Drill Log RL-194
Rosebud

4010 0043

RL194C

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

## DRILL LOG SUMMARY SHEET

PROJECT ROSEBUD

HOLE NUMBER RL-194C TOTAL DEPTH 895' LOGGED BY KLK

Date started 5-30-91

Date completed 6-2-91

Initial bearing

Initial inclination vertical

Elevation

Collar coordinates:

N

E

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) |
|---|---|---|---|---|---|---|---|
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HOLE # RL-194C LOGGED BY KLK DATE 6-91 PAGE 1 OF 8

| DEPTH (ft) | RECOVERY | Structure: Bd. Fol. | Structure: Faults | MINERALIZATION | GRAPHIC LOG | ALTER. | DESCRIPTION | ASSAYS: Sample No. | % Cu | % Pb | % Zn | oz/t Au | oz/t Ag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 355' CORE BEGAN | | | | | | |
| 360 | 98 | | | ±1% diss tvn py | | W-M bl M~ W-M celad | 355-563.5 CLASSIC BEDDED BUD LITHIC LAPILLI TUFF - fine lithics range from 2-25mm, locally it is a coarser clastic w/ volc bxa sized lithics bedding is predom 60°-65° to C.A. m-s perv. clay alt w/ w-s celadonite alt. Local wispy texture of collapsed lapilli Heterolithic - lithics are bl w/ varing degree of clay alt, local str pocked out clay alt.; locally celad alt. Weak veining throughout w/ predom orientation of 45-60° to C.A.; composed of calcite, pyrite ± clay local. ~ 1-2 vns/2-5 ft. Also locally w/ cloudy qtz lining w/in vuggy open spaced vns | 355-563 No SAMPLE | | | | | |
| | 102 | | | | | | | | | | | | |
| 370 | 100 | 45° 60° | | | | M-S bl M-S ≈ W celad | | | | | | | |
| | | py calc3 ±clay vns | | | | | | | | | | | |
| 380 | 70 101 | 60°-65° bedding | | | | | | | | | | | |
| | | | | | | | 371-410 ↑ perv. bl; mod clay alt finely lithic w/ local v. fine beds @ 60° to C.A. | | | | | | |
| 390 | 100 | | | | | | | | | | | | |
| | | | | | | | 403-403.75 green clay gouge seam. | | | | | | |
| 400 | | | | | | | | | | | | | |
| 405 | 101 | | | | | | | | | | | | |
| 410 | | | | | | | | | | | | | |

HOLE # RL-194C LOGGED BY KLK DATE 6-91 PAGE 2 OF 8

| DEPTH (ft) | RECOVERY | Structure: Bd. Fol. | Structure: Faults | MINERALIZATION | GRAPHIC LOG | ALTER. |
|---|---|---|---|---|---|---|
| | 87 | | | ±1% diss + vn py | | W bl M ≈ M celad W X ? |
| 420 | 102 | 40° 50° + tht qtz marc barite VNS | | | | |
| 430 | 100 | | | | | |
| 440 | 82 | | | | | |
| 450 | 98 | | | 1-2% VN ± diss py | | M X X M-S ≈ W bl S. celad |
| 460 | 102 | 50 80° py qtz VNS | | | | |
| 470 | 100 | | | | | M-S bl M ≈ W celad |
| 480 | | | | | | |

## DESCRIPTION

355-563.5 BUD LLT (continued)

410-454 slightly coarser clastic w/ ↑ celadonite alt of matrix, may be v. wkly silicif. lithics w/ stronger clay alt than the matrix. Intermittent lt gray to green clay gouge seams. Weak increase in veining to ~ 1-2/ft composed of vuggy druzy qtz lined VNS w/ marcasite, clay ± local barite xtals oriented ~ 40-50° to C.A. Bedding remains to be ~ ±60° to CA. VNS either are ∥ or ⊥ to bedding

421.5-422.6
425.1-425.3
431.6-431.8
433-433.35
450.4-451
453-453.5
} CLAY GOUGE zones

454-455 Brecciated bud w/ open spaced vuggy druzy qtz matrix w/ marcasite ± clay fill

455-474.7 Deep bluegreen LLT - matrix strongly clay altered most lithics are white clay alt; locally eaten out, most lithics 5-20mm weak pyrite ± qtz veining ~ 5°-80° to C.A. ~ 1-2 VNS/ft
Bedding 50-60° to C.A.

474.7-483 LLT becomes more matrix supported w ↑ perv. bl, slight ↓ veining from above

## ASSAYS

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

HOLE # RL-194C LOGGED BY KLK DATE 6-91 PAGE 3 OF 8

| DEPTH (ft) | RECOVERY | Structure: Bd. Fol. | Structure: Faults | MINERALIZATION | GRAPHIC LOG | ALTER. |
|---|---|---|---|---|---|---|
| 490 | 103, 97 | Bedding 60°; 60°; 65°; 60° | | 1-2% diss + VN py + VN marca SITE | | W bl M≈ M-S celad |
| 500 | 106, 98 | 60° + qtz + plate band vns | | | | W X; M-S bl M≈ W celad |
| 510 | 120, 100 | | | | | M bl M≈ M celad |
| 520 | 100 | | | | | M-S bl W celad M≈ |
| 530 | 99 | 40°; 60° + VNS | | ±2% VN marca SITE + diss py | | W-M bl W celad M≈ |
| 540 | 99 | Bed 50°-60° to CA; 35°-50° to CA VNS | | | | M-S bl M-S ≈ W celad |
| 550 | | | | | | |

## DESCRIPTION

355-563.5 BUD LLT (continued)

483-496.5 BUD LLT - finer lithics averaging 2-10 mm more matrix supported - clay rich celad alt. ~ 1 VN/ft composed of vuggy druzy qtz lined open spaced VNS w/ marcasite, barite ± clay fill oriented ~ 25-60° to core axis - tending to be ⊥ to bedding

496.5-504.1 coarser clastic w/ lithics up to 95mm w/ finer lithic matrix averaging 2-20 mm wide more clast supported weakly veined ~ 1/ft w/ druzy vuggy qtz lined VNS w/ marcasite ± barite ± clay fill w/ same orientation

504.1-530.5 more matrix supported LLT w/ ↑ perv bleaching lithics are 2-5 mm on the average w/ few up to 40 mm local wispy texture ~ 60° to CA calcite veins become present @ similar orientation only couple thin VNS ~ ± 1 VN/ft

512.6-513 gray clay gouge seam

530.5-537 becomes more clast supported w/ M-S vuggy druzy qtz VNS - open spaced w/ marcasite, clay ± barite fill which are perpendicular to predom 40°-60° to CA 1-2 VNS/ft

537-563.5 more matrix supported LLT bedding 50-60° to C.A. weak veining either $CaCO_3$ VNS or thin qtz mar VNS ~ 35-45° to CA ~ 1-2 VNS/1-2 ft. ↑ perv. bleaching local clay gouge + rubble zones

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

HOLE # RL-194C LOGGED BY KLK DATE 6-91 PAGE 4 OF 8

| DEPTH (ft) | RECOVERY | Structure: Bd. Fol. | Structure: Faults | MINERALIZATION | GRAPHIC LOG | ALTER. |
|---|---|---|---|---|---|---|
| 560 | 102 | py VN 55° | | ±1% VN py ± local marca site wk diss py | | M-S bl M-S ≈ w celad |
| 570 | 73 | 20° CONTACT | | ~2% VN ±diss py | | M-S bl M-S ≈ W-M celad |
| 580 | 94 | 20° 68° qtz py-clay VNS | | | | |
| 590 | 102 | 30° qtz py VNS ±rm @ ↑ clay | | | | W bl M ≈ M-S celad |
| 600 | 94 | | | 1-2% diss + VN py | | |
| 610 | 87 | 40° 60° qtz py clay VN | fracts 30° 50° | | | W-M bl W ≈ W-M celad |
| 620 | 70 98 | | | | | |

## DESCRIPTION

355-563.5 BUD LLT (continued)
563.5 - 810.5 LOWER BUD TUFF

543.2 - 543-5 gray clay gouge
544.5 - 545 lt green clay gouge + rubble
554 - 554.3 gray clay gouge

563.5 - 810.5 LOWER BUD TUFF

563.5 - 587.8 Buff w/ medium green mottling of FGT m-s perv clay alt Intermittently tectonically brecciated Few local zones of silicified secondary brecciation. Intermittently ridelled w/ fine stkwk qtz-py + local green celad alt weak secondary veining composed of qtz±py+clay, locally qtz is druzy ~ average of 1-3 vns/ft

587.8 - 605 ↑ celad alt LBT w/ mod ↑ veining which is predom subparelle to C.A. 2 main stages of veining 1) fine 1-2mm qtz-py ± celad + local clay. 2) vuggy druzy qtz open spaced vns w/ marcasite + clayfill ~ 3-5 vns/ft predom orientation is 0-30° w/ few. 60° to C.A. vns

597 - 605 strong vuggy druzy qtz marcasite clay vns

605 - 659.4 WEAKLY verigated buff & green LBT moderatly fractured w/ blue green celadonite ± local burnt orange mineral ~ 30-50° to CA. weak veining composed of qtz-py ± clay ± calcite ± local celadonite averaging ~ 40-60° to C.A. w/ ~ 2-5 vns/ft & intermittently ridelled w/ fine fracture stkwk vns

617-620.5 purple green selvages on py-qtz-clay vns elsewhere - locally

| Sample No. | % Cu | % Pb | % Zn | oz/t Au | oz/t Ag |
|---|---|---|---|---|---|
| NO Sample | | | | | |
| 563-568 | | | | < | < |
| 568-573 | | | | < # | .05 |
| 573-578 | | | | .005 | .03 |
| 578-583 | | | | .016 | .04 |
| 583-588 | | | | .006 | .07 |
| 588-593 | | | | < | .05 |
| 593-598 | | | | < | .07 |
| 598-603 | | | | .012 # | .11 |
| 603-608 | | | | < | < |
| 608-613 | | | | < | < |
| 613-618 | | | | < | .03 |

HOLE # RL-194C LOGGED BY KLK DATE 6-91 PAGE 5 OF 8

| DEPTH (ft) | RECOVERY | Structure: Bd. Fol. | Structure: Faults | MINERALIZATION | GRAPHIC LOG | ALTER. |
|---|---|---|---|---|---|---|
| 630 | 98 | 15° 68° qtz py oxide vns | | ~2% vn ±diss py | | wbl M celad W |
| 640 | 100 | | | | | |
| 650 | 98 | | | | | |
| 660 | 91 | | | | | |
| 670 | 101 | 5° 60° qtz py ±clay vns | | 1-2% diss +vn py | | m-s bl m-s w celad |
| 680 | 105 | | | | | |
| 690 | 98 | | irregular gouge contact | | gouge rubble | 5% m bl celad |

DESCRIPTION

653.5 - 810.5 LBT (continued)

636 - 659.4 Intermittently - the sulfide vns & fractures have earthy amber brown oxide radiating out from vns; along fracture planes w/ poss. wk ↑ overall veining to average of ~ ±5/ft locally w/ earthy apple green powder w/in vuggy vns (specimen taken)

659.4 - 688.3 weakly vesicular FGT - buff w/ bluegreen celadonite filling ≤ 2mm vesicles, weak veining ~ 1-2/ft w/ py, qtz ± clay fill w/ local earthy oxide? Intermittent fine bluegreen stkwk (Local veins up to 10/ft)

FAULT: 688.3 - 707

688.3 - 693.4 Lv white green clay gouge alt rock same type @ above w/ v. weak fine stkwk - py ± local blue green celad local white clay filling interstices of gouge

