LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG (FCT)	MINERALIZATION	RECOVERY Run	Run length	Core	RQD	ANALYTICAL Sample	Interval	SHRC Au	AU				BOX
475' 1.5' PART. ASSIMIL XENOL. DK GRN SHALE W. PY.			475' 1' 20% PY, PYR. 5:1(?) .1-.3" VNS. ON FCT 90% 10% DISSEMIN.		10	10	84	0079		.035	.035				
	480		3-5% PY AS AT 442' 481'												
481' SHP CUT @ 60°															
481'-491' SHALE DK GRN TO LT GRN; BEDDING INDISTINCT MOTTLED-LOOKING POSS. DUE TO METAM.; FCT MOD. @ 10°-20°, 40°-60° REVEALED W/ CALC, PY, PYR, MAGN			481'-491' 2-3% PY 50% ON FCT; 50% AS REPL DK GRN LAYERS (V. NARROW, L/1°) W/ MAGN.				90	0080		.040	.040				
489' BEDDING @ 45°					10	10		0081		.025	.025				
491' IRREG. CNT @ ≈50°	490		491'												
491'-577' QUARTZITE FN GRAINED 494'-497' COLOR TO MED GY FR LT-MD GY BEDDING RARELY OBSERV.; COLOR GENERAL LT GY TO LT-MED BRN GY; FCT MOD W/ 10-20°, 40°-60° REVEALED W/ QTZ, CALC, PY, CHL, BLACK OXIDES			491' 2' 5-10% PY AS NARROW MASSIVE VNS + PY VNLTS ON FCT					0082		.028	.028				
			493'-577' 1-2% PY; LOCAL VNS OF HIGHER PY BROKEN OUT BELOW; PY VNS ≤ .2" NOT BROKEN OUT; PY ON FCT; BLACK OXIDE, CHL. STAIN; FCT BLK + W/ CALC IS MORE ABUND. THAN PY				91							
					6	6		0083		.035	.035				
	500														
					4	4		0084		.030	.030				
			505' 1' 5% PY; INCR PY ON FCT				97								
			508'-513' LT-MOD LM STAIN PY 50% OXIDIZED		10	9.5		0085		TR	TR				
510' 6" VUG LINED W/ CALC. XLS	510	6" VUG													
								0086		.025	.025				
513' REDUCE TO NC, CORE DUE TO LOSS OF CIRCULATION FOLLOWING INTERSECT. OF VUG							82								
513'-523' COLOR FROM LT TO MED GY + GY BRN TO DK GY TO MED-DK BRN GY					10	10		0087		.010	.010				
	520														
			523' 3-5% PY FOR 1' INCR PY ON FCT					0088		TR	TR				
							82								
					10	9.6		0089		.005	.005				
530' .4' CORE LOSS NO OBVIOUS SHEAR ZONE; POSS GROUNDWATER SOFTENING CORE CRUSHING IT TO WASH	530		530' 1' LM ON FCT; 6" 10% PY; ON FCT @ 30°												
								0090		.035	.035				
							51								
					10	10		0091		NF	NF				
	540														
								0092		.003	.003				

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG FCT	MINERALIZATION	RECOVERY Run	Run length	Core	RQD	ANALYTICAL Sample	Interval	SHMC Au	Au				BOX
QUARTZITE AS AT 491' LT GY, FN GRN			1-2% PY AS AT 493'				51								
	550				10	10		0093		.015	.015				
2' 2' COLOR CHANGE TO DARK GRAY								0094		NF	NF				
			555' 2' LT LM ON FCT				83								
					8	8		0095		.013	.013				
	560														
								0096		.025	.025				
					9.5	9.5	70								
								0097		.010	.010				
	570		570' 2' TR SPHAL.												
			573' LT LM ON FCT					0098		NF	NF				
576' COLOR TO MED TO DK BRN NEAR CNT					9.5	9.5	49								
577' SHP IRREG CNT @ ≈70°			577'												
577'-579' HB D/O LT GY GRN; FN GRN; 10% HB			577'-579' <1% PY					0099		NF	NF				
579' FCT LT SHP CNT @ ≈80°			579' 3' LM ON FCT												
579'-583' QUARTZITE FN GRN, MED-DK BRN	580		579'-583' 1-2% PY ON FCT												
583' SHP CNT @ 50°			583'					0100		.015	.015				
583'-592' PE ARGILLITE BLACK; FN GRN; MAGNETITE; BEDDING WHERE OBSERV. IS HIGHLY FOLDED; FCT LT-MOD @ 0°-10°, 20°, 60° REHEALED W/ CALC QTZ, PY; UPPER CNT MARKED BY 3" PEBBLE CONGLOM.			583'-600' 1-3% PY		10	10	71								
			PY ON FCT; SOMEWHAT ERRATICAL DISTRIB. IN ARGILLITE; IN D/O 20% PY DISSEM. REPL. PY BUT 80% PY ON FCT					0101		TR	TR				
	590														
592' IRREG SHP CNT															
592'-594' HB D/O FN GRN 30% FELD								0102		NF	NF				
594' 5% HB ALT TO CHL SHP CNT @ 60°					10	9.8	46								
594'-600' PE ARGILLITE AS AT 583'								0103		NF	NF				
	600														
E.O.H. @ 600'															

DIAMOND DRILL HOLE LOG

Company LACANA Mining Inc.

