60001621

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-242C
AUTHOR	K. Kepner; K. Gammon; R. Dorato; T. Kuhl
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
COMMODITY If not obvious	gold silver
NOTES	Drill log; geology; assay; total depth 698' handwritten notes ~~21~~ p. 23

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

SS: DD 6/2/08
Initials Date
DB: mah
Initials Date
SCANNED: NV Blue
Initials Date

Revised: 1/22/08

DRILL LOGS RL-242
Rosebud

6000 1621 4010

60001621

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

DRILL LOG SUMMARY SHEET

PROJECT ROSEBUD

HOLE NUMBER RL-242C TOTAL DEPTH 698' LOGGED BY KLK

Date started 9-5-91

Date completed 9-6-91

Initial bearing

Initial inclination vertical

Elevation

Collar coordinates:

N

E

Contractor: COATES

Drill Type: Universal

Hole Size: HQ

Drilling Conditions:

Footage: Wet / Dry

Comments:

RC to 250'

DOWN HOLE SURVEY INFORMATION

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

HOLE # RL-242C LOGGED BY KLK DATE 10-91 PAGE 1 OF 7

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
								CORE BEGAN @ 250'						
250		25 / 50 CaCO3 ± py	50° VN	W-M HEMATITE	CT	W bl	Lt green	0-538.5 CHOCOLATE FINE GR. TUFF porphyritic	NO SAMPLE					
						Fresh	red gray brown	250-504 CT Relatively fresh to unaltered - reddish gray brown FGT w/ locally weakly bleached zones as halos around stockwork veining. Pervasively crackle fractured w/ hemitite + calcite fill w/ weak local assoc. clays (white to lt grn) Local stockwork vein brecciation w/ lt grn. bleached clasts w/ in hemititic matrix w/ local calcite Locally CT is xtal rich 1-2% → 1-2mm plagioclase is replaced by chlorite, hemitite or clay, locally weak biotite phenos. Locally v. fine hairline stockwork CaCO3 Calcite veining is weak throughout w/ ≤ 1 vn/ft locally w/ assoc. py.						
260			0° VN		(AC A)	W-M bl	Lt grn	260-260.5 str. hemititic clay gouge						
270								283-289 sulfides into system @ vns + buckshot py pervasively bleached						
280				2% disst VN py				vein brecciation appears to be subparallel or 45°-60° to CA						
			50° VN					262.7 - 322 pervasive weak bleaching						
290			0-5° VN	1-2% disst VN + buck shot py										
300			60° VN											
310			45° VN											

HOLE # RL-242C LOGGED BY KLK DATE 10-91 PAGE 2 OF 7

DEPTH (ft)	RECOVERY	Structure: Bd. Fol.	Structure: Faults	MINERALIZATION	GRAPHIC LOG	ALTER.	COLOR
		15 / 50 clay calcite sulf vns		2% class + vn py + marcasite	CT	W-M bl	LT GRN
320				NIL m Hemi tite		FRESH	Red Gray Brn
330		±15°	50°-60° ∆ vns	tr py		w bl	LT GRN
340		+ ±50° calcite vns		NIL MOD HEMI TITE		FRESH	RED GRAY BRN
350							
			∆ 53° vs				
360							
			∆ 45° vs				
370							
380							

DESCRIPTION

250 - 538.5 CT

262.7 - 322 pervasive bl w/ weak Kaolinite ± $CaCO_3$ + py ± marcasite vns ≤1-2 vns/ft. 15-50° to CA.

322-335.3 relatively fresh CT hemitite

335.3 - 331 weakly bleached w/ prominent stockwork breccia veining - bleached subrounded to angular clasts of CT w/in hemititic matrix oriented 50°-60° to CA overall.

331-409 Relatively fresh CT - FGT red brown gray w/ pervasive hemititic alteration weak local hemititic matrix - vein brecciation predominantly averaging btw 45-60° to CA weak calcite veining w/ hemitite lining veins.

ASSAYS

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

HOLE # RL-242C LOGGED BY KLK DATE 10-91 PAGE 3 OF 7

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
390		±15° + ±50° CaCO3 vns		NIL MOD HEMITITE		FRESH	RED GRAY BWN	250-538.5 CT 331-409 relatively unaltered CT @ described above	NO SAMPLE					
400														
410				±1% diss + VN py	55°	Wbl tr	Lt grn	409-463 CT-FGT weakly pervasively bleached - lt sage green color w/ weak to moderate lt+Dy hemitite lined fracture vns. Weakly veined throughout w/ predominantly kaolinite ± $CaCO_3$ + local pyrite averaging ~1-2 vns/ft.	413-418				<	<
420		10-15° + ±50° Clay ± CaCO3 ± sulf vns							418-423				≤/<	≤/<
									423-428				<	<
430									428-433					
									433-438					
440									438-443					
									443-448					
450														

