Drill Log RL-110
Rosebud

4010 0037

RL-110C SUMMARY LOG - CORE

CONTACTS

465-703 CHOCOLATE(?) FINE GRAINED TUFF
703-861 C_2C - Bedded Bud
861-940.6 C_1C - Autobxa Fine GR TUFF
940.6-1016.6 - FGT - Autobxa C_1C w/ vlc ± C_2C
±56° to C.A. ← 1016.6-1180 C_2C Bedded (Green) H_2O lain Epiclastic
±71° to C.A. ← 1180-1193.5 FAULT SRF
1193.5-1211 ARKOSIC Sandstone
70° to C.A. ← 1211-1232 Jurassic Shales

RL-96

1138 - 1149.5 Green epiclastic, bedded ~ 40° to c.a.?

1149.5 - 1156.5 Silic fault zone, silic fgt clasts in grey silica & white qtzt kaol matrix

1156.5 - 1192 : Tr/Jr black slates/shales
- poor recov. - very broken up & crumbly

RL-96

465-617 Chocolate tuff; fairly fresh, locally fract'd / thin crackle bx'd fgt

617-680 Lithic Lapilli tuff (C2C or BUD?) dk grey green, clast supported, no veining fairly fresh

680-732: Lithic lapilli tuff - prob BUD matrix supp, green, no veining, fairly fresh

732-943 BUD ~~(thinks)~~ llt, med-dk red-brown, bedded ~20-30° to c.a. / wispy fairly fresh. No veining

943-979 Mix of llt (above) & f.gr. red-brown tuff. (like RBUR) wk bleach v. wk vnlts

979-1087: Mottled fgt, red-brown & green (RBUR/LBT) fresh to wk bleach, wk vnlts

1087-1138: Bleached RBU/LBT fgt, w-m bleach locally wk crackle bx'n / fractured. minor vnlts

979 - 1080 Med gray w/ hint of Red-brown fgr tuff (RBUR?)

looked at 979 - 10[illegible],

1003-1006 Calc & clay vnlts dlee 1015-1020, 1032-1033

Bleached 1054-1070

1080 - 1087 Bleached to med gray-green fst

1087 - 1107 Bleached to lt-med gray f.gr. tuff w/ py+qtz vnlts

1107 - 1138 Lt gray to green-gray f.gr. tuff, last 2' crackle bxd

1138 - 1156.5 Green epiclastic (Bud-like)

0-30 OB

30-180 M to MS alt Fg Summary from Quick look CMW 11/90

Sight fault Md Si & md clup ox/red 72

100' ↓ w/ Dr & Mc; 150' ↓ incr silic

175-180 intense Si fault

180-455 Grey fg w/ very tiny dk phenos & dk red FeOx mottling (same rock as in 166)

RL-96

~~0-465 thick all chloc, top ~200' is f.gr. green, rest f.gr. red-brown & grey~~

465-617 Grey fgr @ tuff (plag/sanidine phenos) w/ alt fractures/cracks brid w/ dk red brown FeOx (Chloc?)

looked at 465-521, 539, 550-575, 603-617

617-680 lithic lap tuff, med dk green-grey color lapilli gen 3mm-1½cm, crude bedding? clast rich, gen clast supported

Could this be Bud? or is somw at czc?

looked at 617-630, 658-685

680-732 Lithic lapilli tuff, matrix supported - dull green, w/ dk grey & brown clasts BUD

looked at 680-685, & 705-732

732-979 Matrix red brown w/ wispys & w/ green 3mm-1cm clasts, bedded wispy Bud

local green beds

looked at 732-744, 790-811, 840-878, 925-945

960-980

LAC MINERALS (U.S.A.) INC.

DRILL LOG SUMMARY SHEET

PROJECT ROSEBUD

HOLE NUMBER RL-110 TOTAL DEPTH 1232' LOGGED BY Dhm/CMW/KLK

Date started 9.5.90 pm

Date completed 9-11-90 DAY

Initial bearing S51E

Initial inclination -55

Elevation 5330.2

Collar coordinates:

N 2205285

E 482620.9

Contractor: COATES

Drill Type: UDR

Hole Size:

Drilling Conditions: 465' RC, BEGIN HQ CORE AT 465'

Footage: Wet / Dry HMQ TO 692', Rods twist off at ~180'

POOR CIRCULATION

REDUCE TO NMQ at 692'

Comments: Rods broke at 180' due to hole whip - RC portion of hole caved out allowing rods to whip.

DOWN HOLE SURVEY INFORMATION

0 50 -55 S51E

FROM	TO	SURVEY POINT	INCLI-NATION	BEARING	X (Northing)	Y (Easting)	Z (Elevation)
50	200	100'	-54°	S56E			
200	400	300'	-55	S59E			
400	600	500'	-55	S57E			
600	800	700'	-56	S55E			
800	1000	900'	-56	S61E			
1000	1166	1100'	-56	S61E			
1166	1232	1232	-56	S61E			

LAC MINERALS (U.S.A.) INC.
ROSEBUD PROJECT

CHOCOLATE TUFF
BUD BRECCIA
BUD TUFF
BUD EPICLASTIC
BUD TUFF BRECCIA
DT — DOZER WELDED TUFF

ARGILLIC
XX — SILICIFICATION
OX — OXIDIZED
DRUZY QUARTZ
XC — CHALCEDONIC QUARTZ
XK — STOCKWORK QUARTZ
P P P — PROPYLITIZATION
Ca — CALCITE

DRILL HOLE RL-110

Page 1 of 5

LOGGED BY DAM

	LITH.	ALT.	% ARG. ALT. W	M	S	% SIL'N W	M	S	COLOR	% FeOx W	M	S	% SULF.	COMMENTS	Au	Ag	CHECK	
									SANDY BRN					0-265 FINE GR. PYROCLASTIC, LAPILLI TUFF (~~CHOCOLATE~~ BADGER?) LOCALLY	<	<		
05														BLEACHED, OXIDIZED & STRONGLY CLAY ALTERED, SILICA FLOODED				
10															.003	.17		
15															.002	.11		
20															.002	.12		
25															.001	.13		
30									+ LT GREEN						.002	.14		
35															<	.1		
40									SANDY BRN							<		
45														40-85 MOD STRG. OXD.		<		
50																<		
55																.13		
60																<		
65																<		
70																<		
75																<		
80																<		
85																<		
90		~							LT TAN					85- INCREASE ARGILLIC ALTERATION		.14		
95		~														<		
100		~														<		

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DRILL HOLE RL-110

Page 2 of 5

LOGGED BY DAM

	LITH.	ALT.	% ARG. ALT. W	M	S	% SIL'N W	M	S	COLOR	% FeOx W	M	S	% SULF.	COMMENTS	Au	Ag	CHECK
		~							CREAM YELLOW				<1%		<	<	
05																	
10															.001		
15															.001		
20														115-185 STRG - INTENSE CLAY ALTERATION	.003		
25															.004		
30														Ox Re	.006		
35									LT GREEN GLEY						.004		
40															.001		
45															.003		
50															.007		
55															.002		
60															.002	.12	
65															.004	.13	
70		XX							PURPLE BRN					INCREASED SILICIFICATION 165-260	.002	<	
75															.004	<	
80															.003	<	
85															.003	.13	
WET 90									BROWN					185-260 MOD - STRG ARGILLIC ALTERATION? (CLAYS WASHED OUT?)	.010	<	
95															.004	.28	
200													±2%		.021	2.72	

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Page 3 of 5

LOGGED BY DAM

	LITH.	ALT.	% ARG. ALT. W	M	S	% SIL'N W	M	S	COLOR	% FeOx W	M	S	% SULF.	COMMENTS	Au	Ag	CHECK
		XX							LT BRN				1-2%		.003	.26	
205																	
210															.002	.27	
215															.002	.20	
220															.001	.16	
225															.003	<	
230															.003	.23	
235															.002	<	
240															.001	.13	
245															.006	<	
250															.016	.44	
255									LT GREEN						.006	<	
260															.003		
265									DK FLESH				3-5%	260-265 VERY FINE GRAIN INTRUSIVE? (TUFF?) LOWLY BLEACHED	.003		
270														OXIDIZED, SILICIFIED. & FINE AND VEIN SULFIDES	.002		
275		XX XK												260-305 STRONG SILICIFIED, Ox'd FAULT ZONE? Q SULFIDE VNING COMMON, CAVING.	.002		
280															<		
285															<		
290															.001		
295															.001		
300															.001	.14	

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DRILL HOLE RL-110

Page 4 of 5

LOGGED BY Dan

	LITH.	ALT.	% ARG. ALT. W	M	S	% SIL'N W	M	S	COLOR	% FeOx W	M	S	% SULF.	COMMENTS	Au	Ag	CHECK	
		XX XC XK							DK FLESH				3-5%	(FAULT ZONE)	.002	<		
305		XX ~												310 – 465 LOCALLY OXIDIZED, WKLY BLEACHED, VERY FINE GRAIN CRYSTAL TUFF OR	.002	.10		
310														INTRUSIVE OR FLOW?				
														COUSIN OF FINE GR RED	.004	.19		
315		Qvs												BROWN VERY ROCK, W FINE				
														SULFIDES (REPLACING XL'S OR	.004	<		
320		Qvs							FLESH					PHENOS)				
															.006	<		
325													2-3%		.005	.22		
330															.004	.19		
335															.003	.14		
340															.003	.13		
345															.002	.10		
350															.002	<		
355															.010	.18		
360															.008	.11		
365															.003	<		
370															.004	<		
375															.003	.14		
380															.013	.12		
385															.007	.24		
390		XX Qvs													.012	<		
395		XX Qvs													.002	<		
400																		

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DRILL HOLE RL-110

Page 5 of 5

LOGGED BY DAM

	LITH.	ALT.	% ARG. ALT. W	M	S	% SIL'N W	M	S	COLOR	% FeOx W	M	S	% SULF.	COMMENTS	Au	Ag	CHECK
		~							FLESH				1-2%		<	<	
405		OX							PURPLE					PURPLE FINE GR. UGLY Rock – OXIDIZED FG TO ROK FG INTRUSIVE 405-415, 420-435	.001	<	
410		OX													.002	<	
415		~							FLESH TO PURPLE						<	.13	
420		OX							PURPLE						<	<	
425		OX													<	<	
430		OX ~													<	<	
435		~							LT FLESH						<	<	
440									GREEN						.003	<	
445															<	.14	
450															.001	<	
455															.002	<	
460															.001	<	
465														465 – END RC, BEGIN HQ CORE			
470																	
475																	
480																	
485																	
490																	
495																	
500																	

END RC.

HOLE # RL-110C LOGGED BY CM Walck DATE 2-91 PAGE 1 OF 11

DEPTH (ft)	RECOVERY	Structure: Bd. Fol.	Structure: Faults	MINERALIZATION	GRAPHIC LOG	ALTER.
465	100	None	None	None		Fresh
470	102		wk vnlts / None	minor calc / None		
480	100					
490	101		v. wk vnlts	Minor Calc		
500	102	Local Flow bands at ~20° to c.a.				wk bleach
510	102	None				Fresh
520	102	Flow banded 60° to c.a.	None	None		W-M bleach & arg
530						

DESCRIPTION

0-465 R.C.

465' CORE BEGAN

465-703 CHOCO FGT

465-470: Grey clay & gunge & prob mostly drillers' goo?

470-504; Med grey Ø ~~wispy-banded~~ f.g.t; oxidation (FeOx) along fracts or flow-bands gives pink-grey & red-brown color bands
~5% 1-2 mm mafic phenos - prob hornblende.
Fairly fresh, hard, dense, very fine-grained.
Locally w/ v. wk to wk 1/8" calc vnlts.

504-515: weakly bleached version of above Ø fgt. Bleached to dull lt green, again w/ red-brown oxidation bands & ~5% hornblende? phenos.
V. wk calc vnlts <1 to 2/ft, 1/8" wide.
Locally flow-banded at ~20° to c.a.

515-526 Med grey Ø f.g.t. Fairly fresh ~5% 1-2mm hornblende phenos, partly oxidized. Some (1 to 3/ft) 1/2" to 1" red-brown bands Oxidation.
Minor thin calcite vnlts (1/ft, 1/16" wide)

526-562 W-M bleached flow-banded Ø fgt; ± ~5% 1-2mm hornblende phenos. 1/4" - 1" banding lt green & med fresh/red-brown, generally w-m argillized. Locally v. wk thin calc vnlts
539-539.5 Less bleached but bx'd w/ dk red brown vein-matrix

ASSAYS

Sample No.	% Cu	% Pb	% Zn	oz/t Au	oz/t Ag
NO SAMPLE					

HOLE # RL-110C LOGGED BY Cm Waldk DATE 2-91 PAGE 2 OF 11

DEPTH (ft)	RECOVERY	Structure: Bd. Fol.	Structure: Faults	MINERALIZATION	GRAPHIC LOG	ALTER.
	100	Flow bands at 30° to c.a.	None	None		W-M bleach wk arg
			v. wk valb	v. wk calc		wk bleach
540	100		None	None		W-M bleach wk arg
		Flow bands at 40° to c.a.				
550	100					
		Flow bands at 30° to c.a.				
560	98					M-S bleach W-M arg
						M-S bleach W-M arg
570	87					M-S bleach W-M arg
	105					M-S bleach W-M arg
580	100					M-S bleach wk arg
		None	minor valb	minor Calc		Fresh
590	100					
600						

DESCRIPTION

465-703 CHOCOLATE FGT

562-585: Increased argillization & core more broken-up. No veining
562-565 bleached to pale green & pink flow banded fgt
565-572: Rubbly, locally bx'd w/ clay matrix; M-S argillized - clayey & rubbly
572-585: Core mod broken up, bleached to lt green & flesh, [illegible]

ASSAYS

Sample No.	% Cu	% Pb	% Zn	oz/t Au	oz/t Ag
NO SAMPLE					
555-560				<	<
560-565				<	<
565-570				<	<
570-575				<	<
575-580				<	.16
580-585				<	<
NO SAMPLE					

