6000 0698

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-D402-00
AUTHOR	K. Allen; D. Mackerrow; B. Morris; L. Mackedon
DATE OF DOC(S)	2000
MULTI_DIST Y / N? Additional Dist_Nos:	
QUAD_NAME	Sulphur 7.5'
P_M_C_NAME (mine, claim & company names)	Rosebud Mine, Hecla Mining Co; Rosebud Project Rosebud Mining Co., LLC
COMMODITY If not obvious	gold; silver
NOTES	drill logs; assay; geology; photographs; receipts; total depth 693'; hand written notes down hole camera images 57p. 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)

	Initials	Date
SS:	DD	4/29/08
DB:		
SCANNED:		

Revised: 1/22/08

SL-D402-00

60000698
4010

6000 0698

Hecla MINING COMPANY

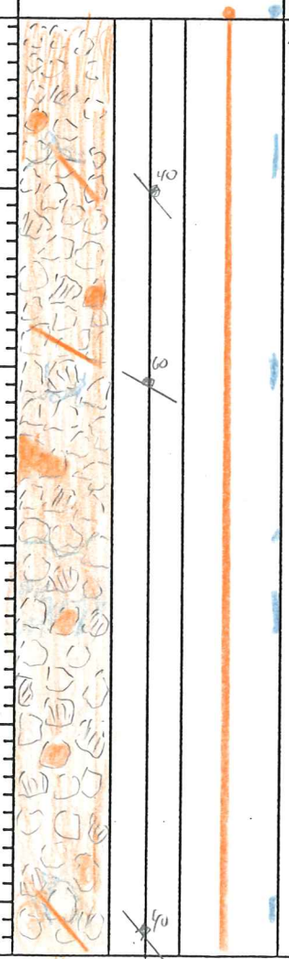
- quartz, chalcedony, silicification
- faults, fractures
- FeOx
- sulfide
- calcite, carbonate
- argillization, white clays
- propylitization
- potassic alteration
- chlorite, chloritic clays

Intensity: ...

ROSEBUD PROJECT
DIAMOND DRILL LOG

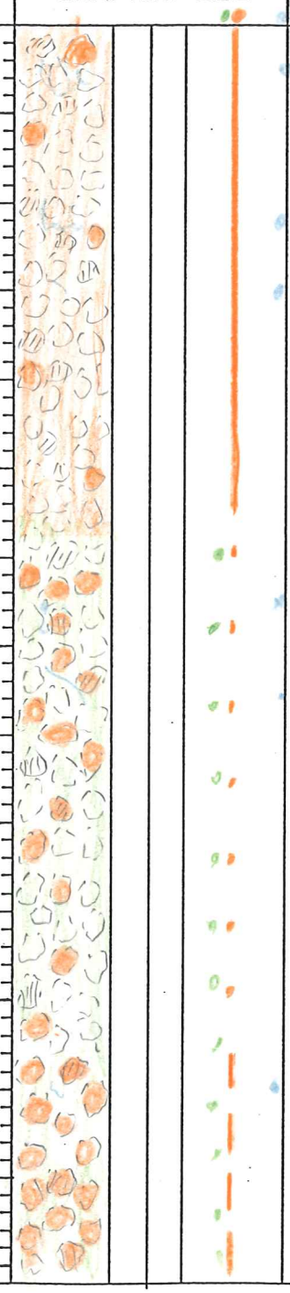
HOLE NUMBER	SL-0402-00	LOCATION	St Louis 4335
PAGE 1 OF 11		NORTHING	
DATE	5-13-00	EASTING	
LOGGED BY	D.G. Mackerrow	ELEVATION	
SCALE	1"=10'	AZIMUTH	N 61 E
TOTAL DEPTH	693	INCLINATION	-61

REMARKS

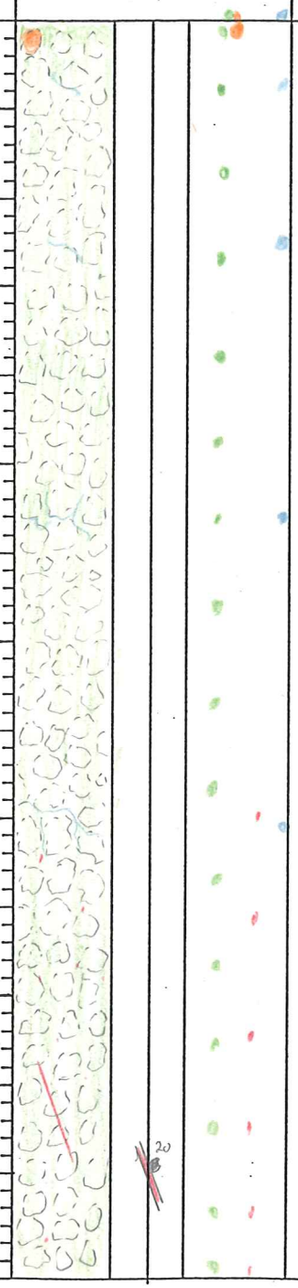
ITH	OX/RE	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
Td		0-197.5 DOZER Fine grained rhyolite flow. Strong Autobreccia. Hematitic staining varies from moderate to heavy. Fracture zone generally brick red in color.	10, 20, 30, 40, 50		Minimal fractures through core. Hematite stained healed fractures at 40° tc.	Small crystals of hematite disseminated through core. Calcite present on some micro fracture and in volcanic clay matrix of Autobx.

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag

HOLE NUMBER SL-D402-00 PAGE 2 OF 11

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2	Ag2
Td		0-117.5 DOZER Rhyolite Autobrecciated flow continues. Hematitic staining Dominates to 80 and begins to decrease to 121 where propylitic/chloritic/green clay alteration dominates	50 60 70 80 90 100 110 120			Only traces of Calcite from 50-120'							

HOLE NUMBER SL-D402-00 PAGE 3 OF 11

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2	Ag2
Td		0-197.5 DOZER Fine grained rhyolite flow continues. Autobrecciation also continues, from 121 propylitic/chloritic/ green clay alteration overprints 99% of hematite	120 130 140 150 160 170 180 190			120 Disseminated Pyrite well below .5% 165 Pyrite increases above background to 2.5 <1% 185 200 tcu Pyrite veinlet							

HOLE NUMBER SL-D402-00 PAGE 4 OF 11

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2	Ag2
		0-197.5 DOZER Rhyolite flow continue.	190										
		197.5 – 233.5 DIP TYPE PORPHYRY Glomerophyric feldspar and sandpiper porphyry. Phenocryst are replaced by calcite or chlorite	200 210 220 230		197.5-233.5 More fracture in Intrusive than surrounding rock 214. 2" breccia at 80° to								
		233.5 – 305.8 DOZER Rhyolite flow continue as it was above, Auto breccia texture	240 250 260										

HOLE NUMBER SL-D402-00 PAGE 5 OF 11

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2	Ag2
Td		233.5 - 305.8 DOZER Rhyolite flow continues Autobreccia contact Pale greenish gray color.	260 270 280 290 300	40 40		291 white clay veinlet 40° tca							
BMP		305.8 - 358.8 BMP TYPE PORPHYRY Glomerophyric porphyry with calcite replacing sanidine and feldspar phenos	310 320 330	50 40 50 50 40	305.8 50° tca intrusive contact								