HOLE # RL-242C LOGGED BY ____ DATE ____ PAGE 4 OF 7

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
		10-15° + ≤50° clay sulf ± calcos vns		2% diss tvn py + chal copy		W bl w	Lt grn	250 - 538.5 CT 538.5 - 600.8 TMB SRF : 520 - 545.5	448-453				<	<
									453-458					
460								451-459 clay veins have assoc. chalcopyrite + pyrite and veining increases to ~ 1-3/ft. 459-460' broken rubble	458-463					
		30-40° calcos vns		tr py		tr bl	lilac gray hint Lt gray		463-468					
470				≤1% vn py		W bl	Lt grn	463-469.3 gray lilac + hemitite CT - FGT w/ weak mottling of bleaching weak calcite veining ~ 1vn/ft	468-473				<<<	
				tr py		FRESH w/ tr bl	rcd gray brn		NO SAMPLE					
480								469.3 - 474.2 weakly bleached lr sage green weak calcite veining w/ assoc pyrite ± clay ~ 1vn/ft w/ tr. hemitite						
		50-60° calcos vns		1-2% diss + vn py ± marcasite		W bl	Lt grn	474.2 - 483 relatively red gray brn fresh w/ hint of bleaching						
490				tr py		FRESH	Rd gray brn	483-489 weakly bleached w/ fw tight clay + pyrite + hemitite ± marcasite vns tr. calcite veining 489 - 497 relatively fresh red gray brown CT - w/ hemitite fractures + very weak intermittent bleaching						
500		15° 55° qtz clay sulf vns		3% diss + vn py + vn marcasite + local chalco py		M bl M-S ≈ Local XX	Lt gry + flesh	497 - 520 altered CT - FGT mod to m-s argillized & bleached locally tectonically brecciated from 504' - 515 515 - 516 hydrothermal breccia - m-s silic. f. w/ fairly well rounded clasts ~ 2-3 stages of brecciation overall moderate veining composed of Kaolinite + green duck butter Kaolin (alt) + local qtz + py + marcasite + chalcopy locally ranging from 2 to 15 vns/ft Also riddle w/ fine qtz stkwk prob. 2-3 stgs of veining - local chalcedonic veining	498-503				<	<
									503-508				<	<
510			55°						508-513				<	.03
									513-516.5				.016	.20
520									516.5-520				.008	.16

HOLE # RL-242C LOGGED BY KLK DATE 10-91 PAGE 5 OF 7

DEPTH (ft)	RECOVERY	Structure: Bd. Fol.	Structure: Faults	MINERALIZATION	GRAPHIC LOG	ALTER.	COLOR	DESCRIPTION	Sample No.	% Cu	% Pb	% Zn	oz/t Au	oz/t Ag
530		0-15° + ±60° clay vns + 0-90° qtz sulf stkwk; 20°; clay barite sulf vns; 0-90° stkwk; 0°	50°; 38°; 40°; 35°; 65°; 35°; 50°; 20° vn	5% diss tvn py + marc; 2% @; 3-7% diss tvn py + marc; 2% @; 5-6% diss tvn py + marcasite + blk Ag sulf. + chalco py		M bl SXXX; sbl XX; M-S bl m celad; M-S bl SXXX w celad; M bl poss w X	GRY + flesh; GRN+; BRIT GRN; BUFF + GRN + GRY; Ltgrn+ buff; BUFF to lt hint grn	SRF: 520-545.5 INFLUENCE TMB: 538.5-600.8 520-523.5 pervasively gray well silicified; Brecciated fault scab riddled w/ fine qtz-py stkwk, weak clay vns ≤ 1mm 2" gouge @ 522' 523.5-527.2 reflects a shear zone which was then somewhat silicified; shot thru w/ stockwork veining; celadon. alt. 524-527.2 broken rubble 527.2-539.8 Hydrothermal Breccia matrix supported 3-4 stages of Δ clasts are rounded to sub angular → bl white to green to flesh to gray matrix is SiO2 rich celadonite green to gray sulfide rich to opq white strong perv. silicif. very weak ≤ 1/ft Kaolinite barite marcasite py qtz vns 538.5-600.8 TUFF MARKER BED poss. contact @ 65-70° to CA. 538.5-541.5 contact denoted by ~1" sulfide rich dark gray clay vn. poss. 65-70° to CA. hydrothermally influenced by SR Fault pervasively brecciated riddled w/ stockwork veining - qtz + py + marca. ± clay poss. up to 3-4 pulses of veining → + green duck butter clay which has been silicif 2-3 stgs Δ. 541.5-579 TMB - plagioclase phenos are pervasively altered to pyrite or white clay, poss wk perv. silicif. intensely riddled w/ fine qtz stockwork ± py. mod strong veining w/ qtz + Kaolinite + minor chalco py ±CaCO3 + py + marca + poss Ag sulfide. local calcareous drusy open spaceddy white Kaolinite + local barite appears to be fairly densely welded w/ brittle nature. 564-579 strong vein brecciation w/ vuggy druzy qtz matrix w/ predom marcasite + Kaolinite fill + dha no predom orientation to CA. overall veining averages ~ > 50/ft. total stages of veining ~ ±4 stgs 1) fine qtz stkwk, 2) vein Δ 2) coarse druzy qtz clay barite py marca chalco vns 4) stkwk qtz clay sulf	S20-523				.006	.17
									S23-526				.008	.06
									526-531				.012	.03/.05
									531-536				.017	2.23
									536-541				.015	.13
540									541-545.5				.010/.010	.12
									545.5-550				.016	<
550									550-555				.025/.020	.26/.28
									555-560				.028	.06
560									560-565				.047	.14
									565-570				.038	.14
570									570-575				.011	.04
									575-580				.011	.03
580		10°; 65°; stkwk qtz clay sulf.	Δ vn 20°; Δ vn 30°	3-4% diss tvn py + chalco + marcasite		M bl poss w X			580-585				.009	.05
590									585-590				.003	.03

