60001143

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-D346-99
AUTHOR	D. Mackerrow; L. Macleodon; C. Ballew; R. Vance; K Allen
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.
COMMODITY If not obvious	gold; silver
NOTES	Drill log; geology; assay; photographs; total depth 558' receipt; handwritten notes; downhole camera images geochemistry; downhole survey 75p. 2 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)

SS: DD 5/13/08
Initials Date
DB: mah
Initials Date
SCANNED: NB
Initials Date

Revised: 1/22/08

RS-D346-99

6000 1143 4010

346

6000 1143

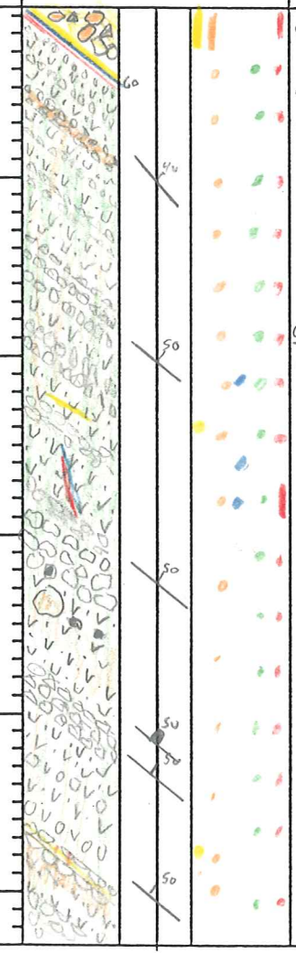
- ☐ quartz, chalcedony, silicification
- ☐ faults, fractures
- ☐ FeOx
- ☐ sulfide
- ☐ calcite, carbonate
- ☐ argillization, white clays
- ☐ propylitization
- ☐ potassic alteration
- ☐ chlorite, chloritic clays

Hecla MINING COMPANY

ROSEBUD PROJECT DIAMOND DRILL LOG

HOLE NUMBER	RS-D346-99	LOCATION	North X-cut 1500 section
PAGE 1 OF 9		NORTHING	
DATE	4-12-99	EASTING	
LOGGED BY	D.G. MacKerron	ELEVATION	
SCALE	1" = 10'	AZIMUTH	-40
TOTAL DEPTH		INCLINATION	N55°W

REMARKS: Cement pump in at 333'

LITH	OX/RE	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
FGM T.O.S.	OX R	0–2.7 FINE GRAINED MASSIVE 2.7–199.3 Tos Epiclastic Sediments and Ash Fall Tuffs Chloritized epiclastic sediments ranging in size of fine sandstone to conglomerates. Interbedded with these sediments are ash fall and lithic ash fall tuffs. There is a distinct foliation to the rocks dipping ≈ 50° to 60. A.L.S. fragments highly lithic flow. 29.9–35.	10 20 30 40 50		0–2.7 MOSAIC BXG Silica on fault contact at 2.7; Contact has oblique slips 60° to TCA 0–78 MOST fractures are along bedding foliation	2.7 SILICIFICATION along fault contact QTZ vein with dark sulfide on the contact 2.7–13 Disseminated pyrite ≈ 5% 13– Disseminated Py by ranging in the 1–2% with greater concentration in veins. Marcasite ≈ 1% QTZ and Py vein are greater below the contact to 13' 8– Calcite begins on fracture and forming are 2" long masses 0–199.3 Marcasite is favoring fracture coating over blade development Pyrite after marcasite veinlets present

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	A
0	2.7					
2.7	8					
8	13					
13	18					
18	23					
23	26.5					
26.5	29.9					
29.9	33					
33	38					
38	43					
43	48					
48	53					

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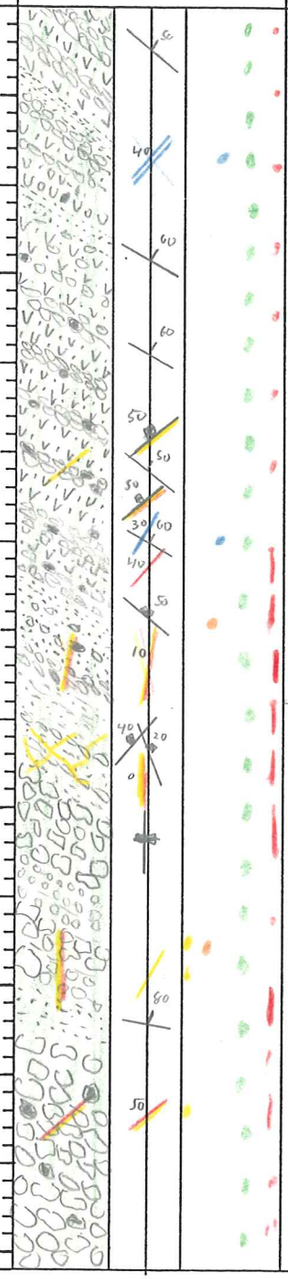
LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
Tos	R	2.7-199.3 Tos Epiclastic Sediments and Ash Fall Tuffs Volcanicly derived sediments continue. Grain size varies from clay to conglomerate. A.L.S. fragments present in sandy and conglomerate beds. Lithic Ash fall tuffs of pale green clay with aphantic lithic volcanic fragments 93-108.7 Mixed zone of conglomerate fragments and sandstones 108.7-126.6 Conglomerate bed with dust up to 0.5'. 123.5 Botryoidal clay filling pinned as Dickite with Fe contamination and other unidentifiable Pinc 105 Tan green clay Marcasite present in open spaces of veins through the conglomerate 105 Pyrite and Marcasite coat fractures. First white clay	50 60 70 80 90 100 110 120		Main not on fracturing and veining is that the fx and veins tend to cross cut the bedding through the Tos. The fracture zone from 90.1 to 105.7 adds the high angle 0° to 60° fracture 84.5 - cross cutting fractures to bedding at 50° to 86.9-88 - 10° to qtz vein with mix marcasite and pyrite 90.1-96.5 Fracture zone with open vugs with druzy qtz forming weak stockwork	1-2% pyrite continue through the core. Increased concentration of sulfides found along veinlets of calcite. 47 Bleded Pyrite after marcasite in slightly silicified sediments. This continues through open vugs and veinlets in core 85 Fracture with Boxwork of tan colored silica. This could be the first Tan 'Dickite' material 105 Pinc Tan green clay Hydrothermally altered 106 - Vugs with shiny Pyrite accumulation 103-105.7 clay veins of tan dickite and trace kaolinite? 112.5 open vug with druzy qtz and marcasite with tan clay stain to qtz

ANALYTICAL DATA					
FROM	TO	W	Au	Ag	Au2
48	53				
53	58				
58	63				
63	68				
68	73				
73	78				
78	83				
83	86.9				
86.9	90.1				
90.1	93				
93	96.5				
96.5	100.7				
100.7	103				
103.	105.7				
105.7	108.7				
108.7	113				
113	118				
118	123				

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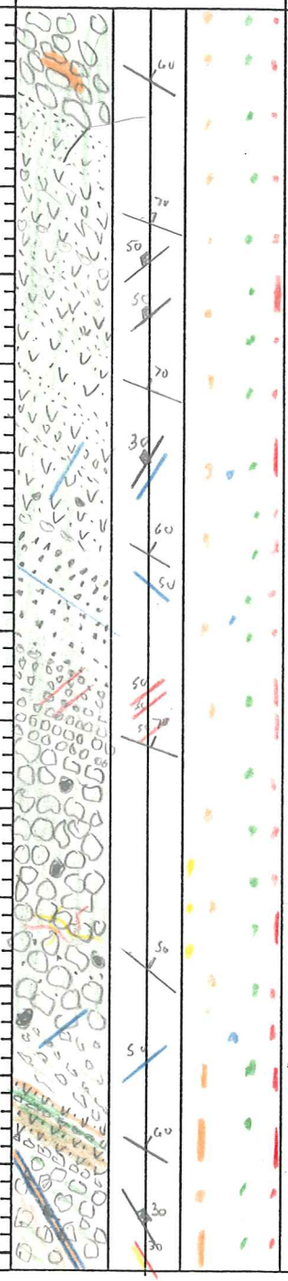
LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
Tos	R	2.7 – 199.3 Tos. Epiclastic Sediment and Ash Fall Tuffs: Sediments continue Pinx 123.5 Tan clay 151.5–153 Granule size sandstone 153–161.4 Fine conglomerate 161.4–178 Coarse conglomerate 178–199.8 Dozer clast dominate Conglomerate from possible erosional surface. There are narrow 1' to 1.5' ash fall tuffs. Chloritic alteration overprinted by 191' Pinx 178 185–199.3 color of core is Pinkish Green with chlorite becoming restricted to sediment matrix	120 130 140 150 160 170 180 190		Bedding has flattened from 50° tca to ≈ 70° tca 163–178 INCREASING Small pyrite and marcasite veinlet Fine qtz veinlets are also forming weak stockwork 188.0–190.4 Fracture Zone with 30° tca	123.5 Tan clay inrug with botryoidal surface Dickite + Fe white clay Marcasite and pyrite continue at ≤1% levels with local greater accumulation in veins 163–177 Chloritic alteration becomes lightly bleached 154 calcite vein Parallel to bedding 157–161.4 Pyrite/marcasite veins X cut bedding at 50° tca 178–185 chlorite becomes restricted to more tuff beds 178– Pinx Green clay 183–185 pyrite ≤5% 178–199.4 clays are greenish and Hydrothermally altered

ANALYTICAL DATA					
FROM	TO	W	Au	Ag	Au2
118	123				
123	126.6				
126.6	130				
130	133				
133	138				
138	143				
143	146.5				
146.5	151.5				
151.5	156.5				
156.5	161.4				
161.4	163				
163	168				
168	173				
173	178				
178	183				
183	188				
188	190.4				

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LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
Tos	R	2.7–199.3 TOS Epiclastic Sediments and ash Fall tuffs 195–199.3 Larger Dozer conglomerate clast, Clay and S.S. matrix has trace of chlorite.			199.3 Depositional contact with a crude 40° tca dip. contact is irregular	Fine pyrite in clay matrix of conglomerate
Td	R	199.3 –295.3 DOZER Fine grained to aphanitic rhyolite flow, Auto brecciated through portions of core. Rock is moderately hard with patches of weak argillization Chloritic alteration returns from 231.4 to contact with A.L.S. 231.4 core has a greenish tan color 240.6 Healed fractures and more breccia textures increas Possible reactivated auto bxu. Pink 252 Grn cly	190 200 210 220 230 240 250 260		203–207.7 High angle breccia with large Clay filled vug. Dark pyrite marcasite coat foot wall surface 208 Very faint Auto breccia observed in core with increasing definition of the breccia down the hole 232 – 30° tca Fracture with breccia cut by 0° tca fracture 239.1 – 240.6 20° tca Breccia and brown silica 260.5 –266.4 Tectonic breccia overprinting Auto breccia	199.3 – Dozer contains Shiny disseminated pyrite at ≈ 1% Marcasite and pyrite form small veinlets generally associated with qtz. Open Vug have formed in the rock and are coated with Druzy quartz. 199.3–207.7 qtz stockwork and breccia matrix 223.5 High angle Fracture at 20° tca with pyrite after Marcasite Traces of hydrothermally altered clays 239 – silicification related to tectonic breccia 231.4 – Traces of chlorite stain rocks lightly greenish 240.6 – 243.8 Green tint hydrothermally altered clay breccia matrix 250 – Calcite vein

ANALYTICAL DATA					
FROM	TO	W	Au	Ag	Au2
190.4	193				
193	197				
197	199.3				
199.3	203				
203	207.7				
207.7	213				
213	218				
218	223				
223	228				
228	231.4				
231.4	235				
235	239.1				
239.1	240.6				
240.6	243.8				
243.8	248				
248	253				
253	258				
258	260.5				

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LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
Td	R	199.3-295.3 DOZER Fine grained to aphanitic rhyolite flow. 289.8 - 292.1 Brecciated and sheared Dozer with heavy greenish clay matrix 293.4 - 295.3 South Ridge Fault shear Plane, Dark disseminated pyrite with clay and silica form gouge matrix "knife edge" shear surface with ALS/	260 270 280 290		271 - High angle (70°tca) shear with dark gray sulfide coating 272 - Cross cutting Fractures one with Pyrite and marcasite and the other has slip! 40°tca South Ride Fault Footwall Surface Oblique 5°tca slips 293.4 - 295.3 Dark sulfide in matrix of Ground Dozer, Silica in matrix	260.5-261 Pyrite and marcasite in breccia matrix. 260.5 - 266 SPOTTY silicified breccia matrix 282 - 289.8 Silicification increases through the core 289.8 - 295.3 calcite fragment are ground in matrix Producing RX in ALS
ALS.	R	295.3 - 558 A.L.S. Shales, Phillites and Siltstones Highly sheared sediments in foot wall of the S.R.F. Dark gray to black shale, Minor siltstone interbeds. Local vein material up to .5' thick. Small Felsic? intrusive have also been sheared and can be seen as small partial core fragments. 318-320 2" thick high angle intrusive 20°tca	300 310 320 330			295.3 - 558 Diagenetic pyrite following bedding can locally be 25% 295.3 Argillized shale 319.5 Pyrite along contact with intrusive 325 - Pyrite vein fragments

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	
260.5	264					
264	266					
266	270.3					
270.3	273.4					
273.4	278					
278	283					
283	288					
288	289.8					
289.8	292.1					
292.1	293.4					
293.4	295.3					
295.3	298					
298	301.4					
301.4	303					
303	308					
308	313					
313	317					
317	319					
319	320					
320	323					
323	328					

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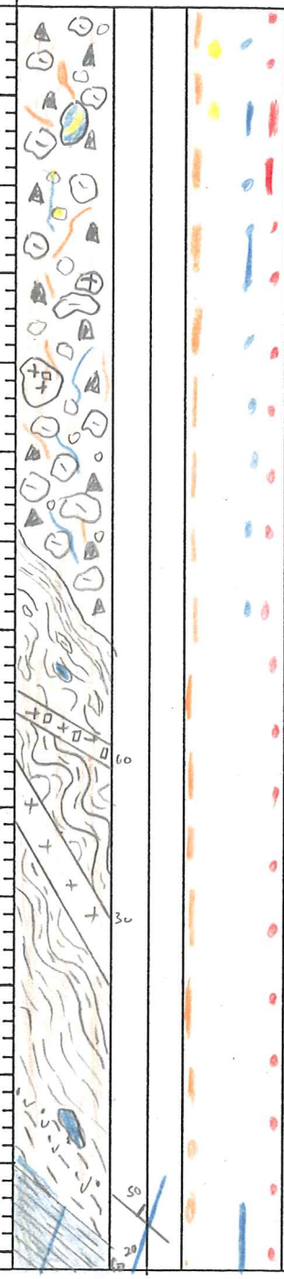
LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
ALS	R	295.3-558 ALS. SHALE, SILTSTONE PHILLITIC SHALE Dark gray to black shale highly sheared by S.R.F. Fragments of porphyritic intrusive. Fragments have intruded beds and cross cut them. 355-361 core loss of ½ of core 370-371 - Gray white phophoritic Intrusive contact at 60° tco if not only a fragment 365- Graphitic bedding surfaces become more apparent with decrease in fault disruption 376.6-379.8 Aphantic intrusive gray white in color. Intrusive is calcareous 394.5 Tuffaceous siltstone bed 3" thick 397-400 shale is not disrupted and dip so° tco calcite veins cross cut bedding and rock are calcareous	330 340 350 360 370 380 390 400		295.3 Highly sheared Footwall of S.R.F. Begins. Fragments of bedding in all orientations when present. Calcite and qtz vein are present only as fragments of former stockwork Disrupted bedding begins to weaken at 365'	333-400 Calcite/qtz masses up to 1' thick sheared 319 white clay on fracture coating continues to 363 but weakens significantly below that depth.

ANALYTICAL DATA					
FROM	TO	W	Au	Ag	Au2
328	333				
333	336				
336	340				
340	345				
345	350				
350	355				
355	361				
361	363				
363	368				
368	373				
373	376.6				
376.6	379.8				
379.8	383				
385	388				
388	393				
393	398				
398	400.8				

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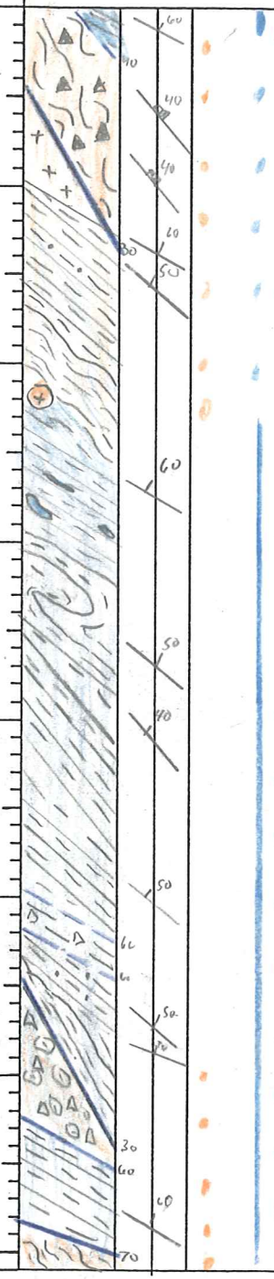
LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
ALS.	R	295.3 - 558 A.L.S. SHALE, SILTSTONE AND PHILLITIC SHALE 409.4 - 411.1 Fine grained intrusive with high angle (30°+cu) upper contact conforming to bedding and a lower angle (60°+cu) conforming to bedding lower contact.	400 410 420 430 440 450 460 470		400.8 - 409.4 Highly sheared sediments, folded beds at 405 in fault 418-423 Bedding related shearing 451-453 Bedding Shear 459-463.8 Bedding Breccia 469-472.7 Milled breccia	398-400.8 Calcareous Shale 413 calcareous shale occurrence increase 398-558 Pyrite decrease to the 1% level

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2
400.8	403				
403	408				
408	409.4				
409.4	411.1				
411.1	413				
413	418				
418	423				
423	428				
428	433				
433	438				
438	443				
443	448				
448	451				
451	453				
453	457				
457	459				
459	463.8				
463.8	466				
466	469				

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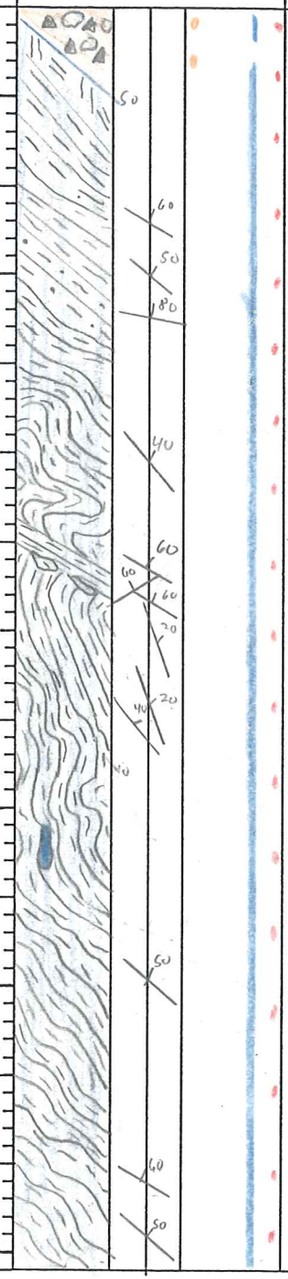
LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
ALS.	R	295.3-558 A.L.S. SHALE AND SILTSTONE Dark gray to black shale and siltstone. Graphitic bedding coatings. Siltstone is derived from reworked Tuffaceous material. Bedding is locally folded with fold in the 1" to 10' range. Rock is generally calcareous with a greater reaction in the siltstone.	470 480 490 500 510 520 530 540		502-510 Folded bed with drill going down on limb of fold	Pyrite remains limited to the ≤1% dissemination with local accumulations to 2% 515.5-516 ½' mass calcite

ANALYTICAL DATA					
FROM	TO	W	Au	Ag	Au2
469	472.7				
472.7	477				
477	482				
482	487				
487	492				
492	497				
497	502				
502	507				
507	510				
510	513				
513	518				
518	523				
523	528				
528	533				
533	538				

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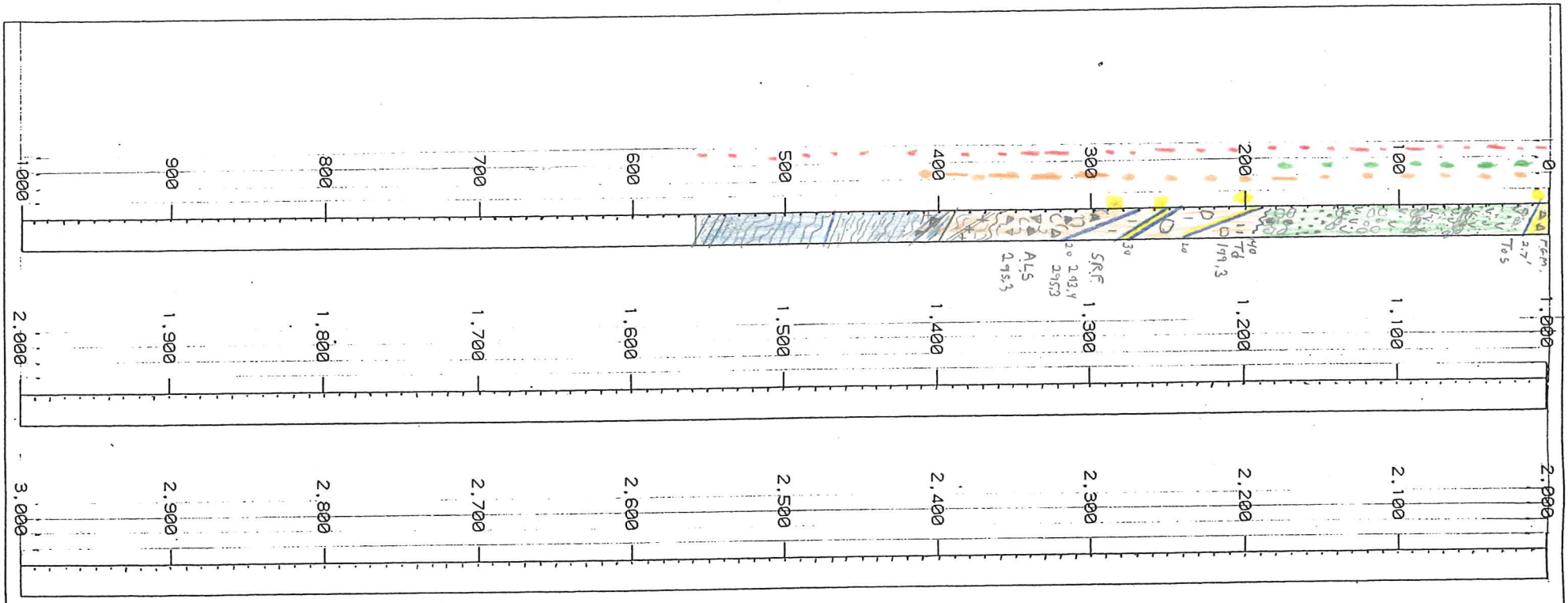
ITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
A.L.S.	R	295.3–558 ALS SHALE AND SILTSTONE Calcareous Shale and siltstone T.D. 558	540 550 560		Calcite veins and masses cross cut beds	Disseminated pyrite is ≤ 1%

