6000 0950

Mining District File Summary Sheet

DISTRICT	Rosebud
DIST_NO	4010
COUNTY If different from written on document	Pershing
TITLE If not obvious	Rosebud Drill Hole File – Hole No. SL-D390-00
AUTHOR	D. Mackerrow; B. Morris; K Allen; L. Mackedon
DATE OF DOC(S)	[redacted] 2000
MULTI_DIST Y / (N?) Additional Dist_Nos:	
QUAD_NAME	Sulphur 7.5'
P_M_C_NAME (mine, claim & company names)	Rosebud Mine; Rosebud Project; Rosebud Mining Co. LLC Hecla Mining Co.; Saint Louis
COMMODITY If not obvious	gold; silver
NOTES	Drill log; geology; assay; [redacted]; total depth 665' receipt; hand written notes; downhole camera images photographs NOTE: Scan note on front of folder 73p 4 down hole camera images

Keep docs at about 250 pages if no oversized maps attached
(for every 1 oversized page (>11x17) with text reduce
the amount of pages by ~25)

Revised: 1/22/08

	Initials	Date
SS:	DD	5/12/08
DB:	mah	
SCANNED:		

SL-D390-00

6000 0950 4010

First hole of year 2000

St. Louis drilling program

6600 0959

Hecla MINING COMPANY

- quartz, chalcedony, silicification
- faults, fractures
- FeOx / Hematite
- sulfide
- calcite, carbonate
- argillization, white clays
- propylitization
- potassic alteration
- chlorite, chloritic clays

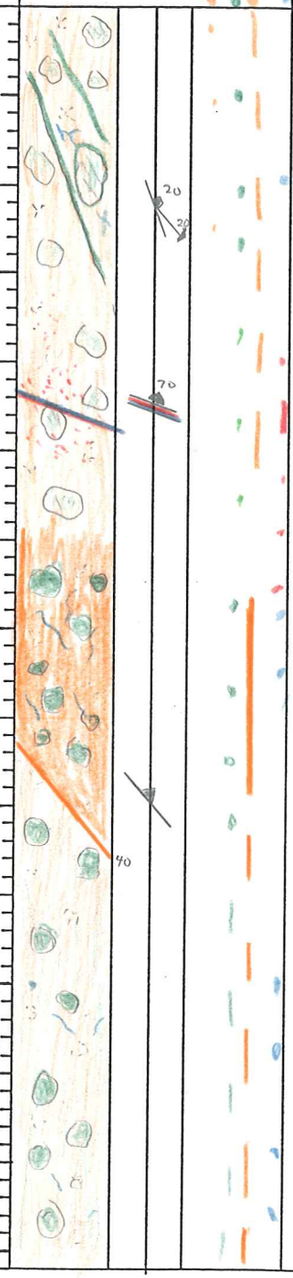
ROSEBUD PROJECT
DIAMOND DRILL LOG

HOLE NUMBER	SL-D390-00	LOCATION	Saint Louis Station 4346
PAGE	1 OF 10	NORTHING	
DATE	3-8-00	EASTING	
LOGGED BY	DG MacKerron	ELEVATION	4346
SCALE	1" = 10'	AZIMUTH	S55E (125°)
TOTAL DEPTH	665	INCLINATION	-55

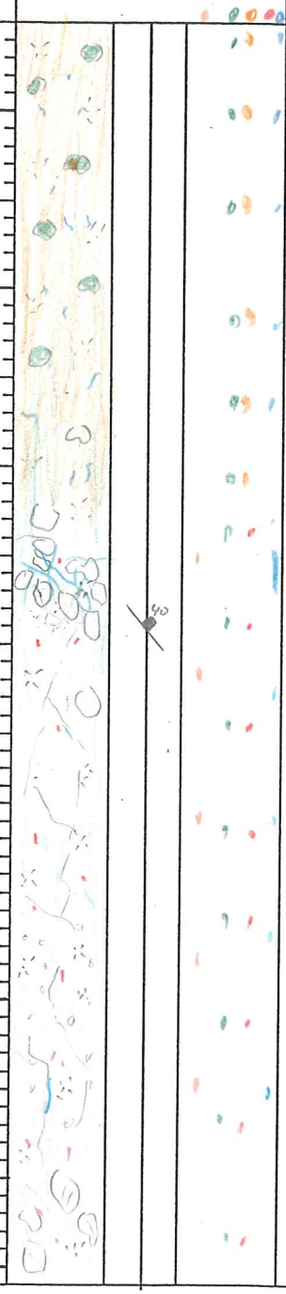
REMARKS

ITH	OX/RE	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2	Ag
Td		0-52.9.3 DOZER Fine grained rhyolite flow. Texture varies between planar foliations and auto brecciation. Hole begins in hematite stained Red brown rock. 32 Autobreccia begins with trace argillic bleaching beginning.	10 20 30 40 50		0-32 Minimal fractures Planar foliation 50° tca 32 Autobreccia texture begins 45 Hematite healed flow boundary breccia ≈ 1" thick	0-27 Hematite stained flow with hematite fracture coating. Locally fractures are rust red. Minor calcite 27 weak argillization bleaching of hematite occurs 32-37 pyrite veinlets in pink flow 42 Fine grain pyrite disseminations begins at ≤ 1%. Local greater accumulations possible 46-47 60° tca calcite veinlets 49 Traces of chloritic/propylitic alteration of breccia clast	NO Samples 0 - 32 32	37					

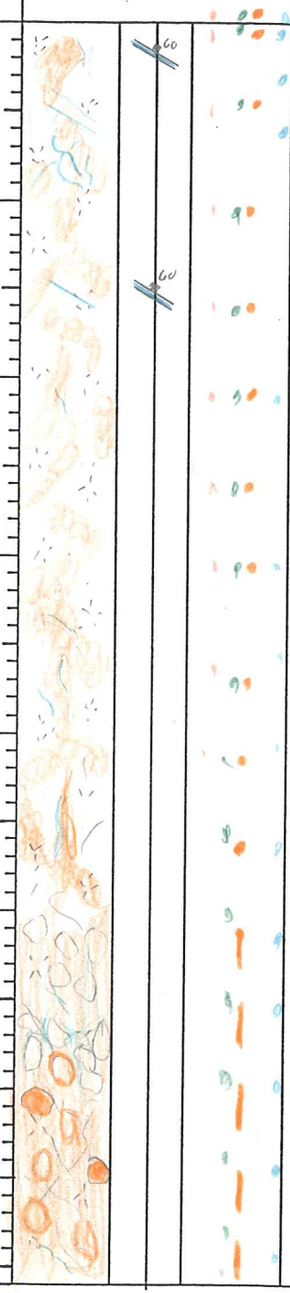
HOLE NUMBER SL-D390-00 PAGE 2 OF 10

ITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
Td		0-52.9.3 DOZER Auto brecciated rhyolite flow continues. Breccia clast are fine grained to planar laminated	50 60 70 80 90 100 110 120		Auto breccia clast are sub angular to sub rounded and poorly sorted 60.5 Fracture with slickensides 20° to fracture axis 70.5-70.7 narrow breccia with pyrite on plane. calcite and white clay 94.5 Sharp hematite boundary	50 Clast become altered green 52-57 locally chloritic staining is moderate 55 white clay on fx very silky feeling 67 disseminated pyrite begins a gradual increase. by 70 feet pyrite is up to 3% 70.5-70.7 tight mosaic breccia with pyrite and calcite vein at 70°+/- 83-94.5 Very heavy hematite Dark brown with chlorite stained clast appearing gray Calcite veinlets increase	72	73				

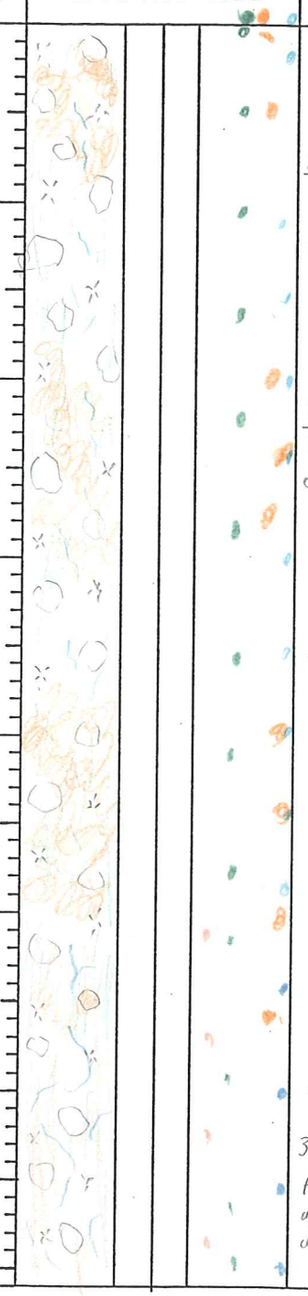
HOLE NUMBER SL-D390-00 PAGE 3 OF 10

ITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
Td		0 - 529.3 DOZER Autobrecciated rylolite continues. Variable levels of hematite staining throughout the core. Low level chloritic alteration and isolated elevated argillization present. 152 - 189 Auto breccia Texture decreases and is generally faint fracture 168.5 - 188 Faint vesicular texture. leves core with small circular spots	120 130 140 150 160 170 180 190		Core is generally not fracture Micro fractures with traces of calcite present 153 hematite healed fracture / breccia	132-196 Faint argillic alteration removes hematite staining Core become pale grayish green 171.5 poorly developed Pyrite agglomerations 196 Hematite staining dominates Core						

HOLE NUMBER SL-D390-00 PAGE 4 OF 10

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
rd		0-529.3 DOZER Autobrecciated fine grained rhyolite flow continues 196 Hematite staining increases core has a mottled brown color with faint chloritic overprint	190 200 210 220 230 240 250 260									

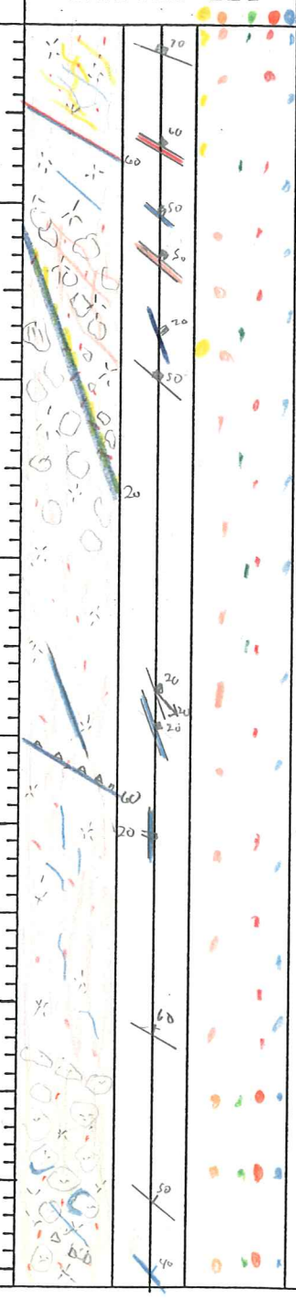
HOLE NUMBER SL-D390-00 PAGE 5 OF 10

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
Td		0-529.3 DOZER Hematite stained Rhyolite Flow. Variable intensity auto breccia texture 266-282 Decreased hematite with chloritic alteration dominate. 317 Weak argillization bleaches hematite out of core. Pale green gray in color	260 270 280 290 300 310 320 330		266-267.5 hematite stains auto breccia matrix 282-289 Hematite stains clast No open fractures 335.5 Healed fracture at 20° tca appears related to auto breccia orientation	Faint reaction of calcite on micro fractures. 266-280 micro hematite specks ≈ 4%						

HOLE NUMBER SL-D390-00 PAGE 6 OF 10

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
Td		0-5294.3 DOZER Fine grained rhyolite flow continues. Autobrecciated texture continues calcite on micro fracture continue 370.5-382 Increasing chloritic matrix to auto breccia. Autobreccia appears to be weathering and becoming crackle breccia to fracture path	330 340 350 360 370 380 390 400			Pyrite levels are way below 1% micro fractures filled by calcite						

HOLE NUMBER SL-D390-00 PAGE 7 OF 10

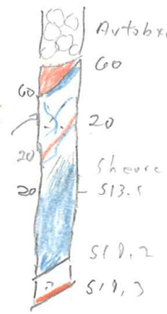
ITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
Td	R	0-529.3 DOZER Fine grained to aphanitic volcanic flow. Local autobrecciation with faint traces of hematite staining auto breccia matrix weakly pink. The general color is pale greenish gray. From 400 First evidence of up coming structure. Pyrite levels increase to 1% + Traces of white clay and calcite. 412-422 Auto breccia is more intense 458-510 Auto breccia begins with a flow contact 70° tca Fine disseminated pyrite present at ≈ 1%. Microscopic disseminated marcasite blebs	400 410 420 430 440 450 460 470		406 Narrow shear 60° to core axis .2' 418-418.4 20° tca breccia with pyrite after marcasite 400-404 Core first has look that a stress has been applied. 438-438.3 sheared zone ground up by drilling 20° tca fracture with 20° oblique slip motion 440.7-440.9 mosaic breccia healed with clays	400-407 qtz veining with calcite and sulfide 412-417 Hydrothermally altered clays in hanging wall(?) of shear at 418 437 99% of chlorite removed by argillization 439 calcite veins with pyrite after marcasite 458 weak argillization over prints propylitic chloritic alteration Calcite fills micro fractures in the core 467.5 ¼" micro breccia dipping at 50° tca Pyrite after marcasite. clay matrix to breccia	400 404.4 407 412 417 418.4 422 427 432 437 439 442 447 452 457 462 467	404.4 407 412 417 418.4 422 427 432 437 439 442 447 452 457 462 467 472					

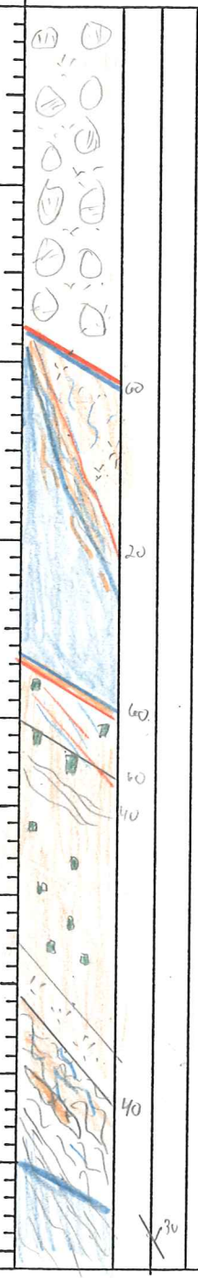
HOLE NUMBER SL-D390-00 PAGE 8 OF 10

ITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
Td		0-529.3 DOZER Fine to aphantic grained rhyolite flow. Auto breccia texture continues 492.7-494.2 First 2" 100ft best of fault with sulfide and silica Footwall of breccia at 492.7-494.2 contains clay healed fractures. 502 Core begins to feel effects of contact with clay fractures begining to show expansion clay is still greenish illite. Similar to other holes in area. 510-512 Auto breccia ends at 510 and dozer is aphanitic. Surface is mottled whites gray 50° tca dark pyrite and calcite vein for ≈ 1". Dozer has higher argillization. AT 511.7 Fracture with sulfide at 20° tca. 512-513.5 Mixed interval of sheared calcite and clay which appears to be porphoritic Dozer	470 480 490 500 510 520 530 540	Calcite VN	492.7-494.2 Clay and weak silica healed brecciated to mosaic breccia dipping 40 tca 499.5 502.3-502.4 Clay healed 70 tca shear 510-522 Fault/Shear zone surrounding large Calcite vein 511.7-513.5 20° tca sheared contact 513.5-515.5 Argillized clay in fractures and along contact with calcite vein	487.5-492 matrix of auto breccia contains greater hematite staining 492.7-494.2 Green Illite? clay support clays in breccia hydrothermal alteration of clays present Py and marcasite blebs in breccia matrix 496.5 ½" irregular calcite vein with pyrite sharp upper plane at 50° tca	472	477				
							477	482				
							482	487				
							487	492.7				
							492.7	494.2				
							494.2	497				
							497	502				
							502	507				
							507	509.8				
							509.8	512				
							512	513.5				
							513.5	515.5				
							515.5	519.2				
							519.2	522				
							522	524.6				
							524.6	528				
							528	529.3				
							529.3	532				
ALS		529.3-665 ALS See page 8A					532	537				
							537	540.5				