ASSAYS

| Sample No. | % Cu | % Pb | % Zn | oz/t Au | oz/t Ag |
|---|---|---|---|---|---|
| 618-623 | | | | < | .44 |
| 623-628 | | | | < | < |
| 628-633 | | | | < | .03 |
| 633-638 | | | | < | .04 |
| 638-643 | | | | < | < |
| 643-648 | | | | .010 | .04 |
| 648-653 | | | | .002 | .03 |
| 653-658 | | | | .005 | .04 |
| 658-663 | | | | < | .05 |
| 663-668 | | | | < | .03 |
| 668-673 | | | | < | .03 |
| 673-678 | | | | < | .03 |
| 678-683 | | | | < | .05 |
| 683-688.3 | | | | .010 | .07 |

| DEPTH (ft) | RECOVERY | Structure: Bd. Fol. | Structure: Faults | MINERALIZATION | GRAPHIC LOG | ALTER. |
|---|---|---|---|---|---|---|
| 700 | 93, 61 | 40°; 0°; 25°; 0°; 80°; 45°; 80° | Poss ±60° to CA | 2-3% diss + vn py + vn marca site; 3-4% diss + vn py + vn marca site; ±2% diss + vn py + local vn marca site; 4% diss + vn py + marc | ±60° | S bl; M-S bl; M-S bl; M-S bl; bl |
| 710 | 102 | | | | | |
| 720 | 97 | | | | | |
| 730 | 104 | | | | | |
| 740 | 93 | | | | | |
| 750 | 100 | | | | | |
| 760 | 103 | | | | | |

## DESCRIPTION

653.5 - 810.5 LOWER BUD TUFF (continued)

FAULT: 688.3-707

693.4 - 701.7 Tannish buff w/ local hint lt green intensely clay (gouge) alt vesicular tuff w/ intermittent druzy-vuggy qtz vns open-spaced w/ marcasite + white clay fill which local has butter yellow coloration ~ 2-6/vns/ft

701.7 - 707 Brecciated FGT w/ mod-str perv silic of m argillically clay alt tuff, wk 4th vns, m fine stkwk @ ~ 703 silicif. ↓+↑

707 - 740.6 FGT verigated green's flesh m-s perv. bl local zones of silicif Δ'iation & local zones tectonic bxa

707 - 721 moderatly strong druzy qtz vns - vuggy w/ marcasite + py + clay fill which have 0-25° to C.A. ~ locally w/ butter yellow clay ~ 3-5 vns/ft this overprints fine celad stkwk

719.5 - 720.5 ~ 3 stgs well silicified hydro Δ'iA

721 - 740.6 2 stages veining 1st fine stkwk <½ mm wide celadonite 2nd overprint of qtz-py + local marcasite ± local clay weak overall vning ~ 2-5/ft stkwk ~ 10-19/ft.

740.6 - 751 FGT m-s perv bl predom flesh; wk local buff color; moderatly riddled w/ fine <½ mm celadonite stkwork Intermittently tectonically bxa'd weak qtz-marcasite ± clay ± py vns ~ 3-4 vns/ft oriented 45°-85° to C.A.

751 - 757.6 FGT - Lt buff to wh w/-m vning of marcasit qtz ~ 2-5 vns/ft w/ underpr <½ mm celad (bluegreen) stkw alt to duck butter alt kaoli

misnumbered on sample bag? (two 758-763's) I assumed the first 753-758, 763-

## ASSAYS

| Sample No. | % Cu | % Pb | % Zn | oz/t Au | oz/t Ag |
|---|---|---|---|---|---|
| 688.5-693 | | | | .005 | .07 |
| 693-696.4 | | | | .012 | .13 |
| 696.4-701.7 | | | | .014 | .16 |
| 701.7-707 | | | | .003 | .06 |
| 707-712 | | | | .011 | .09 |
| 712-717 | | | | .032 | .16 |
| 717-722 | | | | .036 | .09 |
| 722-727.5 | | | | .022 | .16 |
| 727.5-732.5 | | | | .004 | .09 |
| 732.5-738 | | | | .014 | .12 |
| 738-743 | | | | .022 | .11 |
| 743-748 | | | | .003 | .06 |
| 748-753 | | | | .004 | .08 |
| 753-758 | | | | .010 ? | .11 |

HOLE # RL-194C LOGGED BY KLK DATE 6-91 PAGE 7 OF 8

| DEPTH (ft) | RECOVERY | Structure: Bd. Fol. | Structure: Faults | MINERALIZATION | GRAPHIC LOG | ALTER. |
|---|---|---|---|---|---|---|
| 770 | 109 | 75° frac vns | | 3-4% diss + vn py + vn marcasite | | STR FLESH COLOR w-m MXX m bl |
| 780 | 100 | ±35° SiO2 py clay vns | | | | |
| 790 | 98 | 90° | ±25° | ±3% diss + vn py + local marca | | m-s bl SXXX |
| 800 | 99 | 30° | | ±4% diss + vn py + vn marcasite | ±25° | M-s bl w-m w-m X |
| 810 | 98 | NO VEINS | | 2% diss + vn py | | m bl w-m WX STR celad |
| 820 | 100 | | ±60° | 1-2% diss + py + lt gray fine black | ±60° | M bl, W celad SXXX |
| 830 | 100 | 60° | ±50° | ±5% fine py; 5-7% diss + vn py + poss Ag min | ±50° | M-s bl SXXX w celad |

FAULT

## DESCRIPTION

653.5 - 810.5 LOWER BUD TUFF (continued)

810.5 - 818.6 BUD LIKE Δ CLASTIC

818.6 - 895 DOZER TUFF

SOUTH RIDGE FAULT 796.3 - 824

757.6 - 787 LBT - STRONG FLESH COLORATION w/ marbled butter yellow, intermittent brecciation; vein brecciation 1-2 stages

5-20 fract vns/ft

757.6 - 766 strong fracturing subparallel to 50° to C.A. w/ "duck butter" alt kaolin + celadonite fill ± py pervasive crackle fracturing 5-20 crak vns/ft

762 - 769 crackle fractures become healed w/ orangish tan SiO2 + clay mix w/ overlap local boxwork eaten out texture w/ local marcasite; SiO2 replaced; ½ w/in veins

769 - 787 ↓ duck butter crackle fracts w/ predominant fine ±1mm qtz encapsulated py veins ~ 5-12/ft locally w/ weak clays ± celadonite

787 - 796.3

STRONG pervasive silicification Intermittent perv brecciation - more brittle ↓ flesh coloration w/ lt green buff coloration 2-3 stgs Δ finely riddled w/ <1mm fine qtz - py ± clay stkwk ~ 8-12 vns/ft w/ v. fine qtz stkwork underlying them orientation ~ 0-90° local marcasite in vns

796.3 - 810.5

FLESH COLORED - PERVASIVELY BRECCIATED FGT w/ STR silica flooding w/ local SiO2 + clay filling interstices of matrix; locally matrix is vuggy w/ xtalin marcasite fill ± local kaolinite weak overprint veining w/ druzy qtz lining w/ marcasite ± clay fill - predom subparallel to 30° to C.A. ~ 1-3 vns/ft

810.5 - 818.6 Breccia - poss 4 stages heterolithic "Bud like" FAULT episode lt sage green to local bright deep green (emerald) w-m sild w/ mod perv clay alt matrix - NO REAL VEINING

815.5 - 818.6 broken rubble + clay gouge

818.6 - 895 DOZER TUFF

818.6 - 824 well silicified, pervasively silicified welded DOZER TUFF 2-3 stages Δ w/ strong SiO2 cement - locally w/ sulfide rich black matrix microbreccia pervasively lt sage green - bl no prominent secondary veining locally weak white clay filling interstices of matrix, black matrix vns ~ subparallel to 15° to C.A. vein Δ // to CA w/ black matrix SiO2 + clay fill

py SiO2 ± clay vns ~ 6-8/ft

## ASSAYS

| Sample No. | % Cu | % Pb | % Zn | oz/t Au | oz/t Ag |
|---|---|---|---|---|---|
| 758-763 | | | | .003? | .04? |
| 763-768 | | | | .019 | .12 |
| 768-773 | | | | .018 | .18 |
| 773-778 | | | | .066 | .23 |
| 778-783 | | | | .180 | .13 |
| 783-788 | | | | .184 | .19 |
| 788-793 | | | | .124 | .18 |
| 793-798 | | | | .131 | .24 |
| 798-803 | | | | .014 | .10 |
| 803-807 | | | | .013 | .13 |
| 807-810 | | | | .011 | .11 |
| 810-815 | | | | .022 | .08 |
| 815-820 | | | | .111 | .23 |
| 820-825 | | | | .006 | .09 |
| 825-830 | | | | .006 | .18 |

HOLE # RL-194C LOGGED BY KLK DATE 6-91 PAGE 8 OF 8

| DEPTH (ft) | RECOVERY | Structure: Bd. Fol. | Structure: Faults | MINERALIZATION | GRAPHIC LOG | ALTER. |
|---|---|---|---|---|---|---|
| 840 | 101, 98 | 15° S, Δ VNS, 25°, 80° qtz py clay VNS | | ±4% diss + VN py | | M bl S X X X |
| 850 | 100 | 0°, 90° | | ±3% diss + VN py + black finely bladed sulfide | | M-S bl M-X W X M |
| 860 | 100 | | | 5% VN + diss SPAN ±py | | M celad; bl S |
| 870 | 102 | 15°, 90° | | 3-4% diss + VN py + VN STIBN | | |
| 880 | 95 | | | 4-5% | | X X; bl S |
| 890 | | | | | | |
| 895 | 83 | | | | | |

## DESCRIPTION

818.6 - 895 DOZER TUFF (continued)

824 - 846.7 Lt sage green DT w/ str pervasive silicification. Vein brecciation throughout w/ str $SiO_2$ cement locally open spaced w/ kaolinite fill m-s finely diss sulfides w/ in matrix 2-15 mm wide mod qtz-py-clay VNS ± STIB. ~ 6-13 VNS/ft

846.7 - 858 m-s perv. bl silicification remains pervasive however w/ intermittent argillically clay alt zones (w-m) fairly strong veining w/ prominent dark gray sulfide + local white kaolinite fill 12-18 VNS/ft which decrease to 1-2/ft betw/ 848 - 850 @ 855 - 858 celadonite alt picks up to m w/ perv. silicif. & local micro Δ veins + local gray clay fill

858 - 895 m-s perv. bleaching, w-m perv silicified, m perv. argillic alt mod. veining ~ 5-10 VNS/ft w/ dark gray sulfide & local white clay fill

877 - 880.5 increased perv. silicification w/ local vuggy - open spaced - druzy qtz lined VNS w/ intermittent white clay fill

weak intermittent vein brecciation fine buckshot black sulfide throughout which increases from 889 - 895

## ASSAYS

| Sample No. | % Cu | % Pb | % Zn | oz/t Au | oz/t Ag |
|---|---|---|---|---|---|
| 830-835 | | | | .006 | 1.79 |
| 835-840 | | | | .005 | .79 |
| 840-845 | | | | < | 2.02 |
| 845-850 | | | | | .09 |
| 850-855 | | | | | .04 |
| 855-860 | | | | | .07 |
| 860-865 | | | | | .07 |
| 865-870 | | | | | .07 |
| 870-875 | | | | | .04 |
| 875-880 | | | | .003 | .05 |
| 880-885 | | | | < | .04 |
| 885-889 | | | | < | .08 |
| 889-892 | | | | < | .06 |
| 892-893 | | | | < | .08 |

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

## DRILL LOG SUMMARY SHEET

PROJECT ROSEBUD

HOLE NUMBER RL-194C TOTAL DEPTH 895' LOGGED BY KLK

Date started 5-30-91

Date completed 6-2-91

Initial bearing

Initial inclination vertical

Elevation 5278.6

Collar coordinates:

N 2203894.0

E 481981.3

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) |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
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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-194C