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2
538	543				
543	548				
548	551				
551	554				
554	558				



LITHOLOGY

- PLAT/FLOW
- MASSIVE AT/FLOW
- LST-
- PMBX -
- TOS/BUD Epiclastics
- BMB - Rhyolitic Porphyry
- RHYOLITE - DOZER
- ALS - PHYLLITES

TEXTURES

- LITHIC FRAGMENTS
- CRYSTALS
- LAPILLI
- AMYGDULES
- SPHERULITE
- SHARDS

STRUCTURES

- BRECCIA
- FAULT
- CLAY OR GOUGE
- FRACTURE ZONE
- VEINS Qtz
- VEINLETS
- VEINS CALC

CONTACTS

- LOST, GRADATIONAL OR INFERRED
- 80 SHARP (WITH ANGLE TO CORE)
- WAVY
- ROUGH OR JAGGED

PYRITIZATION
CHLORITIZATION
ARGILLIZATION
SILICIFICATION
GRAPHIC LOG

LOCATION ON GRID: North Zone X-cut Sec 1500	FINAL COLLAR COORDINATES	START 4-2-99	FINISH 4-14-99	LOGGED BY D.G. Mackerrow
LAB	NORTH	HOLE TYPE Core	SURVEYED TO 270	
JOB #	EAST	BEARING N 55°W	ANGLE -40	T. D. 558
DRILLING COMPANY Longyear	ELEV / DRILLER Bamford			

The Rosebud Mining Company LLC

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HOLE # RS-D346-99

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # RS-D346-99 DATE: 4-12-99 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	3	57	100	46										
3	8	100	102	68										
8	13	100	100	90										
13	18	94	98	94										
18	23	100	102	72										
23	28	100	100	100										
28	33	100	98	80										
33	38	98	100	98										
38	43	100	102	72										
43	48	100	98	80										
48	53	100	104	100										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # RS-D346-99 DATE: 4-12-99 LOGGED BY: D.G. Muckerman 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)
53	58	100	100	100										
58	63	100	100	86										
63	68	100	100	84										
68	73	100	98	76										
73	78	100	94	90										
78	83	100	98	72										
83	88	100	102	88										
88	93	74	102	34										
93	98	66	96	38										
98	103	100	98	46										
103	108	88	98	88										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # RS-D346-99 DATE: 4-12-99 LOGGED BY: D.G. Muckerrow 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)
108	113	100	102	88										
113	118	100	100	74										
118	123	100	100	76										
123	128	100	102	100										
128	133	100	100	92										
133	138	100	102	82										
138	143	100	86	66										
143	146.5	100	114	71										
146.5	151.5	96	100	56										
151.5	156.5	100	100	100										
156.5	158	100	100	100										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # RS-D346-99 DATE: 4-12-99 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)
158	163	100	96	64										
163	168	100	100	94										
168	173	100	102	86										
173	178	100	106	60										
178	183	84	90	38										
183	188	86	104	68										
188	193	76	100	50										
193	198	98	100	88										
198	203	88	100	86										
203	208	82	100	10										
208	218	100	97	77										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # RS-D346-99 DATE: 4-13-99 LOGGED BY: D.G. Mackerrow PAGE 5 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)
218	228	100	101	60										
228	238	100	100	54										
238	248	100	100	89										
248	258	100	100	95										
258	268	100	101	97										
268	278	100	99	75										
278	288	100	99	95										
288	298	66	95	27										
298	303	0	52	0										
303	308	0	46	0										
308	313	0	88	0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # RS-D 346-99 DATE: 4-13-99 LOGGED BY: D Mackerrow 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)
313	317	32	100	0										
317	318	100	140	0										
318	323	86	90	0										
323	328	82	100	0										
328	333	18	80	0										
333	336	46	73	0										
336	340	80	80	0										
340	345	66	102	0										
345	350	56	104	0										
350	355	92	100	0										
355	361	26	50	0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # RS-D346-99 DATE: 4-13-99 LOGGED BY: D.G. MacKerrow 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)
361	363	38	80	0										
363	368	10	96	0										
368	373	44	96	0										
373	378	28	96	0										
378	383	74	106	10										
383	388	84	100	0										
388	393	100	100	0										
393	398	42	96	0										
398	403	72	100	10										
403	408	88	100	0										
408	413	88	100	0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # RS-D346-99 DATE: 4-13-99 LOGGED BY: D.G. MacKerron 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)
413	418	88	98	0										
418	423	30	84	0										
423	428	48	100	0										
428	433	78	88	0										
433	438	100	104	10										
443	448	100	106	10										
448	453	66	100	0										
453	457	20	87	0										
457	461	27	105	0										
461	466	56	100	14										
466	468	85	105	0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

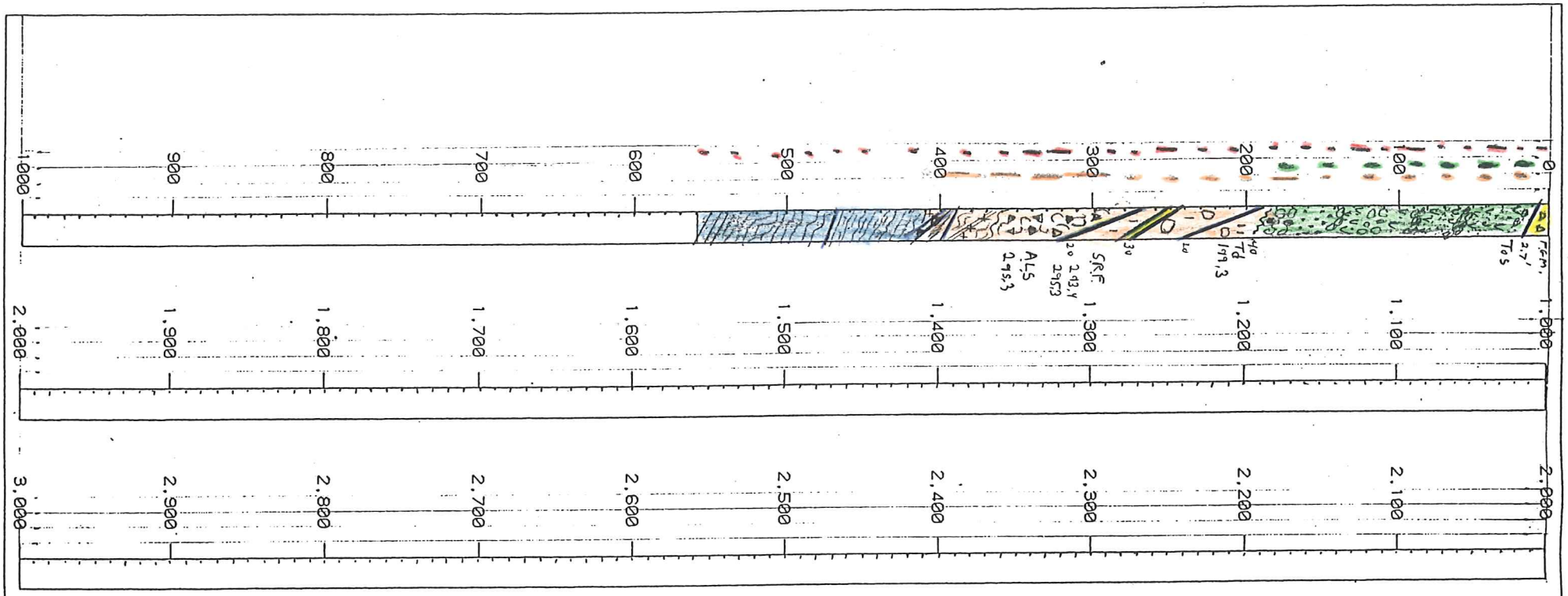
HOLE # RS-10346-99 DATE: 4-14-99 LOGGED BY: DG. MacKerrow PAGE 9 OF 10

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)
468	472	17	97	0										
472	477	44	88	0										
477	482	88	100	0										
482	487	84	100	8										
487	492	72	102	22										
492	497	100	102	50										
497	502	92	100	40										
502	507	74	104	38										
507	511	55	92	15										
511	513	40	100	0										
513	518	80	100	0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # RS-D346-99 DATE: 4-14-99 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)
518	523	90	100	0										
523	528	46	90	0										
528	533	32	60	8										
533	538	80	96	0										
538	543	68	84	0										
543	548	64	100	18										
548	550	100	100	0										
550	554	100	92	22										
554	558	92	100	32										



LITHOLOGY

- PLAT/FLOW
- MASSIVE AT/FLOW
- LST-
- PMBX -
- TOS/BUD Epiclastics
- BMB - Rhyolitic Porphyry
- RHYOLITE - DOZER
- ALS - PHYLLITES

TEXTURES

- LITHIC FRAGMENTS
- CRYSTALS
- LAPILLI
- AMYGDULES
- SPHERULITE
- SHARDS

STRUCTURES

- BRECCIA
- FAULT
- CLAY OR GOUGE
- FRACTURE ZONE
- VEINS Qtz
- VEINLETS
- VEINS CALC

CONTACTS

- LOST, GRADATIONAL OR INFERRED
- 80 SHARP (WITH ANGLE TO CORE)
- WAVY
- ROUGH OR JAGGED

PYRITIZATION
CHLORITIZATION
ARGILLIZATION
SILICIFICATION
GRAPHIC LOG

LOCATION ON GRID:	FINAL COLLAR COORDINATES	START 4-2-99	FINISH 4-14-99	LOGGED BY D.G. Mackerrow
North Zone X-cut Sec 1500	NORTH	HOLE TYPE Core	SURVEYED TO 270	
LAB	EAST			
JOB #	ELEV	BEARING N 55°W	ANGLE -40	T. D. 558
DRILLING COMPANY Longyear	DRILLER Bamford			

The Rosebud Mining Company LLC

PAGE 1 OF 2

HOLE # RS-D346-99

Newmont Gold Core Form

Hole# RS-D 346-99
Logged by DG Macherron
Date 4-19-99
Area North Zone X cut
Coords
Az/Incl NSSW / -40
Total Depth 558
Contractor Long year

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
0			FGM		Tan									0.27 F.G. M	1	0	0	0	0	0	0	0	0	1	1	0	0
			Tos	SS. AFT. Grg	Grn									2.7-199.3 TO.S	0	1				1				2			
																								1			
20																										1	
																								2		2	
																								1		0	
40																										1	
																										0	
															40												
60																										1	
																										0	
80																											
															1												
															0												
100																										1	
																										0	
120																											
140																											
																2								2			
																1								1			
160																											
180																											1
														Depositional contact of Dozer derived conglomerate										2			
																								1			
																				Tr							
200														Dozer at 199.3													

Newmont Gold Core Form

Hole# RS-0346-99 **Area** North X cut **Az/Incl** **Total Depth** **Contractor**

Logged by D.G. MacKerron **Coords**

Date 4-19-99

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		Pinkish white				30					199.3 DOZER	0	Tr	0	0	0	0	0	0		1	1	0	0
														295.3	1												1
															0												0
220																				1							1
240															1												
															0	1										1/0	2/1
																										1	2/1
260					Grn Pink TAN										1												
280																											
			ALS	Shale Phyllite Lithic	Black				20					295.3 ALS. 558	0	2	0	0	0	0	0	0	0	1	1	0	
300																											
320														319-320 20° to Intrusive true thickness 2"								1 / Tr			2		1
																										2	
340														370-377.8 Intrusive and shale											1		
																						1					
360																											
380																											0
																						3					

Newmont Gold Core Form

Hole# RS-D346-99
Logged By
Date
Area
Coords
Az/Incl
Total Depth
Contractor

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			ALS	Shale silt phyllite	Blkd									295.3- ALS. 558	0	1	0	0	0	0	0	3	0	1	0	2	0
																0											
420																											
440																											
460																											
480																											
500																											
520																											
540														Hole was lost when core barrel Twisted off TD 558													
560																											

xAMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP053104

American Assay Laboratories

PO BOX 11530
RENO NV,USA
Ph.(775) 356-8606, Fax.(775) 356-1413

NEWMONT GOLD COMPANY

COPIES TO : C. BALLEW

: R. VANCE

: K. ALLEN

:

CLIENT REFERENCE No: RS-D346-99 RECEIVED : 15 APR 1999

No. SAMPLES : 72 REPORTED : 1 MAY 1999

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	FA30	15%	ppb	5
Au(R)	FA30	15%	ppb	5
Au(OZ)	FA30	15%	OPT	0.001
Au(RZ)	FA30	15%	OPT	0.001
Ag	D210	10%	ppm	0.5
Ag(OZ)	D210	10%	OPT	0.02

SIGNATORY : Leonard E. Mackedon B.S.

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP053104

American Assay Laboratories

CLIENT : NEWMONT GOLD COMPANY
PROJECT : ROSEBUD
REFERENCE : RS-D346-99

REPORTED : 1 MAY 1999

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-D346-99 0.0-2.7	22		<0.001		0.7	0.02
RS-D346-99 2.7-8.0	19		<0.001		0.8	0.02
RS-D346-99 8-13	37		0.001		0.7	0.02
RS-D346-99 13-18	24		<0.001		0.5	<0.02
RS-D346-99 18-23	15	23	<0.001	<0.001	<0.5	<0.02
RS-D346-99 23.0-26.5	510		0.015		0.5	<0.02
RS-D346-99 26.5-29.9	16		<0.001		0.9	0.03
RS-D346-99 29.9-33.0	12		<0.001		<0.5	<0.02
RS-D346-99 33-38	<5		<0.001		<0.5	<0.02
RS-D346-99 38-43	8		<0.001		<0.5	<0.02
RS-D346-99 43-48	246	242	0.007	0.007	<0.5	<0.02
RS-D346-99 48-53	<5		<0.001		<0.5	<0.02
RS-D346-99 53-58	<5		<0.001		<0.5	<0.02
RS-D346-99 58-63	<5		<0.001		<0.5	<0.02
RS-D346-99 63-68	<5		<0.001		<0.5	<0.02
RS-D346-99 68-73	<5		<0.001		<0.5	<0.02
RS-D346-99 73-78	<5		<0.001		<0.5	<0.02
RS-D346-99 78-83	13		<0.001		<0.5	<0.02
RS-D346-99 83.0-86.9	32		<0.001		<0.5	<0.02
RS-D346-99 86.9-90.1	30		<0.001		<0.5	<0.02
RS-D346-99 90.1-93.0	12		<0.001		<0.5	<0.02
RS-D346-99 93.0-96.5	43		0.001		1.1	0.03
RS-D346-99 96.5-100.7	19		<0.001		<0.5	<0.02
RS-D346-99 100.7-103.0	23		<0.001		<0.5	<0.02
RS-D346-99 103.0-105.7	17		<0.001		<0.5	<0.02

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP053104

American Assay Laboratories

CLIENT : NEWMONT GOLD COMPANY
PROJECT : ROSEBUD
REFERENCE : RS-D346-99

REPORTED : 1 MAY 1999

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-D346-99 105.7-108.7	25		<0.001		<0.5	<0.02
RS-D346-99 108.7-113.0	21		<0.001		<0.5	<0.02
RS-D346-99 113-118	167		0.005		<0.5	<0.02
RS-D346-99 118-123	45		0.001		<0.5	<0.02
RS-D346-99 123.0-126.6	54		0.002		0.9	0.03
RS-D346-99 126.6-130.0	19		<0.001		0.7	0.02
RS-D346-99 130-133	54		0.002		<0.5	<0.02
RS-D346-99 133-138	13		<0.001		<0.5	<0.02
RS-D346-99 138-143	<5		<0.001		<0.5	<0.02
RS-D346-99 143.0-146.5	21		<0.001		<0.5	<0.02
RS-D346-99 146.5-151.5	<5		<0.001		<0.5	<0.02
RS-D346-99 151.5-156.5	<5		<0.001		<0.5	<0.02
RS-D346-99 156.5-161.4	<5		<0.001		<0.5	<0.02
RS-D346-99 161.4-163.0	15		<0.001		0.5	<0.02
RS-D346-99 163-168	5		<0.001		<0.5	<0.02
RS-D346-99 168-173	17		<0.001		<0.5	<0.02
RS-D346-99 173-178	20		<0.001		<0.5	<0.02
RS-D346-99 178-183	16		<0.001		0.5	<0.02
RS-D346-99 183-188	25		<0.001		<0.5	<0.02
RS-D346-99 188.0-190.4	18		<0.001		<0.5	<0.02
RS-D346-99 190.4-193.0	22		<0.001		<0.5	<0.02
RS-D346-99 193-197	26		<0.001		<0.5	<0.02
RS-D346-99 197.0-199.3	42		0.001		<0.5	<0.02
RS-D346-99 199.3-203.0	60		0.002		0.6	<0.02
RS-D346-99 203.0-207.7	26		<0.001		<0.5	<0.02

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP053104

American Assay Laboratories

CLIENT : NEWMONT GOLD COMPANY
PROJECT : ROSEBUD
REFERENCE : RS-D346-99

REPORTED : 1 MAY 1999

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-D346-99 207.7-213.0	24		<0.001		0.5	<0.02
RS-D346-99 213-218	64		0.002		0.8	0.02
RS-D346-99 218-223	26		<0.001		0.7	0.02
RS-D346-99 223-228	20		<0.001		0.6	<0.02
RS-D346-99 228.0-231.4	20		<0.001		0.6	<0.02
RS-D346-99 231.4-235.0	86		0.003		0.5	<0.02
RS-D346-99 235.0-239.1	26		<0.001		<0.5	<0.02
RS-D346-99 235.0-239.1B	118		0.003		<0.5	<0.02
RS-D346-99 239.1-240.6	22		<0.001		0.6	<0.02
RS-D346-99 240.6-243.8	20		<0.001		0.5	<0.02
RS-D346-99 243.8-248.0	22		<0.001		<0.5	<0.02
RS-D346-99 248-253	20		<0.001		<0.5	<0.02
RS-D346-99 253-258	22		<0.001		<0.5	<0.02
RS-D346-99 258.0-260.5	28		<0.001		0.6	<0.02
RS-D346-99 260.5-264.0	30		<0.001		0.7	0.02
RS-D346-99 264-266	28		<0.001		0.6	<0.02
RS-D346-99 266.0-270.3	26	36	<0.001	0.001	1.4	0.04
RS-D346-99 270.3-273.4	26		<0.001		0.9	0.03
RS-D346-99 273.4-278.0	26	24	<0.001	<0.001	0.8	0.02
RS-D346-99 278-283	26		<0.001		0.8	0.02
RS-D346-99 283-288	24		<0.001		0.9	0.03
RS-D346-99 288.0-289.8	26		<0.001		1.0	0.03

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AAL 01-2 ICP PACKAGE DETECTION LIMITS

ELEMENT	Ag	Al	As	B	Ba	Bi	Ca	Cd	Co	Cr	Cu	Fe	Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	Sb	Se	Sr	Th	Ti	U	V	W	Zn
SAMPLES	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppb	%	ppm	%	ppm	ppm	%	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
	0.3	0.01	2	3	1	3	0.01	0.2	1	1	1	0.01	10	0.01	1	0.01	2	1	0.01	1	0.001	3	3	0.1	1	2	0.01	8	1	2	1

0.500 GRAMS OF PULP IS DIGESTED WITH HYDROCHLORIC AND NITRIC ACID AT 95 DEGREE CENTIGRADE FOR ONE HOUR.
DIGEST IS PARTIAL FOR B, Ba, Ca, Cr, Fe, La, Mg, Mn, Sr, Ti AND W.
DIGEST IS LIMITED FOR Al, K AND Na.