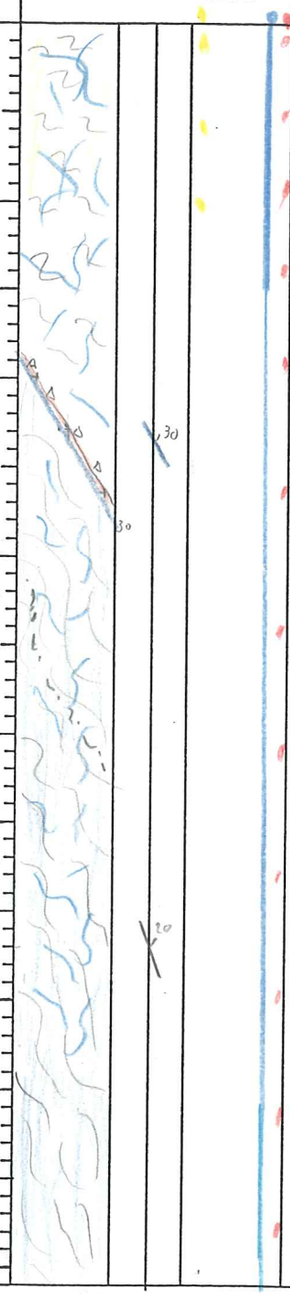
HOLE NUMBER SL-D390-00 PAGE 8A OF

ITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
		Scale 1" = 5'	500									
		509.8 - 522										
		510 Dark sulfide at the contact	505		529.3 ALS Contact. Very Sharp but not with heavy shearing Not truely faulted							
		510-512 aphanitic Dozer										
		513.5-519.2 calcite vein			513.5-519.2 Calcite Vein is fractured and has terminated crystals on open vuggy and fracture							
		519.2-527.	510									
		Porphyritic Dozer chlorite altered phenocryst										
		contact at 519.2 is 60° tca,										
		519.3 60° tca sulfide veinlet calcite filling and in clays.										
		519.3-521.3 40° tca										
		shearing and pyrite veins.	520									
		522-523.5 Aphantic textured with Faint less distinctive phenocryst. Under microscope phenocryst are present				532-532.4 60% argillite intrusive						
		523.5-528 phenocrysts are chloritically altered. Pyrite agglomerations form masses ≈ 1" in diameter			529.3-532.4 ALS is sheared below contact Micro Calcite stockwork							
		528-529.3 Aphantic Dozer similar to 510-512 sheared contact with Porphyry at 40° tca	530			535 Large calcite veins upto 1" and general calcite stockwork begins locally shale is calcareous						





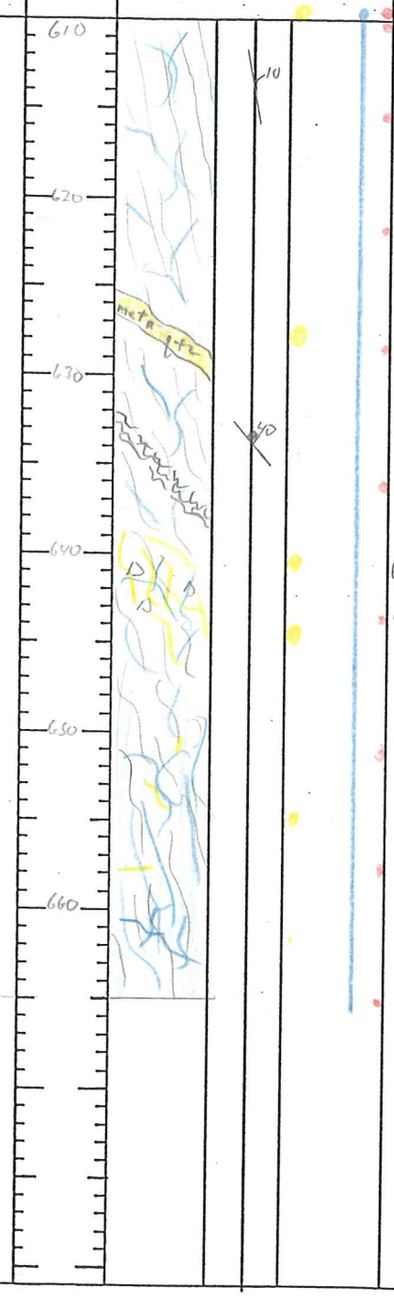
HOLE NUMBER SL-D390-00 PAGE 9 OF 10

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
ALS	R	529.2 - 665 A.L.S. Drill hole was sampled to 542 by samplers instead of 544 Bedding 1 560.5 - 564 1" intrusion bed	540 550 560 570 580 590 600 610		Bedding disruption decreases and by 557 is minimal 563 1" intrusion in fault breccia Though bedding is irregular it is generally high angle to core axis	Rocks are increasing in calcareousness. Calcite veins increase 547-552 Traces of silicification below contact Marcasite blades are present in the als but decrease with depth. Fine disseminated pyrite dominates sulfide below 567 Druzy quartz crystals on broken surfaces.

ANALYTICAL DATA					
FROM	TO	W	Au	Ag	Au2
540.5	542				
542	547				
547	552				
552	557				
557	562				
562	567				

HOLE NUMBER SL-D390-00 PAGE 10 OF 10

ITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
ALS	R	529.2~665 ALS.										
		Phillitic shale contains graphitic bedding parting										
		628-629 metamorphic quartz mass										
		643 core increases in carbonate content										
		TD 665										



633-634
Shear zone

642~643.5
Calcite quartz mosaic bxx

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # SL-D390-00 DATE: 3-8-00 LOGGED BY: D.G. MacKerron PAGE 1 OF 12

DRILL RUN		SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH		FRACTURE DATA				DENSITY DATA			
FROM	TO				DOWNHOLE DEPTH	POINT LOAD INDEX (psi)	FRACTURE DENSITY/FT.	AVG. ANGLE TO C.A.	ROUGHNESS	INFILL	DOWNHOLE DEPTH	SAMPLE WEIGHT (g)	DISPLACEMENT (cc)	DENSITY (g/cc)
0	7	37	54	31										
5	12	100	104	100										
12	17	74	80	50										
17	22	61	88	8										
22	27	100	106	74										
27	32	100	88	70										
32	37	40	74	8										
37	42	96	102	90										
42	47	100	98	100										
47	52	100	98	88										
52	57	100	102	80										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # SL-D390-00 DATE: 3-8-00 LOGGED BY: D.G. MacKerrow PAGE 2 OF 12

DRILL RUN		SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH		FRACTURE DATA				DENSITY DATA			
FROM	TO				DOWNHOLE DEPTH	POINT LOAD INDEX psi	FRACTURE DENSITY/FT.	AVG. ANGLE TO C.A.	ROUGHNESS	INFILL	DOWNHOLE DEPTH	SAMPLE WEIGHT (g)	DISPLACEMENT (cc)	DENSITY g/cc
57	62	100	100	100										
62	67	100	100	94										
67	72	100	98	60										
72	77	98	108	42										
77	82	100	100	100										
82	87	100	100	100										
87	92	100	96	100										
92	97	100	102	100										
97	102	100	102	100										
102	107	100	98	100										
107	112	100	98	100										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # SL-D390-00 DATE: 3-8-00 LOGGED BY: D.G. Mackerron PAGE 3 OF 12

DRILL RUN		SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH		FRACTURE DATA				DENSITY DATA			
FROM	TO				DOWNHOLE DEPTH	POINT LOAD INDEX (psi)	FRACTURE DENSITY/FT.	AVG. ANGLE TO C.A.	ROUGHNESS	INFILL	DOWNHOLE DEPTH	SAMPLE WEIGHT (g)	DISPLACEMENT (cc)	DENSITY (g/cc)
112	117	100	104	100										
117	122	100	100	100										
122	127	100	100	100										
127	132	100	100	100										
132	137	100	102	100										
137	142	100	100	100										
142	147	100	100	100										
147	152	100	102	100										
152	157	100	102	100										
157	162	100	102	100										
162	167	100	100	100										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # SC-D390-00 DATE: 3-9-00 LOGGED BY: D.G. MacKenzie PAGE 4 OF 12

DRILL RUN		SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH		FRACTURE DATA				DENSITY DATA			
FROM	TO				DOWNHOLE DEPTH	POINT LOAD INDEX (psi)	FRACTURE DENSITY (FT.)	AVG. ANGLE TO C.A.	ROUGHNESS	INFILL	DOWNHOLE DEPTH	SAMPLE WEIGHT (g)	DISPLACEMENT (cc)	DENSITY (g/cc)
167	172	100	102	84										
172	177	100	98	100										
177	182	100	102	100										
182	187	100	102	100										
187	192	100	104	100										
192	197	100	100	100										
197	202	100	98	100										
202	207	100	104	100										
207	212	100	102	100										
212	217	100	92	100										
217	222	100	104	92										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # SL-D390-00 DATE: 3-900 LOGGED BY: D.G. MacHerrow PAGE 5 OF 12

DRILL RUN		SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH		FRACTURE DATA				DENSITY DATA			
FROM	TO				DOWNHOLE DEPTH	POINT LOAD INDEX (psi)	FRACTURE DENSITY/FT.	AVG. ANGLE TO C.A.	ROUGHNESS	INFILL	DOWNHOLE DEPTH	SAMPLE WEIGHT (g)	DISPLACEMENT (cc)	DENSITY (g/cc)
222	227	100	106	84										
227	232	100	80	100										
232	237	82	110	82										
237	242	100	102	88										
242	247	100	104	100										
247	252	100	110	100										
252	257	100	102	82										
257	262	100	102	98										
262	267	100	102	100										
267	272	100	102	100										
272	277	100	98	84										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # SL-D390-00 DATE: 3-9-00 LOGGED BY: D.G. Mackerron PAGE 6 OF 12

DRILL RUN		SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH		FRACTURE DATA				DENSITY DATA			
FROM	TO				DOWNHOLE DEPTH	POINT LOAD INDEX (psi)	FRACTURE DENSITY/FT.	AVG. ANGLE TO C.A.	ROUGHNESS	INFILL	DOWNHOLE DEPTH	SAMPLE WEIGHT (g)	DISPLACEMENT (cc)	DENSITY (g/cc)
277	282	100	102	100										
282	287	98	94	92										
287	292	100	104	96										
292	297	100	98	100										
297	302	100	100	100										
302	307	100	96	100										
307	312	100	98	100										
312	317	100	100	100										
317	322	100	98	92										
322	327	100	102	98										
327	332	100	100	84										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # SL-D390-00 DATE: 3-10-00 LOGGED BY: D.G. Mackerrow PAGE 7 OF 12

DRILL RUN		SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH		FRACTURE DATA				DENSITY DATA			
FROM	TO				DOWNHOLE DEPTH	POINT LOAD INDEX (psi)	FRACTURE DENSITY/FT.	AVG. ANGLE TO C.A.	ROUGHNESS	INFILL	DOWNHOLE DEPTH	SAMPLE WEIGHT (g)	DISPLACEMENT (cc)	DENSITY g/cc
332	337	100	94	100										
337	342	100	100	100										
342	347	100	90	92										
347	352	100	104	100										
352	357	100	100	84										
357	362	100	102	100										
362	367	100	98	92										
367	372	100	100	84										
372	377	100	104	90										
377	382	100	100	100										
382	387	100	100	92										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # SL-D390-00 DATE: 2-22-00 LOGGED BY: D.G. MacKenzie PAGE 8 OF 12

DRILL RUN FROM	DRILL RUN TO	SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH DOWNHOLE DEPTH	ROCK STRENGTH POINT LOAD INDEX (psi)	FRACTURE DATA FRACTURE DENSITY/FT.	FRACTURE DATA AVG. ANGLE TO C.A.	FRACTURE DATA ROUGHNESS	FRACTURE DATA INFILL	DENSITY DATA DOWNHOLE DEPTH	DENSITY DATA SAMPLE WEIGHT (g)	DENSITY DATA DISPLACEMENT (cc)	DENSITY DATA DENSITY (g/cc)
387	392	100	100	100										
392	397	100	104	100										
397	402	98	96	82										
402	407	98	100	62										
407	412	100	98	90										
412	417	100	100	60										
417	422	100	100	94										
422	427	100	98	82										
427	432	100	104	100										
432	437	100	90	48										
437	442	97	110	48										
442	447	97	110	92										
447	452	100	100	86										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # SL-0390-00 DATE: 2-22-00 LOGGED BY: O.G. Muckerow PAGE 9 OF 12

DRILL RUN FROM	DRILL RUN TO	SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH DOWNHOLE DEPTH	ROCK STRENGTH POINT LOAD INDEX (psi)	FRACTURE DATA FRACTURE DENSITY/FT.	FRACTURE DATA AVG. ANGLE TO C.A.	FRACTURE DATA ROUGHNESS	FRACTURE DATA INFILL	DENSITY DATA DOWNHOLE DEPTH	DENSITY DATA SAMPLE WEIGHT (g)	DENSITY DATA DISPLACEMENT (cc)	DENSITY DATA DENSITY (g/cc)
452	457	100	100	90										
457	462	100	100	100										
462	467	100	102	94										
467	472	100	100	80										
472	477	100	100	88										
477	482	100	100	100										
482	487	100	100	100										
487	492	100	100	86										
492	497	100	102	94										
497	502	100	102	64										
502	507	100	100	88										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # SL-10390-00 DATE: 2-22-00 LOGGED BY: D.G. Mackenzie PAGE 10 OF 12

DRILL RUN		SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH		FRACTURE DATA				DENSITY DATA			
FROM	TO				DOWNHOLE DEPTH	POINT LOAD INDEX (psi)	FRACTURE DENSITY/FT.	AVG. ANGLE TO C.A.	ROUGHNESS	INFILL	DOWNHOLE DEPTH	SAMPLE WEIGHT (g)	DISPLACEMENT (cc)	DENSITY (g/cc)
507	512	100	102	66										
512	517	60	100	18										
517	522	64	80	10										
522	527	78	100	36										
527	532	92	100	28										
532	537	74	104	100										
537	540.5	0	100	26										
540.5	542	93	140	0										
542	544	0	100	0										
544	547	0	66	0										
547	552	50	100	28										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # SL-D390-00 DATE: 3-11-00 LOGGED BY: D.G. Mackerrow PAGE 11 OF 12

