6000 0926

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. RS-D366-99
AUTHOR	D. Mackenrow; K. Allen; K. Meyer; D. Francisco; D. Marker
DATE OF DOC(S)	1999
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.; Newmont Gold Co North Area Target
COMMODITY If not obvious	gold; silver
NOTES	Drill log; geology; assay; geochemistry; total depth 710' receipt; handwritten notes; downhole camera images [redacted]; down hole survey 63p. 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:		

RS-D366-99

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

Hecla
MINING COMPANY

ROSEBUD PROJECT
DIAMOND DRILL LOG

HOLE NUMBER	RS-D366-99	LOCATION	North Area Target	REMARKS	
PAGE 1 OF	11	NORTHING			Started 10/30/99
DATE	10/31/99	EASTING			25 Muck bay North west Target
LOGGED BY	D G. Mackercow	ELEVATION			
SCALE	1"=10'	AZIMUTH	N25°W		
TOTAL DEPTH	710	INCLINATION	-42		

LITH	OX/RE	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
Tos	R	Tos Epiclastic Sandstone and Conglomerate with minor siltstone 0-14.5 Granule to medium grain sized conglomerate. Clast consist of fine grained and banded Dacer? rhyolites Small clast up to ¼" P.L.S. shale clasts locally up to 1%. Local accumulation of volcanic clay matrix support clast. 14.5-52 Coarse conglomerate with clast to 1' in diameter 52 Increasing of volcanically derive clay matrix grading to water lain tuff	10 20 30 40 50	50 30 30	7' Dip of 50° tca 47 open gash fractures Dipping 3	0- chloritic alteration stains core green with dark forest green concentrations Pyrite is disseminated at 2-5% with local aggregations Steeply dipping calcite veins 33-33.5 Pyrite veinlets 0° tca 34-40' Open space in core contains calcite crystal 47-52 Calcite floods open gash fractures that begin to form

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	A
0	11					
11	16					
16	26					
26	31					
31	37					
37	42					
42	47					
47	52					

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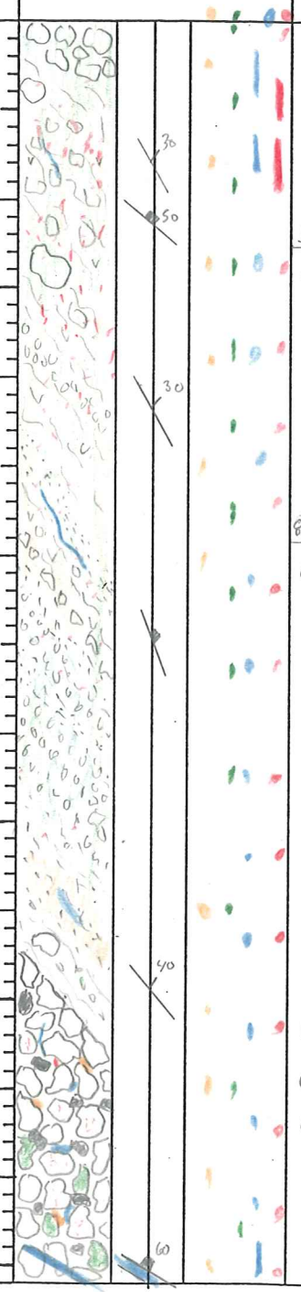
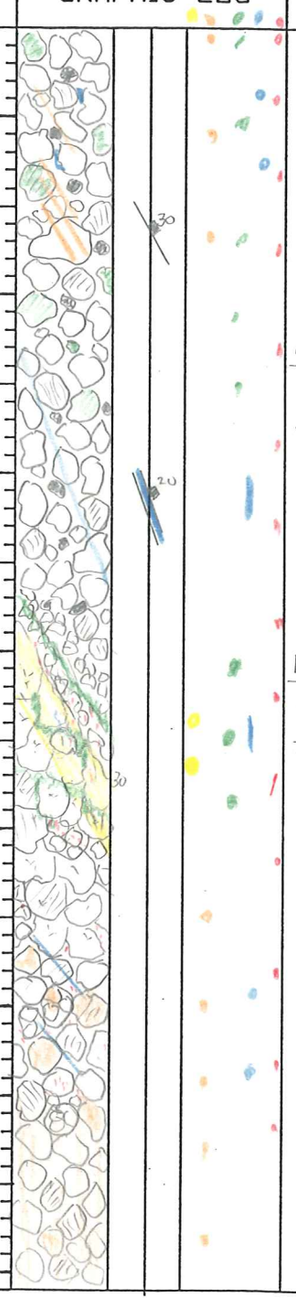
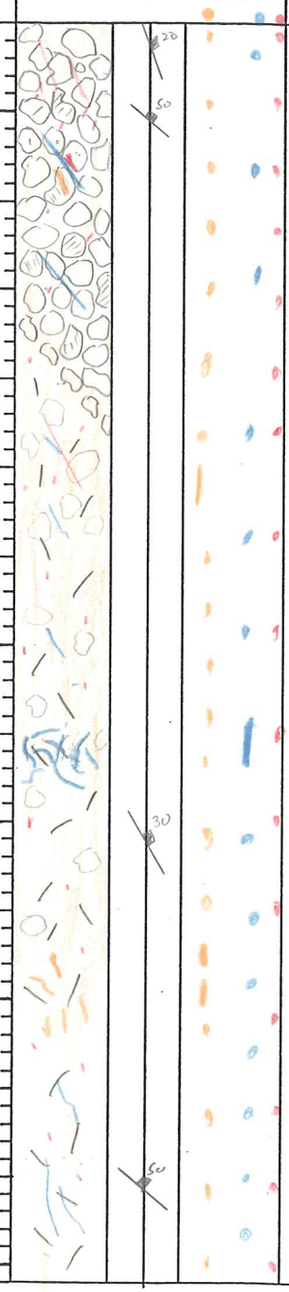
LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
Tos	R	0- Tos Epiclastic Sandstone and Conglomerates with minor Siltstone 52-82 volcanic clay matrix increase forming water lain ash fall tuff. Clay matrix is partially argillized 82-98 Granule sandstone to Fine grained conglomerate 102-107 Als. derived clays support sub rounded clast 105-158 Coarse conglomerate subangular to angular clast Locally hydrothermally altered clay fills small gaps	50 60 70 80 90 100 110 120		57-67 minor increase in fracturing 84 core fracturing on elevated clay 103 Small 1" offset of beds along 15° ten fracture Down. Fracture is totally healed	General chloritic alteration continues 82-97 calcite rxn is from very fine fracture 92 chloritic alteration weakens to 142' Various clast have different levels of argillization 120-½" thick calcite vein	52 62 72 82 92 102 112	62 72 82 92 102 112 122				

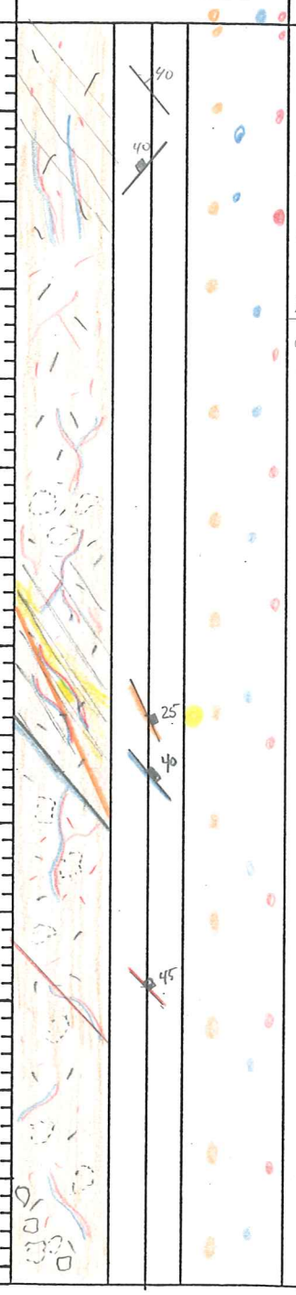
HOLE NUMBER RS-D366-99 PAGE 3 OF 11

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
TOS	R	0 -158 Tos Epiclastic Sandstone and Conglomerate Course conglomerate continues from 107 Alteration related to the contact begins as traces of white clay at 125! 142-156 Argillization removes 99% of chloride staining. 156-158 Interbedded ashfall and conglomerate along the contact to 161	120 130 140 150 160 170 180 190		131.3-132 Fracture zone at 30° tca with open vugs 158 contact is 30° tca with fragments of Tuff to 161	124-126 Altered clays in conglomerate matrix is up to ½' thick. 129.9-132 White clay on fractures 131.3-132 white clay on the fracture 145.7-147.9 open vugs filled with calcite and with pyrite crystals in vugs along 200° tca 158 Pyrite in Dozer is ≈ 1% Marcasite blades are disseminated in the Dozer but can form local aggregation concentrations or <.5% 158-162 silicification along contact.	127 129.9 132 142 145.7 147.9 152 158 162 172 182 192	129.9 132 142 145.7 147.9 152 158 162 172 182 192					
Td	R	158 -218.8 TRANSITIONAL DOZER CONGLOMERATE Dozer derived conglomerate. Clasts are poorly sorted and support each other. Very general weak argillication in some clast from 170										

HOLE NUMBER RS-D366-99 PAGE 4 OF 11

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
Td	R	DOZER Fine grained rhyolite transitional flow Transition breccia continues to 218.8, clast appear to become absorbed from 210.4-218.8 218.8 DOZER 222-242 Very faint autobreccia texture	190 200 210 220 230 240 250 260		216-217 small gush fracture with white clay	Disseminated crystal of pyrite and marcasite continue at ≈ 1-2% Fine sulfides are found on micro fractures 201 white clay on FX 200 marcasite % decreases below this point. 241.5-247 Traces of hydrothermally altered clay 230.5-232 Calcite filled fractures 242-245 white clay on fractures	192 202 212 222 232 242	202 212 222 232 242 252 262				

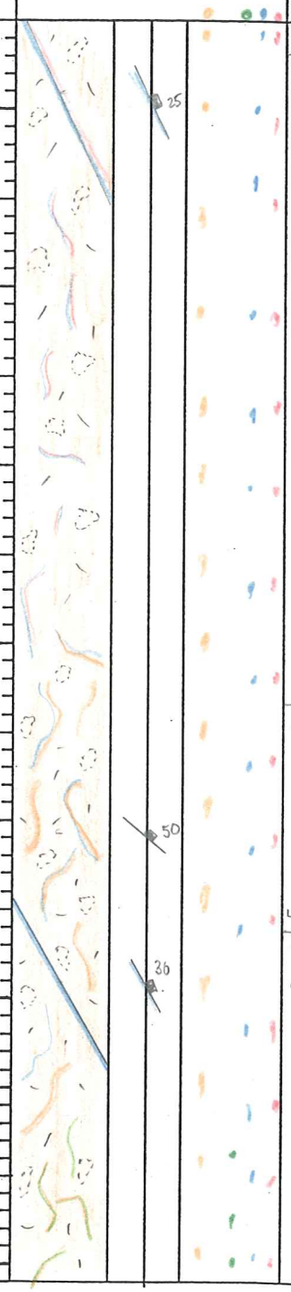
HOLE NUMBER RS-D366-99 PAGE 5 OF 11

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
Td	R	158-682 DOZER Fine grained rhyolite flow continues. Pale white gray color from weak argillic alteration 262-265 Planar foliation 290-310 flow laminations 310-330 weak auto brecciation texture	260 270 280 290 300 310 320 330		264 Gash fractures X cut flow lamination Gashes are 40° to 260-330 Calcite/sulfide coated fractures 25-50° N 2/ft	260-330 Weakly argillized, rare hydrothermally altered clay. Very fine disseminated pyrite 1-2%. 304-311 disseminated v. fine grained marc crystals <1% 289.9 White clay coated fracture. Weakly silicified 287-289.9

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2
262	272				
272	282				
282	292				
292	302				
302	312				
312	322				
322	332				