HOLE NUMBER SL-D402-00 PAGE 6 OF 11

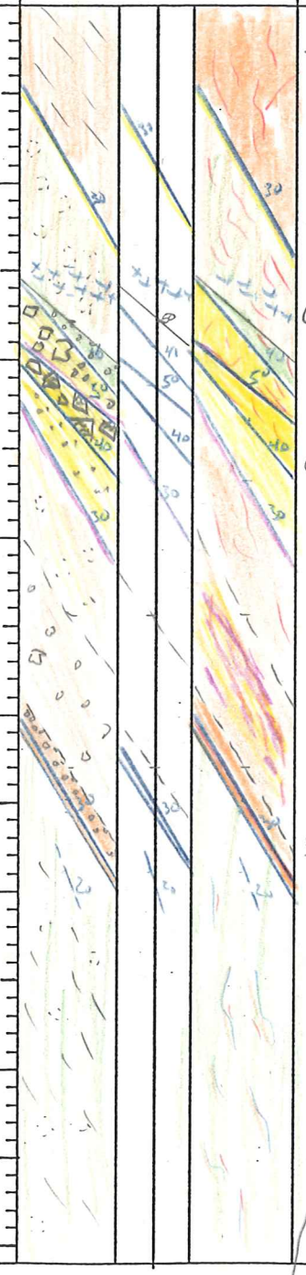
LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2	Ag2
BMP		305.8-358.8 BMP TYPE PORPHYRY Porphyry continues	330 340 350 360 370 380 390 400	40 40 30 40 30									
Td		358.8 -548 DOZER Fine grained rhyolite flow as seen above. Sulfide content increases up to 2%			385 30° tcu healed sheared	358.8 Trace level of argillization begins 368-387 Micro pyrite after kaolinite and dark disseminated pyrite							

HOLE NUMBER SL-D402-00 PAGE 7 OF 11

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		358.8-548 DOZER Rhyolite Flow continue	400 410 420 430			
		444.2 - 479.1' - Fine-grained, Flow banded, Dozer Rhyolite. Moderately soft to soft, Argillized & propylitized. Flow banding @ 30-40° to Ca.	440 450 460 470		@ 444.2 - marcasite + white clay veinlet / small fault slicks @ perpendicular to dip 460.7 - 466.8' - Hy Angle (0-10° to Ca) fractures w/ slicks ⊥ to dip 466.8 - 468 - Rubble zone	@ 444.2 - marc + pyrite ± white clay 448 - 456.1' - moderately stockworked marc + white clay + CaCO3 456.1 - 457.6' - strong high angle to Ca 10°, marc + white clay stockworks + disseminated pyrite + CaCO3 460.7 - 465.2 - moderately abundant marc + white clay + trace 0-10° to Ca stockwork 465.2 - 468 - minor to mod marc white clay + trace CaCO3 stockwork 468 - 473 - strong clay alt. w/ marc + white clay veinlets @ 30° to Ca possible chalcopyrite + CaCO3

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
444.2	448					
448	453					
453	456.1					
456.1	457.6					
457.6	460.7					
460.7	465.2					
465.2	466.8					
466.8	468					
468	473					

HOLE NUMBER SL-D 402-00 PAGE 8 OF 11

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		479.1 – 491.6 – Auto Brecciated, Fg, Dozer Rhyolite. 491.6 – 493.4' – Silicified Fault Breccia – Clasts composed of ALS ⇒ looks like SRF. 493.4 – 547.8' – Auto Bx'd Dozer to flow banded Dozer SRF CaCO3 + white clay ± marc stock	470 480 490 500 510 520 530 540		473 – 477.4' – 477± 479± – Rubbly clay zone. 484.9 – 486.6' – Rubble @ 489.3' – 493.4' – Looks like South Ridge Fault Plane. @ 496.8' – Fault Plane w/ Barite @ 30° to ca 514.8 – 515.8' – Clay shear zone (lower SRF plane) plane @ 514.8 is sulfidic. 531 – 535.2' – grey sulfidic clay stockwork. 535.2 – 543 – Hematitic staining increasing.	473 – 477.4 – Strong clay Alt, w/ marc ± white clay veinlets @ 30° to CA + CaCO3 477.4 – 479.± Intense clay altered + marc + white clay stockwork + CaCO3 479.1 – 480 – Auto Bx w/ white clay ± marc veinlets. 480 – 481.4 – Auto Bx w/ minor silica open space fractures filled w/ marc ± white clay 481.4 – 481.7 – clay Rubble or Redrill. 481.7 – 484.9' – Argillized ± silica veinlets + marc ± white clay ± lime yellow green clay. 484.7 – 486 – Rubble of Above 486.6 – 488 – Same as 481.7 – 484.9'. 488 – 489.3 – Silica + lime green clay Healed Bx. 489.3 – 491.6 – Silica Healed Fault Bx w/ Dozer clasts 491.6 – 493.4 – Silica Healed ALS Fault Bx ± Barite. 493.4 – 496.8' – Silica Healed Flt Bx 496.8 – 501.7' – Silica + Barite ± marc ± white clay stockwork & open space filling. 501.7 – 503 – Bk gray clay ± SiO2 Healed Bx. 503 – 504.5' – Increased SiO2 + Barite 504.5 – 508 – Strong Barite (xtals) + SiO2 Healed Bx. 508 – 513' – Same as Above w/ less Silica 513 – 514.8 – Clay Healed Flt Bx 514.8 – 515.8 – Clay shear (lower SRF plane) 515.8 – 519.6 – Prop lifted w/ minor stockwork @ 519' 519.6 – 531' – white clay + CaCO3 ± marc stockwork.

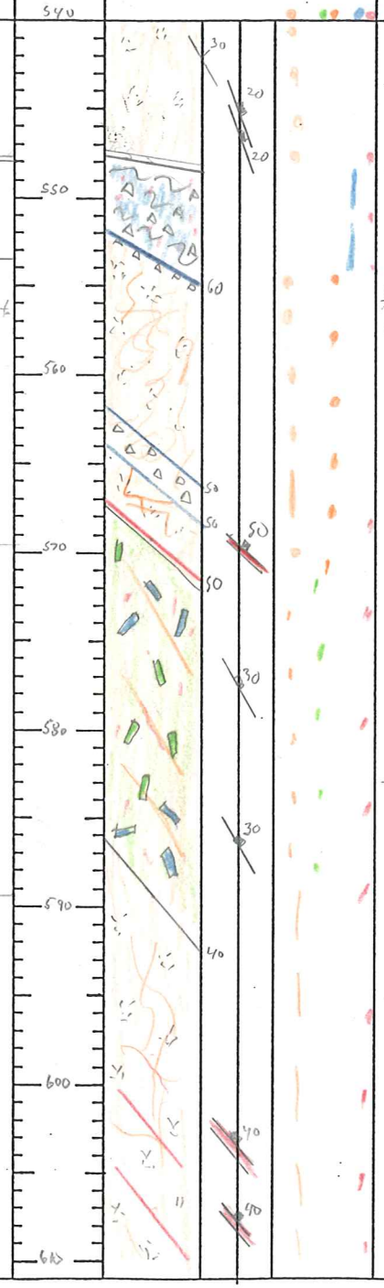
ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
473	477.4					
477.4	479.1					
479.1	480					
480	481.4					
481.4	481.7					
481.7	484.9					
484.9	486.6					
486.6	488					
488	489.3					
489.3	491.6					
491.6	493.4					
493.4	496.8					
496.8	501.7					
501.7	503					
503	504.5					
504.5	508					
508	513					
513	514.8					
514.8	515.8					
515.8	519.6					
519.6	523					
523	528					
528	531					
531	535.2					
535.2	543					

