60001423

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. RL-203C
AUTHOR	K. Kenner; T Kuhl; R. Donato
DATE OF DOC(S)	1991
MULTI_DIST Y / N? Additional Dist_Nos:	
QUAD_NAME	Sulphur 7.5'
P_M_C_NAME (mine, claim & company names)	Rosebud Mine; Rosebud Project; Coates Drilling Lac Minerals (USA), Inc; Bondar-Clegg, Inc Chemex Labs, Inc
COMMODITY If not obvious	gold silver
NOTES	Drill log; geology; assay; total depth 860'; handwritten notes 43 p.

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

	Initials	Date
SS:	DD	5/10/08
DB:	mdh	
SCANNED:		

Revised: 1/22/08

DRILL LOGS RL-203
Rosebud

60001423 4010

60001423

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

DRILL LOG SUMMARY SHEET

PROJECT RL-203C

HOLE NUMBER RL-203C TOTAL DEPTH 860' LOGGED BY KLK

RC- to 300'

Date started 7-29-91

Date completed 8-1-91

Initial bearing vertical

Initial inclination

Elevation 5236.5

Collar coordinates:

N 2203893.0

E 481801.8

Contractor: COATES

Drill Type: UDR

Hole Size: HQ

Drilling Conditions:

Footage: Wet / Dry

Comments:

DOWN HOLE SURVEY INFORMATION

FROM	TO	SURVEY POINT	INCLI-NATION	BEARING	X (Northing)	Y (Easting)	Z (Elevation)

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

FINE-GRAINED TUFF
LITHIC LAPILLI TUFF

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

DRILL HOLE RL-2030

Page 1 of 3

LOGGED BY MCW

	LITH.	ALT.	% ARG. ALT. W	M	S	% SIL'N W	M	S	COLOR	% FeOx W	M	S	% SULF.	COMMENTS	Au	Ag	CHECK	% WASH RECOV
	Qal																	
05	TMB	N X							DK. Brown Yell					Possible UB TR Cel				
10		N X																
15		N X																
20		N X							Tan LT GY Grn									
25		N XXX																
30		N XXX												TMB Fine Grained Silicic Tuff				
35		NN XX							Tan GY Tan									
40		NN XX																
45		NN XX																
50		NN XX							Tan LTGY									
55		N XX																
60		N XX																
65		N XX																
70		N XX							LTGY					Redox Zone DK. GY Phenos	<	.11		
75		N XX													<	.08		
80		N XX													<	.04		
85		N XX													<	< .03		
90		N XX													<	<		
95	TMB	N XX													.008	<		
100																		

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

FINE-GRAINED TUFF
LITHIC LAPILLI TUFF

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

DRILL HOLE RL-203

Page 2 of 3

LOGGED BY MCW

	LITH.	ALT.	% ARG. ALT. W	M	S	% SIL'N W	M	S	COLOR	% FeOx W	M	S	% SULF.	COMMENTS	Au	Ag	CHECK	% WASH RECOV
	TMB								LTGY				.5	TMB	<	<		
105													1.5	Qtz Py Veins	<	<		
110													1.0		<	.04		
115													.5		<	<		
120															<	.03		
125													1		<	<		
130													.5		<	<		
135													1.5		<	<		
140													.5	Qtz Py Veins	<<	.03		
145														DK Fh/oes	<	.04		
150													1.5	Qtz Py Veins.	<	.03		
155													.5		<	.03		
160													TR		<	.03		
165														Qtz Py Veins	<	.03		
170															<	<		
175															<	.03/.05		
180															<	.08		
185									LTGY TR Pale Grn				.5	TR Cel	.002	.09		
190	TMB												1	TMB Qtz Py Veins	<	.04		
195	LB								Pale Grn					LB mod Cel	.002/.003	.05		
200																		

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

FINE-GRAINED TUFF
LITHIC LAPILLI TUFF

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

DRILL HOLE RL-2036

Page 3 of 3

LOGGED BY MCW

	LITH.	ALT.	% ARG. ALT. W	M	S	% SIL'N W	M	S	COLOR	% FeOx W	M	S	% SULF.	COMMENTS	Au	Ag	CHECK	% WASH RECOV
	LB	NN XX							WH Grn				.5	LB TR Cel Qtz Veins DkGy Sulfide	L	.05		
205		NN XXX							M-LTGrn				1	Wk Cel Qtz Py Veins Micro bxt				
210		NN XXX											.5	TR OX Sulfids				
215		NN XX											TR					
220		NNN XX																
225		NN XX																
230		NN XX																
235		NN XX							M Grn									
240		NNN XX							LT Grn									
245		NN XX							LT-M Grn				.5	Mod Cel Qtz Py Veins LTGY to Wht Phenos in DK Mtx				
250		NN XX											TR					
255		NN XX							Dk. Grn				.5	Stng Cel Qtz Py Veins				
260		NN XX																
265		NN XXXX											TR	Mod-Stng Cel				
270		NN XXX							Dk. MGrn				1.5	Qtz Py Veins Wht-Clr Qtz				
275		NN XXX																
280		N XXX											.5					
285		N XXXX																
290		N XXX											1					
295	LB	N XXXX											2	Dkgy Micro Veins Bxt				
300														TD for RC Drilling				

HOLE # RL-203C LOGGED BY KLK DATE 8-91 PAGE 1 OF 9

DEPTH (ft)	RECOVERY	Structure: Bd. Fol.	Structure: Faults	MINERALIZATION	GRAPHIC LOG	ALTER.	COLOR	DESCRIPTION	ASSAYS: Sample No.	% Cu	% Pb	% Zn	oz/t Au	oz/t Ag
300	87			~1% diss tun py + mar casite		wbl M ~ M-S celad	wbl deep sea green	CORE BEGAN @ 300'	NO SAMPLE					
	98							300 - 355.2 LLT BEDDED BUD predom wispy @ 60° to C.A. local volc. bxa sized clasts ie > 25 mm All heterolithic clasts are predom lithic sized 2-25 mm wide bleached white to clay alt. w/ pervasive celadonite alteration few local peach-flesh colored frags, few dark gray shale frags. local frags clay alt & eaten out matrix is pervasively clay alt & celadonite alt. Bedding probably ~60° to C.A. weak veining consisting of calcite + py ± marcasite ± white clay. On the average ~ ≤ 1 vn/ft. v. few local druzy qtz lined vuggy vns w/ marcasite ± clay fill.						
310	98	60° bedd												
320	98	5° 40° calc py ± qtz vns						302 - 307.4 volc. bxa sized clasts						
330	97							307.4 - 355.2 wispy @ 60° to CA						
								330 - 331 w/ vuggy druzy qtz vns						
340	99													
350								355.2 - 787.6 LBT Description follows						
	100	15° qtz marcasite vns		2% vn py + mar casite	20°	wbl m celad	Lt green		355-360				.002	.05
360						mbl wcelad								

HOLE # RL-203C LOGGED BY KLK DATE 8-91 PAGE 2 OF 9

DEPTH (ft)	RECOVERY	Structure: Bd. Fol.	Structure: Faults	MINERALIZATION	GRAPHIC LOG	ALTER.	COLOR
370	100			2-3% diss tvn py tvn marcasite		M bl M ≈ local S ≈ w celad	Lt. sage green
380	99	20	15° vuggy M qtz Kaolin tmar castle vns			W bl M ≈ M-S celad	deep sea green
390	98	65°	Kaolin marca qtz py vns most 20-40 + 60°			W-M bl W-M ≈ M-W celad	Mod deep sea green
400	92						
410	100						
420	97						
430	101						
	101						

DESCRIPTION

355.2 - 787.6 LBT

355.2 - 436.7 FINE GRAINED TUFF
intermittently weakly to mod bleached w-m peru. argillic clay alteration w-to ms pervasive celadonite alteration weak local tectonic brecciation locally speckled texture due to preferrential clay alt. of feldspar. Intermittently finely vesicular ≤1mm w/ dark green celadonite + or Kaolinite fill
weak to mod pervasive veining w/ 2 predom. types 1) fine veinlet stkwk ≤1mm filled w/ celadonite ± py ± local clay 15-25+/ft.
2) vuggy druzy qtz lined vns filled w/ Kaolinite + marcasite ± pyrite + weak local barite + weak local fine sulfide(py) dissem w/ in amber brown chalcedony vns. On average ~1-3 vns/ft.

372-413 Intermittenty vesicular ≤1mm w/ green celadonite fill ± local white clays

396-412 increased vuggy druzy qtz clay + marcasite vns averaging ~ up to ~10 vns/ft intermittently speckled local hydro vns

419.5-429 m-s Kaolinite + marcasite ± qtz vns predom. subparelle to C.A ~3-5 vns/ft

384-396 pseudo flo banded @ 45-50° to CA. peach w/ bleach streaks @ "flo" selvages

404-437 pseudo flo banding

ASSAYS

Sample No.	% Cu	% Pb	% Zn	oz/t Au	oz/t Ag
360-363				.004	.09
363-368				.008	.09
368-373				.012	.07
373-378				.006	.07
378-383				.006	.09
383-388				<	.07
388-393				.005/.004	.08
393-398				.002	.05
398-403				<	.09
403-408				.003	.07
408-413				.009	.09
413-418				<	.05
418-423				<.005	.10/.11
423-428				<	.08

HOLE # RL-203C LOGGED BY KLK DATE 8-91 PAGE 3 OF 9

DEPTH (ft)	RECOVERY	Structure: Bd. Fol.	Structure: Faults	MINERALIZATION	GRAPHIC LOG	ALTER.	COLOR
440	97	30° 15° qtz py kaolin marca vns	Δ vn 10°	±1% vn py		tR bl m celad Fresh	M-D green gray
				2-3% diss + vn py + vn marcasite		M-S bl M w celad	H bl celad grn
450	100						
460	96		30° 5° Δ vn				
				±1% diss + vn + marcasite + bronz mineral			
470	99						
480	98				70°		
490	99	50° 15° qtz py kaolin marca vns		1-2% diss + vn py + marcasite		S bl w ~ poss wx + tR celad	white buff
500	93						

DESCRIPTION

355.2 - 787.6 LBT

428.5 - 436.7 pervasively green - relatively fresh, densely welded only vns are fracture related - tight w/ celad, py + red oxide + $CaCO_3$ fill.

436.7 - 486 LBT w/ ↑ perv. bleaching to M-S m pervasive argillic alt locally tectonically brecciated

436.7 - 460 most prominent veining w/ drusy qtz lining vuggy vns filled w/ ±$CaCO_3$ marcasite + kaolinite ± py subparell to 30° to CA. & locally contains golden bronze metallic (chalcopy?) up to 9 vns/ft. Also riddled w/ v. fine hairline stkwk of celadonite ± qtz >50/ft

460 - 486 overall drop in veining @ described above to ~ 1-5 vns/ft Also riddled w/ fill qtz ± celadonite hairline stkwk

466' weak local blue opaline SiO_2 filling interstices of the rock

VESICULAR SPECKLITE

486 - 499.5 SPECKLED vesicular FGT @ 3-5% ≤ 1-2 mm wide filled w/ army (sage) green smectite? and much lesser blue green celadonite or local white clay. Riddled w/ v. fine hairline qtz stkwk - locally weak to moderate veining w/ kaolinite + pyrite ± celadon + qtz filled. Averaging ~ 3 vns/ft.

ASSAYS

Sample No.	% Cu	% Pb	% Zn	oz/t Au	oz/t Ag
428-433				.002	.05
433-438				.007	.03
438-443				.007/.003	.07
443-448				.005	.06
448-453				.005	.05
453-458				.008	.09
458-463				.009	.07
463-468				<	.04
468-473				<	<
473-478				<	</<
478-483				<	.04
483-488				.002	.07
488-493				.433	.61
493-498				.006/.005	.11

HOLE # RL-203C LOGGED BY KLK DATE 8-91 PAGE 4 OF 9

DEPTH (ft)	RECOVERY	Structure: Bd. Fol.	Structure: Faults	MINERALIZATION	GRAPHIC LOG	ALTER.	COLOR
510	87, 103	60-70° pseudo flo		±1% diss + VN py + VN marcasite		M bl W-M celad	GREEN + FRESH
520	97, 100						
530	98	15°					Sage GRN
540	99	40° fract VNS + qtz Kaolin marca py VNS				W bl M-∞ W-M celad	Flesh + GRN
550	93				45°		
560	100	5° 35° qtz mica Kaolin + trace metallic		3-4% diss + VN py + VN marcasite + chalco py		M-S bl W-∞ W X	FLESH
570							

DESCRIPTION

355.2 - 787.6 LBT

499.5 - 549.45 FINE GRAINED TUFF weakly altered w/ possible pseudo flo banding @ ±50° to C.A. w/ related tight fracture veining w/ celadonite fill only wkly bl very weak kaolinite + celadonite + pyrite vns. Tight fracture veining averages ~ >50/ft. mineralized veins ~ 1-2/ft.

