~~115~~ 315
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Natural Gamma & Neutron
DATE	Oct. 23 1980
DRILLED DEPTH	229 m
LOGGED DEPTH	225 m
ZERO DATUM	G.L.
HOLE DIAMETER	5"
CASING LENGTH	T.D.
REMARKS:	

422

28

K-Shell-Line Creek 80(3)B

DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crows Nest Resources
HOLE NUMBER	LC - 315
LOCATION	Line Creek
PROVINCE	B.C.
ELEVATION	
LOG TYPE:	Long Spaced Density
DATE	Oct. 23 1980
DRILLED DEPTH	230 m
LOGGED DEPTH	227 m
ZERO DATUM	G.L.
HOLE DIAMETER	5"
CASING LENGTH	T.D.
REMARKS:	

422

15K 90 m to G.L.
8K L.S.D.

5K
3K