LEGEND

SURVEY

Footage	Bearing	Inclination
250'	N74°W	-44°
500'	N80°W	-44°
700'	S87°W	-45°

Property GILT EDGE
Hole No. DGE-3
Location DEADWOOD, SD.
Bearing at Collar S 89° W
BEAR BUTTE MINING DIST.
Inclination at Collar -45°
Coord. - Collar N 747,190
E 4127,061
Length 703'
Elev. - Collar 5536'
Core Size HQ (2½") 0'-448' NQ 448'-EOH
Date started 10/5/83
Completed 10/18/83
Logged by R.J. MacLeod

FCT Angles given in order of increasing abundance

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG (FCT)	MINERALIZATION	RECOVERY Run	Run length	Core	RQD	ANALYTICAL Sample	Interval	SHMC Au	SHAC Au	BOX
0'-8' NO RECOVERY (OVERBURDEN) DRILLED USED TRI-CONE to 8' THEN PUT DOWN CASING; NO RECOVERY								NR	NR			
8' 8'-10.3' HORNBLENDE DIORITE lt-md GRN 5-7% [illegible] 10.3' FCT 30-40°; 10°-20° Contact Sharp @ 35°	10		8'-39' 0% Pyrite; [illegible] Oxide; mi. Kerf Goeth + Jarosite 8-10.3' FeOx 3-5% diss + along fractures (90-75%).		12'		12	104		NF	NF	8 10
10.3'-65.7' DEADWOOD FM. SHALE 10.3'-48' Intbd Lt GRN SY IN-M/GRND SS; V Lt GY Shale; & Md GRN GY Shale V. thin to thin bedded; Occasional thin bed BRN Shale; Fct. 10.3'-48' dominately 35°-45° to C.A.; Few Fct 5°-10° to C.A.			10.3'-29' FeOx variable amount, 18'-3-18.11' - Md FeOx there lt., restricted to SS beds 1-3%. 18'-31' V. Hvy - pervasive FeOx w/ Tr. Hem. 31'-38' Lt FeOx diss along fracs + SS beds.	NO 10' CORE Black ROUND		8'	0	105		NF	NF	15
14' Bedding 45° to C.A.								106		NF	NF	20
10.3'-34.5' Core is broken weathered rubble;	20		38'-39' Md-Hvy Goeth + Jaro staining broken rubble; pervasive		2'	1.8		107		.020	.020	25
					11'	4.7'	0	108		.005	Tr.	30
	30							109		NF	NF	35
35' bedding 35-40° to C.A.					5.5	4.8	21	110		Tr	NF	40
41'-47.5 Core very broken weathered rubble	40		39'-41' 1-2% diss. Fn GRND FeS2 along v. thin (<5mm) Fcts. 41'-45' Md-Hvy FeOx (Goeth + Jaro)		4.5'	4.5	40	111		NF	NF	45
45' bedding 40° to C.A.			45' Tr. ZnS in vugs along S.I.S. in C.A. Fct. & SS beds. w/ Calcite, yellow BRN 0.1-1mm xstals. 45'-46' Tr. FeS2 along Fcts w/ ZnS + CaCO3.		3	3	23	112		NF	NF	50
48'-65.7' Change of color & increase [illegible] 2 GRY shale to 1.3-5% BRN thin shale beds. Dom. mate. Intbd Md-Lt GRN Shale & shale + Md-Lt BRN Shale. Fct. Related by FeS2 + ZnS + CaCO3. 50' Bedding 50° to C.A.	50		96-97.5' Md-Hvy FeOx (Goeth + Jaro) in weathered rubble. 97.5-60' 70-80% ZnS vugs 1-2mm		2	2		113		.005	Tr.	
					5	5	68					