HOLE # RL-242C LOGGED BY KLK DATE 10-91 PAGE 6 OF 7

DEPTH (ft)	RECOVERY	Structure: Bd. Fol.	Structure: Faults	MINERALIZATION	GRAPHIC LOG	ALTER.	COLOR	DESCRIPTION
600		10° 60° qtz clay sulf vns; 10° + 50° qtz calcite sulf vns; 0 90° qtz clay sulf vns	70°	3-4% disst vn py + marcasite + chalco py	DT.	M bl poss w x	Lt grn Buff	TMB: 538.5 - 600.8 DT: 600.8 - 698 579. - 600.8 decrease in overall stockwork veining which now appears to be predominantly subparallel to CA. ~3-4 stages of veining 1) fine qtz stkwk 2) calcite + chalcopy ± py 3) druzy qtz kaolinite marcasite py 4) hydrothermal in Δ. veining averages ~ 17 - 28 vns/ft
610		0 90° qtz clay sulf vns	70°			M bl w x	Buff + Flesh	600.8 - 698 Dozer Tuff Fine grained densely welded tuff weakly perv. bleached. Intermittently tectonically brecciated. Weakly altered throughout, poss weak pervasive smectite alteration. 600.8 - 610.3 buff + flesh coloration tectonically brecciated, poss wk silicification. moderately veined 2 stages 1) fine hairline qtz stkwk ± py 2) druzy qtz calcite + py + marcasite + chalcopy vns ~ 6-8 vns/ft clasts are bll, matrix is peach org burn color.
620		0 40° PLUS		2-3% disst + vn py + marcasite + chalcopy		M bl w x w	Lt sage grn	FAULT FAULT ? 610.3 - 615.5 moderately strong hydrothermal vein brecciation w/ druzy qtz veining w/ barite + kaolinite + py + marcasite + chalcopy fill. Poss secondary hydroth Δ. well silicified. with depth silicif. decreases argillization increases w/ more vein like characteristics. ~ 3 stages of vning vns > 50/ft.
630		70 90° qtz CaCO3 clay sulf vns	Δ 40° vn			W-M bl w		615.5 - 635 buff to ltgrn decreases locally in overall alt. weak peach fractures 1) weak fine ± 1mm veins w/ qtz + kaolin + py + marca + chalcop. fill ~ 3-7 vns/ft 2) fine hairline qtz py stkwk uncountable
640								653 - 656.5 vns up to 10mm w/ qtz barite + pods of kaolin + sericite + py + chalcopy + marcasite 635 - 656.5 w-m veining w/ druzy qtz kaolinite + py + barite + chalcopy fill predom sub parallel to CA. ↳ + marcasite ~ 1-3 vns/ft ? riddled w/ fine hairline qtz stkwk ± py. uncountable
650			±10° Δ vn			W-M bl mx		
660								

ASSAYS: Sample No.	% Cu	% Pb	% Zn	oz/t Au	oz/t Ag
590-595				</<	<
595-600				.021 / .014 #	.03
600-605				.015	.06
605-610.3				.016	.06
610.3-615.3				.036	.06
615.3-620				.009	<./<
620-625				.016	<
625-630				.002	<
630-635				<	<
635-640				<	.03
640-645				.014	.04
645-650				.021 / .016 / .018	<./.03
650-653				.003	.03
653-656.5				.116 / .132# / .101	.06
656.5-659.2				.012	.12