HOLE NUMBER SL-D407 PAGE 9 OF 11

LITH.	OX/RED.	LITHOLOGY	STRUCTURE	ALTERATION AND MINERALIZATION
Td		493.4 - 547.8 DOZER Fine grained flow banded rhyolite 547.8 - 548 TCS	544.3 2" of vesicles	
ALS		548 - 553.5 ALS Brecciated Phillitic Shale Lower contact is Fault		
Td		553.5 569.5 DOZER Fine grained flow laminated rhyolite Pinkish brown from hematite Fault gouge supports clast in fault Contact with BMP is sharp with pyrite vein ½" above contact.	562 - 566 Fault Zone	569.4 ¼" pyrite vein 50° tca
BMP		569.5 - 589.5 BMP TYPE PORPHYRY Faint green gray intrusive calcite or chlorite has replaced phenocrys white clay fills fracture	580 30° tca fracture with 80° tca oblique slip	
Td		589.5 - 611.5 DOZER Argillized fine grained rhyolite white clay veinlets Pyrite predominately in vein 40° tca		

GRAPHIC LOG



ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
543	547.8					
NO SAMPLE						
553.5	558					
558	562					
562	566					
566	569.5					
569.5	573					
573	578					
578	583					
583	589.5					
589.5	593					
593	598					
598	603					
603	608					
608	611.5					

HOLE NUMBER SL-D402-00 PAGE 10 OF 11

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2	Ag2
ALS		611.5 - 693 A. L. S. Phillitic shale with interbedded siltstone core is black with gray siltstones. Bedding planes of the shales are graphitic. shales have a stockwork of calcite veins. Contact interval is breccia to 620'. Brecciation could be from compression from Dozer deposition. Fine grained and porphyritic intrusive parrallel bedding. Shale are highly calcareous Intrusive 626-629 632-633 645-654.3 INTRUSIVE Intrusive grains from fine grained to porphyritic at lower contact. Phenocrysts are pale green and poorly developed pyrite is present <1% Quartz veins. Very fetid odor at addition of acid	610 620 630 640 650 660 670 680	60 30 48 60 30 30 50 60 42 50	Bedding orientation change below 620 to 645- 50° to contact	611.5 calcite veins and syngenetic py 626.4 ¼" qtz vein 658 calcite veins Decrease from this point 686-690 white clay on FX surfaces	626 629 633 645 648 654.3	629 633 648 654.3					

HOLE NUMBER SL-0402-00 PAGE 11 OF 11

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2	Ag2
ACS		611.5 – 693 AL.S Black shales continues to 693 TD 693	686 690	SU									

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # SL-0402-00 DATE: 5-12-00 LOGGED BY: D.G. MacKeiron PAGE 1 OF 13

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	8	26	75	35										
8	13	94	102	82										
13	18	72	100	82										
18	23	100	100	94										
23	28	100	100	100										
28	33	100	100	82										
33	38	100	100	94										
38	43	100	102	100										
43	48	100	100	90										
48	53	100	100	100										
53	58	100	100	100										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # SL-0402-00 DATE: 5-12-00 LOGGED BY: D.C. Mackerrow PAGE 2 OF 13

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)
58	63	100	104	100										
63	68	100	100	94										
68	73	100	100	100										
73	78	100	102	100										
78	83	100	100	100										
83	88	100	100	100										
88	93	90	96	84										
93	98	100	90	100										
98	103	100	100	100										
103	108	100	102	100										
108	113	100	102	100										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # SL-D402-00 DATE: 5-12-00 LOGGED BY: D.G. Mackerrow PAGE 3 OF 13

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)
113	118	100	100	100										
118	123	100	100	100										
123	128	100	104	100										
128	133	100	98	96										
133	138	100	102	100										
138	143	100	100	100										
143	148	100	102	100										
148	153	100	98	100										
153	158	100	104	100										
158	163	100	98	100										
163	168	100	102	100										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # SC-12402-00 DATE: 5-12-00 LOGGED BY: D.G. Mackeiva PAGE 4 OF 13

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)
168	173	100	98	100										
173	178	100	100	100										
178	183	100	100	100										
183	188	92	100	90										
188	193	100	92	84										
193	198	84	100	64										
198	203	100	100	68										
203	208	100	100	90										
208	213	96	102	76										
213	218	100	100	86										
218	223	100	104	78										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # S1-D402-00 DATE: 5-12-00 LOGGED BY: D.G. MacKerron PAGE 5 OF 13

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)
223	228	64	100	0										
228	233	22	84	30										
233	238	100	96	84										
238	243	90	104	66										
243	248	100	98	100										
248	253	100	100	100										
253	258	100	104	96										
258	263	100	100	100										
263	268	100	100	100										
268	273	100	96	100										
273	278	100	98	100										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # S1-D402-00 DATE: 5-13-00 LOGGED BY: D.G. Mackenzie PAGE 6 OF 13

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
278	283	100	100	100										
283	288	100	102	100										
288	293	100	94	100										
293	298	100	104	100										
298	303	100	98	100										
303	308	100	100	100										
308	313	100	100	88										
313	318	100	98	90										
318	323	100	102	96										
323	328	100	100	100										
328	333	100	100	50										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # SL-0402-00 DATE: 5-13-00 LOGGED BY: D.G. Mochiyama PAGE 7 OF 13

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)
333	338	100	100	90										
338	343	100	100	100										
343	348	100	100	100										
348	353	100	106	100										
353	358	100	100	98										
358	363	100	98	100										
363	368	100	100	100										
368	373	100	100	100										
373	378	100	100	100										
378	383	100	98	100										
383	388	100	102	100										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # SL-D402-00 DATE: 5-12-00 LOGGED BY: D.G. Mackenzie PAGE 8 OF 13

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)
388	393	100	100	100										
393	398	100	88	76										
398	403	92	104	92										
403	408	100	100	100										
408	413	100	100	100										
413	418	100	102	100										
418	423	100	98	100										
423	428	100	100	100										
428	432	100	98	100										
432	438	100	102	100										
438	443	100	100	90										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # SL-D402-00 DATE: 4-19-00 LOGGED BY: D.G. MacKenna PAGE 9 OF 13

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)
443	448	100	102	96										
448	453	100	94	66										
453	458	100	102	81										
458	463	100	80	64										
463	468	10	98	Fault 16										
468	473	24	98	Fault 24										
473	478	76	102	Fault 46										
478	483	76	100	Fault 44										
483	487	42	92	Fault 25										
487	488	91	120	60										
488	493	40	98	82										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # SL-D4102-00 DATE: 4/19/00 LOGGED BY: D.G. MacKevin PAGE 10 OF 13

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)
493	498	90	100	Fault 44										
498	503	72	90	Fault 44										
503	504.5	100	87	Fault 100										
504.5	508	63	86	Fault 57										
508	513	88	100	Fault 66										
513	518	80	100	Fault 56										
518	523	90	108	52										
523	528	100	100	94										
528	533	100	100	96										
533	538	76	98	60										
538	543	100	102	80										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # SL-D-402-00 DATE: 4-19-00 LOGGED BY: DG, MacKenzie PAGE 11 OF 13

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)
543	548	92	92	60										
548	553	90	102	18										
553	558	50	100	40										
558	563	96	100	Fault 54										
563	568	46	100	Fault 20										
568	573	60	98	46										
573	578	100	100	94										
578	583	86	98	58										
583	588	100	98	92										
588	593	99	100	64										
593	598	96	100	84										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # SL-D402-00 DATE: 4-19-00 LOGGED BY: D.G. MacHeron PAGE 12 OF 13

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)
598	603	100	100	100										
603	608	100	94	96										
608	613	100	96	66										
613	618	44	92	0										
618	623	64	94	28										
623	628	76	100	12										
628	633	66	90	16										
633	638	90	100	12										
638	643	76	94	0										
643	648	99	104	42										
648	653	100	100	80										