DRILL RUN		SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH		FRACTURE DATA				DENSITY DATA			
FROM	TO				DOWNHOLE DEPTH	POINT LOAD INDEX (psi)	FRACTURE DENSITY/FT.	AVG. ANGLE TO C.A.	ROUGHNESS	INFILL	DOWNHOLE DEPTH	SAMPLE WEIGHT (g)	DISPLACEMENT (cc)	DENSITY (g/cc)
552	557	26	120	0										
557	562	68	106	16										
562	567	70	106	26										
567	572	100	106	74										
572	577	100	100	58										
577	582	66	100	24										
582	587	100	106	30										
587	592	38	100	36										
592	597	44	104	28										
597	602	38	100	10										
602	607	0	100	22										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

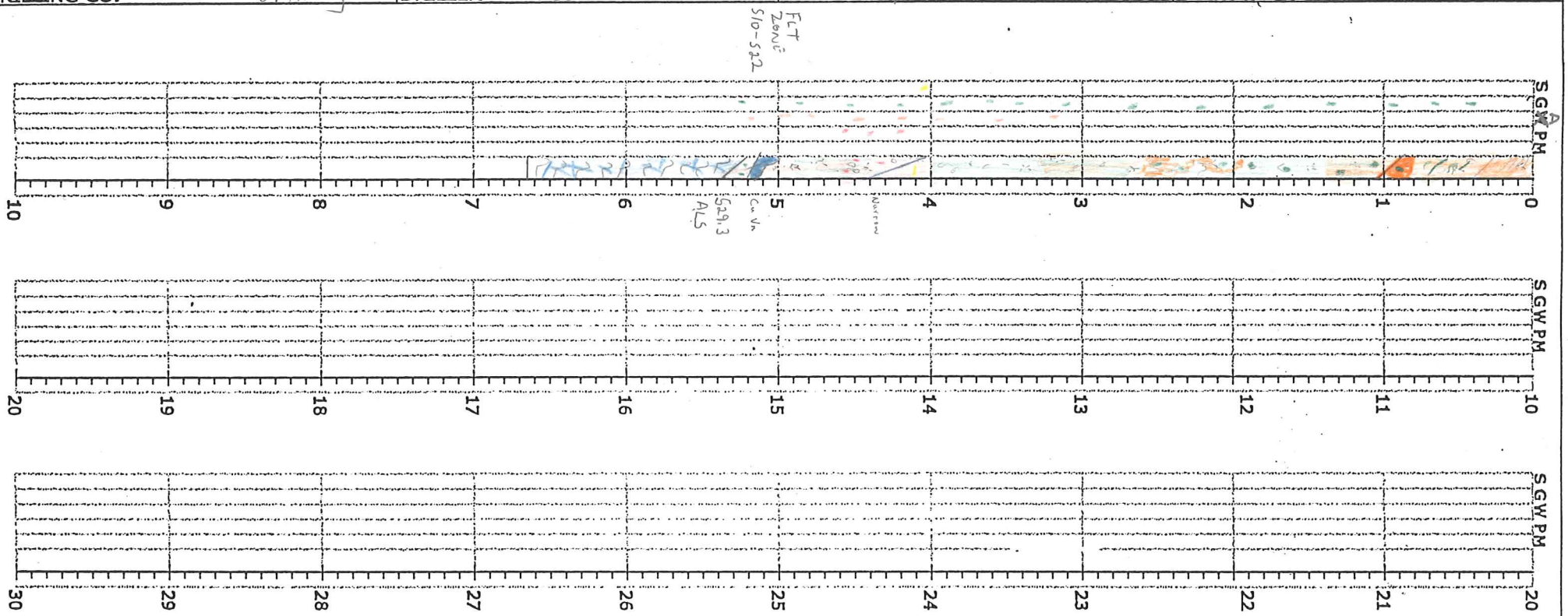
HOLE # SL-D390-00 DATE: 3-11-00 LOGGED BY: D.G. Muckerra PAGE 12 OF 12

DRILL RUN		SOLID CORE	TOTAL CORE	RQD	ROCK STRENGTH		FRACTURE DATA				DENSITY DATA			
FROM	TO	RECOVERY (%)	RECOVERY (%)		DOWNHOLE DEPTH	POINT LOAD INDEX (psi)	FRACTURE DENSITY/FT.	AVG. ANGLE TO C.A.	ROUGHNESS	INFILL	DOWNHOLE DEPTH	SAMPLE WEIGHT (g)	DISPLACEMENT (cc)	DENSITY (g/cc)
607	612	66	110	0										
612	617		90	68										
617	622	0	110	0										
622	627	64	100	12										
627	632	0	100	18										
632	637	100	104	24										
637	642	24	100	22										
642	647	100	94	50										
647	650	0	100	0										
650	655	100	100	48										
655	660	100	98	54										
660	665	100	98	46										

ROSEBUD MINING COMPANY, LLC.

START HOLE	FINISH HOLE	HOLE # SL-D390-00	
HOLE TYPE Core	LOGGED BY		
BEARING S 55E	ANGLE -55	T.D 665	
PAGE 1 OF 1	SURVEYED TO		

COLLAR COORDINATES	
NORTH	
EAST	
ELEV	4346
DRILLING CO. Action Drilling	DRILLER Gorden



ALTERATION INTENSITY

1 WEAK | 2 MODERATE | 3 STRONG

VERITHIN COLOR

737	SILICIFICATION
751	GREEN CLAY
747½	WHITE CLAY
755	PYRITE
757	MARCASITE

GRAPHIC LOG

VERITHIN COLOR	
741	BRECCIA
	FAULT 741
	CONTACT
737	QUARTZ VEIN
741½	CALCITE VEIN
747½	CLAY VEIN
755	PYRITE VEIN

	Hematite
	Silicification
	Py. ± Marcasite
	Chlorite
	Argillization
	Carbonate/Calcite

Sample for 390

32-37 Box 4

72-73 Box 8

400-462 Boxes 44-51

Last sample was only

550-542

call Sue King and correct

Drill hole # SL-D390-00

Down hole depth		Measured Bearing	Corrected Azimuth	Measured Inclination	Corrected Dip
	Quadrant:	SE			
50		70	125.62	57.9	-32.1
450		68.5	127.12	58	-32
510		71	124.62	58.1	-31.9

TD Depth 660

2000 Declination 15.62

SL-D390-00

Depth From	Depth To	Interval Length	Au	Ag	Sample Count
462	467	5	x	x	1
467	472	5	x	x	2
472	477	5	x	x	3
477	482	5	x	x	4
482	487	5	x	x	5
487	492.7	5.7	x	x	6
492.7	494.2	1.5	x	x	7
494.2	497	2.8	x	x	8
497	502	5	x	x	9
502	507	5	x	x	10
507	509.8	2.8	x	x	11
509.8	512	2.2	x	x	12
512	513.5	1.5	x	x	13
513.5	515.5	2	x	x	14
515.5	519.2	3.7	x	x	15
519.2	522	2.8	x	x	16
522	524.6	2.6	x	x	17
524.6	528	3.4	x	x	18
528	529.3	1.3	x	x	19
529.3	532	2.7	x	x	20
532	537	5	x	x	21
537	540.5	3.5	x	x	22
540.5	542 [redacted]	3.5	x	x	23

Drill hole #	SL-390-00				
Down hole depth		Measured Bearing	Corrected Azimuth	Measured Inclination	Corrected Dip
	Quadrant:	SE			
50		70	125.62	57.9	-32.1
450		68.5	127.12	58	-32
510		71	124.62	58.1	-31.9

TD Depth 660

2000 Declination 15.62

xAMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP056647

American Assay Laboratories

PO BOX 11530
RENO NV,USA
Ph.(775) 356-0606, Fax.(775) 356-1413

HECLA MINING COMPANY

COPIES TO : BRIAN MORRIS

: KURT ALLEN

:

:

CLIENT REFERENCE No: SL-D390-00

No. SAMPLES : 24

MAIN SAMPLE TYPE : DRILL CORE

RECEIVED : 20 MAR 2000

REPORTED : 4 APR 2000

NEVADA LEGISLATIVE DISCLAIMER :-
The results of this assay were based solely upon the content of the sample submitted. Any decision to invest should be made only after the potential investment value of the claim or deposit has been determined based on the results of assays of multiple samples of geological materials collected by the prospective investor or by a qualified person selected by him and based on an evaluation of all engineering data which is available concerning any proposed project.

ANALYSIS	ANALYTICAL METHOD	QUALITY PARAMETER	UNIT	DETECTION
Au(OZ)	FA30	15%	OPT	0.001
Au(RZ)	FA30	15%	OPT	0.001
Ag(OZ)	D210	10%	OPT	0.02

SIGNATORY : Leonard E. Mackedon B.S.

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP056647

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD
REFERENCE : SL-D390-00

REPORTED : 4 APR 2000

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag(OZ) D210 OPT
SL-D390-00 32-37	0.001		<0.02
SL-D390-00 72-73	0.004		0.06
SL-D390-00 400.0-404.4	0.002		<0.02
SL-D390-00 404.7-407.0	0.002		0.02
SL-D390-00 407-412	<0.001		<0.02
SL-D390-00 412-417	0.001	0.001	0.02
SL-D390-00 417.0-418.4	0.004		<0.02
SL-D390-00 418.4-422.0	0.002		0.02
SL-D390-00 422-427	<0.001		<0.02
SL-D390-00 427-432	<0.001		<0.02
SL-D390-00 432-437	<0.001		<0.02
SL-D390-00 437-439	0.002	0.003	<0.02
SL-D390-00 439-442	0.004		0.04
SL-D390-00 442-447	0.006		<0.02
SL-D390-00 447-452	0.001		<0.02
SL-D390-00 452-457	0.001		<0.02
SL-D390-00 457-462	0.006	0.005	0.02
SL-D390-00 462-467	0.003		0.03
SL-D390-00 542-547	0.010		0.06
SL-D390-00 547-552	0.038	0.052	0.06
SL-D390-00 552-557	0.003		0.07
SL-D390-00 557-562	<0.001	0.001	0.05
SL-D390-00 562-567	0.001		0.06
76026	0.173		ISF

xAMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP056647

American Assay Laboratories

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RENO NV,USA
Ph.(775) 356-0606, Fax.(775) 356-1413

HECLA MINING COMPANY

COPIES TO : BRIAN MORRIS

: KURT ALLEN

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CLIENT REFERENCE No: SL-D390-00 RECEIVED : 20 MAR 2000

No. SAMPLES : 24 REPORTED : 4 APR 2000

MAIN SAMPLE TYPE : DRILL CORE

NEVADA LEGISLATIVE DISCLAIMER :-
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Au(OZ)	FA30	15%	OPT	0.001
Au(RZ)	FA30	15%	OPT	0.001
Ag(OZ)	D210	10%	OPT	0.02

SIGNATORY : Leonard E. Mackedon B.S.

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP056647

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD
REFERENCE : SL-D390-00

REPORTED : 4 APR 2000

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag(OZ) D210 OPT
SL-D390-00 32-37	0.001		<0.02
SL-D390-00 72-73	0.004		0.06
SL-D390-00 400.0-404.4	0.002		<0.02
SL-D390-00 404.7-407.0	0.002		0.02
SL-D390-00 407-412	<0.001		<0.02
SL-D390-00 412-417	0.001	0.001	0.02
SL-D390-00 417.0-418.4	0.004		<0.02
SL-D390-00 418.4-422.0	0.002		0.02
SL-D390-00 422-427	<0.001		<0.02
SL-D390-00 427-432	<0.001		<0.02
SL-D390-00 432-437	<0.001		<0.02
SL-D390-00 437-439	0.002	0.003	<0.02
SL-D390-00 439-442	0.004		0.04
SL-D390-00 442-447	0.006		<0.02
SL-D390-00 447-452	0.001		<0.02
SL-D390-00 452-457	0.001		<0.02
SL-D390-00 457-462	0.006	0.005	0.02
SL-D390-00 462-467	0.003		0.03
SL-D390-00 542-547	0.010		0.06
SL-D390-00 547-552	0.038	0.052	0.06
SL-D390-00 552-557	0.003		0.07
SL-D390-00 557-562	<0.001	0.001	0.05
SL-D390-00 562-567	0.001		0.06
76026	0.173		ISF

American Assay Laboratories

INVOICE

Remit To: P.O. Box11530
Reno, Nevada 89510
Phone NO.: 702-356-0606
Fax No.: 702-356-1413

AMERICAN ASSAY LABORATORIES
1500 GLENDALE AVE.
SPARKS, NV 89431-5902

(775) 356-0606

INVOICE NO: SP 0056647-IN
INVOICE DATE: 04/05/00

INVOICE TO:
THE ROSEBUD MINING CO., LLC
HECLA MINING COMPANY, OPERATOR
P.O. BOX 2610
WINNEMUCCA NV 89446

THE ROSEBUD MINING CO., LLC
HECLA MINING COMPANY, OPERATOR
P.O. BOX 2610
WINNEMUCCA NV 89446

CUSTOMER P.O.	PROJECT	TERMS
SL-D390-00	KURT ALLEN	NET 30 - DUE IN U.S. DOLLARS

QUANTITY	DESCRIPTION	PRICE	AMOUNT
24	SAMPLES RECEIVED	.00	.00
1	NO PREPARATION REQUIRED	.00	.00
23	DRY/JAW CRUSH ENTIRE SAMPLE	3.40	78.20
23	COARSE MILLING CHARGE	8.00	184.00
23	ROTARY SPLIT	3.00	69.00
23	RING/PUCK MILL	2.00	46.00
24	Au (1 A.T. FIRE ASSAY)	8.00	192.00
24	HYDROCHLORIC/NITRIC DIGESTION	2.00	48.00
24	Ag ANALYSES	1.00	24.00

86-3010-477
KDA

NET INVOICE:	641.20
LESS DISCOUNT:	192.36
FREIGHT:	.00
INVOICE TOTAL:	448.84

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP056647

PO BOX 11530
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Ph.(775) 356-0606, Fax.(775) 356-1413

HECLA MINING COMPANY

COPIES TO : BRIAN MORRIS

: KURT ALLEN

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CLIENT REFERENCE No: SL-D390-00 RECEIVED : 20 MAR 2000

No. SAMPLES : 24 REPORTED : 4 APR 2000

MAIN SAMPLE TYPE : DRILL CORE

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ANALYSIS	ANALYTICAL METHOD	QUALITY PARAMETER	UNIT	DETECTION
Au(OZ)	FA30	15%	OPT	0.001
Au(RZ)	FA30	15%	OPT	0.001
Ag(OZ)	D210	10%	OPT	0.02

SIGNATORY : Leonard E. Mackedon B.S.