HOLE # RL-242C LOGGED BY KLK DATE 10-91 PAGE 7 OF 7

DEPTH (ft)	RECOVERY	Structure: Bd. Fol.	Structure: Faults	MINERALIZATION	GRAPHIC LOG	ALTER.	COLOR
		0°		2-3% ⊙ ↑		w-m bl mx	H sage grn
				1-2% diss tvn py + marcasite + chalco py			
670		70° qtz clay sulf vns plus 80°-90°					
680							
690							
698							

DESCRIPTION

DT 600.8 – 698

656.5 – 659.2 prominent vein brecciation - hydrothermal w/ some silicification into wall rock. which is predom. subparelle to CA. 2+ stages of Δ w/ SiO_2 + sulf. rich matrix local w/ vuggy open spaces filled w/ barite + marcasite + py ± kaolinite clasts are rounded to sub angular Δm up to 1" wide

659.2 – 698 weakly bleached poss wk argillic alt. Weak veining averaging ~ 1mm w/ SiO_2 + py + kaolin + marcasite + local chalcopy fill predom subparelle to CA ; averaging 3-5 vn/ft. also riddled w/ very fine hairline qtz stkwk. - uncountable

662.9 – 663 qtz py chalcopy vein semi-massive sulf.

677.8 – 677.9 85° to CA. qtz-py-chalco semi massive sulf. vein

683.8 vn may have some Ag sulfide mix.

TD. 698'

ASSAYS

Sample No.	% Cu	% Pb	% Zn	oz/t Au	oz/t Ag
659.2-664				<<<	.03 / <
664-669				.005	<
669-674				<	<
674-679				.012	<
679-684				.002	<
684-689				.024	<
689-694				.002 / .002	<
694-698				<	<

GEOTECHNICAL LOG

PROJECT: ROSEBUD LOCATION: Dozer LOGGED BY: SAS

HOLE NO.: RL-242C DIP: Vertical CORE SIZE: HQ DATE: 9-7-91

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
250	260	10.0	9.4	6.75	20	94	68	2.1	35-65°	VN/TH, FD/CLY, CAL/PL, R
260	270	10.0	10.1	6.5		101	65	2.4		Note: clay gouge at 260'
					19				40-75°	VN/TH, FD/CLY, CAL/W-R
					5				0-35°	VN/TH, FD/CLY, CAL/W-R
270	273	3.0	2.95	2.3	7	98	77	2.4	40-50°	VN/TH, FD/CLY, CAL/PL, W
273	283	10.0	9.8	8.65	14	98	87	1.7	35-75°	VN/TH, FD/CLY, CAL/PL-R
					3				15-30°	VN/TH, FD/CLY, CAL/W-R
283	293	10.0	9.95	7.9	17	100	79	1.9	50-80°	VN/TH, FD/CLY, CAL/W-R
					2				0-20°	VN/TH, FD/CLY, CAL/W-R
293	303	10.0	9.8	8.4	20	98	84	2.3	40-80°	VN/TH, FD/CLY/PL, -R
					3				0-40°	VN/TH, FD/CLY, ±PY/R
303	313	10.0	9.65	7.8	13	97	78	1.7	55-75°	VN/TH, FD/CLY/W-R
					3				5-25°	VN/TH, FD/CLY/W-R
313	323	10.0	9.8	8.3	13	98	83	1.7	35-75°	VN/TH, FD/CLY/PL, W
					4				0-30°	VN/TH, FD/CLY/W-R
323	333	10.0	9.6	8.0	10	96	80	1.4	45-80°	VN/TH, FD/CLY, ±CAL/W-R
					3				0-25°	VN/TH, FD/CLY, ±CAL/W-R
333	343	10.0	9.6	8.3	14	96	83	1.5	45-65°	VN/TH, FD/CLY, ±CAL
343	353	10.0	9.85	9.85	6	99	99	0.6	30-75°	VN/TH, FD/CLY, ±CAL/PL, W
353	363	10.0	10.3	10.3	3	103	103	0.3	45-75°	VN/TH, FD/CLY, ±CAL/PL-R
363	373	10.0	9.7	9.3	8	97	93	0.8	45-75°	VN/TH, FD/CLY, CAL/PL, W
373	383	10.0	10.05	10.05	1	101	101	0.1	35°	VN/TH, FD/CAL, CLY/PL, W
383	393	10.0	9.85	9.85	6	99	99	0.6	35-70°	VN/TH, FD/CLY, CAL/PL-R
393	403	10.0	10.0	10.0	4	100	100	0.4	40-55°	VN/TH, FD/CLY, CAL/PL-R
403	413	10.0	9.65	9.05	11	97	91	1.1	25-65°	VN/TH, FD/CLY, CAL/PL, W
413	423	10.0	9.65	6.8	14	97	68	1.8	45-65°	VN/TH, FD/CLY, ±CAL/W-R
					3				0-30°	VN/TH, FD/CLY, ±CAL/W-R
423	433	10.0	9.7	9.0	8	97	90	1.3	40-55°	VN/TH, FD/CLY, ±CAL/PL, W
					5				15-30°	VN/TH, FD/CLY/PL, W
433	443	10.0	9.9	9.15	9	99	92	1.1	40-75°	VN/TH, FD/CLY/PL, W-R
					2				0-15°	VN/TH, FD/CLY/R