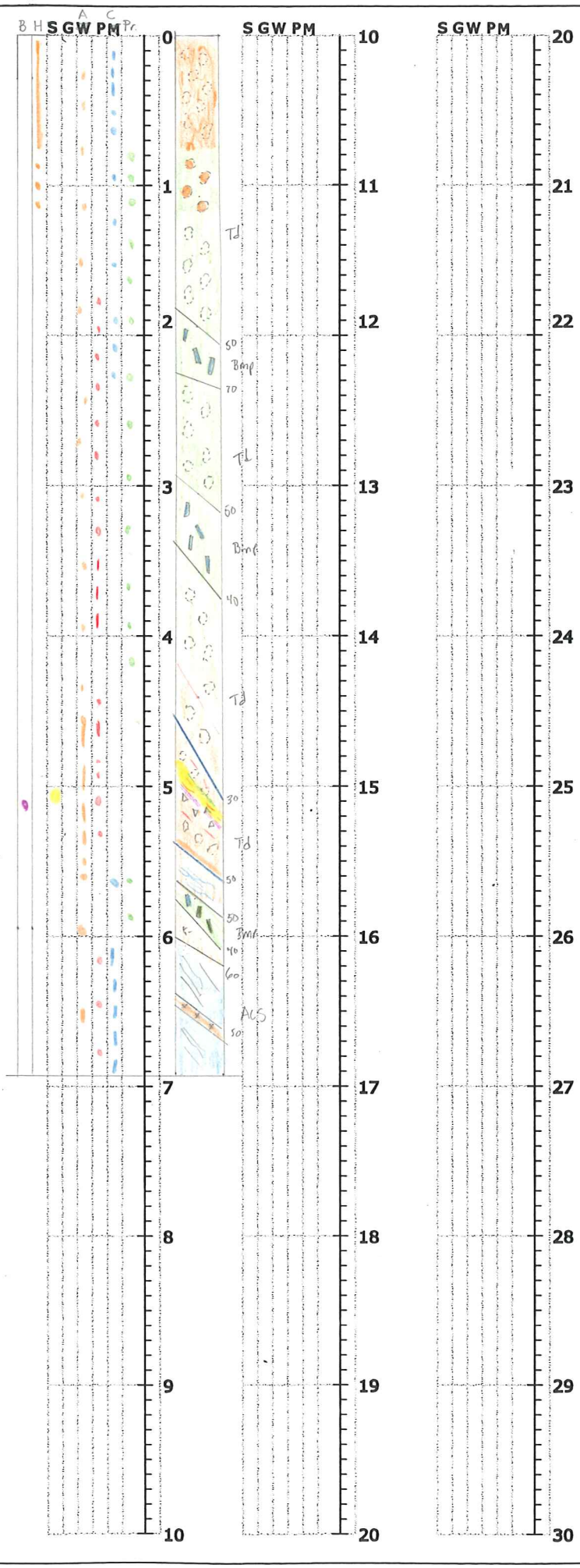
HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # SLD 402-00 DATE: 4-19-00 LOGGED BY: D.G. MacKeiran PAGE 13 OF 13

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)
653	658	100	100	68										
658	663	99	100	30										
663	668	80	88	0										
668	673	82	100	14										
673	677	67	82	0										
677	682	100	106	0										
682	687	80	96	0										
687	689.5	0	112	0										
689.5	693	0	85	0										

ROSEBUD MINING COMPANY, LLC.

HOLE #			
FINISH HOLE	LOGGED BY	T.D	SURVEYED TO
START HOLE	HOLE TYPE	BEARING	ANGLE	PAGE 1 OF
COLLAR COORDINATES	NORTH	EAST	ELEV	DRILLER	DRILLING CO.



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

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

B	Barite
H	Hematite
S	Silicification
G	Green Clay
A	Argillization
P	Py. / Marc
C	Carbonate / Calcite
Pr	Propylatized
	Td
	Bmp
	ALS

SL-D402-00

Depth From	To	Interval	Au	Ag	Sample Number
543	547.8	4.8	x	x	1
553.5	558	4.5	x	x	2
558	562	4	x	x	3
562	566	4	x	x	4
566	569.5	3.5	x	x	5
569.5	573	3.5	x	x	6
573	578	5	x	x	7
578	583	5	x	x	8
583	589.5	6.5	x	x	9
589.5	593	3.5	x	x	10
593	598	5	x	x	11
598	603	5	x	x	12
603	608	5	x	x	13
608	611.5	3.5	x	x	14
626	629	3	x	x	15
645	648	3	x	x	16
648	654.3	6.3	x	x	17

SL-D402-00

Depth From	To	Interval	Au	Ag	Sample Number
543	547.8	4.8	x	x	1
553.5	558	4.5	x	x	2
558	562	4	x	x	3
562	566	4	x	x	4
566	569.5	3.5	x	x	5
569.5	573	3.5	x	x	6
573	578	5	x	x	7
578	583	5	x	x	8
583	589.5	6.5	x	x	9
589.5	593	3.5	x	x	10
593	598	5	x	x	11
598	603	5	x	x	12
603	608	5	x	x	13
608	611.5	3.5	x	x	14
626	629	3	x	x	15
645	648	3	x	x	16
648	654.3	6.3	x	x	17

SAMPLE SUBMITTAL FORM

American Assay Laboratories Inc.

Sparks Office
1500 Glendale Ave.
Nevada 89431
Box 71060
Reno, NV. 89570
Telephone
(702) 356-0606
Fax
(702) 356-1413

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

Company: Rosebud Mining L.L.C.

Address: P.O. Box 2610 Winnemucca NV 89446

Telephone Number: (775) 623-6412 Fax Number: (775) 623-6467

Project Name: _____ Purchase Order Number: _____

Transport Company: _____ Waybill Number: _____

Date Shipped: 5-10-00 Number of Packages: 18 [ ] Prepaid [ ] Collect

ANALYSIS REQUIRED

SAMPLE	TYPE	ELEMENTS REQUIRED
SL-D402-00	Core	Au Ag: Use Rosebud Mine
		development protocol
See attached sheet for		
sample		
1 Rosebud Production standard	Calp	
at end of Run		

COARSE REJECTS (Normally Discarded)

[X] Return COD after analysis complete
[X] By prior arrangements

PULPS (Normally Stored Free For One Month)

[ ] Discard after one month
[ ] Return COD after one month
[X] By prior arrangements

RESULTS AND INVOICES TO BE SENT TO:

Please mark invoice person and address [I]

(1) Kent Allen
See above

(2) _____

(3) _____

Comments:

CLIENT FILE COPY

SL-D402-00

Depth From	To	Interval	Au	Ag	Sample Number
543	547.8	4.8	x	x	1
553.5	558	4.5	x	x	2
558	562	4	x	x	3
562	566	4	x	x	4
566	569.5	3.5	x	x	5
569.5	573	3.5	x	x	6
573	578	5	x	x	7
578	583	5	x	x	8
583	589.5	6.5	x	x	9
589.5	593	3.5	x	x	10
593	598	5	x	x	11
598	603	5	x	x	12
603	608	5	x	x	13
608	611.5	3.5	x	x	14
626	629	3	x	x	15
629	633	4	x	x	16
645	648	3	x	x	17
648	654.3	6.3	x	x	18

SP

SUBMITTAL FORM

American Assay Laboratories

Geochemical • Environmental • Metallurgical

Sparks Office
1500 Glendale Ave.
Nevada 89431
Box 11530
Reno, NV 89510
Telephone
(702) 356-0606
Fax
(702) 356-1413