04/04/2000 14:32 7753561413 AMERICAN ASSAY LABS PAGE 01
7753561413

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP056647

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD
REFERENCE : SL-D390-00

REPORTED : 4 APR 2000

SAMPLES	Au(OZ)	Au(RZ)	Ag(OZ)
SL-D390-00 32-37	0.001		<0.02
SL-D390-00 72-73	0.004		0.06
SL-D390-00 400.0-404.4	0.002		<0.02
SL-D390-00 404.7-407.0	0.002		0.02
SL-D390-00 407-412	<0.001		<0.02
SL-D390-00 412-417	0.001	0.001	0.02
SL-D390-00 417.0-418.4	0.004		<0.02
SL-D390-00 418.4-422.0	0.002		0.02
SL-D390-00 422-427	<0.001		<0.02
SL-D390-00 427-432	<0.001		<0.02
SL-D390-00 432-437	<0.001		<0.02
SL-D390-00 437-439	0.002	0.003	<0.02
SL-D390-00 439-442	0.004		0.04
SL-D390-00 442-447	0.006		<0.02
SL-D390-00 447-452	0.001		<0.02
SL-D390-00 452-457	0.001		<0.02
SL-D390-00 457-462	0.006	0.005	0.02
SL-D390-00 462-467	0.003		0.03
SL-D390-00 542-547	0.010		0.06
SL-D390-00 547-552	0.038	0.052	0.06
SL-D390-00 552-557	0.003		0.07
SL-D390-00 557-562	<0.001	0.001	0.05
SL-D390-00 562-567	0.001		0.06
76026	0.173		ISF

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP056647

PO BOX 11530
RENO NV,USA
Ph.(775) 356-0606, Fax (775) 356-1413

HECLA MINING COMPANY

COPIES TO : BRIAN MORRIS

: KURT ALLEN

:

:

N21

CLIENT REFERENCE No: SL-D390-00 RECEIVED : 20 MAR 2000

No. SAMPLES : 24 REPORTED : 24 MAR 2000

MAIN SAMPLE TYPE : DRILL CORE

NEVADA LEGISLATIVE DISCLAIMER :-
The results of this assay were based solely upon the content of the sample submitted. Any decision to invest should be made only after the potential investment value of the claim or deposit has been determined based on the results of assays of multiple samples of geological materials collected by the prospective investor or by a qualified person selected by him and based on an evaluation of all engineering data which is available concerning any proposed project.

ANALYSIS	ANALYTICAL METHOD	QUALITY PARAMETER	UNIT	DETECTION
Au(OZ)	FA30	15%	OPT	0.001
Au(RZ)	FA30	15%	OPT	0.001
Ag(OZ)	D210	10%	OPT	0.02

SIGNATORY : Leonard E. Mackedon B.S.

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP056647

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD
REFERENCE : SL-D390-00

REPORTED : 24 MAR 2000

SAMPLES		Au(OZ)	Au(RZ)	Ag(OZ)
SL-D390-00	32-37	0.001		
SL-D390-00	72-73	0.004		
SL-D390-00	400.0-404.4	0.002		
SL-D390-00	404.7-407.0	0.002		
SL-D390-00	407-412	<0.001		
SL-D390-00	412-417	0.001	0.001	
SL-D390-00	417.0-418.4	0.004		
SL-D390-00	418.4-422.0	0.002		
SL-D390-00	422-427	<0.001		
SL-D390-00	427-432	<0.001		
SL-D390-00	432-437	<0.001		
SL-D390-00	437-439	0.002	0.003	
SL-D390-00	439-442	0.004		
SL-D390-00	442-447	0.006		
SL-D390-00	447-452	0.001		
SL-D390-00	452-457	0.001		
SL-D390-00	457-462	0.006	0.005	
SL-D390-00	462-467	0.003		
SL-D390-00	542-547	0.010		
SL-D390-00	547-552	0.038	0.052	
SL-D390-00	552-557	0.003		
SL-D390-00	557-562	<0.001	0.001	
SL-D390-00	562-567	0.001		
76026		0.173		

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ANALYSIS REPORT SP056510

American Assay Laboratories

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HECLA MINING COMPANY

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: KURT ALLEN

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CLIENT REFERENCE No: SLD-390-00 RECEIVED : 8 MAR 2000

No. SAMPLES : 24 REPORTED : 24 MAR 2000

MAIN SAMPLE TYPE : DRILL CORE

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ANALYSIS	ANALYTICAL METHOD	QUALITY PARAMETER	UNIT	DETECTION
Au(OZ)	FA30	15%	OPT	0.001
Au(RZ)	FA30	15%	OPT	0.001
Ag(OZ)	D210	10%	OPT	0.02

SIGNATORY : Leonard E. Mackedon B.S.

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP056510

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD
REFERENCE : SLD-390-00

REPORTED : 24 MAR 2000

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag(OZ) D210 OPT
SLD-390-00 462-467	0.014		0.16
SLD-390-00 467-472	0.007		<0.02
SLD-390-00 472-477	<0.001		<0.02
SLD-390-00 477-482	<0.001	<0.001	<0.02
SLD-390-00 482-487	<0.001		<0.02
SLD-390-00 487.0-492.7	<0.001		<0.02
SLD-390-00 492.7-494.2	0.009		<0.02
SLD-390-00 494.2-497.0	0.042		0.08
SLD-390-00 497-502	<0.001		<0.02
SLD-390-00 502-507	0.001		<0.02
SLD-390-00 507.0-509.8	0.002		<0.02
SLD-390-00 509.8-512.0	0.002		0.02
SLD-390-00 512.0-513.5	0.002		0.04
SLD-390-00 513.5-515.5	<0.001	0.001	<0.02
SLD-390-00 515.5-519.2	<0.001		<0.02
SLD-390-00 519.2-522.0	0.003		0.03
SLD-390-00 522.0-524.6	0.002		<0.02
SLD-390-00 524.6-528.0	0.010		0.02
SLD-390-00 528.0-529.3	0.001		<0.02
SLD-390-00 529.3-532.0	<0.001		0.04
SLD-390-00 532-537	0.014	0.012	0.07
SLD-390-00 537.0-540.5	0.005		0.07
SLD-390-00 540.5-542.0	0.004		0.05
76040	0.423		3.43

XAMERICAN ASSAY LABORATORIES
ANALYSIS REPORT SP056510

American Assay Laboratories

PO BOX 11330
RENO NV,USA
Ph.(775) 356-0606, Fax.(775) 356-1413

HECLA MINING COMPANY

COPIES TO : BRIAN MORRIS

: KURT ALLEN

:

:

CLIENT REFERENCE No: SLD-390-00 RECEIVED : 8 MAR 2000

No. SAMPLES : 24 REPORTED : 24 MAR 2000

MAIN SAMPLE TYPE : DRILL CORE

NEVADA LEGISLATIVE DISCLAIMER :-
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ANALYSIS	ANALYTICAL METHOD	QUALITY PARAMETER	UNIT	DETECTION
Au(OZ)	FA30	15%	OPT	0.001
Au(RZ)	FA30	15%	OPT	0.001
Ag(OZ)	D210	10%	OPT	0.02

86-3010-077
GH

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP056510

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD
REFERENCE : SLD-390-00

REPORTED : 24 MAR 2000

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag(OZ) D210 OPT
SLD-390-00 462-467	0.014		0.16
SLD-390-00 467-472	0.007		<0.02
SLD-390-00 472-477	<0.001		<0.02
SLD-390-00 477-482	<0.001	<0.001	<0.02
SLD-390-00 482-487	<0.001		<0.02
SLD-390-00 487.0-492.7	<0.001		<0.02
SLD-390-00 492.7-494.2	0.009		<0.02
SLD-390-00 494.2-497.0	0.042		0.08
SLD-390-00 497-502	<0.001		<0.02
SLD-390-00 502-507	0.001		<0.02
SLD-390-00 507.0-509.8	0.002		<0.02
SLD-390-00 509.8-512.0	0.002		0.02
SLD-390-00 512.0-513.5	0.002		0.04
SLD-390-00 513.5-515.5	<0.001	0.001	<0.02
SLD-390-00 515.5-519.2	<0.001		<0.02
SLD-390-00 519.2-522.0	0.003		0.03
SLD-390-00 522.0-524.6	0.002		<0.02
SLD-390-00 524.6-528.0	0.010		0.02
SLD-390-00 528.0-529.3	0.001		<0.02
SLD-390-00 529.3-532.0	<0.001		0.04
SLD-390-00 532-537	0.014	0.012	0.07
SLD-390-00 537.0-540.5	0.005		0.07
SLD-390-00 540.5-542.0	0.004		0.05
76040	0.423		3.43

American Assay Laboratories

INVOICE

Remit To: P.O. Box11530
Reno, Nevada 89510
Phone NO.: 702-356-0606
Fax No.: 702-356-1413

AMERICAN ASSAY LABORATORIES
1500 GLENDALE AVE.
SPARKS, NV 89431-5902

(775) 356-0606

INVOICE NO: SP 0056510-IN
INVOICE DATE: 03/23/00

INVOICE TO:
THE ROSEBUD MINING CO., LLC
HECLA MINING COMPANY, OPERATOR
P.O. BOX 2610
WINNEMUCCA NV 89446

THE ROSEBUD MINING CO., LLC
HECLA MINING COMPANY, OPERATOR
P.O. BOX 2610
WINNEMUCCA NV 89446

CUSTOMER P.O.	PROJECT	TERMS
SLD-390-00	KURT ALLEN	NET 30 - DUE IN U.S. DOLLARS

QUANTITY	DESCRIPTION	PRICE	AMOUNT
24	SAMPLES RECEIVED	.00	.00
1	NO PREPARATION REQUIRED	.00	.00
23	DRY/JAW CRUSH ENTIRE SAMPLE	2.30	52.90
23	COARSE MILLING CHARGE	6.00	138.00
23	ROTARY SPLIT	2.40	55.20
23	RING/PUCK MILL	2.00	46.00
24	Au (1 A.T. FIRE ASSAY)	8.00	192.00
24	HYDROCHLORIC/NITRIC DIGESTION	2.00	48.00
24	Ag ANALYSES	1.00	24.00

86-3010-477

NET INVOICE:	556.10
LESS DISCOUNT:	166.83
FREIGHT:	.00
INVOICE TOTAL:	389.27

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP056510

PO BOX 11530
RENO NV,USA
Ph.(775) 356-0606, Fax.(775) 356-1413

HECLA MINING COMPANY

COPIES TO : BRIAN MORRIS

: KURT ALLEN

:

:

NSI

CLIENT REFERENCE No: SLD-390-00 RECEIVED : 8 MAR 2000

No. SAMPLES : 24 REPORTED : 24 MAR 2000

MAIN SAMPLE TYPE : DRILL CORE

NEVADA LEGISLATIVE DISCLAIMER :-
The results of this assay were based solely upon the content of the sample submitted. Any decision to invest should be made only after the potential investment value of the claim or deposit has been determined based on the results of assays of multiple samples of geological materials collected by the prospective investor or by a qualified person selected by him and based on an evaluation of all engineering data which is available concerning any proposed project.

ANALYSIS	ANALYTICAL METHOD	QUALITY PARAMETER	UNIT	DETECTION
Au(OZ)	FA30	15%	OPT	0.001
Au(RZ)	FA30	15%	OPT	0.001
Ag(OZ)	D210	10%	OPT	0.02

SIGNATORY : Leonard E. Mackedon B.S.

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP056510

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD
REFERENCE : SLD-390-00

REPORTED : 24 MAR 2000

SAMPLES		Au(OZ)	Au(RZ)	Ag(OZ)
SLD-390-00	462-467	0.014		0.16
SLD-390-00	467-472	0.007		<0.02
SLD-390-00	472-477	<0.001		<0.02
SLD-390-00	477-482	<0.001	<0.001	<0.02
SLD-390-00	482-487	<0.001		<0.02
SLD-390-00	487.0-492.7	<0.001		<0.02
SLD-390-00	492.7-494.2	0.009		<0.02
SLD-390-00	494.2-497.0	0.042		0.08
SLD-390-00	497-502	<0.001		<0.02
SLD-390-00	502-507	0.001		<0.02
SLD-390-00	507.0-509.8	0.002		<0.02
SLD-390-00	509.8-512.0	0.002		0.02
SLD-390-00	512.0-513.5	0.002		0.04
SLD-390-00	513.5-515.5	<0.001	0.001	<0.02
SLD-390-00	515.5-519.2	<0.001		<0.02
SLD-390-00	519.2-522.0	0.003		0.03
SLD-390-00	522.0-524.6	0.002		<0.02
SLD-390-00	524.6-528.0	0.010		0.02
SLD-390-00	528.0-529.3	0.001		<0.02
SLD-390-00	529.3-532.0	<0.001		0.04
SLD-390-00	532-537	0.014	0.012	0.07
SLD-390-00	537.0-540.5	0.005		0.07
SLD-390-00	540.5-542.0	0.004		0.05
76040		0.423		3.43

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP056510

PO BOX 11530
RENO NV,USA
Ph.(775) 356-0606, Fax.(775) 356-1413

HECLA MINING COMPANY

COPIES TO : BRIAN MORRIS

: KURT ALLEN

:

:

CLIENT REFERENCE No: SLD-390-00 RECEIVED : 8 MAR 2000

No. SAMPLES : 24 REPORTED : 17 MAR 2000

MAIN SAMPLE TYPE : DRILL CORE

NEVADA LEGISLATIVE DISCLAIMER :-
The results of this assay were based solely upon the content of the sample submitted. Any decision to invest should be made only after the potential investment value of the claim or deposit has been determined based on the results of assays of multiple samples of geological materials collected by the prospective investor or by a qualified person selected by him and based on an evaluation of all engineering data which is available concerning any proposed project.

ANALYSIS	ANALYTICAL METHOD	QUALITY PARAMETER	UNIT	DETECTION
Au(OZ)	FA30	15%	OPT	0.001
Au(RZ)	FA30	15%	OPT	0.001
Ag(OZ)	D210	10%	OPT	0.02

SIGNATORY : Leonard E. Mackedon B.S.

03/17/2000 16:36 7753561413 AMERICAN ASSAY LABS PAGE 03

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP056510

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD
REFERENCE : SLD-390-00

REPORTED : 17 MAR 2000

SAMPLES		Au(OZ)	Au(RZ)	Ag(OZ)
SLD-390-00	462-467	0.014		
SLD-390-00	467-472	0.007		
SLD-390-00	472-477	<0.001		
SLD-390-00	477-482	<0.001	<0.001	
SLD-390-00	482-487	<0.001		
SLD-390-00	487.0-492.7	<0.001		
SLD-390-00	492.7-494.2	0.009		
SLD-390-00	494.2-497.0	0.042		
SLD-390-00	497-502	<0.001		
SLD-390-00	502-507	0.001		
SLD-390-00	507.0-509.8	0.002		
SLD-390-00	509.8-512.0	0.002		
SLD-390-00	512.0-513.5	0.002		
SLD-390-00	513.5-515.5	<0.001	0.001	
SLD-390-00	515.5-519.2	<0.001		
SLD-390-00	519.2-522.0	0.003		
SLD-390-00	522.0-524.6	0.002		
SLD-390-00	524.6-528.0	0.010		
SLD-390-00	528.0-529.3	0.001		
SLD-390-00	529.3-532.0	<0.001		
SLD-390-00	532-537	0.014	0.012	
SLD-390-00	537.0-540.5	0.005		
SLD-390-00	540.5-542.0	0.004		
76040		0.423		

SP

SUBMITTAL FORM

American Assay Laboratories

Geochemical • Environmental • Metallurgical

Sparks Office
1500 Glendale Ave.
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(520) 294-6352

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2320 Last Chance Rd.
Nevada 89801
Box 2908
Elko, NV 89801
Telephone
(702) 738-9100
Fax
(702) 738-2594

Zacatecas Office
Telephone/Fax
011-52-49-234530

Other Offices
Lima, Peru
Santiago, Chile
Mendoza, Argentina

Company: Hecla Mining Corp

Address: POB 2616

City: Winnemucca State: NV. Zip: 89446

Telephone Number: (775) 623 6912 Fax Number: (775) 623 6917

Project Name: Rosebud Purchase Order Number:

Date Submitted: 3-7-00 Number of Samples: 23

RESULTS REPORTED IN: ppm [ ] ppb [ ] opt [/]

SLD 390.00 SAMPLE IDENTIFICATION		TYPE	ELEMENTS REQUIRED
462 - 467	519.2 - 522	Core	Au, Ag with Rosebud code
467 - 472	522 - 524.6		sample protocol
472 - 477	524.6 - 528		
477 - 482	528 - 529.3		
482 - 487	529.3 - 532		
487 - 492.7	532 - 537		
492.7 - 494.2	537 - 540.5		
494.2 - 497	540.5 - 544		
497 - 502	~~544~~ -		
502 - 507			
507 - 509.8			
509.8 - 512			
512 - 513.5			
513.5 - 515.5			
515.5 - 519.2			

COARSE REJECTS (Normally Discarded After 60 Days)

[ ] Return COD after analysis complete

PULPS (Normally Stored Free For One Month)

[ ] Discard after one month
[ ] Return COD after one month

RESULTS AND INVOICES TO BE SENT TO:

Invoice to: Kurt Allen
S.A.A.