525.5 - 532 weakly gray w/ ↓ mineralized vns ± 1/ft ↓ overall alteration fractures are ~ ⊥ to one another

532 - 538 dense sage green tuff v. weakly altered weak crackle fracturing w/ assoc. milled looking frags

538 - 549.45 Becomes intermittently tectonically brecciated local lt blue opaline SiO_2 filling fracts ↳ to white no real mineralizing veining

549.45 - ±641 LBT - tectonically brecciated vs. secondary brecciation locally it looks secondary - elsewhere looks primary → contact @ 45° to CA. Bedding?

549.45 - 558 looks like clast supported LLT clasts are various shades of green to peach w/ peachmatrix w/ intermittent celadonite alt. only significant vning are v. fine hairline celadonite stringers + wk local pyrite

558 - 641 the fragmental texture is more questionable primary vs. 2ndary detailed description follows.

ASSAYS

Sample No.	% Cu	% Pb	% Zn	oz/t Au	oz/t Ag
498-503				.019	.10
503-508				.014	.10
508-513				<	.02
513-518				.003	.03
518-523				.010	.13
523-528				.004	.06
528-533				.002	<
533-538				<	<
538-543				<	<
543-548				<	<
548-553				<	<
553-558				.010	<
558-563				.034	.20 / .27
563-568				.029	.13

HOLE # RL-203C LOGGED BY KLK DATE 8-91 PAGE 5 OF 9

DEPTH (ft)	RECOVERY	Structure: Bd. Fol.	Structure: Faults	MINERALIZATION	GRAPHIC LOG	ALTER.	COLOR
580	99	10°	30° Δ VN	3-4% diss +VN py + VN marcasite + local bronz metallic		M-S bl w-m poss w x	F L E S H
590	101	35° qtz kaoln marca + py VNS					
600	102		40° Δ VN				
610	97	15		4-5% @ above			
620	100	80 py kaoln marca qtz VNS		±3% diss +VN py + VN marcasite + bronz metallic			
630	100	15 40 qtz marca kaoln VNS					
640	101			±5% @ above			

DESCRIPTION

355.2-787.6 LBT

558-±641 LBT-FGT- fragmental peach-flesh- classic S. ore block type texture — primary v.s. secondary brecciation predom. fine tuffaceous matrix rich. ; locally clast rich more towards the end of clast size towards a volcanic bxa.

558-568 m- strong veining predom. subparelle to C.A. lined w druzy qtz ; filled w Kaolinite + marcasite + py locally clay w SiO2 mix. VNS entend to the end of the core. up to 12 VNS/ft

568-596 vning decreases w mostly fine ±1mm pyrite + qtz ± Kaoln ± marca. Vnlets w few 2-4mm druzy qtz vns - vvggy w marcasite + clay fill ~ 2-4 vns/ft
593-597 weak flowbanding @ ±25° to CA.

596-607 coarse veining increases w ↑ druzy vvggy qtz lining 2-4mm veins w marcasite + kaolinite fill ± chalcopy ± py subparelle to CA. ~ 5-9 vns/ft

607-624 decrease in veining as noted above only veining present are 1-2mm wide qtz encapsulated py + dk gray sulfide + local fine qtz hairline stkwk on average 2-7 fine vns/ft.

624-636.7 riddled w fine hairline stkwk of lt green clay or qtz increased veining w lt green clay + marcasite fill w few druzy qtz lined open spaced vns w marcasite ± kaolinite fill pervasile fine crackle fracturing. on the average ~ 15-30 vns/ft. fine stkwk up to > 50 vns/ft

636.7-645 significant veining increases veins increase up to 8mm wide w druzy qtz lining - open spaced w fine tabular marcasite + local kaolinite ± poss dk gray Ag mineral ± poss chalcopy. predom subparelle to CA. Av veining ~ 23-30 vns/ft plus uncountable fine qtz ± clay stkwk

ASSAYS

Sample No.	% Cu	% Pb	% Zn	oz/t Au	oz/t Ag
568-573				<	.05
573-578				.012	.12
578-583				.011	.13
583-588				.006	.10
588-593				<	.07
593-598				.008/.009	.13
598-603				.025	.11
603-608				.018/.015	.15/.15
608-613				<	.03
613-618				<	.04
618-623				<	.03
623-628				.017	.09
628-633				.023	.10
633-638				.117	.16

HOLE # RL-203C LOGGED BY KLK DATE 8-91 PAGE 6 OF 9

DEPTH (ft)	RECOVERY	Structure: Bd. Fol.	Structure: Faults	MINERALIZATION	GRAPHIC LOG	ALTER.	COLOR
650	100	20	4/10° VN	±5% @ above		M-S bl w~	FLESH
				1-2% diss + VN py		w celad	Lt. GRN
660	100	65° py qtz marca Kaolin VNS	75° 4 VN	4-5% diss + VN py + VN marcasite		M-S bl w celad w~ w-m xx	FLESH w/ hint GRN
	97		4/30° VN				
670	100	15		2-3% @ above		M bl w~ poss w x w celad	FLESH w/ veinlated grn
680	100	85 Kaolin py qtz marca VNS + frack vns usually 730°					
690	97			±4% diss + VN + buck shot py + VN marcasite		S bl w~ poss w~ trace celad	Buff + GRN
							Buff white
700	101					M bl w~ w x w celad	lt FLESH + GRN
710							

DESCRIPTION

355.2 - 787.6 LBT

645-652 - significant drop in veining; overall alteration changes from flesh to lt green veining ± 1mm w/ lt green clay + pyrite ± Kaolinite ± $CaCO_3$ + celadonite. Averaging 6-10 vns/ft

652-667 speckled flesh FGT due to preferrent clay alt of feldspars. Riddled w/ perv. vein brecciation filled w/ Kaolinite ± qtz. + local celadonite + local marcasite local micro Δ matrix ± pyrite weak veining: open spaced druzy qtz lined filled w/ marcasite + Kaolinite ± py + local lt green clay ~ 1-4 vns/ft. Intermittent fine qtz stkwk.

667-723 Finely speckled flesh FGT w/ fine ± 1mm fracture veining w/ green 1/4"-1/2" selvages filled w/ celadonite? + pyrite ± Kaolinite + $CaCO_3$ + local orangish red oxide w/ assoc qtz. Averaging 13-21 vns/ft. Another stage of veining consists of 2-15 mm wide veins filled w/ Kaolinite + celadonite ± marcasite ± pyrite + local lt green clay; lined w/ druzy qtz - locally open spaced clays intermittently are oxidized to golden brn. These veins are precium subparelle to C.A. and average ~ 1-3 vns/ft.

may be worth microprobing on their part

692-711 buckshot py is prevalent fine 1-2 mm veining increase to ~ 14-21 vns/ft + slight ↑ in v. fine stkwk qtz fine peach or green clays become more prevalent w/ in vns few fine ± 1mm pure clay veins. Overall no radical changes indicating mineralization.

ASSAYS

Sample No.	% Cu	% Pb	% Zn	oz/t Au	oz/t Ag
638-643				4.102	2.62
643-648				.833/.881	2.34
648-653				.01	.05/.05
653-658				<	.05
658-663				<	.10
663-668				missing assay	
668-673				<	.21
673-678				.014	.08
678-683				.018	.09
683-688				<	<
688-693				</.002	.06/.07
693-698				.029	.09
698-703				.008	.03
703-708				.016	.09

HOLE # RL-203C LOGGED BY KLK DATE 8-91 PAGE 7 OF 9

DEPTH (ft)	RECOVERY	Structure: Bd. Fol.	Structure: Faults	MINERALIZATION	GRAPHIC LOG	ALTER.	COLOR
720	97, 101	15°; 90° celad py marca qtz kaolin vns		±4% diss tvn tbuck shot py + vn marcasite		Mbl w ~ poss w X w celad	Lt buff flesh tveg green
730	99						
740	95		Δ vns 15°; 70°; Δ vn 35°				
750	100	marck kaolin py vns 15°; 90°	Δ vn 43°; Δ vn 40°	2-3% @ above			
760	93	45°; pseudo Pb	75° Δ vn				
770	94					M-S blw w	DK FLSH
780							

DESCRIPTION

355.2 - 787.6 LBT

723 - 743 FGT intermittently spotted due to preferential clay alt. of feldspar. Peru. flesh/peach coloration w/ fine ± 1mm fracture veining filled w/ py ± qtz ; questionable marcasite + celadonite + local Kaolinite w/ prominent 1/4" - 3/4" green selvages averaging ~ up to ± 20 vns/ft. Few local weakly brecciated vns w/ SiO_2 + clay (white) fill w/ celadonite or chl lining + wk local oxidation + local lt green clay + py ± poss. marcasite

743 - 750 similar description @ above w/ pervasively intermittent vein brecciation lined w/ druzy qtz - open spaced ; filled w/ Kaolinite + sericite + marcasite tr celad. poss chalcopy clasts are subrounded to angular wk local lt green clay w/ in vns Δ vns vary from open spaced to SiO_2 rich matrix predom xtaline locally w/ micro Δ matrix. 2 other phases of veining 1) fine qtz stkwk 2) celadonite + py ± clay vns. overall ~ 14-50 vns/ft

750 - 787.6 FGT N ORE block type buff w/ fine fracture veins 1-2 mm wide filled w/ chlorite? + clay + py ± marcas. which are ± 40° to CA. weak local vein brecciation w/ SiO_2 + clay mix matrix + py + wk celad locally open spaced w/ qtz lining wk local micro Δ matrix fract vns ~ 9-18/ft local barite w/in vns

774 - 783 most veins w/ oxidized selvages ; local butterscotch clay vns 1-2 mm assoc w/ fine micro Δ vns wk cross cutting clay + SiO_2 vns ± fract vns. locally sulfides

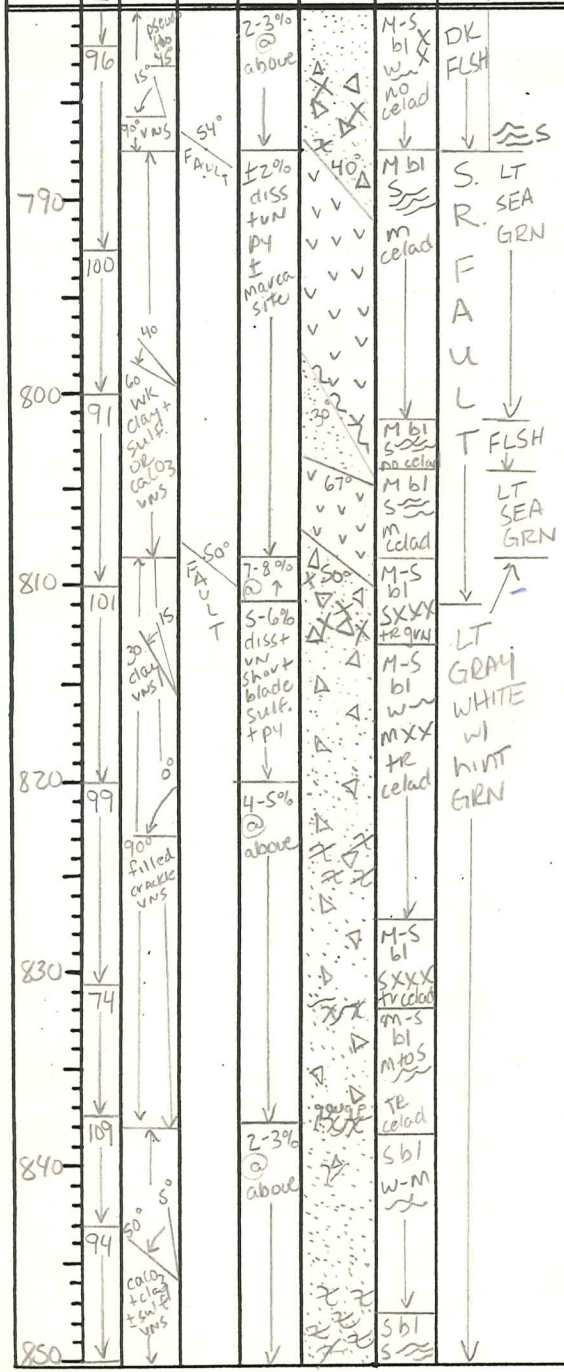
may want to scope out butterscotch clay vns

no celad.

ASSAYS

Sample No.	% Cu	% Pb	% Zn	oz/t Au	oz/t Ag
708-713				.003	.06
713-718				.007	.10
718-723				.009	.09
723-728				.038	.11
728-733				.074	.23
733-738				.063	.38
738-743				.007 / .022 / .009	.04
743-748				.132	.09
748-753				.168	.38
753-758				.032	.13
758-763				.048	.16
763-768				.046	.23
768-773				.075 / .599 / .574 / .334	.13
773-778				.003 / <	.03

HOLE # RL-203C LOGGED BY KLK DATE 8-91 PAGE 8 OF 9



DESCRIPTION

355.2 - 787.6 LBT
787.6 - 808.7 EPI SRF: 787.6 - 813
808.7 - 860 DT

783 - 787.6 LBT Deep peach color intermittent mod str. brecciation w/ up to 2-3 stgs Δ. cross cut by lt. green clay + local white clay ± sulfide vns few micro Δ vns dissem w/ fine, short blk argy. bladed sulfides ± 10 vns/ft

787.6 - 808.7 EPI

787.6 - 788.8 Lt apple to blue-green EPI finely brecciated ; perv. silicified w/ up to 3 stages + of Δ. SiO_2 matrix supported no prominent veining.