CLIENT:	***NEWMONT GOLD COMPANY***
CLIENT REF:	ROSEBUD EXPLORATION
AAL REF:	SP053104
METHOD:	AAL 01-2 + Se

AMERICAN ASSAY LABORATORIES
1500 GLENDALE AVE.
SPARKS, NV 89431
PHONE: (775) 356-0606
FAX: (775) 356-1413

ELEMENT SAMPLES	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Hg ppb	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	Sb ppm	Se ppm	Sr ppm	Th ppm	Ti %	U ppm	V ppm	W ppm	Zn ppm
RS-D346-99 0.0-2.7	< .3	0.41	54	< 3	43	< 3	0.21	0.4	1	10	12	1.78	67	0.26	18	0.03	210	14	0.03	4	0.036	14	< 3	5.2	64	4	< .01	< 8	2	< 2	29
RS-D346-99 2.7-23.0	0.8	0.93	51	< 3	43	< 3	0.82	0.4	4	4	10	2.49	150	0.43	25	0.17	565	1	0.03	1	0.055	23	< 3	11.7	137	3	< .01	< 8	4	< 2	81
RS-D346-99 23-43	0.4	0.83	22	< 3	43	3	1.36	0.6	2	3	8	2.22	8	0.4	27	0.13	783	1	0.03	1	0.037	24	< 3	6.5	150	3	< .01	< 8	< 1	< 2	67
RS-D346-99 43-63	0.5	0.78	10	< 3	80	< 3	1.33	0.6	2	4	7	1.68	22	0.4	35	0.1	793	2	0.03	3	0.031	20	< 3	4.6	136	5	< .01	< 8	1	< 2	66
RS-D346-99 63-83	0.6	0.68	10	< 3	92	< 3	0.88	0.5	2	5	9	1.7	7	0.4	33	0.08	1085	2	0.03	4	0.026	19	< 3	3.6	119	5	< .01	< 8	2	< 2	56
RS-D346-99 83-103	1	0.61	53	< 3	42	< 3	0.19	0.4	2	4	11	1.78	31	0.36	33	0.07	370	3	0.03	5	0.023	27	< 3	7.3	90	6	< .01	< 8	3	< 2	64
RS-D346-99 103-123	0.7	0.55	45	< 3	58	< 3	0.17	0.4	2	6	12	1.89	108	0.34	39	0.05	684	4	0.04	5	0.023	22	3	5.8	67	8	< .01	< 8	4	< 2	76
RS-D346-99 123-143	3.7	0.61	20	< 3	48	< 3	1.14	0.6	2	4	6	1.61	49	0.37	32	0.06	1019	2	0.02	3	0.027	18	< 3	4.8	145	4	< .01	< 8	1	< 2	62
RS-D346-99 143-163	0.6	0.62	16	< 3	100	< 3	2.03	0.6	2	5	11	1.61	6	0.4	36	0.06	860	3	0.02	6	0.024	26	< 3	5.2	213	7	< .01	< 8	5	< 2	56
RS-D346-99 163-183	0.6	0.69	31	< 3	100	< 3	0.45	0.4	3	12	15	2.05	73	0.42	39	0.05	374	4	0.03	9	0.032	16	4	6.6	123	8	< .01	< 8	5	< 2	52
RS-D346-99 183.0-199.3	0.8	0.46	55	< 3	79	3	0.18	1.1	1	3	6	1.48	136	0.3	37	0.03	183	4	0.01	3	0.006	25	< 3	8.5	153	8	< .01	< 8	1	2	64
RS-D346-99 199.3-218.0	0.8	0.4	65	< 3	130	< 3	0.11	0.3	1	6	7	1.54	75	0.28	50	0.02	289	4	0.03	3	0.006	19	3	7.1	88	10	< .01	< 8	1	< 2	62
RS-D346-99 218.0-239.1	1.3	0.42	76	< 3	42	< 3	0.11	1	1	4	6	1.64	49	0.33	57	0.02	247	4	0.04	3	0.008	19	4	6.5	81	12	< .01	< 8	1	< 2	82
RS-D346-99 239.1-258.0	0.9	0.44	59	< 3	38	< 3	0.46	0.7	1	8	10	1.9	357	0.37	52	0.02	412	8	0.03	4	0.006	27	< 3	7.4	103	11	< .01	< 8	2	< 2	74
STANDARD C3/H-1	5.6	1.83	58	18	147	20	0.54	22.9	12	164	66	3.2	738	0.17	18	0.57	798	24	0.04	35	0.085	33	14	0.8	28	20	0.09	20	77	15	155
STANDARD G-2	< .3	1.07	< 2	3	227	< 3	0.68	< .2	5	146	12	2.12	< 5	0.48	9	0.58	624	5	0.09	13	0.08	4	< 3	< .1	82	4	0.14	< 8	40	< 2	41

RS-D346-99

Depth From	To	Interval	Au	Ag	ICP	Composite Interval	Sample Number	Check
0	2.7	2.7	x	x	x		1	
2.7	8	5.3	x	x			2	
8	13	5	x	x			3	
13	18	5	x	x			4	
18	23	5	x	x	x	20.3	5	
23	26.5	3.5	x	x			6	
26.5	29.9	3.4	x	x			7	
29.9	33	3.1	x	x			8	
33	38	5	x	x			9	
38	43	5	x	x	x	20	10	
43	48	5	x	x			11	
48	53	5	x	x			12	
53	58	5	x	x			13	
58	63	5	x	x	x	20	14	
63	68	5	x	x			15	
68	73	5	x	x			16	
73	78	5	x	x			17	
78	83	5	x	x	x	20	18	
83	86.9	3.9	x	x			19	
86.9	90.1	3.2	x	x			20	
90.1	93	2.9	x	x			21	
93	96.5	3.5	x	x			22	
96.5	100.7	4.2	x	x			23	
100.7	103	2.3	x	x	x	20	24	
103	105.7	2.7	x	x			25	
105.7	108.7	3	x	x			26	
108.7	113	4.3	x	x			27	
113	118	5	x	x			28	
118	123	5	x	x	x	20	29	
123	126.6	3.6	x	x			30	
126.6	130	3.4	x	x			31	
130	133	3	x	x			32	
133	138	5	x	x			33	
138	143	5	x	x	x	20	34	
143	146.5	3.5	x	x			35	
146.5	151.5	5	x	x			36	
151.5	156.5	5	x	x			37	
156.5	161.4	4.9	x	x			38	
161.4	163	1.6	x	x	x	20	39	

163	168	5	x	x			40	
168	173	5	x	x			41	
173	178	5	x	x			42	
178	183	5	x	x	x	20	43	
183	188	5	x	x			44	
188	190.4	2.4	x	x			45	
190.4	193	2.6	x	x			46	
193	197	4	x	x			47	
197	199.3	2.3	x	x	x	16.3	48	
199.3	203	3.7	x	x			49	
203	207.7	4.7	x	x			50	
207.7	213	5.3	x	x			51	
213	218	5	x	x	x	18.7	52	
218	223	5	x	x			53	
223	228	5	x	x			54	
228	231.4	3.4	x	x			55	
231.4	235	3.6	x	x			56	
235	239.1	4.1	x	x	x	21.1	57	239.1B
239.1	240.6	1.5	x	x			58	
240.6	243.8	3.2	x	x			59	
243.8	248	4.2	x	x			60	
248	253	5	x	x			61	
253	258	5	x	x	x	18.9	62	
258	260.5	2.5	x	x			63	
260.5	264	3.5	x	x			64	
264	266	2	x	x			65	
266	270.3	4.3	x	x		12.3	66	
270.3	273.4	3.1	x	x			67	
273.4	278	4.6	x	x			68	
278	283	5	x	x			69	
283	288	5	x	x			70	
288	289.8	1.8	x	x		19.5	71	
289.8	292.1	2.3	x	x			72	
292.1	293.4	1.3	x	x			73	
293.4	295.3	1.9	x	x			74	
295.3	298	2.7	x	x			75	
298	301.4	3.4	x	x			76	
301.4	303	1.6	x	x	x	13.2	77	
303	308	5	x	x			78	
308	313	5	x	x			79	
313	317	4	x	x			80	
317	319	2	x	x			81	
319	320	1	x	x			82	
320	323	3	x	x	x	20	83	

323	328	5	x	x			84	
328	333	5	x	x			85	
333	336	3	x	x			86	
336	340	4	x	x			87	
340	345	5	x	x	x	22	88	
345	350	5	x	x			89	
350	355	5	x	x			90	
355	361	6	x	x			91	
361	363	2	x	x	x	18	92	
363	368	5	x	x			93	
368	373	5	x	x			94	
373	376.6	3.6	x	x			95	
376.6	379.8	3.2	x	x	x	16.8	96	
379.8	383	3.2	x	x			97	
383	388	5	x	x			98	
388	393	5	x	x			99	
393	398	5	x	x	x	18.2	100	
398	400.8	2.8	x	x			101	
400.8	403	2.2	x	x			102	
403	408	5	x	x			103	
408	409.4	1.4	x	x			104	
409.4	411.1	1.7	x	x			105	
411.1	413	1.9	x	x			106	
413	418	5	x	x	x	20	107	
418	423	5	x	x			108	
423	428	5	x	x			109	
428	433	5	x	x			110	
433	438	5	x	x	x	20	111	
438	443	5	x	x			112	
443	448	5	x	x			113	
448	451	3	x	x			114	
451	453	2	x	x			115	
453	457	4	x	x	x	19	116	
457	459	2	x	x			117	
459	463.8	4.8	x	x			118	
463.8	466	2.2	x	x			119	
466	469	3	x	x			120	
469	472.7	3.7	x	x			121	
472.7	477	4.3	x	x	x	20	122	
477	482	5	x	x			123	
482	487	5	x	x			124	
487	492	5	x	x			125	
492	497	5	x	x	x	20	126	497B

497	502	5	x	x			127
502	507	5	x	x			128
507	510	3	x	x			129
510	513	3	x	x			130
513	518	5	x	x	x	21	131
518	523	5	x	x			132
523	528	5	x	x			133
528	533	5	x	x			134
533	538	5	x	x	x	20	135
538	543	5	x	x			136
543	548	5	x	x			137
548	551	3	x	x			138
551	554	3	x	x			139
554	558	4	x	x	x	20	140

SP

SUBMITTAL FORM

American Assay Laboratories

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011-52-69-170035

Other Offices
Lima, Peru
Santiago, Chile
Mendoza, Argentina

Company: Newmont Gold Co

Address:

City Winnemucca State NV Zip 89445

Telephone Number: ( ) Fax Number: ( )

Project Name: Rosebud Exploration Purchase Order Number:

Date Submitted: 4-14-99 Number of Samples: 71 + 1 pulp

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

SAMPLE IDENTIFICATION	TYPE	ELEMENTS REQUIRED
RS-D346-99	Core	FA 30 Au, Ag D210
		AAL 1/2 ICP + Se
		(composited as shown on attachment)
Standards 239.1B	Pulp	Au Ag only
(NO ICP)		

PEEL HERE
RS-D346-99
239.1B MS-1 (RMG1)

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:

Charlotte Bollen
Winnemucca Office

Results to:

Randy Vance Newmont Gold Winnemucca
Kurt Allen Rosebud Mine
Winnemucca

Comments:

Newmont Rosebud Standard Prep

CLIENT FILE COPY

RS-D346-99

Depth From	To	Interval	Au	Ag	ICP	Composite Interval	Sample Number	Check
0	2.7	2.7	x	x	x		1	
2.7	8	5.3	x	x			2	
8	13	5	x	x			3	
13	18	5	x	x			4	
18	23	5	x	x	x	20.3	5	
23	26.5	3.5	x	x			6	
26.5	29.9	3.4	x	x			7	
29.9	33	3.1	x	x			8	
33	38	5	x	x			9	
38	43	5	x	x	x	20	10	
43	48	5	x	x			11	
48	53	5	x	x			12	
53	58	5	x	x			13	
58	63	5	x	x	x	20	14	
63	68	5	x	x			15	
68	73	5	x	x			16	
73	78	5	x	x			17	
78	83	5	x	x	x	20	18	
83	86.9	3.9	x	x			19	
86.9	90.1	3.2	x	x			20	
90.1	93	2.9	x	x			21	
93	96.5	3.5	x	x			22	
96.5	100.7	4.2	x	x			23	
100.7	103	2.3	x	x	x	20	24	
103	105.7	2.7	x	x			25	
105.7	108.7	3	x	x			26	
108.7	113	4.3	x	x			27	
113	118	5	x	x			28	
118	123	5	x	x	x	20	29	
123	126.6	3.6	x	x			30	
126.6	130	3.4	x	x			31	
130	133	3	x	x			32	
133	138	5	x	x			33	
138	143	5	x	x	x	20	34	
143	146.5	3.5	x	x			35	
146.5	151.5	5	x	x			36	
151.5	156.5	5	x	x			37	
156.5	161.4	4.9	x	x			38	
161.4	163	1.6	x	x	x	20	39	

163	168	5	x	x			40	
168	173	5	x	x			41	
173	178	5	x	x			42	
178	183	5	x	x	x	20	43	
183	188	5	x	x			44	
188	190.4	2.4	x	x			45	
190.4	193	2.6	x	x			46	
193	197	4	x	x			47	
197	199.3	2.3	x	x	x	16.3	48	
199.3	203	3.7	x	x			49	
203	207.7	4.7	x	x			50	
207.7	213	5.3	x	x			51	
213	218	5	x	x	x	18.7	52	
218	223	5	x	x			53	
223	228	5	x	x			54	
228	231.4	3.4	x	x			55	
231.4	235	3.6	x	x			56	
235	239.1	4.1	x	x	x	21.1	57	239.1B
239.1	240.6	1.5	x	x			58	
240.6	243.8	3.2	x	x			59	
243.8	248	4.2	x	x			60	
248	253	5	x	x			61	
253	258	5	x	x	x	18.9	62	
258	260.5	2.5	x	x			63	
260.5	264	3.5	x	x			64	
264	266	2	x	x			65	
266	270.3	4.3	x	x		12.3	66	
270.3	273.4	3.1	x	x			67	
273.4	278	4.6	x	x			68	
278	283	5	x	x			69	
283	288	5	x	x			70	
288	289.8	1.8	x	x		19.5	71	

SP

SUBMITTAL FORM

American Assay Laboratories

Geochemical • Environmental • Metallurgical

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Other Offices
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Santiago, Chile
Mendoza, Argentina

Company: Newmont Gold

Address:

City Winnemucca State NV Zip 89445

Telephone Number: ( ) Fax Number: ( )

Project Name: Rosebud Exploration Purchase Order Number:

Date Submitted: Number of Samples:

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

SAMPLE IDENTIFICATION	TYPE	ELEMENTS REQUIRED
RS-D346-99	Core	FA 30 Au, Ag D210
		AA 1/2 ICP + Se
		(composited as shown on attachment)
Standard: 497B	Pulp	Au, Ag only
(No ICP)		
PEEL HERE RS-D346-99 MS-1 (RMG1)		
497B		

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:

Charlotte Bullen
Winnemucca Newmont office

Results to:

Randy Vance Winnemucca Newmont office
Kurt Allen Rosebud Mine Winnemucca

Comments:

Newmont Rosebud standard prep

CLIENT FILE COPY

RS-D346-99 **LAB COPY**

Depth From	To	Interval	Au	Ag	ICP	Composite Interval	Sample Number	Pulp
289.8	292.1	2.3	x	x			1	
292.1	293.4	1.3	x	x			2	
293.4	295.3	1.9	x	x			3	
295.3	298	2.7	x	x			4	
298	301.4	3.4	x	x			5	
301.4	303	1.6	x	x	x	13.2	6	
303	308	5	x	x			7	
308	313	5	x	x			8	
313	317	4	x	x			9	
317	319	2	x	x			10	
319	320	1	x	x			11	
320	323	3	x	x	x	20	12	
323	328	5	x	x			13	
328	333	5	x	x			14	
333	336	3	x	x			15	
336	340	4	x	x			16	
340	345	5	x	x	x	22	17	
345	350	5	x	x			18	
350	355	5	x	x			19	
355	361	6	x	x			20	
361	363	2	x	x	x	18	21	
363	368	5	x	x			22	
368	373	5	x	x			23	
373	376.6	3.6	x	x			24	
376.6	379.8	3.2	x	x	x	16.8	25	
379.8	383	3.2	x	x			26	
383	388	5	x	x			27	
388	393	5	x	x			28	
393	398	5	x	x	x	18.2	29	
398	400.8	2.8	x	x			30	
400.8	403	2.2	x	x			31	
403	408	5	x	x			32	
408	409.4	1.4	x	x			33	
409.4	411.1	1.7	x	x			34	
411.1	413	1.9	x	x			35	
413	418	5	x	x	x	20	36	
418	423	5	x	x			37	
423	428	5	x	x			38	
428	433	5	x	x			39	
433	438	5	x	x	x	20	40	

438	443	5	x	x			41	
443	448	5	x	x			42	
448	451	3	x	x			43	
451	453	2	x	x			44	
453	457	4	x	x	x	19	45	
457	459	2	x	x			46	
459	463.8	4.8	x	x			47	
463.8	466	2.2	x	x			48	
466	469	3	x	x			49	
469	472.7	3.7	x	x			50	
472.7	477	4.3	x	x	x	20	51	
477	482	5	x	x			52	
482	487	5	x	x			53	
487	492	5	x	x			54	
492	497	5	x	x	x	20	55	497B
497	502	5	x	x			56	
502	507	5	x	x			57	
507	510	3	x	x			58	
510	513	3	x	x			59	
513	518	5	x	x	x	21	60	
518	523	5	x	x			61	
523	528	5	x	x			62	
528	533	5	x	x			63	
533	538	5	x	x	x	20	64	
538	543	5	x	x			65	
543	548	5	x	x			66	
548	551	3	x	x			67	
551	554	3	x	x			68	
554	558	4	x	x	x	20	69	

DLM

Accepted ranges for gold by fire assay (94/4/20)

± %

N SMP.

	Standard	Best Value	Standard Deviation	(--accepted range--) min	-	max
sorted by standard name	GO1	12.884	0.653	11.578	-	14.190
	GO2	0.445	0.033	0.380	-	0.510
	GO3	6.627	0.331	5.965	-	7.289
	MS1	0.103	0.016	0.071	-	0.135
	MS2	0.145	0.020	0.105	-	0.185
	MS3	1.007	0.092	0.823	-	1.191
	SAP	0.264	0.020	0.223	-	0.305
	SB	0.059	0.009	0.042	-	0.077
	SB2	0.052	0.008	0.036	-	0.068
	SG	0.129	0.013	0.103	-	0.155
	SMC	0.003	0.002	0.000	-	0.006
	SN1	0.389	0.040	0.309	-	0.469
	SOT	0.278	0.024	0.230	-	0.326
	SV	0.051	0.011	0.030	-	0.072
	SN2	0.039	0.010		-	
					-	
					-	
sorted by best value	GO1	12.884	0.653	11.578	-	14.190
	GO3	6.627	0.331	5.965	-	7.289
	MS3-12	1.007	0.092	0.823	-	1.191
	GO2	0.445	0.033	0.380	-	0.510
	SN1	0.389	0.040	0.309	-	0.469
	SOT	0.278	0.024	0.230	-	0.326
	SAP	0.264	0.020	0.223	-	0.305
	MS2	0.145	0.020	0.105	-	0.185
	SG	0.129	0.013	0.103	-	0.155
	MS1	0.103	0.016	0.071	-	0.135
	SB	0.059	0.009	0.042	-	0.077
	SB2	0.052	0.008	0.036	-	0.068
	SV	0.051	0.011	0.030	-	0.072
	SMC	0.003	0.002	0.000	-	0.006

xAMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP053188

American Assay Laboratories

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Ph.(775) 356-0606, Fax.(775) 356-1413

NEWMONT GOLD COMPANY

COPIES TO : C. BALLEW
: R. VANCE
: K. ALLEN
:

CLIENT REFERENCE No: RS-D346-99
No. SAMPLES : 70
MAIN SAMPLE TYPE : DRILL CORE

RECEIVED : 26 APR 1999
REPORTED : 16 MAY 1999

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	FA30	15%	ppb	5
Au(R)	FA30	15%	ppb	5
Au(OZ)	FA30	15%	OPT	0.001
Au(RZ)	FA30	15%	OPT	0.001
Ag	D210	10%	ppm	0.5
Ag(OZ)	D210	10%	OPT	0.02

SIGNATORY : Leonard E. Mackedon B.S.

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP053188

American Assay Laboratories

CLIENT : NEWMONT GOLD COMPANY
PROJECT : ROSEBUD
REFERENCE : RS-D346-99

REPORTED : 16 MAY 1999

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-D346-99 289.8-292.1	14	16	<0.001	<0.001	0.9	0.03
RS-D346-99 292.1-293.4	20		<0.001		0.6	<0.02
RS-D346-99 293.4-295.3	25		<0.001		1.4	0.04
RS-D346-99 295.3-298.0	86		0.003		3.3	0.10
RS-D346-99 298.0-301.4	167		0.005		5.4	0.16
RS-D346-99 301.4-303.0	138		0.004		4.6	0.13
RS-D346-99 303-308	10		<0.001		3.5	0.10
RS-D346-99 308-313	10		<0.001		3.8	0.11
RS-D346-99 313-317	8		<0.001		3.9	0.11
RS-D346-99 317-319	10		<0.001		3.4	0.10
RS-D346-99 319-320	72		0.002		2.0	0.06
RS-D346-99 320-323	8		<0.001		1.6	0.05
RS-D346-99 323-328	10		<0.001		4.5	0.13
RS-D346-99 328-333	8		<0.001		1.6	0.05
RS-D346-99 333-336	10		<0.001		2.5	0.07
RS-D346-99 336-340	14		<0.001		2.1	0.06
RS-D346-99 340-345	60		0.002		2.2	0.06
RS-D346-99 345-350	<5		<0.001		3.4	0.10
RS-D346-99 350-355	<5		<0.001		2.0	0.06
RS-D346-99 355-361	6	<5	<0.001	<0.001	2.6	0.08
RS-D346-99 361-363	<5		<0.001		1.7	0.05
RS-D346-99 363-368	<5		<0.001		2.4	0.07
RS-D346-99 368-373	6		<0.001		3.8	0.11
RS-D346-99 373.0-376.6	<5		<0.001		2.8	0.08
RS-D346-99 376.6-379.8	<5		<0.001		<0.5	<0.02

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP053188

American Assay Laboratories

CLIENT : NEWMONT GOLD COMPANY
PROJECT : ROSEBUD
REFERENCE : RS-D346-99

REPORTED : 16 MAY 1999

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-D346-99 379.8-383.0	<5		<0.001		1.9	0.06
RS-D346-99 383-388	<5		<0.001		1.9	0.06
RS-D346-99 388-393	<5	<5	<0.001	<0.001	2.1	0.06
RS-D346-99 393-398	<5		<0.001		1.5	0.04
RS-D346-99 398.0-400.8	<5		<0.001		0.6	<0.02
RS-D346-99 400.8-403.0	<5		<0.001		0.6	<0.02
RS-D346-99 403-408	<5		<0.001		1.2	0.04
RS-D346-99 408.0-409.4	<5	<5	<0.001	<0.001	2.6	0.08
RS-D346-99 409.4-411.1	<5		<0.001		<0.5	<0.02
RS-D346-99 411.1-413.0	<5		<0.001		0.7	0.02
RS-D346-99 413-418	<5		<0.001		<0.5	<0.02
RS-D346-99 418-423	8	<5	<0.001	<0.001	<0.5	<0.02
RS-D346-99 423-428	6		<0.001		<0.5	<0.02
RS-D346-99 428-433	<5		<0.001		<0.5	<0.02
RS-D346-99 433-438	<5		<0.001		<0.5	<0.02
RS-D346-99 438-443	<5		<0.001		<0.5	<0.02
RS-D346-99 443-448	<5		<0.001		<0.5	<0.02
RS-D346-99 448-451	<5		<0.001		<0.5	<0.02
RS-D346-99 451-453	<5		<0.001		<0.5	<0.02
RS-D346-99 453-457	<5		<0.001		<0.5	<0.02
RS-D346-99 457-459	10		<0.001		<0.5	<0.02
RS-D346-99 459.0-463.8	10		<0.001		<0.5	<0.02
RS-D346-99 463.8-466.0	15		<0.001		0.7	0.02
RS-D346-99 466-469	12		<0.001		1.0	0.03
RS-D346-99 469.0-472.7	18		<0.001		1.5	0.04

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP053188

American Assay Laboratories

CLIENT : NEWMONT GOLD COMPANY
PROJECT : ROSEBUD
REFERENCE : RS-D346-99

REPORTED : 16 MAY 1999

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-D346-99 472.7-477.0	8	6	<0.001	<0.001	1.1	0.03
RS-D346-99 477-482	10		<0.001		0.9	0.03
RS-D346-99 482-487	<5		<0.001		<0.5	<0.02
RS-D346-99 487-492	<5		<0.001		<0.5	<0.02
RS-D346-99 492-497	<5		<0.001		<0.5	<0.02
RS-D346-99 492-497B	110		0.003		<0.5	<0.02
RS-D346-99 497-502	<5	<5	<0.001	<0.001	<0.5	<0.02
RS-D346-99 502-507	<5		<0.001		<0.5	<0.02
RS-D346-99 507-510	16		<0.001		<0.5	<0.02
RS-D346-99 510-513	6		<0.001		<0.5	<0.02
RS-D346-99 513-518	<5		<0.001		<0.5	<0.02
RS-D346-99 518-523	<5		<0.001		<0.5	<0.02
RS-D346-99 523-528	<5		<0.001		0.5	<0.02
RS-D346-99 528-533	<5		<0.001		0.5	<0.02
RS-D346-99 533-538	<5	<5	<0.001	<0.001	0.6	<0.02
RS-D346-99 538-543	<5		<0.001		0.9	0.03
RS-D346-99 543-548	<5		<0.001		0.9	0.03
RS-D346-99 548-551	<5		<0.001		0.5	<0.02
RS-D346-99 551-554	<5		<0.001		0.7	0.02
RS-D346-99 554-558	<5		<0.001		0.6	<0.02

AMERICAN ASSAY LABORATORIES

AAL 01-2 ICP PACKAGE DETECTION LIMITS

ELEMENT	Ag	Al	As	B	Ba	Bi	Ca	Cd	Co	Cr	Cu	Fe	Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	Sb	Se	Sr	Th	Ti	U	V	W	Zn
SAMPLES	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppb	%	ppm	%	ppm	ppm	%	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
	0.3	0.01	2	3	1	3	0.01	0.2	1	1	1	0.01	10	0.01	1	0.01	2	1	0.01	1	0.001	3	3	0.1	1	2	0.01	8	1	2	1

0.500 GRAMS OF PULP IS DIGESTED WITH HYDROCHLORIC AND NITRIC ACID AT 95 DEGREE CENTIGRADE FOR ONE HOUR.
DIGEST IS PARTIAL FOR B, Ba, Ca, Cr, Fe, La, Mg, Mn, Sr, Ti AND W.
DIGEST IS LIMITED FOR Al, K AND Na.