Results to: Kurt Allen
S.A.A.

Comments:

CLIENT FILE COPY

SP

SUBMITTAL FORM

American Assay Laboratories

Geochemical • Environmental • Metallurgical

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2775 E. Ganley
Tucson, AZ 85706
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Fax
(520) 294-6352

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2320 Last Chance Rd.
Nevada 89801
Box 2908
Elko, NV 89801
Telephone
(702) 738-9100
Fax
(702) 738-2594

Zacatecas Office
Telephone/Fax
011-52-49-234530

Other Offices
Lima, Peru
Santiago, Chile
Mendoza, Argentina

Company: ROSEBUD MINING LLC

Address: P.O. BOX 2610

City WINNEMUCCA State NV Zip 89446

Telephone Number: (775) 623 6912 Fax Number: (775) 623-6967

Project Name: _____ Purchase Order Number: _____

Date Submitted: 2-17-00 Number of Samples: 23

RESULTS REPORTED IN: ppm [ ] ppb [ ] opt [✓]

SAMPLE IDENTIFICATION	TYPE	ELEMENTS REQUIRED
SL-D010-00	CORE	AU, AG USE
[illegible]		ROSEBUD MINE DEVELOPMENT
		PROTOCOL
1 ROSEBUD PRODUCTION STANDARDS		
AT END OF RUN	PULP	

COARSE REJECTS (Normally Discarded After 60 Days)

[✓] Return COD after analysis complete

PULPS (Normally Stored Free For One Month)

[ ] Discard after one month

[✓] Return COD after one month

RESULTS AND INVOICES TO BE SENT TO:

Invoice to:

KURT ALLEN

Results to:

KURT ALLEN

Comments:

CLIENT FILE COPY

SL-D390-00

Depth From	To	Interval	Au	Ag	Sample Number
32	37	5	x	x	1
72	73	1	x	x	2
400	404.4	4.4	x	x	3
404.4	407	2.6	x	x	4
407	412	5	x	x	5
412	417	5	x	x	6
417	418.4	1.4	x	x	7
418.4	422	3.6	x	x	8
422	427	5	x	x	9
427	432	5	x	x	10
432	437	5	x	x	11
437	439	2	x	x	12
439	442	3	x	x	13
442	447	5	x	x	14
447	452	5	x	x	15
452	457	5	x	x	16
457	462	5	x	x	17
462	467	5	x	x	18
542	547	5	x	x	19
547	552	5	x	x	20
552	557	5	x	x	21
557	562	5	x	x	22
562	567	5	x	x	23

SLD 390-00 BOX
DEPTH 12. - 22.5

SLD 390-00 BOX 1
DEPTH 0. - 12.

SLD 390-00 BOX 3
DEPTH 22.5 - 32.

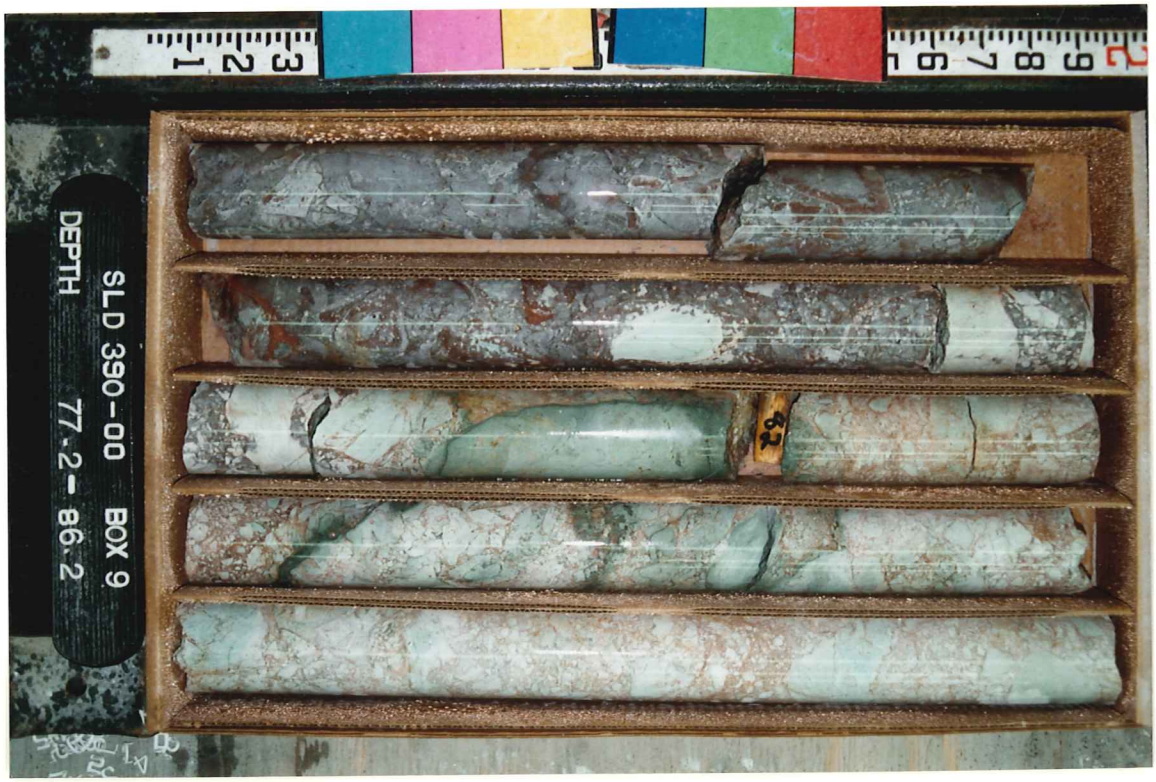
47
42
SLD 390-00 BOX 5

42
37
32
SLD 390-00 BOX 4

SLD 390-00 BOX 6
DEPTH 51- 58

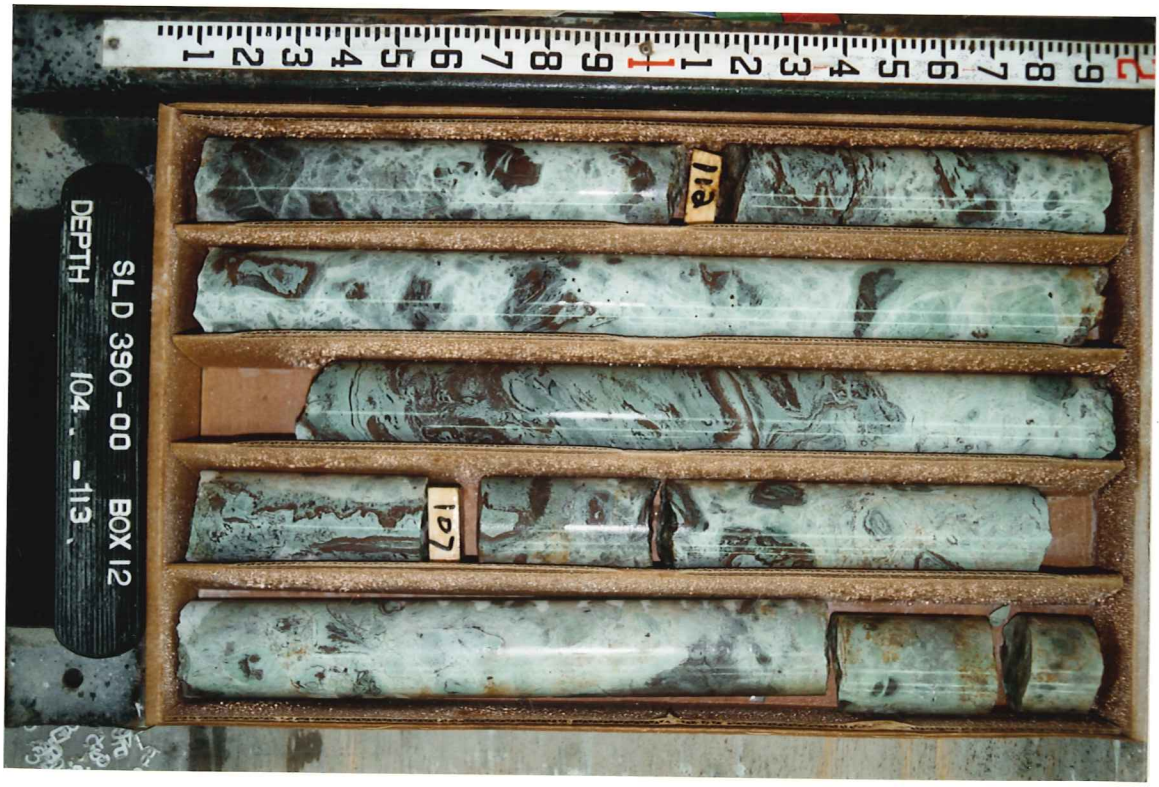
SLD 390-00 BOX 8
DEPTH 69.9 - 77.2

SLD 390-00 BOX 7
DEPTH 58. - 69.9


SLD 390-00 BOX 9
DEPTH 77.2 - 86.2

97
102
SLD 390-00 BOX 11
DEPTH 96 . -104.

92
87
SLD 390-00 BOX 10
DEPTH 86.8 - 96.

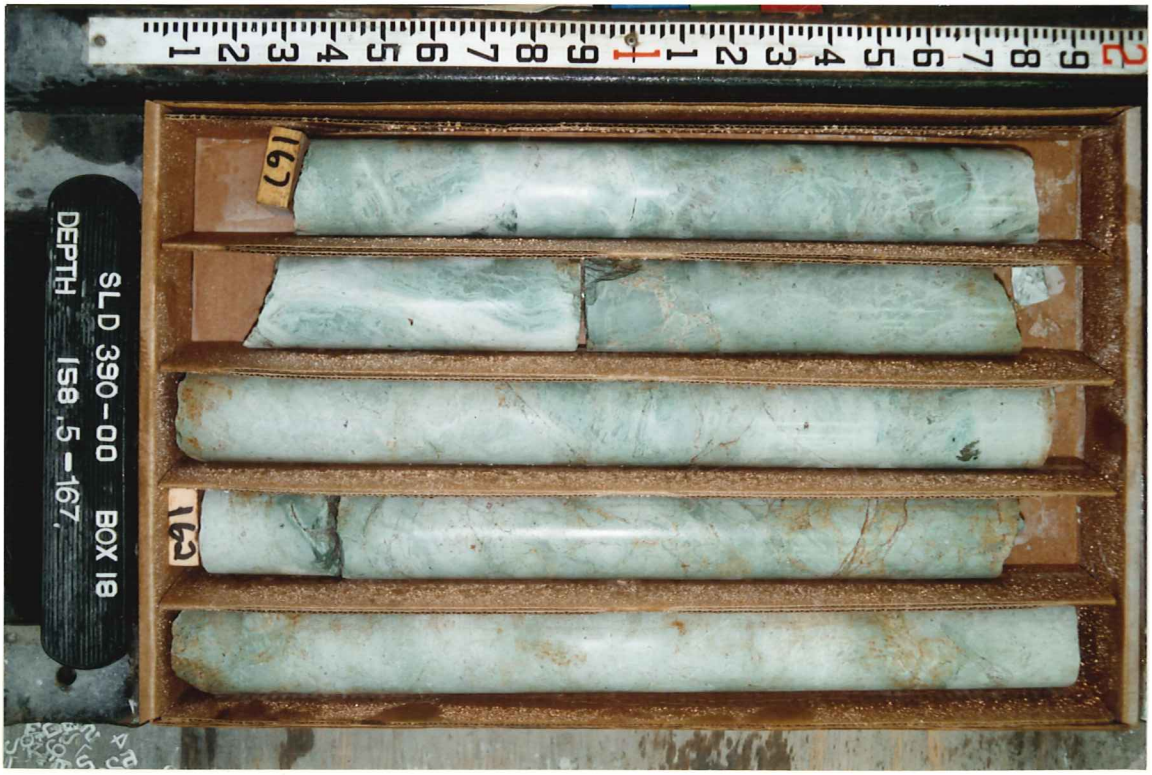

112
107
SLD 390-00 BOX 12
DEPTH 104. -113.