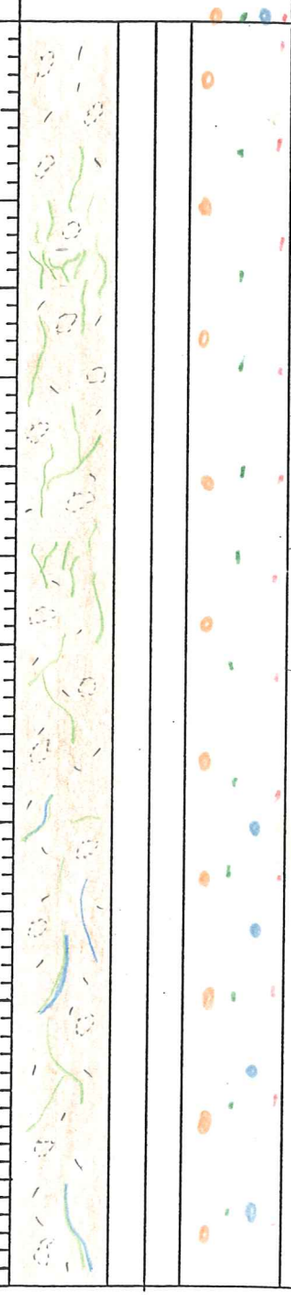
HOLE NUMBER RS-D366-99 PAGE 6 OF 11

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
Td	R	158-682 DOZER Fine-grained rhyolite flow continues Pale white-grey, weakly argillized, weak autobrecciation	330 340 350 360 370 380 390 400		330-400 Calcite/sulfide coated fractures 25-40°, <1/ft 360-400 Calcite/Hyd. Clay coated fractures - No sulfides. 392- increasing hyd-clay filled fractures. 402-408 Hyd-clay filled fractures + green clay	330-400 Weakly argillized, fine-grained disseminated pyrite ~2% 360-400

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2
332	342				
342	352				
352	362				
362	372				
372	382				
382	392				
392	402				

HOLE NUMBER _____ PAGE 7 OF 11

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
Td	R	158-682 DOZER Fine-grained rhyolite flow continues Pale white-grey, weakly argillized, weak autobrecciation	410 420 430 440 450 460 470		408 - 413 Veinlets, Green Hyd-clay filled fractures. 0-15° <5% 413 - 415 Veinlet swarm, 0-15° Green Hyd-clay filled fractures. 20% 415 - 429.3 Same as 408-413 429.3 - 433.2 Same as 413-415 433.2 - 470 Veinlets, Green Hyd-clay filled fractures. Some w/calcite 10-40°, 1-2/ft.	408 - 470 Weakly argillized, Hyd-Clay Veinlets - green, v. fine disseminated pyrite <1%. Rare v. fine-grained disseminated warc/ blades.

ANALYTICAL DATA					
FROM	TO	W	Au	Ag	Au2
402	408				
408	413				
413	415				
415	422				
422	429.3				
429.3	433.2				
433.2	442				
442	452				
452	462				
462	472				

HOLE NUMBER RS-D366-99 PAGE 8 OF 11

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
Td	R	158-682 DOZER	470		470-500 10° to core axis fracture set. White clay coated and some dk grey sulfides. Dozer is more brecciated - crackle, 1-5% veinlets w/ green clay. Some w/ calcite	470-500 Weakly argillized, fine-grained disseminated pyrite xtals 1%	472	482				
			480	10			482	486.9				
			490	10			486.9	493				
		502 begin logging					493	496.3				
		Fine grained rhyolite flow with Hydrothermally altered clay filling fractures. Fracture are partial expanded by clay	500	50 20 50	500-504 20° to core fracture set with altered grey green clay Surrounding rock has low level crackle bx.	From 502 sulfide consist of pyrite and py after microcrystite at normal 1-2% levels Pyrite crystals of 1-2 millimeters present	502	507				
			510	20			507	512				
							512	517				
		Pinx 621 → Pale grey green hydro clay	520	30		520 1" Thick Calcite vein	517	522				
		522 - 523.5 Altered clay has faint yellow green tint but not to the level of the ore zone in RS-D365-99		20	514.3 - 515.5 Narrow zone of hydrothermal breccia with orientation of 20° to		522	527				
			530	30 30		532 - 537 white clay fill gash fracture	527	532				
							532	537				
			540				537	542				

HOLE NUMBER RS-D366-91 PAGE 9 OF 11

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
Td	R	158-682 DOZER Rhyolite flow continues 537 – 556 Auto breccia texture present 557.5 Silicification develops w. mottled core appears from fine disseminated sulfide Pinn 569 white clay on fx 577-581.3 Random silicification of hydrothermal breccia clast 589.8-593.2 Greenish yellow clay matrix supporting Dozer clay. Breccia is hydrothermal 589.8-590 white clay and silica vein at 40° tca Traces of yellow green clay on fx 593.2-593.6 Bud Mucher type Porphyry Highly argillized medium gray rock white clay replacing phenocryst muscovite blades are slightly shinny Two rose barite crystal are stuck into the side of the intrusion	540 550 560 570 580 590 600 610		40 30 50 50 20 20 20 30 60 40 20	563.5 Fracturing related to hydrothermal brecciation begins to increase 575-578 Fractures have of upper breccia curve but 20° tca is general orientation 577-583.3 Strong hydrothermal breccia 583.3-587 Hydrothermally altered clay filled fractures 597-631.4 Hanging wall hydrothermal breccia with altered greenish clay matrix	557.5 silicification of flow begins 560 one clast has faint remnant hematite stain 563.5 1" calcite vein with breccia clast trapped in it. 563.5 pyrite muscovite veinlets increase in intensity 567-572 Pyrite veinlets and micro muscovite blades associated with white clay on fractures 572-577 Faint yellow green clay but not to ore intensity 581.3-583.3 Green clay matrix has faint yellow tint 593.6-597 Calcite with muscovite blades for breccia matrix. Dozer bleach white	542 547 552 557 562 567 572 577 581.3 583.3 587 589.8 593.2 593.6 597 602 607	547 552 557 562 567 572 577 581.3 583.3 587 589.8 593.2 593.6 597 602 607 612					

HOLE NUMBER RS-D366-99 PAGE 10 OF 11

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
T1	R	158-682 DOZER Hydrothermal breccia continues. Breccia is in hanging wall of 15 to sulfide flooded shear plane at 631.4, sheared upper surface 631.4-637 Gash fractured Dozer with white clay filling openings 637.5 - 30° to sulfide flooded shear plane, Brecciation below this plane significantly increases 597-631.4 No marcasite was visible in the hydrothermal breccia. From 631.4 to 659.2 pyrite after marcasite in small crystals were observed, but at low level. 659.2 -666 20° to pyrite vein over 2FT 660-662 Reduced rod 667 667-672.5 Breccia with silicified fragments	610 620 630 640 650 660 670 680		631.4 15° to shear with pyrite and calcite coating upper surface has 2" of shear. 642-647.5 Gash fractures in non brecciated Dozer fracture ≈ 30° to 647.5-655.8 Extreme brecciation with dark pyrite matrix with Dozer fragments. Lower sulfide surface is at 655.8 at 30° to cal	602-632 Chloritic alteration of clays stains them darker green. Calcite is present in clay matrix of breccia 631.4 Black fine sulfide coat shear to ⅛" thick 630.2-632 Interval contains the 15° to shear with dark sulfide and calcite 639.9-642 20° to shear plane with black sulfide and pyrite mass. 642-647 Gash fracture filled by white clay between breccia zone 647.5-655.8 Pyrite flooded fault breccia Pyrite rebrecciated Calcite is present as part of clast 655.8-659.2 Brecciated argillized Dozer with low level white clay 677.5-678 calcite with dark py in veinlets	612 617 622 627 630.2 632 637 639.9 642 647 650 652 655.8 659.2 662 667 672.5 675 678	617 622 627 630.2 632 637 639.9 642 647 650 652 655.8 659.2 662 667 672.5 675 678 680.2					

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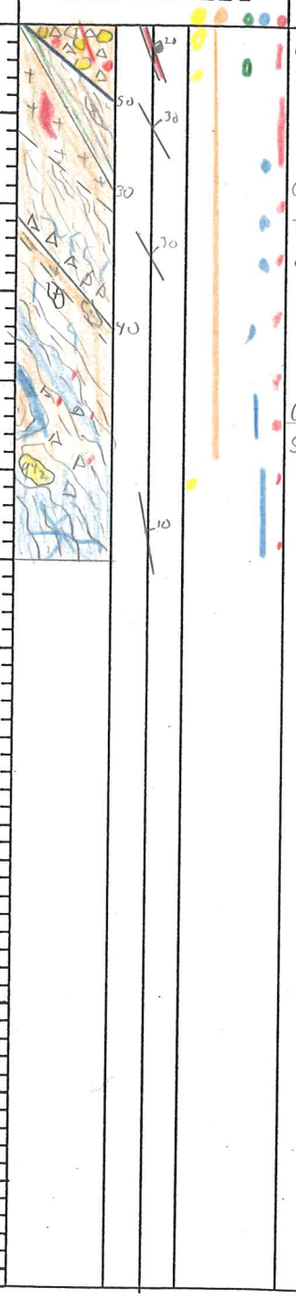
LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
Td	R	158-682 DOZER Dozer fault breccia continues to contact with ALS at 682	680 690 700 710 720 730 740 750		Milled breccia continues with silicified matrix that has been rebrecciated. Contact between Td and ALS is as steep as 30° tca 698-701 Folded Siltstone beds	Silicified breccia clasts contain argillized dozer clast. 703.2-704.1 metamorphic qtz. mass 705 Calcareous Shale
A.L.S.		682-710 A.L.S. SHALE, SILTSTONE AND FINE GRAINED INTRUSIVE Dark gray black shale with dark gray siltstone. Fine grained intrusive as small inclusions and larger concordant intrusion 681.5-682 Faint chloritic tint at the contact. Very fine sheared clay rich rock could it have been tcs?				

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2
680.2	682				
682	684.5				
684.5	687.8				
687.8	693.4				
693.4	697				
697	701.5				
701.5	705				
705	710				

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # RS-D366-99 DATE: 10-31-99 LOGGED BY: D.G. Mackerrow PAGE 1 OF 10

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	11	61	82	55										
11	16	100	104	94										
16	21	88	110	94										
21	26	96	100	84										
26	31	100	102	82										
31	34	100	66	60										
34	37	100	110	93										
37	42	100	98	100										
42	47	100	100	86										
47	52	100	100	84										
52	57	90	100	60										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # RS-D366-99 DATE: 10-31-99 LOGGED BY: D.G. Mackenzie PAGE 2 OF 10

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	78	100	42										
62	67	72	96	32										
67	72	98	100	90										
72	77	100	98	88										
77	82	90	106	70										
82	87	100	100	80										
87	92	100	100	68										
92	97	100	104	100										
97	102	100	98	100										
102	107	100	100	96										
107	112	100	92	70										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # RS-D366-99 DATE: 11-1-99 LOGGED BY: D.G. Mackerrow PAGE 3 OF 10

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	122	100	106	83										
122	132	100	98	93										
132	142	100	100	94										
142	152	97	100	79										
152	162	70	100	55										
162	172	100	99	94										
172	182	100	100	81										
182	192	100	101	84										
192	202	100	102	95										
202	212	100	98	88										
212	222	100	103	90										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # RS-D366-99 DATE: 11-1-99 LOGGED BY: D.G. MacKerrow PAGE 4 OF 10

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	232	100	101	93										
232	242	96	101	85										
242	252	100	100	79										
252	262	100	102	92										
262	272	100	103	88										
272	282	98	98	98										
282	292	100	100	100										
292	302	99	99	99										
302	312	97	97	97										
312	322	101	101	101										
322	332	102	102	102										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # RS-D366-99 DATE: 11/2/99 LOGGED BY: PTL PAGE 5 OF 10

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)
332	342	100	100	100										
342	352	95	98	97										
352	362	100	100	100										
362	372	100 9.2	100 9.2	100 9.2										
372	382	100	100	98										
382	392	99	99	99										
392	402	100	100	76										
402	412	100	100	70										
412	422	100	100	37										
422	432	85	97	36										
432	442	98	98	57										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # RS-P366-99 DATE: 11/3/99 LOGGED BY: PAGE 6 OF 10

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)
442	452	100	100	90										
452	462	102	102	90										
462	472	98	98	95										
472	482	98	98	78										
482	492	99	99	56										
492	502	101	101	21										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # RS-D366-99 DATE: 11-2-99 LOGGED BY: D.G. MacKenzie PAGE 7 OF 10