GEOTECHNICAL LOG

PROJECT: ROSEBUD LOCATION: Dozer LOGGED BY: SAS

HOLE NO.: RL-242C DIP: Vertical CORE SIZE: HQ DATE: 9-7-91

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
443	453	10.0	9.5	5.6	11	95	56	1.9	35-70°	VN/TH, FD/CLY, ±CAL/R
					7				0-30°	VN/TH, FD/CLY, ±CAL/R
453	463	10.0	9.75	8.0	12	98	80	1.5	30-90°	VN/TH, FD/CLY, ±CAL/W-R
					3				0-25°	VN/TH-OP, FD/CLY, CAL/R
463	473	10.0	10.05	9.85	10	101	99	1.0	40-80°	VN/TH-OP, FD/CLY, CAL/W-R
473	483	10.0	9.85	9.15	13	99	92	1.5	40-75°	VN/TH, FD/CLY, CAL/W-R
					2				10°	VN/TH, FD/CLY, CAL/PL, W
483	493	10.0	10.05	9.55	8	101	96	1.2	65-90°	VN/TH, FD/CLY, CAL/PL, W-R
					4				0-30°	VN/TH, FD/CLY, CAL/PL, W
493	503	10.0	9.95	8.5	10	100	85	1.0	35-80°	VN/TH, FD/CLY, ±CAL/R
503	513	10.0	9.65	9.1	13	97	91	1.5	40-75°	VN/TH, FD/CLY/R
					1				15°	VN/TH, FD/CLY/W-R
513	523	10.0	9.8	6.7	21	98	67	2.3	45-50°	VN/TH-OP, FD/CLY, ±PY/W-R
					2				15-30°	VN/TH-OP, FD/CLY/R
523	526	3.0	1.9	0.0	11	63	0	5.8	40-75°	VN/TH, FD/CLY, ±QTZ/W-R
526	534.5	8.5	7.6	6.0	10	89	71	1.4	40-65°	VN/TH, FD/CLY, ±QTZ/W-R
										Note: Small rubble zones at 525' and 527'
					1				0-25°	VN, VG/TH-OP, FD/CLY, QTZ/R
534.5	541	6.5	6.5	6.5	1	100	100	0.3	75°	VN/TH, FD/CLY/R
					1				0-10°	VN, ±VG/TH, FD/CLY, QTZ
										Note: 541', Contact w/TMB
541	544.5	3.5	3.5	2.9	7	100	83	2.0	30-60°	VN/TH-OP, FD/CLY
544.5	555	10.5	10.05	9.5	9	96	90	1.1	40-75°	VN/TH, FD/CLY, QTZ, ±CAL/PL-R
					2				0-5°	VN/TH-OP, FD/CLY, QTZ/R
555	565	10.0	10.0	10.0	6	100	100	0.8	40-80°	VN/TH-OP, FD/CLY, ±QTZ, CAL/PL-W
					2				0-20°	VN/TH-OP, FD/CLY, ±QTZ, CAL/PL-W
565	575.5	10.5	10.0	9.6	8	95	91	0.8	25-65°	VN, ±VG/TH-OP, FD/CLY, ±QTZ, CAL/R
575.5	585.5	10.0	9.85	9.55	7	99	96	0.7	35-75°	VN/TH, FD/CLY, ±QTZ, ±CAL/PL-W
585.5	595.5	10.0	10.05	9.65	8	101	97	1.0	30-65°	VN/TH, FD/CLY/W-R
					2				5-25°	VN/TH, FD/CLY/W-R
595.5	600.8	5.3	5.55	4.8	8	105	91	2.5	30-90°	VN/TH, FD/CLY, ±CAL/W-R
					6				0-25°	VN/TH, FD/CLY, ±CAL/PL, W
										Note: 600.8', Contact w/Dozer