Tucson Office
2775 E. Ganley
Tucson, AZ 85706
Telephone
(520) 294-8078
Fax
(520) 294-6352

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

Mazatlan Office
Telephone/Fax
011-52-69-170035

Other Offices
Lima, Peru
Santiago, Chile
Mendoza, Argentina

Company: Hecla Mining Company

Address: P.O. Box 2610

City Winnemucca State NV Zip 89446

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

Project Name: Rosebud Exploration Purchase Order Number:

Date Submitted: 4/21/00 Number of Samples: 34

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

SLA-402-00 SAMPLE IDENTIFICATION			TYPE	ELEMENTS REQUIRED
444.2-448	484.9-486.6	523-528	CORE	PREP FOR Exploration Core Protocol
448-453	486.6-488	528-531		
453-456.1	488-489.3	531-535.2		
456.1-457.6	489.3-491.6	535.2-543		
457.6-460.7	491.6-493.4			
460.7-465.2	493.4-496.8			
465.2-466.8	496.8-501.7			
466.8-468	501.7-503			
468-473	503-504.5			
473-477.4	504.5-508			
477.4-479.1	508-513			
479.1-480	513-514.8			
480-481.4	514.8-515.8			
481.4-481.7	515.8-519.6			
481.7-484.9	519.6-523			

COARSE REJECTS (Normally Discarded After 60 Days)

[ ] Return COD after analysis complete

PULPS (Normally Stored Free For One Month)

[ ] Discard after one month

[X] Return COD after one month

RESULTS AND INVOICES TO BE SENT TO:

Invoice to:

Kurt Allen

Results to:

Kurt Allen

Comments:

CLIENT FILE COPY

xAMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP057114

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: SLD-402-00 RECEIVED : 23 APR 2000

No. SAMPLES : 35 REPORTED : 3 MAY 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

ANALYSIS REPORT SP057114

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD
REFERENCE : SLD-402-00

REPORTED : 3 MAY 2000

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag(OZ) D210 OPT
SLD-402-00 444.2-448.0	0.004		0.12
SLD-402-00 448-453	0.085	5	0.16
SLD-402-00 453.0-456.1	0.011	3.1	0.07
SLD-402-00 456.1-457.6	0.396	1.5	0.58
SLD-402-00 457.6-460.7	.176 0.026	3.1 9.1	0.09 1.606
SLD-402-00 460.7-465.2	0.207	4.5 11.9	0.27
SLD-402-00 465.2-466.8	0.033	1.6	0.13
SLD-402-00 466.8-468.0	0.102	1.2	0.27
SLD-402-00 468-473	0.013		0.10
SLD-402-00 473.0-477.4	0.014		0.12
SLD-402-00 477.4-479.1	0.011		0.14
SLD-402-00 479.1-480.0	0.005		0.06
SLD-402-00 480.0-481.4	0.011		0.08
SLD-402-00 481.4-481.7	0.004		0.04
SLD-402-00 481.7-484.9	0.020		0.07
SLD-402-00 484.9-486.6	0.035		0.07
SLD-402-00 486.6-488.0	0.033		0.06
SLD-402-00 488.0-489.3	0.004		0.03
SLD-402-00 489.3-491.6	0.002		0.03
SLD-402-00 491.6-493.4	0.004		0.05
SLD-402-00 493.4-496.8	0.002		0.02
SLD-402-00 496.8-501.7	0.003		0.18
SLD-402-00 501.7-503.0	0.002		0.03
SLD-402-00 503.0-504.5	0.002		<0.02
SLD-402-00 504.5-508.0	0.027		0.14

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP057114

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD
REFERENCE : SLD-402-00

REPORTED : 3 MAY 2000

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag(OZ) D210 OPT
SLD-402-00 508-513	0.283		0.19
SLD-402-00 513.0-514.8	0.011		0.02
SLD-402-00 514.8-515.8	0.002		0.03
SLD-402-00 515.8-519.6	0.002		0.04
SLD-402-00 519.6-523.0	0.002		0.06
SLD-402-00 523-528	<0.001		0.03
SLD-402-00 528-531	0.002		0.02
SLD-402-00 531.0-535.2	<0.001		0.02
SLD-402-00 535.2-543.0	0.001		0.02
89674	0.160		1.90

xAMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP057114

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

:

:

.176

CLIENT REFERENCE No: SLD-402-00

No. SAMPLES : 35

MAIN SAMPLE TYPE : DRILL CORE

RECEIVED : 23 APR 2000

REPORTED : 3 MAY 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 SP057114

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD
REFERENCE : SLD-402-00

REPORTED : 3 MAY 2000

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag(OZ) D210 OPT
SLD-402-00 444.2-448.0	0.004		0.12
SLD-402-00 448-453	0.085		0.16
SLD-402-00 453.0-456.1	0.011		0.07
SLD-402-00 456.1-457.6	0.396		0.58
SLD-402-00 457.6-460.7	0.026		0.09
SLD-402-00 460.7-465.2	0.207		0.27
SLD-402-00 465.2-466.8	0.033		0.13
SLD-402-00 466.8-468.0	0.102		0.27
SLD-402-00 468-473	0.013		0.10
SLD-402-00 473.0-477.4	0.014		0.12
SLD-402-00 477.4-479.1	0.011		0.14
SLD-402-00 479.1-480.0	0.005		0.06
SLD-402-00 480.0-481.4	0.011		0.08
SLD-402-00 481.4-481.7	0.004		0.04
SLD-402-00 481.7-484.9	0.020		0.07
SLD-402-00 484.9-486.6	0.035		0.07
SLD-402-00 486.6-488.0	0.033		0.06
SLD-402-00 488.0-489.3	0.004		0.03
SLD-402-00 489.3-491.6	0.002		0.03
SLD-402-00 491.6-493.4	0.004		0.05
SLD-402-00 493.4-496.8	0.002		0.02
SLD-402-00 496.8-501.7	0.003		0.18
SLD-402-00 501.7-503.0	0.002		0.03
SLD-402-00 503.0-504.5	0.002		<0.02
SLD-402-00 504.5-508.0	0.027		0.14

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP057114

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD
REFERENCE : SLD-402-00

REPORTED : 3 MAY 2000

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag(OZ) D210 OPT
SLD-402-00 508-513	0.283		0.19
SLD-402-00 513.0-514.8	0.011		0.02
SLD-402-00 514.8-515.8	0.002		0.03
SLD-402-00 515.8-519.6	0.002		0.04
SLD-402-00 519.6-523.0	0.002		0.06
SLD-402-00 523-528	<0.001		0.03
SLD-402-00 528-531	0.002		0.02
SLD-402-00 531.0-535.2	<0.001		0.02
SLD-402-00 535.2-543.0	0.001		0.02
89674	0.160		1.90

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 0057114-IN
INVOICE DATE: 05/02/00

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-402-00	KURT ALLEN	NET 30 - DUE IN U.S. DOLLARS

QUANTITY	DESCRIPTION	PRICE	AMOUNT
35	SAMPLES RECEIVED	.00	.00
1	NO PREPARATION REQUIRED	.00	.00
34	DRY/JAW CRUSH ENTIRE SAMPLE	2.60	88.40
34	COARSE MILLING CHARGE	6.00	204.00
34	ROTARY SPLIT	2.40	81.60
34	RING/PUCK MILL	2.00	68.00
35	Au (1 A.T. FIRE ASSAY)	8.00	280.00
35	HYDROCHLORIC/NITRIC DIGESTION	2.00	70.00
35	Ag ANALYSES	1.00	35.00