788.8 - 801.3 green epiclastic heterolithic w/ bedding @ ~ ± 50° to CA. pervasively str. argillically clay alt w/ few intermittent fine clay gouge seams v. few white to golden yellow clay stringers ± 1mm
801 - 801.3 str. argillic clay alt.

801.3 - 804 bleached peach FGT m to s argillic alt. w/ weak $CaCO_3$ + Kaolin ± SiO_2 vns uncountable - one blends w/ the next

804 - 808.7 EPI heterolithic celadonite rich perv. m-s argillic alt wk. clay gouge seams w/ lt orange calcareous clay + white Kaolinite ? ± py Few vns w/ chalcopy ? + white clay ± $CaCO_3$ up to 10 mm wide - 6-10 vns/ft

808.7 - 813 Intensely silicified FAULT breccia w/ 3-4 stgs Δ matrix supported SiO_2 rich w/ local gray zones w/ str. dissem sulfides frags are rounded to sub angular. Few white clay stringers w/ local sulfides 810 - 811 w/ strong sulfide stringers @ 810° few slicks @ ± 20° to CA silicification begins to dropp off @ 810 - 812 ; picks up 812 - 813 → w/ ↑ Δ → w/ assoc. ↓ in Δ

ASSAYS

Sample No.	% Cu	% Pb	% Zn	oz/t Au	oz/t Ag
778-783				.365	.69
783-787.6				.202	.41
787.6-788.8				~~.005~~ .012	.30
788.8-792.5				.012	
792.5-796.9				<	.11
796.9-801.3				.002	.03
801.3-805				.017	.03
805-808.7				.005	.10
808.7-810				.002	<
810-815				.006	.18
815-820				~~.004~~ <	.12
820-825				.003	.06 / .05
825-829				.002	.06
829-832.2				.003 / .002	.10
832.2-837.5				<	.08
837.5-841				<	.03
841-845				<	< / .04
845-850				.007 / <	<

Missing problem assays

HOLE # RL-203C LOGGED BY KLK DATE 8-91 PAGE 9 OF 9

DEPTH (ft)	RECOVERY	Structure: Bd. Fol.	Structure: Faults	MINERAL-IZATION	GRAPHIC LOG	ALTER.	COLOR	DESCRIPTION	ASSAYS: Sample No.	% Cu	% Pb	% Zn	oz/t Au	oz/t Ag
	100	5° ↑ 50° ↙ clay + calc. ± 5 vns		2-3% @ above		M-S bl w X tr celad	LT GRY wnt w hint grn	808.7 - 860 DT	850-855				<	5/<
								813 - 836.6 Dozer Tuff pervasively bl brecciated -> 2-3 stages fine tight w clast support ; SiO2 rich micro matrix clasts are angular to sub-rounded matrix intermittently riddled w short bladed sulfide + local celadonite ; wk local clay weakly cross cut w drusy qtz vns w lt orange to white clay. which have preferred orienta subparelle to CA.	855-860				<	<
860								TD.						
								824.3 - 826.2 broken rubble w mod assoc. clay alt						
								832.15 - 833.2 clay cemented breccia rubble						
								836.6 - 837.6 shear - clay gouge seam w clay cemented rubble						
								838.1 - 838.3 clay cemented rubble						
								837.6 - 860 M bl DT possibly wkly silicif. 2 stages veining 1) calcite ± butter yellow clay 2) finer kaolinite + py vns w burnt oxide selvages up to 1/2" wide ~5-7 vns/ft calcite vns ~1-3 vns/ft						
								846.6 - 850 broken rubble w assoc. ↑ M-S clay alt.						

HOLE # RL-203C LOGGED BY KLK DATE 8-91 PAGE 4 OF 9

DEPTH (ft)	RECOVERY	Structure: Bd. Fol.	Structure: Faults	MINERALIZATION	GRAPHIC LOG	ALTER.	COLOR
	87			±1% diss + vn py + vn marcasite		M bl W-M cclad	GREEN + PEACH
	103						
510		60-70° pseudo flo					
	97						
520							
	100						
530							Sage Green
	98	15°					
540		45° fract vns + qtz kaolin marca py vns				W bl M-∞ W-M cclad	Flesh + GRN
	99				45°		
550							
	93						
560		5°		3-4% diss + vn py + vn marcasite + chalcopy		M-S bl W-∞ W X	FLESH
	100	35° qtz mbrown kaolin + green metallic					
570							

DESCRIPTION

355.2 - 787.6 LBT

499.5 - 549.45 FINE GRAINED TUFF weakly altered w/ possible pseudo flo banding @ ±50° to C.A. w/ related tight fracture veining w/ celadonite fill only wkly bl very weak kaolinite + celadonite + pyrite vns. Tight fracture veining averages ~ >50/ft. mineralized veins ~ 1-2/ft.

525.5 - 532 weakly gray w/ ↓ mineralized vns ± 1/ft ↓ overall alteration fractures are ~ ⊥ to one another

532 - 538 dense sage green tuff v. weakly altered weak crackle fracturing w/ assoc. milled looking frags

538 - 549.45 Becomes intermittently tectonically brecciated local lt. blue opaline SiO_2 filling fracts ↳ to white no real mineralizing veining

549.45 - ±641 LBT - tectonically brecciated vs. secondary brecciation locally it looks secondary - elsewhere looks primary → contact @ 45° to CA. Bedding?

549.45 - 558 looks like clast supported LLT clasts are various shades of green to peach w/ peach matrix w/ intermittent celadonite alt. only significant vning are v. fine hairline celadonite stringers + wk local pyrite

558 - 641 the fragmental texture is more questionable primary vs. 2ndary detailed description follows.

ASSAYS

Sample No.	% Cu	% Pb	% Zn	oz/t Au	oz/t Ag
498-503				.019	
503-508				.014	
508-513					
513-518					
518-523					
523-528					
528-533					
533-538					
538-543					
543-548					
548-553					
553-558					
558-563				.034	
563-568				.029	

DEPTH (ft)	RECOVERY	Structure: Bd. Fol.	Structure: Faults	MINERALIZATION	GRAPHIC LOG	ALTER.	COLOR
580, 590, 600, 610, 620, 630, 640	99, 101, 102, 97, 100, 100, 101	10°, 55, 15, 15, 15	30°, 40°	3-4% diss + vn py + vn marcasite + local bronz metallic; 4-5% @ above; ±3% diss + vn py + vn marcasite + bronz metallic; ±5% @ above		M-S bl W-M poss w x	FLESH

DESCRIPTION

355.2-787.6 LBT

558-±641 LBT - FGT - fragmental peach-flesh - classic S. ore block type texture — primary v.s. secondary brecciation predom. fine tuffaceous matrix rich; locally clast rich more towards the end of clast size towards a volcanic bxa.

558-568 m - strong veining predom. subparallel to C.A. lined w/ druzy qtz; filled w/ Kaolinite + marcasite + py locally clay w/ SiO2 mix. VNS extend to the end of the core. up to 12 VNS/ft

568-596 veining decreases w/ mostly fine ±1mm pyrite + qtz ± Kaoln ± marca. Inlets w/ few 2-4mm druzy qtz vns - vuggy w/ marcasite + clay fill ~ 2-4 vns/ft
593-597 weak flow banding @ ±25° to CA.

596-607 coarse veining increases w/ ↑ druzy vuggy qtz lining 2-4mm veins w/ marcasite + kaolinite fill ± chalcopy. ± py subparallel to CA. ~ 5-9 vns/ft

607-624 decrease in veining as noted above only veining present are 1-2mm wide qtz encapsulated py + dk gray sulfide + local fine qtz hairline stkwk on average 2-7 fine vns/ft.

624-636.7 riddled w/ fine hairline stkwk of lt green clay or qtz increased veining w/ lt green clay + marcasite fill w/ few druzy qtz lined open spaced vns w/ marcasite ± Kaolinite fill pervasile fine crackle fracturing. on the average ~ 15-30 vns/ft. fine stkwk up to > 50 vns/ft

636.7-645 significant veining increases veins increase up to 8mm wide w/ druzy qtz lining - open spaced w/ fine tabular marcasite + local Kaolinite + poss dk gray Ag mineral ± poss chalcopy. predom subparallel to CA. Av. vein ~ 23-30 vns/ft plus uncountable fine qtz ± clay stkwk

ASSAYS: Sample No.	% Cu	% Pb	% Zn	oz/t Au	oz/t Ag
568-573					
573-578					
578-583					
583-588					
588-593					
593-598					
598-603				.025	
603-608				.018	
608-613					
613-618					
618-623					
623-628				.017	
628-633				.023	
633-638				.117	

DEPTH (ft)	RECOVERY	Structure: Bd. Fol.	Structure: Faults	MINERALIZATION	GRAPHIC LOG	ALTER.	COLOR
650	100	20	10° ∠ VN	±5% @ above		M-S bl w~	FLESH
				1-2% diss + vn py		w celad	Lt. GRN
660	100	65° py qtz marca Kaolin vns	75° ∠ VN	4-5% diss + vn py + vn marcasite		M-S bl w celad w~ w-m xx	FLESH w/ hint GRN
	97		30° ∠ VN				
670	100	15		2-3% @ above		M bl w~ poss w x w celad	FLESH w/ ven-gated grn
680	100	85 Kaolin py qtz marca vns + frac vns usually 730°					
690	97			±4% diss + vn + buck shot py + vn marcasite		S bl w~ poss w~ trace celad	Buff + GRN
							Buff white
700	101					M bl w~ w x w celad	lt FLSH + GRN
710							

DESCRIPTION

355.2 - 787.6 LBT

645-652 - Significant drop in veining; overall alteration changes from flesh to lt green veining ± 1mm w/ lt green clay + pyrite ± Kaolinite ± $CaCO_3$ + celadonite. Averaging 6-10 vns/ft

652-667 speckled flesh FGT due to preferent clay alt of feldspars. Riddled w/ perv. vein brecciation filled w/ Kaolinite ± qtz + local celadonite + local marcasite local micro Δ matrix ± pyrite weak veining: open spaced druzy qtz lined filled w/ marcasite + Kaolinite ± py + local lt green clay ~ 1-4 vns/ft. Intermittent fine qtz stkwk.

667-723 Finely speckled flesh FGT w/ fine ± 1mm fracture veining w/ green 1/4" - 1/2" selvages → filled w/ celadonite? + pyrite ± Kaolinite + $CaCO_3$ + local orangish red oxide w/ assoc qtz. Averaging 13-21 vns/ft Another stage of veining consists of 2-15 mm wide veins filled w/ Kaolinite + celadonite ± marcasite ± pyrite + local lt green clay; lined w/ druzy qtz - locally open spaced clays intermittently are oxidized to golden brn. These veins are preclum subparelle to C.A. and average ~ 1-3 vns/ft.

692-711 buckshot py is prevalent fine 1-2 mm veining increase to ~ 14-21 vns/ft + slight ↑ inv. fine stkwk qtz fine peach or green clays become more prevalent w/ in vns few fine ± 1mm pure clay veins. Overall no radical changes indicating mineralization.