GEOTECHNICAL LOG

PROJECT: ROSEBUD LOCATION: Dozer LOGGED BY: SAS

HOLE NO.: RL-242C DIP: Vertical CORE SIZE: HQ DATE: 9-8-91

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
600.8	605.5	4.8	4.6	4.6	1	96	96	0.2	75°	VN/TH, FD / CLY / R
605.5	615.5	10.0	10.05	9.25	3	101	93	0.6	55-65°	VN/TH, FD/ CLY, QTZ / PL-R
					3				0-65°	VN, VG / TH-OP, FD / QTZ, CLY / R
615.5	626	10.5	9.9	9.9	4	94	94	0.4	85-60°	VN/TH, FD/ CLY, QTZ / R
626	636	10.0	10.0	10.0	0	100	100	0.0	—	—
636	646	10.0	10.15	9.25	5	102	93	0.5	25-40°	VN/TH, FD/QTZ, ± MAR/R
646	656.5	10.5	9.35	9.35	2	89	89	0.2	20°	VN/VG/TH-OP, FD/QTZ, ± MAR/R
656.5	666	10.5	10.0	10.0	3	95	95	0.5	0-30°	VN/VG/TH-OP, FD/QTZ, BAR/R
					2				45-55°	VN/TH, FD/QTZ, PY/R
666	668	2.0	2.1	2.1	0	105	105	0.0	—	—
668	678	10.0	10.0	10.0	1	100	100	0.1	20°	VN/TH, FD/QTZ, ± PY / R
678	688	10.0	10.0	10.0	1	100	100	0.1	35°	VN/TH, FD/PY, CLY, QTZ/PL
688	698	10.0	9.65	9.65	5	97	97	0.5	35-65°	VN/TH-OP, FD/PY, MAR, CLY, QTZ/PL, R
	T.D. 698									

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RL242C

Geochemical Lab Report

OCT 2 1991

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

REPORT: R91-11993.4 (COMPLETE)

REFERENCE INFO: RL242C 630 TO 698

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

SUBMITTED BY: KENNER
DATE PRINTED: 26-SEP-91

ORDER	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Au Gold	15	0.002 OPT		Fire Assay
2	Au DUP Gold Duplicate	4	0.002 OPT		Fire Assay
3	AG DUP AG DUPLICATE	2	0.02 OPT		Fire Assay
4	Ag Silver	15	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	15	2 -150	15	CRUSH,PULVERIZE -150	15

NOTES: # indicates ERRATIC RESULTS

REMARKS: #ERRATIC RESULTS
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A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

Geochemical Lab Report

DATE PRINTED: 26-SEP-91

REPORT: R91-11993.4 (COMPLETE)

PROJECT: ROSEBUD

STANDARD NAME	ELEMENT UNITS	Au OPT	Au DUP OPT	AG DUP OPT	Ag OPT	AU Dup OPT
ANALYTICAL BLANK		<0.002	-	-	-	-
Number of Analyses		1	-	-	-	-
Mean Value		0.0010	-	-	-	-
Standard Deviation		-	-	-	-	-
Accepted Value		0.002	-	-	-	-
GEO TRACE STD1(1989)		-	-	-	1.02	-
Number of Analyses		-	-	-	1	-
Mean Value		-	-	-	1.024	-
Standard Deviation		-	-	-	-	-
Accepted Value		-	-	-	1.05	-
AG ASSAY		-	-	-	3.07	-
Number of Analyses		-	-	-	1	-
Mean Value		-	-	-	3.075	-
Standard Deviation		-	-	-	-	-
Accepted Value		-	-	-	3.03	-

RL242C

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A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

Geochemical Lab Report

OCT 16 1991

REPORT: R91-12113.4 (COMPLETE)

REFERENCE INFO: RL-242C 15-20 10 241-245

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

SUBMITTED BY: KENNER
DATE PRINTED: 10-OCT-91

ORDER	ELEMENT		NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Au DUP	Gold Duplicate	2	0.002 OPT		Fire Assay
2	Au	Gold	21	0.002 OPT		Fire Assay
3	AG DUP	AG DUPLICATE	3	0.02 OPT		Fire Assay
4	Ag	Silver	21	0.02 OPT		Fire Assay

SAMPLE TYPES		NUMBER	SIZE FRACTIONS		NUMBER	SAMPLE PREPARATIONS	NUMBER
Z	OTHER DRILL TYPES	20	2	-150	20	CRUSH,PULVERIZE -150	20
P	PREPARED PULP	1	4	AS REC'D	1	AS RECEIVED, NO SP	1
						DRYING/SAMPLE	20
						OVERWEIGHT/LBS	144

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Geochemical Lab Report

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

DATE PRINTED: 10-OCT-91

REPORT: R91-12113.4 (COMPLETE)