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)
502	512	94	103	79										
512	517	98	100	92										
517	522	100	100	70										
522	527	90	96	48										
527	532	80	100	41										
532	537	82	104	80										
537	542	92	100	64										
542	547	100	100	70										
547	552	100	98	78										
552	557	100	100	100										
557	562	100	102	80										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # RS-D366-99 DATE: 11-2-99 LOGGED BY: D.G. Macherron PAGE 8 OF 10

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)
562	567	100	100	80										
567	572	100	100	90										
572	577	100	104	100										
577	582	100	102	100										
582	587	100	98	72										
587	592	100	102	44										
592	597	98	96	70										
597	602	98	96	12										
602	607	100	104	46										
607	612	100	104	20										
612	617	99	100	0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # RS-D366-99 DATE: 11-3-99 LOGGED BY: D.G. MacKerron PAGE 9 OF 10

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)
617	622	0	94	0										
622	627	64	100	10										
627	632	100	100	68										
632	637	100	100	90										
637	642	100	100	0										
642	647	100	100	36										
647	652	100	96	68										
652	657	100	100	0										
657	662	100	102	0										
662	667	100	100	0										
667	675	45	100	0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # RS-D366-9 DATE: 11-9-99 LOGGED BY: D.G. MacKerrow PAGE 10 OF 10

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)
675	682	37	100	07										
682	687	85	100	16										
687	697	75	86	11										
697	704	91	92	30										
704	710	0	100	0										

Newmont Gold Core Form

Hole# RS-D366-99
Logged by D.G. Mochernoi
Date 10-31-99
Area 25 mile Bay Northwest Target
Coords
Az/Incl N25°W / -42
Total Depth 710
Contractor Action

Footage	% Rec	RQD	Litho: Formation	Litho: Rock type	Litho: Color	Au oz/st	Ag oz/st	Graphic	Structure: Attitudes	Structure: fault	Structure: breccia	Structure: vein	Structure: gouge	Comments	Alteration: Silic	Alteration: argillic	Alteration: clay	Alteration: prop	Alteration: Sericite	Alteration: Chlorite	Met.: FEOX	Met.: CO3	Met.: Sulfide	Mineralogy: Pyrite	Mineralogy: Marcasite	Mineralogy: Calc/Dolo	Mineralogy: Clay
			Tos	Epiclastic Sediments	Grn									0-158 TOS EPICLASTIC SANDSTONE, CONGLOMERATE WATER LAID TUFF	0	0	0	0	0	1	0	0	0	1	0	1	0
20														0-15 medium conglomerate A-D S.S.													
40														15-52 Coarse Conglomerate													
														52-72.5 water lain tuffs										2		2	
60														72										1		1	
80																											
100														105-158 coarse conglomerate													
120																									0	1	
																										0	
140														156-158 Interbedded ash full tuff and conglomerate		1										2	1
																									1	0	
160			Trans Td	Rhy	Gray				30					158-682 Transitional Dozer	1					0				1			
														682 Dozer derived Conglomerate/Breccia in Dozer rhyolite matrix	0												
180														158-218.5 Transitional bxg													
200																											

Hole# RS-D366-99 **Newmont Gold Core Form** **Az/Incl** N25W/-42 **Page** 2 of 4

Logged by D.G. Mackerron **Area** North Area Target **Total Depth** 710

Date 11-2-99 **Coords** **Contractor** Action

Footage	% Rec	RQD	Litho: Formation	Litho: Rock type	Litho: Color	Au oz/st	Ag oz/st	Graphic	Structure: Attitudes	Structure: fault	Structure: breccia	Structure: vein	Structure: gouge	Comments	Alteration: Silic	Alteration: argillic	Alteration: clay	Alteration: prop	Alteration: Sericite	Alteration: Chlorite	Met.: FEOX	Met.: CO3	Met.: Sulfide	Mineralogy: Pyrite	Mineralogy: Marcasite	Mineralogy: Calc/Dolo	Mineralogy: Clay
200			Td	Rhy	whit, gray									158– DOZER	0	1	0	0	0	0	0	0	0	1	1	1	0
														682 Transitional Doze,													
220														218.8 DOZER													1/0
																											1/0
240																											1/0
260																											
280																											
	40														0/1/0												
300																											
320																											
340																											
360																											
380																											
400																											

Newmont Gold Core Form

Hole# RS-D366-99 **Logged by** D.G. Machado **Date** 11-3-99

Area North Area Target **Coords**

Az/Incl 525ow / -42 **Total Depth** 710 **Contractor** Action

Footage	% Rec	RQD	Litho: Formation	Litho: Rock type	Litho: Color	Au oz/st	Ag oz/st	Graphic	Structure: Attitudes	Structure: fault	Structure: breccia	Structure: vein	Structure: gouge	Comments	Alteration: Silic	Alteration: argillic	Alteration: clay	Alteration: prop	Alteration: Sericite	Alteration: Chlorite	Met.: FEOX	Met.: CO3	Met.: Sulfide	Mineralogy: Pyrite	Mineralogy: Marcasite	Mineralogy: Calc/Dolo	Mineralogy: Clay
400														DOZER	0	1	1	0	0	0	0	0	0	1	0	1	0
														400-502 Hyd-altered clay filled fractures													
420																											
440																											
460																											
480																											
500														502 Hydrothermally altered clay filled fractures	0	1	0	0	0	0	0	0	1			1
520																									Tr		
540																											
560															1/0									2	1/0		1
580															1/0												
														593.2-593.6 Bud-Mother Type Porphyry		2								1		
600																									0		

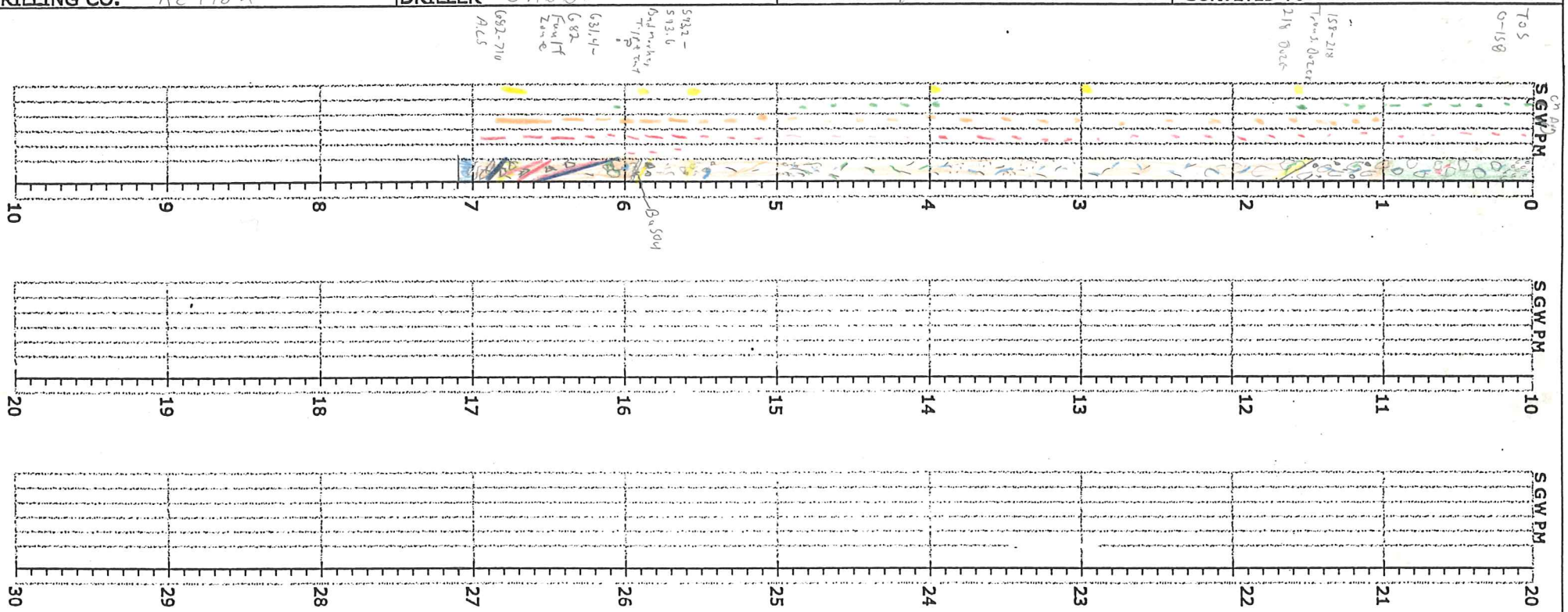
Newmont Gold Core Form

Hole# RS-D366-99
Logged by D.G. MacKerron
Date 11-9-99
Area North Area Target
Coords
Az/Incl S25°W/-42
Total Depth 710
Contractor Action

Footage	% Rec	RQD	Litho: Formation	Litho: Rock type	Litho: Color	Au oz/st	Ag oz/st	Graphic	Structure: Attitudes	Structure: fault	Structure: breccia	Structure: vein	Structure: gouge	Comments	Alteration: Silic	Alteration: argillic	Alteration: clay	Alteration: prop	Alteration: Sericite	Alteration: Chlorite	Met.: FEOX	Met.: CO3	Met.: Sulfide	Mineralogy: Pyrite	Mineralogy: Marcasite	Mineralogy: Calc/Dolo	Mineralogy: Clay
600			Td	Rhy	White Gray									158-682 DOZER	0	2	0	0	0	0	0	0	0	1	0		
620														577-682 Breccia Zone of various intensities.													
640																											
660														660-662 20% tcu pyrite vein													1
														680,5 20% tcu pyrite vein		3 / 1											0
680																				1/0						1	
			ALS						50					682-710 A.L.S. SHALE SILTSTONE AND FINE GRAINED INTRUSIVE		1 / 2 / 0										
700														Contact could be 30°-50°		1 / 0 / 1											1
														TD 710													

ROSEBUD MINING COMPANY, LLC.

START HOLE: 10/30/99	FINISH HOLE: 11-4-99	HOLE #: RS-D 366-99	
COLLAR COORDINATES	HOLE TYPE: Core	LOGGED BY: D. G. Muckerrow	
NORTH	BEARING: N24.3°W	ANGLE: -42	T.D: 710
EAST			
ELEV	PAGE 1 OF 1	SURVEYED TO: 702	
DRILLING CO.: Action	DRILLER: GADDIE		



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

Silicification
Argillization
Chloritic alteration
Calcite/Calcareous
Sulfides

* Dennis White. Possible:

Section 6 NE of Gator.

8-Nov-99

ROSEBUD MINING COMPANY
P.O. BOX 2610
58 MILES WEST OF
WINNEMUCCA, NV 89446

Page: 3
Copy: 1 of 1
Set : 2

Attn: Kurt Allen
Project: RS-D366-99
PO #:

Received: 5-Nov-99 11:00

Job: 993729R

Status: Preliminary

Drill Core

Sample Id	Au FA/AA ppb	Au FA/AA oz/ton	Au FA/GR oz/ton
RS-D366-99 542-547	341	0.010	
RS-D366-99 547-552	56	0.002	
RS-D366-99 552-557	125	0.004	
RS-D366-99 557-562 5	2068	0.060	.049
RS-D366-99 562-567 5	4110	0.120	.119
RS-D366-99 567-572 5	876	0.026	
RS-D366-99 572-577 5	2846	0.083	.043
RS-D366-99 577-581.3 4.3	826	0.024	
RS-D366-99 581.3-583.3 2	29	0.001	
RS-D366-99 583.3-587 3.7	2745	0.080	.090
RS-D366-99 587-589.8 2.8	658	0.019	
RS-D366-99 589.8-593.2 3.4	773	0.023	
RS-D366-99 593.2-593.6 0.4	9710	0.284	.275
RS-D366-99 593.6-597	355	0.010	
RS-D366-99 597-602	112	0.003	
RS-D366-99 602-607	99	0.003	
RS-D366-99 607-612	57	0.002	
RS-D366-99 612-617	46	0.001	
RS-D366-99 617-622	48	0.001	
RS-D366-99 622-627	44	0.001	
RS-D366-99 627-630.2	58	0.002	
RS-D366-99 630.2-632	82	0.002	
RS-D366-99 632-637	59	0.002	
RS-D366-99 637-639.9	101	0.003	
RS-D366-99 639.9-642	113	0.003	
RS-D366-99 642-647	69	0.002	
RS-D366-99 647-650	93	0.003	
RS-D366-99 650-652	152	0.004	
RS-D366-99 652-655.8	164	0.005	
RS-D366-99 655.8-659.2	84	0.002	