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	RQD	ANALYTICAL Sample	Interval	SHMC Au	SHMC Au				BO
DEADWOOD FM. Shale. 25 above 48'-65.7' Fct Mod w/ 2-3 fractures 1/2-1 cm wide		FCT	56'-56.6' 1cm tbld Fct 50-70% Qtz - 25-40% Sphal + 5-10% Pyrite, 20° to C.A.				68								55
60' Bedding 50° to C.A.	60		49'-66.7' 1-2% Pyrite + Calcite along Mod - Hvy healed Fcts		10	10	60	114		.005	.005				60
62'-63' 'Mero Fault' ~ 1/4" displace; healed w/ 20-25% ZnS + 70-75% $CaCO_3$ + 2-5% FeS_2; 1/2 cm - 1cm wide. Contact Irreg. above 45° to C.A. 65.7'								115		Tr.	.005				
65.7'-76.2' HORNBLENDE DIORITE PORPH. V. Lt Gr to GRY Gr (Fcts. by Deadwood shales esp. bottom 3'); 2-5% chlor to 2 epidote after hbld laths (1-4mm long); Feldspar lt Gr, 1mm - 5mm (2-4mm common); subhedral - euhedral; in Lots alteration to pyr. FCT. 20° 35° to C.A.; 65°-70° to C.A. Foliation 45-50° to C.A.	70		65.7'-67' 2-3% Pyrrho diss of 1-1cm blebs; No obvious Fct control 68'-69' Mod-Hvy Goeth + Jaro + Calcite; hvly Fctd zone. 67'-73' 3-5% Pyrite Md-Hvy Fct healed by $CaCO_3$ + FeS_2 ± Goeth + Jaro. 1mm - 1/2 cm wide; + diss FeS_2		10	10	76	116		.005	Tr.				70
76.2' Contact Irreg. @ approx. 45°			73'-76.2' 2-3% diss pyrite + 1-2% Pyrite diss in Fct (1-5mm).				58	117		.005	.010				75
76.2'-95.4' DEADWOOD FM. SHALES Intbd Dk Or GRY, Lt-Med GRY, Lt GY, Dk BRN Shale w/ thin lenses & beds of tan to lt BRN FN GRNS SS. Fissile to thin bedded. 60' Bed 45° to C.A. Mod to Hvy Fct increasing downwards to contact w/ Por. "Stkwk" of fine Fcts dominate w/ occasional 1-4mm wide Fct; Fct Healed by Calcite + Pyrite ± Sphal + Pyrrho ± Dk GRN Min (Glauc?) + Lt BRN Shale "Bleached" to lt GRY 1-4cm 88' Bending out from Fct "Bleaching not as noticeable in GRN Shales - Fcts filled w/ dk GRN Min. 90' Beddings 45° to C.A. 95.4' Contact Irreg. @ approx. 55°	80		76.2'-79' 1-2% FeS_2 + $CaCO_3$ dom. noted in fcts. 77' Lt ORG BRN FeO_2 on 75° to C.A. Fct face w/ Tr. Pyrite + $CaCO_3$ 79'-84' 1-2% Pyrrho along Fcts & replacing oblate pebbles(?) found at 82' w/ ZnS + $CaCO_3$ 84'-95.4' 1-2% Pyrite + 1-2% ZnS in tan - lt BRN SS lenses and Fcts. w/ $CaCO_3$, Sphalerite found mostly SS beds & lenses. 88' similar oblate clasts as 82' replaced by Dk Gr Amphib + Pyrrho. 93' 3-4" Bed 40-45% Sphal + 20-25% Pyrite + 30-40% $CaCO_3$ 2-5mm FeS_2 + Stals + 1-3mm ZnS.		10	10	82	119		Tr.	NF				85
					9	9	72	120		Tr	NF				90
								121		.005	.005				95
95.4'-117.7' HORNBLENDE DIORITE(?) (MONZ?) PORPH. Lt to GRN Gr due to contr. from Enclosing Ed GRN Sys. 50-60% sub-euhedral v. lt. GY Plag + K-spar (approx 1:1 to plag/k-spar?) + 2-5% laths of chlor to Epid after amphibole & ox. in Dk Gr - Blk GRNS SPECKLES. Feldspars range from .5mm - 1cm; 2-4mm most common (largest 1.2cm - 1.3cm) are K-spar. 100.5' - 110 Lt GRY Gr Monzonite. Foliation of feldspars approx. 35-50° to C.A. Fcts Mod 20 to 30°, 45-55° Fcts healed by $CaCO_3$ + Pyrite ± Pyrrho. 116.5 Ed zone lt. Contact Irreg @ approx 70° 117.7'	100		95.4'-112 Md ORG-BRN FeO_2 on Fct faces 20°, 35°, 55° Fcts. generally 30-50° Fct widest 2-4mm healed w/ $CaCO_3$ + Pyrite 105' 35° Fct chlorite, 50° Fct (x cuts); 95.4'-117.7' 2-3% pyrrho, diss as 1-3mm FN GRNS aggregates w/ 1-2% Pyrite; Pyrite in 45-55° Fcts w/ Tr Pyrite. Pyr Lt mostly in 20-35° Fcts		10	10	67	122		NF	NF				100
					10	10	57	123		.005	.005				105
	110				10	10		124		NF	Tr				110
					5	5	59	125		Tr.	Tr.				115
117.7'-134.8 DEADWOOD FM. SHALES Intbd Lt-Med GRN, Med-Dk BRN & Lt GY Shale and Lt BRN Gr Dolomite? Thin to Med Bedded. Mod - Hvy Fct & bleached along Fct.	120		117.7-122.5 Pyrite 1-2% + 1% Pyrrho in healed Fcts & as aggregates along Fcts up to 1/2 cm across. $CaCO_3$ comprises most of material in Fcts.		6	6		126		.005	.010				120
								127		.005	.005				