HOLE # RL-110C LOGGED BY CM Walck DATE 8-91 PAGE 3 OF 11

Logged down 1-21

DEPTH (ft)	RECOVERY	Structure: Bd. Fol.	Structure: Faults	MINERAL-IZATION	GRAPHIC LOG	ALTER.	DESCRIPTION	ASSAYS: Sample No.	% Cu	% Pb	% Zn	oz/t Au	oz/t Ag
	105	None	Minor vnlts	Minor calc		Fresh	465-703 CHOCOLATE FGT	NO SAMPLE					
610	105	Flow bands at 20° to c.a.	Rare thin vnlts	Rare calc			585 -> 703 : Med gray & red-brown banded ø f.g.t. (Fresh RBUK) 3-5% 1-2mm mafic phenos - prob hornblende. Dense, hard, very fine gr. ± Flow banded at ~20° to c.a. Red brown oxidation / lenticular bands somes follows flow banding, sometimes crosses it.						
620	100												
630	100												
640	100												
650	91												
660	99	60° cc 10											
670			60° 30°										

HOLE # RL-110C LOGGED BY KLK DATE 3-91 PAGE 4 OF 11

DEPTH (ft)	RECOVERY	Structure: Bd. Fol.	Structure: Faults	MINERALIZATION	GRAPHIC LOG	ALTER.	DESCRIPTION	ASSAYS: Sample No.	% Cu	% Pb	% Zn	oz/t Au	oz/t Ag
	103	flow band @ ±20-25° to C.A.	S3: CaCO3 VN	NIL		Fresh w/ wk FeOx	465-703 CHOCOLATE FGT 703-861 C2C or Bud 670-703 same @ above → FGT CHOCOLATE w/ flowbanding @ ~ ± 20-25° to C.A. intermittent & predominant hemitite att! accentuating flow, few CaCO3 stringers @	NO SAMPLE					
680	75												
690	93												
700	83		5-10° shear	NIL		FeOx shear	703-717 shear zone w/ intermittent slickensides @ ± 35° to C.A. & subparelle to C.A. w/ brittle-crumble breakage weakly to mod pervasively calcareous w/ weak local CaCO3 veinlets.						
710	120		shear ±35°										
720	105	20°/f/o		NIL		wk clay + FeOx	701-861 LITHIC LAPILLI TUFF w/ red brown clay matrix, due to Fe component w/ up to 30-35% clasts >32 mm, relatively unaltered ie. no significant secondary alteration related to mineralization appears to have tuff frags w/in tuff w/ poss local JT shale frags: volc clasts are lt gray w/ fine phenocrysts similar in appearance to C2C few fine calcite veinlets						
730	100												
740		20° wisp f/o											

HOLE # RL-110C LOGGED BY KLK DATE 3-91 PAGE 5 OF 11

DEPTH (ft)	RECOVERY	Structure: Bd. Fol.	Structure: Faults	MINERALIZATION	GRAPHIC LOG	ALTER.	DESCRIPTION	ASSAYS: Sample No.	% Cu	% Pb	% Zn	oz/t Au	oz/t Ag
	104		33 shear	NIL		FRESH	740 - 861 Lithic LAPILLI Tuff (CONTINUED) C2C - Bud	NO SAMPLE					
750	103	23 bed	56 CaCO3 + clay VN			V.WK bl	750.5 - 779 COARSER CLASTED w/ ↓ FeOx matrix & v. weak bleaching of clasts intermittently locally clasts w/ isolated fine CaCO3 stringers						
760	100		25 shear										
770	102						779 - 785 with good bedding indicated by grading @ ~15° to core axis w/ calcite + celadonite along fractures						
780	110	15 bedding	±17° shear			FeOx matrix relatively fresh	785 - 861 introduction of celadonite along fractures						
790	95												
800	105	28 brown clay spot matrix					800 - 852.5. Intermittently wispy collapsed fragment matrix FeO rich						
810													

HOLE # RL-110C LOGGED BY KLK DATE 3-91 PAGE 6 OF 11

DEPTH (ft)	RECOVERY	Structure: Bd. Fol.	Structure: Faults	MINERAL-IZATION	GRAPHIC LOG	ALTER.	DESCRIPTION	ASSAYS: Sample No.	% Cu	% Pb	% Zn	oz/t Au	oz/t Ag
	105	±36° wispy bedding		NIL		tR chelad nite wk FeOx matrix	810 - 861 C2C Bud 861-940.6 C1C Auto A choco in Choco 810-811.5 broken rubble	NO SAMPLE					
820	100	28 FGT contact	45 A CaCO3 VN				821.5 - 822.1 fine grained interbed or clast @ 28° to CA 823.5 - 823.8 calcite vein @ 45° to CA						
830	100						836 - 842 increased cladonite alt as component of the matrix						
840	105		32 wispy clay shear										
850	100		66 CaCO3 + clay VN shear				851 - 861 Increase fine CaCO3 stringers						
860	100		61 clay VN + CaCO3			wk stbl orange FeOx matrix	861 - 940.6 BRECCIATED TUFF similar to C1C 861-877 Brich Red matrix pyroclastic w/ appearance of C1C clasts are predom lr gray FGT - weakly porphyritic intermittently clasts have weak FeOx lissgang banding texture weak fine wavy clay ± CaCO3 veinlets could be a contact related auto brecciation	861-867				<	<
870	100		32 CaCO3 VN					867-872				.001	<
		80° clay CaCO3 VN				wk bl	877 - 879.2 same @ above without FeOx rich matrix + decrease in brecciation lr gray chocolate like tuff	872-877				<	.13
880								877-882					

HOLE # RL-110C LOGGED BY KLK DATE 3-91 PAGE 7 OF 11

DEPTH (ft)	RECOVERY	Structure: Bd. Fol.	Structure: Faults	MINERALIZATION	GRAPHIC LOG	ALTER.	DESCRIPTION	ASSAYS: Sample No.	% Cu	% Pb	% Zn	oz/t Au	oz/t Ag
	98	74 clay calc3 vn		NIL		v/ang Fe0x wk bl	861-940.6 C,C AUTO Δ choco in choco 940.6-1016.6 Auto Δ C,C ± C2C 879.2-887.3 same @ above w/ strong orange-brick colored matrix clasts similar to chocolate w/ fine plagio clase phenos	882-887				<	.15
890	102					wk bl wk clay alt tr Fe0x matrix poss wk K	887.3-941 C,C autobrecciated fine grained tuff, coarse clasted medium to dk gray fine grained tuff w/ fine black plagioclase phenos. clasts are intermittently oxidized w/ weak local bleaching, weak fine calcite veinlets ± assoc. kaolinite possibly weak perv. silicification weak pervasive bleaching	887-894				<	.11
900	100							NO SAMPLE					
		26 calc3 vn											
910	102												
		±90° calc3 vn/lets											
920	102												
930	100						* If to be catagorized I'd say * Autobrecciated Chocolate w/ increased intensity of Δ w/ assoc wk clay ± bl assoc						
940	100		60° calc3 vn			w-m bl + clay alt.	TRANSITIONAL C,C (± C2C) 941-1016.6 LITHIC LAPILLI TUFF - Pyroclastic coarse clastic Average clast sizes range from 10-35mm w/in fine tuffaceous matrix clasts Appear to be primarily composed of gray to bl chocolate tuff - verges on C2C * may be transitional C,C into C2C (predom C,C) few clasts > 35mm, up to 170 mm matrix is matrix w/ mod hemitite alt, intermittent weak carbonate alt. 946.5-949 w/ 2 clay (+green-white) gouge seams or may just be strongly alt clasts up to 3" wide						
950													

HOLE # RL-110C LOGGED BY KLK DATE 4-91 PAGE 8 OF 11

DEPTH (ft)	RECOVERY	Structure: Bd. Fol.	Structure: Faults	MINERALIZATION	GRAPHIC LOG	ALTER.	DESCRIPTION	ASSAYS: Sample No.	% Cu	% Pb	% Zn	oz/t Au	oz/t Ag
	100		NONE	NIL		tr bl + clay alt matrix relativ fresh + hem	940.6 – 1016.6 Auto A $C_1C \pm C_2C$	NO SAMPLE					
							1016.6 – 1180 GRADED Bedding - Bud? epiclastic						
960	102						950-1016.6 same as above @ transitional C_1C w/ weak C_2C qualities w/ hemitic matrix w/ trace celad, alt, clasts are lt. gray unalt to bl w/ tr. celad. relatively unfractured w/ trace to no calcite stringers.						
970	100												
980	102			Few blebs of $CaCO_3$									
				NIL									
990	100												
1000	98	26°	celad				1003.5 – 1004.5 w/ bedding @ 26° to C.A						
1010	97	56° contact	$CaCO_3$ w/ ± 40° ±56° gouge "	±56°		±56°	1016.6 – 1180 H_2O IAID EPICLASTIC BUD (C_2C) Graded bedding pervasive argillic bleaching; clay alt pervasive celadonite alt detailed descript follows 1016.6 – 1017.5 Strong clay + bl + weaker celadonite contact zone @ ±56° to C.A						
1020						S ~ + bl + celad							

HOLE # RL-110C LOGGED BY KLK DATE 4-91 PAGE 9 OF 11

DEPTH (ft)	RECOVERY	Structure: Bd. Fol.	Structure: Faults	MINERAL-IZATION	GRAPHIC LOG	ALTER.
	100			NIL to tr diss py		M-S bl w celad
1030	100	±30° bedd	±30° calcite VN			
			20° calcite VN			
1040	97	±20° bedding				
1050	99	40° bedd				
1060	100	bedd 20°	40° calcite VN	NIL		tr bl wk celad fairly fresh
		20° bedding				
1070	101					
1080	97	bedd 10°	43 calcite VN			
1090						

DESCRIPTION

1016.6 – 1180 H2O LAID-bedded BUD + EPICLASTIC

1016.6 – 1044.6 CZC Bud – pyroclastic w/ average clast size @ 5-14 mm w/ few clasts ±40 mm clasts are predominantly fine gr. choco tuff + str clay alt clasts choco is lavender gray to bleached white w/ weak celadonite alt. matrix is a finer pyroclastic tuffaceous composition w/ prominent pervasive clay alt. + bl + wk-mod celad. alt weak local calcite stringers 26°-30° to CA ∥ or ⊥ to bedding bedding is ±20-30° to C.A.

1044.6 – 1061 finer graded bed w/ clasts averaging 1-3 mm wide bedding ranges 20°-40° to C.A. moderately pervasively bleached & clay altered weak to mod celadonite alt of clasts & spotty throughout matrix

1061 – 1105 finer graded bed same @ above without the alteration in bed above clasts average 1-3 mm w/ weak pervasive celadonite alteration & only weak to intermittent bleaching of clasts and weakly locally of matrix bedding is @ 16-20° to C.A. and very few calcite veinlets @ ~40° to C.A.

ASSAYS

Sample No.	% Cu	% Pb	% Zn	oz/t Au	oz/t Ag
NO SAMPLE					

HOLE # RL-1100 LOGGED BY KLK DATE 4-91 PAGE 10 OF 11

DEPTH (ft)	RECOVERY	Structure: Bd. Fol.	Structure: Faults	MINERALIZATION	GRAPHIC LOG	ALTER.	DESCRIPTION	ASSAYS: Sample No.	% Cu	% Pb	% Zn	oz/t Au	oz/t Ag
	101	20°/bed		NIL		tr bl weak celad fairly fresh	1016.6 - 1180 H_2O LAID - bedded Bud	NO SAMPLE					
1100	99	17°/bed					1105 - 1152 coarser clastic bed within the Bud clasts ranging in size; averaging ~ 5-20mm bedding average s ~ 17°-24° to C.A. calcite veins are few and range widely from 30°-83° to C.A. clasts are predominantly composed of a fine grained tuff predominantly bleached; locally lt gray; few mod clay alt clasts. mod strong celadonite alt matrix throughout w/ assoc. mod clay alt.					
1110	101		30° CaCO3 VN			wk bl STR CELAD mod CLAY							
1120	96		42 CaCO3 VN										
			65 CaCO3 VN										
1130	101		56 CaCO3 VN				1133 - 1140 clasts are bl + CELAD. alt. matrix is predom purple brown						
							1140 - 1141.5 fine clastic bed w/ predom celadonite alt; bedding @ 24° to C.A.						
1140	97	24°/bed	69 CaCO3 VN			hemit matrix fairly fresh wk bl of clasts ± celad	1141.5 - 1152 is a finer clastic bed w/ clasts averaging 2-8 mm which are fresh gray colored to weakly bleached ± celad matrix is burgundy (hemitic) brn. locally w/ slicks @ ± 28° to C.A.	1142-1147				<	<
			28 slicks										
1150	101		83 CaCO3 VN			mod celad hemit matr. wk bl	1152 - 1174.5 coarser pyroclastic w/ clasts ranging in size 5-25 mm poorly sorted clasts are strongly clay alt + bleached ± local celad. matrix is mod to str. clay altered; wispy @ ~ 15°-27° to core axis matrix is red brown more unaltered coloration; locally gray calcite veining predominantly 1152'→1156'	1147-1152				<	<
								1152-1157				<	<
1160		±27°/wisp						1157-1162				<	<

HOLE # RL-110C LOGGED BY KLK DATE 4-91 PAGE 11 OF 11

DEPTH (ft)	RECOVERY	Structure: Bd. Fol.	Structure: Faults	MINERALIZATION	GRAPHIC LOG	ALTER.
	87	±17 wisp		NIL		m-s FeOx m-s clay alt wk-int bl
1170	97	30 wisp f10	30° CaCO3 vn			
1180	91	50 CaCO3 vn	45 clay vn	~±1% diss py	gouge	STR clay mod FeOx wk-int celad tbl
				+3% diss +vn py	gouge	STR bl +cc cel
1190	98		71° poss contact w/ gouge 35 slick	1-2% fine diss ±vn py	G ±70° O U G E	m-s bl m-s XX ±local FeOx STR mod celad
				poss tr. diss py	SANDSTONE	wk bl rubble
1200	100	35 bed				wk bl
	103					
1210	47	Foliation 33°	70° contact	~2% v.v. fine diss py ±local vns	70	carbonaceous
1220	<70					
1232	80		2 1230 CaCO3 vn 65°			

DESCRIPTION

1180 - 1193.5 FAULT (SRF)

1193.5 - 1211 ARKOSIC SS.

1211 - 1232 Jurrassic shales

1174.5 - 1179 pyroclastic @ above w/ flesh-orange matrix clasts altered to waxy clay + celad alt to gouly feel w/ calcareous clay along fractures WITHIN hangingwall alt influence of SRF

1178 - 1179 strong calcite veining ± 70° to C.A.