36.6' @ 0.059

18-Nov-99

ROSEBUD MINING COMPANY
P.O. BOX 2610
58 MILES WEST OF
WINNEMUCCA, NV 89446

Page: 1
Copy: 1 of 1
Set : 1

Attn: Kurt Allen
Project: RS-D366-99

Received: 16-Nov-99 17:43
PO #: Ref:99-43-01

Job: 993778R

Status: Preliminary

Drill Core

Sample Id	Au FA/AA/AAS oz/ton	Ag AA oz/ton
RS-D366-99 659.2-662	0.000	0.032
RS-D366-99 662-667	0.001	0.006
RS-D366-99 667-672.5	0.001	0.026
RS-D366-99 672.5-675	0.001	0.020
RS-D366-99 675-678	0.002	0.019
RS-D366-99 678-680.2	0.001	0.012
RS-D366-99 680.2-682	0.003	0.050
RS-D366-99 682-684.5	0.001	0.036
RS-D366-99 684.5-687.8	0.003	0.052
RS-D366-99 687.8-693.4	0.000	0.033
RS-D366-99 693.4-697	0.002	0.056
RS-D366-99 697-701.5	0.001	0.052
RS-D366-99 701.5-705	0.001	0.040
RS-D366-99 705-710	0.001	0.071

INSPECTORATE

INSPECTORATE AMERICA CORPORATION
840 Greg Street
Sparks, Nevada 89431
Tel:775-359-6311
Fax: 775-359-2944

1-Dec-99

ROSEBUD MINING COMPANY
P.O. BOX 2610
58 MILES WEST OF
WINNEMUCCA, NV 89446

Certificate of Analysis

Attn: Kurt Allen
Project: RS-D366-99

Received: 16-Nov-99 17:43
PO #: Ref:99-43-01

Job: 993778R

Status: Final

Drill Core

Sample Id	Au FA/AA/AAS oz/ton	Ag AA oz/ton
RS-D366-99 659.2-662	0.000	0.032
RS-D366-99 662-667	0.001	0.006
RS-D366-99 667-672.5	0.001	0.026
RS-D366-99 672.5-675	0.001	0.020
RS-D366-99 675-678	0.002	0.019
RS-D366-99 678-680.2	0.001	0.012
RS-D366-99 680.2-682	0.003	0.050
RS-D366-99 682-684.5	0.001	0.036
RS-D366-99 684.5-687.8	0.003	0.052
RS-D366-99 687.8-693.4	0.000	0.033
RS-D366-99 693.4-697	0.002	0.056
RS-D366-99 697-701.5	0.001	0.052
RS-D366-99 701.5-705	0.001	0.040
RS-D366-99 705-710	0.001	0.071

Pulp

STD # 75212	0.030	0.780

INSPECTORATE

INSPECTORATE AMERICA CORPORATION
840 Greg Street
Sparks, Nevada 89431
Tel:775-359-6311
Fax: 775-359-2944

1-Dec-99

ROSEBUD MINING COMPANY
P.O. BOX 2610
58 MILES WEST OF
WINNEMUCCA, NV 89446

Certificate of Analysis

Attn: Kurt Allen
Project: RS-D366-99

Received: 16-Nov-99 17:43
PO #: Ref:99-43-01

Job: 993778R

Status: Final

Drill Core

Sample Id	Au FA/AA ppb	Au FA/AA oz/ton	Ag ICP ppm	Al ICP %	As ICP ppm	B ICP ppm	Ba ICP ppm	Bi ICP ppm	Ca ICP %	Cd ICP ppm
RS-D366-99 659.2-667	NA	0.000	0.6	0.30	27	28	164	<1	0.43	0.7
RS-D366-99 667-682	NA	0.000	1.6	0.49	73	32	115	1	2.81	7.5
RS-D366-99 682-701.5	NA	0.000	0.7	0.40	66	21	177	<1	0.31	0.7
RS-D366-99 701.5-710	NA	0.000	2.2	0.22	80	25	138	<1	5.26	11.9

Sample Id	Co ICP ppm	Cr ICP ppm	Cu ICP ppm	Fe ICP %	Hg HYG ppb	K ICP %	La ICP ppm	Mg ICP %	Mn ICP ppm	Mo ICP ppm
RS-D366-99 659.2-667	<1	25	40	0.98	41	0.33	27	0.04	121	3
RS-D366-99 667-682	17	45	63	2.36	38	0.22	9	0.53	445	23
RS-D366-99 682-701.5	<1	39	81	1.38	28	0.34	36	0.06	99	8
RS-D366-99 701.5-710	9	50	61	1.98	35	0.21	3	0.21	356	53

Sample Id	Na ICP %	Ni ICP ppm	P ICP ppm	Pb ICP ppm	Sb ICP ppm	Se ICP ppm	Sr ICP ppm	Ti ICP %	Tl ICP ppm	V ICP ppm
RS-D366-99 659.2-667	0.25	1	27	31	<2	1.8	86	<0.01	<0.5	<2
RS-D366-99 667-682	5.38	92	1122	33	9	1.5	487	<0.01	<0.5	25
RS-D366-99 682-701.5	0.75	5	58	44	3	4.3	108	<0.01	<0.5	<2

INSPECTORATE

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1-Dec-99

ROSEBUD MINING COMPANY
P.O. BOX 2610
58 MILES WEST OF
WINNEMUCCA, NV 89446

Certificate of Analysis

Attn: Kurt Allen
Received: 16-Nov-99 17:43
Project: RS-D366-99
PO #: Ref:99-43-01

Job: 993778R
Status: Final

Drill Core

Sample Id	Na ICP %	Ni ICP ppm	P ICP ppm	Pb ICP ppm	Sb ICP ppm	Se ICP ppm	Sr ICP ppm	Ti ICP %	Tl ICP ppm	V ICP ppm
RS-D366-99 701.5-710	9.68	80	655	30	10	3.4	560	<0.01	<0.5	17

Sample Id	W ICP ppm	Zn ICP ppm
RS-D366-99 659.2-667	<1	71
RS-D366-99 667-682	<1	479
RS-D366-99 682-701.5	<1	89
RS-D366-99 701.5-710	<1	839

INSPECTORATE

INSPECTORATE AMERICA CORPORATION
840 Greg Street
Sparks, Nevada 89431
Tel:775-359-6311
Fax: 775-359-2944

1-Dec-99

ROSEBUD MINING COMPANY
P.O. BOX 2610
58 MILES WEST OF
WINNEMUCCA, NV 89446

Certificate of Analysis

Attn: Kurt Allen
Received: 16-Nov-99 17:43
Project: RS-D366-99
PO #: Ref:99-43-01

Job: 993778R
Status: Final

Abbreviations:

Parameters:

Au	: Gold
Ag	: Silver
Al	: Aluminum
As	: Arsenic
B	: Boron
Ba	: Barium
Bi	: Bismuth
Ca	: Calcium
Cd	: Cadmium
Co	: Cobalt
Cr	: Chromium
Cu	: Copper
Fe	: Iron
Hg	: Mercury
K	: Potassium
La	: Lanthanum
Mg	: Magnesium
Mn	: Manganese
Mo	: Molybdenum
Na	: Sodium
Ni	: Nickel
P	: Phosporus
Pb	: Lead

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1-Dec-99

ROSEBUD MINING COMPANY
P.O. BOX 2610
58 MILES WEST OF
WINNEMUCCA, NV 89446

Certificate of Analysis

Attn: Kurt Allen
Received: 16-Nov-99 17:43
Project: RS-D366-99
PO #: Ref:99-43-01

Job: 993778R
Status: Final

Sb	: Antimony
Se	: Selenium
Sr	: Strontium
Ti	: Titanium
Tl	: Thallium
V	: Vanadium
W	: Tungsten
Zn	: Zinc

Methods:

FA/AA/AAS	: Fire Assay/Atomic Absorption Finish
AA	: Atomic Absorption
FA/AA	: Fire Assay/Atomic Absorption Finish
ICP	: Inductively Coupled Plasma
HYG	: Hydride Generation

Units:

oz/ton	: ounces per ton
ppb	: Parts per billion
ppm	: Parts per million
%	: percent

Quality codes:

<	: Less than

INSPECTORATE

INSPECTORATE AMERICA CORPORATION
840 Greg Street
Sparks, Nevada 89431
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Fax: 775-359-2944

1-Dec-99

ROSEBUD MINING COMPANY
P.O. BOX 2610
58 MILES WEST OF
WINNEMUCCA, NV 89446

Certificate of Analysis

Attn: Kurt Allen
Received: 16-Nov-99 17:43
Project: RS-D366-99
PO #: Ref:99-43-01

Job: 993778R
Status: Final

NA : Not Analyzed

INSPECTORATE

INSPECTORATE AMERICA CORPORATION
840 Greg Street
Sparks, Nevada 89431
Tel:775-359-6311
Fax: 775-359-2944

1-Dec-99

ROSEBUD MINING COMPANY
P.O. BOX 2610
58 MILES WEST OF
WINNEMUCCA, NV 89446

Certificate of Analysis

Attn: Kurt Allen
Received: 16-Nov-99 17:43
Project: RS-D366-99
PO #: Ref:99-43-01

Job: 993778R
Status: Final

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 geologic 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.

Job approved by:

Signed: Kristin Meyer
.....
Dave Francisco
Laboratory Manager

INSPECTORATE

ROCKY MOUNTAIN GEOCHEMICAL

A MEMBER OF THE INSPECTORATE GROUP OF COMPANIES
840 GREG STREET • SPARKS, NEVADA 89431 • PHONE (775) 359-6311 • FAX (775) 359-2944

Kurt Allen
Hecla (Rosebud Mine)
P.O. Box 2610
Winnecmucca, NV 89446 US

Invoice No: 33100144
Invoice Date: 11/10/99
JobNo: 99-42-19
Account No: 00007292

Client PO:

INVOICE

Terms: Net 30 days

Item Description	Qty	Unit Price	Amount
Au, Ag FA/AA	70	$6.50	$455.00
Au,Ag FA	2	$7.00	$14.00
Prep	70	$4.50	$315.00

PLEASE REMIT TO:

Inspectorate America Corp.
P.O. Box 201901
Houston, TX 77216-1901

Sub Total:	**$784.00**
Discount:	**$0.00**
Discounted Total:	**$784.00**
Add'l Discount:	**$0.00**
Final Total:	**$784.00**

PAID

RS-D366-99

INSPECTORATE

ROCKY MOUNTAIN GEOCHEMICAL

A MEMBER OF THE INSPECTORATE GROUP OF COMPANIES

840 GREG STREET • SPARKS, NEVADA 89431 • PHONE (775) 359-6311 • FAX (775) 359-2944

Certificate of Analysis

DATE: Friday, November 19, 1999

JOB NO: 99-42-19

CLIENT: Hecla (Rosebud Mine)
P.O. Box 2610
Winnecmucca, NV 89446 US

INVOICE NO: 33100144

CLIENT ORDER NO:

REPORT ON: 70 Core

SUBMITTED BY: Kurt Allen

DATE RECIEVED: Tuesday, November 09, 1999

ANALYSES: Gold, Gold, Gold, Silver, Silver, Silver

ANALYTICAL METHODS: AA, Fire Assay, Fire/AA

REMARKS:

CC: RMG File

E-MAILED TO:

All values are reported in parts per million unless specified otherwise. A minus sign (–) is to be read "less than" and a plus sign (+) "greater than." Values in parenthesis are estimates. This analytical report is the confidential property of the above mentioned client and for the protection of this client and ourselves we reserve the right to forbid publication or reproduction of this report or any part thereof without written permission.

ND=None Detected 1 ppm=0.0001% Troy oz./ton=34.286 ppm 1 ppm=0.0292 Troy oz./ton

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 rocks or minerals collected by the prospective investor or by a qualified person selected by him.