Page 1 of 4

LOGGED BY KLK

| | LITH. | ALT. | % ARG. ALT. W | M | S | % SIL'N W | M | S | COLOR | % FeOx W | M | S | % SULF. | COMMENTS | Au | Ag | CHECK | % WASH RECOV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CT | | | | | | | | | | | | | 0-110 CHOCOLATE FINE GRAINED TUFF | < | .04 | | |
| 05 | | | | | | | | | lr sage green | | | | tr diss py | 5-27 lr green; wh local lr brown clay | < | < | | |
| 10 | | | | | | | | | | | | | | gouge w-m bleaching | .016 | .04 | | |
| 15 | | | | | | | | | | | | | | | < | < | | |
| 20 | | | | | | | | | | | | | | | < | < | | |
| 25 | | | | | | | | | | | | | | | | | | |
| 30 | | Ox Xc ±X | | | | | | | orange green buff flesh | | | | NIL to tr limon replac | 27-110 CT w/ clastic component mixed limonitic flesh + green FGT - probable | | < | | |
| 35 | | | | | | | | | | | | | py | epiclastic interbeds which decrease locally w/ Assoc | | < | | |
| 40 | | | | | | | | | | | | | | ↑ tuffaceous component pervasively oxidized | | < | | |
| 45 | | | | | | | | | | | | | | w-m perv. bleaching, poss wk local 2ndary silicification | | .05 | | |
| 50 | | | | | | | | | | | | | | wk local chalcedony vning * predominantly | | < | | |
| 55 | | | | | | | | | | | | | | is an epiclastic poss wk MgO | | | | |
| 60 | | | | | | | | | | | | | | | | | | |
| 65 | | | | | | | | | | | | | | | | | | |
| 70 | | | | | | | | | | | | | | | | | | |
| 75 | | | | | | | | | | | | | | | | | | |
| 80 | | | | | | | | | | | | | | | | | | |
| 85 | | | | | | | | | | | | | | | | | | |
| 90 | | | | | | | | | | | | | | | | | | |
| 95 | | | | | | | | | | | | | | 90-100 ↓ FeOx ↑ argillic clays + bl | | | | |
| 100 | | | | | | | | | | | | | | ↓ epiclastic texture | | | | |

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-194C

Page 2 of 4

LOGGED BY KLK

| | LITH. | ALT. | % ARG. ALT. W | M | S | % SIL'N W | M | S | COLOR | % FeOx W | M | S | % SULF. | COMMENTS | Au | Ag | CHECK | % WASH RECOV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | golden yellow buff | | | | tr limon replac py | 27-110 CT same descrip @ above w/ ↑ bl + | < | < | | |
| 105 | | | | | | | | | | | | | | ↑ clay alt. + ↑ FeOx | | | | |
| 110 | | XC tr | | | | | | | lt to medium deep | | | | 1-2% diss tvn | 110-207 UPPER BUD - BEDDED | | | | |
| 115 | | | | | | | | | sea green | | | | py | LITHIC LAPILLI TUFF clast supported, clasts | | | | |
| 120 | | | | | | | | | | | | | | are bl, white to clay alt; locally flesh | | | | |
| 125 | | | | | | | | | | | | | | matrix is pervasively lt to med. deep sea green | | | | |
| 130 | | | | | | | | | | | | | | celadonite + clay alt. probable wispy texture | | | | |
| 135 | | | | | | | | | | | | | | weak local druzy qtz encapsulated py + clay vns | | | | |
| 140 | | | | | | | | | | | | | | bleaching intermittently | | | | |
| 145 | | | | | | | | | | | | | | weak to mod. w/c local buff to gray SiO2 + diss sulfide vns | | | | |
| 150 | | | | | | | | | | | | | | | .011 | .05 | | |
| 155 | | | | | | | | | | | | | | | < | < | | |
| 160 | | | | | | | | | | | | | | | | | | |
| 165 | | | | | | | | | | | | | | | | | | |
| 170 | | | | | | | | | | | | | | | | | | |
| 175 | | | | | | | | | | | | | | | | | | |
| 180 | | | | | | | | | | | | | | | | | | |
| 185 | | | | | | | | | | | | | | | | | | |
| 190 | | | | | | | | | | | | | | | | | | |
| 195 | | | | | | | | | | | | | | | | | | |
| 200 | | | | | | | | | lr sage green | | | | | ↑ bl ↑ perv argillic clay alt. | | | | |

LAC MINERALS (U.S.A.) INC.
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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-194C

Page 3 of 4

LOGGED BY KLK

| | LITH. | ALT. | % ARG. ALT. W | M | S | % SIL'N W | M | S | COLOR | % FeOx W | M | S | % SULF. | COMMENTS | Au | Ag | CHECK | % WASH RECOV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Xc +M | | | | | | | buff flesh + green | | | | ~2% diss + vn py | 110-207 Bedded Upper Bud continued @ above | < | .03 | | |
| 205 | | ↓ | | | | | | | ↓ | | | | ↓ | w/↑ bl, local fibrous gypsum | | | | |
| | | +bl | | | | | | | lt gray white | | | | 2-3% diss | 207-322 TMb | | .03 | | |
| 210 | TMb | +M XK | | | | | | | | | | | + vn py ± poss vn | Tuff Marker Bed | | < | | |
| 215 | | | | | | | | | | | | | marca site | m-s pervasively bleached to lt. gray white 2-3% py replaced relict plagioclase phenos poss w perv. silicification | | .03 | | |
| 220 | | | | | | | | | | | | | | w-m pervasive druzy qtz encapsulated pyrite ± kaolinite clay fill, wk local fine | | .04 | | |
| 225 | | | | | | | | | | | | | | qtz stockwork, intermittent oxidation | | .03 | | |
| 230 | | | | | | | | | | | | | | 213-220 m Δ w/ assoc flesh color | | .04 | | |
| 235 | | | | | | | | | | | | | | | .010# | .05 | | |
| 240 | | | | | | | | | | | | | | | < | .04 | | |
| 245 | | +M +Mn | | | | | | | | | | | | m-s druzy qtz VNS w/ local limon oxidation | < | .04 | | |
| 250 | | | | | | | | | | | | | | white clay VNS | .005 | .05 | | |
| 255 | | | | | | | | | | | | | | | .003 | .06 | | |
| 260 | | | | | | | | | | | | | | | .003 | .06 | | |
| 265 | | | | | | | | | | | | | | | .003 | .05 | | |
| 270 | | | | | | | | | | | | | | ↑ silicification; strong druzy qtz VNS | < | .04 | | |
| 275 | | | | | | | | | | | | | | | | .05 | | |
| 280 | | | | | | | | | | | | | | | | .05 | | |
| 285 | | | | | | | | | | | | | | | | .05 | | |
| 290 | | | | | | | | | | | | | | ↑ druzy qtz VNS ; ↑ wk limonite | | .05 | | |
| 295 | | | | | | | | | | | | | | | .003 | .07 | | |
| 300 | | | | | | | | | | | | | | | | | | |

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-194C

Page 4 of 4

LOGGED BY KLK

| | 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 | XK bl +++ | | | | | | | lt gray white | | | | 2-3% diss +VN py | 207-322 TMb continued description @ above | .003 | .05 | | |
| 305 | | | | | | | | | | | | | | intermittently-wkly interbedded w/ lower Bud pyrclastic | < | .06 | | |
| 310 | | | | | | | | | | | | | | | < | .04 | | |
| 315 | | | | | | | | | | | | | | | < | .06 | | |
| 320 | | | | | | | | | | | | | | | < | .04 | | |
| 325 | | bl X | | | | | | | flesh buff-white | | | | ±2% diss | 322-563.5 LOWER BEDDED | | | | |
| 330 | | +++ XC | | | | | | | green | | | | +VN py | BUD LITHIC LAPILLI TUFF w-m perv. bl. heterolithic | < | .05 | | |
| 335 | | | | | | | | | | | | | | clasts bl white; clay alt; locally wk celad alt, elsewhere is flesh colored, matrix is | .004 | .07 | | |
| 340 | | | | | | | | | | | | | | lt-med sea green, celadonite + clay alt local chalced. vns w-m druzy lg encapsulated | .003 | .06 | | |
| 345 | | | | | | | | | | | | | | py veins, wk local $SiO_2$ flooding | < | .05 | | |
| 350 | | | | | | | | | | | | | | | .005 | .06 | | |
| 355 | | | | | | | | | | | | | | | .004 | .07 | | |
| 60 | | | | | | | | | | | | | | T.D | | | | |
| 65 | | | | | | | | | | | | | | | | | | |
| 70 | | | | | | | | | | | | | | | | | | |
| 75 | | | | | | | | | | | | | | | | | | |
| 80 | | | | | | | | | | | | | | | | | | |
| 85 | | | | | | | | | | | | | | | | | | |
| 90 | | | | | | | | | | | | | | | | | | |
| 95 | | | | | | | | | | | | | | | | | | |
| 00 | | | | | | | | | | | | | | | | | | |

HOLE # RL-194C LOGGED BY KLK DATE 6-91 PAGE 1 OF 8

| DEPTH (ft) | RECOVERY | Structure: Bd. Fol. | Structure: Faults | MINERALIZATION | GRAPHIC LOG | ALTER. | DESCRIPTION | ASSAYS: Sample No. | % Cu | % Pb | % Zn | oz/t Au | oz/t Ag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 355' CORE BEGAN | | | | | | |
| 360 | 98 | | | ±1% diss +VN py | | W-M bl M~ W-M celad | 355-563.5 CLASSIC BEDDED BUD LITHIC LAPILLI TUFF - fine lithics range from 2-25mm, locally it is a coarser clastic w/ volc bxa sized lithics bedding is predom 60°-65° to C.A. m-s perv. clay alt w/ w-s celadonite alt. Local wispy texture of collapsed lapilli Heterolithic - lithics are bl w/ varing degree of clay alt. local str pocked out clay alt. & locally celad alt. Weak veining throughout w/ predom orientation of 45°-60° to C.A. & composed of calcite, pyrite ± clay local. ~ 1-2 vns/2-5 ft. Also locally w/ druzy qtz lining w/in vuggy open spaced vns | 355-563 NO SAMPLE | | | | | |
| | 102 | | | | | | | | | | | | |
| 370 | | 45° | | | | M-S bl M-S ≈ W celad | | | | | | | |
| | 100 | 60° | | | | | | | | | | | |
| | | py CaCO3 ±clay vns | | | | | | | | | | | |
| 380 | | | | | | | | | | | | | |
| | 70 101 | 60-65° bedding | | | | | | | | | | | |
| 390 | | | | | | | 371-410 ↑ perv. bl & mod clay alt finely lithic w/ local v. fine beds @ 60° to C.A. | | | | | | |
| | 100 | | | | | | | | | | | | |
| 400 | | | | | | | 403-403.75 green clay gouge seam | | | | | | |
| | 101 | | | | | | | | | | | | |
| 405 | | | | | | | | | | | | | |
| 410 | | | | | | | | | | | | | |

HOLE # RL-194C LOGGED BY KLK DATE 6-91 PAGE 2 OF 8

| DEPTH (ft) | RECOVERY | Structure: Bd. Fol. | Structure: Faults | MINERALIZATION | GRAPHIC LOG | ALTER. | DESCRIPTION | ASSAYS: Sample No. | % Cu | % Pb | % Zn | oz/t Au | oz/t Ag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 87 | 40° 50° | | ±1% diss + vn py | | W bl M~ M celad W X ? | 355-563.5 BUD LLT (continued)<br>410-454 slightly coarser clastic w/ ↑ celadonite alt of matrix, may be v. wkly silicif. lithics w/ stronger clay alt than the matrix. Intermittent lt gray to green clay gouge seams. Weak increase in veining to ~ 1-2/ft composed of vuggy druzy qtz lined vns w/ marcasite, clay ± local barite xtals oriented ~ 40-50° to C.A. Bedding remains to be ~ ±60° to CA. VNS either are ∥ or ⊥ to bedding | NO SAMPLE | | | | | |
| 420 | 102 | | | | | | | | | | | | |
| 430 | 100 | | | | | | | | | | | | |
| 440 | 82 | | | | | | 421.5-422.6<br>425.1-425.3<br>431.6-431.8<br>433-433.35<br>450.4-451<br>453-453.5 } CLAY GOUGE zones | | | | | | |
| 450 | 98 | | | 1-2% vn ± diss py | | M XX M-S ~ W bl S celad | 454-455 Brecciated bud w/ open spaced vuggy druzy qtz matrix w/ marcasite ± clay fill | | | | | | |
| 460 | 102 | 5° 80° | | | | | 455-474.7 Deep bluegreen LLT - matrix strongly clay altered most lithics are white clay alt ; locally eaten out, most lithics 5-20mm weak pyrite ± qtz vning ~ 5°-80° to C.A. ~ 1-2 vns/ft<br>Bedding 50-60° to C.A. | | | | | | |
| 470 | 100 | py qtz vns | | | | M-S bl M-~ W celad | 474.7-483 LLT becomes more matrix supported w ↑ perv. bl, slight ↓ veining from above | | | | | | |
| 480 | | | | | | | | | | | | | |