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG (FCT)	MINERALIZATION	RECOVERY: Run	Run length	Core	RQD	ANALYTICAL: Sample	Interval	SHMC Au	SHMC Au				BOX
117.7' - 134.8 DEADWOOD FM. Shales. 95.6 DEVC 127.5' - 129' Very funky FM. or Dolo? 131' - 134.8' HVY "Stink" FCT" & release bleaching of Shale cup FRM to LT GRN Color. Bedding of set 1/2" - 1" 134' along 30-35° FCTs. 131' Bedding 20° to C.A. 133' bedding 45° to C.A. 134.8' CONTACT SHARP @ 35° to C.A.	130		127.5' - 129' 5-10% Pyrite + 2-3% ± Galena Pyrite as xstal aggregs. xstals up to 1/2 cm; Galena + Fn xstal aggregs.; Sulphides + DK GY Mg? or Fe? Oxide replacing bed of Dolo? 129' - 134.8' 2-3% Pyrite + Tr. Galena + $CaCO_3$ in rehealed FCTs in Shales.		10	10	92	128		.005	.005				125 / 130
134.8 - 139.7' HORNBLENDE DIORITE (MONZ?) POR. As 95.4' - 117.7 Md - GRN GY Hbld 137' 139' relusions of GY [illegible] 139.3' CONTACT SHARP @ [illegible]	140		134.8 - 139.7' 2-3% Pyrite + Calcite diss & in Rehealed FCTs. Magnetite? in inclusions of Cds		10	10	88	129		.005	.005				135
139.7' - 154' DEADWOOD FM. SHALE 143' bed 139.7' - 145.5 Intbdded LT GRN & LT BRN Shale 30° to C.A. Fissile to thin bedded. "Bleached" along FCTs. esp. BRN Shale to LT GRN Color. Thin bed Md 3-25° to C.A. 45-50° to C.A. 145.5 - 154' Intbdd LT - Md GRN & DK BRN 149' bed Shale w/ interbedded limey lenses & beds 35° to C.A. lenses oblate to irregularities to LT BRN to DK GRN GY; FCT Md; 75-55°; 30-40° to CA. 152' bed 40° to C.A. 154' CONTACT Sharp @ 25° to C.A.	150		139.7' - 145.5' 1% Pyrite + <1% Pyrrho. FN SCND xstals & xstal aggregates along FCTS. Some Pyrrhotite replacing oblate dolo? clasts at 142.5' 145.5' - 154' 2-3% Pyrite conc as 1mm-5mm xstals in limey lenses Tr. Pyrrhotite in shales 148' 6" of 20-25% Pyrite.		10	10	86	131		Tr	Tr				145
154' - 167.5' HORNBLENDE DIORITE (MONZ?) POR. LT GY to GRN GY due to irregular blebs & concentrations of enclosing bd; 5-10% anhedral to subhedral (latis) of chlorite + epidote? after hbld. or pyrox (1-3mm); Feldspars approx. 30-40% replaced by "c" - sized "1" $CaCO_3$ & "c-spar"? Difficult to see grains, Range appr. 1-3mm 2° most common. FCT @ 30-35°; 25-20° to C.A. rehealed by $CaCO_3$ Stained by DRG GRN FeOx (Goeth + Jaro). 167.5' CONTACT Irregular @ approx. 40°	160		150.5' 2cm wide FCT filled w/ DRG BRN FeOx (Goeth + Jaro) + $CaCO_3$ 4-6cm on either side is 20-25% Pyrite + 5-10% pyrrhotite replacing bd. 154-165' 2-3% Pyrite mostly diss. w/ 3-5% ± $CaCO_3$ w/ some in rehealed Fcts w/ $CaCO_3$. Pyrite replacing hbld(?) and in gndmass.		10	10	74	132		Tr	Tr				150
167.5' - 174' DEADWOOD FM. SHALE & SS Intbdd; LT GRN; V. LT GY (bleached) & BRN Shale & tan to pink fine GRNd Limey SS; SS Ranges from thin 170' bed to oblate lenses; FCT LT @ 20°; 30° to C.A. 50° to C.A. 173' Micro Fault 2" displace @ 20° to C.A. 174' CONTACT [illegible]	170		165' - 168' LT - Md FeOx Pervasive GRN - BRN Goeth + Jaro. Restricted to Fcts 154' - 165' Tr. Pyrite. 168' - 174' 1% ± Pyrite mostly along FCTs. + $CaCO_3$ + Pist GRN Mineral (Epidote?) in FCTS. 172' 1" wide Fect w/ 10-15% Pyrite; 2mm-5mm xstals in DK GRN GY - Chloritic(?) material.		10	10	75	133		.005	Tr				155
174' - 181.2' HORNBLENDE DIORITE (MONZ?) POR. V. LT GY, w/ Pist GRN Spots (epidote after hbld?) & irreg blebs 1-1/2 cm redoss.; Some crudely latth. shaped 3-5% ± 20-30% Feldspar 1-4mm v.lt GY; Fct. 30-35°; 40-45°; 25-20° 181.2' CONTACT Sharp & irreg @ 40° to CA	180		174' - 181.2' 2-3% Pyrite mostly diss. FN GRN xstals; also in rehealed FCTS w/ $CaCO_3$ + Tr Purple CaF_2 at 179.5'		10	10	71	134		Tr	Tr				160
181.2 - 198.4' DEADWOOD FM. SHALE Intbdd LT GRN, LT GY; DK BRN Shale & tan to pink Limey SS; SS occurs as thin irregular lenses to thin bedding. Shale (Sst?) to thin bedded. FRM Shale most noticeably bleached to LT GRN along FCTs; Also occasional DK GRN GY Shale bed. 183' bedding 45° to C.A. FCTS Md - HVY @ 40-50°; 20-25°; FCTS Rehealed w/ [illegible] + Epidote? + [illegible]	190		181.2' - 198.4' 2-5% Pyrite (some?) an erratic distribution of Pyrite replacing? tan - pink limey lenses and DK GRN GY beds; also in FCTs w/ $CaCO_3$ ± Qtz in shales		10	10	85	135		Tr	Tr				165
							72	136		Tr	Tr				170
								137		Tr	.005				175
								138		Tr	Tr				180
								139		Tr	Tr				185
								140		NF	NF				190
								141		.005	.005				