SAMPLE NO	ppb Gold	oz/ton Gold	oz/ton Gold	ppm Silver	oz/ton Silver
RS-D366-99 0'-11'	1508	0.044	0.039	3.1	0.090
RS-D366-99 11'-16'	38	0.001		0.5	0.016
RS-D366-99 16'-26'	19	0.001		0.8	0.023
RS-D366-99 26'-31'	284	0.008		2.1	0.060
RS-D366-99 31'-37'	25	0.001		1.3	0.039
RS-D366-99 37'-42'	51	0.001		2.3	0.066
RS-D366-99 42'-47'	81	0.002		1.7	0.050
RS-D366-99 47'-52'	101	0.003		2.2	0.063
RS-D366-99 52'-62'	273	0.008		1.6	0.048
RS-D366-99 62'-72'	16	-0.001		0.7	0.019
RS-D366-99 72'-82'	16	-0.001		0.5	0.015
RS-D366-99 82'-92'	11	-0.001		0.5	0.016
RS-D366-99 92'-102'	6	-0.001		0.4	0.011
RS-D366-99 102'-112'	8	-0.001		0.6	0.018
RS-D366-99 112'-122'	16	-0.001		0.7	0.020
RS-D366-99 122'-129.9'	10	-0.001		0.7	0.020
RS-D366-99 129.9'-132'	11	-0.001		0.8	0.022
RS-D366-99 132'-142'	15	-0.001		1.1	0.032
RS-D366-99 142'-145.7'	17	-0.001		0.7	0.019
RS-D366-99 145.7'-152'	36	0.001		1.4	0.040
RS-D366-99 152'-158'	21	0.001		5.9	0.173
RS-D366-99 158'-162'	9	-0.001		0.3	0.008
RS-D366-99 162'-172'	21	0.001		0.8	0.024
RS-D366-99 172'-182'	68	0.002		0.5	0.016

SAMPLE NO	oz/ton Silver
RS-D366-99 0'-11'	-0.10
RS-D366-99 11'-16'	
RS-D366-99 16'-26'	
RS-D366-99 26'-31'	
RS-D366-99 31'-37'	
RS-D366-99 37'-42'	
RS-D366-99 42'-47'	
RS-D366-99 47'-52'	
RS-D366-99 52'-62'	
RS-D366-99 62'-72'	
RS-D366-99 72'-82'	
RS-D366-99 82'-92'	
RS-D366-99 92'-102'	
RS-D366-99 102'-112'	
RS-D366-99 112'-122'	
RS-D366-99 122'-129.9'	
RS-D366-99 129.9'-132'	
RS-D366-99 132'-142'	
RS-D366-99 142'-145.7'	
RS-D366-99 145.7'-152'	
RS-D366-99 152'-158'	
RS-D366-99 158'-162'	
RS-D366-99 162'-172'	
RS-D366-99 172'-182'	

SAMPLE NO	ppb Gold	oz/ton Gold	oz/ton Gold	ppm Silver	oz/ton Silver
RS-D366-99 182'-192'	69	0.002		0.5	0.014
RS-D366-99 192'-202'	28	0.001		0.7	0.019
RS-D366-99 202'-212'	80	0.002		0.7	0.019
RS-D366-99 212'-222'	56	0.002		0.7	0.020
RS-D366-99 222'-232'	101	0.003		0.9	0.027
RS-D366-99 232'-242'	79	0.002		1.0	0.028
RS-D366-99 242'-252'	83	0.002		1.9	0.055
RS-D366-99 252'-262'	25	0.001		1.0	0.030
RS-D366-99 262'-272'	41	0.001		1.3	0.038
RS-D366-99 272'-282'	81	0.002		2.0	0.059
RS-D366-99 282'-292'	101	0.003		1.5	0.044
RS-D366-99 292'-302'	61	0.002		0.8	0.024
RS-D366-99 302'-312'	67	0.002		0.9	0.025
RS-D366-99 312'-322'	23	0.001		0.6	0.018
RS-D366-99 322'-332'	71	0.002		1.3	0.037
RS-D366-99 332'-342'	69	0.002		0.9	0.027
RS-D366-99 342'-352'	59	0.002		0.1	0.004
RS-D366-99 352'-362'	83	0.002		0.8	0.023
RS-D366-99 362'-372'	64	0.002		0.8	0.022
RS-D366-99 372'-382'	94	0.003		0.8	0.023
RS-D366-99 382'-392'	-2	-0.001		0.4	0.011
RS-D366-99 392'-402'	25	0.001		0.9	0.027
RS-D366-99 402'-408'	38	0.001		0.7	0.020
RS-D366-99 408'-413'	26	0.001		0.5	0.015

SAMPLE NO	oz/ton Silver
RS-D366-99 182'-192'	
RS-D366-99 192'-202'	
RS-D366-99 202'-212'	
RS-D366-99 212'-222'	
RS-D366-99 222'-232'	
RS-D366-99 232'-242'	
RS-D366-99 242'-252'	
RS-D366-99 252'-262'	
RS-D366-99 262'-272'	
RS-D366-99 272'-282'	
RS-D366-99 282'-292'	
RS-D366-99 292'-302'	
RS-D366-99 302'-312'	
RS-D366-99 312'-322'	
RS-D366-99 322'-332'	
RS-D366-99 332'-342'	
RS-D366-99 342'-352'	
RS-D366-99 352'-362'	
RS-D366-99 362'-372'	
RS-D366-99 372'-382'	
RS-D366-99 382'-392'	
RS-D366-99 392'-402'	
RS-D366-99 402'-408'	
RS-D366-99 408'-413'	

SAMPLE NO	ppb Gold	oz/ton Gold	oz/ton Gold	ppm Silver	oz/ton Silver
RS-D366-99 413'-415'	40	0.001		1.5	0.045
RS-D366-99 415'-422'	44	0.001		0.8	0.022
RS-D366-99 422'-429.3'	19	0.001		0.6	0.017
RS-D366-99 429.3'-433.2	18	0.001		0.4	0.013
RS-D366-99 433.2'-442	33	0.001		0.6	0.018
RS-D366-99 442'-452'	17	-0.001		0.5	0.014
RS-D366-99 452'-462'	15	-0.001		0.5	0.016
RS-D366-99 462'-472'	13	-0.001		0.3	0.008
RS-D366-99 472'-482'	35	0.001		0.6	0.017
RS-D366-99 482'-486.9'	20	0.001		0.3	0.010
RS-D366-99 486.9'-493'	26	0.001		0.5	0.015
RS-D366-99 493'-496.3'	28	0.001		1.0	0.029
RS-D366-99 496.3'-502'	34	0.001		0.6	0.018
RS-D366-99 502'-507'	23	0.001		0.4	0.013
RS-D366-99 507'-512'	32	0.001		0.2	0.007
RS-D366-99 512'-517'	7	-0.001		0.5	0.015
RS-D366-99 517'-522'	9	-0.001		0.8	0.022
RS-D366-99 522'-527'	10	-0.001		0.3	0.008
RS-D366-99 527'-532'	18	0.001		0.8	0.022
RS-D366-99 532'-537'	117	0.003		0.7	0.021
RS-D366-99 537'-542'	412	0.012		7.3	0.214
STD 75210	8960	0.262	0.232	83.6	2.440

SAMPLE NO	oz/ton Silver
RS-D366-99 413'-415'	
RS-D366-99 415'-422'	
RS-D366-99 422'-429.3'	
RS-D366-99 429.3'-433.2	
RS-D366-99 433.2'-442	
RS-D366-99 442'-452'	
RS-D366-99 452'-462'	
RS-D366-99 462'-472'	
RS-D366-99 472'-482'	
RS-D366-99 482'-486.9'	
RS-D366-99 486.9'-493'	
RS-D366-99 493'-496.3'	
RS-D366-99 496.3'-502'	
RS-D366-99 502'-507'	
RS-D366-99 507'-512'	
RS-D366-99 512'-517'	
RS-D366-99 517'-522'	
RS-D366-99 522'-527'	
RS-D366-99 527'-532'	
RS-D366-99 532'-537'	
RS-D366-99 537'-542'	
STD 75210	2.16

Sunday, November 28, 1999

By

INSPECTORATE

ROCKY MOUNTAIN GEOCHEMICAL

A MEMBER OF THE INSPECTORATE GROUP OF COMPANIES
840 GREG STREET • SPARKS, NEVADA 89431 • PHONE (775) 359-6311 • FAX (775) 359-2944

Kurt Allen
Hecla (Rosebud Mine)
P.O. Box 2610
Winnecmucca, NV 89446 US

Invoice No: 33100157
Invoice Date: 11/30/99
JobNo: 99-40-41
Account No: 00007292

Client PO:

INVOICE

Terms: Net 30 days

Item Description	Qty	Unit Price	Amount
Prep	30	$3.15	$94.50
Composite	30	$0.70	$21.00
Au, Ag FA	31	$6.50	$201.50
30 element ICP	21	$7.65	$160.65
Au, Ag FA	5	$7.00	$35.00

PLEASE REMIT TO:

Inspectorate America Corp.
P.O. Box 201901
Houston, TX 77216-1901

Sub Total:	**$512.65**
Discount:	**$0.00**
Discounted Total:	**$512.65**
Add'l Discount:	**$0.00**
Final Total:	**$512.65**

RS-D366-99

PAID

INSPECTORATE

INSPECTORATE AMERICA CORPORATION
840 Greg Street
Sparks, Nevada 89431
Tel:775-359-6311
Fax: 775-359-2944

30-Nov-99

ROSEBUD MINING COMPANY
P.O. BOX 2610
58 MILES WEST OF
WINNEMUCCA, NV 89446

Certificate of Analysis

Attn: Kurt Allen
Project: RS-D366-99

Received: 5-Nov-99 11:00
PO #: 99-40-41

Job: 993729R

Status: Final

Drill Core

Sample Id	Au FA/AA oz/ton	Au FA oz/ton	Ag AA ppm	Ag AA oz/ton	Ag FA oz/ton
RS-D366-99 542-547	0.010	NA	<0.1	0.003	NA
RS-D366-99 547-552	0.002	NA	0.3	0.008	NA
RS-D366-99 552-557	0.004	NA	<0.1	0.003	NA
RS-D366-99 557-562	0.060	0.049	4.6	0.133	<0.100
RS-D366-99 562-567	0.120	0.119	8.1	0.236	0.290
RS-D366-99 567-572	0.026	NA	9.1	0.264	NA
RS-D366-99 572-577	0.083	0.043	3.9	0.114	<0.100
RS-D366-99 577-581.3	0.024	NA	12.1	0.354	NA
RS-D366-99 581.3-583.3	0.001	NA	2.3	0.067	NA
RS-D366-99 583.3-587	0.080	0.090	6.4	0.188	0.120
RS-D366-99 587-589.8	0.019	NA	1.6	0.047	NA
RS-D366-99 589.8-593.2	0.023	NA	4.6	0.134	NA
RS-D366-99 593.2-593.6	0.284	0.275	10.2	0.299	0.650
RS-D366-99 593.6-597	0.010	NA	1.0	0.030	NA
RS-D366-99 597-602	0.003	NA	0.3	0.010	NA
RS-D366-99 602-607	0.003	NA	0.6	0.016	NA
RS-D366-99 607-612	0.002	NA	0.3	0.009	NA
RS-D366-99 612-617	0.001	NA	<0.1	0.003	NA
RS-D366-99 617-622	0.001	NA	0.2	0.006	NA
RS-D366-99 622-627	0.001	NA	<0.1	0.003	NA

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Drill Core

Sample Id	Au FA/AA oz/ton	Au FA oz/ton	Ag AA ppm	Ag AA oz/ton	Ag FA oz/ton
RS-D366-99 627-630.2	0.002	NA	<0.1	0.003	NA
RS-D366-99 630.2-632	0.002	NA	1.0	0.029	NA
RS-D366-99 632-637	0.002	NA	0.1	0.003	NA
RS-D366-99 637-639.9	0.003	NA	0.8	0.024	NA
RS-D366-99 639.9-642	0.003	NA	1.2	0.034	NA
RS-D366-99 642-647	0.002	NA	0.3	0.008	NA
RS-D366-99 647-650	0.003	NA	0.4	0.013	NA
RS-D366-99 650-652	0.004	NA	1.1	0.034	NA
RS-D366-99 652-655.8	0.005	NA	1.5	0.043	NA
RS-D366-99 655.8-659.2	0.002	NA	0.2	0.007	NA