86-3010-477
KAA

NET INVOICE:	827.00
LESS DISCOUNT:	248.10
FREIGHT:	.00
INVOICE TOTAL:	578.90

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP057114

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-402-00 RECEIVED : 23 APR 2000

No. SAMPLES : 35 REPORTED : 3 MAY 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 SP057114

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD
REFERENCE : SLD-402-00

REPORTED : 3 MAY 2000

SAMPLES	Au(OZ)	Au(RZ)	Ag(OZ)	
SLD-402-00 444.2-448.0	0.004		0.12	
SLD-402-00 448-453	0.085	456.1-465.2	0.16	
SLD-402-00 453.0-456.1	0.011	= 9.1' @	0.07	
SLD-402-00 456.1-457.6 1.5'	0.396		0.58	
SLD-402-00 457.6-460.7 3.1	0.026		0.09	1.76 Au
SLD-402-00 460.7-465.2 4.5	0.207		0.27	0.26 Ag
SLD-402-00 465.2-466.8	0.033		0.13	
SLD-402-00 466.8-468.0	0.102		0.27	
SLD-402-00 468-473	0.013		0.10	
SLD-402-00 473.0-477.4	0.014		0.12	
SLD-402-00 477.4-479.1	0.011		0.14	
SLD-402-00 479.1-480.0	0.005		0.06	
SLD-402-00 480.0-481.4	0.011		0.08	
SLD-402-00 481.4-481.7	0.004		0.04	
SLD-402-00 481.7-484.9	0.020		0.07	
SLD-402-00 484.9-486.6	0.035		0.07	
SLD-402-00 486.6-488.0	0.033		0.06	
SLD-402-00 488.0-489.3	0.004		0.03	
SLD-402-00 489.3-491.6	0.002		0.03	
SLD-402-00 491.6-493.4	0.004		0.05	
SLD-402-00 493.4-496.8	0.002		0.02	
SLD-402-00 496.8-501.7	0.003		0.18	
SLD-402-00 501.7-503.0	0.002		0.03	
SLD-402-00 503.0-504.5	0.002		<0.02	
SLD-402-00 504.5-508.0	0.027		0.14	

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP057114

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD
REFERENCE : SLD-402-00

REPORTED : 3 MAY 2000

SAMPLES		Au(OZ)	Au(RZ)	Ag(OZ)
SLD-402-00	508-513	0.283		0.19
SLD-402-00	513.0-514.8	0.011		0.02
SLD-402-00	514.8-515.8	0.002		0.03
SLD-402-00	515.8-519.6	0.002		0.04
SLD-402-00	519.6-523.0	0.002		0.06
SLD-402-00	523-528	<0.001		0.03
SLD-402-00	528-531	0.002		0.02
SLD-402-00	531.0-535.2	<0.001		0.02
SLD-402-00	535.2-543.0	0.001		0.02
89674		0.160		1.90

Drill hole # SL-D402-00

Down hole depth	Quadrant:	Measured Bearing	Corrected Azimuth	Measured Inclination	Corrected Dip
53	NE	48.5	64.12	30.5	-59.5
253	NE	49.75	65.37	30.25	-59.75
400	NE	49	64.62	29.5	-60.5
653	NE	50.25	65.87	30	-60
	NE	0	15.62	0	-90

TD Depth 693

2000 Declination 15.62

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP057387

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-D402-00 RECEIVED : 11 MAY 2000

No. SAMPLES : 19 REPORTED : 18 MAY 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.

05/18/2000 15:49 7753561413 AMERICAN ASSAY LABS PAGE 01
7753561413

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP057387

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD
REFERENCE : SL-D402-00

REPORTED : 18 MAY 2000

SAMPLES	Au(OZ)	Au(RZ)	Ag(OZ)
SL-D402-00 543.0-547.8	0.001		<0.02
SL-D402-00 553.5-558.0	<0.001		<0.02
SL-D402-00 558-562	<0.001		<0.02
SL-D402-00 562-566	<0.001		<0.02
SL-D402-00 566.0-569.5	<0.001		<0.02
SL-D402-00 569.5-573.0	<0.001		0.02
SL-D402-00 573-578	<0.001		<0.02
SL-D402-00 578-583	<0.001		<0.02
SL-D402-00 583.0-589.5	<0.001		<0.02
SL-D402-00 589.5-593.0	<0.001		<0.02
SL-D402-00 593-598	<0.001		<0.02
SL-D402-00 598-603	<0.001		<0.02
SL-D402-00 603-608	<0.001		<0.02
SL-D402-00 608.0-611.5	<0.001		0.03
SL-D402-00 626-629	0.002		<0.02
SL-D402-00 629-633	<0.001		<0.02
SL-D402-00 645-648	<0.001		<0.02
SL-D402-00 648.0-654.3	<0.001		<0.02
34753	0.169		1.78

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 0057387-IN
INVOICE DATE: 05/19/00

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-D402-00	KURT ALLEN	NET 30 - DUE IN U.S. DOLLARS

QUANTITY	DESCRIPTION	PRICE	AMOUNT
19	SAMPLES RECEIVED	.00	.00
1	NO PREPARATION REQUIRED	.00	.00
18	DRY/JAW CRUSH ENTIRE SAMPLE	3.00	54.00
18	COARSE MILLING CHARGE	7.00	126.00
18	"JONES" RIFFLE SPLIT	3.00	54.00
18	RING/PUCK MILL	2.00	36.00
19	Au (1 A.T. FIRE ASSAY)	8.00	152.00
19	HYDROCHLORIC/NITRIC DIGESTION	2.00	38.00
19	Ag ANALYSES	1.00	19.00

86-3010-477
CJA

NET INVOICE:	479.00
LESS DISCOUNT:	143.70
FREIGHT:	.00
INVOICE TOTAL:	335.30

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP057387

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

:

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CLIENT REFERENCE No: SL-D402-00 RECEIVED : 11 MAY 2000

No. SAMPLES : 19 REPORTED : 18 MAY 2000

MAIN SAMPLE TYPE : DRILL CORE

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SIGNATORY : Leonard E. Mackedon B.S.

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP057387

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD
REFERENCE : SL-D402-00

REPORTED : 18 MAY 2000

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SL-D402-00 543.0-547.8	0.001		<0.02
SL-D402-00 553.5-558.0	<0.001		<0.02
SL-D402-00 558-562	<0.001		<0.02
SL-D402-00 562-566	<0.001		<0.02
SL-D402-00 566.0-569.5	<0.001		<0.02
SL-D402-00 569.5-573.0	<0.001		0.02
SL-D402-00 573-578	<0.001		<0.02
SL-D402-00 578-583	<0.001		<0.02
SL-D402-00 583.0-589.5	<0.001		<0.02
SL-D402-00 589.5-593.0	<0.001		<0.02
SL-D402-00 593-598	<0.001		<0.02
SL-D402-00 598-603	<0.001		<0.02
SL-D402-00 603-608	<0.001		<0.02
SL-D402-00 608.0-611.5	<0.001		0.03
SL-D402-00 626-629	0.002		<0.02
SL-D402-00 629-633	<0.001		<0.02
SL-D402-00 645-648	<0.001		<0.02
SL-D402-00 648.0-654.3	<0.001		<0.02
34753	0.169		1.78

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Ag(OZ)	D210	10%	OPT	0.02

SIGNATORY : Leonard E. Mackedon B.S.