SLD 390-00 BOX 14
DEPTH 122.-131
127

SLD 390-00 BOX 13
DEPTH 113 . -122.
117
122

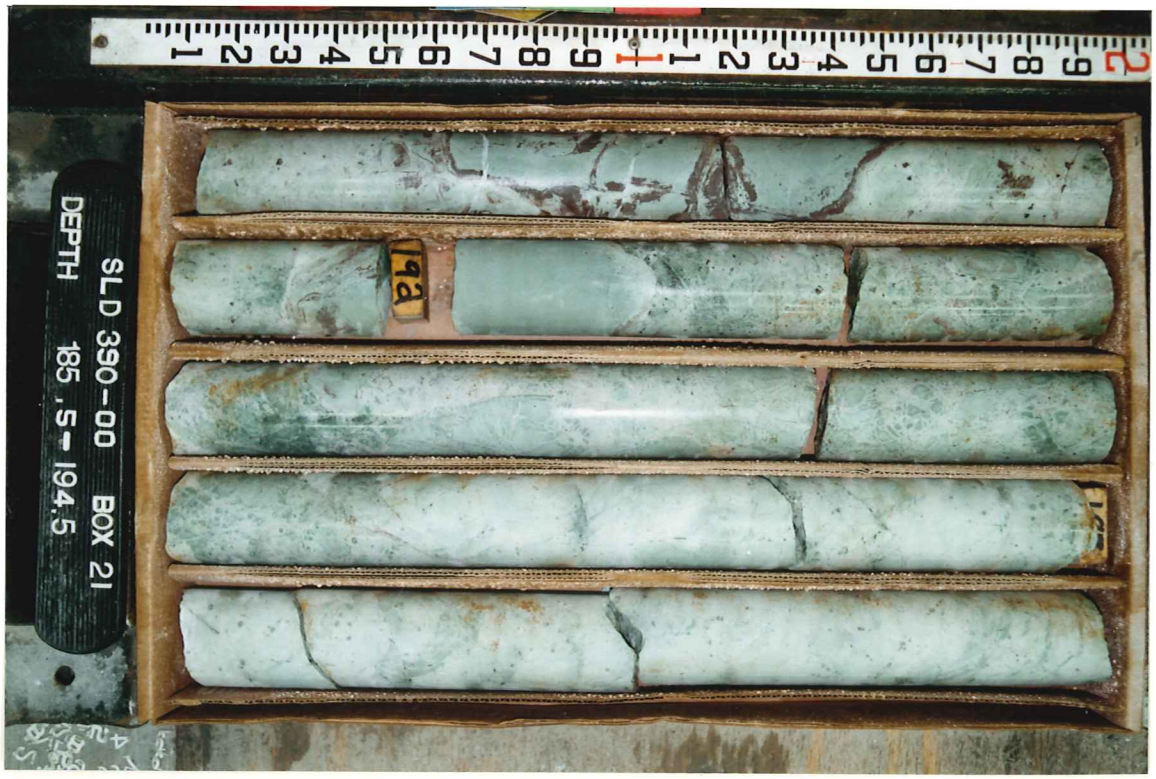
SLD 390-00 BOX 15
DEPTH 131.- 138.2
132
137

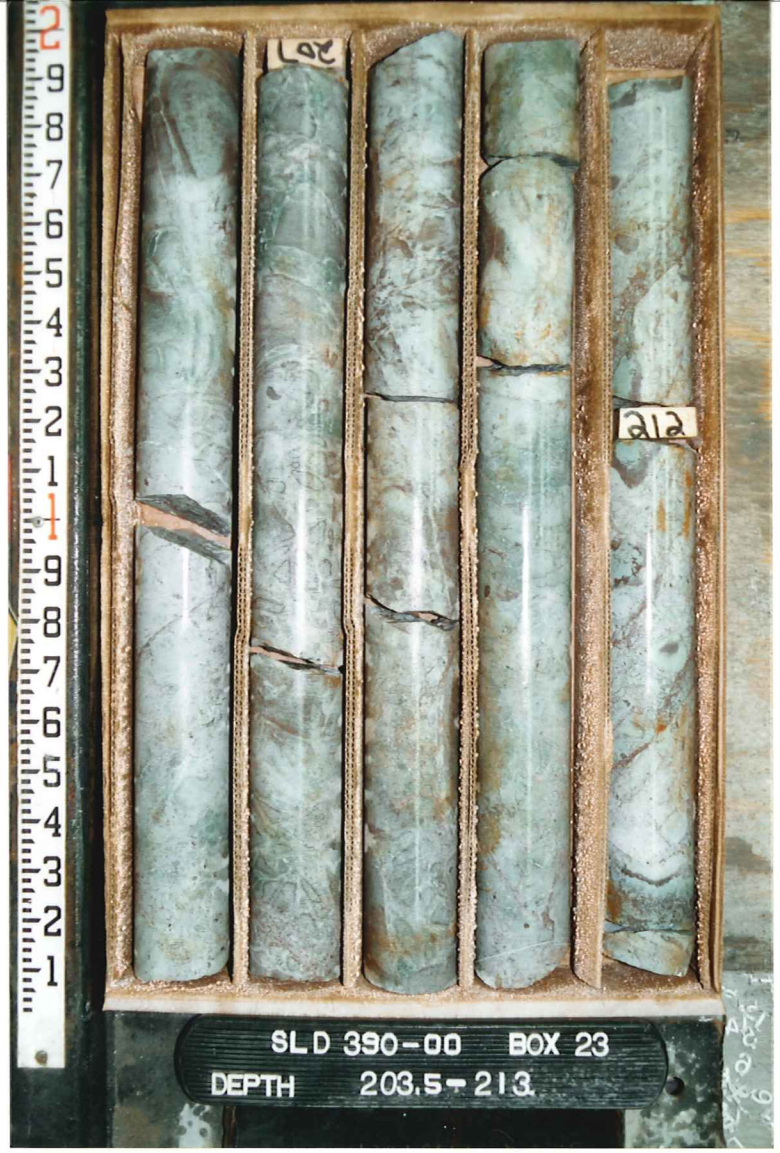
Boxes 17, Missing

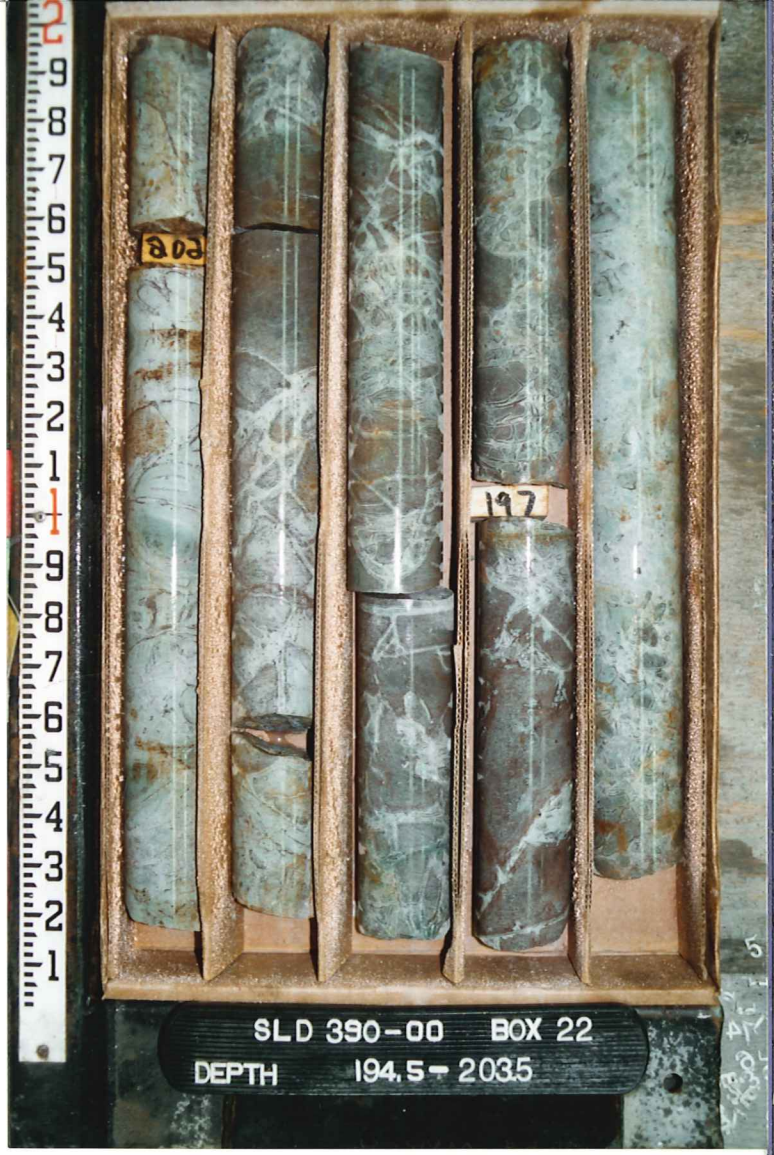


182
177
SLD 390-00 BOX 20
DEPTH 176. - 185.5

172
167
SLD 390-00 BOX 19
DEPTH 167. - 176.


SLD 390-00 BOX 21
DEPTH 185.5 - 194.5
192


SLD 390-00 BOX 23
DEPTH 203.5 - 213.


SLD 390-00 BOX 22
DEPTH 194.5 - 203.5

SLD 390-00 BOX 24
DEPTH 213. - 223.

SLD 390-00 BOX 26
DEPTH 232.5-241.5

227
SLD 390-00 BOX 25
DEPTH 223. -232.5

242
247
SLD 390-00 BOX 27
DEPTH 241.5-250.

SLD 390-00 BOX 29
DEPTH 258.5 - 267.5

SLD 390-00 BOX 28
DEPTH 250. - 258.5

SLD 390-00 BOX 30
DEPTH 267.5 - 277.

SLD 390-00 BOX 32
DEPTH 285.5-295.

SLD 390-00 BOX 31
DEPTH 277. -285.5

SLD 390-00 BOX 33
DEPTH 295. -304.

317
322
SLD 390-00 BOX 35
DEPTH 313.5-323.

307
312
SLD 390-00 BOX 34
DEPTH 304. -313.5

327
SLD 390-00 BOX 36
DEPTH 323.5-332.

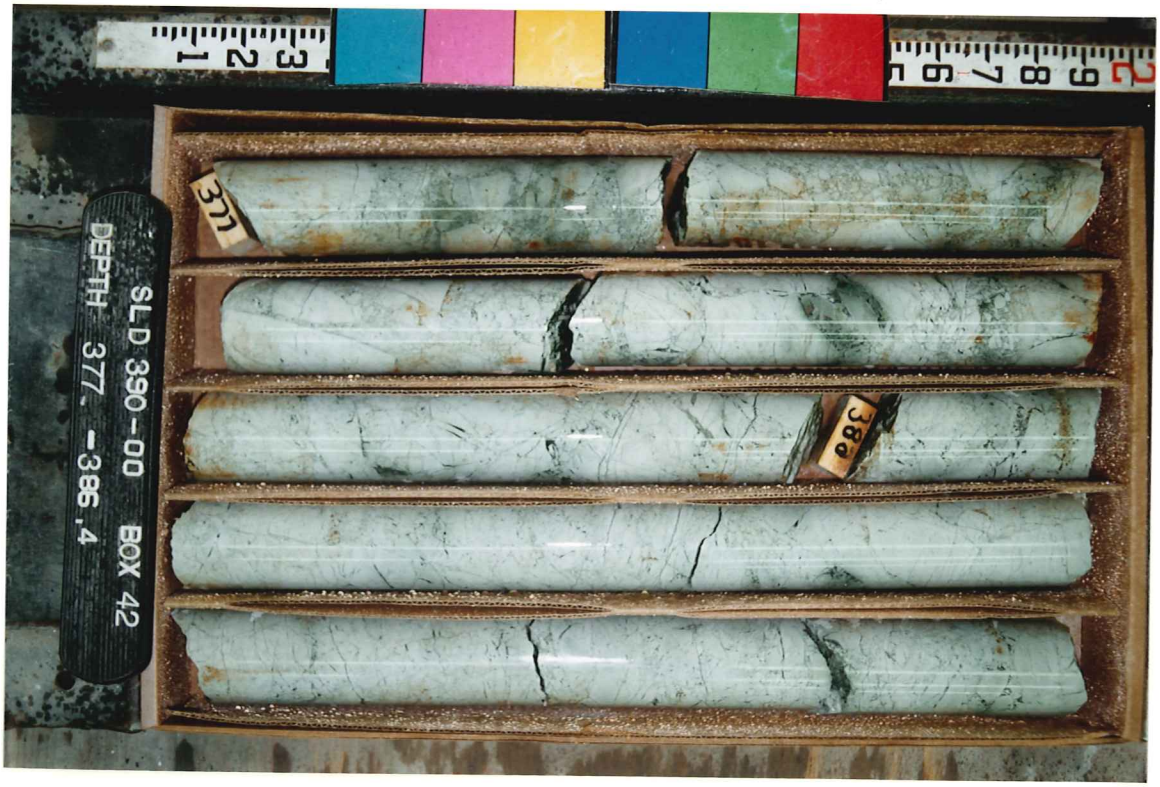
342
347
SLD 390-00 BOX 38
DEPTH 341. -350.

337
332
SLD 390-00 BOX 37
DEPTH 332. -341.

353
357
SLD 390-00 BOX 39
DEPTH 350. -359.

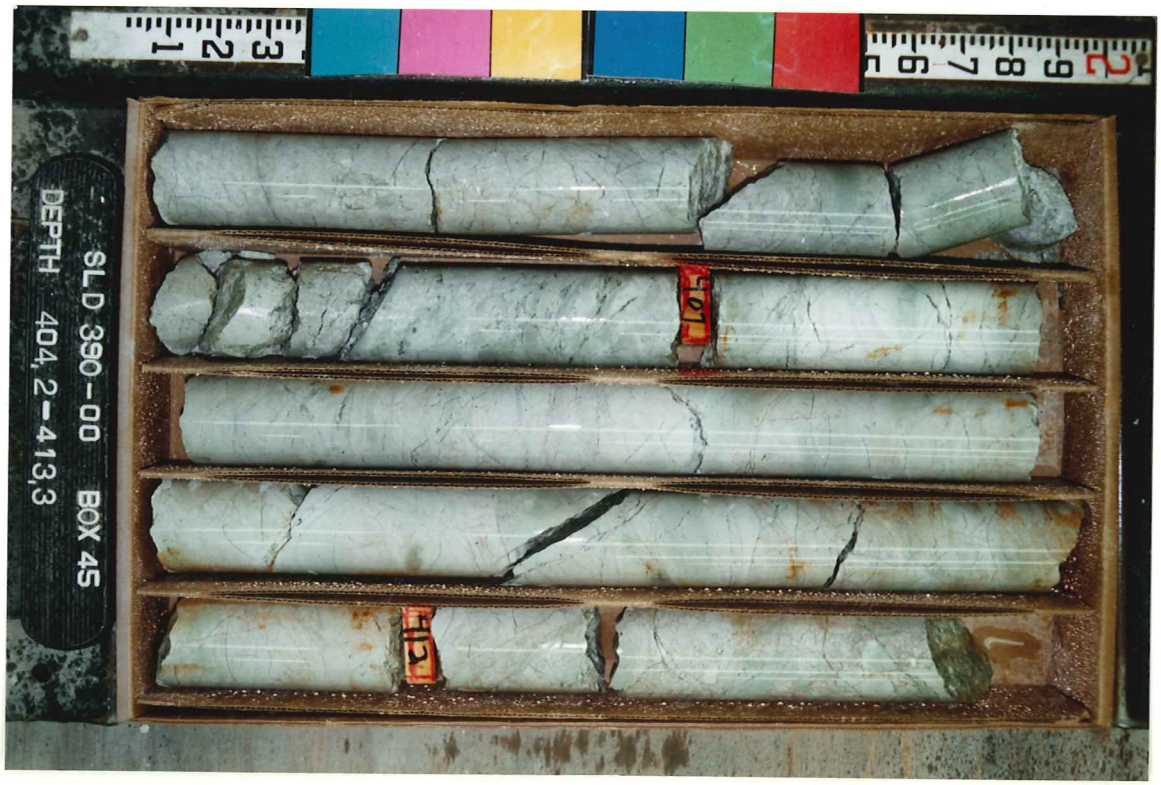
377
372
SLD 390-00 BOX 41
DEPTH 368. -377.

363
367
SLD 390-00 BOX 40
DEPTH 359. -368.