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG FCT.	MINERALIZATION	RECOVERY Run	Run length	Core	RQD	ANALYTICAL Sample	Interval	SHMC Au	SHMC Au				BC
DEADWOOD FM. SHALE 198.4' Contact sharp @ 50° to C.A.															19
198.4' - 214.3' HORNBLENDE DIORITE LL-Md GY to GRN GY; 5-10% DK GY blebs (1.5mm - 2mm) of Chlorite? Pyrrho. & or pyr. Le after hbld? or flag? (some crudely lath-shaped hbld?); 50-60% V. lt GY Feldspar sub-euhedral 1-3mm occasional 5mm - 1cm K-spar (< 5%) in lt-Med GY & GRN GY (contam.) aphanitic GNDMASS. 3-5% Hbld or Chlorite after hbld found 210'-214.3' 198.4'-210' FCT LL-Med @ 12-15°; SS 60°; 35° Recemented by Pyrite + CaCO3 210'-214.3' FCT Med-Hvy @ 10°-15°; mostly 35°-40° FCT recemented (1mm - 3mm wide) by Calcite + Pyrite + Chlorite 214.3' Contact sharp @ 20° to C.A.	200 210		198.4'-210' 3-5% diss. Pyrite + Calcite replacing mafics(?) w/ minor pyrrho in FCTs. 1% Pyrite + CaCO3 in FCTs. 210'-214.3' 3-5% Pyrite diss and in FCTs approx 60-70% diss / 30-40% in FCTs; Pyrite (diss) rimmed by CaCO3; Pyrite + CaCO3 ± Chlorite ± Sphl in FCTs.		10	10	84	142 143 144 145		.005 .005 .005 .010	.005 .010 .010 .010				20 20 21
214.3' - 222' DEADWOOD FM. SHALE 214.3 - 215' Intbedded Md GRN & DK BRN Shale Fissile as thin bedded 215' - 222' DK BRN Fissile Shale 214.3' - 222' Hvy to Intense FCT; FCT 215'-219' 80° to C.A. 2mm - 5mm wide filled w/ frag of Shale + CaCO3 + Pyrite + Sphl; 15° to C.A. FCT; 10-15°; 35-45° [illegible] 50° to C.A. 222'	220		214.3'-218' 3-5% Pyrite erratically dist. along at 1-5mm Recemented FCTs w/ CaCO3 + DK GY Mn oxide? + Chlorite? + Tr. Sphal. - found at 217' (lt yellow BRN) 218'-222' 2-3% Pyrite erratically dist along relatively narrower FCTs		9	9	63	146		.010	.010				22
222' - 225.5' HORNBLENDE DIORITE - Md GRN to BRN GY, FN GRN, Dk [illegible] 2-3% hbld/chlor after hbld 1-2mm; 30-40% Feldspar; FCT Hvy @ 10-15°; 30-40° Contact sharp @ 60° to C.A. 225.5'			214.3'-222' Pyrite as FN GRND total aggregates to 1-3mm & Sphl 222'-225.5' 3-5% Pyrite FN GRN [illegible] (40-50%), Recemented FCTs as FN-CRSE Sphl aggregates w/ CaCO3.					147		.005	.010				23
225.5' - 231' DEADWOOD FM. SHALE DK BRN Bed Fissile Shale; Md - Hvy FCT @ 25-35°; 45-55° 40° to C.A. Recemented by CaCO3 + Chlorite? + Pyrite 231' Contact sharp @ 10° to C.A.	230		225.5' - 231' 2-3% Pyrite erratically dist in FCTs w/ CaCO3 ± Chlorite		10	10	62	148		.015	NF				23
231' - 234.5' HORNBLENDE DIORITE Md GRN - GRN GY w/ [illegible] 30-40° to C.A., FN GRND, FCT Md @ 30-40°, 10-15° 234.5' Sharp due to Contact? Contact sharp @ 55° to C.A.			231' - 234.5' 3-5% Pyrite [illegible] of 1-2mm diss; 30-40% erratically dist in & along FCTs as total aggregates + CaCO3.					149		.005	.005				2
234.5' - 250.5' DEADWOOD FM. SHALE DK BRN Fissile Shale; Hvy "Stockwk" FNE (Narrow) FCTs; Shale Bleached to Lt GRN. Color along FCTs. FCTs 1mm - 1mm; 25-30°; 10-15°; 45-50° 245' - 6" of Breccia on 1" (min) of Shale at intersect 35° to C.A. & 45° to C.A. FCTs. 247.5' - 248.5' Intensely FCTd to Bxa; Fragmented by FCTs @ 30-45°; 65-75° to C.A., some frags (Vzcm - 1.5cm) rotated; interstices filled w/ tan to lt BRN Clay? + CaCO3 ± Pyrite. 246' - 247' Breccia Fragmented & "Bleached" to lt GRN DEADWOOD Shale Cemented by Pyrite + CaCO3 + [illegible] 250.5' Contact sharp @ 50° to C.A.	240 250		234.5 - 250.5' 1% Pyrite Erratically dist in & along FCTs incl. Brecciated zones; w/ CaCO3 + LL DK GRN Chlorite? 240' - 242.5' Med ORG BRN FeOx (both + Jarro) on FCT Faces 25°-35° to C.A.		8	8	64	150		NF	NF				24
250.5' - 253.5 HORNBLENDE DIORITE DK 231-234.5 FCT Hvy @ 10°-20°; 35-45° to C.A. 253.5' Contact sharp @ approx 25°			245' - 250.5 2-3% Pyrite in Brecciated zones w/ CaCO3 + Tan - lt BRN Clay(?) / also in FCTs. 249.5' 1-2mm FCT Recemented w/ lt yellow BRN Sphal., Calcite + minor Pyr Le 50° to C.A.		3	3	74	151		NF	NF				24
253.5' - 293.2' DEADWOOD FM. SHALE DK BRN Massive Shale; Bedding uncertain breaks unevenly w/ no suggestion of being fissile; Aphanitic. Hvy FCTd to Brecciated 253.5' - 261' BRECCIATED & Highly FCTd; Breccia erratic; Fragmented, recemented Shale to [illegible] Shale, Frags mostly angular & [illegible]	260		250' - 253.5' 3-5% Pyrite erratically dist. along & in FCTs; diss. & Minor Vugs 40-50% diss; 40-50% in FCTs; 1% in vugs. 253.5' - 261' 3-5% Pyrite Erratically dist in interstices between fragmented Shale and in FCTs; occurs w/ CaCO3 + Chlorite? + Clay; 5-10% Pyrite veins in Breccias 260' - 260.5' 2 FCTs @ 60° to C.A. w/ Med ORGBRN FeOx on FCT Faces 261' - 266' 1% Pyrite erratically dist. in & along FCTs		10	10	62	152 153 154 155		Tr NF NF	Tr NF NF				2 2 26