AMERICAN ASSAY LABORATORIES
1500 GLENDALE AVE.
SPARKS, NV 89431
PHONE: (775) 356-0606
FAX: (775) 356-1413

CLIENT: *NEWMONT GOLD COMPANY*
CLIENT REF: ROSEBUD EXPLORATION
AAL REF: SP053188
METHOD: AAL 01-2 + Se

ELEMENT SAMPLES	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Hg ppb	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	Sb ppm	Se ppm	Sr ppm	Th ppm	Ti %	U ppm	V ppm	W ppm	Zn ppm
RS-D346-99 289.8-303	2.5	0.51	86	3	39	< 3	0.6	7.8	6	8	47	2.74	81	0.3	19	0.08	258	15	0.01	40	0.043	32	9	15.31	72	5	< .01	< 8	15	3	598
RS-D346-99 303-323	2.5	0.57	71	4	63	< 3	2.35	13.6	13	14	102	3.61	78	0.18	3	0.39	761	25	0.01	84	0.076	11	17	27.17	137	3	< .01	< 8	43	< 2	948
RS-D346-99 323-345	2.6	0.3	88	8	30	< 3	6.62	12.4	10	5	58	3.35	65	0.16	5	0.09	1289	33	0.01	73	0.068	14	16	17.22	388	3	< .01	< 8	17	< 2	974
RS-D346-99 345-363	2.1	0.43	76	< 3	88	3	7.06	9.8	9	4	37	2.62	116	0.16	4	0.21	2379	36	0.01	70	0.061	11	12	9.17	448	2	< .01	< 8	19	< 2	770
RS-D346-99 363-379.8	2.4	1.09	75	5	80	< 3	6.15	10.2	12	9	51	3.85	52	0.24	6	0.85	1546	23	0.01	46	0.107	13	9	9.15	427	2	< .01	< 8	38	< 2	785
RS-D346-99 379.8-398	1.9	0.72	87	4	42	< 3	6.03	15.9	10	10	75	3.43	57	0.2	5	0.44	1056	41	0.01	75	0.088	15	11	15.31	454	2	< .01	< 8	40	< 2	1141
RS-D346-99 398-418	0.8	0.62	67	3	39	< 3	4.69	13.5	9	8	70	2.97	59	0.21	4	0.42	531	41	0.01	74	0.075	12	10	15.52	349	2	< .01	< 8	29	< 2	1006
RS-D346-99 418-438	< .3	0.43	34	7	46	< 3	8.8	2.3	9	7	39	3.19	90	0.18	2	0.73	456	30	0.01	61	0.095	11	12	5.47	483	2	< .01	< 8	11	< 2	172
RS-D346-99 438-457	< .3	0.55	22	7	88	< 3	6.99	0.6	8	10	32	2.95	80	0.26	2	0.46	412	28	0.01	53	0.084	10	8	2.91	405	3	< .01	< 8	7	< 2	66
RS-D346-99 457-477	1	0.3	35	5	95	< 3	9.09	3.4	6	10	30	2.33	119	0.15	2	0.52	459	36	0.01	70	0.086	9	11	5.58	464	2	< .01	< 8	12	< 2	249
RS-D346-99 477-497	0.6	0.4	29	5	48	< 3	7.3	6.9	6	10	39	2.11	87	0.19	2	0.23	420	42	0.01	75	0.09	11	6	6.84	472	2	< .01	< 8	21	< 2	488
RS-D346-99 497-518	< .3	0.45	25	4	96	< 3	5.95	3	5	9	32	1.96	111	0.19	1	0.45	378	28	0.01	57	0.068	14	3	4.83	376	< 2	< .01	< 8	16	< 2	244
RS-D346-99 518-538	< .3	0.37	37	6	71	< 3	10.48	7.6	7	9	42	2.23	122	0.17	1	0.41	373	37	0.01	77	0.098	6	8	7.78	712	< 2	< .01	< 8	31	< 2	539
RS-D346-99 538-558	0.6	0.38	33	7	83	< 3	10	9	6	11	45	2.23	292	0.18	2	0.52	365	28	0.01	66	0.095	11	8	9.86	670	< 2	< .01	< 8	28	< 2	649
STANDARD C3/DS2	5.4	1.77	59	19	135	18	0.56	22.5	12	150	59	3.11	885	0.15	16	0.55	807	24	0.04	34	0.083	33	15	1.11	27	19	0.08	21	73	15	160
STANDARD G-2	< .3	0.91	< 2	< 3	218	< 3	0.64	< .2	4	72	3	1.94	< 5	0.44	7	0.55	573	2	0.07	8	0.091	5	< 3	0.16	68	3	0.12	< 8	37	2	40

CLIENT: *NEWMONT GOLD COMPANY*
CLIENT REF: ROSEBUD EXPLORATION
AAL REF: SP053188
METHOD: AAL 01-2 + Se

AMERICAN ASSAY LABORATORIES
1500 GLENDALE AVE.
SPARKS, NV 89431
PHONE: (775) 356-0606
FAX: (775) 356-1413

ELEMENT SAMPLES	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Hg ppb	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	Sb ppm	Se ppm	Sr ppm	Th ppm	Ti %	U ppm	V ppm	W ppm	Zn ppm
RS-D346-99 289.8-303	2.5	0.51	86	3	39	< 3	0.6	7.8	6	8	47	2.74	81	0.3	19	0.08	258	15	0.01	40	0.043	32	9	15.31	72	5	< .01	< 8	15	3	598
RS-D346-99 303-323	2.5	0.57	71	4	63	< 3	2.35	13.6	13	14	102	3.61	78	0.18	3	0.39	761	25	0.01	84	0.076	11	17	27.17	137	3	< .01	< 8	43	< 2	948
RS-D346-99 323-345	2.6	0.3	88	8	30	< 3	6.62	12.4	10	5	58	3.35	65	0.16	5	0.09	1289	33	0.01	73	0.068	14	16	17.22	388	3	< .01	< 8	17	< 2	974
RS-D346-99 345-363	2.1	0.43	76	< 3	88	3	7.06	9.8	9	4	37	2.62	116	0.16	4	0.21	2379	36	0.01	70	0.061	11	12	9.17	448	2	< .01	< 8	19	< 2	770
RS-D346-99 363-379.8	2.4	1.09	75	5	80	< 3	6.15	10.2	12	9	51	3.85	52	0.24	6	0.85	1546	23	0.01	46	0.107	13	9	9.15	427	2	< .01	< 8	38	< 2	785
RS-D346-99 379.8-398	1.9	0.72	87	4	42	< 3	6.03	15.9	10	10	75	3.43	57	0.2	5	0.44	1056	41	0.01	75	0.088	15	11	15.31	454	2	< .01	< 8	40	< 2	1141
RS-D346-99 398-418	0.8	0.62	67	3	39	< 3	4.69	13.5	9	8	70	2.97	59	0.21	4	0.42	531	41	0.01	74	0.075	12	10	15.52	349	2	< .01	< 8	29	< 2	1006
RS-D346-99 418-438	< .3	0.43	34	7	46	< 3	8.8	2.3	9	7	39	3.19	90	0.18	2	0.73	456	30	0.01	61	0.095	11	12	5.47	483	2	< .01	< 8	11	< 2	172
RS-D346-99 438-457	< .3	0.55	22	7	88	< 3	6.99	0.6	8	10	32	2.95	80	0.26	2	0.46	412	28	0.01	53	0.084	10	8	2.91	405	3	< .01	< 8	7	< 2	66
RS-D346-99 457-477	1	0.3	35	5	95	< 3	9.09	3.4	6	10	30	2.33	119	0.15	2	0.52	459	36	0.01	70	0.086	9	11	5.58	464	2	< .01	< 8	12	< 2	249
RS-D346-99 477-497	0.6	0.4	29	5	48	< 3	7.3	6.9	6	10	39	2.11	87	0.19	2	0.23	420	42	0.01	75	0.09	11	6	6.84	472	2	< .01	< 8	21	< 2	488
RS-D346-99 497-518	< .3	0.45	25	4	96	< 3	5.95	3	5	9	32	1.98	111	0.19	1	0.45	378	28	0.01	57	0.068	14	3	4.83	376	< 2	< .01	< 8	16	< 2	244
RS-D346-99 518-538	< .3	0.37	37	6	71	< 3	10.48	7.6	7	9	42	2.23	122	0.17	1	0.41	373	37	0.01	77	0.098	6	8	7.78	712	< 2	< .01	< 8	31	< 2	539
RS-D346-99 538-558	0.6	0.38	33	7	83	< 3	10	9	6	11	45	2.23	292	0.18	2	0.52	365	28	0.01	66	0.095	11	8	9.86	670	< 2	< .01	< 8	28	< 2	649
STANDARD C3/DS2	5.4	1.77	59	19	135	18	0.56	22.5	12	150	59	3.11	885	0.15	16	0.55	807	24	0.04	34	0.083	33	15	1.11	27	19	0.08	21	73	15	160
STANDARD G-2	< .3	0.91	< 2	< 3	218	< 3	0.64	< .2	4	72	3	1.94	< 5	0.44	7	0.55	573	2	0.07	8	0.091	5	< 3	0.16	68	3	0.12	< 8	37	2	40

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP053104

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NEWMONT GOLD COMPANY

COPIES TO : C. BALLEW
: R. VANCE
: K. ALLEN
:

NSI
0-289.8

CLIENT REFERENCE No: RS-D346-99 RECEIVED : 15 APR 1999

No. SAMPLES : 72 REPORTED : 26 APR 1999

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	FA30	15%	ppb	5
Au(R)	FA30	15%	ppb	5
Au(OZ)	FA30	15%	OPT	0.001
Au(RZ)	FA30	15%	OPT	0.001
Ag	D210	10%	ppm	0.5
Ag(OZ)	D210	10%	OPT	0.02

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AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP053104

CLIENT : NEWMONT GOLD COMPANY
PROJECT : ROSEBUD
REFERENCE : RS-D346-99

REPORTED : 26 APR 1999

SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ)
RS-D346-99 0.0-2.7	22		<0.001		0.7	0.02
RS-D346-99 2.7-8.0	19		<0.001		0.8	0.02
RS-D346-99 8-13	37		0.001		0.7	0.02
RS-D346-99 13-18	24		<0.001		0.5	<0.02
RS-D346-99 18-23	15	23	<0.001	<0.001	<0.5	<0.02
RS-D346-99 23.0-26.5	510		0.015		0.5	<0.02
RS-D346-99 26.5-29.9	16		<0.001		0.9	0.03
RS-D346-99 29.9-33.0	12		<0.001		<0.5	<0.02
RS-D346-99 33-38	<5		<0.001		<0.5	<0.02
RS-D346-99 38-43	8		<0.001		<0.5	<0.02
RS-D346-99 43-48	246	242	0.007	0.007	<0.5	<0.02
RS-D346-99 48-53	<5		<0.001		<0.5	<0.02
RS-D346-99 53-58	<5		<0.001		<0.5	<0.02
RS-D346-99 58-63	<5		<0.001		<0.5	<0.02
RS-D346-99 63-68	<5		<0.001		<0.5	<0.02
RS-D346-99 68-73	<5		<0.001		<0.5	<0.02
RS-D346-99 73-78	<5		<0.001		<0.5	<0.02
RS-D346-99 78-83	13		<0.001		<0.5	<0.02
RS-D346-99 83.0-86.9	32		<0.001		<0.5	<0.02
RS-D346-99 86.9-90.1	30		<0.001		<0.5	<0.02
RS-D346-99 90.1-93.0	12		<0.001		<0.5	<0.02
RS-D346-99 93.0-96.5	43		0.001		1.1	0.03
RS-D346-99 96.5-100.7	19		<0.001		<0.5	<0.02
RS-D346-99 100.7-103.0	23		<0.001		<0.5	<0.02
RS-D346-99 103.0-105.7	17		<0.001		<0.5	<0.02

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP053104

CLIENT : NEWMONT GOLD COMPANY
PROJECT : ROSEBUD
REFERENCE : RS-D346-99

REPORTED : 26 APR 1999

SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ)
RS-D346-99 105.7-108.7	25		<0.001		<0.5	<0.02
RS-D346-99 108.7-113.0	21		<0.001		<0.5	<0.02
RS-D346-99 113-118	167		0.005		<0.5	<0.02
RS-D346-99 118-123	45		0.001		<0.5	<0.02
RS-D346-99 123.0-126.6	54		0.002		0.9	0.03
RS-D346-99 126.6-130.0	19		<0.001		0.7	0.02
RS-D346-99 130-133	54		0.002		<0.5	<0.02
RS-D346-99 133-138	13		<0.001		<0.5	<0.02
RS-D346-99 138-143	<5		<0.001		<0.5	<0.02
RS-D346-99 143.0-146.5	21		<0.001		<0.5	<0.02
RS-D346-99 146.5-151.5	<5		<0.001		<0.5	<0.02
RS-D346-99 151.5-156.5	<5		<0.001		<0.5	<0.02
RS-D346-99 156.5-161.4	<5		<0.001		<0.5	<0.02
RS-D346-99 161.4-163.0	15		<0.001		0.5	<0.02
RS-D346-99 163-168	5		<0.001		<0.5	<0.02
RS-D346-99 168-173	17		<0.001		<0.5	<0.02
RS-D346-99 173-178	20		<0.001		<0.5	<0.02
RS-D346-99 178-183	16		<0.001		0.5	<0.02
RS-D346-99 183-188	25		<0.001		<0.5	<0.02
RS-D346-99 188.0-190.4	18		<0.001		<0.5	<0.02
RS-D346-99 190.4-193.0	22		<0.001		<0.5	<0.02
RS-D346-99 193-197	26		<0.001		<0.5	<0.02
RS-D346-99 197.0-199.3	42		0.001		<0.5	<0.02
RS-D346-99 199.3-203.0	60		0.002		0.6	<0.02
RS-D346-99 203.0-207.7	26		<0.001		<0.5	<0.02

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP053104

CLIENT : NEWMONT GOLD COMPANY
PROJECT : ROSEBUD
REFERENCE : RS-D346-99

REPORTED : 26 APR 1999

SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ)
RS-D346-99 207.7-213.0	24		<0.001		0.5	<0.02
RS-D346-99 213-218	64		0.002		0.8	0.02
RS-D346-99 218-223	26		<0.001		0.7	0.02
RS-D346-99 223-228	20		<0.001		0.6	<0.02
RS-D346-99 228.0-231.4	20		<0.001		0.6	<0.02
RS-D346-99 231.4-235.0	86		0.003		0.5	<0.02
RS-D346-99 235.0-239.1	26		<0.001		<0.5	<0.02
RS-D346-99 235.0-239.1B	118		0.003		<0.5	<0.02
RS-D346-99 239.1-240.6	22		<0.001		0.6	<0.02
RS-D346-99 240.6-243.8	20		<0.001		0.5	<0.02
RS-D346-99 243.8-248.0	22		<0.001		<0.5	<0.02
RS-D346-99 248-253	20		<0.001		<0.5	<0.02
RS-D346-99 253-258	22		<0.001		<0.5	<0.02
RS-D346-99 258.0-260.5	28		<0.001		0.6	<0.02
RS-D346-99 260.5-264.0	30		<0.001		0.7	0.02
RS-D346-99 264-266	28		<0.001		0.6	<0.02
RS-D346-99 266.0-270.3	26	36	<0.001	0.001	1.4	0.04
RS-D346-99 270.3-273.4	26		<0.001		0.9	0.03
RS-D346-99 273.4-278.0	26	24	<0.001	<0.001	0.8	0.02
RS-D346-99 278-283	26		<0.001		0.8	0.02
RS-D346-99 283-288	24		<0.001		0.9	0.03
RS-D346-99 288.0-289.8	26		<0.001		1.0	0.03

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP053188

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

NEWMONT GOLD COMPANY

COPIES TO : C. BALLEW
: R. VANCE
: K. ALLEN
:

NSI

CLIENT REFERENCE No: RS-D346-99 RECEIVED : 26 APR 1999

No. SAMPLES : 70 REPORTED : 4 MAY 1999

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	FA30	15%	ppb	5
Au(R)	FA30	15%	ppb	5
Au(OZ)	FA30	15%	OPT	0.001
Au(RZ)	FA30	15%	OPT	0.001
Ag	D210	10%	ppm	0.5
Ag(OZ)	D210	10%	OPT	0.02

SIGNATORY : Leonard E. Mackedon B.S.