Pulp

STD 75248	0.005	NA	13.5	0.393	NA

INSPECTORATE

30-Nov-99

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Drill Core

Sample Id	Ag ICP ppm	Al ICP %	As ICP ppm	B ICP ppm	Ba ICP ppm	Bi ICP ppm	Ca ICP %	Cd ICP ppm	Co ICP ppm	Cr ICP ppm
RS-D366-99 542-557	0.1	0.46	25	37	25	<1	0.15	0.7	<1	14
RS-D366-99 557-562	4.6	0.50	81	40	206	<1	0.18	0.8	<1	16
RS-D366-99 562-572	8.6	0.39	37	28	202	<1	0.37	0.5	<1	15
RS-D366-99 572-581.3	7.9	0.30	62	28	113	<1	0.32	0.5	<1	3
RS-D366-99 581.3-583.3	2.3	0.29	39	27	106	2	0.17	0.7	<1	11
RS-D366-99 583.3-593.2	4.2	0.27	37	26	203	1	0.19	0.6	<1	19
RS-D366-99 593.2-593.6	10.2	0.34	35	24	140	<1	0.61	0.6	1	9
RS-D366-99 593.6-597	1.0	0.26	17	20	226	<1	0.88	0.8	1	35
RS-D366-99 597-607	0.4	0.59	6	27	58	<1	1.88	0.6	<1	10
RS-D366-99 607-617	0.2	0.56	2	25	21	<1	1.51	0.5	<1	13
RS-D366-99 617-627	0.1	0.51	7	30	9	<1	0.89	<0.5	<1	10
RS-D366-99 627-630.2	<0.1	0.47	20	30	16	<1	0.67	<0.5	<1	8
RS-D366-99 630.2-632	1.0	0.31	52	25	181	<1	2.64	<0.5	<1	11
RS-D366-99 632-637	0.1	0.38	25	17	20	<1	1.59	<0.5	<1	11
RS-D366-99 637-639.9	0.8	0.24	57	29	102	<1	1.13	0.6	<1	3
RS-D366-99 639.9-642	1.2	0.29	58	58	37	<1	1.82	1.3	<1	7
RS-D366-99 642-647	0.3	0.42	41	24	45	<1	1.56	<0.5	<1	10
RS-D366-99 647-650	0.4	0.19	121	19	185	<1	1.14	<0.5	<1	4
RS-D366-99 650-652	1.1	0.19	127	19	185	<1	2.58	<0.5	<1	19
RS-D366-99 652-655.8	1.5	0.14	165	25	95	<1	1.92	<0.5	<1	4

INSPECTORATE

30-Nov-99

ROSEBUD MINING COMPANY
P.O. BOX 2610
58 MILES WEST OF
WINNEMUCCA, NV 89446

INSPECTORATE AMERICA CORPORATION
840 Greg Street
Sparks, Nevada 89431
Tel:775-359-6311
Fax: 775-359-2944

Certificate of Analysis

Attn: Kurt Allen
Received: 5-Nov-99 11:00
Project: RS-D366-99
PO #: 99-40-41

Job: 993729R
Status: Final

Drill Core

Sample Id	Ag ICP ppm	Al ICP %	As ICP ppm	B ICP ppm	Ba ICP ppm	Bi ICP ppm	Ca ICP %	Cd ICP ppm	Co ICP ppm	Cr ICP ppm
RS-D366-99 655.8-659.2	0.2	0.32	24	24	167	<1	1.39	<0.5	<1	9

Sample Id	Cu ICP ppm	Fe ICP %	Hg HYG ppb	K ICP %	La ICP ppm	Mg ICP %	Mn ICP ppm	Mo ICP ppm	Na ICP %	Ni ICP ppm
RS-D366-99 542-557	11	1.88	41	0.33	35	0.05	153	<1	0.71	1
RS-D366-99 557-562	23	3.00	38	0.33	35	0.07	203	<1	0.65	2
RS-D366-99 562-572	19	1.45	214	3.91	39	0.04	144	<1	0.57	1
RS-D366-99 572-581.3	27	1.47	52	0.32	31	0.04	159	<1	0.40	1
RS-D366-99 581.3-583.3	13	1.89	24	0.33	26	0.06	110	1	0.43	<1
RS-D366-99 583.3-593.2	11	1.85	37	0.38	26	0.04	78	4	0.40	1
RS-D366-99 593.2-593.6	12	1.76	52	0.57	34	0.04	119	3	0.46	<1
RS-D366-99 593.6-597	5	1.19	59	0.41	22	0.03	187	2	0.21	1
RS-D366-99 597-607	3	2.03	66	0.42	27	0.25	631	2	0.70	<1
RS-D366-99 607-617	4	2.04	26	0.47	32	0.17	534	3	0.95	<1
RS-D366-99 617-627	5	2.29	42	0.45	31	0.09	352	2	0.93	<1
RS-D366-99 627-630.2	3	2.13	35	0.52	33	0.06	205	2	0.94	<1
RS-D366-99 630.2-632	4	1.85	38	0.51	25	0.04	574	5	0.59	<1
RS-D366-99 632-637	2	1.10	31	0.55	43	0.05	415	<1	0.55	<1

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Sample Id	Cu ICP ppm	Fe ICP %	Hg HYG ppb	K ICP %	La ICP ppm	Mg ICP %	Mn ICP ppm	Mo ICP ppm	Na ICP %	Ni ICP ppm
RS-D366-99 637-639.9	11	2.09	301	0.46	28	0.03	261	1	0.42	<1
RS-D366-99 639.9-642	9	5.13	24	0.38	11	0.04	367	<1	0.79	<1
RS-D366-99 642-647	2	1.65	21	0.44	33	0.07	432	1	0.77	<1
RS-D366-99 647-650	11	1.24	24	0.34	21	0.03	281	2	0.69	<1
RS-D366-99 650-652	4	1.38	31	0.31	14	0.02	609	10	0.32	<1
RS-D366-99 652-655.8	8	1.91	21	0.32	17	0.02	456	40	0.60	<1
RS-D366-99 655.8-659.2	6	1.68	31	0.55	41	0.04	420	6	0.85	<1

Sample Id	P ICP ppm	Pb ICP ppm	Sb ICP ppm	Se ICP ppm	Sr ICP ppm	Ti ICP %	Tl ICP ppm	V ICP ppm	W ICP ppm	Zn ICP ppm
RS-D366-99 542-557	37	33	<2	<0.5	54	<0.01	<0.5	2	<1	86
RS-D366-99 557-562	29	33	<2	<0.5	67	<0.01	<0.5	3	<1	76
RS-D366-99 562-572	26	27	<2	1.2	106	<0.01	<0.5	2	<1	65
RS-D366-99 572-581.3	20	28	3	2.7	100	<0.01	<0.5	2	<1	51
RS-D366-99 581.3-583.3	16	24	<2	<0.5	78	<0.01	<0.5	<2	<1	51
RS-D366-99 583.3-593.2	15	30	2	0.8	62	<0.01	<0.5	<2	<1	49
RS-D366-99 593.2-593.6	30	38	3	3.3	197	<0.01	<0.5	<2	<1	62
RS-D366-99 593.6-597	23	43	<2	3.0	188	<0.01	<0.5	<2	<1	31
RS-D366-99 597-607	21	37	<2	<0.5	208	<0.01	<0.5	<2	<1	73

INSPECTORATE

30-Nov-99

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PO #: 99-40-41

Job: 993729R
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Drill Core

Sample Id	P ICP ppm	Pb ICP ppm	Sb ICP ppm	Se ICP ppm	Sr ICP ppm	Ti ICP %	Tl ICP ppm	V ICP ppm	W ICP ppm	Zn ICP ppm
RS-D366-99 607-617	23	21	<2	<0.5	159	<0.01	<0.5	<2	<1	96
RS-D366-99 617-627	35	25	<2	<0.5	121	<0.01	<0.5	<2	<1	96
RS-D366-99 627-630.2	30	22	<2	<0.5	129	<0.01	<0.5	<2	<1	99
RS-D366-99 630.2-632	29	21	2	<0.5	421	<0.01	<0.5	<2	<1	64
RS-D366-99 632-637	41	17	<2	<0.5	266	<0.01	<0.5	<2	<1	59
RS-D366-99 637-639.9	32	30	3	2.6	272	<0.01	<0.5	<2	<1	52
RS-D366-99 639.9-642	30	41	4	<0.5	279	<0.01	<0.5	<2	<1	81
RS-D366-99 642-647	49	23	<2	<0.5	230	<0.01	<0.5	<2	<1	83
RS-D366-99 647-650	33	21	2	1.4	230	<0.01	<0.5	<2	<1	76
RS-D366-99 650-652	30	15	2	<0.5	289	<0.01	<0.5	<2	<1	41
RS-D366-99 652-655.8	17	22	3	<0.5	249	<0.01	<0.5	<2	<1	65
RS-D366-99 655.8-659.2	36	22	<2	<0.5	294	<0.01	<0.5	<2	<1	90

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Abbreviations:

Parameters:

Ag	: Silver
Al	: Aluminum
As	: Arsenic
B	: Boron
Ba	: Barium
Bi	: Bismuth
Ca	: Calcium
Cd	: Cadmium
Co	: Cobalt
Cr	: Chromium
Cu	: Copper
Fe	: Iron
Hg	: Mercury
K	: Potassium
La	: Lanthanum
Mg	: Magnesium
Mn	: Manganese
Mo	: Molybdenum
Na	: Sodium
Ni	: Nickel
P	: Phosporus
Pb	: Lead
Sb	: Antimony

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Fax: 775-359-2944

30-Nov-99

ROSEBUD MINING COMPANY
P.O. BOX 2610
58 MILES WEST OF
WINNEMUCCA, NV 89446

Certificate of Analysis

Attn: Kurt Allen
Project: RS-D366-99

Received: 5-Nov-99 11:00
PO #: 99-40-41

Job: 993729R

Status: Final

Se	: Selenium
Sr	: Strontium
Ti	: Titanium
Tl	: Thallium
V	: Vanadium
W	: Tungsten
Zn	: Zinc
Au	: Gold

Methods:

ICP	: Inductively Coupled Plasma
HYG	: Hydride Generation
FA/AA	: Fire Assay/Atomic Absorption Finish
FA	: Fire Assay/Gravimetric Finish
AA	: Atomic Absorption

Units:

ppm	: Parts per million
%	: percent
ppb	: Parts per billion
oz/ton	: ounces per ton

Quality codes:

<	: Less than

INSPECTORATE

30-Nov-99

ROSEBUD MINING COMPANY
P.O. BOX 2610
58 MILES WEST OF
WINNEMUCCA, NV 89446

INSPECTORATE AMERICA CORPORATION
840 Greg Street
Sparks, Nevada 89431
Tel:775-359-6311
Fax: 775-359-2944

Certificate of Analysis

Attn: Kurt Allen
Project: RS-D366-99

Received: 5-Nov-99 11:00
PO #: 99-40-41

Job: 993729R

Status: Final

NA : Not Analyzed

INSPECTORATE

INSPECTORATE AMERICA CORPORATION
840 Greg Street
Sparks, Nevada 89431
Tel:775-359-6311
Fax: 775-359-2944

30-Nov-99

ROSEBUD MINING COMPANY
P.O. BOX 2610
58 MILES WEST OF
WINNEMUCCA, NV 89446

Certificate of Analysis

Attn: Kurt Allen
Received: 5-Nov-99 11:00
Project: RS-D366-99
PO #: 99-40-41

Job: 993729R
Status: Final

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 geologic 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.