HOLE # RL-194C LOGGED BY KLK DATE 6-91 PAGE 3 OF 8

| DEPTH (ft) | RECOVERY | Structure: Bd. Fol. | Structure: Faults | MINERALIZATION | GRAPHIC LOG | ALTER. | DESCRIPTION | ASSAYS: Sample No. | % Cu | % Pb | % Zn | oz/t Au | oz/t Ag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 490 | 103 | Bedding 50° 60° | | 1-2% diss + VN py + VN marca SITE | | W bl M≈ M-S celad | 355-563.5 BUD LLT (continued) | NO SAMPLE | | | | | |
| | 97 | 75° 60° | | | | | 483-496.5 BUD LLT - finer lithics averaging 2-10 mm more matrix supported - clay rich celad alt. ~ 1 VN/ft composed of vuggy druzy qtz lined open spaced VNS w/ marcasite, barite ± clay fill oriented ~ 25-60° to core axis - tending to be ⊥ to bedding | | | | | | |
| 500 | 106 | 60° qtz bands VNS | | | | W X | 496.5-504.1 coarser clastic w/ lithics up to 95mm w/ finer lithic matrix averaging 2-20 mm wide more clast supported weakly veined ~ 1/ft w/ druzy vuggy qtz lined VNS w/ marcasite ± barite ± clay fill w/ same orientation | | | | | | |
| | 98 | | | | | M-S bl M≈ W celad | | | | | | | |
| 510 | 120 100 | | | | | | 504.1-530.5 more matrix supported LLT w/ ↑ perv bleaching lithics are 2-5 mm on the average w/ few up to 40 mm local wispy texture ~ 60° to CA calcite veins become present @ similar orientation only couple VNS ~ ± 1 VN/ft | | | | | | |
| 520 | 100 | | | | | M bl M≈ M celad | 512.6-513 gray clay gouge seam | | | | | | |
| | | 40° 60° VNS | | | | M-S bl W celad M≈ | | | | | | | |
| 530 | 99 | | | ±2% VN marca SITE + diss py | | W-M bl W celad M≈ | 530.5-537 becomes more clast supported w/ M-S vuggy druzy qtz VNS - open spaced w/ marcasite, clay ± barite fill which are perpendicular to predom 40°-60° to CA 1-2 VNS/ft | | | | | | |
| 540 | 99 | 35° 50° to CA Bed 50° 60° to CA VNS | | | | M-S bl M-S ≈ W celad | 537-563.5 more matrix supported LLT bedding 50-60° to C.A. weak veining either $CaCO_3$ VNS or qtz mar VNS ~ 35-45° to CA ~ 1-2 VNS/1-2 ft. ↑ perv. bleaching local clay gouge + rubble zones | | | | | | |
| 550 | | | | | | | | | | | | | |

HOLE # RL-194C LOGGED BY KLK DATE 6-91 PAGE 4 OF 8

| DEPTH (ft) | RECOVERY | Structure: Bd. Fol. | Structure: Faults | MINERALIZATION | GRAPHIC LOG | ALTER. | DESCRIPTION |
|---|---|---|---|---|---|---|---|
| 560 | 102 | py vn 55° | | ±1% vn py ± local marcasite wk diss py | | M-S bl M-S w celad | 355-563.5 BUD LLT (continued)<br>563.5-810.5 LOWER BUD TUFF<br>543.2-543.5 gray clay gouge<br>544.5-545 lt green clay gouge + rubble<br>554-554.3 gray clay gouge |
| 570 | 73 | 20° CONTACT | | ~2% vn ±diss py | | M-S bl M-S W-M celad | 563.5-810.5 LOWER BUD TUFF<br>563.5-587.8 Buff w/ medium green mottling of FGT m-s perv clay alt Intermittently tectonically brecciated Few local zones of silicified secondary brecciation. Intermittently ridelled w/ fine stkwk qtz-py + local green celad alt weak secondary veining composed of qtz±py+clay, locally qtz is druzy ~ average of 1-3 vns/ft |
| 580 | 94 | 20° 68° qtz py-clay vns | | | | | |
| 590 | 102 | 30° 0 qtz py vns ±vn @ clay | | | | W bl M M-S celad | 587.8-605 ↑ celad alt LBT w/ mod ↑ veining which is predom subparelle to C.A. 2 main stages of veining 1) fine 1-2mm qtz-py ± celad + local clay. 2) vuggy druzy qtz open spaced vns w/ marcasite + clay fill ~ 3-5 vns/ft predom orientation is 0-30° w/ few 60° to C.A. vns<br>597-605 strong vuggy druzy qtz marcasite clay vns |
| 600 | 94 | | | 1-2% diss + vn py | | | |
| 610 | 87 | 40° 60° qtz py clay vn | fracts 30° 50° | | | W-M bl W W-M celad | 605-659.4 WEAKLY verigated buff & green LBT moderatly fractured w/ blue green celadonite ± local burnt orange mineral ~ 30-50° to CA. weak veining composed of qtz-py ± clay ± calcite ± local celadonite averaging ~ 40-60° to C.A w/ ~ 2-5 vns/ft & intermittently ridelled w/ fine fracture stkwk vns |
| 620 | 70 98 | | | | | | 617-620.5 epidote green selvages on py-qtz-clay vns? elsewhere - locally |

ASSAYS

| Sample No. | % Cu | % Pb | % Zn | oz/t Au | oz/t Ag |
|---|---|---|---|---|---|
| No Sample | | | | | |
| 563-568 | | | | < | < |
| 568-573 | | | | < # | .05 |
| 573-578 | | | | .005 | .03 |
| 578-583 | | | | .016 | .04 |
| 583-588 | | | | .006 | .07 |
| 588-593 | | | | < | .05 |
| 593-598 | | | | < | .07 |
| 598-603 | | | | .012 # | .11 |
| 603-608 | | | | < | < |
| 608-613 | | | | < | < |
| 613-618 | | | | < | .03 |

HOLE # RL-194C LOGGED BY KLK DATE 6-91 PAGE 5 OF 8

| DEPTH (ft) | RECOVERY | Structure: Bd. Fol. | Structure: Faults | MINERALIZATION | GRAPHIC LOG | ALTER. |
|---|---|---|---|---|---|---|
| 630 | 98 | 25°; 60°; qtz py oxide vns | | ~2% vn ±diss py | | wbl m celad w |
| 640 | 100 | | | | | |
| 650 | 98 | | | | | |
| 660 | 91 | | | | | |
| 670 | 101 | 50°; qtz py ±clay vns | | 1-2% diss +vn py | | m-s bl m-s w celad |
| 680 | 105 | | | | | |
| 690 | 98 | | irregular gouge zone contact | | GOUGE RUBBLE | s m bl m celad |

DESCRIPTION

~~50~~ 583.5 - 810.5 LBT (continued)

636 - 659.4 Intermittently - the sulfide vns & fractures have earthy amber brown oxide radiating out from vns & along fracture planes w/ poss. wk ↑ overall veining to average of ~ ±5/ft locally w/ earthy apple green powder w/in vuggy vns (specimen taken)

659.4 - 688.3 weakly vesicular FGT - buff w/ bluegreen celadonite filling ≤ 2mm vesicles, weak veining ~ 1-2/ft w/ py, qtz ± clay fill w/ local earthy oxide? Intermittent fine bluegreen stkwk (Local veins up to 10/ft)

FAULT: 688.3 - 707

688.3 - 693.4 Lv white green clay gouge alt rock same type @ above w/ v. weak fine stkwk - py ± local blue green celad local white clay filling interstices of gouge.

ASSAYS

| Sample No. | % Cu | % Pb | ✓ Au | oz/t Au | oz/t Ag |
|---|---|---|---|---|---|
| 618-623 | | | | < | .44 |
| 623-628 | | | | < | < |
| 628-633 | | | | < | .03 |
| 633-638 | | | | < | .04 |
| 638-643 | | | | < | < |
| 643-648 | | | | .010 | .04 |
| 648-653 | | | | .002 | .03 |
| 653-658 | | | | .005 | .04 |
| 658-663 | | | | < | .05 |
| 663-668 | | | .001 | < | .03 |
| 668-673 | | | | < | .03 |
| 673-678 | | | | < | .03 |
| 678-683 | | | | < | .05 |
| 683-688.3 | | | | .010 | .07 |

HOLE # RL-194C LOGGED BY KLK DATE 6-91 PAGE 6 OF 8

| DEPTH (ft) | RECOVERY | Structure: Bd. Fol. | Structure: Faults | MINERALIZATION | GRAPHIC LOG | ALTER. |
|---|---|---|---|---|---|---|
| 700 | 93, 61 | 0, 40°; vnn qtz marcasite clay vns | poss ±60° to CA | 2-3% diss + vn py + vn marcasite | ±60° | sbl s w celad; M-S bl M w-M xx |
| 710 | 102 | 0°, 25°; 0° | | 3-4% diss + vn py + vn marcasite | | M-S bl M w-m celad |
| 720 | 97 | | | ±2% diss + vn py + local vn marcasite | | |
| 730 | 104 | 0°, 80° | | | | |
| 740 | 93 | 45°, 80° | | | | M-S m-s bl w celad |
| 750 | 100 | | | | | bl |
| 760 | 103 | | | 4% diss + vn py + marc | | m-s bl m |

FAULT: 688.3-707

## DESCRIPTION

Sd 683.5 - 810.5 LOWER BUD TUFF (continued)

693.4-701.7 Tannish buff w/ local hint lt green intensely clay (gouge) alt vesicular tuff w/ intermittent druzy-vuggy qtz vns open-spaced w/ marcasite + white clay fill which local has butter yellow coloration ~2-6/vns/ft

701.7-707 Brecciated FGT w/ mod-str perv silic of m argillically clay alt tuff, wk + vns, m fine stkwk @ ~703 silicif. ↓+↑ ≈

707-740.6 FGT verigated green & flesh m-s perv. bl local zones of silicif'ation & local zones tectonic bxa

707-721 moderatly strong druzy qtz vns-vuggy w/ marcasite + py + clay fill which have 0-25° to C.A. ~ locally w/ this overprints fine butter yellow clay ~3-5 vns/ft celad stkwk

719.5-720.5 ~3 stgs well silicified hydro'a'ia

721-740.6 2 stages veining 1st fine stkwk <½mm wide celadonite 2nd overprint of qtz-py + local marcasite ± local clay weak overall vning ~2-5/ft stkwk ~10-19/ft.

740.6-751 FGT m-s perv bl predom flesh & wk local buff color & moderatly ridelled w/ fine <½ mm celadonite stkwork Intermittently tectonically bxa'd weak qtz-marcasite ± clay ± py vns ~3-4/ft vns oriented 45°-85° to C.A.