05/04/1999 10:26 7023561414 AMERICAN ASSAY LABS PAGE 01
7023561414

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP053188

CLIENT : NEWMONT GOLD COMPANY
PROJECT : ROSEBUD
REFERENCE : RS-D346-99

REPORTED : 4 MAY 1999

SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ
RS-D346-99 289.8-292.1	14	16	<0.001	<0.001	0.9	0.0
RS-D346-99 292.1-293.4	20		<0.001		0.6	<0.0
RS-D346-99 293.4-295.3	25		<0.001		1.4	0.0
RS-D346-99 295.3-298.0	86		0.003		3.3	0.1
RS-D346-99 298.0-301.4	167		0.005		5.4	0.1
RS-D346-99 301.4-303.0	138		0.004		4.6	0.1
RS-D346-99 303-308	10		<0.001		3.5	0.1
RS-D346-99 308-313	10		<0.001		3.8	0.1
RS-D346-99 313-317	8		<0.001		3.9	0.1
RS-D346-99 317-319	10		<0.001		3.4	0.1
RS-D346-99 319-320	72		0.002		2.0	0.0
RS-D346-99 320-323	8		<0.001		1.6	0.05
RS-D346-99 323-328	10		<0.001		4.5	0.1
RS-D346-99 328-333	8		<0.001		1.6	0.05
RS-D346-99 333-336	10		<0.001		2.5	0.0
RS-D346-99 336-340	14		<0.001		2.1	0.06
RS-D346-99 340-345	60		0.002		2.2	0.06
RS-D346-99 345-350	<5		<0.001		3.4	0.10
RS-D346-99 350-355	<5		<0.001		2.0	0.06
RS-D346-99 355-361	6	<5	<0.001	<0.001	2.6	0.08
RS-D346-99 361-363	<5		<0.001		1.7	0.05
RS-D346-99 363-368	<5		<0.001		2.4	0.07
RS-D346-99 368-373	6		<0.001		3.8	0.11
RS-D346-99 373.0-376.6	<5		<0.001		2.8	0.08
RS-D346-99 376.6-379.8	<5		<0.001		<0.5	<0.02

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP053188

CLIENT : NEWMONT GOLD COMPANY
PROJECT : ROSEBUD
REFERENCE : RS-D346-99

REPORTED : 4 MAY 1999

SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ
RS-D346-99 379.8-383.0	<5		<0.001		1.9	0.0
RS-D346-99 383-388	<5		<0.001		1.9	0.0
RS-D346-99 388-393	<5	<5	<0.001	<0.001	2.1	0.0
RS-D346-99 393-398	<5		<0.001		1.5	0.0
RS-D346-99 398.0-400.8	<5		<0.001		0.6	<0.0
RS-D346-99 400.8-403.0	<5		<0.001		0.6	<0.0
RS-D346-99 403-408	<5		<0.001		1.2	0.0
RS-D346-99 408.0-409.4	<5	<5	<0.001	<0.001	2.6	0.0
RS-D346-99 409.4-411.1	<5		<0.001		<0.5	<0.0
RS-D346-99 411.1-413.0	<5		<0.001		0.7	0.0
RS-D346-99 413-418	<5		<0.001		<0.5	<0.0
RS-D346-99 418-423	8	<5	<0.001	<0.001	<0.5	<0.0
RS-D346-99 423-428	6		<0.001		<0.5	<0.0
RS-D346-99 428-433	<5		<0.001		<0.5	<0.0
RS-D346-99 433-438	<5		<0.001		<0.5	<0.0
RS-D346-99 438-443	<5		<0.001		<0.5	<0.0
RS-D346-99 443-448	<5		<0.001		<0.5	<0.0
RS-D346-99 448-451	<5		<0.001		<0.5	<0.0
RS-D346-99 451-453	<5		<0.001		<0.5	<0.0
RS-D346-99 453-457	<5		<0.001		<0.5	<0.02
RS-D346-99 457-459	10		<0.001		<0.5	<0.0
RS-D346-99 459.0-463.8	10		<0.001		<0.5	<0.02
RS-D346-99 463.8-466.0	15		<0.001		0.7	0.02
RS-D346-99 466-469	12		<0.001		1.0	0.03
RS-D346-99 469.0-472.7	18		<0.001		1.5	0.04

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP053188

CLIENT : NEWMONT GOLD COMPANY
PROJECT : ROSEBUD
REFERENCE : RS-D346-99

REPORTED : 4 MAY 1999

SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ
RS-D346-99 472.7-477.0	8	6	<0.001	<0.001	1.1	0.0
RS-D346-99 477-482	10		<0.001		0.9	0.0
RS-D346-99 482-487	<5		<0.001		<0.5	<0.0
RS-D346-99 487-492	<5		<0.001		<0.5	<0.0
RS-D346-99 492-497	<5		<0.001		<0.5	<0.0
RS-D346-99 492-497B	110		0.003		<0.5	<0.0
RS-D346-99 497-502	<5	<5	<0.001	<0.001	<0.5	<0.0
RS-D346-99 502-507	<5		<0.001		<0.5	<0.0
RS-D346-99 507-510	16		<0.001		<0.5	<0.0
RS-D346-99 510-513	6		<0.001		<0.5	<0.0
RS-D346-99 513-518	<5		<0.001		<0.5	<0.0
RS-D346-99 518-523	<5		<0.001		<0.5	<0.0
RS-D346-99 523-528	<5		<0.001		0.5	<0.0
RS-D346-99 528-533	<5		<0.001		0.5	<0.0
RS-D346-99 533-538	<5	<5	<0.001	<0.001	0.6	<0.0
RS-D346-99 538-543	<5		<0.001		0.9	0.0
RS-D346-99 543-548	<5		<0.001		0.9	0.0
RS-D346-99 548-551	<5		<0.001		0.5	<0.0
RS-D346-99 551-554	<5		<0.001		0.7	0.0
RS-D346-99 554-558	<5		<0.001		0.6	<0.0

CLIENT: *NEWMONT GOLD COMPANY*
CLIENT REF: ROSEBUD EXPLORATION
AAL REF: SP053104
METHOD: AAL 01-2 + Se

AMERICAN ASSAY LABORATORIES
1500 GLENDALE AVE.
SPARKS, NV 89431
PHONE: (775) 356-0606
FAX: (775) 356-1413

ELEMENT SAMPLES	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Hg ppb	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	Sb ppm	Se ppm	Sr ppm	Th ppm	Ti %	U ppm	V ppm	W ppm	Zn ppm
RS-D346-99 0.0-2.7	< .3	0.41	54	< 3	43	< 3	0.21	0.4	1	10	12	1.78	67	0.26	18	0.03	210	14	0.03	4	0.036	14	< 3	5.2	64	4	< .01	< 8	2	< 2	29
RS-D346-99 2.7-23.0	0.8	0.93	51	< 3	43	< 3	0.82	0.4	4	4	10	2.49	150	0.43	25	0.17	565	1	0.03	1	0.055	23	< 3	11.7	137	3	< .01	< 8	4	< 2	81
RS-D346-99 23-43	0.4	0.83	22	< 3	43	3	1.36	0.6	2	3	8	2.22	8	0.4	27	0.13	783	1	0.03	1	0.037	24	< 3	6.5	150	3	< .01	< 8	< 1	< 2	67
RS-D346-99 43-63	0.5	0.78	10	< 3	80	< 3	1.33	0.6	2	4	7	1.68	22	0.4	35	0.1	793	2	0.03	3	0.031	20	< 3	4.6	136	5	< .01	< 8	1	< 2	66
RS-D346-99 63-83	0.6	0.68	10	< 3	92	< 3	0.88	0.5	2	5	9	1.7	7	0.4	33	0.08	1085	2	0.03	4	0.026	19	< 3	3.6	119	5	< .01	< 8	2	< 2	56
RS-D346-99 83-103	1	0.61	53	< 3	42	< 3	0.19	0.4	2	4	11	1.78	31	0.36	33	0.07	370	3	0.03	5	0.023	27	< 3	7.3	90	6	< .01	< 8	3	< 2	64
RS-D346-99 103-123	0.7	0.55	45	< 3	58	< 3	0.17	0.4	2	6	12	1.89	108	0.34	39	0.05	684	4	0.04	5	0.023	22	3	5.8	67	8	< .01	< 8	4	< 2	76
RS-D346-99 123-143	3.7	0.61	20	< 3	48	< 3	1.14	0.6	2	4	6	1.61	49	0.37	32	0.06	1019	2	0.02	3	0.027	18	< 3	4.8	145	4	< .01	< 8	1	< 2	62
RS-D346-99 143-163	0.6	0.62	16	< 3	100	< 3	2.03	0.6	2	5	11	1.61	6	0.4	36	0.06	860	3	0.02	6	0.024	26	< 3	5.2	213	7	< .01	< 8	5	< 2	56
RS-D346-99 163-183	0.6	0.69	31	< 3	100	< 3	0.45	0.4	3	12	15	2.05	73	0.42	39	0.05	374	4	0.03	9	0.032	16	4	6.6	123	8	< .01	< 8	5	< 2	52
RS-D346-99 183.0-199.3	0.8	0.46	55	< 3	79	3	0.18	1.1	1	3	6	1.48	136	0.3	37	0.03	183	4	0.01	3	0.006	25	< 3	8.5	153	8	< .01	< 8	1	2	64
RS-D346-99 199.3-218.0	0.8	0.4	65	< 3	130	< 3	0.11	0.3	1	6	7	1.54	75	0.28	50	0.02	289	4	0.03	3	0.006	19	3	7.1	88	10	< .01	< 8	1	< 2	62
RS-D346-99 218.0-239.1	1.3	0.42	76	< 3	42	< 3	0.11	1	1	4	6	1.64	49	0.33	57	0.02	247	4	0.04	3	0.008	19	4	6.5	81	12	< .01	< 8	1	< 2	82
RS-D346-99 239.1-258.0	0.9	0.44	59	< 3	38	< 3	0.46	0.7	1	8	10	1.9	357	0.37	52	0.02	412	8	0.03	4	0.006	27	< 3	7.4	103	11	< .01	< 8	2	< 2	74
STANDARD C3/H-1	5.6	1.83	58	18	147	20	0.54	22.9	12	164	66	3.2	738	0.17	18	0.57	798	24	0.04	35	0.085	33	14	0.8	28	23	0.09	20	77	15	155
STANDARD G-2	< .3	1.07	< 2	3	227	< 3	0.68	< .2	5	146	12	2.12	< 5	0.48	9	0.58	624	5	0.09	13	0.08	4	< 3	< .1	82	4	0.14	< 8	40	< 2	41

Down Hole Survey Data
RS-D346-99

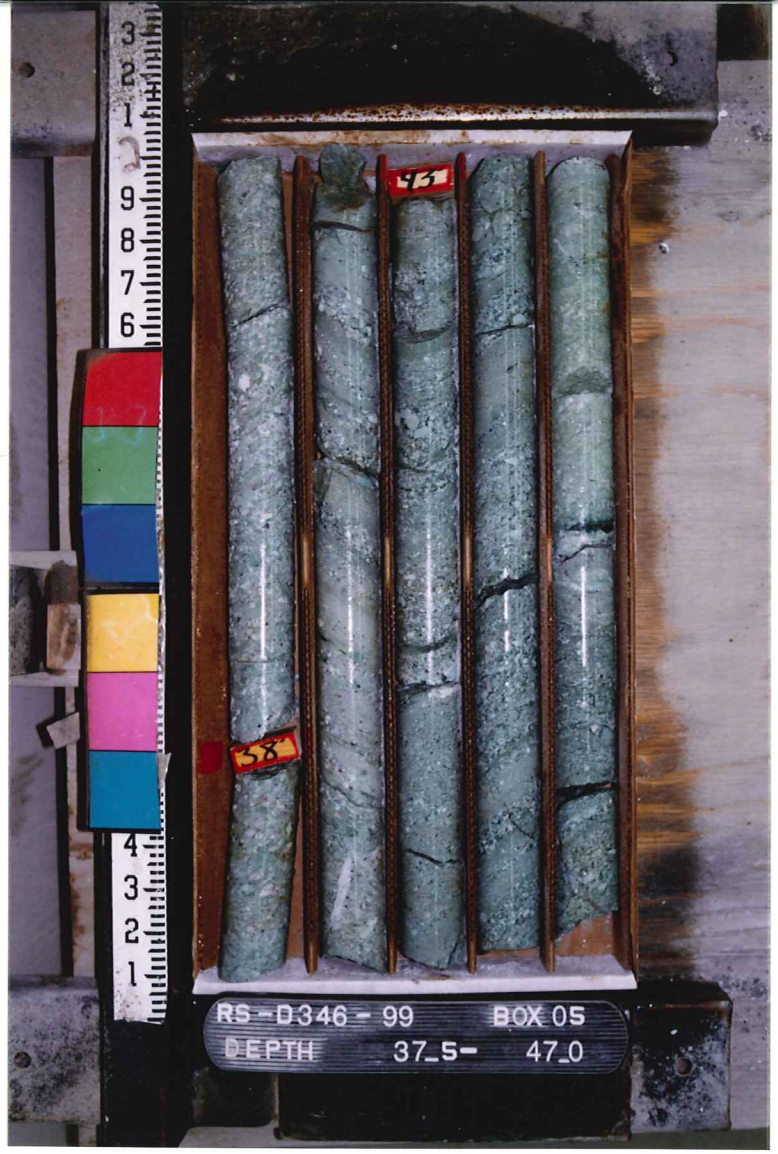
Footage	Measured Bearing	Corrected Azimuth -15.66	Measured Inclination	Calculated Dip
40	72	303.7	50.25	-39.8
270	70.5	305.2	50.5	-39.5

Hole was lost below 270.

RS-D346-99 BOX 02
DEPTH 9_0- 18_5

RS-D346-99 BOX 01
DEPTH 0_0- 9_0

RS-D346-99 BOX 03
DEPTH 18_5- 28_0

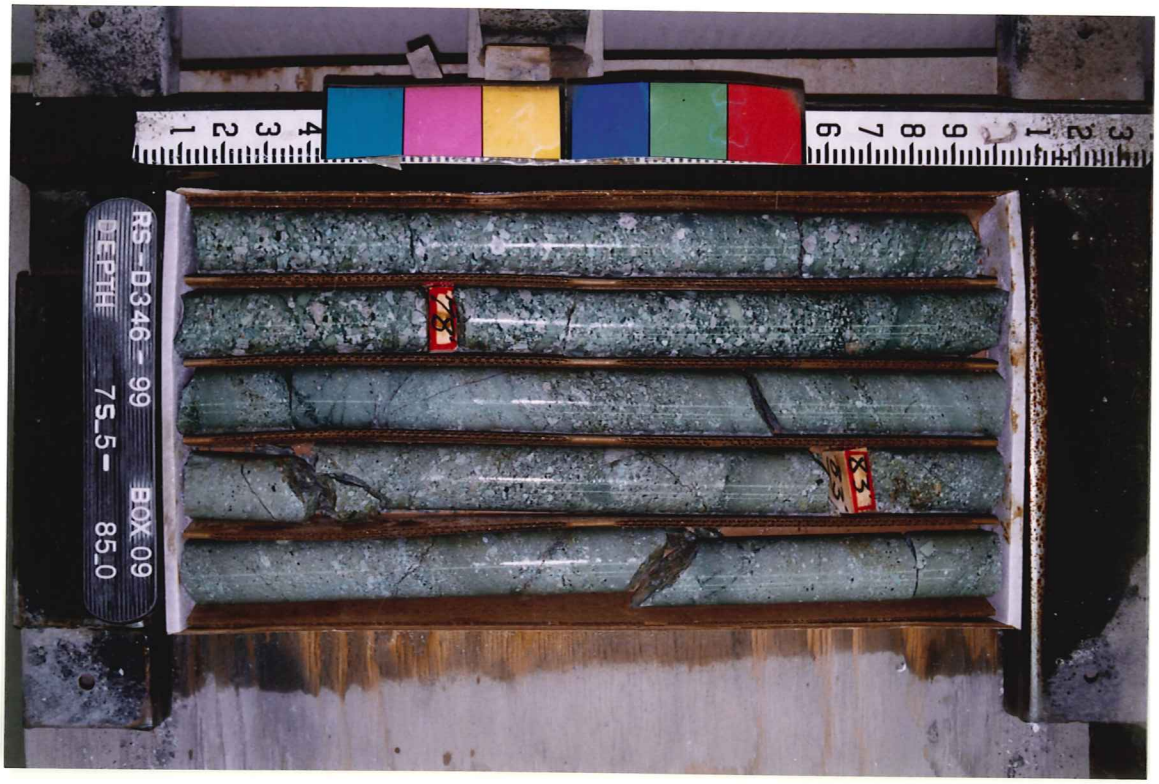

RS-D346-99 BOX 05
DEPTH 37_5- 47_0

29.9
28
RS-D346-99 BOX 04
DEPTH 28_0- 37_5

RS-D346-99 BOX 06
DEPTH 47_0- 56_0

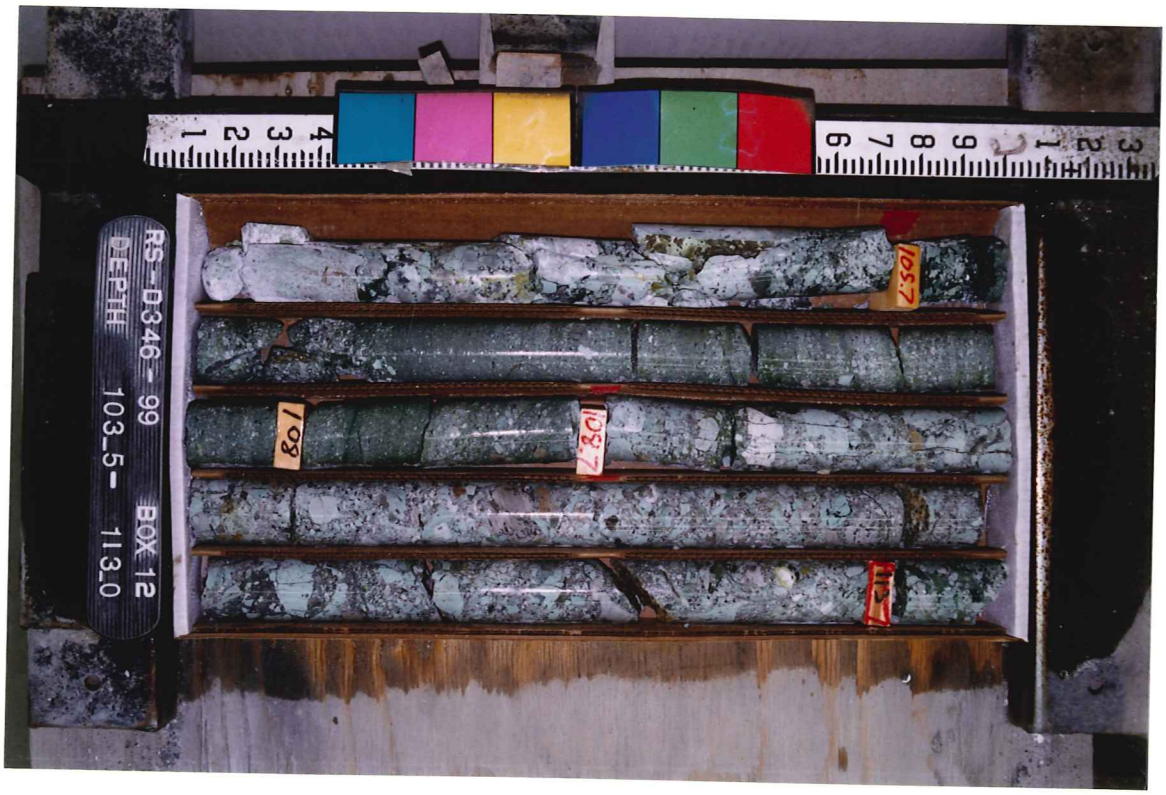
RS-D346-99 BOX 08
DEPTH 66_0- 75_5

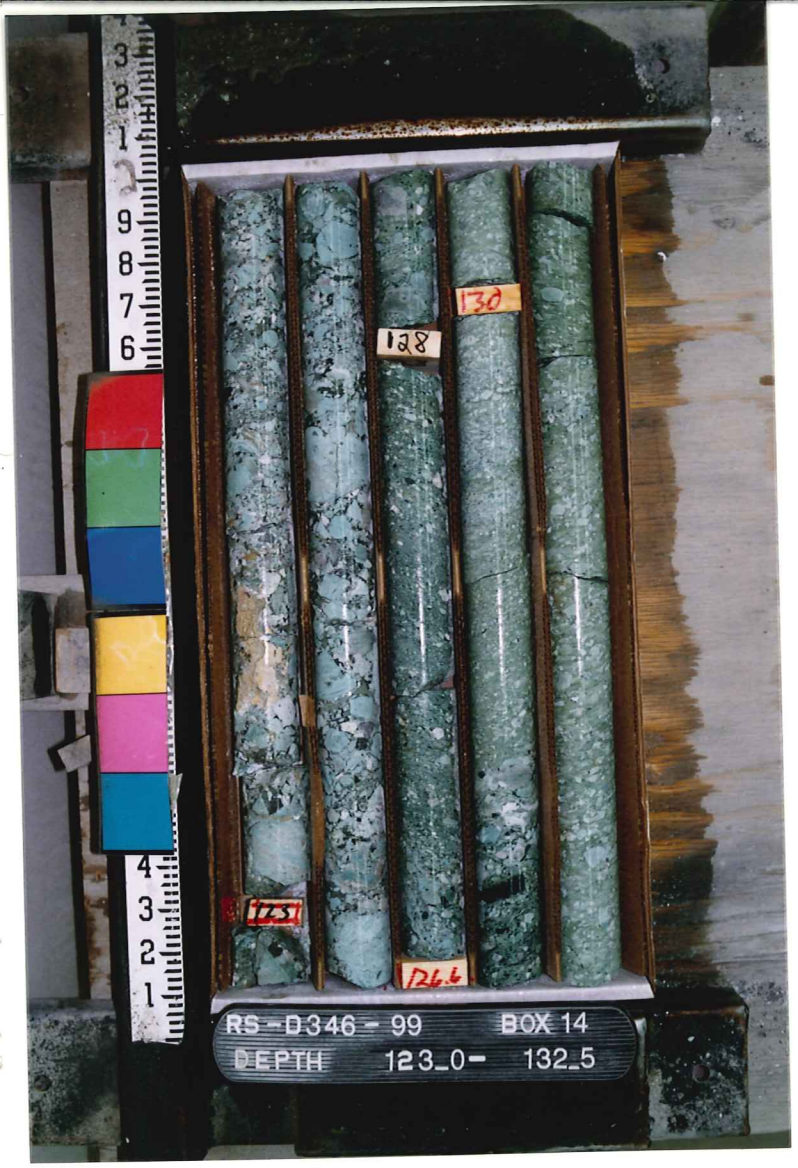
RS-D346-99 BOX 07
DEPTH 56_0- 66_0


RS-D346-99 BOX 09
DEPTH 75_5- 85_0

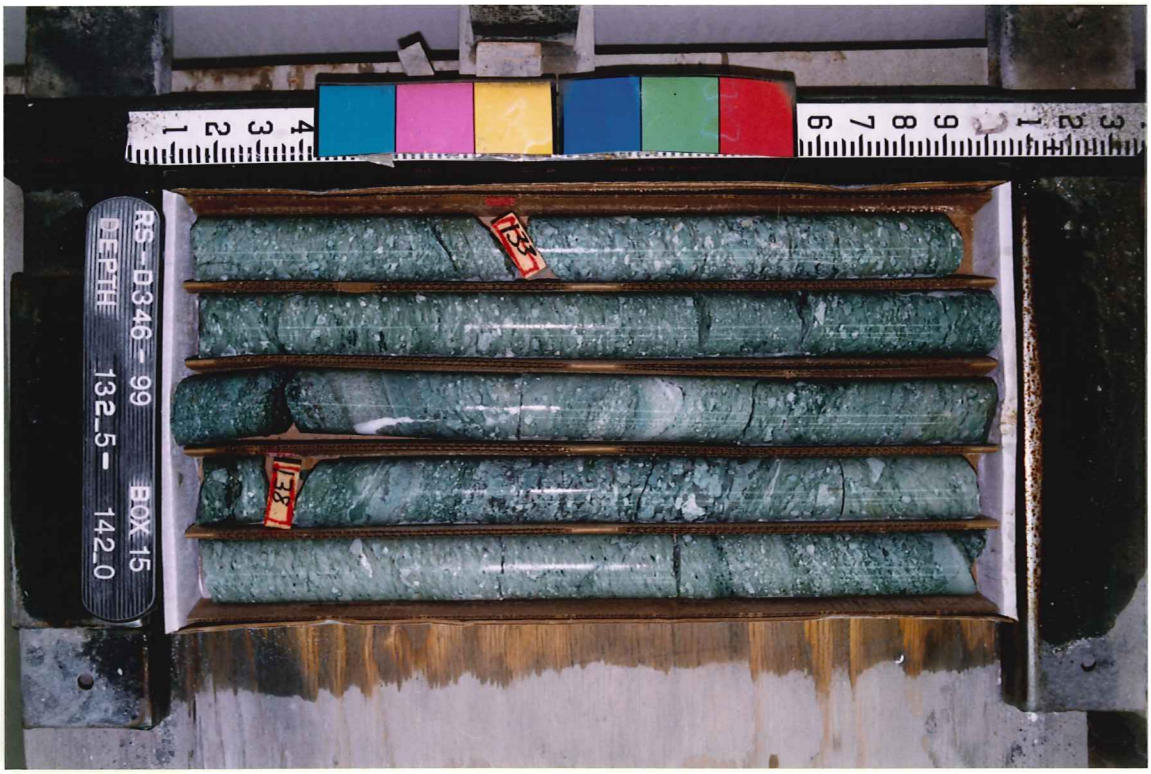
98
103
100.7
96.5
RS-D346-99 BOX 11
DEPTH 94_5- 103_5