ASSAYS

Sample No.	% Cu	% Pb	% Zn	oz/t Au	oz/t Ag
638-643				4.108	
643-648				.833	
648-653				.01	
653-658					
658-663					
663-668					
668-673					
673-678					
678-683					
683-688					
688-693					
693-698				.029	
698-703					
703-708				.016	

GEOTECHNICAL LOG

PROJECT: ROSEBUD LOCATION: Dozer LOGGED BY: SAS

HOLE NO.: RL-203C DIP: Vertical CORE SIZE: HQ DATE: 8-8-91

1	2	3	4	5	6	7	8	9	10	11
FROM	TO	CORE RUN	RECOVERED CORE	TOTAL LENGTH OF CORE>4"	NO. OF FRACTURES	CORE RECOVERY (%) (4/3 X 100)	R.Q.D. (%) (5/3 X 100)	FRACTURES PER FT. (6/4)	RANGE OR AVERAGE ANGLE OF FRACTURE W.R.T. CORE AXIS	REMARKS
300	305	5'	4.6	4.6	1	92	92	0.2	75°	J,VN/TH,FD/CLY,CAL/PL,W
305	310	5'	4.7	4.7	5	94	94	1.1	50-70°	J,VN/TH,FD/CLY,CAL/PL,W
310	315	5'	5.0	5.0	4	100	100	0.8	55-70°	J,VN/TH,FD/CLY,CAL/PL,W
315	320	5'	4.75	4.75	2	95	95	0.8	25-35°	VN/TH,FD/CAL,PY/R
					2				50°	J,VN/TH,FD/CLY,CAL/PL,W
320	325	5'	5.0	4.7	6	100	94	1.2	40-65°	J,VN/TH,FD/CLY,±CAL,±PY/PL,W
325	330	5'	4.8	4.7	4	96	94	0.8	50-60°	J,VN/TH,FD/CLY,±CAL/PL,W
330	335	5'	4.95	4.95	2	99	99	0.4	55-60°	J,VN/TH,FD/CLY,±CAL/PL,W
335	340	5'	4.8	4.8	2	96	96	0.4	60-65°	J,VN/TH,FD/CLY/PL,W
340	345	5'	4.95	4.95	4	99	99	0.8	65-70°	J,VN/TH,FD/CLY,±CAL/PL,W
345	350	5'	4.75	4.75	3	95	95	0.6	45-65°	J,VN/TH,FD/CLY,CAL/PL,W
350	355	5'	5.0	5.0	2	100	100	0.4	40-60°	J,VN/TH,FD/CLY,CAL/PL
355	360	5'	5.0	5.0		100	100	0.6		Note: 355', contact of "Bedded Bud" w/LBT.
					3				0-30°	VN,±VG/TH,FD/QTZ/R
360	365	5'	5.0	4.85	2	100	97	0.4	0-40	VN,±VG/TH,FD/QTZ,MAR,CLY/R
365	370	5'	4.95	4.6	8	99	92	1.6	0-50°	VN,±VG/TH,FD/QTZ,CLY,MAR/R
370	375	5'	4.9	4.9	4	98	98	0.8	0-20°	VN,±VG/TH-OP,FD/QTZ,CLY/R
375	380	5'	4.8	4.8	9	96	96	1.9	20-65°	VN,±VG/TH-OP,FD/CLY,QTZ,MAR/R
380	385	5'	5.0	4.7	10	100	94	2.0	20-65°	VN/TH-OP,FD/CLY,±QTZ/PL-R
385	390	5'	4.7	4.2	7	94	84	1.5	50-65°	VN/TH,FD/CLY,±QTZ/PL-R
										Note: 385.5'-390' Broken rubble.
390	395	5'	5.0	4.7	9	100	94	1.8	20-70°	VN,±VG/TH-OP,FD/CLY,QTZ,±MAR/PL-R
395	400	5'	4.5	3.45	4	90	69	1.8	40-50°	VN/TH,FD/CLY/R
					4				40-60°	VN,VG/TH-OP,FD/QTZ,CLY,±BAR,±MAR/R
400	405	5'	4.95	4.1	6	99	82	1.6	20-70°	VN/TH,FD/CLY/R
					2				40-70°	VN,VG/TH-OP,FD/QTZ,CLY/R
405	410	5'	4.5	4.3	7	90	86	1.6	45-90°	VN,VG/TH,FD/QTZ,CLY/R
410	415	5'	5.0	4.25	11	100	85	2.4	30-55°	VN/TH,FD/CLY/PL,R
					1				15-35°	VN,VG/OP,FD/QTZ,CLY/R
415	420	5'	5.05	4.4	10	101	88	2.0	50-55°	VN/TH,FD/CLY,±QTZ/PL,R
420	425	5'	5.05	4.55	8	101	91	1.6	10-50°	VN/TH,FD/CLY/PL-R

GEOTECHNICAL LOG

PROJECT: ROSEBUD LOCATION: Dozer LOGGED BY: SAS

HOLE NO.: RL-203C DIP: Vertical CORE SIZE: HQ DATE: 8-8-91

1	2	3	4	5	6	7	8	9	10	11
FROM	TO	CORE RUN	RECOVERED CORE	TOTAL LENGTH OF CORE>4"	NO. OF FRACTURES	CORE RECOVERY (%) (4/3 X 100)	R.Q.D. (%) (5/3 X 100)	FRACTURES PER FT. (6/4)	RANGE OR AVERAGE ANGLE OF FRACTURE W.R.T. CORE AXIS	REMARKS
425	430	5'	5.1	4.0	13	102	80	2.5	0-85°	VN/TH, FD/CLY, ± CAL/PL-R
430	435	5'	4.85	2.45	19	97	49	3.9	0-50°	VN/TH, FD/CLY, CAL/PL-R
435	440	5'	4.95	4.0	8	99	80	1.6	15-70°	VN/TH, FD/CLY, ± PY/R Note: Broken Rubble 435'-436'
440	445	5'	4.8	4.45	1	96	89	0.2	30°	VN/TH, FD/CLY/R
445	450	5'	5.0	5.0	1	100	100	0.6	50°	VN/TH, FD/CLY/SM
					2				15-30°	VN, VG/TH, FD/QTZ, MAR/R
450	455	5'	5.0	4.35	3	100	87	1.2	0-70°	VN/TH, FD/CLY, ± MAR/PL-R
					3				30°	VN, VG/TH-OP, FD/QTZ, MAR/R
										Note: 458'-458.5' Broken Rubble.
455	460	5'	5.0	5.0	1	100	100	0.4	40°	VN, VG/TH-OP, FD/QTZ, MAR/R
					1				55°	VN/TH, FD/CLY/PL
460	465	5'	4.95	4.95	0	99	99	0.0	—	—
465	470	5'	4.6	4.4	4	92	88	0.9	0-65°	VN/TH, FD/CLY, CAL/PL-R
470	475	5'	4.85	4.85	3	97	97	0.6	35-80°	VN/TH, FD/CLY, CAL/PL, R
475	480	5'	5.0	5.0	2	100	100	0.4	20-50°	VN/TH, FD/CLY, CAL, ± PY/PL, R
480	485	5'	4.95	4.7	7	99	94	1.4	10-75°	VN/TH, FD/CLY, PY, MAR, ± CAL/PL-R
485	490	5'	4.7	2.8	13	94	56	2.8	0-65°	VN/TH, FD/CLY, MAR/R
										Note: 486.5'-488' Broken rubble
490	495	5'	4.9	3.05	16	98	61	3.6	30-70°	VN/TH, FD/CLY, ± PY, MAR/R
495	500	5'	5.0	4.35	11	100	87	2.2	0-60°	VN/TH, FD/CLY/R
500	505	5'	4.5	3.5	18	90	70	4.0	0-70°	VN, ± VG/TH, FD/CLY, ± QTZ, MAR/PL-R
505	510	5'	4.4	2.7		88	54	2.3		Note: 505'-506', Broken rubble
					10				0-50°	VN/TH, FD/CLY, ± CAL/PL-R
510	515	5'	5.1	4.45	8	102	89	1.6	25-60°	J, VN/TH, FD/CLY, CAL/PL-R
515	520	5'	4.95	4.4	14	99	88	2.8	0-65°	J, VN/TH, FD/CLY, CAL/PL
520	525	5'	4.8	4.25	12	96	85	2.5	10-65°	J, VN/TH, FD/CLY, ± CAL/PL-R
525	530	5'	4.9	3.15	21	98	63	4.3	0-65°	J, VN/TH, FD/CLY, ± CAL/PL-R
530	535	5'	5.0	5.0	5	100	100	1.0	20-55°	J, VN/TH, FD/CLY, CAL/PL-R
535	540	5'	4.75	4.75	6	95	95	1.3	60-75°	VN/TH, FD/CLY, CAL/PL-R
540	545	5'	4.9	4.65	8	98	93	1.6	25-85°	VN/TH, FD/CLY, CAL/R
545	550	5'	4.95	4.4	9	99	88	1.8	45-80°	VN/TH, FD/CLY, CAL/PL-R

GEOTECHNICAL LOG

PROJECT: ROSEBUD LOCATION: DOZER LOGGED BY: SAS

HOLE NO.: RL-203C DIP: VERTICAL CORE SIZE: HQ DATE: 8-8-91

1	2	3	4	5	6	7	8	9	10	11
FROM	TO	CORE RUN	RECOVERED CORE	TOTAL LENGTH OF CORE>4"	NO. OF FRACTURES	CORE RECOVERY (%) (4/3 X 100)	R.Q.D. (%) (5/3 X 100)	FRACTURES PER FT. (6/4)	RANGE OR AVERAGE ANGLE OF FRACTURE W.R.T. CORE AXIS	REMARKS
550	555	5'	5.0	5.0	0	100	100	0.0	—	—
555	560	5'	4.2	3.35	10	84	67	2.4	40-80°	VN/TH,FD/CLY/W-R
560	565	5'	4.9	4.7	9	98	94	1.8	0-40°	VN,±VG/TH-OP,FD/CLY,±QTZ,MAR/R
565	570	5'	5.0	5.0	5	100	100	1.0	10-70°	VN,VG/TH-OP,FD/QTZ,MAR,CLY/R
570	575	5'	5.0	4.7	5	100	94	1.0	25-70°	VN,±VG/TH-OP,FD/QTZ,CLY,MAR/R
575	580	5'	4.85	4.55	1	97	91	0.6	0-30°	VN,VG/TH-OP,FD/QTZ,CLY,MAR/R
					2				60°	VN/TH,FD/PY/R
580	585	5'	5.0	5.0	1	100	100	0.2	40°	VN,VG/TH,FD/QTZ,MAR,CLY/R
585	590	5'	5.05	5.05	2	101	101	1.2	30°	VN,VG/TH,FD/QTZ,MAR,CLY/R
					4				30-60°	VN/TH,FD/CLY/R
590	595	5'	5.0	5.0	2	100	100	0.4	10-30°	VN/TH,FD/CLY,MAR,PY/R
595	600	5'	5.1	5.1	2	102	102	0.4	30-50°	VN,VG/TH-OP,FD/QTZ,CLY,MAR/R
600	605	5'	5.05	4.75	2	101	95	0.4	5-30°	VN,VG/TH-OP,FD/QTZ,MAR,CLY/R
605	610	5'	4.6	4.3	3	92	86	0.7	0-30°	VN,±VG/TH,FD/CLY,QTZ/R
610	615	5'	5.0	5.0	3	100	100	0.6	10-35°	VN/TH,FD/CLY,±PY,MAR/R
615	620	5'	4.75	4.35	7	95	87	1.5	10-50°	VN/TH,FD/CLY,±MAR/PL-R
620	625	5'	5.0	4.7	6	100	94	1.2	35-55°	VN/TH,FD/CLY,±MAR/R
625	630	5'	4.85	4.85	4	97	97	1.2	45-55°	VN/TH,FD/CLY,MAR/W-R
					2				50-30°	VN,VG/TH-OP,FD/QTZ,±CLY,MAR/R
630	635	5'	5.0	5.0	2	100	100	0.6	20-40°	VN,VG/TH,FD/QTZ,PY,MAR,CLY/R
					1				70°	J,VN/TH,FD/CLY/PL
635	640	5'	5.0	5.0	3	100	100	0.6	0-30°	VN,VG/TH-OP,FD/QTZ,MAR,±CLY/R
640	645	5'	5.0	4.25	9	100	85	1.8	0-70°	VN,±VG/TH,FD/QTZ,MAR,±BAR,±CLY/R
645	650	5'	4.85	3.95	10	97	79	2.1	0-75°	VN/TH,FD/CLY,CAL,PY/PL-R
650	655	5'	5.05	4.3	11	101	86	2.6	0-80°	VN/TH,FD/CLY,±PY/W-R
					2				35-50°	VN,VG/TH-OP,FD/QTZ,CLY,MAR/R
655	660	5'	4.9	4.9	2	98	98	0.8	50-75°	VN/TH,FD/CLY/PL-W
					2				30-35°	VN,VG/TH-OP,FD/QTZ,CLY,±MAR/R
660	665	5'	5.0	5.0	3	100	100	0.6	0-40°	VN/TH,FD/CLY/PL-W
665	670	5'	4.6	3.0	16	92	60	3.5	0-60°	VN/TH,FD/CLY/PL-R
670	675	5'	5.0	4.05	15	100	81	3.0	10-55°	VN/TH-OP,FD/CLY,MAR,±QTZ,PY/PL-R