PROJECT: ROSEBUD

STANDARD NAME	ELEMENT UNITS	Au DUP OPT	Au OPT	AG DUP OPT	Ag OPT
ANALYTICAL BLANK		-	<0.002	-	<0.02
Number of Analyses		-	1	-	1
Mean Value		-	0.00110	-	0.010
Standard Deviation		-	-	-	-
Accepted Value		-	0.002	-	0.02
PD SYN STD AU/AG		-	0.038	-	0.40
Number of Analyses		-	1	-	1
Mean Value		-	0.0380	-	0.400
Standard Deviation		-	-	-	-
Accepted Value		-	0.040	-	0.40

RL242C

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A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

Geochemical Lab Report

OCT 2 1991

REPORT: R91-11961.4 (COMPLETE)

REFERENCE INFO: RL 242 413-630

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

SUBMITTED BY: KENNER
DATE PRINTED: 26-SEP-91

ORDER	ELEMENT		NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Au	Gold	42	0.002 OPT		Fire Assay
2	Au DUP	Gold Duplicate	6	0.002 OPT		Fire Assay
3	AG DUP	AG DUPLICATE	4	0.02 OPT		Fire Assay
4	Ag	Silver	42	0.02 OPT	MULT ACID TOT DIG	Atomic Absorption

SAMPLE TYPES		NUMBER	SIZE FRACTIONS		NUMBER	SAMPLE PREPARATIONS	NUMBER
D	DRILL CORE	40	2	-150	40	CRUSH,PULVERIZE -150	40
P	PREPARED PULP	2	4	AS REC'D	2	AS RECEIVED, NO SP	2

NOTES: # indicates ERRATIC RESULTS

REMARKS: #ERRATIC RESULTS
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DATE PRINTED: 26-SEP-91

REPORT: R91-11961.4 (COMPLETE)

PROJECT: ROSEBUD

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 ASSAY STD		0.012	-	-	-
Number of Analyses		1	-	-	-
Mean Value		0.0120	-	-	-
Standard Deviation		-	-	-	-
Accepted Value		0.015	-	-	-
~~0 TRACE STD1(1989)~~		-	-	-	~~1.00~~
GEO TRACE STD1(1989)		-	-	-	1.01
Number of Analyses		-	-	-	2
Mean Value		-	-	-	1.007
Standard Deviation		-	-	-	0.0106
Accepted Value		-	-	-	1.05
~~AG ASSAY~~		-	-	-	~~3.19~~
AG ASSAY		-	-	-	3.18
Number of Analyses		-	-	-	2
Mean Value		-	-	-	3.181
Standard Deviation		-	-	-	0.0069
Accepted Value		-	-	-	3.03

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PROJECT: ROSEBUD

SAMPLE NUMBER	ELEMENT UNITS	Au DUP OPT	Au OPT	AG DUP OPT	Ag OPT
Z2 RL242C 15-20			<0.002		<0.02
Z2 RL242C 20-25			<0.002		<0.02
Z2 RL242C 40-45			<0.002		<0.02
Z2 RL242C 45-50		<0.002	<0.002	<0.02	<0.02
Z2 RL242C 50-55			<0.002		<0.02
Z2 RL242C 55-60			<0.002		<0.02
Z2 RL242C 60-65			0.013		0.17
Z2 RL242C 65-70			0.008		<0.02
Z2 RL242C 70-75			0.003		<0.02
Z2 RL242C 75-80			0.003		<0.02
Z2 RL242C 80-85			<0.002	<0.02	<0.02
Z2 RL242C 95-100			<0.002		<0.02
Z2 RL242C 105-110			<0.002		<0.02
Z2 RL242C 120-125		0.003	<0.002	<0.02	<0.02
Z2 RL242C 135-140			0.003		<0.02
RL242C 150-155			<0.002		<0.02
Z2 RL242C 165-170			<0.002		0.02
Z2 RL242C 220-225			<0.002		<0.02
Z2 RL242C 230-235			<0.002		<0.02
Z2 RL242C 240-245			0.002		<0.02
P4 BA 200			0.034		0.28