86.9
88
90.1
93
RS-D346-99 BOX 10
DEPTH 85_0- 94_5


108
108.7
105.7
113
RS-D346-99 BOX 12
DEPTH 103_5- 113_0

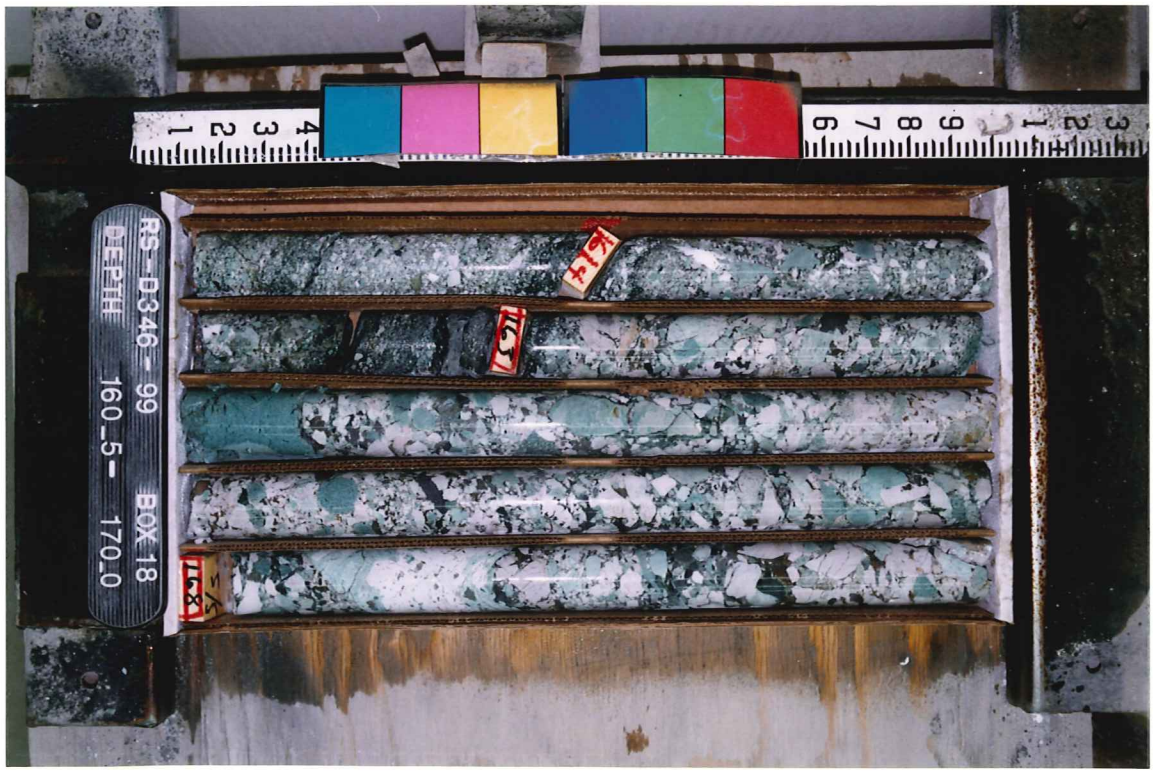

128
130
126
RS-D346-99 BOX 14
DEPTH 123_0- 132_5

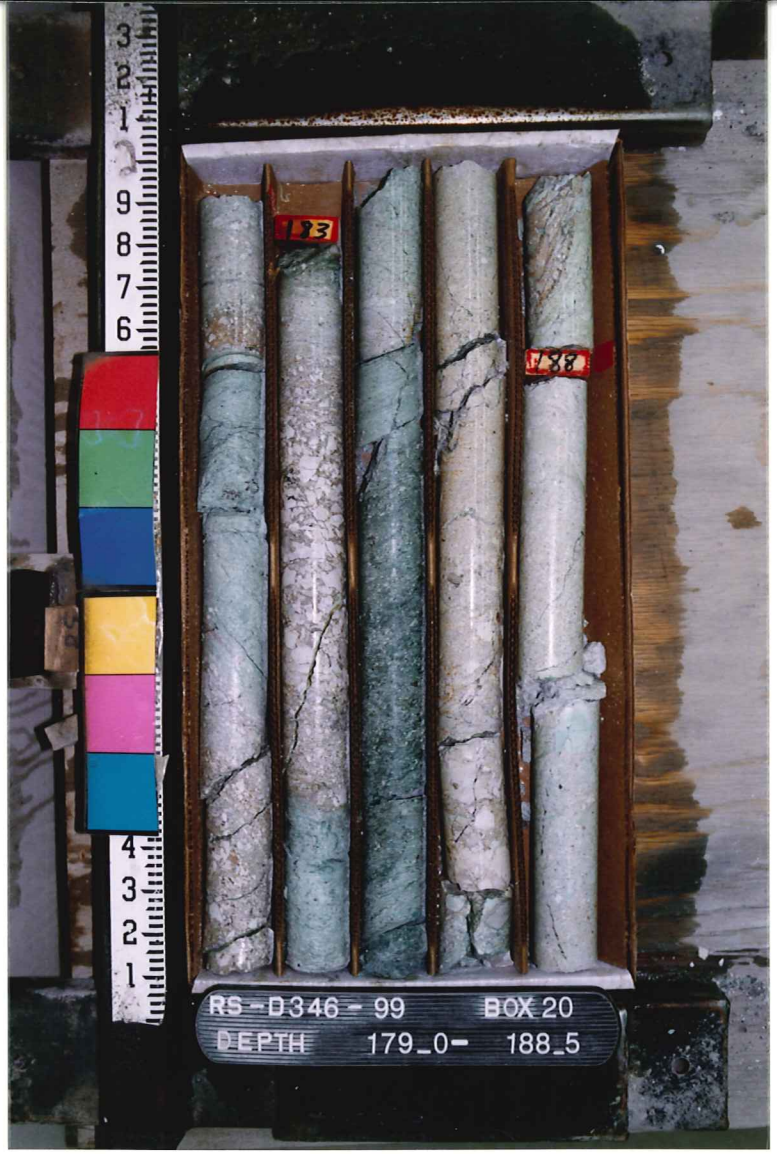
RS-D346-99 BOX 13
DEPTH 113_0- 123_0

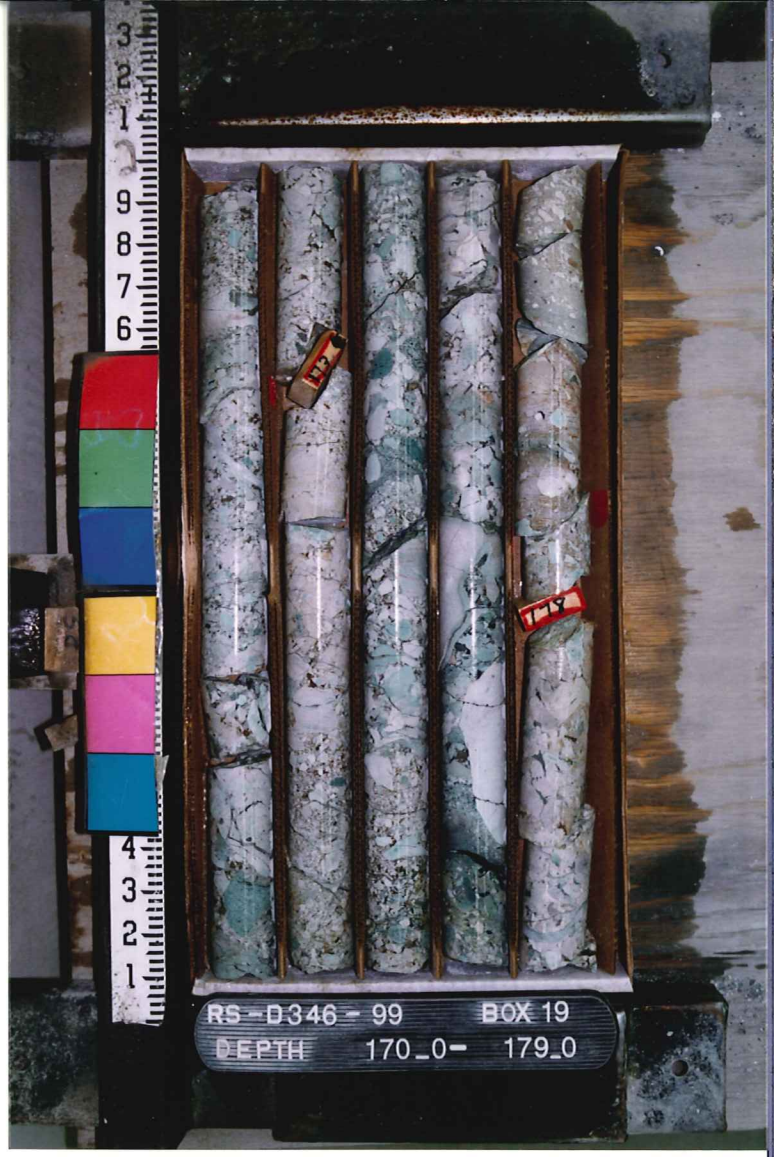

133
138
RS-D346-99 BOX 15
DEPTH 132_5- 142_0

158
RS-D346-99 BOX 17
DEPTH 151_0- 160_5

RS-D346-99 BOX 16
DEPTH 142_0- 151_0


RS-D346-99 BOX 18
DEPTH 160_5- 170_0


RS-D346-99 BOX 20
DEPTH 179_0- 188_5


RS-D346-99 BOX 19
DEPTH 170_0- 179_0

RS-D346-99 BOX 21
DEPTH 188_5- 198_0

208'
207.7
213
RS-D346-99 BOX 23
DEPTH 207_0- 216_0

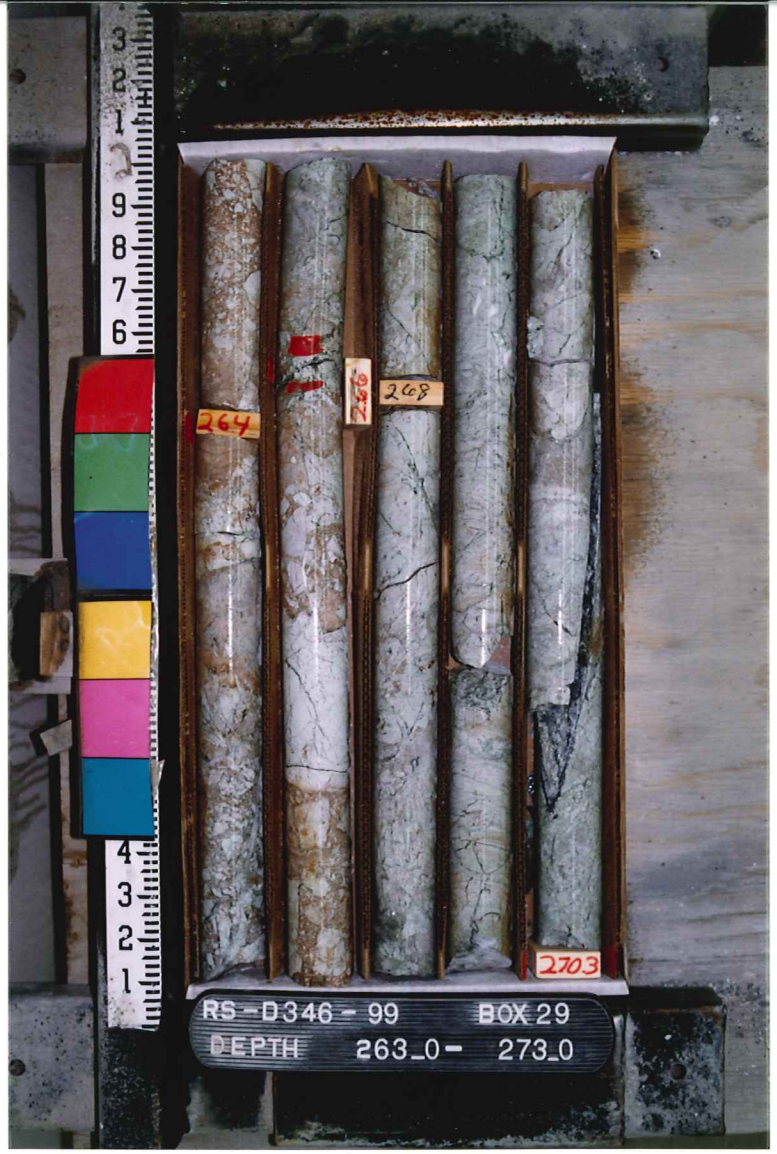
199.3
198
RS-D346-99 BOX 22
DEPTH 198_0- 207_0

RS-D346-99 BOX 24
DEPTH 216_0- 226_0
223

238'
239.1
235
240.6
RS-D346-99
BOX 26
DEPTH 235_0- 244_0

231.4
RS-D346-99
BOX 25
DEPTH 226_0- 235_0

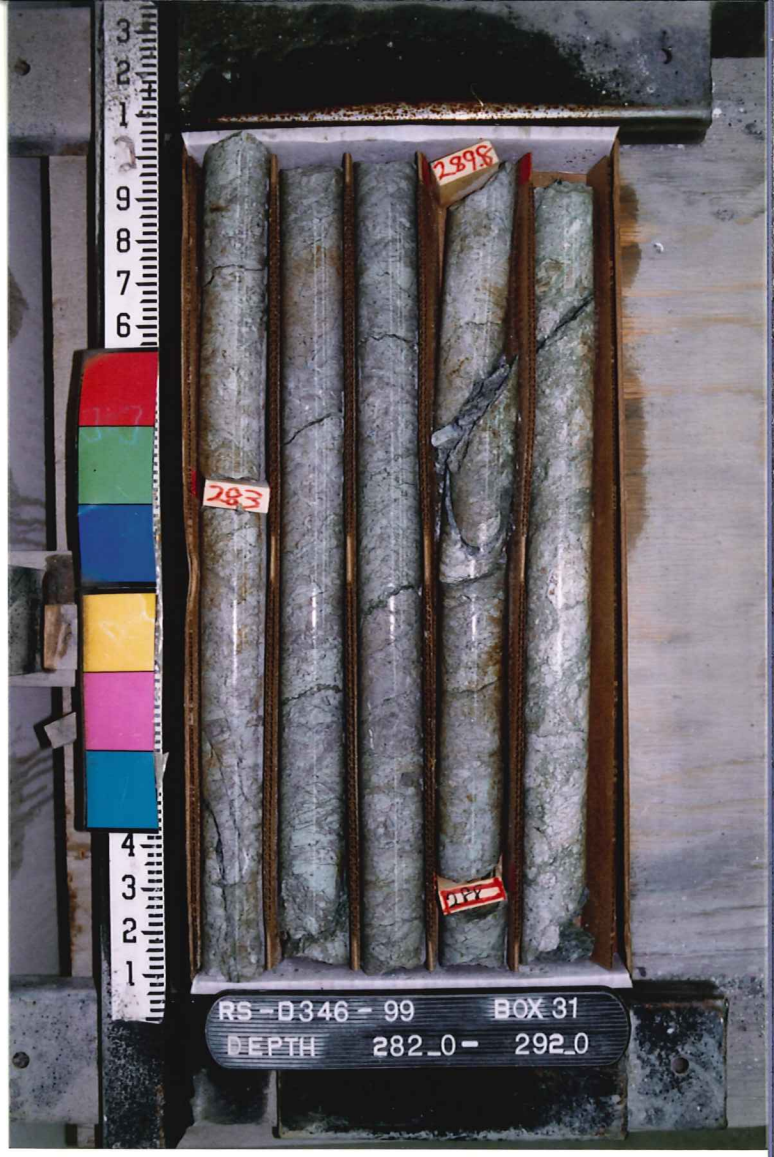
245.8
253
RS-D346-99
BOX 27
DEPTH 244_0- 253_5


RS-D346-99
BOX 29
DEPTH 263_0- 273_0
264
267
268
2703

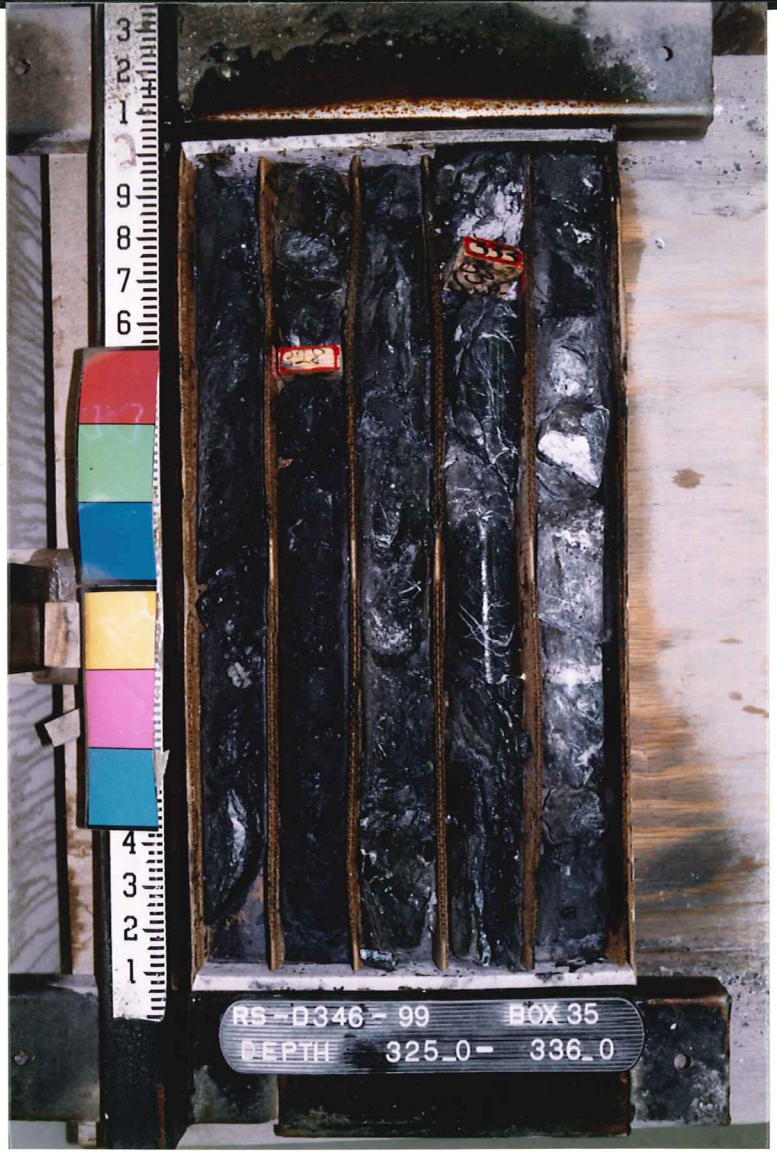
RS-D346-99
BOX 28
DEPTH 253_5- 263_0
2605

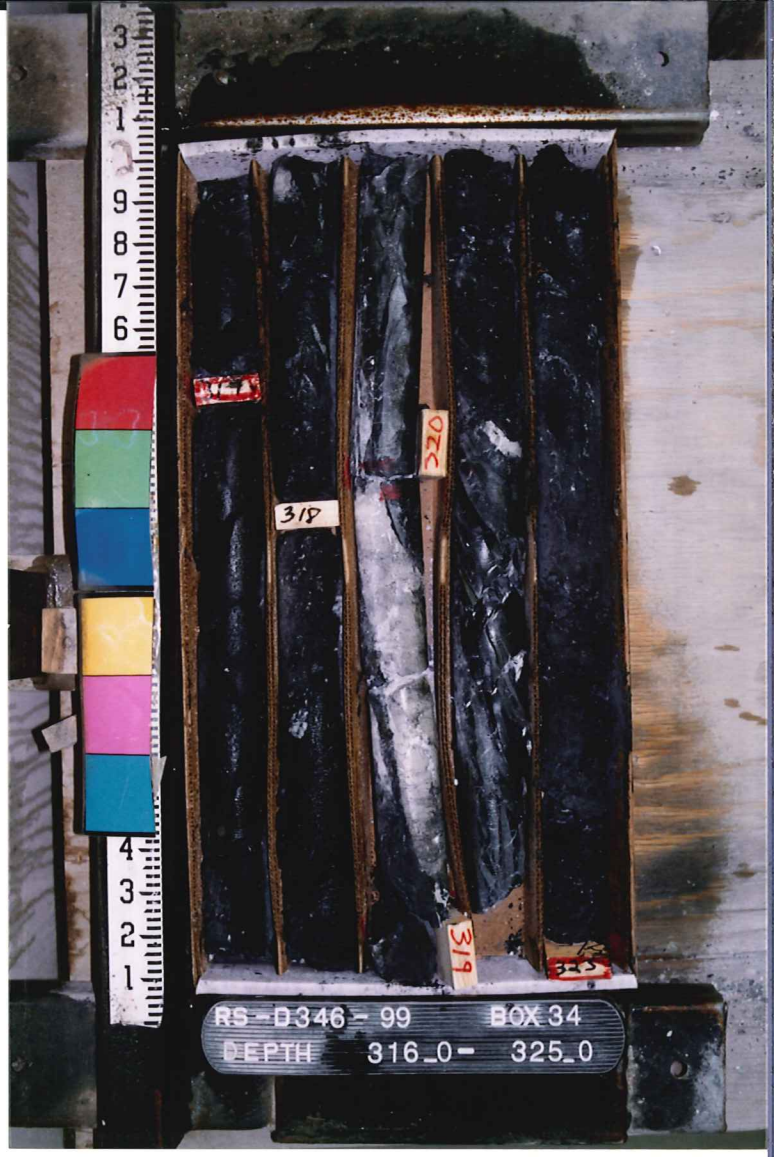
RS-D346-99
BOX 30
DEPTH 273_0- 282_0
2734
2783