GEOTECHNICAL LOG

PROJECT: ROSEBUD LOCATION: Dozer LOGGED BY: SAS

HOLE NO.: RL-203 C DIP: Vertical CORE SIZE: HQ DATE: 8-9-91

1	2	3	4	5	6	7	8	9	10	11
FROM	TO	CORE RUN	RECOVERED CORE	TOTAL LENGTH OF CORE>4"	NO. OF FRACTURES	CORE RECOVERY (%) (4/3 X 100)	R.Q.D. (%) (5/3 X 100)	FRACTURES PER FT. (6/4)	RANGE OR AVERAGE ANGLE OF FRACTURE W.R.T. CORE AXIS	REMARKS
675	680	5'	4.85	4.35	8	97	87	1.6	0-50°	VN/TH, FD/CLY, CAL, ±PY/PL-R
680	685	5'	5.05	4.8	8	101	96	1.6	30-70°	VN/TH, FD/CLY, ±CAL, PY/PL-W
685	690	5'	4.85	4.55	10	97	91	2.1	25-60°	VN/TH, FD/CLY, CAL/PL-W
690	695	5'	5.0	4.45	10	100	89	2.0	50-75°	VN/TH, FD/CLY, CAL/PL-W
695	700	5'	4.6	3.9	7	92	78	1.5	30-70°	VN, ±VG/TH-OP, FD/CLY, ±QTZ, PY/PL-R
700	705	5'	5.1	4.1	4	102	82	2.7	35-90°	VN, VG/TH, FD/QTZ, CLY/MAR, PY/R
					10				15-65°	VN/TH, FD/CLY/PL-R
705	710	5'	4.65	3.65	11	93	73	2.8	35-60°	VN/TH, FD/CLY/±PY/PL-R
					2				25-30°	VN, VG/TH, FD/QTZ, CLY, MAR/R
710	715	5'	5.1	4.15	10	102	83	2.0	30-70°	VN/TH, FD/CLY, ±MAR/PL-R
715	720	5'	4.4	4.4	4	88	88	1.8	50-65°	VN, VG/TH-OP, FD/QTZ, MAR, CLY/R
					4				35-65°	VN/TH, FD/CLY/PL-R
720	725	5'	4.85	3.6	8	97	72	1.6	20-75°	VN, ±VG/TH, FD/CLY, QTZ, ±MAR/PL-R
										Note: 721.5'-722.5' Broken Rubble
725	730	5'	4.7	4.2	8	94	84	1.7	0-90°	VN, ±VG/TH-OP, FD/QTZ, CLY, ±MAR/PL-R
730	735	5'	5.0	4.7	8	100	94	1.6	15-70°	VN, ±VG/TH, FD/QTZ, MAR, CLY/R
735	740	5'	5.05	5.05	9	101	101	1.8	15-60°	VN/TH, FD/CLY, ±MAR/PL, W
740	745	5'	4.1	2.9	4	82	58	1.0	30-55°	VN, ±VG/TH, FD/CLY, ±QTZ, MAR/PL-R
										Note: 743'-744.8' Broken, vuggy rubble.
745	750	5'	4.5	3.4	11	90	68	2.4	30-55°	VN, ±VG/TH, FD/QTZ, CLY/R
750	755	5'	4.8	4.6	8	96	92	1.7	20-70°	VN, ±VG/TH-OP, FD/QTZ, MAR, CLY/PL-R
755	760	5'	4.7	4.35	10	94	87	2.1	0-75°	VN, ±VG/TH-OP, FD/QTZ, CLY/PL-R
760	765	5'	4.65	2.9	17	93	58	3.7	20-60°	VN, ±VG/TH-OP, FD/QTZ, CLY/PL-R
765	770	5'	4.1	2.0		82	40	2.7		Note: 765'-767' Broken rubble.
					11				45-90°	VN, ±VG/TH-OP, FD/CLY, QTZ/R
770	775	5'	5.0	3.6	16	100	72	3.2	0-60°	VN/TH-OP, FD/CLY, QTZ, ±PY/W-R
775	780	5'	3.85	3.15	10	77	63	2.6	15-60°	VN/TH, FD/CLY/PL-W
780	785	5'	5.0	3.15	13	100	63	2.6	0-55°	VN/TH, FD/CLY/W-R/Note: small clay gouge @ 785'
785	790	5'	4.2	2.6	7	84	52	1.7	30-65°	VN/TH, FD/CLY/W-R
										Note: small clay gouge @ 786.5' Zones of
										strong argillization and shear 788'-800.5'

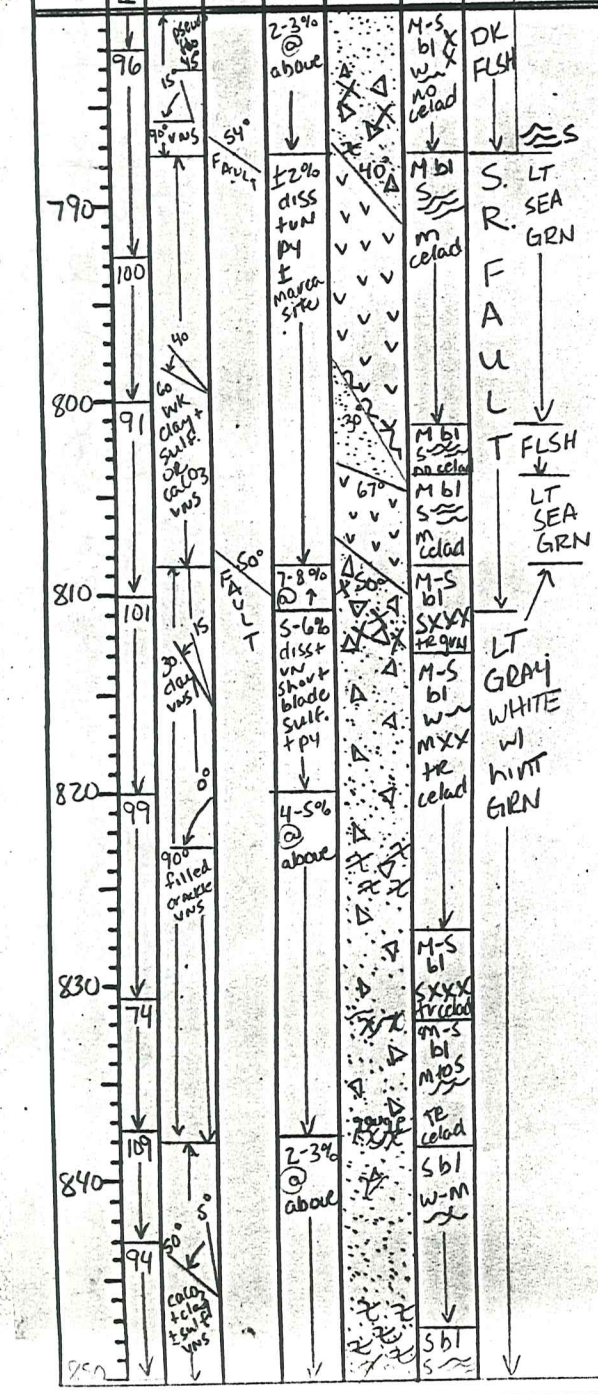
GEOTECHNICAL LOG

PROJECT: ROSEBUD LOCATION: Dozer LOGGED BY: SAS

HOLE NO.: RL-203 C DIP: Vertical CORE SIZE: HQ DATE: 8-10-91

1	2	3	4	5	6	7	8	9	10	11
FROM	TO	CORE RUN	RECOVERED CORE	TOTAL LENGTH OF CORE>4"	NO. OF FRACTURES	CORE RECOVERY (%) (4/3 X 100)	R.Q.D. (%) (5/3 X 100)	FRACTURES PER FT. (6/4)	RANGE OR AVERAGE ANGLE OF FRACTURE W.R.T. CORE AXIS	REMARKS
790	795	5'	4.9	3.5	10	98	70	2.0	45-60°	J, VN/TH, FD/CLY/W-R
795	800	5'	4.9	3.35	9	98	67	1.8	45-75°	J, VN/TH, FD/CLY/W-R
800	805	5'	4.15	3.85	4	83	77	1.0	15-65°	VN/TH, FD/CLY, CAL/W-R
805	810	5'	4.4	3.45	5	88	69	1.8	45-60°	J, VN/TH, FD/CLY, ± CAL/R
					3				35-50°	VN, VG/TH-OP, FD/QTZ/R
										Note: 804'-808.5' Contains argillized zones.
810	815	5'	5.05	3.7	10	101	74	2.0	15-75°	VN/TH, FD/CLY/W-R
815	820	5'	4.9	4.2	5	98	84	1.0	5-80°	VN, ± VG/TH-OP, FD/CLY, ± QTZ/W-R
820	825	5'	4.7	3.5	10	94	70	2.1	30-65°	VN/TH, FD/CLY/R
										Note: 824.5'-826' Broken rubble and easily
										broken core.
825	830	5'	4.7	3.1	5	94	62	1.1	40-75°	VN/TH, FD/CLY/PL-R
830	835	5'	4.4	3.3	5	88	66	1.1	50-65°	VN/TH, FD/CLY/W-R
										Note: small clay gouge @ 832.5'
835	840	5'	4.2	2.35		84	47	1.4		Note: Clay gouge and broken rubble 835.5'-
										837.5' and from 838'-838.5'
					6				5-55°	VN/TH, FD/CLY, CAL/R.
840	845	5'	5.0	4.4	6	100	88	1.2	40-75°	VN/TH, FD/CLY, CAL/PL, W
845	850	5'	4.3	1.55	8	86	31	1.9	50-80°	VN/TH, FD/CLY, CAL/PL, W
										Note: 847.5'-850' Broken rubble.
850	855	5'	5.15	3.45	14	103	69	2.7	30-60°	J, VN/TH, FD/CLY, ± CAL/PL-R
855	860	5'	4.9	4.25	7	98	85	1.4	50-75°	VN/TH, FD/CLY, CAL/W-R
T.D.	860'									

HOLE # RL-203C LOGGED BY KLK DATE 8-91 PAGE 8



missing drop

DESCRIPTION

355.2 - 787.6 LBT
787.6 - 808.7 EPI
808.7 - 860 DT

SRF: 787.6 - 811

783 - 787.6 LBT Deep peach color intermittent mod str. brecciation w/ up to 2-3 stgs Δ. cross cut by lt. green clay + local white clay ± sulfide vns few micro Δ vns dissem w/ fine, short dk gray bladed sulfides ± 10 vns/ft

787.6 - 808.7 EPI

787.6 - 788.8 Lt apple to blue-green EPI finely brecciated ; perv. silicified w/ up to 3 stages + of Δ SiO2 matrix supported no prominent veining.

788.8 - 801.3 green epiclastic heterolithic w/ bedding @ ~ ± 50° to CA. pervasively str. argillically clay alt w/ few intermittent fine clay gouge seams v. few white to golden yellow clay stringers ± 1mm
801 - 801.3 str. argillic clay alt.

801.3 - 804 bleached peach FGT m to S argillic alt. w/ weak CaCO3 + Kaolin ± SiO2 vns uncountable - one blends w/ the next

804 - 808.7 EPI heterolithic celadonite rich perv. m-s argillic alt wk. clay gouge seams w/ lt orange calcareous clay + white Kaolinite ? ± py Few vns w/ chalcopy ? + white clay ± CaCO3 up to 10 mm wide - 6-10 vns/ft

808.7 - 813 Intensely silicified FAULT breccia w/ 3-4 stgs Δ matrix supported SiO2 rich w/ local gray zones w/ str. dissem sulfides frags are rounded to sub angular. Few white clay stringers w/ local sulfides 810 - 811 w/ strong sulfide stringers. @ 810° few slicks @ ± 20° to CA. silicification begins to dropp off @ 810 - 812 ; picks up 812 - 813 → w/ ↑ Δ → w/ assoc. ↓ in Δ

733-738				.063	.3
738-743				.001 / .022 / .009	.04
743-748				.132	.09
748-753				.168	.38
753-758				.032	.13
758-763				.048	.16
763-768				.046	.23
768-773				.075 .599 .574 .334	.13
773-778				.003 / <	.07
783-787.6				.202	.4
787.6-788.8				.002 .012	.3
788.8-792.5				.012	
792.5-796.9				<	.1
796.9-801.3				.002	.0
801.3-805				.017	.03
805-808.7				.005	.1
808.7-810				.002	<
810-815				.006	.18
815-820				.004 / <	.17
820-825				.003	.04 / .0
825-829				.002	.0
829-832.2				.002 / .002	.1
832.2-837.5				<	.0
837.5-841				<	.0
841-845				<	< / .0
845-850				.007 / <	<

ondar-Clegg, Inc.
5 Spice Island Dr.
uilding 1, Unit A
parks, Nevada 89431
02 (359-9330)

BONDAR-CLEGG

RL 203c

Geochemical Lab Report

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

SEP 18 1991

REPORT: R91 11714.4 (COMPLETE)

REFERENCE INFO: RL 203C 70-205

CLIENT: IAC MINERALS (USA) INC.
PROJECT: ROSEBUD

SUBMITTED BY: KENNER
DATE PRINTED: 16-SEP-91

ORDER	ELEMENT		NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Au	Gold	28	0.002 OPT		Fire Assay
2	Au DUP	Gold Duplicate	4	0.002 OPT		Fire Assay
3	AG DUP	AG DUPLICATE	3	0.02 OPT		Fire Assay
4	Ag	Silver	28	0.02 OPT	MULT ACID TOT DIG	Atomic Absorption

SAMPLE TYPES		NUMBER	SIZE FRACTIONS		NUMBER	SAMPLE PREPARATIONS	NUMBER
Z	OTHER DRILL TYPES	27	2	-150	27	CRUSH,PULVERIZE -150	60
P	PREPARED PULP	1	4	AS REC'D	1	AS RECEIVED, NO SP	3