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP057387

American Assay Laboratories

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PROJECT : ROSEBUD
REFERENCE : SL-D402-00

REPORTED : 18 MAY 2000

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SL-D402-00 553.5-558.0	<0.001		<0.02
SL-D402-00 558-562	<0.001		<0.02
SL-D402-00 562-566	<0.001		<0.02
SL-D402-00 566.0-569.5	<0.001		<0.02
SL-D402-00 569.5-573.0	<0.001		0.02
SL-D402-00 573-578	<0.001		<0.02
SL-D402-00 578-583	<0.001		<0.02
SL-D402-00 583.0-589.5	<0.001		<0.02
SL-D402-00 589.5-593.0	<0.001		<0.02
SL-D402-00 593-598	<0.001		<0.02
SL-D402-00 598-603	<0.001		<0.02
SL-D402-00 603-608	<0.001		<0.02
SL-D402-00 608.0-611.5	<0.001		0.03
SL-D402-00 626-629	0.002		<0.02
SL-D402-00 629-633	<0.001		<0.02
SL-D402-00 645-648	<0.001		<0.02
SL-D402-00 648.0-654.3	<0.001		<0.02
34753	0.169		1.78

	ALT Begin	444.4		40°	
		463 - 471.6	20° Tc	Fy Zn	
Fc	First silicon	480 - 517	SRF	50° Tc	480
	silica flood	488	60° Tc		
-2888	silica	491.5	ACS	60° Tc	
		493.4	20° Tc		
1370	silicoends	513			
Fult	Fulteal	517		60° Tc	
TCS		547.8 - 548			
	ACS	548 - 553.4	80° Tc	60° Tc	
	FLT	562.4	50° Tc	565.4	60 Tc
	Bmp	571.5	588.4	400	40° Tc
	TD	588.4	611.5	40	70°

Drill hole # SL-D402

Down hole depth	Quadrant:	Measured Bearing	Corrected Azimuth	Measured Inclination	Corrected Dip
53	NE	48.5	64.12	30.5	-59.5
153					
253	NE	49.75	65.37	30.25	-59.75
326					
400	NE	49	64.62	29.5	-60.5
526					
653	NE	50.25	65.87	30	-60
	NE	0	15.62	0	-90

TD Depth

2000 Declination 15.62

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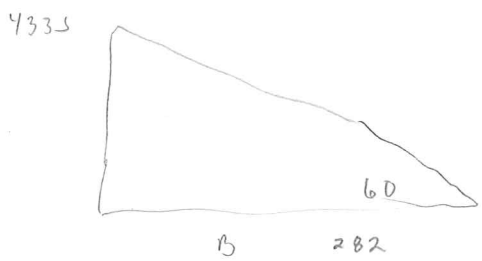

1625

488 3847 elev

537 3798 elev

A 310

1625

B 563

620

153
9 59.5
8 50.5
402
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77.6
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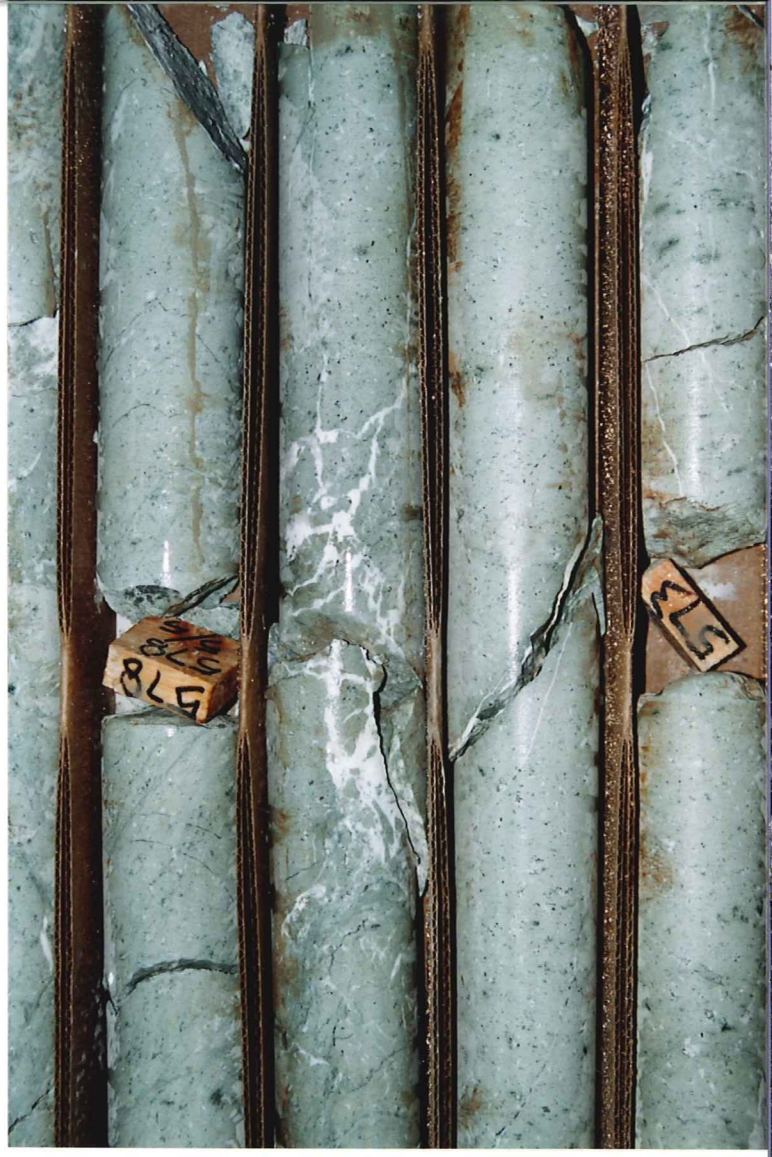
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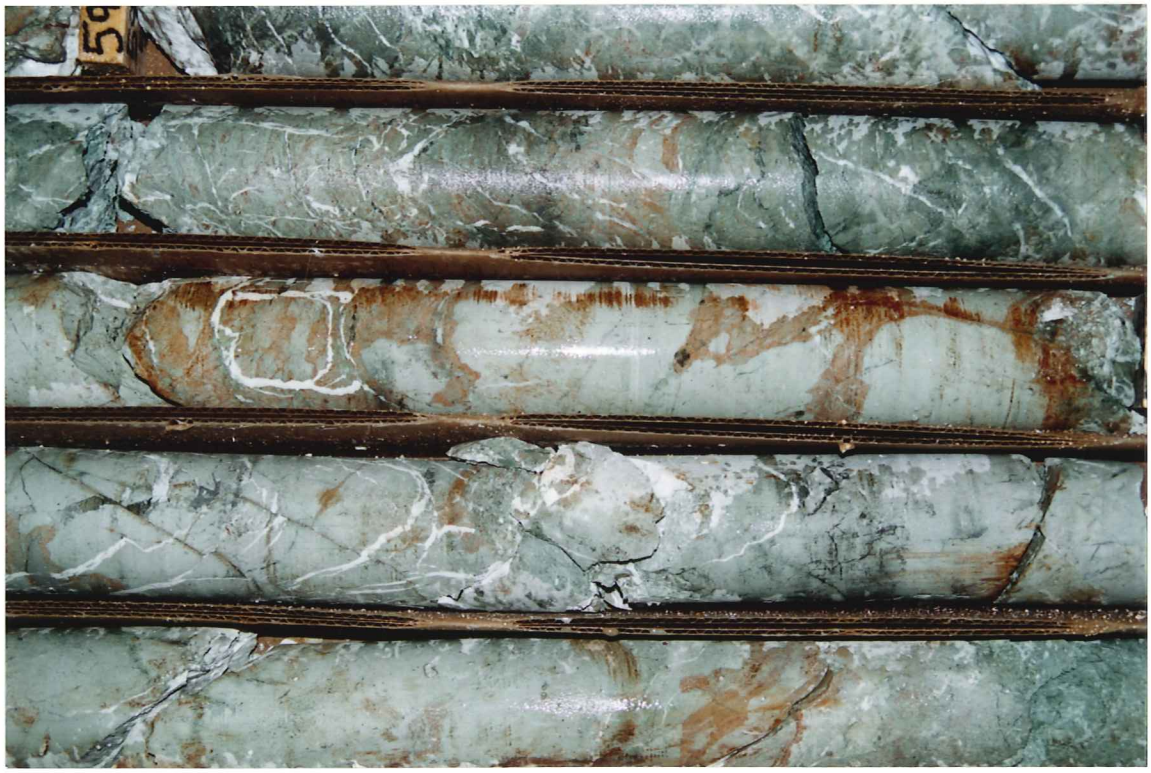