751-757.6 FGT - Lt buff to white buffy colored w/-m vning of marcasite ± py + clay + local qtz ~2-5/ft vns w/ underprint of strong v. fine <½ mm celad (bluegreen) stkwk clay fill is locally alt to duck butter alt kaolinite

## ASSAYS

| Sample No. | % Cu | % Pb | ✓ Au | oz/t Au | oz/t Ag |
|---|---|---|---|---|---|
| 688.5-693 | | | | .005 | .07 |
| 693-696.4 | | | | .012 | .13 |
| 696.4-701.7 | | | | .014 | .16 |
| 701.7-707 | | | | .003 | .06 |
| 707-712 | | | .008 | .011 | .09 |
| 712-717 | | | | .032 | .16 |
| 717-722 | | | | .036 | .09 |
| 722-727.5 | | | | .022 | .16 |
| 727.5-732.5 | | | | .004 | .09 |
| 732.5-738 | | | | .014 | .12 |
| 738-743 | | | | .022 | .11 |
| 743-748 | | | | .003 | .06 |
| 748-753 | | | | .004 | .08 |
| 753-758 | | | | .010? | .11 |

HOLE # RL-194C LOGGED BY KLK DATE 6-91 PAGE 7 OF 8

| DEPTH (ft) | RECOVERY | Structure: Bd. Fol. | Structure: Faults | MINERALIZATION | GRAPHIC LOG | ALTER. | DESCRIPTION | Sample No. | % Cu | % Pb | ✓ Au | oz/t Au | oz/t Ag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 770 | 109 | 75° frac vns | | 3-4% diss + vn py + vn marcasite | | STR FLESH COLOR w-m MXX m bl | 583.5 - 810.5 LOWER BUD TUFF (continued)<br>810.5 - 818.6 BUD LIKE Δ CLASTIC<br>818.6 - 895 DOZER TUFF<br>SOUTH RIDGE FAULT 796.3 - 824<br>757.6 - 787 LBT - STRONG FLESH COLORATION w/ marbled butter yellow, intermittent brecciation; vein brecciation 1-2 stages | 758-763 | | | .004 | .002? | .04? |
| | 100 | | | | | | | 763-768 | | | | .019 | .12 |
| | | | | | | | | 768-773 | | | | .018 | .18 |
| 780 | 98 | ±35° SiO2 py clay vns | | | | | 757.6 - 766 strong fracturing subparallel to 50° to C.A. w/ "duck butter" alt kaolin + celadonite fill ± py pervasive crackle fracturing 5-20 crak vns/ft<br>5-20 fract vns/ft<br>762 - 769 crackle fractures become healed w/ orangish tan SiO2 + clay mix w/ overlap local boxwork eaten out texture w/ local marcasite; SiO2 replaced ≫ w/in veins<br>769 - 787 ↓ duck butter crackle fracts w/ predominant fine ±1mm qtz encapsulated py veins ~ 5-12/ft locally w/ weak clays ± celadonite | 773-778 | | | | .066 | .23 |
| | | | | | | | | 778-783 | | | | .180 | .13 |
| | | | | | | | | 783-788 | | | | .184 | .19 |
| 790 | 99 | 90° | ±25° | ±3% diss + vn py + local marca | | m-s bl SXXX | 787 - 796.3<br>STRONG pervasive silicification. Intermittent perv breccia tion - more brittle ↓ flesh coloration w/ lt green buff coloration 2-3 stgs Δ finely riddled w/ <1mm fine qtz-py ± clay stkwk ~ 8-12 vns/ft w/ v. fine qtz stkwork indicating them orientation ~ 0-90° local marcasite in vns | 788-793 | | | | .124 | .18 |
| 800 | 88 | 30° | | ±4% diss + vn py + vn marcasite | | M-s bl w-m ~ w-m X | 796.3 - 810.5<br>FLESH COLORED - PERVASIVELY BRECCIATED FGT w/ STR silica flooding w/ local SiO2 + clay filling interstices of matrix locally matrix is vuggy w/ xtalin marcasite fill ± local Kaolinite weak overprint veining w/ druzy qtz lining w/ marcasite ± clay fill - predom subparallel to 30° to C.A. ~ 1-3 vns/ft | 793-798 | | | | .131 | .24 |
| | | | | | | | | 798-803 | | | | .014 | .10 |
| | | | | | | | | 803-807 | | | | .013 | .13 |
| 810 | 100 | NO VEINS | ±60° | 2% diss + vn py | | m bl w-m ~ wX STR celad | 810.5 - 818.6 Breccia - poss 4 stages heterolithic "Bud like" FAULT episode lt sage green to local bright deep green (emerald) w-m sild w/ mod perv clay alt matrix - NO REAL VEINING<br>815.5 - 818.6 broken rubble + clay gouge | 807-810 | | | | .011 | .11 |
| | | | | | | | | 810-815 | | | | .022 | .08 |
| 820 | 100 | ±56° | | 1-2% diss + py + sl gray fine blebs<br>±5% fine py | | M bl w celad SXXX | 818.6 - 895 DOZER TUFF<br>818.6 - 824 well silicified, pervasively silicified welded DOZER TUFF 2-3 stages Δ w/ strong SiO2 cement - locally w/ sulfide rich black matrix microbreccia pervasively lt sage green - bl no prominent secondary veining locally weak white clay filling interstices of matrix, black matrix vns ~ subparallel to 15° to C.A. vein Δ ∥ to CA w/ black matrix SiO2 + clay fill<br>py SiO2 ± clay vns ~ 6-8/ft | 815-820 | | | | .111 | .23 |
| | | | | | | | | 820-825 | | | | .006 | .09 |
| 830 | | 60° | | 5-7% diss + vn py + poss Ag min | | M-s bl SXXX w celad | | 825-830 | | | | .006 | .18 |

FAULT

HOLE # RL-194C LOGGED BY KLK DATE 6-91 PAGE 8 OF 8

| DEPTH (ft) | RECOVERY | Structure: Bd. Fol. | Structure: Faults | MINERALIZATION | GRAPHIC LOG | ALTER. |
|---|---|---|---|---|---|---|
| 840 | 101 | 15° S; Δ VNS | | ±4% diss + VN py | | Mbl S X X X |
| | 98 | 25°; 80° qtz py clay VNS | | | | |
| 850 | 100 | 0°; 90° | | ±3% diss + VN py + black finely bladed sulfide | | M-S bl M-X W X M |
| 860 | 100 | | | | | M celad; bl S |
| | | | | 5% VN + diss STRN EPY | | |
| 870 | 102 | 15°; 90° | | 3-4% diss + VN py + VN STRN | | |
| | | | | 4-5% | | X X |
| 880 | 95 | | | | | bl S |
| 890 | | | | | | |
| 895 | 83 | | | | | |

## DESCRIPTION

818.6 - 895 DOZER TUFF (CONTINUED)

824 - 846.7 Lt sage green DT w/ STR pervasive silicification. vein brecciation throughout w/ str SiO2 cement locally open spaced w/ Kaolinite fill m-s finely diss sulfides w/ in matrix 2-15 mm wide mod qtz-py-clay VNS ± STIB. ~ 6-13 VNS/ft

846.7 - 858 m-s perv. bl silicification remains pervasive however w/ intermittent argillic/clay alt zones (w-m) fairly strong veining w/ prominent dark gray sulfide + local white Kaolinite fill 12-18 VNS/ft which decrease to 1-2/ft betw/ 848 - 850 @ 855 - 858 celadonite alt picks up to m w/ perv. silicif. & local micro Δ veins + local gray clay fill

858 - 895 m-s perv. bleaching, w-m perv silicified, m perv. argillic alt mod. veining ~ 5-10 VNS/ft w/ dark gray sulfide & local white clay fill

877 - 880.5 increased perv silicification w/ local vuggy, - open spaced - druzy qtz lined VNS w/ intermittent white clay fill

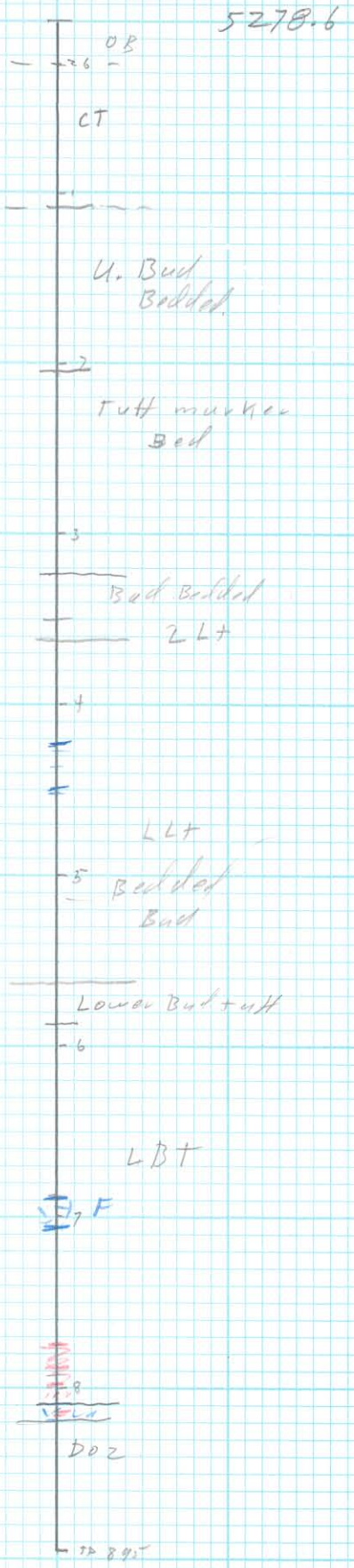
weak intermittent vein brecciation fine buckshot black sulfide throughout which increases from 889 - 895

## ASSAYS

| Sample No. | % Cu | % Pb | ✓ Au | oz/t Au | oz/t Ag |
|---|---|---|---|---|---|
| 830-835 | | | | .006 | 1.79 |
| 835-840 | | | | .005 | .79 |
| 840-845 | | | | < | 2.02 |
| 845-850 | | | | | .09 |
| 850-855 | | | | | .04 |
| 855-860 | | | .003 | | .07 |
| 860-865 | | | | | .07 |
| 865-870 | | | | | .07 |
| 870-875 | | | | | .04 |
| 875-880 | | | | .003 | .05 |
| 880-885 | | | | < | .04 |
| 885-889 | | | | < | .08 |
| 889-892 | | | | < | .06 |
| 892-893 | | | | < | .08 |

N 2,203,894.6

E 481,981.3




ROSEBUD

RL-194C

1'=100'

GEOTECHNICAL LOG



PROJECT: ROSEBUD LOCATION: DOZER LOGGED BY: SAS

HOLE NO.: RL-194C DIP: VERTICAL CORE SIZE: HQ DATE: 6-1-91

| 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 | NOTE: 355'-469' BEDDED GREEN BUD REMARKS |
| 355 | 360 | 5' | 4.65 | 4.65 | 2 | 93% | 93% | 0.4 | 40-45° | VN/TH, FD/CLY, PY/PL-R |
| 360 | 365 | 5' | 4.85 | 4.85 | 1 | 97 | 97 | 0.2 | 35-40° | J, VN/TH, FD/CLY/PL-R |
| | | | | | | | | | | Note; 363'-363.5' Clay Gouge |
| 365 | 370 | 5' | 4.6 | 4.1 | 3 | 92 | 82 | 0.7 | 40° | J/TH/PL, R |
| 370 | 375 | 5' | 4.9 | 4.3 | 6 | 98 | 86 | 1.2 | 45-55 | VN/TH, FD/QTZ, CLY/PL |
| | | | | | 1 | | | | 25-30 | J, VN/TH, FD/CLY, PY/PL, R |
| 375 | 380 | 5' | 4.45 | 4.3 | 2 | 89 | 86 | 0.4 | 40-45 | J/TH/PL, R |
| | | | | | | | | | | NOTE: 379'-383.5' Several small clay gouges |
| 380 | 385 | 5' | 4.6 | 4.4 | 1 | 92 | 88 | 0.2 | 60° | J/TH, FD/CLY/PL, R |
| 385 | 390 | 5' | 4.95 | 4.8 | 4 | 99 | 96 | 1.2 | 35-50° | J, VN/TH, FD/CLY/PL, R |
| 390 | 395 | 5' | 4.9 | 4.9 | 0 | 98 | 98 | 0.0 | — | — |
| 395 | 400 | 5' | 5.0 | 5.0 | 2 | 100 | 100 | 0.4 | 40-50° | J, VN/TH+OP, FD/CLY/R |
| 400 | 405 | 5' | 4.9 | 4.75 | 0 | 98 | 95 | 0.0 | — | NOTE: 403'-403.7' Clay Gouge |
| 405 | 410 | 5' | 4.9 | 4.9 | 3 | 98 | 98 | 0.8 | 55-60° | J/TH-OP, FD/CLY/PL, R |
| | | | | | 1 | | | | 40° | VN/TH, FD/CLY, PY/PL, R |
| 410 | 415 | 5' | 4.9 | 4.9 | 3 | 98 | 98 | 0.6 | 40-75° | VN, VG/TH-OP, FD/QTZ, CLY, MAR/R |
| | | | | | | | | | | NOTE: 413'-413.5' Clay Gouge |
| 415 | 420 | 5' | 3.1 | 3.1 | 0 | 62 | 62 | 0.0 | — | — |
| 420 | 425 | 5' | 4.9 | 3.15 | 8 | 98 | 63 | 1.6 | 30-45° | VN, VG/TH-OP, FD/QTZ, CLY/R |
| | | | | | | | | | | NOTE; 421.5'-422.5' and 423'-423.5 Clay Gouge |
| 425 | 430 | 5' | 4.45 | 3.3 | 3 | 89 | 66 | 0.7 | 55-85 | J, VN, VG/TH-OP, FD/QTZ, CLY, BAR, MAR/R |
| | | | | | | | | | | NOTE; 425'-425.5' Clay Gouge |
| 430 | 435 | 5' | 5.1 | 4.3 | 2 | 102 | 86 | 0.4 | 60-65° | VN/TH, FD/QTZ, CLY, MAR/R |
| | | | | | | | | | | NOTES; 432'-432.5' Clayey Rubble; 433'-433.5 |
| | | | | | | | | | | Clay Gouge; |
| 435 | 440 | 5' | 4.25 | 3.8 | 9 | 85 | 76 | 2.1 | 40°-60° | VN, VG/TH-OP, FD/QTZ, CLY, MAR/R |
| 440 | 445 | 5' | 5.0 | 4.85 | 4 | 100 | 97 | | 40-50° | VN, VG/TH-OP, FD/QTZ, CLY/R |
| 445 | 450 | 5' | 2.9 | 2.9 | 1 | 58 | 58 | 0.8 | 50° | J/TH, FD/CLY/R |
| 450 | 455 | 5' | 5.0 | 3.6 | SEE NOTE | 100 | 72 | | | NOTES: 455.5'-456' Clay Gouge; 453'-454' Clay Gouge and |
| | | | | | | | | | | Sandy Rubble; 454'-455' Very Vuggy W/QTZ, CLY, MAR |
| 455 | 460 | 5' | 4.1 | 3.4 | 4 | 82 | 68 | 1.0 | 40-70° | VN, VG/TH-OP, FD/QTZ, CLY/R |
| | | | | | | | | | | NOTE: 2 small clay Gouges @ 455.5' and 458' |