REPORT COPIES TO: MR. TIM KUHI
~~MR. TIM KUHI~~
MS. KRISTIN KENNER

INVOICE TO: MR. TIM KUHI

Rickey L Dunlap

Bondar-Clegg, Inc.
625 Spice Island Dr.
Building 1, Unit A
Sparks, Nevada 89431
702 (359-9330)

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Geochemical Lab Report

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

DATE PRINTED: 16-SEP-91

REPORT: R91-11714.4 (COMPLETE)

PROJECT: ROSEBUD

STANDARD NAME	ELEMENT UNITS	Au OPT	Au DUP OPT	AG DUP OPT	Ag OPT
AU ASSAY STD		0.144	-	-	-
Number of Analyses		1	-	-	-
Mean Value		0.1440	-	-	-
Standard Deviation		-	-	-	-
Accepted Value		0.150	-	-	-
ANALYTICAL BLANK		<0.002	-	-	-
Number of Analyses		1	-	-	-
Mean Value		0.0010	-	-	-
Standard Deviation		-	-	-	-
Accepted Value		0.002	-	-	-
GEO TRACE STD1(1989)		-	-	-	0.99
Number of Analyses		-	-	-	1
Mean Value		-	-	-	0.987
Standard Deviation		-	-	-	-
Accepted Value		-	-	-	1.05
S ASSAY		-	-	-	3.18
Number of Analyses		-	-	-	1
Mean Value		-	-	-	3.184
Standard Deviation		-	-	-	-
Accepted Value		-	-	-	3.03

RL203C

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625 Spice Island Dr.
Building 1, Unit A
Sparks, Nevada 89431
702 (359-9330)

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A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

Geochemical Lab Report

AUG 28 1991

REPORT: R91-11667.4 (PARTIAL)

REFERENCE INFO: RL 203C 355-653

CLIENT: LAC MINERALS (USA) INC.
PROJECT: ROSEBUD

SUBMITTED BY: KENNER
DATE PRINTED: 23-AUG-91

ORDER	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Au Gold	63	0.002 OPT		Fire Assay
2	Au DUP Gold Duplicate	7	0.002 OPT		Fire Assay

RESULTS TO FOLLOW FOR: AG DUP Ag

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
~~D DRILL CORE~~	~~60~~	~~2 -150~~	~~60~~	~~CRUSH,PULVERIZE -150~~	~~60~~
P PREPARED PULP	3	4 AS REC'D	3	AS RECEIVED, NO SP	3

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MR. TIM KUHL
~~MS. KRISTIN KENNER~~

INVOICE TO: MR. TIM KUHL

Rickey L Ornelas

Bondar-Clegg, Inc.
625 Spice Island Dr.
Building 1, Unit A
Sparks, Nevada 89431
702 (359-9330)

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A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

Geochemical Lab Report

DATE PRINTED: 23-AUG-91

REPORT: R91-11667.4 (PARTIAL)

PROJECT: ROSEBUD

STANDARD NAME	ELEMENT UNITS	Au OPT	Au DUP OPT	STANDARD NAME	ELEMENT UNITS	Au OPT	Au DUP OPT
ANALYTICAL BLANK		<0.002	-				
ANALYTICAL BLANK		<0.002	-				
Number of Analyses		2	-				
Mean Value		0.0010	-				
Standard Deviation		0.00000	-				
Accepted Value		0.002	-				
AU PULP STD		0.172	-				
AU PULP STD		0.196	-				
Number of Analyses		2	-				
Mean Value		0.1840	-				
Standard Deviation		0.01702	-				
Accepted Value		0.184	-				
Number of Analyses		-	-				
Mean Value		-	-				
Standard Deviation		-	-				
Accepted Value		-	-				
Number of Analyses		-	-				
Mean Value		-	-				
Standard Deviation		-	-				
Accepted Value		-	-				

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625 Spice Island Dr.
Building 1, Unit A
Sparks, Nevada 89431
702 (359-9330)

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Geochemical Lab Report

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

REPORT: R91-11667.4 (COMPLETE)

REFERENCE INFO: RL 203C 355-653

CLIENT: IAC MINERALS (USA) INC.
PROJECT: ROSEBUD

SUBMITTED BY: KENNER
DATE PRINTED: 20-SEP-91

ORDER	ELEMENT		NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Au	Gold	63	0.002 OPT		Fire Assay
2	Au DUP	Gold Duplicate	7	0.002 OPT		Fire Assay
3	AG DUP	AG DUPLICATE	5	0.02 OPT		Fire Assay
4	Ag	Silver	63	0.02 OPT	MULT ACID TOT DIG	Atomic Absorption

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
D DRILL CORE	60	2 -150	60	CRUSH,PULVERIZE -150	60
P PREPARED PULP	3	4 AS REC'D	3	AS RECEIVED, NO SP	3

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MR. TIM KUHL
MS. KRISTIN KENNER

INVOICE TO: MR. TIM KUHL

Rickey L Ornta

Bondar-Clegg, Inc.
625 Spice Island Dr.
Building 1, Unit A
Sparks, Nevada 89431
702 (359-9330)

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A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

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DATE PRINTED: 23-AUG-91

REPORT: R91-11667.4 (PARTIAL)

PROJECT: ROSEBUD

SAMPLE NUMBER	ELEMENT UNITS	Au OPT	Au DUP OPT
D2 RL203C 355 360		0.002	
D2 RL203C 360 363		0.004	
D2 RL203C 363 368		0.008	
D2 RL203C 368 373		0.012	
D2 RL203C 373 378		0.006	
D2 RL203C 378 383		0.006	
D2 RL203C 383 388		<0.002	
D2 RL203C 388 393		0.005	0.004
D2 RL203C 393 398		0.002	
D2 RL203C 398 403		<0.002	
D2 RL203C 403 408		0.003	
D2 RL203C 408 413		0.009	
D2 RL203C 413 418		<0.002	
D2 RL203C 418 423		<0.002	0.005
D2 RL203C 423 428		<0.002	
D2 RL203C 428 433		0.002	
D2 RL203C 433 438		0.007	
D2 RL203C 438 443		0.007	0.003
D2 RL203C 443 448		0.005	
D2 RL203C 448 453		0.005	
P4 BA 9		0.032	
D2 RL203C 453 458		0.008	
D2 RL203C 458 463		0.009	
D2 RL203C 463 468		<0.002	
D2 RL203C 468 473		<0.002	
D2 RL203C 473 478		<0.002	
D2 RL203C 478 483		<0.002	
D2 RL203C 483 488		0.002	
D2 RL203C 488 493		0.433	
D2 RL203C 493 498		0.006	0.003
D2 RL203C 498 503		0.019	
D2 RL203C 503 508		0.014	
D2 RL203C 508 513		<0.002	
D2 RL203C 513 518		0.003	
D2 RL203C 518 523		0.010	
D2 RL203C 523 528		0.004	
D2 RL203C 528 533		0.002	
D2 RL203C 533 538		<0.002	
D2 RL203C 538 543		<0.002	
D2 RL203C 543 548		<0.002	
D2 RL203C 548 553		<0.002	
P4 BA 10		0.036	
D2 RL203C 553 558		0.010	
D2 RL203C 558 563		0.034	
D2 RL203C 563 568		0.029	
D2 RL203C 568 573		<0.002	
D2 RL203C 573 578		0.012	
D2 RL203C 578 583		0.011	
D2 RL203C 583 588		0.006	
D2 RL203C 588 593		<0.002	
D2 RL203C 593 598		0.008	0.009
D2 RL203C 598 603		0.025	
D2 RL203C 603 608		0.018	0.015
D2 RL203C 608 613		<0.002	
D2 RL203C 613 618		<0.002	
D2 RL203C 618 623		<0.002	
D2 RL203C 623 628		0.017	
D2 RL203C 628 633		0.023	
D2 RL203C 633 638		0.117	
D2 RL203C 638 643		4.103	
D2 RL203C 643 648		0.833	0.887
D2 RL203C 648 653		0.010	
P4 BA 11		0.036	

Bondar-Clegg, Inc.
625 Spice Island Dr.
Building 1, Unit A
Sparks, Nevada 89431
702 (359-9330)

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A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

Geochemical Lab Report

DATE PRINTED: 23-AUG-91

REPORT: R91-11667.4 (PARTIAL)

PROJECT: ROSEBUD

SAMPLE NUMBER	ELEMENT UNITS	Au OPT	Au DUP OPT	SAMPLE NUMBER	ELEMENT UNITS	Au OPT	Au DUP OPT
RL203C 388 393		0.005	0.004				
Duplicate		0.004					
RL203C 418 423		<0.002	0.005				
Prep Duplicate		0.005	0.005				
RL203C 438 443		0.007	0.003				
Duplicate		0.003					
RL203C 493 498		0.006	0.003				
Duplicate		0.003					
Prep Duplicate		0.005	0.005				
Duplicate		0.005					
RL203C 593 598		0.008	0.009				
Duplicate		0.009					
RL203C 603 608		0.018	0.015				
Prep Duplicate		0.015					
RL203C 643 648		0.833	0.887				
Duplicate		0.887					

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625 Spice Island Dr.
Building 1, Unit A
Sparks, Nevada 89431
702 (359-9330)

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Geochemical Lab Report

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

DATE PRINTED: 20-SEP-91

REPORT: R91-11667.4 (COMPLETE)

PROJECT: ROSEBUD

STANDARD NAME	ELEMENT UNITS	Au OPT	Au DUP OPT	AG DUP OPT	Ag OPT	STANDARD NAME	ELEMENT UNITS	Au OPT	Au DUP OPT	AG DUP OPT	Ag OPT
ANALYTICAL BLANK		<0.002	-	-	-						
ANALYTICAL BLANK		<0.002	-	-	-						
Number of Analyses		2	-	-	-						
Mean Value		0.0010	-	-	-						
Standard Deviation		0.000000	-	-	-						
Accepted Value		0.002	-	-	-						
AU PULP STD		0.172	-	-	-						
AU PULP STD		0.196	-	-	-						
Number of Analyses		2	-	-	-						
Mean Value		0.1840	-	-	-						
Standard Deviation		0.01702	-	-	-						
cepted Value		0.184	-	-	-						
GEO TRACE STD1(1989)		-	-	-	1.03						
GEO TRACE STD1(1989)		-	-	-	1.10						
Number of Analyses		-	-	-	2						
Mean Value		-	-	-	1.066						
Standard Deviation		-	-	-	0.0518						
Accepted Value		-	-	-	1.05						
AG ASSAY		-	-	-	3.19						
AG ASSAY		-	-	-	3.08						
Number of Analyses		-	-	-	2						
Mean Value		-	-	-	3.137						
Standard Deviation		-	-	-	0.0746						
Accepted Value		-	-	-	3.03						

RL 203C

Bondar-Clegg, Inc.
625 Spice Island Dr.
Building 1, Unit A
Sparks, Nevada 89431
702 (359-9330)

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A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

Geochemical Lab Report

AUG 28 1991

REPORT: R91-11696.4 (COMPLETE)

REFERENCE INFO: RL 203C 653-860

CLIENT: LAC MINERALS (USA) INC.
PROJECT: ROSEBUD

SUBMITTED BY: KENNER
DATE PRINTED: 23-AUG-91

ORDER	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Au Gold	46	0.002 OPT		Fire Assay
2	Au DUP Gold Duplicate	8	0.002 OPT		Fire Assay
3	AG DUP AG DUPLICATE	4	0.02 OPT		Fire Assay
4	Ag Silver	46	0.02 OPT	MULT ACID TOT DIG	Atomic Absorption
5	AU Dup Gold Duplicate	2	0.002 OPT		Fire Assay

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
D DRILL CORE	44	2 -150	44	CRUSH,PULVERIZE -150	44
P PREPARED PULP	2	4 AS REC'D	2	AS RECEIVED, NO SP	2
				OVERWEIGHT/LBS	6

NOTES: # indicates ERRATIC RESULTS

REMARKS: THERE WER TWO SAMPLES WITH THE ID
RL203C 768-773. ONE WAS GIVEN THE SUFFIX DUPL.
#ERRATIC RESULTS

REPORT COPIES TO: MR. TIM KUHL
MR. TIM KUHL
MS. KRISTIN KENNER

INVOICE TO: MR. TIM KUHL

Kathy L Ortiz

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625 Spice Island Dr.
Building 1, Unit A
Sparks, Nevada 89431
702 (359-9330)

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A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

Geochemical Lab Report

DATE PRINTED: 23-AUG-91

REPORT: R91-11696.4 (COMPLETE)