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PROJECT: ROSEBUD

SAMPLE NUMBER	ELEMENT UNITS	Au OPT	Au DUP OPT	AG DUP OPT	Ag OPT
D2 RL242C 413 418		<0.002			<0.02
D2 RL242C 418 423		<0.002	<0.002	<0.02	<0.02
D2 RL242C 423 428		<0.002			<0.02
D2 RL242C 428 433		<0.002			<0.02
D2 RL242C 433 438		<0.002			<0.02
D2 RL242C 438 443		<0.002			<0.02
D2 RL242C 443 448		<0.002			<0.02
D2 RL242C 448 453		<0.002			<0.02
D2 RL242C 453 458		<0.002			<0.02
D2 RL242C 458 463		<0.002			<0.02
D2 RL242C 463 468		<0.002			<0.02
D2 RL242C 468 473		<0.002	<0.002		<0.02
D2 RL242C 498 503		<0.002			<0.02
D2 RL242C 503 508		<0.002			<0.02
D2 RL242C 508 513		<0.002			0.03
RL242C 513 516.5		0.016			0.20
D2 RL242C 516.5 520		0.008			0.16
D2 RL242C 520 523		0.006			0.17
D2 RL242C 523 526		0.008			0.06
D2 RL242C 526 531		0.012		0.05	0.03
P4 BA 45		0.029			0.19
D2 RL242C 531 536		0.017			2.23
D2 RL242C 536 541		0.015			0.13
D2 RL242C 541 545.5		0.010	0.010		0.12
D2 RL242C 545.5 550		0.016			<0.02
D2 RL242C 550 555		0.020	0.025	0.26	0.28
D2 RL242C 555 560		0.028			0.06
D2 RL242C 560 565		0.047			0.14
D2 RL242C 565 570		0.038			0.14
D2 RL242C 570 575		0.011			0.04
D2 RL242C 575 580		0.011			0.03
D2 RL242C 580 585		0.009			0.05
D2 RL242C 585 590		0.003			0.03
D2 RL242C 590 595		<0.002	<0.002		<0.02
D2 RL242C 595 600		0.014#	0.021		0.03
D2 RL242C 600 605		0.015			0.06
D2 RL242C 605 610.3		0.016			0.06
D2 RL242C 610.3 615.3		0.036			0.06
D2 RL242C 615.3 620		0.004		<0.02	<0.02
D2 RL242C 620 625		0.016			<0.02
D2 RL242C 625 630		0.002			<0.02
P4 BA 47		0.030			0.04

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Geochemical Lab Report

DATE PRINTED: 26-SEP-91

REPORT: R91-11993.4 (COMPLETE)

PROJECT: ROSEBUD

SAMPLE NUMBER	ELEMENT UNITS	Au OPT	Au DUP OPT	AG DUP OPT	Ag OPT	AU Dup OPT
D2 RL242C 630 635		<0.002			<0.02	
D2 RL242C 635 640		<0.002			0.03	
D2 RL242C 640 645		0.014			0.04	
D2 RL242C 645 650		0.016	0.021	<0.02	0.03	0.018
D2 RL242C 650 653		0.003			0.03	
D2 RL242C 653 656.5		0.132#	0.116		0.06	0.101
D2 RL242C 656.5 659.2		0.012			0.12	
D2 RL242C 659.2 664		<0.002	<0.002	<0.02	0.03	
D2 RL242C 664 669		0.005			<0.02	
D2 RL242C 669 674		<0.002			<0.02	
D2 RL242C 674 679		0.012			<0.02	
D2 RL242C 679 684		0.002			<0.02	
D2 RL242C 684 689		0.024			<0.02	
D2 RL242C 689 694		0.002	0.002		<0.02	
D2 RL242C 694 698		<0.002			<0.02	

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SAMPLE NUMBER	ELEMENT UNITS	Au DUP OPT	Au OPT	AG DUP OPT	Ag OPT
RL242C 45-50		<0.002	<0.002	<0.02	<0.02
Duplicate			0.002		<0.02
RL242C 80-85			<0.002	<0.02	<0.02
Prep Duplicate			<0.002		<0.02
RL242C 120-125		0.003	<0.002	<0.02	<0.02
Duplicate			0.003		<0.02

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RL242C 418 423		<0.002	<0.002	<0.02	<0.02						
Duplicate		<0.002			<0.02						
RL242C 468 473		<0.002	<0.002		<0.02						
Duplicate		<0.002									
RL242C 526 531		0.002		0.05	0.03						
Duplicate					0.06						
RL242C 541 545.5		0.010	0.010		0.12						
Duplicate		0.010									
RL242C 550 555		0.020	0.025	0.26	0.28						
Prep Duplicate		0.025			0.26						
RL242C 590 595		<0.002	<0.002		<0.02						
Duplicate		<0.002									
242C 615.3 620		0.004		<0.02	<0.02						
Duplicate					<0.02						

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RL242C 645 650		0.016	0.021	<0.02	0.03	0.018
Duplicate		0.021			<0.02	
RL242C 659.2 664		<0.002	<0.002	<0.02	0.03	
Prep Duplicate		<0.002			<0.02	
RL242C 689 694		0.002	0.002		<0.02	
Duplicate		0.002				