GEOTECHNICAL LOG



PROJECT: ROSEBUD LOCATION: DOZER LOGGED BY: SAG

HOLE NO.: RL-194C DIP: VERTICAL CORE SIZE: HQ DATE: 6-1-91

| 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 |
| 460 | 465 | 5' | 4.6 | 3.2 | 2 | 92% | 62% | 0.7 | 0-50° | VN, VG/TH-OP, FD/QTZ, CLY, PY/R |
| | | | | | 1 | | | | 65° | VN/TH, FD/QTZ, CLY, MAR/R |
| | | | | | | | | | | NOTE: 462'-463' Rubble and Clay Gouge |
| 465 | 470 | 5' | 3.7 | 3.7 | 0 | 74 | 74 | 0.0 | — | |
| 470 | 475 | 5 | 4.8 | 4.6 | 3 | 96 | 92 | 0.6 | 50° | J/TH/PL, R |
| 475 | 480 | 5' | 4.4 | 4.2 | 2 | 88 | 84 | 0.9 | 60-65° | J/TH/PL, R |
| | | | | | 2 | | | | 0-90° | VN, VG/TH-OP, FD/R |
| 480 | 485 | 5' | 4.75 | 3.65 | 2 | 95 | 73 | 1.7 | 50-85° | VN, VG/TH-OP, FD/R |
| | | | | | 6 | | | | 45-60° | J/TH/PL; R |
| 485 | 490 | 5' | 5.0 | 5.0 | 0 | 100 | 100 | 0.0 | — | — |
| 490 | 495 | 5' | 4.9 | 4.55 | 1 | 98 | 89 | 0.4 | 40° | VN, VG/TH-OP, FD/QTZ, BAR/PL, R |
| | | | | | 1 | | | | 25° | VN/TH, FD/CLY/PL |
| 495 | 500 | 5' | 4.7 | 4.7 | 0 | 94 | 94 | 0.0 | — | |
| 500 | 505 | 5' | 4.65 | 4.65 | 1 | 93 | 93 | 0.2 | 55° | J/TH/PL, R |
| 505 | 510 | 5' | 4.15 | 4.15 | 0 | 83 | 83 | 0.0 | — | |
| 510 | 515 | 5' | 4.8 | 4.8 | 1 | 96 | 96 | 0.2 | 50° | VN, VG/TH, FD/QTZ, MAR/R |
| | | | | | | | | | | NOTE: 512.5'-513' Clay Gouge |
| 515 | 520 | 5' | 4.6 | 4.6 | 6 | 92 | 92 | 1.3 | 50° | J/TH/PL-R |
| 520 | 525 | 5' | 5.0 | 5.0 | 2 | 100 | 100 | 0.4 | 45-50° | VN/TH, FD/PY, CLY/PL, R |
| 525 | 530 | 5' | 4.55 | 4.25 | 7 | 91 | 85 | 1.5 | 45-55° | J/TH/PL, R |
| 530 | 535 | 5' | 4.85 | 4.55 | 4 | 97 | 91 | 0.8 | 0-90° | VN, VG/TH-OP, FD/QTZ, CLY/R |
| 535 | 540 | 5' | 4.5 | 4.5 | 3 | 90 | 90 | 0.7 | 0-90° | VN, VG/TH-OP, FD/QTZ, MAR, CLY/R |
| | | | | | 1 | | | | 50° | J/TH/PL-R |
| 540 | 545 | 5' | 5.1 | 3.4 | 7 | 102 | 68 | 1.6 | 55-80° | J/TH/PL, R |
| | | | | | 1 | | | | 45° | J, VN/TH, FD/CLY/PL |
| | | | | | | | | | | NOTES: 543'-543.5' and 544.5'-545' Clay Gouge and Rubble |
| 545 | 550 | 5' | 4.5 | 4.5 | 1 | 90 | 90 | 0.2 | 0-90° | VN, VG/TH-OP, FD/QTZ/R |
| | | | | | | | | | | NOTES: 546'-546.5' Rubble; 547'-548' Clay Gouge. |
| 550 | 555 | 5' | 4.4 | 3.35 | SEE NOTE | 88 | 67 | | | NOTES: 553'-556' Rubble and Clay Gouge. |
| 555 | 560 | 5' | 4.8 | 4.25 | 1 | 96 | 85 | 0.2 | 0-90° | VN, VG/TH-OP, FD/QTZ, CLY/R |

GEOTECHNICAL LOG



PROJECT: ROSEBUD LOCATION: DOZER LOGGED BY: SAS

HOLE NO.: RL-194C DIP: VERTICAL CORE SIZE: HQ / NX DATE: 6-2-91

| 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 |
| 560 | 565 | 5' | 3.6 | 3.5 | 0 | 72% | 70% | 0.0 | | NOTE: The core size was reduced from HQ to NX |
| | | | | | | | | | | at 563', the contact between the upper, |
| | | | | | | | | | | "Bedded Bud," and the lower Bud L.L.T. |
| 565 | 570 | 5' | 5.0 | 5.0 | 1 | 100 | 100 | 0.2 | 50° | VN/TH, FD/QTZ, MAR, CLY/PL |
| 570 | 575 | 5' | 4.6 | 4.6 | 1 | 92 | 92 | 0.4 | 0-60° | VN/TH-OP, FD/QTZ, CLY, MAR/R |
| | | | | | 1 | | | | 20° | J/TH/PL |
| 575 | 580 | 5' | 4.15 | 3.85 | 3 | 83 | 77 | | 45-60° | VN/TH, FD/QTZ, CLY, MAR/PL |
| | | | | | 1 | | | | 30° | VN, VG/QTZ, CLY, PY/R |
| 580 | 585 | 5' | 4.9 | 4.9 | 0 | 98 | 98 | 0.0 | — | |
| 585 | 590 | 5' | 4.8 | 4.8 | 3 | 96 | 96 | 1.0 | 45-55° | J, VN/TH, FD/CLY, QTZ/PL, SM |
| 590 | 595 | 5' | 5.0 | 3.5 | 11 | 100 | 70 | 2.2 | 25-55 | J, VN/TH, FD/CLY, PY/PL, SM |
| 595 | 600 | 5' | 3.65 | 3.3 | 3 | 73 | 66 | 1.1 | 35° | J, VN/TH, FD/CLY, PY/PL, SM |
| | | | | | 1 | | | | 5-15° | VN, VG/TH-OP, FD/QTZ, PY, CLY/R |
| 600 | 605 | 5' | 4.95 | 3.0 | 7 | 99 | 60 | 3.0 | 45-55° | J, VN/TH, FD/CLY/PL, SM |
| | | | | | 8 | | | | 45-70° | VN, VG/TH-OP, FD/QTZ, CLY/R // NOTE: VUGGY RUBBLE @ 603' |
| 605 | 610 | 5' | 4.4 | 3.15 | 12 | 88 | 63 | 2.7 | 50-55° | J, VN/TH, FD/CLY/PL, SM |
| 610 | 615 | 5' | 3.1 | 1.6 | 8 | 62 | 32 | 5.0 | 50-55° | J, VN/TH, FD/CLY/PL, SM // NOTE: 610'-613' Broken Rubble |
| 615 | 620 | 5' | 3.75 | 2.2 | 7 | 75 | 44 | 1.9 | 30-40° | VN/TH-OP, FD/CLY/R |
| 620 | 625 | 5' | 5.0 | 3.7 | 9 | 100 | 74 | 2.4 | 50-55° | J, VN/TH, FD/CLY, CAL/PL |
| 625 | 630 | 5' | 4.3 | 3.5 | 8 | 86 | 70 | 1.9 | 55-60° | J, VN/TH, FD/CLY, CAL/PL |
| 630 | 635 | 5' | 4.9 | 4.6 | 4 | 98 | 92 | 1.2 | 60-75° | J, VN/TH, FD/CLY/PL, R |
| | | | | | 2 | | | | 20-80° | VN, VG/TH, FD/QTZ, CLY/R |
| 635 | 640 | 5' | 3.9 | 1.0 | 4 | 78 | 20 | 1.8 | 5-25° | VN/TH, FD/CAL, CLY/PL-R |
| | | | | | 3 | | | | 60-65° | J, VN/TH, FD/CAL, CLY, ± PY/PL |
| | | | | | | | | | | NOTE: 637'-640' Broken Rubble. |
| 640 | 645 | 5' | 4.85 | 3.2 | 8 | 97 | 64 | 1.6 | 30-60° | VN/TH, FD/CLY, CAL/R |
| 645 | 650 | 5' | 4.3 | 2.65 | 4 | 83 | 53 | 2.3 | 10-30 | VN/TH, FD/CLY, CAL/PL, R |
| | | | | | 6 | | | | 50-60° | J, VN/TH, FD/QTZ, CLY/PL |
| 650 | 655 | 5' | 2.9 | 0.35 | 3 | 58 | 7 | 4.1 | 40-60° | VN/TH, FD/QTZ, CLY, PY, MAR/PL |
| | | | | | 9 | | | | 30-55° | J, VN/TH, FD/CLY/PL |
| 655 | 660 | 5' | 4.4 | 2.45 | 7 | 88 | 49 | 3.4 | 55-70° | J, VN/TH, FD/CLY/PL |
| | | | | | 8 | | | | 30-35° | VN/TH, FD/CLY/PL |