377
386
SLD 390-00 BOX 42
DEPTH 377. -386.4

397
402
404.4
SLD 390-00 BOX 44
DEPTH 395.2- 404.2

387
SLD 390-00 BOX 43
DEPTH 386.4-395.2

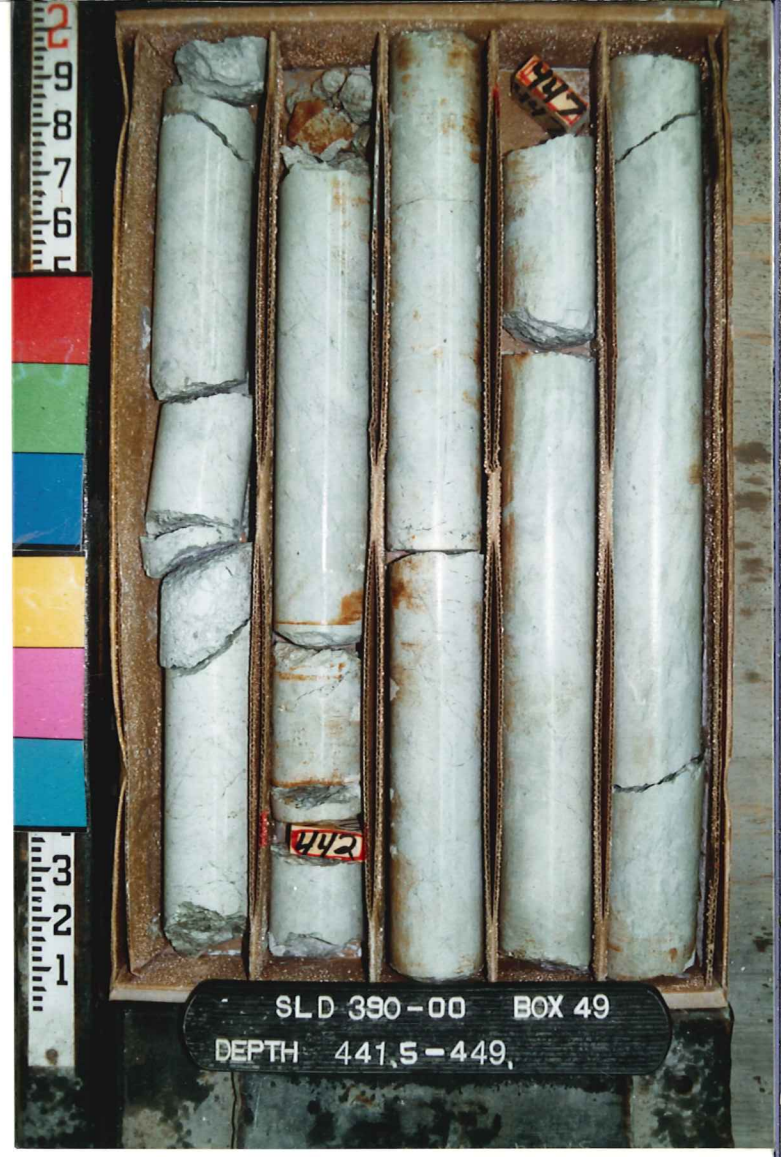

SLD 390-00 BOX 45
DEPTH 404.2-413.3

427
SLD 390-00 BOX 47
DEPTH 422, -431,5

418.4
422
417
SLD 390-00 BOX 46
DEPTH 413,3 -422,

437
435
SLD 390-00 BOX 48
DEPTH 431,5-441,

452
457
SLD 390-00 BOX 50
DEPTH 449. -458.


447
442
SLD 390-00 BOX 49
DEPTH 441.5-449.

RS- SLD 390-00 BOX 51
DEPTH 458. - 467.
462
467

RS- SLD 390-00 BOX 53
DEPTH 476.5- 485.5

RS- SLD 390-00 BOX 52
DEPTH 467. - 476.5

RS- SLD 390-00 BOX 54
DEPTH 485.5- 494.5

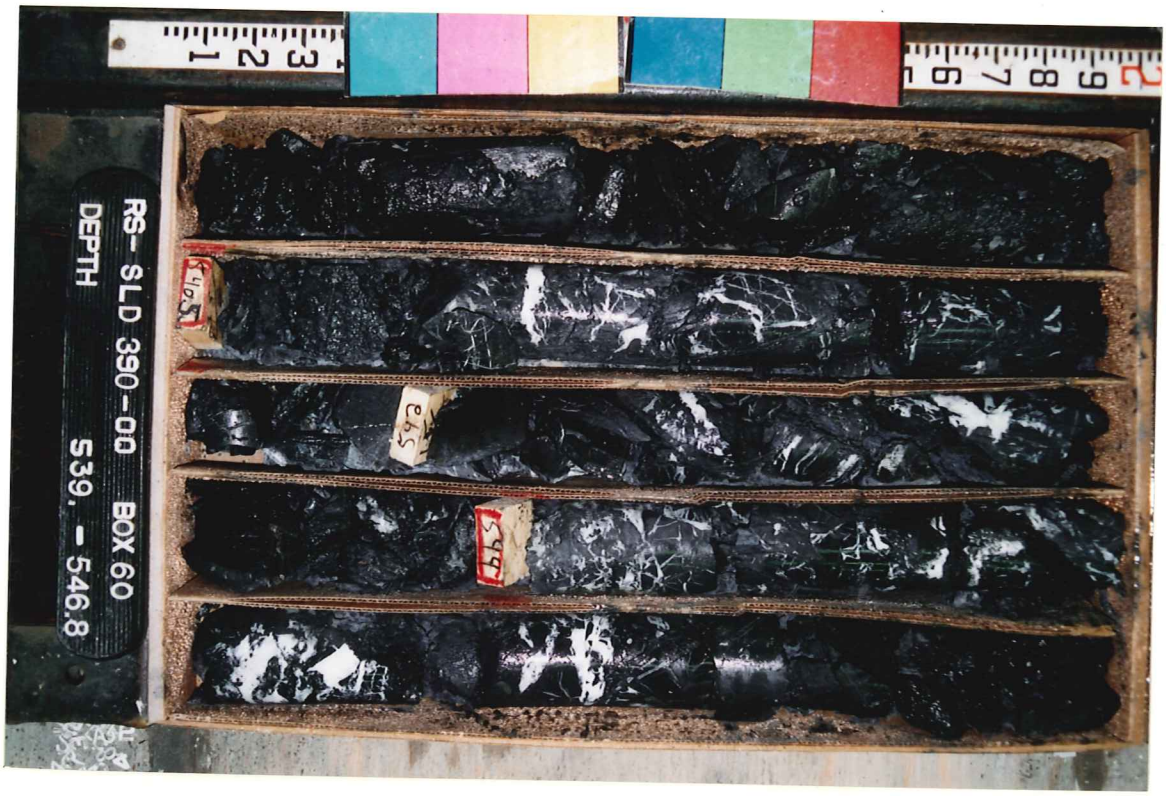
RS- SLD 390-00 BOX 56
DEPTH 503.5- 512.5

RS- SLD 390-00 BOX 55
DEPTH 494.5- 503.5

RS- SLD 390-00 BOX 57
DEPTH 512.5- 520.5

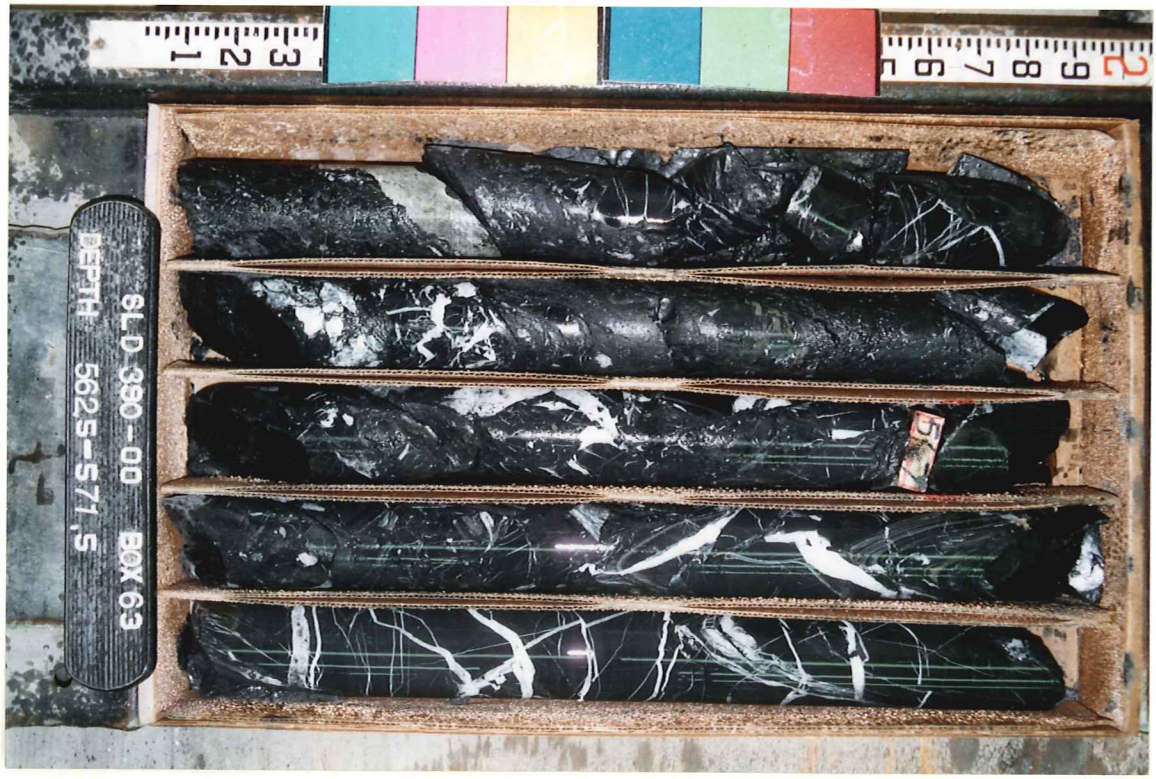
RS- SLD 390-00 BOX 59
DEPTH 530. - 539.

RS- SLD 390-00 BOX 58
DEPTH 520.5- 530.


RS- SLD 390-00 BOX 60
DEPTH 539. - 546.8

SLD 390-00 BOX 62
DEPTH 555 -562,5

SLD 390-00 BOX 61
DEPTH 546,8-555,


SLD 390-00 BOX 63
DEPTH 562,5-571,5

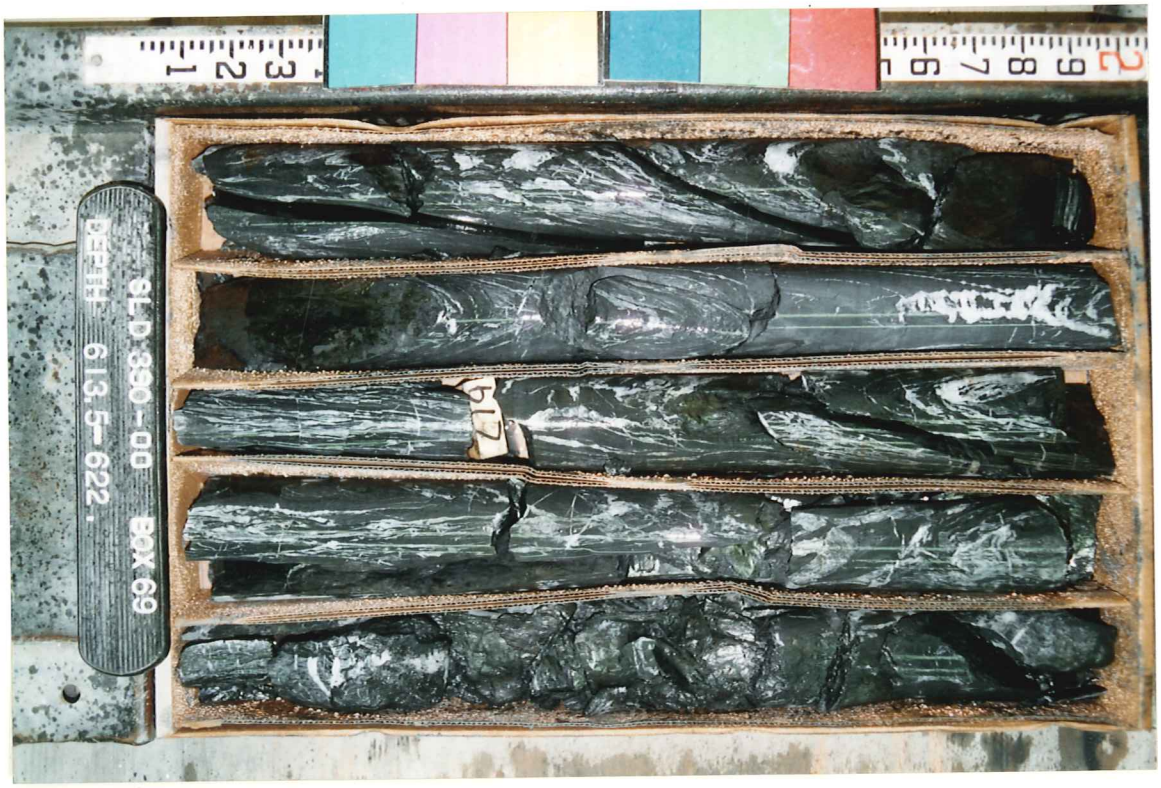
582
587
SLD 390-00 BOX 65
DEPTH 580. -588.

572
577
SLD 390-00 BOX 64
DEPTH 571.5 -580.

592
SLD 390-00 BOX 66
DEPTH 588. -597.

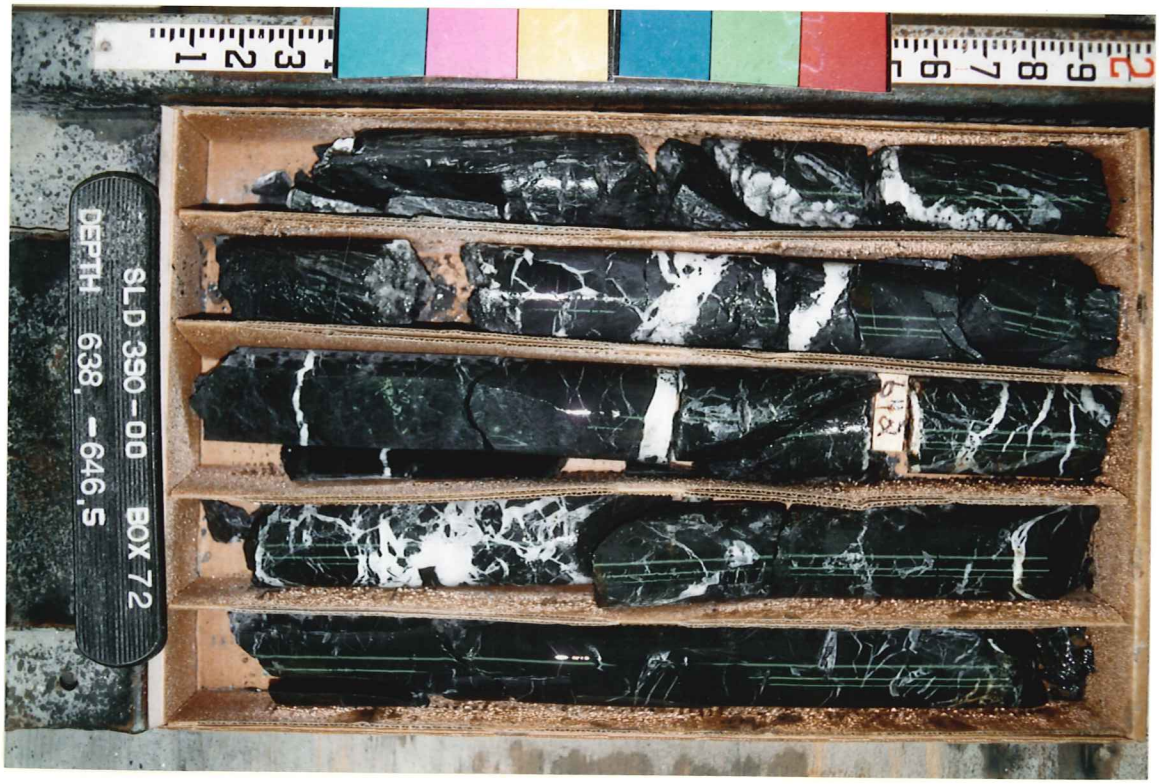
SLD 390-00 BOX 68
DEPTH 605. -613.5
609
613