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG (FLT)	MINERALIZATION	RECOVERY Run	Run length	Core	RQD	ANALYTICAL Sample	Interval	SHPL Au	SHPL Au				BOX
253.5'-293.2' DEADWOOD FM. SHALE 261'-266' HIGHLY FLTD SHLE w/ thin rehealed fragmented shale @ 263' (3") & 264-264.5' 266'-271' FRAGMENTED Shale (Breccia) Fragmented & rehealed shale w/ Pyrite & qtz & CaCO3 + Clay & blackish shale in the interstices between angular BRN shale frags. 271'-276' HIGHLY FLTD BRN SHALE FCTS @ 35°-80°, 50-60° to C.A.			265.5'-266.5' FLT @ 55-65° to C.A. w/ 1/2 md ORG BRN FeOx. 266'-271' 2-3% Pyrite strata-really dist in interstices of fmgtd shale as xstal aggregates w/ CaCO3 + Qtz + Clay		10	10		156		Tr	NF				265 270
			271-276' <1% Pyrite 2-3% in fragmented shale (4") at 274' Pyrite mostly erratically dist as stringers along FCTS				64	157		NF	NF				275
276'-293.2' Intbdd(?) Lt-Dk GRN GY Shale & DK BRN SHALE. GRN-GY Shale may be altered ? BRN SHALE, 276'-281' HVY FCT @ 15-40°, 17-25° 281-282' 1/2 core Lt-Md GRN GY FRAGMENTED Shale & 1/2 Highly FLTD DK BRN Shale Contact ~ 15° to C.A. 281'-288' HVY FCT - FRAGMENTED FCT @ 15-25°; 30-40°, 65-70° to C.A.			276'-279' 2-3% Pyrite 279'-281'		10	10		158		NF	NF				280
			281'-293.2' 3-5% Pyrite & 3-5% Magnetite stratiformly dist in fragmented areas; along FCTS & Replacing DK GRN GY interbedded sediments (Sporadic, 2-3' thick) Fills interstices in fragmented zones. Occurs w/ CaCO3 + Chlorite ± epid. ± Qtz.				66	159		Tr	NF				285
288'-293.2 HVY FCT - fragmented w/ above contact FCT @ 55-65° to C.A.; 15-25° to C.A., 65-75° to C.A.					10	10		160		.005	.005				290
293.2' CONTACT SHEAR ZONE @ ~65°								161		.015	.015				295
293.2'-322.6 TRACHYTE PORPH. Grdl to Lt ORG BRN FeOx stained Porph; Med-Crse GRN w/ 40-50% subhedral-euhedral feldspar phenos .5cm-1.5cm. 2-4mm is the most common (~70-80%) (12m-1.5cm ~ 3-5%) GNDMASS Lt GY Aphanitic. Feldspars rimmed by Fe staining, replaced by Clay probably due to acid leaching - NO FRESH Pyrite - Qtz due to Goeth-Jaro both diss & in FCTS. FCTS Md @ 30-15°, 35-45°; 50-60° to C.A. 299'-299.5' ~5-10% DEADWOOD Shale inclusions (1/2cm - 3cm) Angular			293.2'-322.5' Lt-Md ORG BRN GOETH + JARO 2-3% diss. after pyrite xstals or xstal aggregates 2-3% along rehealed FCTS. 305'-307' 1-2% Cubic pseudomorphs of Goeth after pyrite 1-4mm.		10	10	65	162		.010	.015				300
								163		NF	NF				305
					10	10	72	164		NF	NF				310
								165		.005	.005				315
					10	10	76	166		.005	.010				320
CONTACT FCTS @ approx 30°								167		Tr	Tr				325
322.5'-346.5 DEADWOOD FM. SHALE 322.5'-335 [illegible] GRN Lt to DK GRN GY SHALE; GRN GY Shale - BRN Shale altered to [illegible] ? FCTS HVY; FCTS 15°-20°; 30-40°, 65-70° to C.A. FCTS Rehealed by CaCO3 + Pyrite + Qtz Bedding ? 330' @ 45° to C.A.			322.5-346.5' 1% Pyrite stratiformly dist along FCTS w/ CaCO3 as the green xstal xstal aggregates. 327' Lt coating of Med ORG-BRN FeOx (Goeth + Jaro) on Flt Faces @ 35° to C.A. w/ CaCO3.		10	10	75	168		Tr	NF				330
								169		NF	NF				