GEOTECHNICAL LOG



PROJECT: ROSEBUD LOCATION: DOZER LOGGED BY: SAJ

HOLE NO.: RL-194 C DIP: VERTICAL CORE SIZE: NX DATE: 6-3-91

| 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 |
| 660 | 665 | 5' | 4.85 | 4.85 | 2 | 97% | 97% | 0.4 | ~30° | VN/TH, FD/QTZ, CLY, PY/PL, R |
| 665 | 670 | 5' | 4.0 | 2.2 | 4 | 80 | 44 | 1.0 | 50-55° | J, VN/TH, FD/CLY/PL |
| | | | | | | | | | | NOTE: Minor Clay Gouges @ 665' and 667'; |
| | | | | | | | | | | 668'-670' Broken Rubble. // 670' an apparent contact, |
| | | | | | | | | | | Fine-Grained Tuff above, F.G.T. w/small green phenocrysts |
| | | | | | | | | | | below. |
| 670 | 675 | 5' | 4.9 | 4.8 | 3 | 98 | 96 | 1.0 | 40-45° | J, VN/TH, FD/CLY/R |
| | | | | | 2 | | | | 0-25° | VN/TH, FD/CLY/R |
| 675 | 680 | 5' | 4.2 | 3.15 | 3 | 84 | 63 | 0.7 | 0-40° | VN/TH, FD/CLY/R |
| 680 | 685 | 5' | 4.95 | 4.95 | 2 | 99 | 99 | 0.4 | 60-70° | VN/TH, FD/CLY/R |
| 685 | 688.3 | 3.3' | 3.3 | 3.3 | 0 | 100 | 100 | 0.0 | | NOTE: 688.3'-701.7' Fault Zone; Argillized. |
| 688.3 | 695 | 6.7' | 4.4 | 1.65 | SEE NOTE | 66 | 25 | — | | Clay Gouges @ 690'-691', 693.5', and 700'. |
| 695 | 701.7 | 6.7' | 6.25 | 4.55 | " " | 93 | 68 | — | | |
| 701.7 | 705 | 3.3' | 0.4 | 0.4 | 0 | 12 | 12 | 0.0 | — | — |
| 705 | 710 | 5' | 4.85 | 1.9 | 5 | 97 | 38 | 2.1 | | J, VN/TH, FD/CLY, QTZ/R |
| | | | | | 2 | | | | 30 | VN/TH, FD/CLY, QTZ, PY/PL, R |
| | | | | | 3 | | | | 65-85° | J, VN/TH, FD/CLY/PL, R |
| 710 | 715 | 5' | 3.7 | 2.7 | 4 | 74 | 54 | 1.1 | 0-20° | VN/TH, FD/CLY, QTZ, MAR/R |
| | | | | | 7 | | | | 50-60° | J, VN/TH, FD/CLY/PL |
| 715 | 720 | 5' | 5.0 | 4.1 | 3 | 100 | 82 | 2.4 | 0-30° | VN/TH, FD/QTZ, CLY, MAR/R |
| | | | | | 9 | | | | 55-65° | J, VN/TH, FD/CLY/PL // NOTE: 715'-716' Broken Rubble |
| 720 | 725 | 5' | 3.45 | 1.05 | 14 | 69 | 21 | 4.3 | 50-60° | J, VN/TH, FD/CLY, MAR, PY/PL, R |
| | | | | | 1 | | | | 25° | J, VN/TH, FD/CLY/PL, R |
| 725 | 730 | 5' | 4.8 | 2.4 | 5 | 96 | 48 | 1.0 | 45-75° | J, VN/TH, FD/CLY/PL-R |
| | | | | | | | | | | NOTE: 727.4 to 733.5 Clay Gouge; Crumbly Core |
| 730 | 735 | 5' | 4.0 | 1.1 | 2 | 80 | 22 | 0.5 | 20-30° | VN/TH, FD/CLY, QTZ/R |
| 735 | 740 | 5' | 5.2 | 3.9 | 4 | 104 | 78 | 1.2 | 30-45° | J, VN/TH, FD/CLY/R // small Clay Gouge @ 738.5' |
| | | | | | 2 | | | | 0-90° | VN, VG/TH-OP/QTZ, CLY/R |
| 740 | 745 | 5' | 3.4 | 2.4 | 1 | 68 | 48 | 0.3 | 60° | J, VN/TH, FD/CLY/PL |
| | | | | | | | | | | NOTE: Clay Gouge @ 743'-745.5' |
| 745 | 750 | 5' | 5.1 | 3.75 | 10 | 102 | 75 | 1.9 | 35-55° | VN/TH, FD/CLY, QTZ, MAR/PL-R |
| | | | | | | | | | | NOTE: Clay Gouge 748.5'-749' |

GEOTECHNICAL LOG



PROJECT: ROSEBUD LOCATION: DOZER LOGGED BY: SAS

HOLE NO.: RL-194C DIP: VERTICAL CORE SIZE: NX DATE: 6-3-91

| 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 |
| 750 | 755 | 5' | 4.75 | 4.25 | 4 | 95% | 85% | 0.8 | 25-65° | VN/TH, FD/CLY/R |
| 755 | 760 | 5' | 4.55 | 2.8 | 8 | 91 | 56 | 1.8 | 40-85° | VN/TH, FD/CLY/R |
| | | | | | | | | | | NOTE: 757.5' to 758.5' Broken Rubble |
| 760 | 765 | 5' | 4.25 | 3.95 | 7 | 85 | 79 | 1.9 | 50-85° | VN/TH, FD/CLY/PL, W |
| | | | | | 1 | | | | 20-30° | VN, VG/TH-OP, FD/QTZ, MAR/R |
| 765 | 770 | 5' | 5.1 | 3.2 | 7 | 102 | 64 | 1.4 | 40-75° | VN/TH, FD/CLY/R |
| 770 | 775 | 5' | 5.0 | 5.0 | 6 | 100 | 100 | 1.2 | 40-75° | VN/TH, FD/CLY, PY/R |
| 775 | 780 | 5' | 4.65 | 4.65 | 2 | 93 | 93 | 0.9 | ~30° | VN, VG/TH-OP, FD/CLY, QTZ, MAR/R |
| | | | | | 2 | | | | 40-45° | VN/TH, FD/CLY/W |
| 780 | 785 | 5' | 5.05 | 4.9 | 6 | 101 | 98 | 1.2 | 40-65° | VN/TH, FD/CLY/W |
| 785 | 790 | 5' | 4.4 | 3.95 | 7 | 88 | 79 | 1.6 | 40-75° | VN/TH, FD/CLY/W |
| 790 | 795 | 5' | 4.9 | 4.9 | 5 | 98 | 98 | 1.0 | 0-40° | VN, VG/TH-OP, FD/QTZ, MAR, CLY/R |
| 795 | 800 | 5' | 4.65 | 4.55 | 4 | 93 | 91 | 0.9 | 30-40° | VN/TH, FD/CLY, MAR/R |
| 800 | 805 | 5' | 4.8 | 4.1 | 9 | 96 | 82 | 2.3 | 30-45° | VN/TH, FD/CLY/R |
| | | | | | 2 | | | | 0-30° | VN, VG/TH-OP, FD/QTZ, CLY, MAR/R |
| 805 | 810 | 5' | 4.3 | 4.1 | 4 | 86 | 82 | 0.9 | 25-65° | VN, VG/TH-OP, FD/QTZ, CLY, MAR/R |
| 810 | 815 | 5' | 4.75 | 4.1 | 7 | 95 | 82 | 1.5 | 35-90° | J/TH, FD/CLY/W, R |
| | | | | | | | | | | NOTE: 810'-810.5' Clay Gouge |
| 815 | 820 | 5' | 3.4 | 1.05 | | 68 | 21 | 0.9 | | NOTE: 815'-819' Clay Gouge |
| | | | | | 1 | | | | 55° | VN, VG/OP, FD/QTZ/R |
| | | | | | 2 | | | | 55-65° | VN/TH, FD/CLY, QTZ/R |
| 820 | 825 | 5' | 4.9 | 4.75 | 2 | 95% | 95 | 0.6 | 45° | J, VN/TH, FD/CLY/PL, R |
| | | | | | 1 | | | | 30° | VN, VG/TH-OP, FD/QTZ, CLY/R |
| 825 | 830 | 5' | 4.9 | 4.9 | 3 | 98 | 98 | 0.6 | 50-60° | J, VN/TH, FD/CLY/PL |
| | | | | | | | | | | NOTE: 827'-830' Vuggy, w/QTZ, CLY |
| 830 | 835 | 5' | 4.85 | 4.3 | 6 | 97 | 86 | 1.2 | 0-90° | VN, VG/TH-OP, FD/QTZ, CLY/R |
| 835 | 840 | 5' | 4.3 | 4.3 | SEE NOTE | 86 | 86 | | | NOTE: 835'-840' Vuggy, QTZ, CLY/R |
| 840 | 845 | 5' | 4.95 | 4.4 | 5 | 99 | 88 | 1.2 | 55-70° | VN, VG/TH-OP, FD/QTZ, CLY/R |
| | | | | | 1 | | | | 85° | J, VN/TH, FD/CLY, MAR/PL |
| | | | | | | | | | | NOTE: 840.5'-841' Coarse Rubble |
| 845 | 850 | 5' | 3.8 | 3.4 | 7 | 76 | 68 | 1.8 | 25-75° | VN/TH, FD/CLY, QTZ, MAR/PL-R |

GEOTECHNICAL LOG



PROJECT: ROSEBUD LOCATION: DOZER LOGGED BY: CAS

HOLE NO.: RL-194C DIP: VERTICAL CORE SIZE: NX DATE: 6-3-91

| 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 |
| 850 | 855 | 5' | 5.0 | 3.9 | 7 | 100% | 78% | 1.8 | 35-60° | J, VN/TH, FD/CLY, MAR/PL, R |
| | | | | | 2 | | | | 5-40° | J, VN/TH-OP/CLY, MAR/PL, R |
| 855 | 860 | 5' | 4.6 | 4.1 | 5 | 92 | 82 | 1.1 | 25-40° | VN/TH, FD/QTZ, CLY/R |
| 860 | 865 | 5' | 5.0 | 4.7 | 1 | 100 | 94 | 0.8 | 30° | J, VN/TH, FD/CLY/PL |
| | | | | | 3 | | | | 5-15° | VN/TH, FD/CLY/R |
| 865 | 870 | 5' | 4.4 | 4.1 | 2 | 88 | 82 | 1.1 | 5-15° | VN/TH, FD/CLY/R |
| | | | | | 1 | | | | 55-60° | VN/TH-OP, FD/CLY, SB/R |
| | | | | | 2 | | | | 35° | J/TH, FD/QTZ, MAR/PL. // NOTE: 869.5'-870 Broken Rubble |
| 870 | 875 | 5' | 4.8 | 4.2 | 9 | 96 | 84 | 1.9 | 15-80° | J, VN/TH, FD/CLY, PY, MAR/PL |
| 875 | 880 | 5' | 4.3 | 3.5 | 10 | 86 | 70 | 2.3 | 30-90° | J, VN/TH, FD/CLY, QTZ/PL, R |
| 880 | 885 | 5' | 5.1 | 2.1 | 4 | 102 | 42 | 0.8 | 50-60° | J, VN/TH, FD/CLY/PL, R |
| | | | | | | | | | | NOTE: 880.5'-884.5' contains some broken rubble |
| | | | | | | | | | | and short core pieces breaking preferrentially @ |
| | | | | | | | | | | 60-90° W.R.T. core axis |
| 885 | 890 | 5' | 3.5 | 1.9 | 7 | 70 | 38 | 2.0 | 45-75° | VN/TH, FD/CLY/R |
| 890 | 895 | 5' | 4.1 | 3.25 | 9 | 82 | 65 | 2.2 | 30-75° | J, VN/TH, FD/CLY, CAL/R |
| T.D. 895' | | | | | | | | | | |

**Bondar-Clegg, Inc.**
625 Spice Island Dr.
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Sparks, Nevada 89431
702 (359-9330)

Controlled TOK

RL194

(533'-895') 628'-532'

BONDAR-CLEGG

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

# Geochemical Lab Report

JUN 19 1991

REPORT: R91-11055.4 ( COMPLETE )

REFERENCE INFO: RL194 628-895

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

SUBMITTED BY: KENNER
DATE PRINTED: 14-JUN-91

| ORDER | ELEMENT | | NUMBER OF ANALYSES | LOWER DETECTION LIMIT | EXTRACTION | METHOD |
|---|---|---|---|---|---|---|
| 1 | Au | Gold | 60 | 0.002 OPT | | Fire Assay |
| 2 | Ag | Silver | 60 | 0.02 OPT | MULT ACID TOT DIG | Atomic Absorption |

| SAMPLE TYPES | NUMBER | SIZE FRACTIONS | NUMBER | SAMPLE PREPARATIONS | NUMBER |
|---|---|---|---|---|---|
| D DRILL CORE | 58 | 2 -150 | 58 | CRUSH,PULVERIZE -150 | 58 |
| P PREPARED PULP | 2 | 4 AS REC'D | 2 | AS RECEIVED, NO SP | 2 |