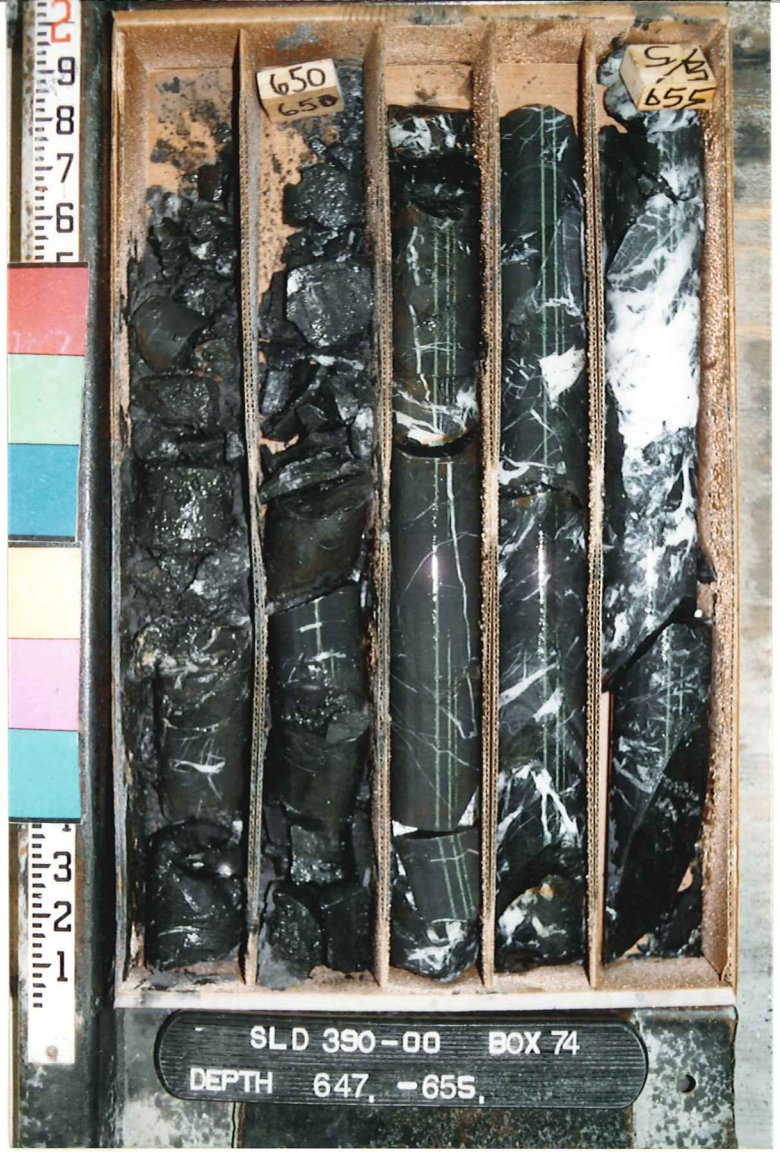
SLD 390-00 BOX 67
DEPTH 597. -605.
597


SLD 390-00 BOX 69
DEPTH 613.5-622.
617

SLD 390-00 BOX 71
DEPTH 630, -630,

SLD 390-00 BOX 70
DEPTH 622, -630,


SLD 390-00 BOX 72
DEPTH 638, -646.5


650
655
SLD 390-00 BOX 74
DEPTH 647. -655.

647
SLD 390-00 BOX 73
DEPTH 646.5-647.

655
660
SLD 390-00 BOX 75
DEPTH 655. -664.5

665
SLD 390-00 BOX 76
DEPTH 664,5-665,

WELL SLD-390

DEPTH 50

PICTURE NO. 3

INCLINATION .32°

OBS. DIR.

COR. DIR.

TOOL FACE

RUN BY CL.

DATE 2-14-00

CHECKED BY

sperry-sun

DRILLING SERVICES

WELL SLD - 390

DEPTH 250'

PICTURE NO.

INCLINATION -30°

OBS. DIR.

COR. DIR.

TOOL FACE

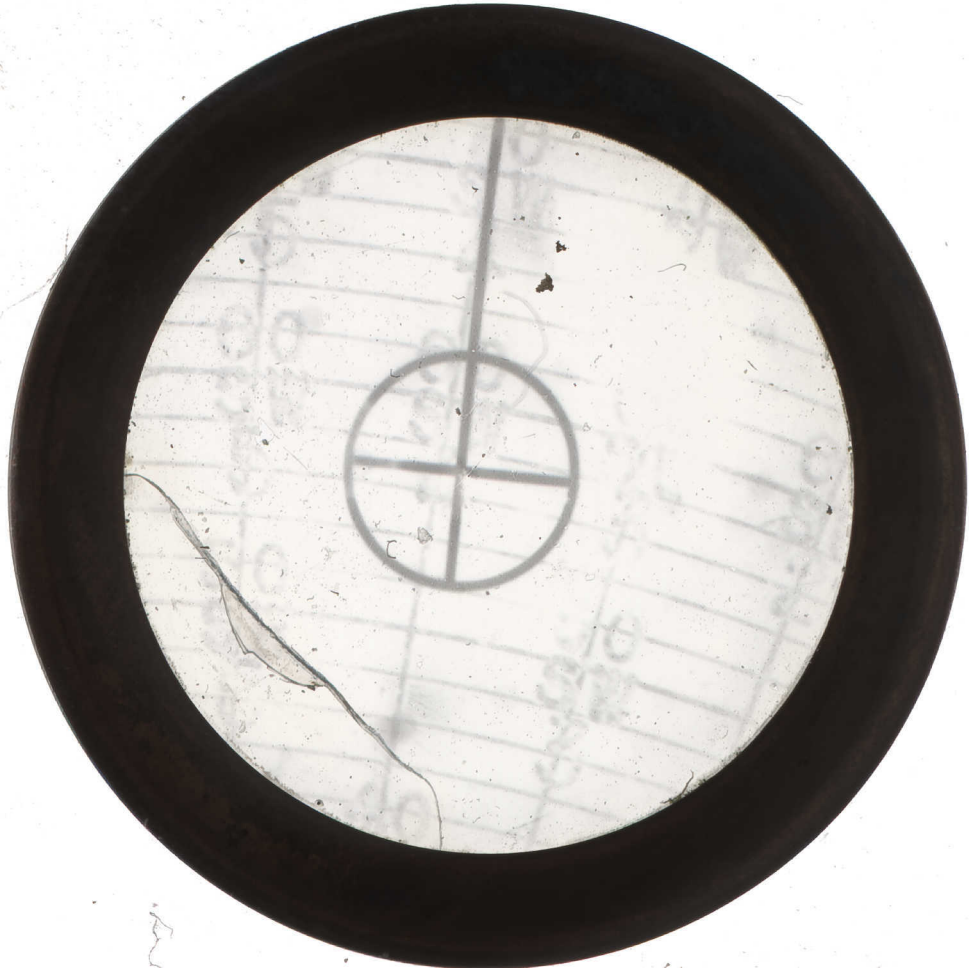
RUN BY G. GADDIE

DATE 10-2-00

CHECKED BY

sperry-sun

DRILLING SERVICES



WELL SLD-390

DEPTH 452'

PICTURE NO.

INCLINATION -32°

OBS. DIR.

COR. DIR.

TOOL FACE

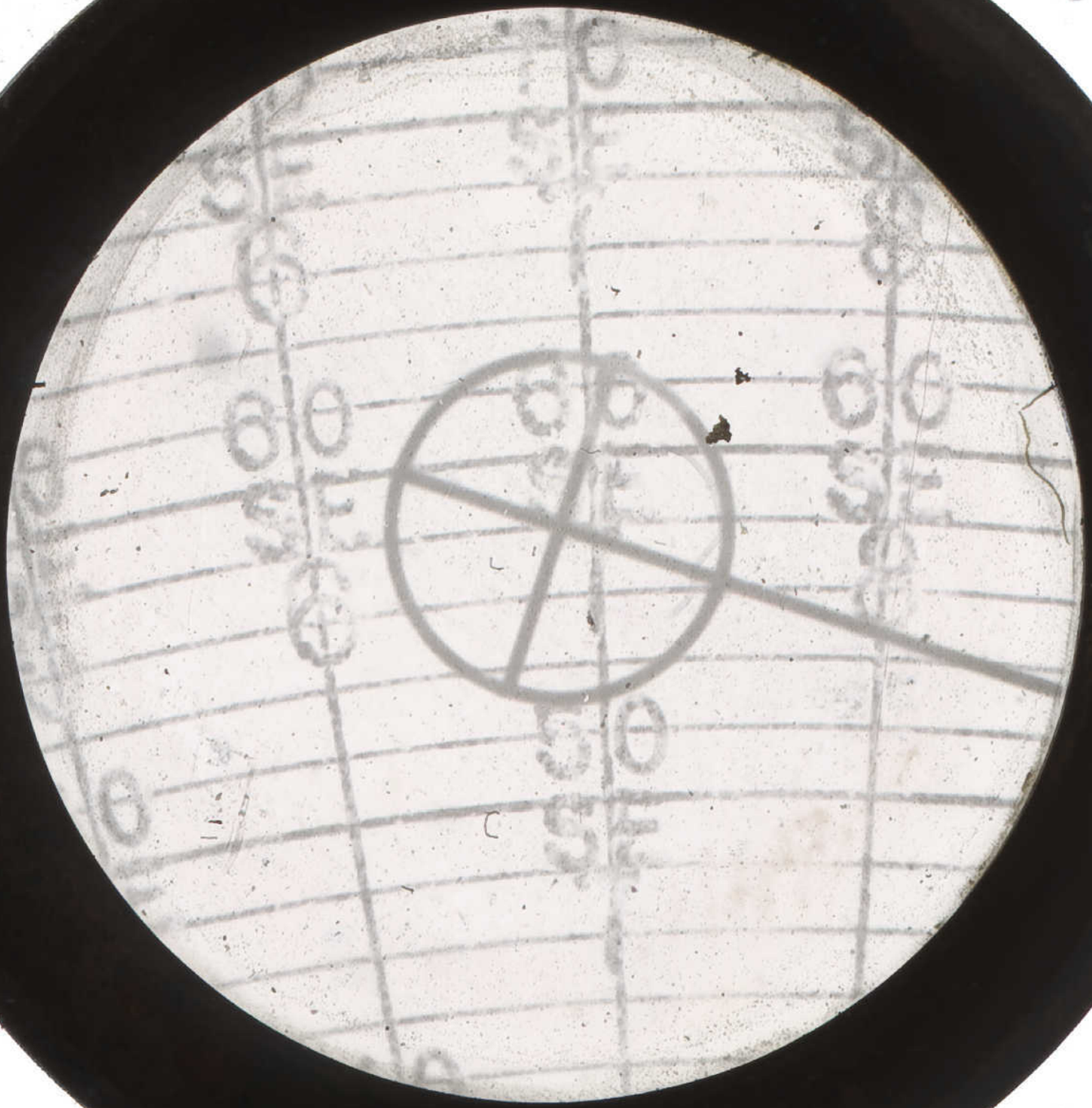
RUN BY G. GANDIE

DATE 2-12-00

CHECKED BY

sperry-sun

DRILLING SERVICES



WELL SLD-390

DEPTH 647'

PICTURE NO. [illegible]

INCLINATION -32°

OBS. DIR.

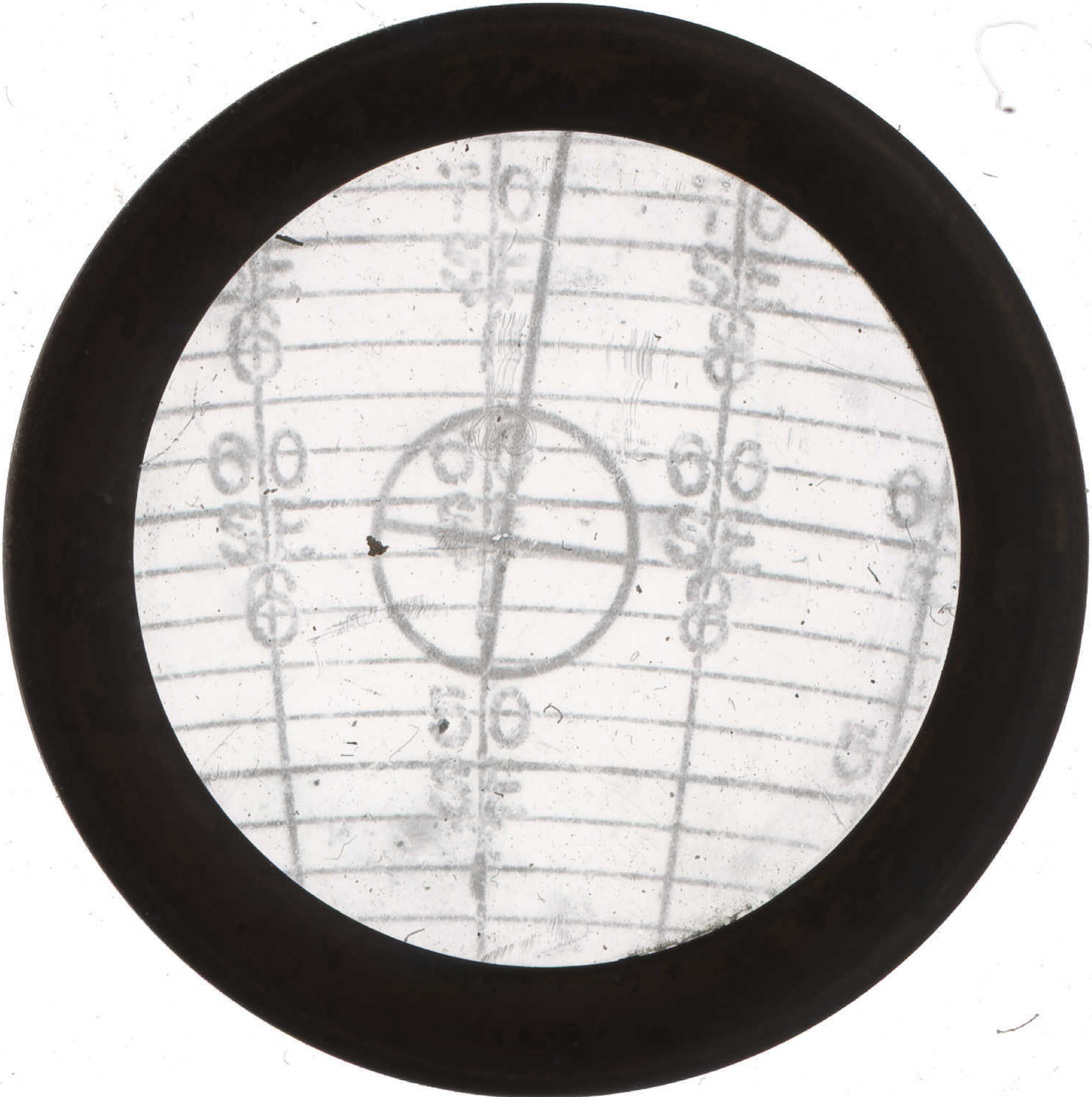
COR. DIR.

TOOL FACE

RUN BY CL

DATE 2-14-00

CHECKED BY

sperry-sun

DRILLING SERVICES