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	RQD	ANALYTICAL Sample	Interval	SHMC Au	SHMC Au				BO
322.5-346.5' DEADWOOD FM. 335'-346.5' Interbdd Lt GRN & Dk GRN-GY & Dk BRN Shale. Thin Bedded. Bedding Md-Hvy FCT @ 20-25°; 65-70° to C.A. FCTS Rehealed by Calc + Pyrite + Magnetite ± Chlorite ± Qtz 345' Bedding 40° to C.A. 346.5 Contact Sharp @ 35°	340		335'-346.5' 3-5% Pyrite + 5-10% Magnetite Pyrite erratically dist. as med-Crse GRND xstal aggregates along FCTS w/ more continuously dist Magnetite - Dk Gy v. FN GRN + CaCO3 + Chlorite.		10	10	83 340	170 171		.010 .005	NF .005				33 340 34
346.5'-367' HORNBLENDE DIORITE (MONZ?) PORPH Lt-Md Gray Jordan? by Crl Stokes & Alderson; FN-MDM GRND PORPH w/ 40-45% Phenos of Feldspar & altered Hbld? Sharp Cmnd 2-3% phenos [illegible] completely replaced by Pyrite + CaCO3 + Qtz ± Magnetite - 10th "Capped" ± 3-5% 1-2% [illegible] + higher phenos 346.5'-358' FCT Mod-Hvy @ 25°-40°, 60°-65°, 20°-25° to C.A. FCTS REHEALED by CaCO3 + Chlorite + Pyrite ± Qtz + Magnetite ± Biotite 358'-367' FCT Hvy @ 5°-10°; 35°-40°; 60°-65° to C.A., some FCTS REHEALED by Qtz ± Pyrite ± CaCO3; other FCTS Rehealed by CaCO3 + Pyrite + Chlorite ± Qtz. ± Biotite Contact sharp @ 40°	350 360		346.5-353' 1-2% Pyrite + 2-3% Magnetite Diss Grd in rehealed FCTS w/ CaCO3 ± Biotite ± Qtz + Chlorite; Pyrite FN GRND 1mm xstals; Magnetite massive 351'-355 Tr-1% ORG BRN FeOx (Goeth + Jarosite) on 25-35° FCTS. 353'-367' 2-3% Pyrite + < 1% Magnetite as above. - Qtz veining w/ Magnetite + Pyrite in 5-10° FCTS.		10 10	10 10	72 360 78 370	172 173 174 175		.005 NF .005 .010	.005 NF .010 .010				350 35 360 36
367'-377' DEADWOOD FM. SHALE Interbdd Md GRN & Dk GRN SHALE & Dk GRN GY to MD BRN Silicified? Dolomite?; Beds thin. FCTS Hvy @ 10-15°, 45°-55°, 65°-70° to C.A. Contact sharp @ 40°	370		367'-377' 3-5% Pyrite + 3-5% Magnetite, erratically dist in & along FCTS and Replacing Dk GRN GY to Md GRN Beds. Both occur as FN GRND xstallne blebs ≤1mm - 1mm Cl.a. Pyrite + Magnetite rehealed FCTS w/ Qtz + Tr CaCO3		10	10	81 370	176 177		.005 Tr	.005 .005				37 37
377-380.5 HORNBLENDE DIORITE (MONZ?) PORPH. as 346.5-367' Lt GY w/ Md GRN Clots exp along FCTS; FCTS HVY @ 10-15°, 35-40°, 60-65° [illegible] to C.A.	380		377-380.5' 2-3% Pyrite + 2-3% Magnetite + 1-2% Pyrrhotite erratically dist along FCTS and replacing? Dk GRN Shale; Fractures FN xstals + rehealed aggregates		10	10	90 380	178		.015	.020				38
380.5'-416.5' DEADWOOD FM. SHALE 380.5'-393' Interbdd Lt-Dk GRN & Md-Dk BRN Shale, Thin bedded. BRN Shale altered to Lt GRN (chlorite?) along FCTS. FCTS Mod-Hvy @ 10° to C.A., 35-40° to C.A. FCTS Rehealed w/ CaCO3 + Diss Magnetite + Pyrite ± Biotite ± Dk GY Mn or Fe Oxide ± Chlorite + Pyrrho. Bedding 40° to C.A. 393'-414' Dk GRN GY Massive? - Lt - highly bedded siltst-sdst? Interbdd Lt to Dk GRN GY shale; Sdst-siltstone; Shale occurs as 1"-6" "lenses" of Sdst. Beds to thin bedded shale. 30° to C.A. FCTS Md-Hvy @ 25-30°; 35-35°; 58-60° to C.A. FCTS Rehealed as 380.5-393	390 400		380.5'-389' 2-3% Pyrite + 2-3% Magnetite + 1-2% Pyrrhotite erratically dist along FCTS and replacing? Dk GRN Shale; Fractures FN xstals + rehealed aggregates 389'-393' 1-2% Pyrite along FCTS as FN GRND xstals & xstal aggregates w/ Tr. Magnetite. 393'-406' 2-3% Pyrite + 2-3% Pyrrhotite. Pyrite as FN-MDM GRND xstal aggregate erratically dist in & along FCTS; Pyrrhotite as blebs replacing massive Dk GRN GY siltst.		10 10 10	10 10 10	88 390 65 400	179 180 181 182 183		.015 .010 .005 .010 NF	.015 .010 .010 .015 NF				38 38 39 40