293.4
295.3
303
298
292.1
301.4
RS-D346-99 BOX 32
DEPTH 292_0- 303_0

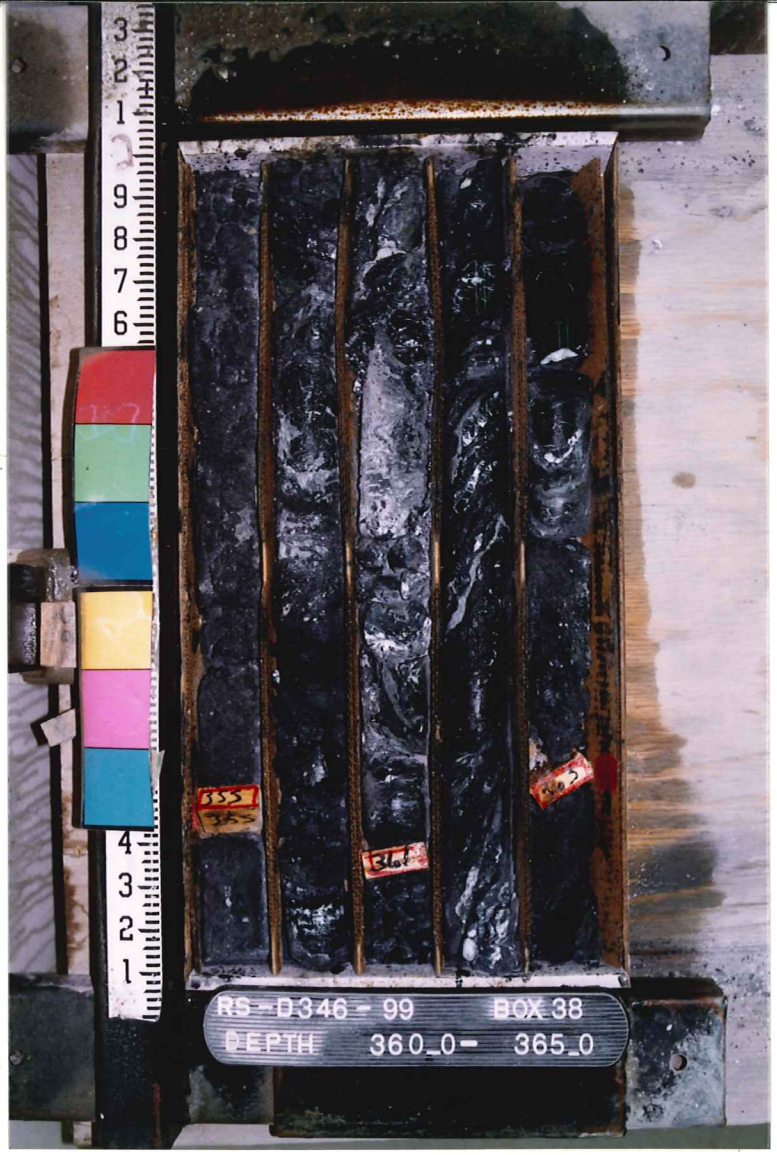

289.8
283
287
RS-D346-99 BOX 31
DEPTH 282_0- 292_0

303
312
RS-D346-99 BOX 33
DEPTH 303_0- 316_0

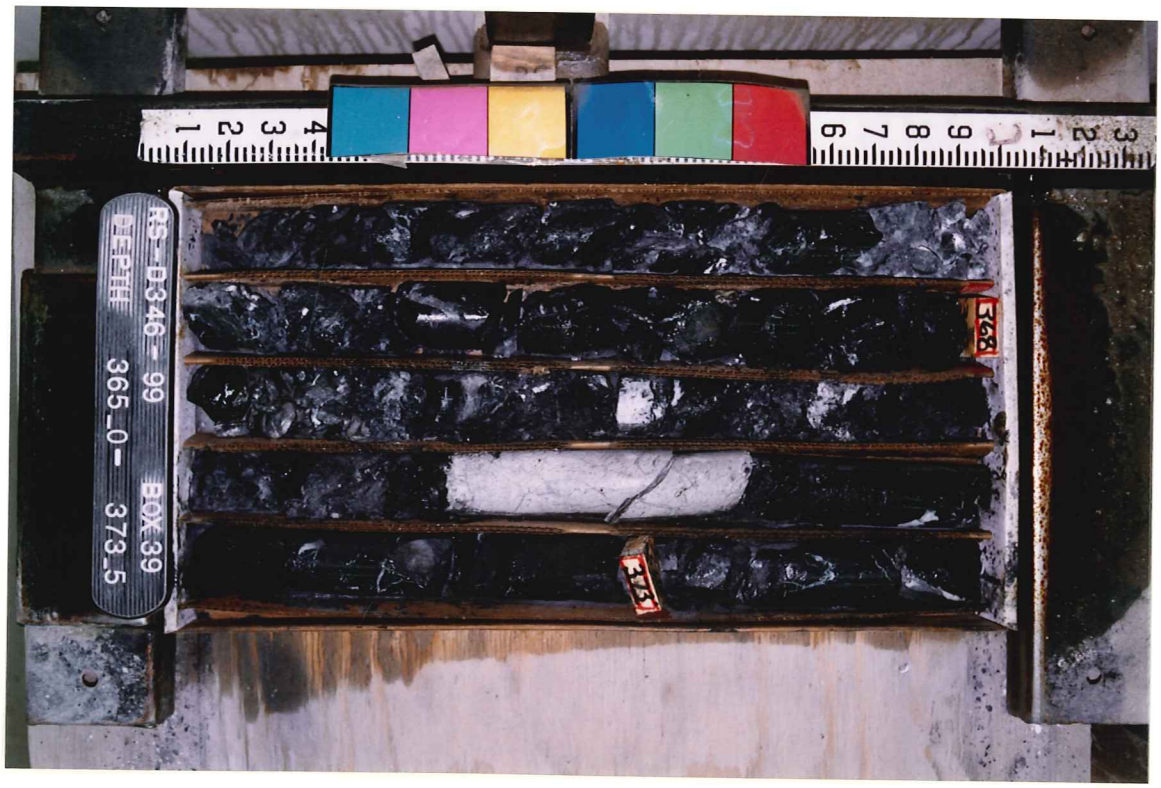

RS-D346-99 BOX 35
DEPTH 325_0- 336_0

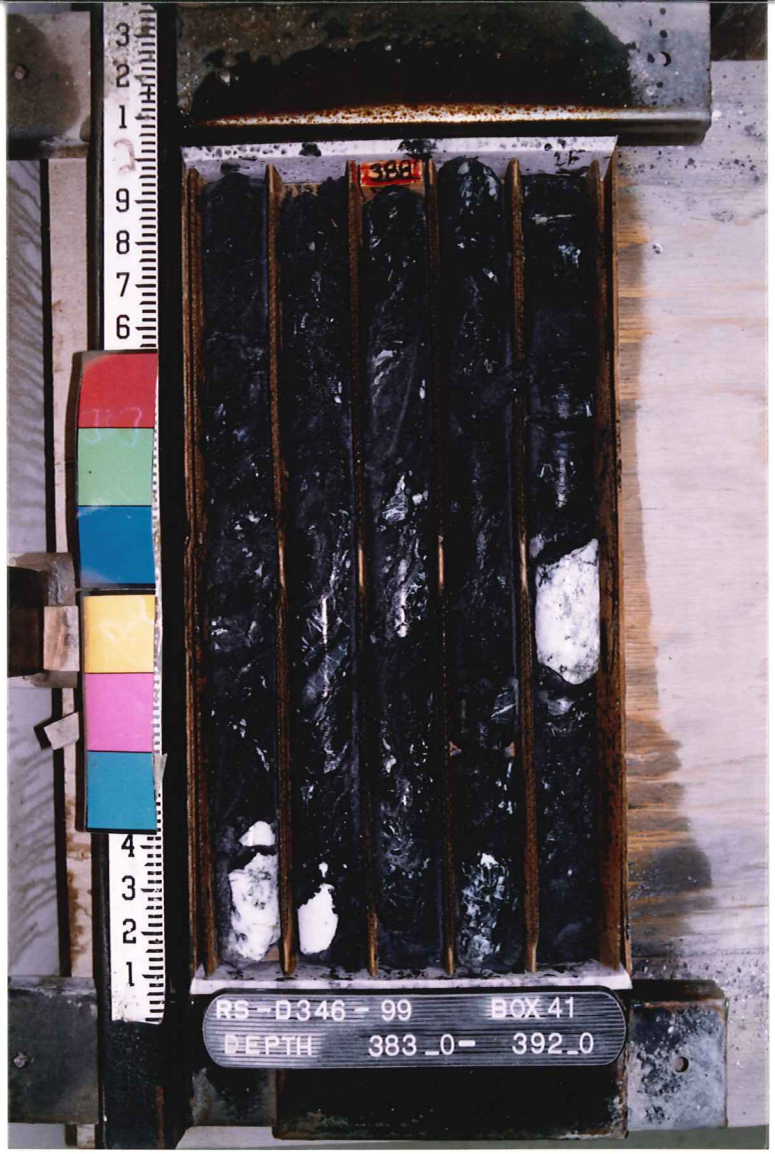

RS-D346-99 BOX 34
DEPTH 316_0- 325_0
318
319

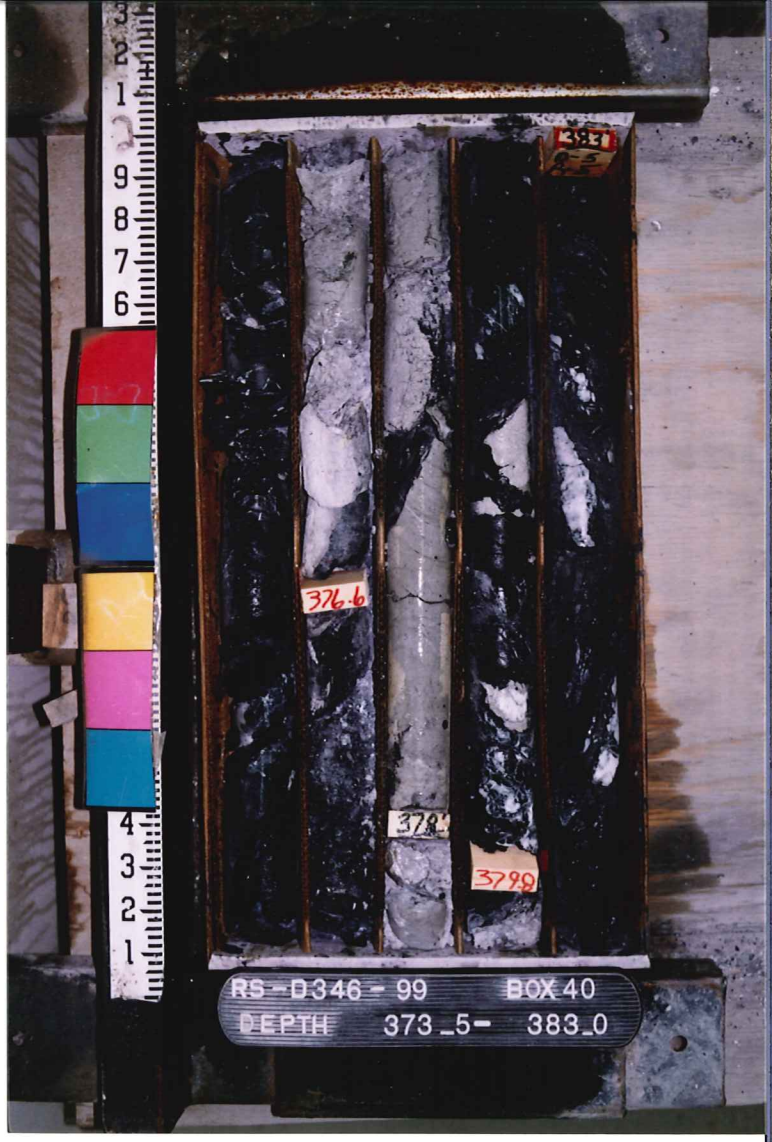
RS-D346-99 BOX 36
DEPTH 336_0- 343_5
343