1176.5 - 1178.5 ↓ FeOx ↑ celadonite + clay - almost gouge

1179 - 1193.5 FAULT

1179 - 1181.2 lt green clay gouge w/ fine clastics weak to mod celadonite alt tuff clasts bl + celad + clay. poss w/ JRT frags

1181.2 - 1187.5 PRIMARY FAULT BRECCIA - w/ black matrix & fine sulfide stringers ~ 3 stages brecciation, pervasive silicification white clay vns independent of CaCO3 vns primarily composed of FGT wk-int w/ fine CaCO3 stockwork ~ 2 stages lt poss fine grt stent

1187.5 - 1193.5 GOUGE - light green clay gouge w/ waxy texture footwall to primary fault zone, moderate pervasive celadonite alt. local slicks @ ~ 25° to C.A. w/ assoc. calcareous clay - wk contact w/ Δ is ~ 71° to C.A.

1193.5 - 1211 ARKOSIC SANDSTONE poss. CONTACT @ ±70° to C.A. lt tan-gray v. fine grained, fine feldspars are clay altered possibly - perv. clay alt. weakly pervasively fractured w/ fine soft white clay fill possible bedding ~ ±35° to C.A. fine clay stringers appear to ∥ or be ⊥ to bedding

1193.5 - 1197.5 w/ stronger clay alt & @ broken rubble w/ ↑ white clay along fracture seams decreased clay stringers w/ depth

1211 - 1232 JRT BLACK SHALES - mod - STR carbonaceous metamorphosed giving shiny sheene to fracture surfaces which appear to primarily be ~ 20° to C.A. fairly strong broken rubble throughout finely viddled w/ calcite veinlets throughout foliation ~±23° to C.A.

* CONTACT w/ SS poss ±70° to C.A.

ASSAYS

Sample No.	% Cu	% Pb	% Zn	oz/t Au	oz/t Ag
1162-1167.5				<	.11
1167.5-1174				<	<
1174-1178					<
1178-1182				.007	<
1182-1187.5				.024	<
1187.5-1193.5				.004	.15
1193.5-1197.5	4			.081	.24
1197.5-1202	4.5			.019	<
1202-1207				.006	.15
1207-1211				<	.20
1211-1217				<	.20
1217-1222				<	.26
1222-1227				<	<
1227-1232				<	.28

RL-110 START 9.6.90 551E, -55

HOLE	%	Page 1 of 4 SAMPLE		LITHOLOGY
DRILLED	RECOVERED		INTERVAL	0-465 - See RC log
0-465	R.C.			fine-grained tuff, mod
465-472	100+%		not to be sampled	grey color to red-brn
472-482	102%			bands; wl < 5%
482-492	100%			small (< 1/10 cm)
492-502	101%			phenos hornblende &
502-512	102%			biotite; non magnetic
512-522	102%			generally strongly
522-532	102%			welded dense rock
532-539.5	100±%			local bleached horizons,
539.5-549.5	100%			generally fairly fresh
549.5-560	(3.5) 10.5/10.5 100%			[563-578: mod
560-570	98%	SPLIT	555-560	arg alt'n, local
570-577.5	6.5/7.5		560-565	strong zones, wk thin
577.5-582	4.8/4.5		565-570	qtz sulfide veining]
582-592	100%		570-575	
592-601	100%		575-580	
601-611	(7.7) 105%		580-585	[600-
611-621	105%			Oxidation banding -
621-631	100%			red-brown & grey wl
631-641	100%			minor 2"-4" bxa zones
641-651	100%			
651-661.5	9.6/10.5			
661.5-671.5	99%			
671.5-681.5	103%			
681.5-692	10/10.5			

Rods twisted off ~180' Reduce Hole at 692 NQ

Hole whip caused rod breakage.

RL-110 Page 2 of 4

Sample Recovered	% Recovered
692-700	NQ 7.4/8
700-710	83%
710-720	120%
720-730	155%
730-740.5	100%
740.5-750.5	104%
750.5-760.5	108%
760.5-771	100%
771-781	102%
781-791 (1.7)	110%
791-801.5	10/10.5
5-811.5	105%
811.5-821.5	105%
821.5-832	100%
832-842	105%
842-852	105%
852-862	100%
862-872	100%
872-3.8	100%
882-892	98%
892-902	102%
902-912	100%
912-922	102%
3-932	102%
93-942	100%
942-952	100%
952-962	100%

Sample Interval	Lithology
	FGT - 717 (Blue Bx Red)
861 No Sample	717 -
SPLIT 861-867	BRN MATRIX LITH
867-872	LAPILLI TUFF w up T
872-877	30% CLASTS > 32mm
877-882	
882-892	860 - 941 (Red)
892 - No Sample	MATRIX w/ Chert Lithic clasts - Bx'd fu

110 Page 3 of 54

SAMPLE CORED	% RECOVERED
962-972	102%
972-982	100%
982-992 (6.2)	102%
992-1002	100%
1002-1012	98%
1012-1022	97%
1022-1032	100%
1032-1042	100%
1042-1052	97%
1052-1062	99%
1062-1072	100%
-1082	101%
1082-1092	97%
1092-1102 (9.9)	101%
1102-1112	99%
1112-1122	101%
1122-1132	96%
1132-1142	101%
1142-1152	97%
1152-1162	101%
1162-1172	87%
1172-1182	97%
1182-1192	91%
1[illegible]-1197.5	4/5.5
1197.5-1202	4.5/4.5 160%
1202-1212	103%
1212-1222	47%

SAMPLE INTERVAL	
SPLIT	1142-1147
	1147-1152
	1152-1157
	1157-1162
	1162-1167.5
	1167.5-1174
	1174-1178
CUT	1178-1182
	1182-1187.5
	1187.5-1193.5
	1193.5-1197.5
	1197.5-1202
	1202-1207
	1207-1211
SPLIT	1211-1217
	1217-1222
	1222-1227
	1227-1232 T.D.

LITHOLOGY

(RED BUD Bx)

1015-1062 GREEN BUD Bx

1141-1170 Bleached Bx.

Bxa w/ purplish color

1170-1182 increase argill alt

1182-1187.5 fault bxa zone; bleached angular clasts in grey sulfide? matrix

1187.5-1194 GREEN GOUGE

1194-1211 GREY FINE TO MED GR. LITHIC/ARKOSIC SANDSTONES

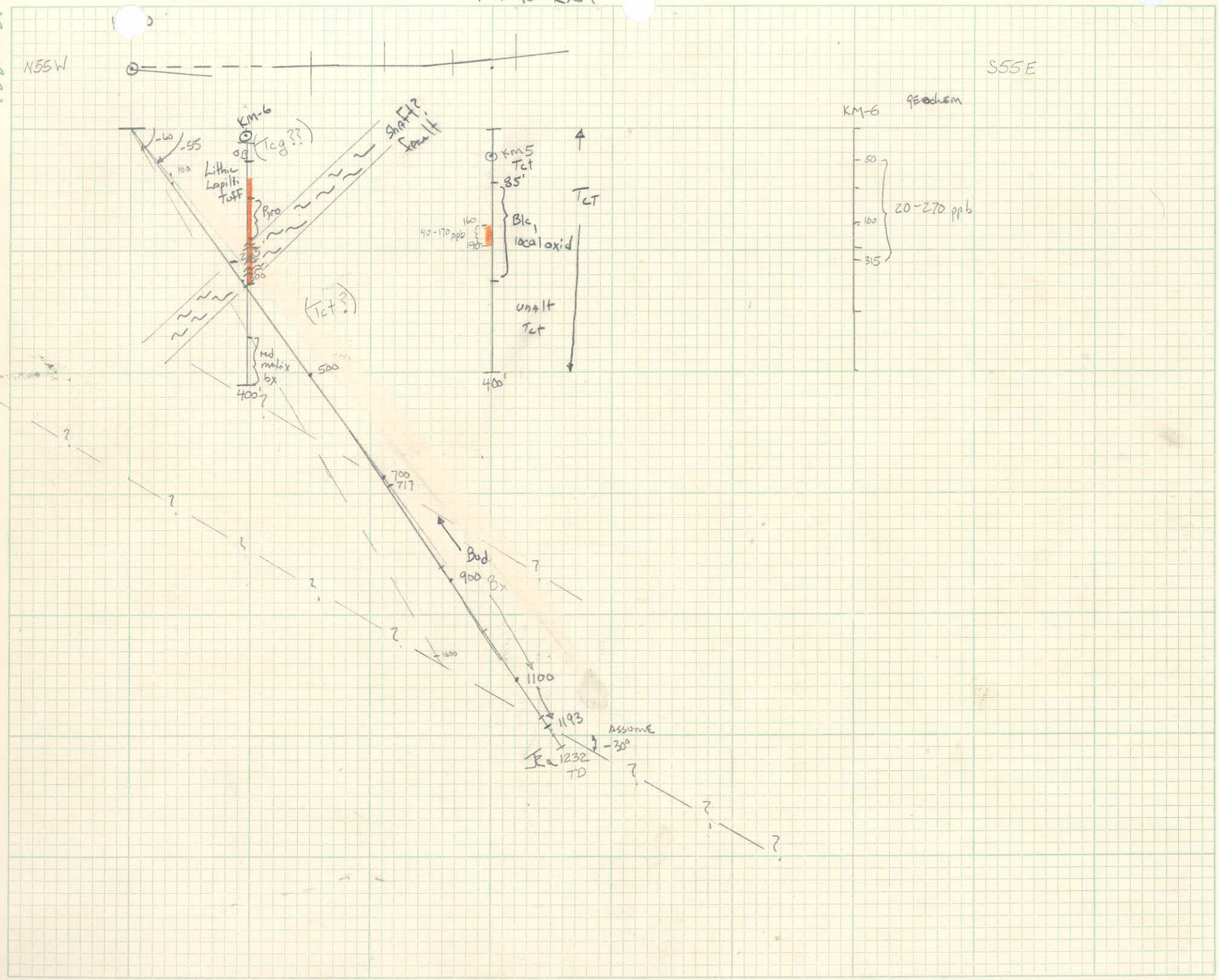
1211-1282 JR BLACK CARBONACEOUS SHALES

RG110 page 4 of 4

SAMPLE RECOVERED		% RECOVERED	SAMPLE INTERVAL	LITHOLOGY
1222-1227	8/5	<20%		
1227-1232 T.D.	4/5	80%		

1" = 200'

9-11-90 KNT



"Rite in the Rain" WEATHERPROOF
No. 1110
J. L. DARLING CORP. TACOMA, WASH. U.S.A.

NEVADA GSI, INC.

PREP QUALITY ASSURANCE CERTIFICATION

Date 9/18

Company LAC MINERALS

Job # 8447

Geologist NATE BREWER

No. Samples 93

Sample ID	Time	Bowl #	Weight	-150 Wt	% -150
13 RL-110 90-95			50.03	48.82	97.6%
14 RL-110 165-170			50.04	49.42	98.8%
15 RL-110 330-335			50.02	49.3	98.6%
16 RL-110 390-395			50.01	49.9	99.8%
17 RL-110 450-455			50.05	49.86	99.6%
1					

☐ PASSED ☐ FAILED

Explanation/Actions

Approved By Richard A. Grondin

Richard Grondin, Lab Manager

1498 Kleppe Lane • Sparks, Nevada 89431 • (702) 359-6600 • FAX: (702) 359-6605

1 1.21

2 .62

3 .72

4 .11

5 .19

NEVADA GSI, INC.

GEOCHEMICAL ANALYSIS REPORT

September 28, 1990

CUST. CODE: LOA
PROJECT: URBD
P.O. #: XXXX
LOT I.D. #: 8447

GEOLOGIST: NATE BREWER
COPIES TO: KEN TULLAR
COMPANY: LAC MINERALS
ANALYSIS: FIRE ASSAY FOR GOLD AND SILVER, WITH AN A.A. FINISH.

	SAMPLE I.D.			Au o/t	Ag o/t
1	RL-110	0	5	-0.001	-0.10
2	M-19			0.022	-0.10
3	RL-110	5	10	0.003	0.17
4	RL-110	10	15	0.002	0.11
5	RL-110	15	20	0.002	0.12
6	RL-110	20	25	0.001	0.13
7	RL-110	25	30	0.002	0.14
8	RL-110	30	35	-0.001	0.11
9	RL-110	35	40	-0.001	-0.10
10	RL-110	40	45	-0.001	-0.10
11	RL-110	45	50	-0.001	-0.10
12	RL-110	50	55	-0.001	0.13
13	RL-110	55	60	-0.001	-0.10
14	RL-110	60	65	-0.001	-0.10
15	RL-110	65	70	-0.001	-0.10
16	RL-110	70	75	-0.001	-0.10
17	RL-110	75	80	-0.001	-0.10
18	RL-110	80	85	-0.001	-0.10
19	RL-110	85	90	-0.001	0.14
20	RL-110	90	95	-0.001	-0.10
21	RL-110	95	100	-0.001	-0.10
22	M-20			-0.001	-0.10
23	RL-110	100	105	-0.001	-0.10
24	RL-110	105	110	0.001	-0.10
25	RL-110	110	115	0.001	-0.10
26	RL-110	115	120	0.003	-0.10
27	RL-110	120	125	0.004	-0.10
28	RL-110	125	130	0.006	-0.10
29	RL-110	130	135	0.004	-0.10
30	RL-110	135	140	0.001	-0.10
31	RL-110	140	145	0.003	-0.10
32	RL-110	145	150	0.007	-0.10
33	RL-110	150	155	0.002	-0.10
34	RL-110	155	160	0.002	0.12