Job approved by:

Signed:
.....
Dave Francisco
Laboratory Manager

RS-D366-99

Depth From	To	Interval	Au	Ag	ICP	Composite Interval	Sample Number
0	11	11	x	x			1
11	16	5	x	x			2
16	26	10	x	x			3
26	31	5	x	x			4
31	37	6	x	x			5
37	42	5	x	x			6
42	47	5	x	x			7
47	52	5	x	x			8
52	62	10	x	x			9
62	72	10	x	x			10
72	82	10	x	x			11
82	92	10	x	x			12
92	102	10	x	x			13
102	112	10	x	x			14
112	122	10	x	x			15
122	129.9	7.9	x	x			16
129.9	132	2.1	x	x			17
132	142	10	x	x			18
142	145.7	3.7	x	x			19
145.7	152	6.3	x	x			20
152	158	6	x	x			21
158	162	4	x	x			22
162	172	10	x	x			23
172	182	10	x	x			24
182	192	10	x	x			25
192	202	10	x	x			26
202	212	10	x	x			27
212	222	10	x	x			28
222	232	10	x	x			29
232	242	10	x	x			30
242	252	10	x	x			31
252	262	10	x	x			32
262	272	10	x	x			33
272	282	10	x	x			34
282	292	10	x	x			35
292	302	10	x	x			36
302	312	10	x	x			37
312	322	10	x	x			38
322	332	10	x	x			39
332	342	10	x	x			40
342	352	10	x	x			41

352	362	10	x	x			42
362	372	10	x	x			43
372	382	10	x	x			44
382	392	10	x	x			45
392	402	10	x	x			46
402	408	6	x	x			47
408	413	5	x	x			48
413	415	2	x	x			49
415	422	7	x	x			50
422	429.3	7.3	x	x			51
429.3	433.2	3.9	x	x			52
433.2	442	8.8	x	x			53
442	452	10	x	x			54
452	462	10	x	x			55
462	472	10	x	x			56
472	482	10	x	x			57
482	486.9	4.9	x	x			58
486.9	493	6.1	x	x			59
493	496.3	3.3	x	x			60
496.3	502	5.7	x	x			61
502	507	5	x	x			62
507	512	5	x	x			63
512	517	5	x	x			64
517	522	5	x	x			65
522	527	5	x	x			66
527	532	5	x	x			67
532	537	5	x	x			68
537	542	5	x	x			69
542	547	5	x	x			70
547	552	5	x	x			71
552	557	5	x	x	x	15	72
557	562	5	x	x	x	5	73
562	567	5	x	x			74
567	572	5	x	x	x	10	75
572	577	5	x	x			76
577	581.3	4.3	x	x	x	9.3	77
581.3	583.3	2	x	x	x	2	78
583.3	587	3.7	x	x			79
587	589.8	2.8	x	x			80
589.8	593.2	3.4	x	x	x	9.9	81
593.2	593.6	0.4	x	x	x	0.4	82
593.6	597	3.4	x	x	x	3.4	83
597	602	5	x	x			84
602	607	5	x	x	x	10	85

607	612	5	x	x			86
612	617	5	x	x	x	10	87
617	622	5	x	x			88
622	627	5	x	x	x	10	89
627	630.2	3.2	x	x	x	3.2	90
630.2	632	1.8	x	x	x	1.8	91
632	637	5	x	x	x	5	92
637	639.9	2.9	x	x	x	2.9	93
639.9	642	2.1	x	x	x	2.1	94
642	647	5	x	x	x	5	95
647	650	3	x	x	x	3	96
650	652	2	x	x	x	2	97
652	655.8	3.8	x	x	x	3.8	98
655.8	659.2	3.4	x	x	x	3.4	99
659.2	662	2.8	x	x			100
662	667	5	x	x	x	7.8	101
667	672.5	5.5	x	x			102
672.5	675	2.5	x	x			103
675	678	3	x	x			104
678	680.2	2.2	x	x			105
680.2	682	1.8	x	x	x	15	106
682	684.5	2.5	x	x			107
684.5	687.8	3.3	x	x			108
687.8	693.4	5.6	x	x			109
693.4	697	3.6	x	x			110
697	701.5	4.5	x	x	x	17	111
701.5	705	3.5	x	x			112
705	710	5	x	x	x	8.5	113

Down Hole Survey Data
RS-D366-99

Footage	Measured Bearing	Corrected Azimuth	Measured Inclination	Calculated Dip
		-15.66		
52	39.99	335.7	47.5	-42.5
252	47.1	328.6	47.2	-42.8
450	47.1	328.6	46.8	-43.2
702	46.0	329.7	45.0	-45.0

STLDHS.CR5 11/16/99 13:15:50

Point	Northing	Easting	Elevation	Description
1	2,204,077.9767	481,650.8979	4,474.33	T25-1BS
100	2,204,083.1875	481,613.3999	4,455.90	367
101	2,204,084.1813	481,611.0849	4,455.86	365
102	2,204,083.9791	481,608.9906	4,457.39	355
103	2,204,083.0992	481,612.2299	4,454.96	366
104	2,204,081.9211	481,612.1134	4,455.57	364

RMGN Job Number:_____

Date Received:_____

Rocky Mountain Geochemical of Nevada

840 GREG STREET

SPARKS, NEVADA 89431

Phone: (702) 359-6311, Fax: (702) 359-2944

SAMPLE SUBMITTAL SHEET

Address Report To:
Kurt Allen
Rosebud Mine LLC
Winnemucca NV 89446

Phone/Fax: (775) 623-6412 / (775) 6467

Send Invoice To: Kurt Allen
Rosebud Mine
P.O. Box 2010
Winnemucca NV 89446

Client's Project No._____

Shipment No._____

Date Shipped: 11-9-99

No. of Cartons:_____

No. of Samples: 30

Copy of Report To:
Kurt Allen only

List Sample Numbers	Material Description	List Elements To Be Determined	Indicate Method Fire/Grav.	Fire/AA	Geochem
RS-D3CC-99	Core	Au Ag Use Rosebud			
See attachment		Mine development			
		protocol			
		NGC 30 element ICP			
		Partial Digestion			
		Composites as shown			
		on attachment			
1	Pulp	Rosebud Production			
		standard at end of			
		run			

RUSH

NOT RESPONSIBLE FOR LOSS OF SAMPLES DUE TO FIRE OR THEFT.

Pulp & Reject Disposition: Pulps and Rejects will be discarded unless otherwise noted.

	Bulk Rejects	Pulp
Return at Customer's Expense	X	X
via:		
Store at $1.00 per 100 lbs/month		
Discard immediately		

White Copy: Send to RMGN
Yellow Copy: Customer's Copy
Pink Copy: Enclose with Samples

THE ABOVE WORK IS AUTHORIZED BY:_____ DATE:_____

RS-D366-99

Depth From	To	Interval	Au	Ag	ICP	Composite Interval	Sample Number
542	547	5	x	x			1
547	552	5	x	x			2
552	557	5	x	x	x	15	3
557	562	5	x	x	x	5	4
562	567	5	x	x			5
567	572	5	x	x	x	10	6
572	577	5	x	x			7
577	581.3	4.3	x	x	x	9.3	8
581.3	583.3	2	x	x	x	2	9
583.3	587	3.7	x	x			10
587	589.8	2.8	x	x			11
589.8	593.2	3.4	x	x	x	9.9	12
593.2	593.6	0.4	x	x	x	0.4	13
593.6	597	3.4	x	x	x	3.4	14
597	602	5	x	x			15
602	607	5	x	x	x	10	16
607	612	5	x	x			17
612	617	5	x	x	x	10	18
617	622	5	x	x			19
622	627	5	x	x	x	10	20
627	630.2	3.2	x	x	x	3.2	21
630.2	632	1.8	x	x	x	1.8	22
632	637	5	x	x	x	5	23
637	639.9	2.9	x	x	x	2.9	24
639.9	642	2.1	x	x	x	2.1	25
642	647	5	x	x	x	5	26
647	650	3	x	x	x	3	27
650	652	2	x	x	x	2	28
652	655.8	3.8	x	x	x	3.8	29
655.8	659.2	3.4	x	x	x	3.4	30

RMGN Job Number:_____

Date Received:_____

Rocky Mountain Geochemical of Nevada

840 GREG STREET

SPARKS, NEVADA 89431

Phone: (702) 359-6311, Fax: (702) 359-2944

SAMPLE SUBMITTAL SHEET

Address Report To:
Hurt Allen
Rosebud Mine
Winnemucca NV 89446

Phone/Fax: (775) [illegible] / (775) [illegible]

Send Invoice To: Hurt Allen
Rosebud Mining LLC PO Box 2[illegible]
Winnemucca NV 89446

Client's Project No._____

Shipment No._____

Date Shipped: 11/9/99

No. of Cartons:_____

No. of Samples: 69

Copy of Report To:
Hurt Allen only

List Sample Numbers	Material Description	List Elements To Be Determined	Indicate Method Fire/Grav.	Fire/AA	Geochem
RS 10366-99	Core	AU AG Use Rosebud Mine development protocol			
1	Pulp	Rosebud Production standard extended run			

NOT RESPONSIBLE FOR LOSS OF SAMPLES DUE TO FIRE OR THEFT.

Pulp & Reject Disposition: Pulps and Rejects will be discarded unless otherwise noted.

	Bulk Rejects	Pulp
Return at Customer's Expense	X	X
via:		
Store at $1.00 per 100 lbs/month		
Discard immediately		

White Copy: Send to RMGN
Yellow Copy: Customer's Copy
Pink Copy: Enclose with Samples

THE ABOVE WORK IS AUTHORIZED BY: [illegible] DATE: 11-9-99

RS-D366-99

Depth From	To	Interval	Au	Ag	Sample Number
0	11	11	x	x	1
11	16	5	x	x	2
16	26	10	x	x	3
26	31	5	x	x	4
31	37	6	x	x	5
37	42	5	x	x	6
42	47	5	x	x	7
47	52	5	x	x	8
52	62	10	x	x	9
62	72	10	x	x	10
72	82	10	x	x	11
82	92	10	x	x	12
92	102	10	x	x	13
102	112	10	x	x	14
112	122	10	x	x	15
122	129.9	7.9	x	x	16
129.9	132	2.1	x	x	17
132	142	10	x	x	18
142	145.7	3.7	x	x	19
145.7	152	6.3	x	x	20
152	158	6	x	x	21
158	162	4	x	x	22
162	172	10	x	x	23
172	182	10	x	x	24
182	192	10	x	x	25
192	202	10	x	x	26
202	212	10	x	x	27
212	222	10	x	x	28
222	232	10	x	x	29
232	242	10	x	x	30
242	252	10	x	x	31
252	262	10	x	x	32
262	272	10	x	x	33
272	282	10	x	x	34
282	292	10	x	x	35
292	302	10	x	x	36
302	312	10	x	x	37
312	322	10	x	x	38
322	332	10	x	x	39
332	342	10	x	x	40
342	352	10	x	x	41

352	362	10	x	x	42
362	372	10	x	x	43
372	382	10	x	x	44
382	392	10	x	x	45
392	402	10	x	x	46
402	408	6	x	x	47
408	413	5	x	x	48
413	415	2	x	x	49
415	422	7	x	x	50
422	429.3	7.3	x	x	51
429.3	433.2	3.9	x	x	52
433.2	442	8.8	x	x	53
442	452	10	x	x	54
452	462	10	x	x	55
462	472	10	x	x	56
472	482	10	x	x	57
482	486.9	4.9	x	x	58
486.9	493	6.1	x	x	59
493	496.3	3.3	x	x	60
496.3	502	5.7	x	x	61
502	507	5	x	x	62
507	512	5	x	x	63
512	517	5	x	x	64
517	522	5	x	x	65
522	527	5	x	x	66
527	532	5	x	x	67
532	537	5	x	x	68
537	542	5	x	x	69

RMGN Job Number:

Date Received:

Rocky Mountain Geochemical of Nevada

840 GREG STREET

SPARKS, NEVADA 89431

Phone: (702) 359-6311, Fax: (702) 359-2944

SAMPLE SUBMITTAL SHEET

Address Report To:
Hurt Allen
Rosebud Mine PO Box 216
Winnemucca NV 89446

Phone/Fax: 775-623-6912 / 775 623 6962

Send Invoice To: Hurt Allen
Rosebud Mine PO Box 261
Winnemucca NV 89446

Client's Project No.
Shipment No.
Date Shipped: 11-11-99
No. of Cartons:
No. of Samples: 14
Copy of Report To:
Hurt Allen only

List Sample Numbers	Material Description	List Elements To Be Determined	Indicate Method Fire/Grav.	Fire/AA	Geochem
RS-D366-99	Core	Au Ag Use Rosebud Mine Development Protocol			
See attachment for sample list					
		NGC 30 element ICP Acid Digestion Composite as shown on attachment			
1	Pulp	Use Rosebud production standard analytical			

NOT RESPONSIBLE FOR LOSS OF SAMPLES DUE TO FIRE OR THEFT.

Pulp & Reject Disposition: Pulps and Rejects will be discarded unless otherwise noted.