PROJECT: ROSEBUD

STANDARD NAME	ELEMENT UNITS	Au OPT	Au DUP OPT	AG DUP OPT	Ag OPT	AU Dup OPT
AU ASSAY STD		0.147	-	-	-	-
Number of Analyses		1	-	-	-	-
Mean Value		0.1470	-	-	-	-
Standard Deviation		-	-	-	-	-
Accepted Value		0.150	-	-	-	-
ANALYTICAL BLANK		<0.002	-	-	-	-
Number of Analyses		1	-	-	-	-
Mean Value		0.0010	-	-	-	-
Standard Deviation		-	-	-	-	-
Accepted Value		0.002	-	-	-	-
GEO TRACE STD1(1989)		-	-	-	1.01	-
GEO TRACE STD1(1989)		-	-	-	1.11	-
Number of Analyses		-	-	-	2	-
Mean Value		-	-	-	1.062	-
Standard Deviation		-	-	-	0.0689	-
Accepted Value		-	-	-	1.05	-
AG ASSAY		-	-	-	3.26	-
AG ASSAY		-	-	-	3.32	-
Number of Analyses		-	-	-	2	-
Mean Value		-	-	-	3.290	-
Standard Deviation		-	-	-	0.0421	-
Accepted Value		-	-	-	3.03	-
AU PULP STD		0.168	-	-	-	-
Number of Analyses		1	-	-	-	-
Mean Value		0.1680	-	-	-	-
Standard Deviation		-	-	-	-	-
Accepted Value		0.184	-	-	-	-

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625 Spice Island Dr.
Building 1, Unit A
Sparks, Nevada 89431
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A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

Geochemical Lab Report

REPORT: R91-11696.4 (COMPLETE)

REFERENCE INFO: RL 203C 653-861

CLIENT: LAC MINERALS (USA) INC.
PROJECT: ROSEBUD

SUBMITTED BY: KENNER
DATE PRINTED: 23-AUG-91

ORDER	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Au Gold	46	0.002 OPT		Fire Assay
2	Au DUP Gold Duplicate	8	0.002 OPT		Fire Assay
3	AG DUP AG DUPLICATE	4	0.02 OPT		Fire Assay
4	Ag Silver	46	0.02 OPT	MULT ACID TOT DIG	Atomic Absorption
5	AU Dup Gold Duplicate	2	0.002 OPT		Fire Assay

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
D DRILL CORE	44	2 -150	44	CRUSH.PULVERIZE -150	44
P PREPARED PULP	2	4 AS REC'D	2	AS RECEIVED. NO SP	2
				OVERWEIGHT/LBS	6

NOTES: # indicates ERRATIC RESULTS

REMARKS: THERE WER TWO SAMPLES WITH THE ID
RL203C 768-773. ONE WAS GIVEN THE SUFFIX DUPL.
#ERRATIC RESULTS

REPORT COPIES TO: MR. TIM KUHL
MR. TIM KUHL
MS. KRISTIN KENNER

INVOICE TO: MR. TIM KUHL

Rudy L Ornstein

Bondar-Clegg, Inc.
625 Spice Island Dr.
Building 1, Unit A
Sparks, Nevada 89431
702 (359-9330)

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A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

Geochemical Lab Report

DATE PRINTED: 23-AUG-91

REPORT: R91-11696.4 (COMPLETE)

PROJECT: ROSEBUD

STANDARD NAME	ELEMENT UNITS	Au OPT	Au DUP OPT	AG DUP OPT	Ag OPT	AU Dup OPT
AU ASSAY STD		0.147	-	-	-	-
Number of Analyses		1	-	-	-	-
Mean Value		0.1470	-	-	-	-
Standard Deviation		-	-	-	-	-
Accepted Value		0.150	-	-	-	-
ANALYTICAL BLANK		<0.002	-	-	-	-
Number of Analyses		1	-	-	-	-
Mean Value		0.0010	-	-	-	-
Standard Deviation		-	-	-	-	-
Accepted Value		0.002	-	-	-	-
GEO TRACE STD1(1989)		-	-	-	1.01	-
GEO TRACE STD1(1989)		-	-	-	1.11	-
Number of Analyses		-	-	-	2	-
Mean Value		-	-	-	1.062	-
Standard Deviation		-	-	-	0.0689	-
Accepted Value		-	-	-	1.05	-
AG ASSAY		-	-	-	3.26	-
AG ASSAY		-	-	-	3.32	-
Number of Analyses		-	-	-	2	-
Mean Value		-	-	-	3.290	-
Standard Deviation		-	-	-	0.0421	-
Accepted Value		-	-	-	3.03	-
AU PULP STD		0.168	-	-	-	-
Number of Analyses		1	-	-	-	-
Mean Value		0.1680	-	-	-	-
Standard Deviation		-	-	-	-	-
Accepted Value		0.184	-	-	-	-

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Building 1, Unit A
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Geochemical Lab Report

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

DATE PRINTED: 23-AUG-91

REPORT: R91-11696.4 (COMPLETE)

PROJECT: ROSEBUD

SAMPLE NUMBER	ELEMENT UNITS	Au OPT	Au DUP OPT	AG DUP OPT	Ag OPT	AU Dup OPT
RL203C 688 693		<0.002	0.002	0.07	0.06	
Duplicate		0.002			0.07	
RL203C 786.7 792.5		0.012#	0.005		0.30	
Duplicate		0.005				
RL203C 820 825		0.003		0.06	0.05	
Prep Duplicate		<0.002			0.06	
RL203C 829 832.2		0.003	0.002		0.10	
Duplicate		0.002				
RL203C 841 845		<0.002		0.04	<0.02	
Duplicate					0.04	
RL203C 850 855		<0.002		<0.02	<0.02	
Prep Duplicate		0.007			<0.02	

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Geochemical Lab Report

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PROJECT: ROSEBUD

SAMPLE NUMBER	ELEMENT UNITS	Au OPT	Au DUP OPT	AG DUP OPT	Ag OPT	AU Dup OPT
D2 RL203C 837.5 841		<0.002			0.03	
P4 BA 119		0.034			0.19	
D2 RL203C 841 845		<0.002		0.04	<0.02	
D2 RL203C 845 850		<0.002#	0.007		<0.02	
D2 RL203C 850 855		<0.002		<0.02	<0.02	
D2 RL203C 855 860		<0.002			<0.02	

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PROJECT: ROSEBUD

SAMPLE NUMBER	ELEMENT UNITS	Au OPT	Au DUP OPT	AG DUP OPT	Ag OPT	AU Dup OPT
D2 RL203C 653 658		<0.002			0.05	
D2 RL203C 658 663		<0.002			0.10	
D2 RL203C 668 673		<0.002			0.21	
D2 RL203C 673 678		0.014			0.08	
D2 RL203C 678 683		0.018			0.09	
D2 RL203C 683 688		<0.002			<0.02	
D2 RL203C 688 693		<0.002	0.002	0.07	0.06	
D2 RL203C 693 698		0.029			0.09	
D2 RL203C 698 703		0.008			0.03	
D2 RL203C 703 708		0.016			0.09	
D2 RL203C 708 713		0.003			0.06	
D2 RL203C 713 718		0.007			0.10	
D2 RL203C 718 723		0.009			0.09	
D2 RL203C 723 728		0.038			0.11	
D2 RL203C 728 733		0.074			0.23	
D2 RL203C 733 738		0.063			0.38	
D2 RL203C 738 743		0.022#	0.009		0.04	0.007
D2 RL203C 743 748		0.132			0.09	
D2 RL203C 748 753		0.168			0.38	
D2 RL203C 753 758		0.032			0.13	
P4 BA 118		<0.002			<0.02	
D2 RL203C 758 763		0.048			0.16	
D2 RL203C 763 768		0.046			0.23	
D2 RL203C 768 773		0.075			0.13	
D2 RL203C 768 773 DUPL		0.599	0.574		0.82	0.534
D2 RL203C 773 778		<0.002	0.003		0.03	
D2 RL203C 778 783		0.365			0.69	
D2 RL203C 783 787.6		0.202			0.41	
D2 RL203C 786.7 792.5		0.012#	0.005		0.30	
D2 RL203C 792.5 796.9		<0.002			0.11	
D2 RL203C 796.9 801.3		0.002			0.03	
D2 RL203C 801.3 805		0.017			0.03	
D2 RL203C 805 808.7		0.005			0.10	
D2 RL203C 808.7 810		0.002			<0.02	
D2 RL203C 810 815		0.006			0.18	
D2 RL203C 815 820		0.004#	<0.002		0.12	
D2 RL203C 820 825		0.003		0.06	0.05	
D2 RL203C 825 829		0.002			0.06	
D2 RL203C 829 832.2		0.003	0.002		0.10	
D2 RL203C 832 837.5		<0.002			0.08	

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625 Spice Island Dr.
Building 1, Unit A
Sparks, Nevada 89431
702 (359-9330)

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Geochemical Lab Report

DATE PRINTED: 20-SEP-91

REPORT: R91-11667.4 (COMPLETE)

PROJECT: ROSEBUD

SAMPLE NUMBER	ELEMENT UNITS	Au OPT	Au DUP OPT	AG DUP OPT	Ag OPT	SAMPLE NUMBER	ELEMENT UNITS	Au OPT	Au DUP OPT	AG DUP OPT	Ag OPT
RL203C 388 393		0.005	0.004		0.08						
Duplicate		0.004			0.10						
RL203C 418 423		<0.002	0.005	0.11	0.10						
Prep Duplicate		0.005	0.005		0.11						
RL203C 438 443		0.007	0.003		0.07						
Duplicate		0.003									
RL203C 473 478		<0.002		<0.02	<0.02						
Duplicate					<0.02						
RL203C 493 498		0.006	0.003		0.11						
Duplicate		0.003									
Prep Duplicate		0.005	0.005		0.11						
Duplicate		0.005									
203C 558 563		0.034		0.27	0.20						
Duplicate					0.27						
RL203C 593 598		0.008	0.009		0.13						
Duplicate		0.009									
RL203C 603 608		0.018	0.015	0.15	0.15						
Prep Duplicate		0.015			0.15						
RL203C 643 648		0.833	0.887		2.34						
Duplicate		0.887									
RL203C 648 653		0.010		0.05	0.05						
Duplicate					0.05						

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625 Spice Island Dr.
Building 1, Unit A
Sparks, Nevada 89431
702 (359-9330)

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A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

Geochemical Lab Report

DATE PRINTED: 23-AUG-91

REPORT: R91-11696.4 (COMPLETE)

PROJECT: ROSEBUD

SAMPLE NUMBER	ELEMENT UNITS	Au OPT	Au DUP OPT	AG DUP OPT	Ag OPT	AU Dup OPT
RL203C 688 693		<0.002	0.002	0.07	0.06	
Duplicate		0.002			0.07	
RL203C 786.7 792.5		0.0124	0.005		0.30	
Duplicate		0.005				
RL203C 820 825		0.003		0.06	0.05	
Prep Duplicate		<0.002			0.06	
RL203C 829 832.2		0.003	0.002		0.10	
Duplicate		0.002				
RL203C 841 845		<0.002		0.04	<0.02	
Duplicate					0.04	
RL203C 850 855		<0.002		<0.02	<0.02	
Prep Duplicate		0.007			<0.02	

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625 Spice Island Dr.
Building 1, Unit A
Sparks, Nevada 89431
702 (359-9330)

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Geochemical Lab Report

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

DATE PRINTED: 20-SEP-91

REPORT: R91-11667.4 (COMPLETE)

PROJECT: ROSEBUD

SAMPLE NUMBER	ELEMENT UNITS	Au OPT	Au DUP OPT	AG DUP OPT	Ag OPT
D2 RL203C 355 360		0.002			0.05
D2 RL203C 360 363		0.004			0.09
D2 RL203C 363 368		0.008			0.09
D2 RL203C 368 373		0.012			0.07
D2 RL203C 373 378		0.006			0.07
D2 RL203C 378 383		0.006			0.09
D2 RL203C 383 388		<0.002			0.07
D2 RL203C 388 393		0.005	0.004		0.08
D2 RL203C 393 398		0.002			0.05
D2 RL203C 398 403		<0.002			0.09
D2 RL203C 403 408		0.003			0.07
D2 RL203C 408 413		0.009			0.09
D2 RL203C 413 418		<0.002			0.05
D2 RL203C 418 423		<0.002	0.005	0.11	0.10
D2 RL203C 423 428		<0.002			0.08
RL203C 428 433		0.002			0.05
D2 RL203C 433 438		0.007			0.03
D2 RL203C 438 443		0.007	0.003		0.07
D2 RL203C 443 448		0.005			0.06
D2 RL203C 448 453		0.005			0.05
P4 BA 9		0.032			0.07
D2 RL203C 453 458		0.008			0.09
D2 RL203C 458 463		0.009			0.07
D2 RL203C 463 468		<0.002			0.04
D2 RL203C 468 473		<0.002			<0.02
D2 RL203C 473 478		<0.002		<0.02	<0.02
D2 RL203C 478 483		<0.002			0.04
D2 RL203C 483 488		0.002			0.07
D2 RL203C 488 493		0.433			0.61
D2 RL203C 493 498		0.006	0.003		0.11
D2 RL203C 498 503		0.019			0.10
D2 RL203C 503 508		0.014			0.10
D2 RL203C 508 513		<0.002			0.02
D2 RL203C 513 518		0.003			0.03
D2 RL203C 518 523		0.010			0.13
D2 RL203C 523 528		0.004			0.06
RL203C 528 533		0.002			<0.02
D2 RL203C 533 538		<0.002			<0.02
D2 RL203C 538 543		<0.002			<0.02
D2 RL203C 543 548		<0.002			<0.02
D2 RL203C 548 553		<0.002			<0.02
P4 BA 10		0.036			0.27
D2 RL203C 553 558		0.010			<0.02
D2 RL203C 558 563		0.034		0.27	0.20
D2 RL203C 563 568		0.029			0.13
D2 RL203C 568 573		<0.002			0.05
D2 RL203C 573 578		0.012			0.12
D2 RL203C 578 583		0.011			0.13
D2 RL203C 583 588		0.006			0.10
D2 RL203C 588 593		<0.002			0.07
D2 RL203C 593 598		0.008	0.009		0.13
D2 RL203C 598 603		0.025			0.11
D2 RL203C 603 608		0.018	0.015	0.15	0.15
D2 RL203C 608 613		<0.002			0.03
D2 RL203C 613 618		<0.002			0.04
D2 RL203C 618 623		<0.002			0.03
D2 RL203C 623 628		0.017			0.09
D2 RL203C 628 633		0.023			0.10
D2 RL203C 633 638		0.117			0.16
D2 RL203C 638 643		4.103			2.62
D2 RL203C 643 648		0.833	0.887		2.34
D2 RL203C 648 653		0.010		0.05	0.05
P4 BA 11		0.036			0.19