1498 Kleppe Lane • Sparks, Nevada 89431 • (702)359-6600 • FAX: (702)359-6605

LAC MINERALS
LOT I.D. #:8446

	SAMPLE I.D.			Au o/t	Ag o/t
34.	RL-109C	162	167	0.001	-0.10
35.	RL-109C	167	172	0.004	-0.10
36.	RL-109C	172	177	0.002	-0.10
37.	RL-109C	177	182	0.008	-0.10
38.	RL-109C	182	187	-0.001	-0.10
39.	RL-109C	187	192	-0.001	-0.10
40.	RL-109C	192	197	-0.001	-0.10
41.	RL-109C	197	202	0.002	-0.10
42.	M-32			0.042	-0.10
43.	RL-109C	202	207	-0.001	-0.10
44.	RL-109C	207	212	0.002	0.11
45.	RL-109C	212	217	0.003	-0.10
46.	RL-109C	217	222	0.002	-0.10
47.	RL-109C	222	227	0.002	-0.10
48.	RL-109C	227	232	0.005	0.13
49.	RL-109C	232	237	-0.001	-0.10
50.	RL-109C	237	242	-0.001	-0.10
51.	RL-109C	242	247	-0.001	0.10
52.	RL-109C	247	252	-0.001	-0.10
53.	RL-109C	252	257	-0.001	-0.10
54.	RL-109C	257	262	-0.001	0.12
55.	RL-109C	262	267	-0.001	-0.10
56.	RL-109C	267	272	0.001	-0.10
57.	RL-109C	272	277	-0.001	-0.10
58.	RL-109C	277	282	-0.001	-0.10
59.	RL-109C	282	287	-0.001	-0.10
60.	RL-109C	816	821	-0.001	-0.10
61.	RL-109C	821	826	0.005	0.16
62.	M-33			0.031	0.15
63.	RL-109C	826	831	0.009	0.11
64.	RL-109C	831	836	-0.001	-0.10
65.	RL-109C	836	840	0.002	0.10
66.	RL-109C	840	845	0.002	0.59
67.	RL-109C	845	850	-0.001	0.71
68.	RL-109C	850	855.5	-0.001	0.29
69.	RL-109C	855	861	-0.001	-0.10
70.	RL-109C	861	866	-0.001	-0.10
71.	RL-109C	866	870	-0.001	-0.10
72.	RL-109C	870	874.7	-0.001	-0.10
73.	RL-110C	555	560	-0.001	-0.10
74.	RL-110C	560	565	-0.001	-0.10
75.	RL-110C	565	570	-0.001	-0.10
76.	RL-110C	570	575	-0.001	-0.10
77.	RL-110C	575	580	-0.001	0.16
78.	RL-110C	580	585	-0.001	-0.10
79.	RL-107C	552	557	-0.001	-0.10
80.	RL-107C	557	562	0.001	-0.10
81.	RL-107C	562	567	0.007	-0.10

LAC MINERALS
LOT I.D. #: 8447

	SAMPLE I.D.			Au o/t	Ag o/t
35	RL-110	160	165	0.004	0.13
36	RL-110	165	170	0.002	-0.10
37	RL-110	170	175	0.004	-0.10
38	RL-110	175	180	0.003	-0.10
39	RL-110	180	185	0.003	0.13
40	RL-110	185	190	0.010	-0.10
41	RL-110	190	195	0.004	0.28
42	M-21			0.017	-0.10
43	RL-110	195	200	0.021	2.72
44	RL-110	200	205	0.003	0.26
45	RL-110	205	210	0.002	0.27
46	RL-110	210	215	0.002	0.20
47	RL-110	215	220	0.001	0.16
48	RL-110	220	225	0.003	-0.10
49	RL-110	225	230	0.003	0.23
50	RL-110	230	235	0.002	-0.10
51	RL-110	235	240	0.001	0.13
52	RL-110	240	245	0.006	-0.10
53	RL-110	245	250	0.016	0.44
54	RL-110	250	255	0.006	-0.10
55	RL-110	255	260	0.003	-0.10
56	RL-110	260	265	0.003	-0.10
57	RL-110	265	270	0.002	-0.10
58	RL-110	270	275	0.002	-0.10
59	RL-110	275	280	-0.001	-0.10
60	RL-110	280	285	-0.001	-0.10
61	RL-110	285	290	0.001	-0.10
62	M-22			0.020	0.12
63	RL-110	290	295	0.001	-0.10
64	RL-110	295	300	0.001	0.14
65	RL-110	300	305	0.002	-0.10
66	RL-110	305	310	0.002	0.10
67	RL-110	310	315	0.004	0.19
68	RL-110	315	320	0.004	-0.10
69	RL-110	320	325	0.006	-0.10
70	RL-110	325	330	0.005	0.22
71	RL-110	330	335	0.004	0.19
72	RL-110	335	340	0.003	0.14
73	RL-110	340	345	0.003	0.13
74	RL-110	345	350	0.002	0.10
75	RL-110	350	355	0.002	-0.10
76	RL-110	355	360	0.010	0.18
77	RL-110	360	365	0.008	0.11
78	RL-110	365	370	0.003	-0.10
79	RL-110	370	375	0.004	-0.10
80	RL-110	375	380	0.003	0.14
81	RL-110	380	385	0.013	0.12
82	M-23			0.030	0.25

LAC MINERALS
LOT I.D. #: 8447

	SAMPLE I.D.			Au o/t	Ag o/t
83	RL-110	385	390	0.007	0.24
84	RL-110	390	395	0.012	-0.10
85	RL-110	395	400	0.002	-0.10
86	RL-110	400	405	-0.001	-0.10
87	RL-110	405	410	0.001	-0.10
88	RL-110	410	415	0.002	-0.10
89	RL-110	415	420	-0.001	0.13
90	RL-110	420	425	-0.001	-0.10
91	RL-110	425	430	-0.001	-0.10
92	RL-110	430	435	-0.001	-0.10
93	RL-110	435	440	-0.001	-0.10
94	RL-110	440	445	0.003	-0.10
95	RL-110	445	450	-0.001	0.14
96	RL-110	450	455	0.001	-0.10
97	RL-110	455	460	0.002	-0.10
98	RL-110	460	465	0.001	-0.10
99	M-24			0.103	0.20

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This report reviewed and approved by:

Richard A. Grondin

Richard Grondin, Laboratory Director

NEVADA GSI, INC.

GEOCHEMICAL ANALYSIS REPORT

October 2, 1990

CUST. CODE: LOA
PROJECT: URBD
P.O. #: XXXX
LOT ID: 8528

GEOLOGIST: NATE BREWER
COPIES TO: KEN TULLAR
COMPANY: LAC MINERALS
ANALYSIS: FIRE ASSAY FOR GOLD AND SILVER, WITH AN A.A. FINISH.

	SAMPLE I.D.			Au o/t	Ag o/t
1.	RL-110-C	861	867	-0.001	-0.10
2.		M-3		~~0.271~~	-0.10
3.	RL-110-C	867	872	0.001	-0.10
4.	RL-110-C	872	877	-0.001	0.13
5.	RL-110-C	877	882	-0.001	0.15
6.	RL-110-C	882	887	-0.001	0.11
7.	RL-110-C	887	894	-0.001	-0.10
8.	RL-110-C	1142	1147	-0.001	-0.10
9.	RL-110-C	1147	1152	-0.001	-0.10
10.	RL-110-C	1152	1157	-0.001	-0.10
11.	RL-110-C	1157	1162	-0.001	-0.10
12.	RL-110-C	1162	1167.5	-0.001	0.11
13.	RL-110-C	1167.5	1174	-0.001	-0.10
14.	RL-110-C	1174	1178	-0.001	-0.10
15.	RL-110-C	1178	1182	0.007	-0.10
16.	RL-110-C	1182	1187.5	0.004	-0.10
17.	RL-110-C	1187.5	1193.5	0.004	0.15
18.	RL-110-C	1193.5	1197.5	0.081	0.24
19.	RL-110-C	1197.5	1202	0.019	-0.10
20.	RL-110-C	1202	1207	0.006	0.15
21.	RL-110-C	1207	1211	-0.001	0.20
22.		M-4		~~0.062~~	-0.10
23.	RL-110-C	1211	1217	-0.001	0.20
24.	RL-110-C	1217	1222	-0.001	0.26
25.	RL-110-C	1222	1227	-0.001	-0.10
26.	RL-110-C	1227	1232	-0.001	0.28
27.	RL-112-C	847	852	-0.001	-0.10
28.	RL-112-C	852	857	-0.001	-0.10
29.	RL-112-C	857	862	0.073	-0.10
30.	RL-112-C	862	867	-0.001	-0.10
31.	RL-112-C	867	872	-0.001	-0.10
32.	RL-112-C	872	877	-0.001	0.10
33.	RL-112-C	877	882	-0.001	-0.10
34.	RL-112-C	882	887	-0.001	0.25

1498 Kleppe Lane • Sparks, Nevada 89431 • (702)359-6600 • FAX: (702)359-6605

LAC MINERALS
LOT I.D. #: 8528

	SAMPLE I.D.			Au o/t	Ag o/t	
35.	RL-112-C	887	891	0.002	0.11	
36.	RL-112-C	891	895	0.097 ✓	0.36 ✓	
37.	RL-112-C	895	902	0.001	-0.10	
38.	RL-112-C	902	907	-0.001	0.20	
39.	RL-112-C	907	912	-0.001	0.25	
40.	RL-112-C	912	917	-0.001	-0.10	
41.	RL-112-C	917	922	-0.001	0.19	
42.		M-5		~~0.042~~	0.14	
43.	RL-112-C	922	927	0.001	0.12	
44.	RL-112-C	927	932	0.060 ✓	0.66	10' @ .043 Au .47 Ag
45.	RL-112-C	932	937	0.025 ✓	0.27	
46.	RL-112-C	937	942	-0.001	0.15	
47.	RL-112-C	942	947	-0.001	0.16	
48.	RL-112-C	947	952	0.022 ✓	-0.10	
49.	RL-112-C	952	957	0.004	0.26	
50.	RL-112-C	957	962	-0.001	0.20	
51.	RL-112-C	962	967	-0.001	0.21	
52.	RL-112-C	967	972	-0.001	0.15	
53.	RL-112-C	972	977	0.021 ✓	0.19	
54.	RL-112-C	977	982	-0.001	-0.10	
55.	RL-112-C	982	987	-0.001	-0.10	
56.	RL-112-C	987	992	-0.001	0.17	
57.	RL-112-C	992	997	-0.001	0.16	
58.	RL-112-C	997	1002	0.038 ✓	-0.10	
59.	RL-112-C	1002	1007	0.002	-0.10	
60.	RL-112-C	1007	1012	0.005	0.14	
61.	RL-112-C	1012	1017	-0.001	0.14	
62.		M-7		~~0.015~~	0.15	
63.	RL-112-C	1017	1022	0.010 ✓	-0.10	
64.	RL-112-C	1022	1027	0.003	0.12	
65.	RL-112-C	1027	1032 5	0.022	-0.10	
66.	RL-112-C	1032	1037 5	* 0.097	-0.10	
67.	RL-112-C	1037	1042 5	* 0.166	0.27	42' @ .068 Au .72 Ag
68.	RL-112-C	1042	1047 5	0.021	0.18	
69.	RL-112-C	1047	1052 5	0.072	4.51 ✓	
70.	RL-112-C	1052	1057 5	0.014	0.28	
71.	RL-112-C	1057	1062 5	0.041	0.17	
72.	RL-112-C	1062	1067 5	* 0.136	0.45	
73.	RL-112-C	1067	1069 2	0.011	0.51	
74.	RL-112-C	1069	1074	0.007	3.75 ✓	
75.	RL-112-C	1074	1079	0.003	0.27	
76.	RL-112-C	1079	1084	0.002	-0.10	
77.	RL-112-C	1084	1085.8	0.004	-0.10	
78.	RL-112-C	1085.8	1089 3.2	0.016	2.10 ✓	8.7' @ .013 Au 8.14 Ag
79.	RL-112-C	1089	1094.5 5.5	0.011	11.66 ✓	
80.	RL-112-C	1094.5	1099.5	0.007	0.74	
81.	RL-112-C	1099.5	1105	0.008	1.24 ✓	
82.		M-8		~~0.030~~	-0.10	
83.	RL-112-C	1105	1110	0.019	1.61 ✓	

LAC MINERALS
LOT I.D. #: 8528

	SAMPLE I.D.				Au o/t	Ag o/t	
84.	RL-112-C	1110	1115		0.009	-0.10	25.5' @ .014 1.04
85.	RL-112-C	1115	1120		0.013	2.68 ✓	
86.	RL-112-C	1120	1125		0.017	0.67	
87.	RL-112-C	1125	1130.5		0.014	0.31	
88.	RL-112-C	1130.5	1135.5		0.008	0.23	
89.	RL-112-C	1135.5	1140.5		0.005	0.38	
90.	RL-112-C	1140.5	1145.5		0.005	0.63	
91.	RL-112-C	1145.5	1151		0.012 ✓	1.14 ✓	10.5' @ .012 Au 2.12 Ag
92.	RL-112-C	1151	1156		0.012 ✓	3.20 ✓	
93.	RL-112-C	1156	1161		0.007	0.64	
94.	RL-112-C	1161	1166		0.004	0.40	
95.	RL-112-C	1166	1170		0.004	0.39	
96.	RL-112-C	1170.9	1171.9		0.009	0.29	
97.	RL-112-C	1171.9	1176.5	4.6	0.018	0.27	
98.	RL-112-C	1176.5	1181.5	5	0.014	0.49	
99.	RL-112-C	1181.5	1187	5.5	0.058	3.46 ✓	27.1' @ .027 Au 1.23 Ag
100.	RL-112-C	1187	1192	5	0.036	1.03 ✓	
101.	RL-112-C	1192	1199	7	0.013	0.79	
102.		M-11			~~0.039~~	0.18	
103.	RL-112-C	1199	1204.5		0.003	0.54	
104.	RL-112-C	1204.5	1208		0.003	0.36	
105.	RL-112-C	1208	1213		0.001	0.24	
106.	RL-112-C	1213	1220.5		0.003	0.33	
107.	RL-112-C	1220.5	1227.5		0.001	0.36	
108.	RL-112-C	1227.5	1229.5		0.004	0.34	

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This report reviewed and approved by:

Richard A. Grondin

Richard Grondin, Laboratory Director

Filename: drbLOG.xls

PROJECT: ROSEBUD	STATE: Nevada	NORTHING:	TOTAL: 465' Page 1/2
LOGD BY: HOLLY McLACHLAN	COUNTY: Pershing	EASTING:	BEARING:
UTM#: NK 11-10-06	SEC. T. N., R.	ELEVATION:	ANGLE:

HOLE#: DRB RL-110R

DRILLING NOTES: TIME | Dates, H20, Casing, Bits, Hole C

STRATIGRAPHY/LITHOLOGY

DEPTH in FEET	COLOR (WET)	ALLUVM (1)	BADGER (2)	CHOCOLT (3)	UBUD (4)	BRADY (5)	MKRPOR (6)	LBUD (7)	DOZER (8)	WILDROS (9)	SURGTUF (10)	ASHFLO (11)	LAVA (12)	AUTOBXA (13)	INTRUSV (14)	BASALT (15)	ANDESIT (16)	RHYOLIT (17)	STRCT: ROKEN (18)	STRCT: OUGE (19)	GRAPHIC
10	BUFF												?								
	CRM/GRY/BUFF																				
20	BUFF																				
	BUFF												?								
30	WHT/CRM/GRN																				
40													?								
	CRM/BUFF																				
50	BUFF																				
													?								
60																					
70													?								
80																					
90													?								
	CRM/BUFF																				
100													?								
110	WHT/CRM																				
	CRM/BUFF																				
120																					
130	+ PINK																				
	CRM																				
140																					
150																					
160																				1	
	CRM/PINK-BRN																			2	
170	PINK/PINK-BRN																			2	
	PINK-BRN																			2	
180	CRM/PINK-BRN																			1	
190																				2	
																				1	
	CRM/TAN																				
200																					
210																					
220																					
230	CRM-GRY/GRN																				
	CRM/TAN																			1	
240	CRM/TAN																				
	CRM																				
250	WHT/BRASSY TAN																			1	

ALTERATION & MINERALIZATION

DEPTH in FEET	OXD'TN: MANGAN (17)	HEMAT (18)	LIMON (19)	PYRITE (20)	GRAPHIC	UNALTRD (21)	PROPYLT (22)	ARG (23)	RPLSIL (24)	STKWKS (25)	VEINS (26)	CALCITE (27)	GRAPHIC
10			2					2				3	
20													
												2	
30			3					4				2	
			3					4					
40			3					4					
			2					3					
50													
												2	
60												2	
												2	
70												1	
												2	
80													
90													
								4					
100								4					
								4					
110			1					4					
			1					4				1	
120			2					3				1	
			2										
130			2										
		1	1										
140			1					4					
			1										
150				1									
				2									
160													
170				1				3					
				1				2					
180				2				3					
				2				3					
190				1				3					
								2					
200								2					
				2				1					
210				2									
220				2									
				1									
230				2				3					
				1				3					
240				1				1					
				1				1					
250				4			1	3					
				3			1	3					

COMMENTS

Sample Recovery

Composite Geochem Intervals

0'-465': VARIOUS SUBUNITS OF CHOCOLATE

0'-130': APHANITIC TEXTURELESS TAN OX. ROCK. 5-70': ANGULAR TO SUB-ANGULAR FRAGMENTS OF ESSENTIALLY ONE ROCK TYPE IN A SANDY ROCK FLOUR MATRIX. POSSIBLE FAULT BRECCIA.