RS-D346-99 BOX 38
DEPTH 360_0- 365_0

RS-D346-99 BOX 37
DEPTH 343_5- 360_0

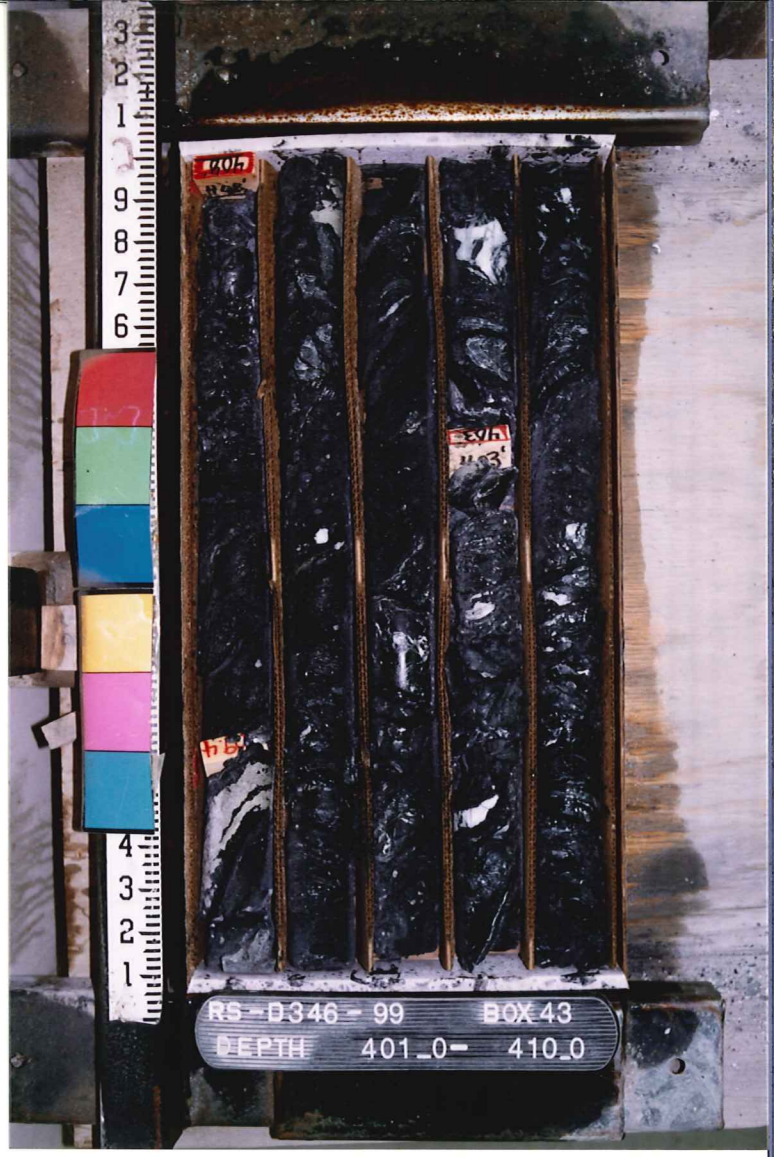

RS-D346-99 BOX 39
DEPTH 365_0- 373_5

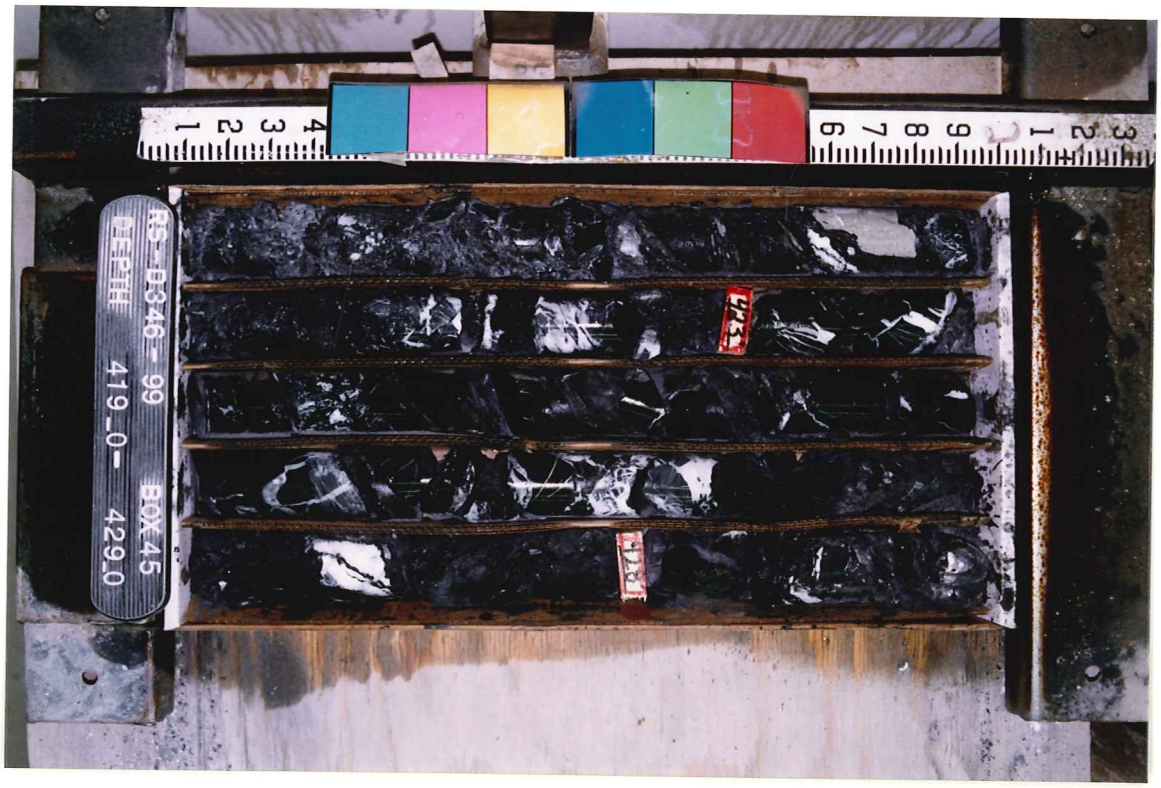

RS-D346-99 BOX 41
DEPTH 383_0- 392_0


RS-D346-99 BOX 40
DEPTH 373_5- 383_0
376.6

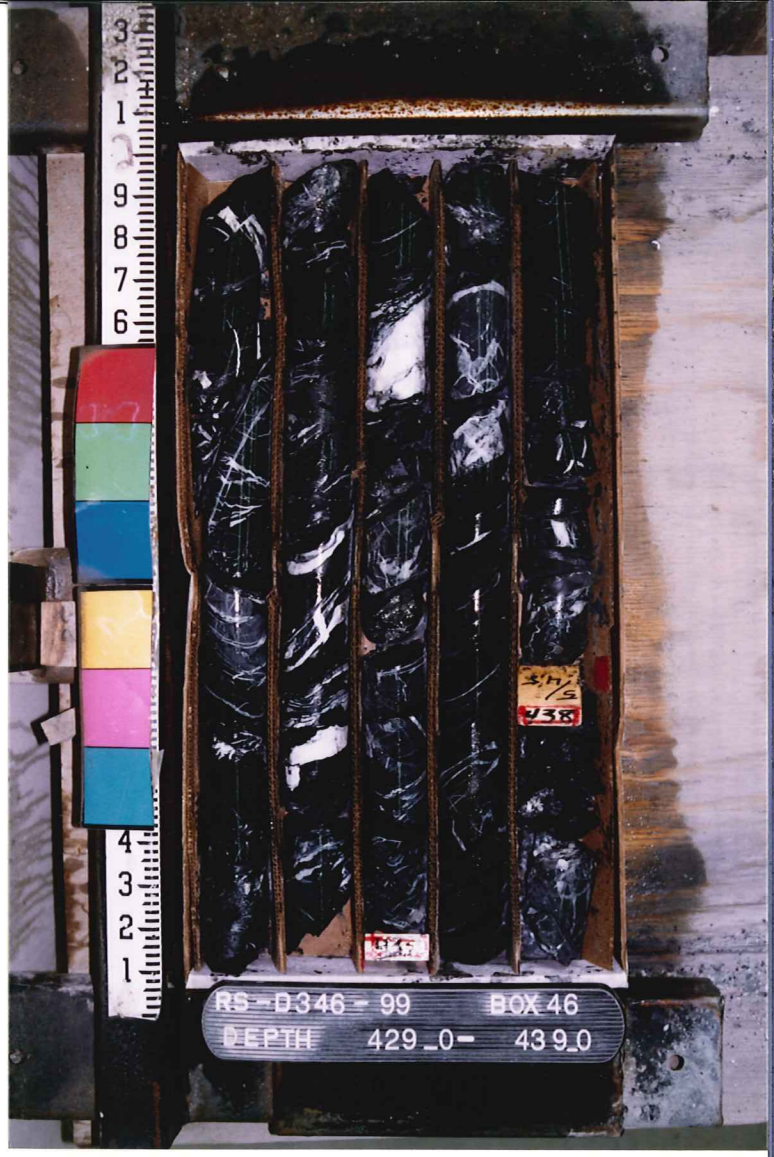
RS-D346-99 BOX 42
DEPTH 392_0- 401_0

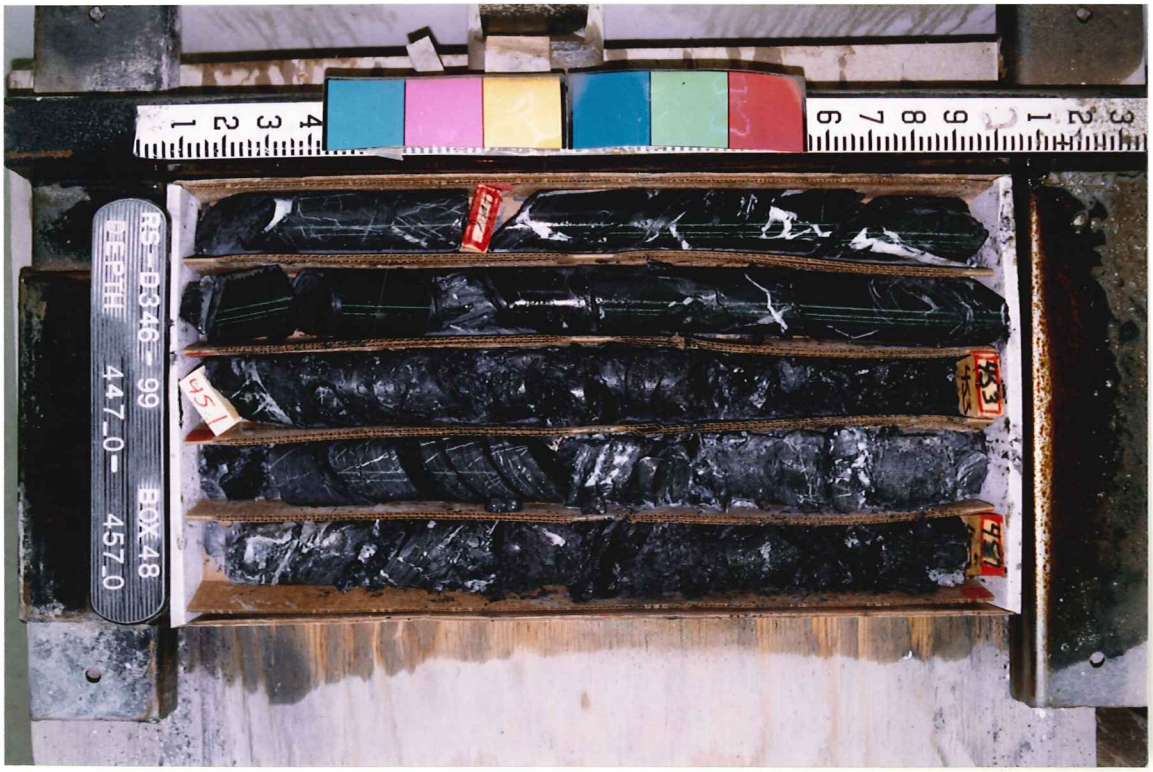
RS-D346-99 BOX 44
DEPTH 410_0- 419_0


RS-D346-99 BOX 43
DEPTH 401_0- 410_0


RS-D346-99 BOX 45
DEPTH 419_0- 429_0

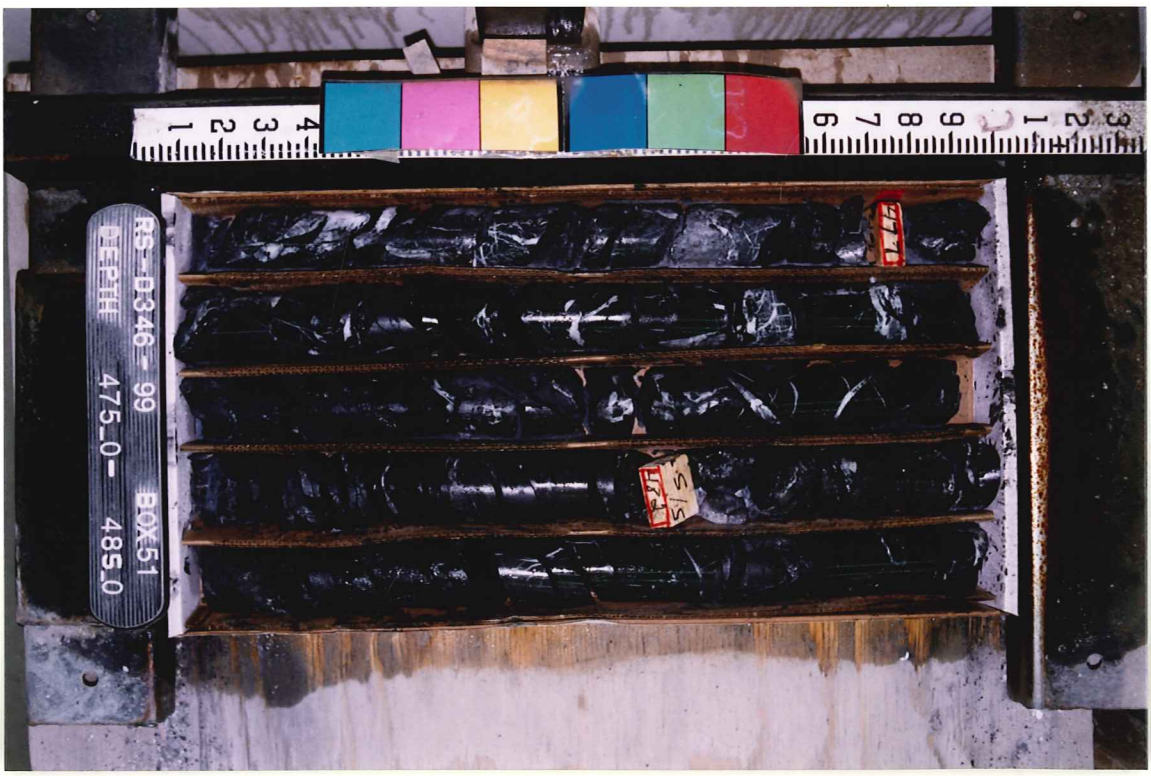
RS-D346-99
BOX 47
DEPTH 439_0- 447_0


RS-D346-99
BOX 46
DEPTH 429_0- 439_0

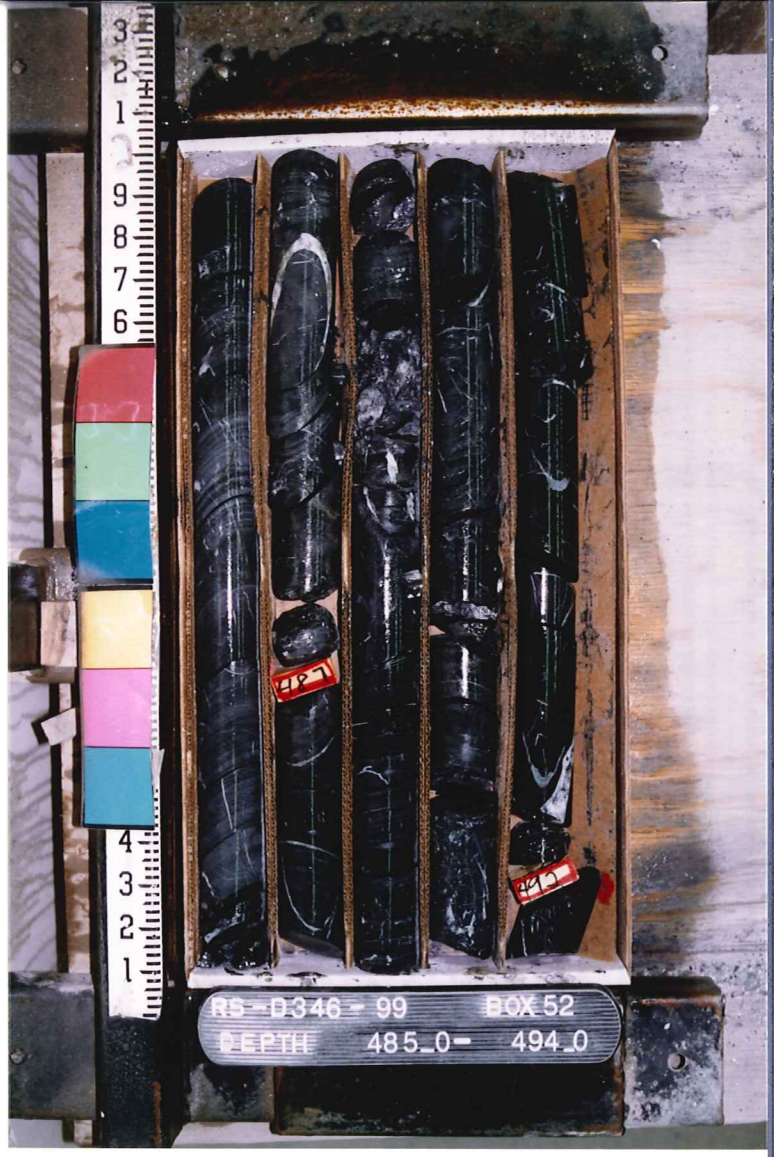

RS-D346-99
BOX 48
DEPTH 447_0- 457_0

RS-D346-99 BOX 50
DEPTH 467_0- 475_0

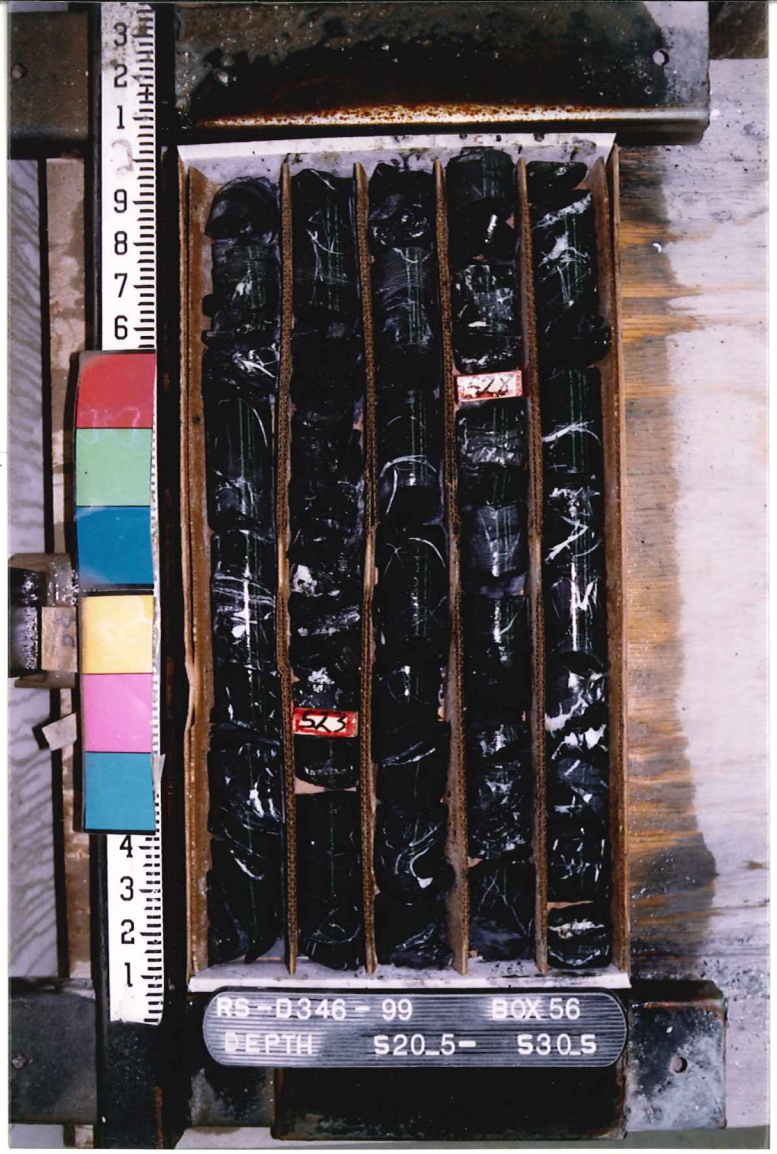
RS-D346-99 BOX 49
DEPTH 457_0- 467_0

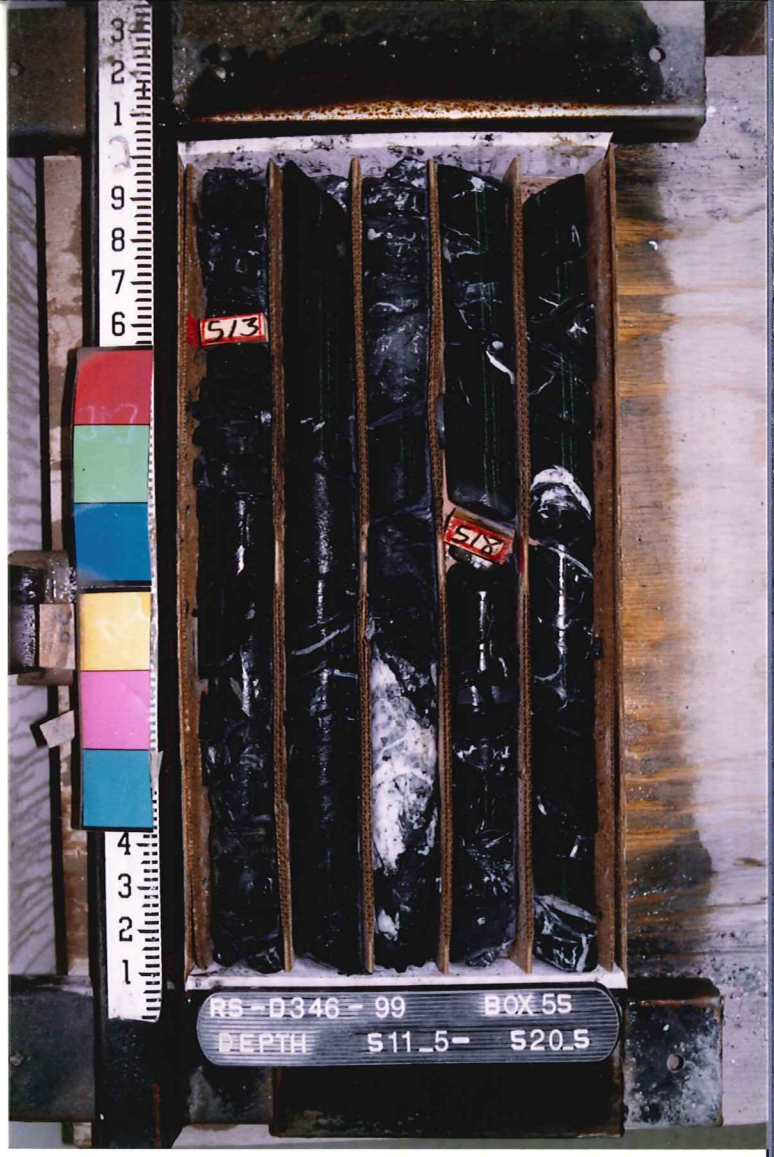

RS-D346-99 BOX 51
DEPTH 475_0- 485_0

RS-D346-99
BOX 53
DEPTH 494.0- 502.5


RS-D346-99
BOX 52
DEPTH 485.0- 494.0

RS-D346-99
BOX 54
DEPTH 502.5- 511.5


RS-D346-99
BOX 56
DEPTH S20_5- S30_5


RS-D346-99
BOX 55
DEPTH S11_5- S20_5

RS-D346-99
BOX 57
DEPTH S30_5- S42_0

RS-D346-99 BOX 59
DEPTH 552_0- 558_0

551
543
548
556
RS-D346-99 BOX 58
DEPTH 542_0- 552_0

WELL RSD346

DEPTH 220

PICTURE NO.

INCLINATION -40

OBS. DIR.

COR. DIR.

TOOL FACE

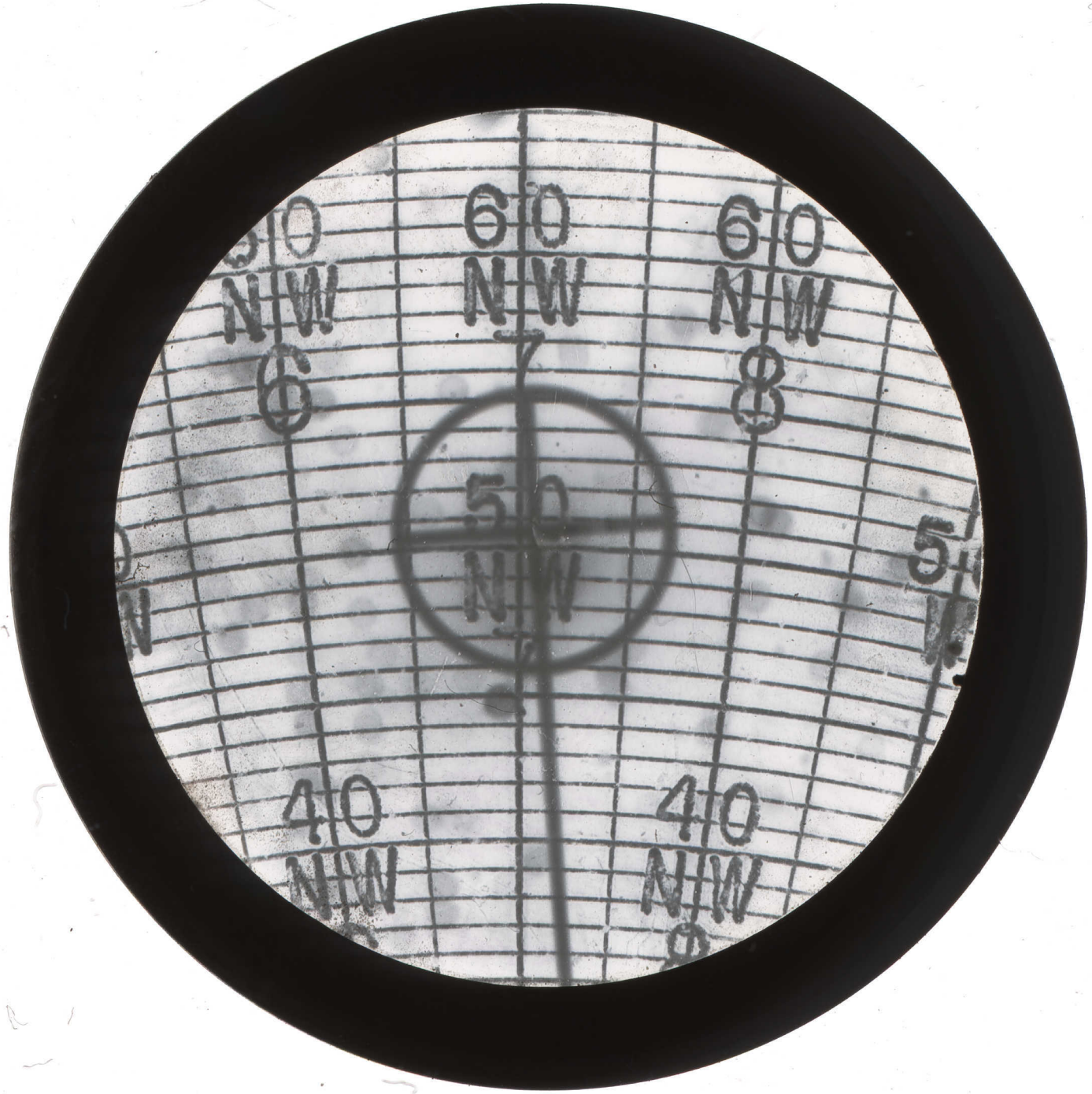
RUN BY BAMFORD

DATE 4-14-94

CHECKED BY

sperry-sun

DRILLING SERVICES


60
NW
60
NW
60
NW
6
7
8
50
NW
40
NW
40
NW

WELL RS-D346-99

DEPTH 40

PICTURE NO.

INCLINATION -39°

OBS. DIR. N56.3°W

COR. DIR.

TOOL FACE

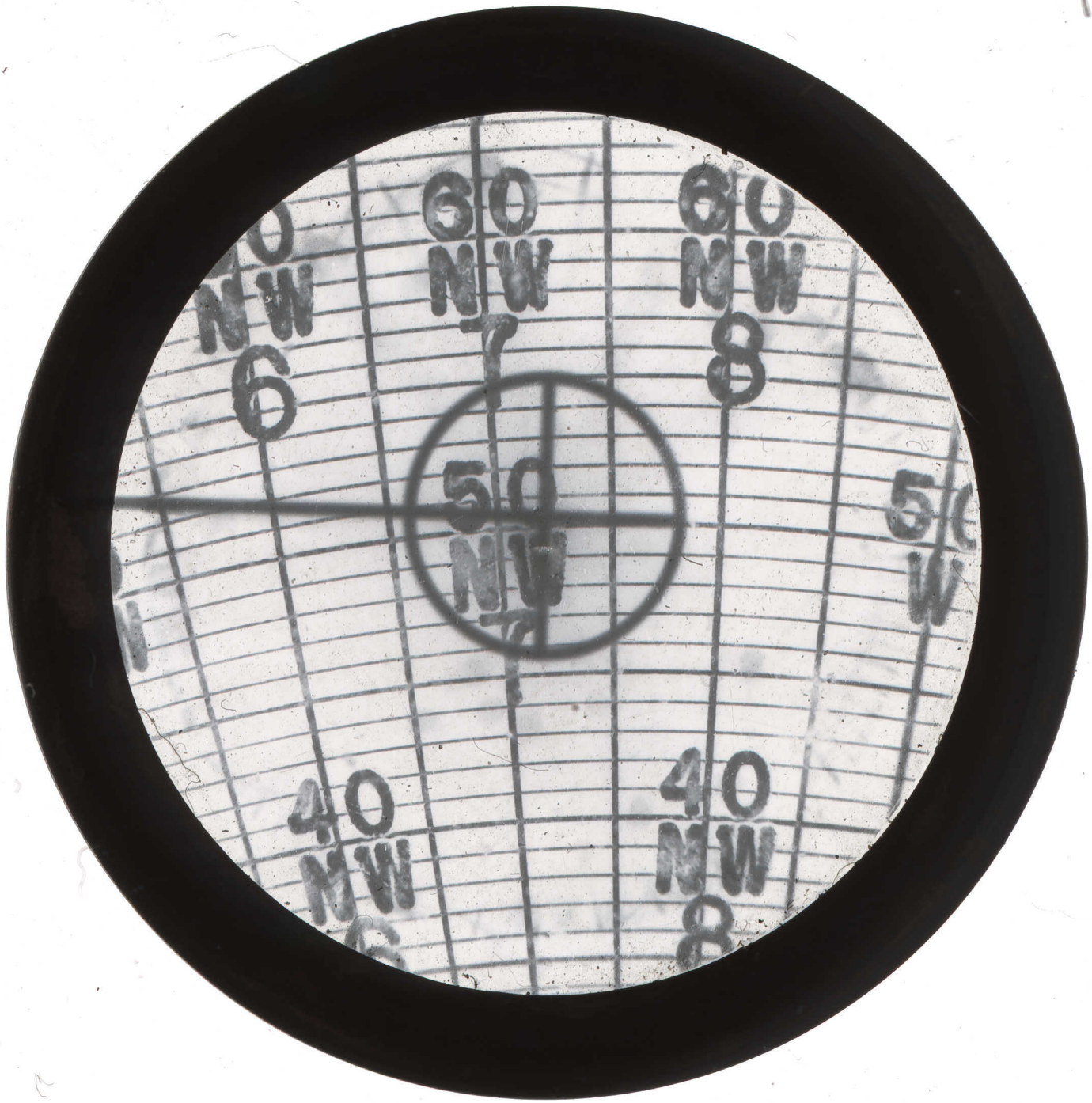
RUN BY ROGERS

DATE 4/4/99

CHECKED BY

sperry-sun

DRILLING SERVICES


60
NW
7
60
NW
8
NW
6
50
NW
40
NW
40
NW
8