Bondar-Clegg, Inc.
625 Spice Island Dr.
Building 1, Unit A
Sparks, Nevada 89431
702 (359-9330)

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Geochemical Lab Report

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

DATE PRINTED: 16-SEP-91

REPORT: R91-11714.4 (COMPLETE)

PROJECT: ROSEBUD

SAMPLE NUMBER	ELEMENT UNITS	Au OPT	Au DUP OPT	AG DUP OPT	Ag OPT
Z2 RL203C 70 75		<0.002			0.11
Z2 RL203C 75 80		<0.002			0.08
Z2 RL203C 80 85		<0.002			0.04
Z2 RL203C 85 90		<0.002	<0.002	<0.02	0.03
Z2 RL203C 90 95		<0.002	<0.002	<0.02	<0.02
Z2 RL203C 95 100		0.008			<0.02
Z2 RL203C 100 105		<0.002			<0.02
Z2 RL203C 105 110		<0.002			<0.02
Z2 RL203C 110 115		<0.002			0.04
Z2 RL203C 115 120		<0.002			<0.02
Z2 RL203C 120 125		<0.002			0.03
Z2 RL203C 125 130		<0.002			<0.02
Z2 RL203C 130 135		<0.002			<0.02
Z2 RL203C 135 140		<0.002			<0.02
Z2 RL203C 140 145		<0.002	<0.002		0.03
RL203C 145 150		<0.002			0.04
Z2 RL203C 150 155		<0.002			0.03
Z2 RL203C 155 160		<0.002			0.03
Z2 RL203C 160 165		<0.002			0.03
Z2 RL203C 165 170		<0.002			0.03
P4 BA 139		<0.002			<0.02
Z2 RL203C 170 175		<0.002			<0.02
Z2 RL203C 175 180		<0.002		0.05	0.03
Z2 RL203C 180 185		<0.002			0.08
Z2 RL203C 185 190		0.002			0.09
Z2 RL203C 190 195		<0.002			0.04
Z2 RL203C 195 200		0.002	0.003		0.05
Z2 RL203C 200 205		<0.002			0.05

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625 Spice Island Dr.
Building 1, Unit A
Sparks, Nevada 89431
702 (359-9330)

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Geochemical Lab Report

DATE PRINTED: 23-AUG-91

REPORT: R91-11696.4 (COMPLETE)

PROJECT: ROSEBUD

SAMPLE NUMBER	ELEMENT UNITS	Au OPT	Au DUP OPT	AG DUP OPT	Ag OPT	AU Dup OPT
D2 RL203C 653 658		<0.002			0.05	
D2 RL203C 658 663		<0.002			0.10	
D2 RL203C 668 673		<0.002			0.21	
D2 RL203C 673 678		0.014			0.08	
D2 RL203C 678 683		0.018			0.09	
D2 RL203C 683 688		<0.002			<0.02	
D2 RL203C 688 693		<0.002	0.002	0.07	0.06	
D2 RL203C 693 698		0.029			0.09	
D2 RL203C 698 703		0.008			0.03	
D2 RL203C 703 708		0.016			0.09	
D2 RL203C 708 713		0.003			0.06	
D2 RL203C 713 718		0.007			0.10	
D2 RL203C 718 723		0.009			0.09	
D2 RL203C 723 728		0.038			0.11	S
D2 RL203C 728 733		0.074			0.23	S
D2 RL203C 733 738		0.063			0.38	S
D2 RL203C 738 743		0.022#	0.009		0.04	0.007 S
D2 RL203C 743 748		0.132			0.09	S
D2 RL203C 748 753		0.168			0.38	S
D2 RL203C 753 758		0.032			0.13	S
~~P4 BA 118~~		~~<0.002~~			~~<0.02~~	
D2 RL203C 758 763		0.048			0.16	S
D2 RL203C 763 768		0.046			0.23	S
D2 RL203C 768 773		0.075			0.13	S
D2 RL203C 768 773 DUPL		0.599	0.574		0.82	0.534 S
D2 RL203C 773 778		<0.002	0.003		0.03	S
D2 RL203C 778 783		0.365			0.69	S
D2 RL203C 783 787.6		0.202			0.41	4.6
D2 RL203C 786.7 792.5		0.012#	0.005		0.30	5.8
D2 RL203C 792.5 796.9		<0.002			0.11	
D2 RL203C 796.9 801.3		0.002			0.03	
D2 RL203C 801.3 805		0.017			0.03	
D2 RL203C 805 808.7		0.005			0.10	
D2 RL203C 808.7 810		0.002			<0.02	
D2 RL203C 810 815		0.006			0.18	
D2 RL203C 815 820		0.004#	<0.002		0.12	
D2 RL203C 820 825		0.003		0.06	0.05	
D2 RL203C 825 829		0.002			0.06	
D2 RL203C 829 832.2		0.003	0.002		0.10	
D2 RL203C 832 837.5		<0.002			0.08	

75.4'

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625 Spice Island Dr.
Building 1, Unit A
Sparks, Nevada 89431
702 (359-9330)

BONDAR-CLEGG

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

Geochemical Lab Report

DATE PRINTED: 23-AUG-91

REPORT: R91-11696.4 (COMPLETE)

PROJECT: ROSEBUD

SAMPLE NUMBER	ELEMENT UNITS	Au OPT	Au DUP OPT	AG DUP OPT	Ag OPT	AU Dup OPT
D2 RL203C 837.5 841		<0.002			0.03	
P4 BA 119		0.034			0.19	
D2 RL203C 841 845		<0.002		0.04	<0.02	
D2 RL203C 845 850		<0.002#	0.007		<0.02	
D2 RL203C 850 855		<0.002		<0.02	<0.02	
D2 RL203C 855 860		<0.002			<0.02	

Bondar-Clegg, Inc.
625 Spice Island Dr.
Building 1, Unit A
Sparks, Nevada 89431
702 (359-9330)

BONDAR-CLEGG

Geochemical Lab Report

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

DATE PRINTED: 16-SEP-91

REPORT: R91-11714.4 (COMPLETE)

PROJECT: ROSEBUD

SAMPLE NUMBER	ELEMENT UNITS	Au OPT	Au DUP OPT	AG DUP OPT	Ag OPT
RL203C 85 90		<0.002	<0.002	<0.02	0.03
Prep Duplicate		<0.002			<0.02
RL203C 90 95		<0.002	<0.002	<0.02	<0.02
Duplicate		<0.002			<0.02
RL203C 140 145		<0.002	<0.002		0.03
Duplicate		<0.002			
RL203C 175 180		<0.002		0.05	0.03
Duplicate					0.05
RL203C 195 200		0.002	0.003		0.05
Duplicate		0.003			

Chemex Labs Inc.

Analytical Chemists * Geochemists * Registered Assayers
994 West Glendale Ave., Suite 7, Sparks,
Nevada, U.S.A. 89431
PHONE: 702-356-5395

To: LAC MINERALS U.S.A. INC

1395 GREG ST., STE 107
SPARKS, NEVADA
89431

Project : ROSEBUD
Comments:

Certificate Date: 29-SEP-91
Invoice No. : I9122189
P.O. Number :

CERTIFICATE OF ANALYSIS A9122189

SAMPLE DESCRIPTION	PREP CODE		Au oz/T
RL203C 703-708	208	294	0.014
RL203C 753-758	208	294	0.041
RL203C796.9801.3	208	294	0.004
RL203C 837.5-841	208	294	0.001
RL209C 388-393	208	294	0.048
RL209C 439.5-444	208	294	0.014
RL209C 486-491	208	294	0.033
RL209C 536-541	208	294	0.003
RL209582.5-587.5	208	294	0.001
RL216 445-450	208	294	0.004
RL216 495-500	208	294	0.003
RL216 545-550	208	294	0.003
RL216 595-600	208	294	0.001
RL217 045-050	208	294	< 0.001
RL217 095-100	208	294	< 0.001
RL217 145-150	208	294	< 0.001
RL217 195-200	208	294	< 0.001
RL217 200-205	208	294	< 0.001
RL217 245-250	208	294	< 0.001
RL217 295-300	208	294	< 0.001
RL217 345-350	208	294	< 0.001
RL217 450-455	208	294	< 0.001
RL217 500-505	208	294	< 0.001
RL217 550-555	208	294	< 0.001
RL217 650-655	208	294	0.029
RL217 750-755	208	294	0.015
RL229 410-415	208	294	< 0.001
RL229 460-465	208	294	< 0.001
RL229 510-515	208	294	0.001
RL229 560-565	208	294	< 0.001
RL229 610-615	208	294	< 0.001
RL229 615-620	208	294	< 0.001
RL230 045-050	208	294	0.009
RL230 095-100	208	294	0.001
RL230 195-200	208	294	< 0.001
RL230 245-250	208	294	< 0.001
RL230 345-350	208	294	< 0.001
RL230 395-400	208	294	< 0.001
RL230 445-450	208	294	< 0.001
RL230 495-500	208	294	< 0.001

CERTIFICATION: _____

Chemex Labs Inc.

Analytical Chemists * Geochemists * Registered Assayers
994 West Glendale Ave., Suite 7, Sparks,
Nevada, U.S.A. 89431
PHONE: 702-356-5395

To: LAC MINERALS U.S.A. INC

1395 GREG ST., STE 107
SPARKS, NEVADA
89431

Project : ROSEBUD
Comments: ATTN: TIM KUHL

Page Number :1
Total Pages :1
Certificate Date: 30-AUG-91
Invoice No. : I9120387
P.O. Number :

CERTIFICATE OF ANALYSIS A9120387

SAMPLE DESCRIPTION	PREP CODE		Au oz/T	
AL 434 045-050	208	294	< 0.001	224 ? HO
AL 434 095-100	208	294	0.020	
AL 434 145-150	208	294	0.028	
AL 434 195-200	208	294	0.003	
AL 434 245-250	208	294	0.003	
AL 434 295-300	208	294	0.019	
AL 450 145-150	208	294	0.007	
AL 450 195-200	208	294	0.011	
AL 450 295-300	208	294	0.002	
RL 190 045-050	208	294	0.007	
RL 190 095-100	208	294	0.002	Eg
RL 190 145-150	208	294	0.005	
RL 190 195-200	208	294	0.009	
RL 190 245-250	208	294	0.002	
RL 190 295-300	208	294	0.012	
RL 190 345-350	208	294	0.005	Eg
RL 203C 115-120	208	294	0.001	
RL 203C 165-170	208	294	0.002	
RL 205C 075-080	208	294	0.001	
RL 205C 125-130	208	294	< 0.001	
RL 205C 175-180	208	294	0.003	Eg
RL 205C 225-230	208	294	0.007	
RL 205C 275-280	208	294	0.064	
RL 205C 325-330	208	294	0.008	
RL 205C 375-380	208	294	0.043	
RL 214 095-100	208	294	< 0.001	Eg
RL 214 195-200	208	294	0.007	
RL 214 295-300	208	294	0.002	
RL 214 395-400	208	294	< 0.001	
RL 214 445-450	208	294	0.004	
RL 214 495-500	208	294	0.003	LAC
RL 214 545-550	208	294	0.001	
RL 214 595-600	208	294	< 0.001	
RL 221 750-755	208	294	0.086	
RL 221 800-805	208	294	0.005	
RL 221 850-855	208	294	0.003	
RL 221 900-905	208	294	0.003	

CERTIFICATION: Sandra M Adam