35-45': < 20% BRECCIA, AS DESCRIBED ABOVE

45-55': STR. BXA >50%. ROUNDED SAND-SIZED FRAGMENTS POSSIBLY FORM MATRIX. APPARENTLY UNBROKEN ROCK BELOW 70' OF THE SAME LITHOLOGY AS ABOVE. TAN-BUFF SLIGHTLY GRAINY BUT STILL APHANITIC, EQUIGRANULAR.

130-165': INTENSELY BLEACHED STRONGLY ARGILLIZED SOMEWHAT FRIABLE WHITE ROCK BELOW 140' DULL CLOTS OF SUBHEDRAL CUBIC PYRITE = WEAK TO MOD. REDOX BOUNDARY AT 140'.

165'-255': APHANITIC PINK-BROWN TO TRANSLUCENT TAN GROUNDMASS, LIBERALLY SALTED WITH PHENOCRYSTS THAT ARE REPLACED WITH FG WHT CLAY(?). BLOCKY FSP & LESSER AMPHIBOLE PHENOCRYSTS = TO 30-35% OF THE ROCK VOLUME. PHENOS GROUNDMASS COLOR='TYPE'. 160'-190': GOUGY & MIXED WITH OVERLYING APHANITIC ROCK. POSSIBLY A FAULTED CONTACT.

FROM 190' TO 255': SLIGHTLY TRANSLUCENT APHANITIC GROUNDMASS. SALMON OR FLESH PINK. HAS A SUGARY TEXTURE THAT MAY OR MAY NOT BE ORIGINAL. SOME OF IT IS DUE TO SILICEOUS RECRYSTALLIZATION AND SILICA INTRODUCTION, OR CRYPTOCRYSTALLINE SERICITE. IT HAS THAT GREY NACREOUS LOOK.

SAMPLE No

Filename: drblOG.xls

PROJECT: ROSEBUD	STATE: Nevada	NORTHING:	TOTAL 465' Page 2/2
LOGD BY: HOLLY MCLACHLAN	COUNTY: Pershing	EASTING:	BEARING:
UTM#: NK 11-10-06	SEC. T. N., R.	ELEVATION:	ANGLE:

HOLE#: DRBRL-110R

DRILLING NOTES: TIME | Dates, H20, Casing, Bits, Hole C

STRATIGRAPHY/LITHOLOGY

DEPTH in FEET	COLOR (WET)	1 ALLUVM	2 BADGER	3 CHOCOLT	4 BUD	5 BRADY	6 MKRPOR	7 BUD	8 DOZER	9 WILDROS	10 URGTUF	11 ASHOFLO	12 LAVA0	13 AUTOBXA	14 INTRUSV	15 BASALT	16 ANDESIT	17 RHYOLIT	18 BROKEN	19 GOUGE	GRAPHIC
260	WHT-GRY			/													/				
	WHT-GRY/PINK			/													/				
270	WHT-PINK			/													/				
	PINK/GRY			/													/				
280	↓			/													/				
290	↓			/													/				
	TAN-PINK			/													/				
300	TAN-GRAY			/													/				
310	PINK-TAN			/													/				
	↓			/													/				
320	PINK-TAN/CRM			/													/				
	↓			/													/				
330	PINK/GRY/CRM			/													/				
	CRM			/													/				
340	PINK			/													/				
350	↓			/													/				
360	↓			/													/				
370	↓			/													/				
380	↓			/													/				
390	PINK-GRY			/													/				
400	CRM/YELLOW?			/													/				
	CRM ± GRN-PK			/													/				
410	CRM ± BRN			/													/				
	PALE PURPLE/CRM			/													/				
420	PALE PURPLE			/													/				
	CRM/PALE PURPLE			/													/				
430	PALE PURPLE			/													/				
	PALE PURPLE AC RM			/													/				
440	↓			/													/				
	CRM/YELLOW-BRN			/													/				
450	↓			/													/				
	CRM			/													/				
460	↓			/													/				
470																					
480																					
490																					
500																					

STRCT GRAPHIC

ALTERATION & MINERALIZATION

DEPTH in FEET	17 OXD'T'N MANGAN	18 HEMAT	19 LIMON	20 PYRITE	21 UNALTRD	22 PROPYLT	23 ARG	24 RPL SIL	25 STKWKS	26 VEINS	27 CALCITE
260				1		1	1				
				1			3				
270				1				1		2	
		1		1				?		2	
280		1		2						1	
										2	
290										3	
										3	
300										2	
										3	
310				1			2			2	
				2			2				
320				2			3				
				3						1	
330				2							
										1	
340										1	
350										1	
360										1	
370										1	
380											
390				3							
				2							
400				3							
			2				3				
410			2	/			3				1
		1	1				1				
420		1									
			1	/			2				
430		1									
		1					2				
440		1					2				
			3				4				
450			3								
											2
460											2
											2
470											
480											
490											
500											

GRAPHIC

COMMENTS

Sample Recovery

Composite Geochem Intervals

SUB-UNITS:

0-165': APHANITIC APHYRIC & BRECCIATED FROM 0-70'.

165-265': STUBBY PLAG, STRONG PORPHYRY

265-465': ELONGATE AMPH <5-10% (AAA)

185'-255': LESS STRONGLY ALTERED ZONE WHERE RELICT STRONG TO INTENSE MICROPORPHYRY CAN BE SEEN. SEE DESCRIPTION PRECEDING PAGE. NOTE THE PERVASIVELY DOMINANTLY STUBBY HABIT OF THE PHENOCRYSTS.

265'-305': MOD. TO STR. QUARTZ VEINS +/- BLADED MARCASITE. ROCK IS A SHINY PALE GRY-PINK & IS LARDED WITH ~5% OR LESS RELICT AMPHIBOLE PHENOCRYSTS. NO BLOCKY PLAG. DISS'D PY.

300'-310': RELICT BLOCKY PLAG IN PINKISH-FLESH COLORED TRANSLUCENT APHANITIC GROUNDMASS. PRIMARY PHENOCRYST IS SMALLER, EUHEDRAL AMPHIBOLE RELICTS.

325-330': PALE GRN CLAY AFTER AMPHIBOLE

350-355': PALE GRN CLAY AFTER AMPHIBOLE

405-435': COMPARATIVELY UNALTERED DUSTY PURPLE APHANITIC AMPHIBOLE ANDESITE. THE ELONGATE AMPHIBOLE PHENOCRYSTS = 5-7% OF THE ROCK BY VOLUME. THEY ARE STAINED DARK MAROON WITH HEMATITIC OXIDATION.

410-415': RUDDY MICROBRECCIA VNLT

415-420': RELICT PLAG GLOMERDPORPH, NOW SHOT TO WHT CLAY + FeOXS.

435-445': LmOX-STAINED. POSSIBLE FAULT.

435-465': STR. TO INTENSE BLEACHING +/- ARGILLIZATION. PHENOCRYSTS TO PALE GRN CLAY

T.D. 465'

SAMPLE No

PROJECT: Rosebud JV	UTM: NK 11-10-06 C	NORTHING:	TOTAL DEPTH:	STARTED:	PAGE: 1
LOGD BY: HSM	STATE: Nevada County Pershing	EASTING:	BEARING:	COMPLETED:	HOLE # RL-110C
DATE: 02/08/97	SEC. T. N. E.	ELEVATION:	ANGLE:	DRILLER:	

DRILLING: DEPTH FT; REC/CUT; RQD

LITHOLOGY: ALLUVUM (1), MUDCGL (2), (3), LITHTUF (4), PUMTUF (5), SURGTUF (6), ASH FLO (7), LAVA (8), AUTOBX (9), INTRUSIV (10), (11), BASALT (12), ANDESITE (13)

STRUCT: TEC BXA (14), BROKEN (15), GOUGE (16), VOID (17)

ALTERATION/MINLIZATION: Fe MIN: MNOX (18), HEMTIT (19), LIMONIT (20), PYRITE (21); PROP (22), ARG (23), ARG 2 (24), RPLSIL (25), (26), QTZ VNS (27), CALCITE (28), MECLAS (29)

STRAT: BADGER (30), CHOCOLT (31), UBUD (32), BRADY (33), MKRPOR (34), LBUD (35), WILDROS (36), DOZER (37)

DEPTH FT; LITHGRAPH; ALTGRAPH; STRCT

SCALE: 1" = 10 ft

LITH. EXPLANATION:

MUD CGL	Mud matrix conglomerate
LITH TUF	Lithic clast dominant tuff
PUM TUF	Pumice rich tuff
SURGE TUF	Bedded matrix rich lithic tuff

COMMENTS

SAMPLE INT

450 455 460 465 470 475 480 485 490 495 500

THIS LOOKS LIKE A BRADY ANDESITE EQUIVALENT JUDGING FROM COMPOSITION (PHENOCRYSTS) & TEXTURE.

PROBABLY BEGAN ~463'

CORE POINT = 465'

NO HSM

465'-701' Ta APHANITIC AMPHIBOLE-RICH FLOW, WITH ~3% TO 5% AMPHIBOLE, ALIGNED WITH THE STRONGLY DEVELOPED FLOW FOLIATION. FRESH TO 504.5'.

FROM 467': STRONGLY TO MODERATELY OXIDIZED; DUSTY PURPLE/LAVENDER STAINED WITH BRN-RED FeOx WASH, TO 504.5'.

475': MINOR CRM CHALKY-TEXTURED FG MINERAL OCCUPPIES FLOW BANDS. (CALCIC)

465'- : MODERATE CLEAN JOINTING, X-CUTTING FLOW FABRIC & +/- HEMATITIC COATINGS ~2 MM OR MORE THICK. FRACTURE CONTROLLED CALCITE FROM WEAK TO STRONG, DEPENDING ON FRAX DENSITY.

485': LIESEGANG BANDS X-CUT FLOW BANDING.

465'- : AMPHIBOLE PHENOCRYSTS = 3-5%, 4-7 MM LONG, HIGHLY ELONGATE, ALIGNED TO SUB-ALIGNED WITH FLOW FOLIATION. PLAG MICROLITES OR SMALL PHENOCRYSTS ARE NOT SEEN.

POSSIBLY BLACK KNOB ANDESITE SUB-UNIT OF THE CHOCOLATE.

30° FLOW BAND; 45° JNT; 40° FLOW BAND; 30° JNT; 45° FLOW BAND; 40, 20° FeOx VN LTS; 20° CALVN; 30° FLOW BAND

PROJECT: Rosebud JV	UTM: NK 11-10-06 C	NORTHING:	TOTAL DEPTH:	STARTED:	PAGE: 2
LOGD BY: HSM	STATE: Nevada County Pershing	EASTING:	BEARING:	COMPLETED:	HOLE # RL-110 C
DATE: 02/08/97	SEC. T. N. E.	ELEVATION:	ANGLE:	DRILLER:	

SCALE: 1" =10 ft

LITH. EXPLANATION:

MUD CGL	Mud matrix conglomerate
LITH TUF	Lithic clast dominant tuff
PUM TUF	Pumice rich tuff
SURGE TUF	Bedded matrix rich lithic tuff

DRILLING: DEPTH (FT), REC/CUT, RQD

LITHOLOGY: ALUVUM, MUDCGL, LITHTUF, PUMTUF, SURGTUF, ASH FLO, LAVA, AUTOBXV, INTRUSV, BASALT, ANDESIT, RHYOLIT

STRUCT: TEC BXA, BROKEN, GOUGE, VOID

ALTERATION/MINLIZATION: Fe MIN: MNOX, HEMTIT, LIMONIT, PYRITE; PROP, ARG, ARG2, RPLSIL, QTZVNS, CALCITES, METCLAS

STRAT: BADGER, CHOCOLT, BUD, BRADY, MKRPOR, LBUD, WILDROS, DOZER

DEPTH FT	LITHGRAPH	ALTGRAPH	STRCT	COMMENTS	SAMPLINT
500			70° BXA VN	504.5 - 516': MOD. BLEACHING	
505			20° BXA VN	500-550': CONTINUED UNBROKEN, APHANITIC, FLOW BANDED AMPHIBOLE ANDESITE FLOW. LOCALLY BLEACHED TO CREAM + DUSTY ROSE.	
510			25° FLOW BAND		
515			25° CALVN.		
			20° FLOW BANDS		
			35° JNT		
520			60° CALVN	~516-530': MOD'LY CALCITE VNED WITH OPAQUE, FINE-GRAINED STRINGERS.	
			35° CALVN		
525			40 VN	525.5'-540.5': WK TO MOD. BLEACHING.	
			40° CA/JNT	524-527': PLAG PHENOCRYSTS.	
530			40° FLOW BAND		
535			35° JNT	~536-540': WEAKLY CRACKLE BXA VEINED & SLIGHTLY MORE HEMATITIC THAN SURROUND-ING ROCK.	
			45° JNT		
540			40° BXA VN	540.5 - ~585': STRONG BLEACHING, WK TO MOD. ARGILLIZATION.	
			40 CALVN		
545			30° FLOW BAND		
550			30° CALVN		