	Bulk Rejects	Pulp
Return at Customer's Expense	X	X
via:		
Store at $1.00 per 100 lbs/month		
Discard immediately		

White Copy: Send to RMGN
Yellow Copy: Customer's Copy
Pink Copy: Enclose with Samples

THE ABOVE WORK IS AUTHORIZED BY: [illegible] DATE: 11-11-99

RS-D366-99

Depth From	To	Interval	Au	Ag	ICP	Composite Interval	Sample Number
659.2	662	2.8	x	x			1
662	667	5	x	x	x	7.8	2
667	672.5	5.5	x	x			3
672.5	675	2.5	x	x			4
675	678	3	x	x			5
678	680.2	2.2	x	x			6
680.2	682	1.8	x	x	x	15	7
682	684.5	2.5	x	x			8
684.5	687.8	3.3	x	x			9
687.8	693.4	5.6	x	x			10
693.4	697	3.6	x	x			11
697	701.5	4.5	x	x	x	17	12
701.5	705	3.5	x	x			13
705	710	5	x	x	x	8.5	14

WELL RS-D366

DEPTH 252'

PICTURE NO.

INCLINATION

OBS. DIR.

COR. DIR.

TOOL FACE

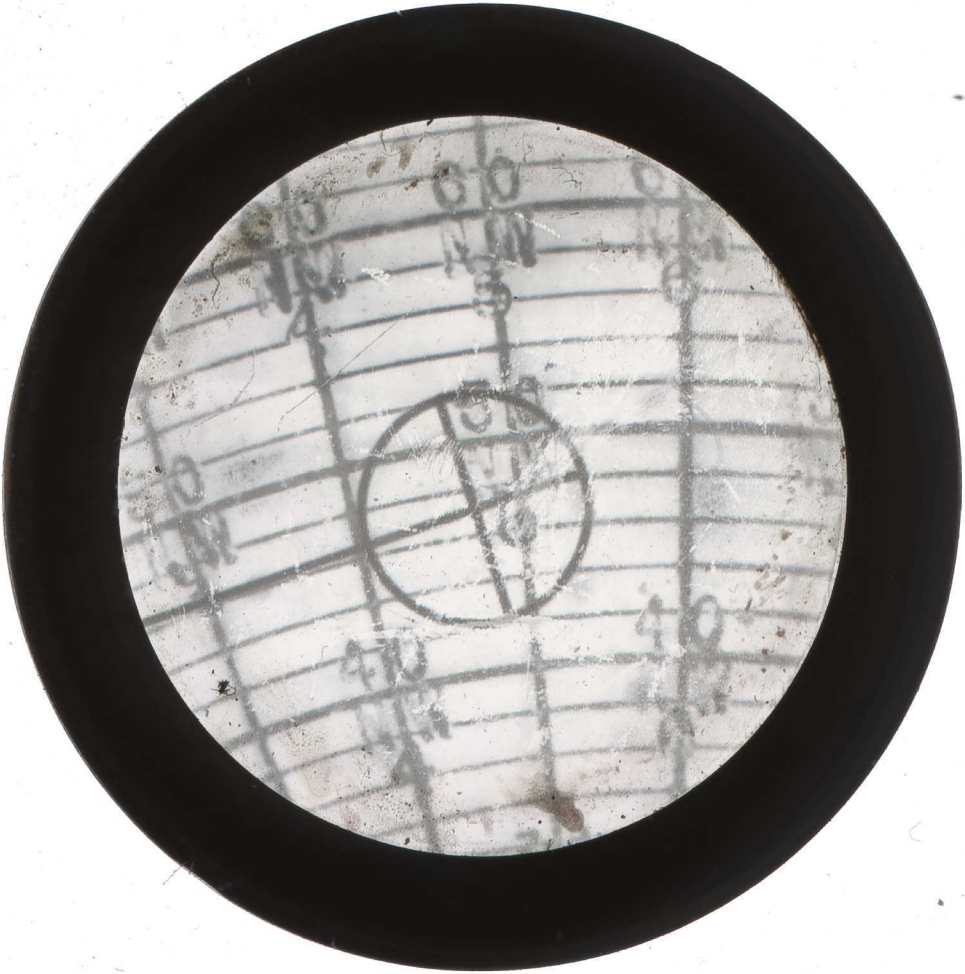
RUN BY G. GADDIE

DATE 10-31-99

CHECKED BY

sperry-sun

DRILLING SERVICES



WELL BS-D 366

DEPTH 450'

PICTURE NO.

INCLINATION -40

OBS. DIR.

COR. DIR.

TOOL FACE

RUN BY J HOFFENAER

DATE 10-31-99

CHECKED BY

sperry-sun

DRILLING SERVICES

WELL RS-A366

DEPTH 702'

PICTURE NO.

INCLINATION -42° -45°

OBS. DIR. N46°W

COR. DIR. N30.3W

TOOL FACE

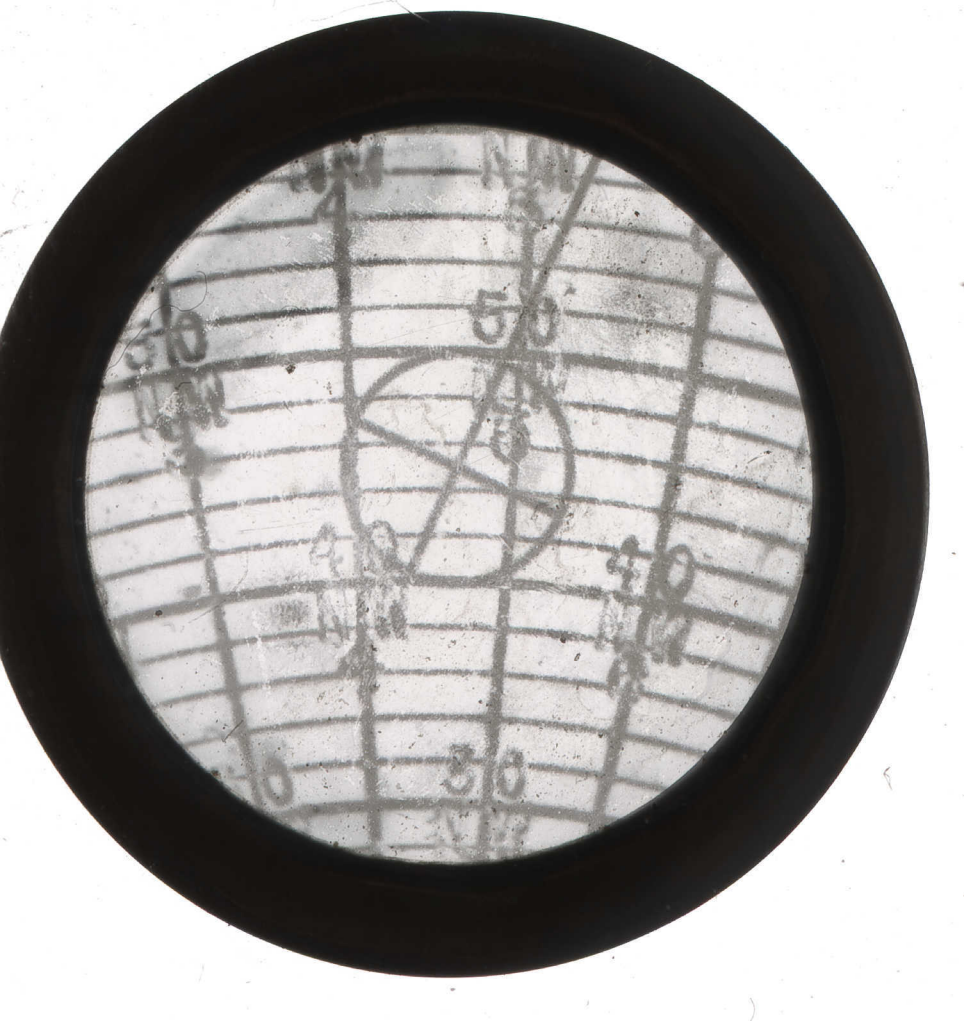
RUN BY G. GANNIE

DATE 11-4-99

CHECKED BY

sperry-sun

DRILLING SERVICES



WELL RS-D-366

DEPTH 52

PICTURE NO. 01

INCLINATION -42° -42.5

OBS. DIR. N39.99

COR. DIR. N24.33W

TOOL FACE

RUN BY JH

DATE 10/30/99

CHECKED BY

sperry-sun

DRILLING SERVICES

60
NW
60
NW
50
NW
50
NW
40
NW
40
NW

Bad

WELL RS-D366

DEPTH 52'

PICTURE NO.

INCLINATION .42

OBS. DIR.

COR. DIR.

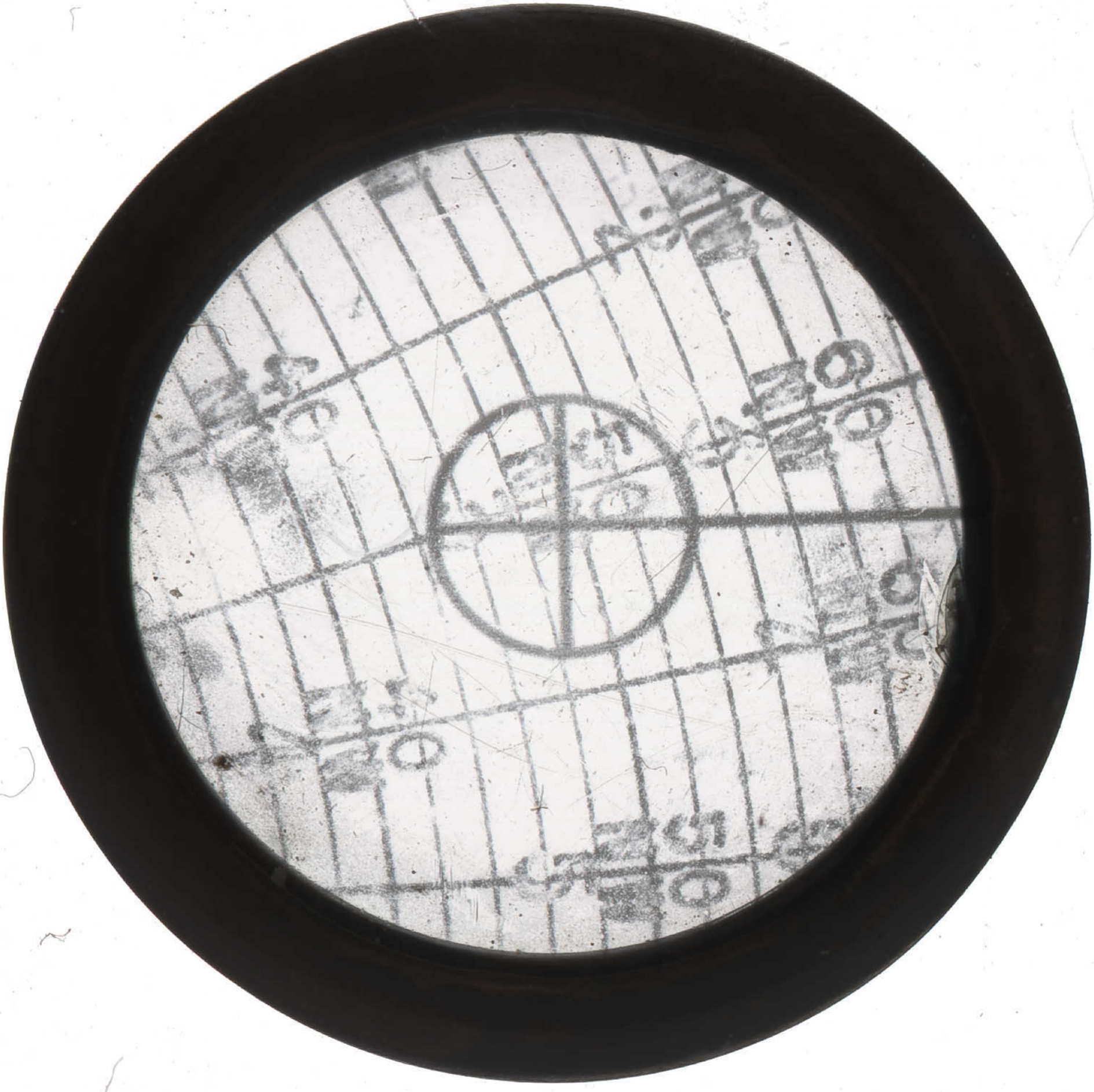
TOOL FACE

RUN BY G. GADDIE

DATE 10-29-99

CHECKED BY

sperry-sun
DRILLING SERVICES



WELL AS-D366

DEPTH 52'

PICTURE NO.

INCLINATION -42°

OBS. DIR.

COR. DIR.

TOOL FACE

RUN BY G.GADDIE

DATE 10-30-99

CHECKED BY

sperry-sun

DRILLING SERVICES

100