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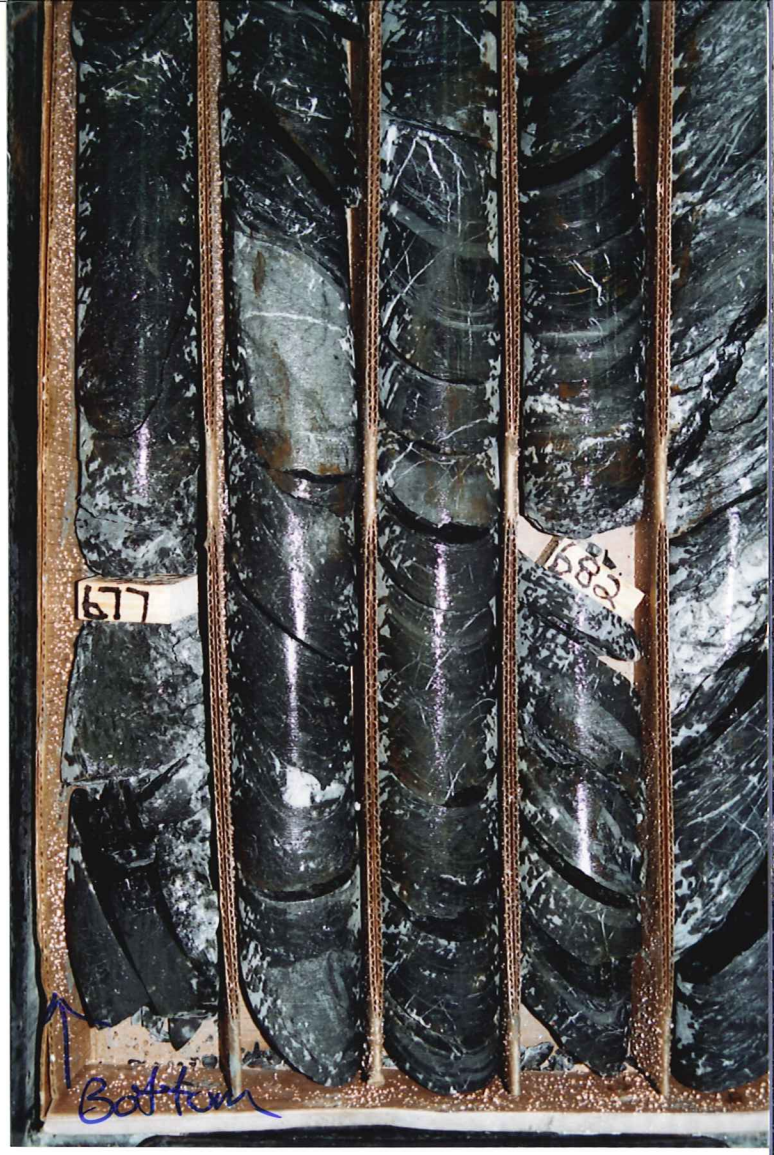
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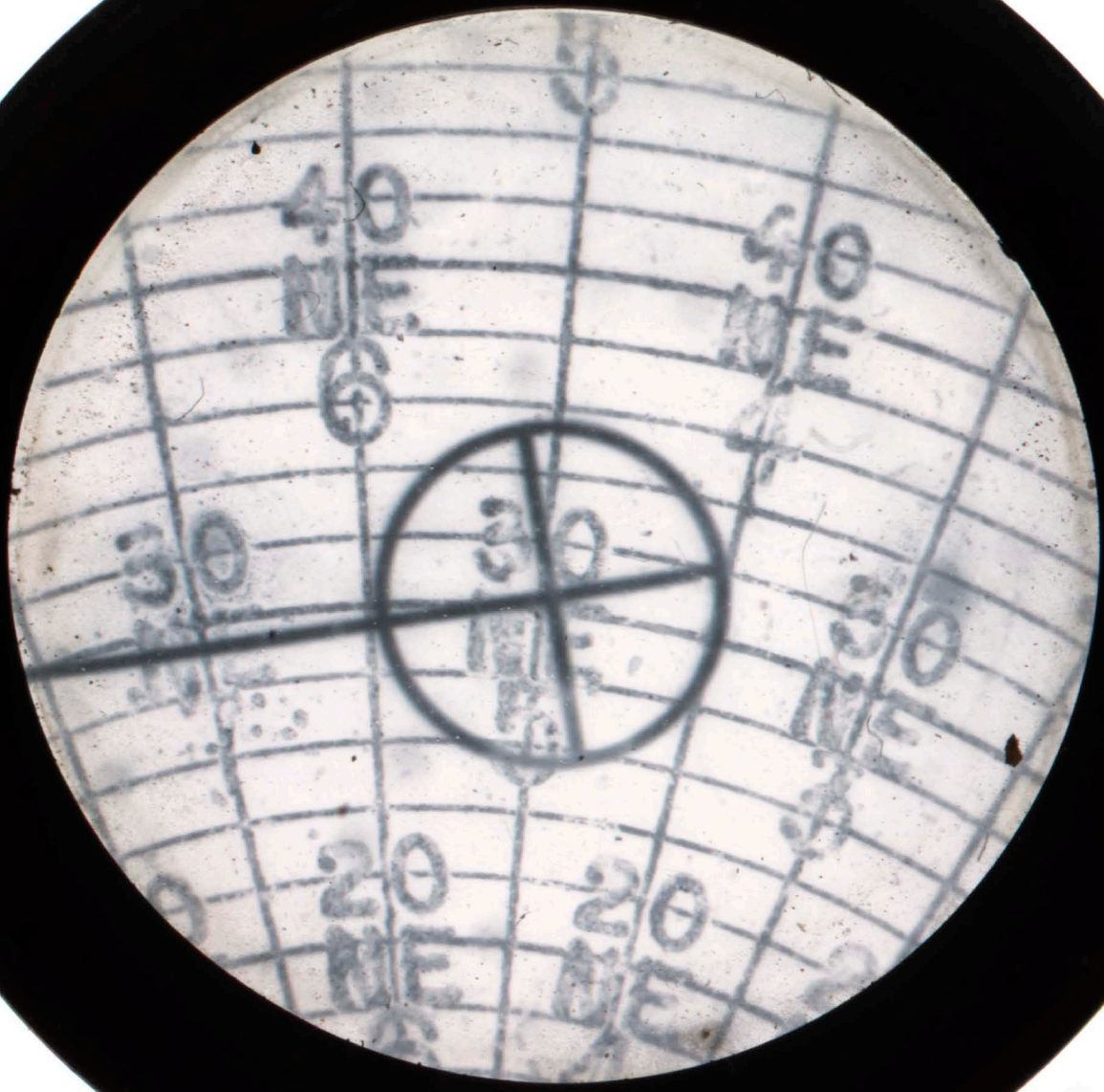
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