PROJECT: Rosebud JV UTM NK 11-10-06 C	NORTHING:	TOTAL DEPTH:	STARTED:
LOGD BY: HSM STATE: Nevada County Pershing	EASTING:	BEARING:	COMPLETED:
DATE: 02/08/97 SEC. T. N. E.	ELEVATION:	ANGLE:	DRILLER:

PAGE: 3

HOLE # RL-110C

SCALE: 1" =10 ft

LITH. EXPLANATION:

MUD CGL	Mud matrix conglomerate
LITH TUF	Lithic clast dominant tuff
PUM TUF	Pumice rich tuff
SURGE TUF	Bedded matrix rich lithic tuff

| DRILLING | | | LITHOLOGY | | | | | | | | | | | | | STRUCT | | | | ALTERATION/MINLIZATION | | | | | | | | | | | STRAT | | | | | | | | | | | | |

PROJECT: Rosebud JV	UTM: NK 11-10-06 C	NORTHING:	TOTAL DEPTH:	STARTED:	PAGE: 4
LOGD BY: HSM	STATE: Nevada County Pershing	EASTING:	BEARING:	COMPLETED:	HOLE # RL-110C
DATE: 02/09/97	SEC. T. N. E.	ELEVATION:	ANGLE:	DRILLER:	

SCALE: 1" =10 ft

LITH. EXPLANATION:

MUD CGL	Mud matrix conglomerate
LITH TUF	Lithic clast dominant tuff
PUM TUF	Pumice rich tuff
SURGE TUF	Bedded matrix rich lithic tuff

DRILLING: DEPTH FT; REC/CUT; RQD

LITHOLOGY: 1 ALLUVUM; 2 MUDCGL; 3; 4 LITHTUF; 5 PUMTUF; 6 SURGTUF; 7 ASHFLO; 8 LAVA; 9 AUTOBX; 10 INTRUSV; 11 BASALT; 12 ANDESITE; 13 RHYOLIT

STRUCT: 14 TEC.BXA; 15 BROKEN; 16 GOUGE; 17 VOID

ALTERATION/MINLIZATION: Fe MIN: 18 MNOX; 19 HEMTIT; 20 LIMONIT; 21 PYRITE; 22 PROP; 23 ARG; 24 ARG2; 25 RPLSIL; 26; 27 QTZVNS; 28 CALCITE; 29 METCLAS

STRAT: 30 BADGER; 31 CHOCOLT; 32 UBUD; 33 BRADY; 34 MKRPOR; 35 LBUD; 36 WILDROS; 37 DOZER

DEPTH FT; LITHGRAPH; ALTGRAPH; STRCT; SAMPLINT

COMMENTS

586-696': SEE DESCRIPTION PRECEDING PAGE.
DUSTY PURPLE, ESSENTIALLY FRESH, APHANITIC, AMPHIBOLE ANDESITE WITH STRONG, CONSISTENT FLOW BANDING AT 20-30° TO C/A. WKLY JOINTED, WITH EARTHY HMOX COATING JOINTS & FRAX. WKLY VNED WITH WHT SPARRY CALCITE. ALTERATION IS RESTRICTED TO A HEMATITIC OVERPRINT.

PROJECT: Rosebud JV	UTM: NK 11-10-06 C	NORTHING:	TOTAL DEPTH:	STARTED:	PAGE: 5
LOGGED BY: HSM	STATE: Nevada	County Pershing	EASTING:	BEARING:	COMPLETED:	HOLE # RL-110C
DATE: 02/09/97	SEC. T. N.	E.	ELEVATION:	ANGLE:	DRILLER:

SCALE: 1" =10 ft

LITH. EXPLANATION:

MUD CGL	Mud matrix conglomerate
LITH TUF	Lithic clast dominant tuff
PUM TUF	Pumice rich tuff
SURGE TUF	Bedded matrix rich lithic tuff

| DRILLING | | | LITHOLOGY | | | | | | | | | | | | | STRUCT | | | | ALTERATION/MINLIZATION | | | | | | | | | | | | STRAT | | | | | | | | | | | | |

PROJECT: Rosebud JV	UTM: NK 11-10-06 C	NORTHING:	TOTAL DEPTH:	STARTED:	PAGE: 6
LOGD BY: HSM	STATE: Nevada County Pershing	EASTING:	BEARING:	COMPLETED:	HOLE #: RL-110C
DATE: 02/09/97	SEC. T. N. E.	ELEVATION:	ANGLE:	DRILLER:	

DRILLING: DEPTH (FT), REC/CUT, RQD

LITHOLOGY: 1 ALUVUM, 2 MUDCGL, 3 BASEMENT, 4 LITHTUF, 5 PUMTUF, 6 SURGTUF, 7 ASHFLO, 8 LAVA, 9 AUTOBX, 10 INTRUSV, 11 BASALT, 12 ANDESITE, 13 RHYOLITE

STRUCT: 14 TE.C BXA, 15 BROKEN, 16 GOUGE, 17 VOID

ALTERATION/MINLIZATION: 18 Fe MIN MNOX, 19 HEMTIT, 20 LIMON, 21 PYRITE, 22 PROP, 23 ARG, 24 ARG 2, 25 RPL SIL, 26, 27 QTZ VNS, 28 CALCITE, 29 METCLAS

STRAT: 30 BADGER, 31 CHOCOLT, 32 BUD, 33 BRADY, 34 MXRPOR, 35 LBUD, 36 WILDROS, 37 DOZER

DEPTH (FT): 700, 705, 710, 715, 720, 725, 730, 735, 740, 745, 750

LITHGRAPH | ALTGRAPH | STRCNT

SCALE: 1" =10 ft

LITH. EXPLANATION:

MUD CGL	Mud matrix conglomerate
LITH TUF	Lithic clast dominant tuff
PUM TUF	Pumice rich tuff
SURGE TUF	Bedded matrix rich lithic tuff

SAMPLINT

COMMENTS

696'- 701': CRACKLE BXA IN WALLROCK

701-1017' T_c >300' OF DOMINANTLY CHOCOLATE PORPHYRY (LAVA) BRECCIA. FAULTED/ TECTONIZED TO 736' SHATTERED. ESSENTIALLY STILL A MONOLITHIC BRECCIA OF THE ABOVE ~~MATERIAL~~ ROCK.

701 - 719': MILLED TECTONIC BRECCIA DOMINATED BY ROUNDED FRAGMENTS OF THE IMMEDIATELY OVERLYING LITHOLOGY, IN A MATRIX OF EARTHY DEEP MAROON ROCK FLOUR. BOTH FRAGMENTS & MATRIX ARE DARK MAROON & HARD TO DISTINGUISH. MATRIX ~ 30-35% BY VOLUME OF ROCK, DECREASING GRADUALLY DOWNWARDS. TECTONIC BXA FORMS AN OVERPRINT ON THIS LAHARIC UNIT.

719'- 736': FIRST 'TYPE' CHOCOLATE FRAGMENTS SEEN AT 719'. PLAGIOCLASE-RICH, DUSTY PURPLE TO RED-BRN GROUNDMASS THAT IS SLIGHTLY GRAINIER THAN THAT OF THE OVERLYING MATERIAL. FRAGMENTS ARE LESS ROUNDED THAN ABOVE & A WELL-DEVELOPED SHEAR FOLIATION IS PRESENT IN THE EARTHY MAROON MATRIX. FRAGMENTS ARE MORE DISTINGUISHABLE THAN ABOVE. SOME SHEAR // JNTING, WITH STRONG SLICKS.

VERY BROKEN & SHEAR FOLIATION DIFFICULT TO SEE.

ABRUPT DECREASE IN HmOx STAINING AT END

736' - 783' : FIRST APPEARANCE OF BASEMENT LITHICS AT 736'. PRESENT TO 10-20% OF FRAGMENT POPULATION IN THIS INTERVAL, WITH TYPE' CHOCOLATE LITHICS DOMINANT. BXA IS SOMEWHAT LESS MATRIX-RICH THRU THIS STRETCH & LESS MAROON, WITH EARTHY, RED-MAROON MATRIX COMPRISING LESS THAN 20-15% OF THE ROCK BY VOLUME HERE.

BASEMT FRAGMTS = GRAY/BLK LAMINATED & GRAPHITIC ON PARTINGS. PHYLLITIC; MOD'LY FLAKEY OR FRIABLE. TO ~15cm IN DIA.

70°, 30° SHEAR FABRIC

45° JNT

70°

30° JNT

40° SHEAR FABRIC

TECTONIZED +/- MIXED LITHOLOGIES

2 FAULT BXA ZONES WITH BXA

PROJECT: Rosebud JV	UTM: NK 11-10-06 C	NORTHING:	TOTAL DEPTH:	STARTED:	PAGE: 7
LOGD BY: HSM	STATE: Nevada County: Pershing	EASTING:	BEARING:	COMPLETED:	HOLE #: RL-110C
DATE: 02/09/97	SEC: T: N: E:	ELEVATION:	ANGLE:	DRILLER:	

SCALE: 1" =10 ft

LITH. EXPLANATION:

MUD CGL	Mud matrix conglomerate
LITH TUF	Lithic clast dominant tuff
PUM TUF	Pumice rich tuff
SURGE TUF	Bedded matrix rich lithic tuff

| DRILLING | | | LITHOLOGY | | | | | | | | | | | | | STRUCT | | | | ALTERATION/MINLIZATION | | | | | | | | | | | STRAT | | | | | | | | | | | | |

PROJECT: Rosebud JV	UTM: NK 11-10-06 C	NORTHING:	TOTAL DEPTH:	STARTED:	PAGE: 8
LOGD BY: HSM	STATE: Nevada County: Pershing	EASTING:	BEARING:	COMPLETED:	HOLE #: RL-110C
DATE: 02/10/97	SEC. T. N. E.	ELEVATION:	ANGLE:	DRILLER:	

SCALE: 1" =10 ft

LITH. EXPLANATION:

MUD CGL	Mud matrix conglomerate
LITH TUF	Lithic clast dominant tuff
PUM TUF	Pumice rich tuff
SURGE TUF	Bedded matrix rich lithic tuff

DRILLING: DEPTH FT; REC/CUT; RQD

LITHOLOGY: ALLUVUM (1); MUD CGL (2); (3); LITHTUF (4); PUMTUF (5); SURGTUF (6); ASH FLO (7); LAVA (8); AUTOBX (9); INTRUSV (10); BASALT (11); ANDESIT (12); RHYOLIT (13)

STRUCT: TEC BXA (14); BROKEN (15); GOUGE (16); VOID (17)

ALTERATION/MINLIZATION: Fe MIN: MNOX (18); HEMTIT (19); LIMONIT (20); PYRITE (21); PROP (22); ARG (23); ARG2 (24); RPL SIL (25); (26); QTZ VNS (27); CALCITE (28); METCLAS (29)

STRAT: ADGER (30); CHOCOLT (31); BUD (32); BRADY (33); MXRPOR (34); LBUD (35); WILDROS (36); DOZER (37)

DEPTH FT; LITHGRAPH; ALTGRAPH; STRCT NT

SAMPLE INT

DEPTH FT	LITHOLOGY	STRUCT	ALTERATION/MINLIZATION	STRAT	STRCT NT
800					
	?				30° FRAX
805					
	?				30° SHEAR/BED
810					
	?		2		
815					
	?				30° SHEAR/BED
820					
	?	1	3 2 5		40° CALN BXVN
825					
	?				35° SHEAR/BED
830			3		
	?				32° SHEAR/BED
835					
	?				
840					
	?				30° SHEAR/BED
845			2		
	?				
850					

COMMENTS:

783'-859': VOLCANICLASTIC OR SEDIMENTARY/ EPICLASTIC BRECCIA WITHOUT AN OVERPRINTING TECTONIC BRECCIA. 100% CHOCOLATE FRAGMENTS, SUB-ROUNDED TO ANGULAR & DOMINANTLY MATRIX-SUPPORTED. THERE IS A WELL-DEVELOPED BEDDING OR SHEAR FOLIATION FABRIC IN THE EARTHY MAROON MATRIX BELOW 800'. THE MATRIX IS MODERATELY FRIABLE AND BREAKS // TO FOLIATION.

LITTLE OR NO TRUE JOINTING OR VEINING

824': 3" THICK SPARRY WHT CALCITE VN.