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG (FCT)	MINERALIZATION	RECOVERY Run	Run length	Core	RQD	ANALYTICAL Sample	Interval	SHMC Au	SHMC Au				BOX
DEADWOOD FM. as above			406'-414' 2-3% Pyrite + 3-5% Magnetite, erratically dist along FCTS as filling to Biotite along FCTS (open space filling?) & replacement in the GRN massive sill. w/ Qtz + Tr.-1% CaCO3												405
406' Beds 40° to C.A.					10	10	73	184		.010	.010				
	410						410								410
414'-416.5' Extremely fragmented & mineralized by Pyrite + CaCO3; FCTS 10°-15°, 30°-35°. Very Qtz-rich fragments bottom 2.4			414-416.5' 20-25% Pyrite + 50-60% CaCO3 + 20-30% Qtz + 5-10% Galena? Pyrite as coarse GRN xstal aggregates & pockets (vugs). Crsely xstline Calcite along 20° to C.A. FCT.					185		.005	.010				
416.5' CONTACT Sharp @ 20°							58								415
416.5'-423' HORNBLENDE DIORITE (MONZ?) PORPH. 1-2% Pyrite in upper 2' or so, fresh, fine grained, blue-grey, Biotite - epidote. 417.5'-420' Highly altered rock w/ lt-Mod Intermediate Qzeth + Carb. 2-3% Pyrite. CONTACT 423' FCTS HVY @ 15°; 40°			416.5-417.5' 1-2% Pyrite diss.; strong alter to Clay w/ CaCO3		10	10		186		.010	.010				
	420		417.5'-420' Lt-Md Qzeth + Jaro; pervasive w/ Clay. 420'-423' 1-2% Pyrite in GRN diss.				420								420
423' - 523.3' DEADWOOD FM. Quartzite			423'-425' 2-3% Pyrite + Tr. Sphal along 25° & 45° FCTS w/ CaCO3 + dolo. & disseminated diss along FCTS. (.5mm-2mm wide); Lt Qzeth + Jaro along 10°-25° FCTS w/ CaCO3.					187		Tr	NF				
															425
426'-436' V. Lt to Lt Brown Quartzite; composed of sgm. Qtz; 3rd Grange Sorted; poorly cemented; FCTS Hvy @ 10°-15°; 40°, 25°, 35°. Bedding Massive							78								
								188		.020	.020				
	430		425'-428' 3-5% Pyrite erratically dist along FCTS & disseminated in Qtzite. FCTS 10°-25° + 45°. .5mm-1mm common FCT 45° @ 426' w/ 2-5mm wide w/ 60-70% Pyrite + 5-10% Sphal + 20-35% CaCO3		10	10								
							430								430
436'-469.5' V. Lt Gy; Lt-Md GRN; Lt Pk BRN Quartzite w/ interbed; 2m - 2m GRN & Lt BRN Shale beds; Quartzite as 426'-436'. FCTS Md-Hvy; 45°; 25°; 60-65°; 10°-15° FCTS (1-15mm) Rarely w/ CaCO3 + Pyrite fill; 45°-65° FCTS 1mm-4mm w/ Sericite w/ CaCO3 + Pyrite & Epidote Chlorite & dolo. FCTS ⊥ to bedding; 10°-20° FCTS xcut by 45-65° FCTS			428'-469.5' 2-3% Pyrite erratically dist in & along FCTS and disseminated in qtzite w/ CaCO3 + dolo.		5	5	79	189		.015	.015				
															435
								190		.015	.015				
	440		439'-443' Pyrite as above and also as irregular blebs replacing cobbles of ? w/ CaCO3 + Epidote. Blebs 2-30% of rock 3mm - 2cm across. Pyrite generally as GRN coarse xstal aggregates		5	4.5									
							440								440
No bedding 40° to C.A. 442.5' LOST approx. 6" CORE; cavity along 35° FCT lined w/ CaCO3 + Qzeth + Jaro.								191		Tr	NF				
							78								445
					5	5									
				HQ NQ	448'			192		NF	NF				
	450						450								450
					5	5									
								193		.005	.010				
															455
							75								
					7.5	7.5		194		Tr	NF				
459' Bedding 46° to C.A.	460						460								460
462' Bedding 45° to C.A.								195		Tr	NF				
															465
					10	10	82								
468' Bedding 45° to C.A.			469.5'-470.5' 1% Pyrite mostly in GRN xstal w/ some along FCTS w/ CaCO3 (5-10% of Pyrite in FCTS.)					196		NF	.01				
	470						470								470
			470.5'-475' 1% Pyrite in FM GRN diss. & in 35°-45° FCTS. Qzeth + Jaro Lt in FCTS 10-25° + 45-60° FCTS; CaCO3 in all FCTS.					197		NF	NF				