PROJECT: Rosebud JV	UTM: NK 11-10-06 C	NORTHING:	TOTAL DEPTH:	STARTED:	PAGE: 9
LOGD BY: HSM	STATE: Nevada County Pershing	EASTING:	BEARING:	COMPLETED:	HOLE #: RL-110C
DATE: 02/10/97	SEC. T. N. E.	ELEVATION:	ANGLE:	DRILLER:	

SCALE: 1" = 10 ft

LITH. EXPLANATION:

MUD CGL	Mud matrix conglomerate
LITH TUF	Lithic clast dominant tuff
PUM TUF	Pumice rich tuff
SURGE TUF	Bedded matrix rich lithic tuff

DRILLING: DEPTH (FT), REC/CUT, RQD

LITHOLOGY: 1 ALLUVUM, 2 MUDCGL, 3, 4 LITHTUF, 5 PUMTUF, 6 SURGTUF, 7 ASHFLO, 8 ALAVA, 9 AUTOBX, 10 INTRUSV, 11 BASALT, 12 ANDESITE, 13 RHYOLITE

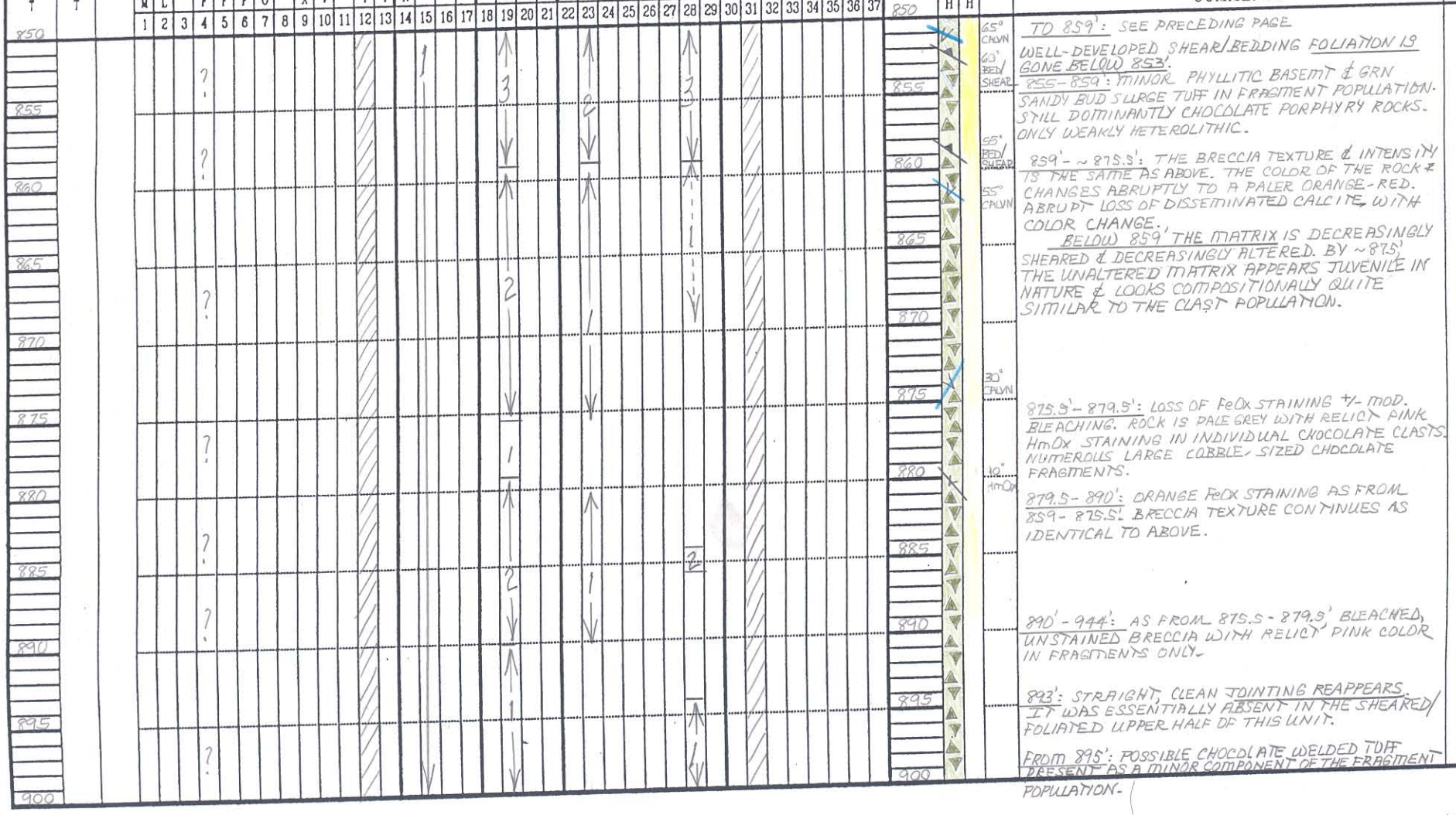
STRUCT: 14 TEC BXA, 15 BROKEN, 16 GOUGE, 17 VOID

ALTERATION/MINLIZATION: 18 Fe MIN NOX, 19 HEMTIT, 20 LIMON, 21 PYRITE, 22 PROP, 23 ARG, 24 ARG2, 25 RPL SIL, 26, 27 QTZ VNS, 28 CALCITE, 29 METCLAS

STRAT: 30 BADGER, 31 CHOCOLT, 32 UBUD, 33 BRADY, 34 MKRPOR, 35 LBUD, 36 WILDROS, 37 DOZER

DEPTH (FT), LITHGRAPH, ALTGRAPH, STRCT NT

SAMPLINT



COMMENTS

TD 859': SEE PRECEDING PAGE

WELL-DEVELOPED SHEAR/BEDDING FOLIATION IS GONE BELOW 853'.

855-859': MINOR PHYLLITIC BASEMT & GRN SANDY BUD SURGE TUFF IN FRAGMENT POPULATION. STILL DOMINANTLY CHOCOLATE PORPHYRY ROCKS. ONLY WEAKLY HETEROLITHIC.

859'-~875.5': THE BRECCIA TEXTURE & INTENSITY IS THE SAME AS ABOVE. THE COLOR OF THE ROCK CHANGES ABRUPTLY TO A PALER ORANGE-RED. ABRUPT LOSS OF DISSEMINATED CALCITE, WITH COLOR CHANGE.

BELOW 859' THE MATRIX IS DECREASINGLY SHEARED & DECREASINGLY ALTERED. BY ~875' THE UNALTERED MATRIX APPEARS JUVENILE IN NATURE & LOOKS COMPOSITIONALLY QUITE SIMILAR TO THE CLAST POPULATION.

875.5'-879.5': LOSS OF FeOx STAINING +/- MOD. BLEACHING. ROCK IS PALE GREY WITH RELICT PINK HmOx STAINING IN INDIVIDUAL CHOCOLATE CLASTS. NUMEROUS LARGE COBBLE-SIZED CHOCOLATE FRAGMENTS.

879.5-890': ORANGE FeOx STAINING AS FROM 859-875.5'. BRECCIA TEXTURE CONTINUES AS IDENTICAL TO ABOVE.

890'-944': AS FROM 875.5-879.5' BLEACHED, UNSTAINED BRECCIA WITH RELICT PINK COLOR IN FRAGMENTS ONLY.

893': STRAIGHT, CLEAN JOINTING REAPPEARS. IT WAS ESSENTIALLY ABSENT IN THE SHEARED/FOLIATED UPPER HALF OF THIS UNIT.

FROM 895': POSSIBLE CHOCOLATE WELDED TUFF PRESENT AS A MINOR COMPONENT OF THE FRAGMENT POPULATION.

PROJECT: Rosebud JV	UTM: NK 11-10-06 C	NORTHING:	TOTAL DEPTH:	STARTED:	PAGE: 10
LOGD BY: HSM	STATE: Nevada County Pershing	EASTING:	BEARING:	COMPLETED:	HOLE # RL-110C
DATE: 02/09/97	SEC. T. N. R.	ELEVATION:	ANGLE:	DRILLER:	

SCALE: 1" =10 ft

LITH. EXPLANATION:

MUD CGL	Mud matrix conglomerate
LITH TUF	Lithic clast dominant tuff
PUM TUF	Pumice rich tuff
SURGE TUF	Bedded matrix rich lithic tuff

DRILLING: DEPTH FT; REC/CUT; RQD

LITHOLOGY: 1 ALLUVUM; 2 MUD CGL; 3; 4 LITH TUF; 5 PUM TUF; 6 SURGE TUF; 7 ASH FLO; 8 ALAVA; 9 AUTO BX; 10 INTRUSIV; 11 BASALT; 12 ANDESIT; 13 RHYOLIT

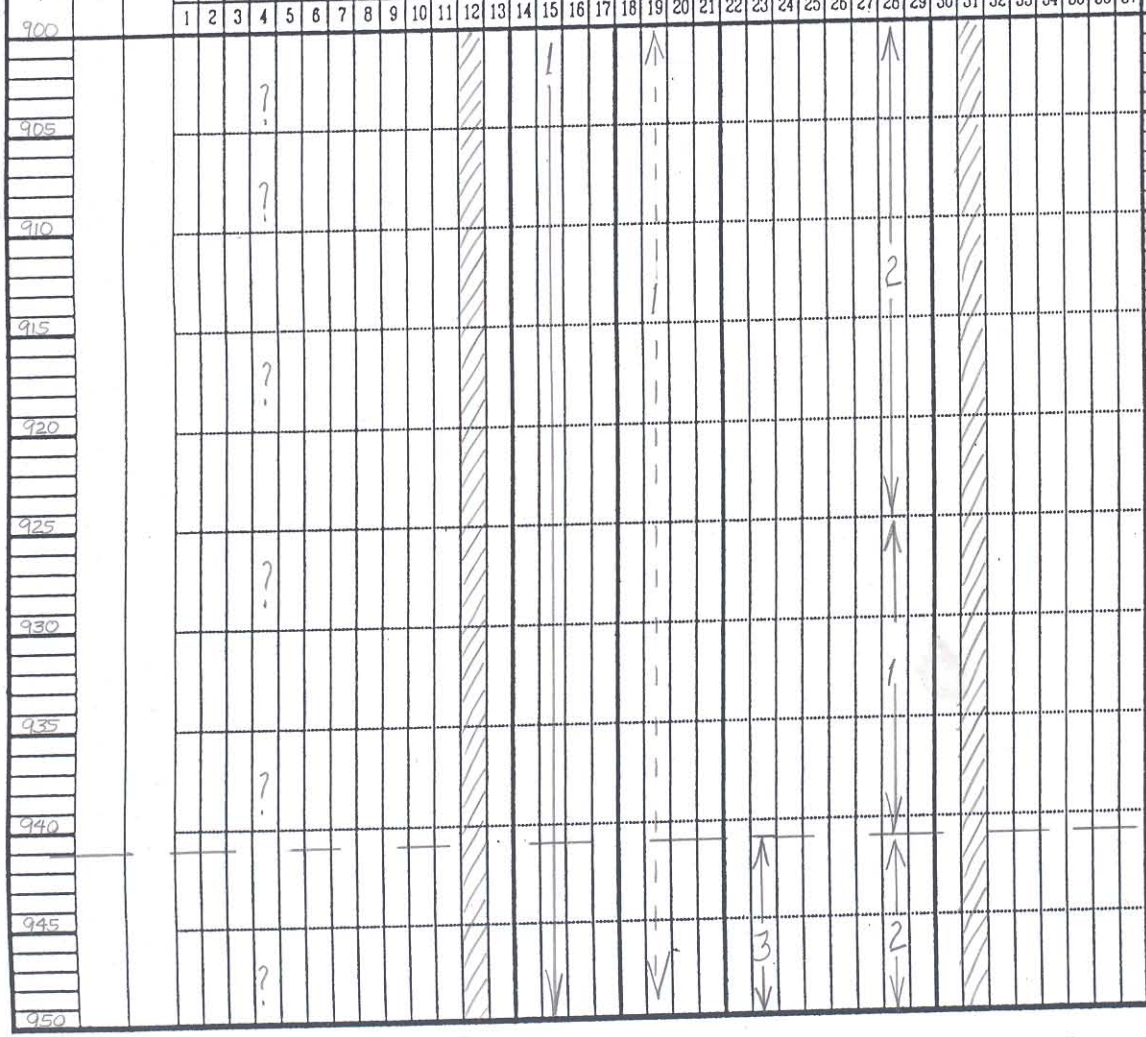
STRUCT: 14 TEC BXA; 15 BROKEN; 16 GOUGE; 17 VOID

ALTERATION/MINLIZATION: Fe MIN: 18 MNOX; 19 HEMTIT; 20 LIMON; 21 PYRITE; 22 PROP; 23 ARG; 24 ARG2; 25 RPL SIL; 26; 27 QTZ VNS; 28 CALCITE; 29 METCLAS

STRAT: 30 BADGER; 31 CHOCOLT; 32 BUD; 33 BRADY; 34 MKRPOR; 35 LBUD; 36 WILDROS; 37 DOZER

DEPTH FT; LITHGRAPH; ALTGRAPH; STRCT NT

SAMPL INT



COMMENTS

890 - 941': CHOCOLATE PORPHYRY DOMINATED BXA, WITH A PALE GREY AMPHIBOLE-BEARING, ~~PROBABLY HOMOGENOUS MATRIX~~ & A SUB-ANGULAR, MONOLITHIC COBBLE-SIZED FRAGMENT POPULATION.

IT LOOKS AS THO THE BRECCIA ABOVE 941' IS FROM A HIGHER ENERGY ENVIRONMENT THAN THAT BELOW THIS POINT.

925': USE OF SCOPE SHOWED THE MATRIX TO BE CLASTIC, AND ENTIRELY COMPRISED OF SMALL PORPHYRY FRAGMENTS PACKED IN SANDY ROCK FLOUR. MATRIX DOES APPEAR TO BE ENTIRELY DERIVED FROM THE SAME UNIT AS THE FRAGMENT. THE BRECCIA IS NOT STRONGLY BIMODAL → THE FRAGMENT POPULATION IN THIS LOCATION GRADES DOWN INTO RK FLOUR. ELSEWHERE A DISTINCTION BETWEEN FRAGMENT & MATRIX IS CLEAR-CUT.

900-950':
TRUE JOINTING IS SPARSE/WK.
WK CALCITE VNING

941': STRONG ARGILLIC ALTERATION IN ROUNDED, PEBBLE TO COBBLE-SIZED FRAGMENTS WITHIN FOLIATED/BEDDED ~~BRECCIA A/O~~ SURGE TUFF BOULDERS.

IT LOOKS AS THO SOMEWHAT PLASTIC OR SEMI-INDURATED BLOCKS OF EARLIER BUD SURGE TUFF ARE CAUGHT UP IN THIS OVER LYING VOLCANIC BRECCIA BETWEEN 941'-958'. BUD-LIKE MATERIAL IS NOT SEEN AGAIN UNTIL 1017'.

FROM 941'-1004': THE FRAGMENT POPULATION IS SMALLER THAN ABOVE. EXCEPTING THESE BUD BOULDERS, AVERAGE FRAGMENT SIZE RANGES FROM PEBBLE- TO SMALL COBBLE.

PROJECT: Rosebud JV	UTM: NK 11-10-06 C	NORTHING:	TOTAL DEPTH:
LOGD BY: HSM	STATE: Nevada County Pershing	EASTING:	BEARING:
DATE: 02/11/97	SEC. T. N. E.	ELEVATION:	ANGLE:

STARTED:
COMPLETED:
DRILLER:

PAGE: 11
HOLE #: RL-110C

SCALE: 1" =10 ft

LITH. EXPLANATION:

MUD CGL	Mud matrix conglomerate
LITH TUF	Lithic clast dominant tuff
PUM TUF	Pumice rich tuff
SURGE TUF	Bedded matrix rich lithic tuff

DRILLING: DEPTH FT; REC/CUT; R Q

LITHOLOGY: 1 ALLUVUM; 2 MUDCGL; 3; 4 LITHTUF; 5 PUMTUFF; 6 SURGTUFF; 7 ASHFLO; 8 ALAVA; 9 AUTOBX; 10 INTRUSV; 11 BASALT; 12 ANDESITE; 13 RHYOLITE

STRUCT: 14 TEC BXA; 15 BROKEN; 16 GOUGE; 17 VOID

ALTERATION/MINLIZATION: Fe: 18 MNOX; 19 HEMTIT; 20 LIMONITE; 21 PYRITE; 22 PROP; 23 ARG; 24 ARG2; 25 RPL SIL; 26; 27 QTZ VNS; 28 CALCITE; 29 METCLAS

STRAT: 30 BADGER; 31 CHOCOLT; 32 UBUD; 33 BRADY; 34 MKPOR; 35 LBUD; 36 WILDROS; 37 DOZER

DEPTH FT; LITHGRAPH; ALT; GRAPH; STRCT; SAMPL INT

950 955 960 965 970 975 980 985 990 995 1000

COMMENTS

SEE DESCRIPTION OF BUD SURGE TUFF FRAGMENTS FROM PRECEDING PAGE.

941-1004': THE FRAGMENT POPULATION IS FINER THAN ABOVE, RANGING FROM SMALL COBBLE TO PEBBLE-SIZED. FRAGMENTS ARE DOMINANTLY PLAG-BEARING CHOCOLATE PORPHYRY IN THIS INTERVAL.

FROM 941-951' DISCRETE BOULDERS OF BEDDED BUD SURGE TUFF ARE OBSERVED AND SMALLER, GREEN, STRONGLY ARGILLIZED BUD ~~ARE~~ CLASTS ARE FOUND DOWN TO 958'.

FOLIATED WELDED TUFF FRAGMENTS CONTINUE TO MAKE UP ~ 10 % OF THE FRAGMENT POPULATION.

BELOW 941' THE MATRIX AGAIN TAKES ON A NON-JUVENILE APPEARANCE. THERE IS LESS OF IT. WITH VOLUME % OF ROCK AVERAGING < 20-15 %. IT IS EARTH RED-BROWN & MODERATELY FRIABLE, TURNING MAROON ~ 985'

950-1000': A FEW INDIVIDUAL FRAGMENTS ARE ARGILLIZED MANY ARE SLIGHTLY BLEACHED AT RIMS.
WK TO MODERATE, RED-BRN, MIXED FeOx STAINING TO ~ 975-985' - MAROON HmOX DOMINATED STAINING BELOW ~ 985'.
NO JNTS, NO CALCITE VNING IN THIS INTERVAL

PROJECT: Rosebud JV	UTM: NK 11-10-06 C	NORTHING:	TOTAL DEPTH:
LOGD BY: HSM	STATE: Nevada County Pershing	EASTING:	BEARING:
DATE: 02/10/97	SEC. T. N. E.	ELEVATION:	ANGLE:

STARTED:
COMPLETED:
DRILLER:

PAGE: 12
HOLE # RL-110C

SCALE: 1" =10 ft

LITH. EXPLANATION:

MUD CGL	Mud matrix conglomerate
LITH TUF	Lithic clast dominant tuff
PUM TUF	Pumice rich tuff
SURGE TUF	Bedded matrix rich lithic tuff

DRILLING: DEPTH FT; REC/CUT; RQD

LITHOLOGY: ALLUVUM (1); MUD CGL (2); (3); LITH TUF (4); PUM TUF (5); SURGE TUF (6); ASH FLO (7); LAVA (8); AUTO BX (9); INTRUSV (10); BASALT (11); ANDESITE (12); RHYOLITE (13)

STRUCT: TEC BXA (14); BROKEN (15); GOUGE (16); OID (17)

ALTERATION/MINLIZATION: Fe MIN: MNOX (18); HEMTIT (19); LIMONITE (20); PYRITE (21); PROP (22); ARG (23); ARG 2 (24); RPLSIL (25); (26); QTZ VNS (27); CALCITE (28); METCLAS (29)

STRAT: BADGER (30); CHOCOLT (31); BUD (32); BRADY (33); MKRPOR (34); LBUD (35); WILDROS (36); DOZER (37)

DEPTH FT; LITHGRAPH; ALTGRAPH; STRCT; SAMPLE INT

COMMENTS

TO 1004' AS DESCRIBED ON PRECEDING PAGE.

1004'- 1017': ESSENTIAL CHARACTERISTICS SAME AS ABOVE WITH A COARSER FRAGMENT SIZE. MATRIX IS MAROON & CLEARLY CLASTIC & AND SANDY. UNBEDDED.

1017': FAIRLY ABRUPT REDOX BOUNDARY & FAIRLY ABRUPT, MEASUREABLE CONTACT

60° CONTACT CALVN

1017'- 1178' Tst | BUD? PALE GREEN, STRONGLY ARGILLIZED, WELL BEDDED SURGE TUFF. DISTINCTIVE INSOFAR AS IT CONTAINS LARGE PEBBLE TO COBBLE-SIZED LITHICS OF PLAG-BEARING APHANITIC, DUSTY PURPLE ROCK. THESE LITHICS ARE OF CHOCOLATE-AFFINITY, AND WERE PRESUMED TO BE LATER THAN BUD. LOOK MERELY LIKE PLAG-BEARING BRADY ANDESITE.

30° CALVN

40° BED

CALCITE VNS PICK UP AT 1017'. SWARM OF MOD. WHT OPAQUE CALCITE VNLTS BTWN 1025'-1040'.

30° CALVN

STR. DISS'D CALCITE IN SANDY - PEBBLY BEDS, FROM 1028' DOWN.

35° CALVN

SWELLING GREEN CLAYS IN FRAGMENTS. ~1044': STRONG DISS'D CALCITE IN FRAGMENTS.

20° CALVN

30° BED CONTACT

1045': CHOCOLATE LITHICS GONE BELOW THIS PT.

PROJECT: Rosebud JV	UTM: NK 11-10-06 C	NORTHING:	TOTAL DEPTH:	STARTED:	PAGE: 13
LOGD BY: HSM	STATE: Nevada County Pershing	EASTING:	BEARING:	COMPLETED:	HOLE #: RL-110C
DATE: 02/10/97	SEC. T. N. E.	ELEVATION:	ANGLE:	DRILLER:	

SCALE: 1" =10 ft

LITH. EXPLANATION:

MUD CGL	Mud matrix conglomerate
LITH TUF	Lithic clast dominant tuff
PUM TUF	Pumice rich tuff
SURGE TUF	Bedded matrix rich lithic tuff

DRILLING: DEPTH FT; REC/CUT; RQD

LITHOLOGY: ALLUVUM; MUDCGL; LITHTUF; PUMTUF; SURGTUF; ASHFLO; LAVA; AUTOBX; INTRUSV; BASALT; ANDESIT; RHYOLIT

STRUCT: TEC BXA; BROKEN; GOUGE; VOID

ALTERATION/MINLIZATION: Fe MIN: MNOX; HEMTIT; LIMONIT; PYRITE; PROP; ARG; ARG2; RPLSIL; QTZVNS; CALCITE; METCLAS

STRAT: BADGER; CHOCOLT; BUD; BRADY; MXRPOR; LBUD; WILDROS; DOZER

DEPTH FT; LITHGRAPH; ALTGRAPH; STRCNT

SAMPLINT

COMMENTS

1017-1060': SEE DESCRIPTION, PRECEDING PAGE. PALE GREEN, MOD'LY TO STRONGLY BLEACHED, STRONGLY ARGILLIZED, WELL-BEDDED SURGE TUFF. RANGING FROM COARSE SAND TO PEBBLE CONGLOMERATE IN SIZE.

1060'-1062': BLEACHING DIES OUT THRU THIS INTERVAL & ARGILLIZATION DECLINES FROM STRONG TO WK.
SPOTTY, DULL BRASSY PYRITE PICKS UP AT 1062' & IS STRONG TO 1065' DISS'D IN THE TUFF. DARK MAROON DISS'D HmOx CONTINUES AS SITE SPECIFIC DISCOLORATION OF CLASTS.
AVERAGE COLOR OF THIS UNIT BELOW 1060' IS MED. TO DARK BLUISH-GREEN SPECKLED WITH MAROON & CRM. FRAGMENTS.
CONTINUED WELL-BEDDED SURGE TUFF, WITHOUT SIGNIFICANT BASEMT LITHICS.

PROJECT: Rosebud JV	UTM NK 11-10-05 C	NORTHING:	TOTAL DEPTH:	STARTED:	PAGE: 14
LOGD BY: HSM	STATE: Nevada County Pershing	EASTING:	BEARING:	COMPLETED:	HOLE #: RL-110C
DATE: 02/11/97	SEC. T N. E.	ELEVATION:	ANGLE:	DRILLER:	

| DRILLING | | | LITHOLOGY | | | | | | | | | | | | | STRUCT | | | | ALTERATION/MINLIZATION | | | | | | | | | | | STRAT | | | | | | | | | | | | |

PROJECT: Rosebud JV	UTM: NK 11-10-05 C	NORTHING:	TOTAL DEPTH: 1232'	STARTED:	PAGE: 15
LOGD BY: HSM	STATE: Nevada County: Pershing	EASTING:	BEARING:	COMPLETED:	HOLE #: RL-110C
DATE: 02/12/97	SEC. T. N. E.	ELEVATION:	ANGLE:	DRILLER:	

SCALE: 1" =10 ft

LITH. EXPLANATION:

MUD CGL	Mud matrix conglomerate
LITH TUF	Lithic clast dominant tuff
PUM TUF	Pumice rich tuff
SURGE TUF	Bedded matrix rich lithic tuff

| DRILLING | | | LITHOLOGY | | | | | | | | | | | | | STRUCT | | | | ALTERATION/MINLIZATION | | | | | | | | | | | | STRAT | | | | | | | | | | | | |

PROJECT: Rosebud JV	UTM: NK 11-10-06 C	NORTHING:	TOTAL DEPTH: 1232	STARTED:	PAGE: 16
LOGD BY: HSM	STATE: Nevada County Pershing	EASTING:	BEARING:	COMPLETED:	HOLE #: RL-110C
DATE: 02/12/97	SEC. T. N. E.	ELEVATION:	ANGLE:	DRILLER:	

SCALE: 1" = 10 ft

LITH. EXPLANATION:

MUD CGL	Mud matrix conglomerate
LITH TUF	Lithic clast dominant tuff
PUM TUF	Pumice rich tuff
SURGE TUF	Bedded matrix rich lithic tuff

DRILLING: DEPTH (FT), REC/CUT, RQD

LITHOLOGY: ALLUVIUM, MUD, SANDSTONE, LITHTUF, PUMTUF, SURGTUF, ASHFLO, LAVA, AUTOBX, INTRUSIV, BASALT, ANDESITE, RHYOLITE

STRUCT: TEC. BXA, BROKEN, GOUGE, VOID

ALTERATION/MINLIZATION: Fe MIN: MNOX, HEMTIT, LIMONIT, PYRITE; PROP, ARG, ARGL2, RPLSIL, CARBON, QTZVNS, CALCITE, METCLAS

STRAT: BADGER, CHOCOLT, UBUD, BRADY, MKRPOR, LBUD, WILDROS, DOZER

AULD LANG SYNE

DEPTH (FT)	LITH GRAPH	ALT GRAPH	STRCT	COMMENTS	SAMPLE INT
1200				1194'-1211': DULL TAN-GREY FINE SANDSTONE BASEMENT UNIT. LACKS BOTH THE FAULT-RELATED, LARGELY UNHEALED TECTONIZATION OF THE OVERLYING UNITS & THE GLOSSY-SMOOTH PHYLLITIC PARTING OF THE UNDERLYING SHALE/PHYLLITE. INTERMITTENTLY WKLY TO STRONGLY ARGILLIZED. LOCALLY LAMINATED. COMPLETELY DECALCIFIED.	
1205		CLAY VNL	WHT	1209-1211': GLOSSY PHYLLITIC SHEARING IN TAN RKS.	
1210			30° SHEAR		
			CNTC	APPARENTLY FAULTED CONTACT.	
1215				1211-1232': INTENSELY CARBONACEOUS, WEAKLY PHYLLITIZED SILTY MUDSTONE OR SHALE. STRONGLY FOLIATED & WEAKLY TO MODERATELY CONTORTED. VERY REDUCED, BUT WITHOUT VISIBLE SULFIDES.	
1220		CARBON		MODERATE VNLT CONTROLLED (& DISSEMINATED?) CALCITE IN THE CARBONACEOUS PHYLLITE.	
1225					
1230					
1235				T.D. 1232'	

NW RL-110 SE

5330'

0-165': TAN APHANITIC FRAGMENTS IN A SANDY ROCK FLOUR MATRIX. POSSIBLY CHOCOLATE LITHIC TUFF. POSSIBLY BADGER. HOLE APPEARS TO COLLAR NORTH OF THE ROSEBUD SHEAR

160-190 PROBABLE FAULT GOUGE WITHIN UNDERLYING UNIT

165-265' CHOCOLATE PORPHYRY WITH STUBBY PLAG + MAFIC PHENOCRYSTS

265-701': DUSTY PURPLE APHANITIC AMPHIBOLE-RICH ANDESITE. LOOKS LIKE BRADY ANDESITE, AND MAY CORELLATE WITH A UNIT TO THE SOUTH OF THE COLLAR THAT WAS MAPPED AS SUCH.

RC. NATURE OF THE CONTACT IS UNCLEAR

465' CORE POINT

696-736': DIFFUSE BROAD FAULT ZONE, WITH FAULTING CENTERED AT THE CONTACT AT 701'.

701-941': UPPER UNIT OF CHOCOLATE LITHIC TUFF/BRECCIA

PP 483,000 N-S

941'-1017': LOWER UNIT OF CHOCOLATE LITHIC TUFF BXA.

1017

1048'

1017-1048': BEDDED SURGE TUFF CONTAINING PLAG-BEARING CHOCOLATE LITHICS.

1048-1178': BUD BEDDED SURGE TUFF. NO VISIBLE HIATUS BETWEEN THIS UNIT & DEPOSITION OF THE OVERLYING MATERIAL.

1178

1178'-1188': BRECCIATED SLIVER OF DOZER

1188-1211': TAN FG ARKOSIC SS

1211-1232': CARBONACEOUS PHYLLITE, Jk_a AULD LANG SYNE

BEARING: S 51°E

AZIMUTH: -55°E