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

INVOICE TO: MR. TIM KUHL

Nicole Nutter

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BONDAR-CLEGG

# Geochemical Lab Report

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

REPORT: R91-11055.4 ( COMPLETE )

DATE PRINTED: 14-JUN-91
PROJECT: ROSEBUD



| STANDARD NAME | ELEMENT UNITS | Au 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 | | 0.145 | - |
| Number of Analyses | | 1 | - |
| Mean Value | | 0.1450 | - |
| Standard Deviation | | - | - |
| Accepted Value | | 0.150 | - |
| GEO TRACE STD1(1989) | | - | 1.03 |
| GEO TRACE STD1(1989) | | - | 1.01 |
| Number of Analyses | | - | 2 |
| Mean Value | | - | 1.021 |
| Standard Deviation | | - | 0.0158 |
| Accepted Value | | - | 1.05 |
| AG ASSAY | | - | 3.07 |
| AG ASSAY | | - | 3.15 |
| Number of Analyses | | - | 2 |
| Mean Value | | - | 3.108 |
| Standard Deviation | | - | 0.0605 |
| Accepted Value | | - | 3.03 |

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RL194 (0-355')

# Geochemical Lab Report

BONDAR-CLEGG

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

JUN 19 1991

REPORT: R91-11053.4 ( COMPLETE )

REFERENCE INFO: RL180 0-685

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

SUBMITTED BY: WALCK
DATE PRINTED: 14-JUN-91

| ORDER | ELEMENT | | NUMBER OF ANALYSES | LOWER DETECTION LIMIT | EXTRACTION | METHOD |
|---|---|---|---|---|---|---|
| 1 | Au | Gold | 74 | 0.002 OPT | | Fire Assay |
| 2 | Ag | Silver | 74 | 0.02 OPT | | Fire Assay |

| SAMPLE TYPES | NUMBER | SIZE FRACTIONS | NUMBER | SAMPLE PREPARATIONS | NUMBER |
|---|---|---|---|---|---|
| Z OTHER DRILL TYPES | 71 | 2 -150 | 71 | CRUSH,PULVERIZE -150 | 71 |
| P PREPARED PULP | 3 | 4 AS REC'D | 3 | AS RECEIVED, NO SP | 3 |

NOTES: # indicates ERRATIC RESULTS

REMARKS: #ERRATIC RESULTS OBSERVED ON THE FOLLOWING:
RL-194 235-240--AU VALUE .003 AND .008 OPT.

REPORT COPIES TO: MS. CYNDIE WALCK
MR. TIM KUHL
MR. TIM KUHL

INVOICE TO: MR. TIM KUHL

Nicole Dritten

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A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

# Geochemical Lab Report

REPORT: R91-11053.4 ( COMPLETE )

DATE PRINTED: 14-JUN-91
PROJECT: ROSEBUD



| STANDARD NAME | ELEMENT UNITS | Au OPT | Ag OPT |
|---|---|---|---|
| ANALYTICAL BLANK | | <0.002 | <0.02 |
| ANALYTICAL BLANK | | <0.002 | <0.02 |
| Number of Analyses | | 2 | 2 |
| Mean Value | | 0.0010 | 0.010 |
| Standard Deviation | | 0.000000 | 0.0000 |
| Accepted Value | | 0.002 | 0.02 |
| PD SYN STD AU/AG | | 0.039 | 0.41 |
| PD SYN STD AU/AG | | 0.041 | 0.38 |
| Number of Analyses | | 2 | 2 |
| Mean Value | | 0.0400 | 0.395 |
| Standard Deviation | | 0.00141 | 0.0212 |
| Accepted Value | | 0.040 | 0.40 |

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# Geochemical Lab Report

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DATE PRINTED: 14-JUN-91
PROJECT: ROSEBUD



| SAMPLE NUMBER | ELEMENT UNITS | Au OPT | Ag OPT |
|---|---|---|---|
| Z2 RL-194 0-5 | | <0.002 | 0.04 |
| Z2 RL-194 5-10 | | <0.002 | <0.02 |
| Z2 RL-194 10-15 | | 0.016 | 0.04 |
| Z2 RL-194 15-20 | | <0.002 | <0.02 |
| Z2 RL-194 20-25 | | <0.002 | <0.02 |
| Z2 RL-194 25-30 | | <0.002 | <0.02 |
| Z2 RL-194 30-35 | | <0.002 | <0.02 |
| Z2 RL-194 35-40 | | <0.002 | <0.02 |
| Z2 RL-194 40-45 | | <0.002 | <0.02 |
| Z2 RL-194 45-50 | | <0.002 | 0.05 |
| Z2 RL-194 50-55 | | <0.002 | <0.02 |
| Z2 RL-194 55-60 | | <0.002 | <0.02 |
| Z2 RL-194 60-65 | | <0.002 | <0.02 |
| Z2 RL-194 65-70 | | <0.002 | <0.02 |
| Z2 RL-194 70-75 | | <0.002 | <0.02 |
| Z2 RL-194 75-80 | | <0.002 | <0.02 |
| Z2 RL-194 80-85 | | <0.002 | <0.02 |
| Z2 RL-194 85-90 | | <0.002 | <0.02 |
| Z2 RL-194 90-95 | | <0.002 | <0.02 |
| Z2 RL-194 95-100 | | <0.002 | <0.02 |
| P4 BA-96 | | 0.060 | 0.07 |
| Z2 RL-194 100-105 | | <0.002 | <0.02 |
| Z2 RL-194 105-110 | | <0.002 | <0.02 |
| Z2 RL-194 110-115 | | <0.002 | <0.02 |
| Z2 RL-194 115-120 | | <0.002 | <0.02 |
| Z2 RL-194 120-125 | | <0.002 | <0.02 |
| Z2 RL-194 125-130 | | <0.002 | <0.02 |
| Z2 RL-194 130-135 | | <0.002 | <0.02 |
| Z2 RL-194 135-140 | | <0.002 | <0.02 |
| Z2 RL-194 140-145 | | <0.002 | <0.02 |
| Z2 RL-194 145-150 | | 0.011 | 0.05 |
| Z2 RL-194 150-155 | | <0.002 | <0.02 |
| Z2 RL-194 155-160 | | <0.002 | <0.02 |
| Z2 RL-194 160-165 | | <0.002 | <0.02 |
| Z2 RL-194 165-170 | | <0.002 | <0.02 |
| Z2 RL-194 170-175 | | <0.002 | <0.02 |
| Z2 RL-194 175-180 | | <0.002 | <0.02 |
| Z2 RL-194 180-185 | | <0.002 | <0.02 |
| Z2 RL-194 185-190 | | <0.002 | <0.02 |
| Z2 RL-194 190-195 | | <0.002 | <0.02 |
| Z2 RL-194 195-200 | | <0.002 | <0.02 |
| P4 BA-97 | | 0.036 | 0.23 |
| Z2 RL-194 200-205 | | <0.002 | 0.03 |
| Z2 RL-194 205-210 | | <0.002 | 0.03 |
| Z2 RL-194 210-215 | | <0.002 | <0.02 |
| Z2 RL-194 215-220 | | <0.002 | 0.03 |
| Z2 RL-194 220-225 | | <0.002 | 0.04 |
| Z2 RL-194 225-230 | | <0.002 | 0.03 |
| Z2 RL-194 230-235 | | <0.002 | 0.04 |
| Z2 RL-194 235-240 | | 0.0104 | 0.05 |
| Z2 RL-194 240-245 | | <0.002 | 0.04 |
| Z2 RL-194 245-250 | | <0.002 | 0.04 |
| Z2 RL-194 250-255 | | 0.005 | 0.05 |
| Z2 RL-194 255-260 | | 0.003 | 0.06 |
| Z2 RL-194 260-265 | | 0.003 | 0.06 |
| Z2 RL-194 265-270 | | 0.003 | 0.05 |
| Z2 RL-194 270-275 | | <0.002 | 0.04 |
| Z2 RL-194 275-280 | | <0.002 | 0.05 |
| Z2 RL-194 280-285 | | <0.002 | 0.05 |
| Z2 RL-194 285-290 | | <0.002 | 0.05 |
| Z2 RL-194 290-295 | | <0.002 | 0.05 |
| Z2 RL-194 295-300 | | 0.003 | 0.07 |
| P4 BA-98 | | 0.035 | 0.21 |
| Z2 RL-194 300-305 | | 0.003 | 0.05 |
| Z2 RL-194 305-310 | | <0.002 | 0.06 |
| Z2 RL-194 310-315 | | <0.002 | 0.04 |
| Z2 RL-194 315-320 | | <0.002 | 0.06 |
| Z2 RL-194 320-325 | | <0.002 | 0.04 |
| Z2 RL-194 325-330 | | <0.002 | 0.05 |
| Z2 RL-194 330-335 | | 0.004 | 0.07 |
| Z2 RL-194 335-340 | | 0.003 | 0.06 |
| Z2 RL-194 340-345 | | <0.002 | 0.05 |
| Z2 RL-194 345-350 | | 0.005 | 0.06 |
| Z2 RL-194 350-355 | | 0.004 | 0.07 |

g, Inc.
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I, Unit A
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# Geochemical Lab Report

REPORT: R91-11024.4 ( COMPLETE )

DATE PRINTED: 14-JUN-91
PROJECT: ROSEBUD



| SAMPLE NUMBER | ELEMENT UNITS | Au OPT | Ag OPT | Ag OPT | SAMPLE NUMBER | ELEMENT UNITS | Au OPT | Ag OPT | Ag OPT |
|---|---|---|---|---|---|---|---|---|---|
| D2 RL-193 803-808 | | 0.006 | | 0.09 | | | | | |
| D2 RL-193 808-811 | | 0.006 | | <0.02 | | | | | |
| D2 RL-193 811-816 | | 0.005 | | 0.04 | | | | | |
| P4 BA-88 | | 0.026 | | 0.05 | | | | | |
| D2 RL-193 816-821 | | 0.004 | | 0.03 | | | | | |
| D2 RL-193 821-826 | | <0.002 | | <0.02 | | | | | |
| D2 RL-193 826-831 | | 0.012 | | <0.02 | | | | | |
| D2 RL-193 831-836 | | <0.002 | | <0.02 | | | | | |
| D2 RL-193 836-840 | | <0.002 | | <0.02 | | | | | |
| D2 RL-194 563-568 | | <0.002 | | <0.02 | | | | | |
| D2 RL-194 568-573 | | <0.002# | | 0.05 | | | | | |
| D2 RL-194 573-578 | | 0.005 | | 0.03 | | | | | |
| D2 RL-194 578-583 | | 0.016 | | 0.04 | | | | | |
| D2 RL-194 583-588 | | 0.006 | | 0.07 | | | | | |
| D2 RL-194 588-593 | | <0.002 | | 0.05 | | | | | |
| D2 RL-194 593-598 | | <0.002 | | 0.07 | | | | | |
| D2 RL-194 598-603 | | 0.012# | | 0.11 | | | | | |
| D2 RL-194 603-608 | | <0.002 | | <0.02 | | | | | |
| D2 RL-194 608-613 | | <0.002 | | <0.02 | | | | | |
| D2 RL-194 613-618 | | <0.002 | | 0.03 | | | | | |
| D2 RL-194 618-623 | | <0.002 | | 0.44 | | | | | |
| D2 RL-194 623-628 | | <0.002 | | <0.02 | | | | | |

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# Geochemical Lab Report

REPORT: R91-11055.4 ( COMPLETE )

~~DATE PRINTED: 14-JUN-91~~
PROJECT: ROSEBUD



| SAMPLE NUMBER | ELEMENT UNITS | Au OPT | Ag OPT | SAMPLE NUMBER | ELEMENT UNITS | Au OPT | Ag OPT |
|---|---|---|---|---|---|---|---|
| D2 RL-194 533-538 | | <0.002 | 0.12 | D2 RL-194 807-810 | | 0.011 | 0.11 |
| D2 RL-194 628-633 | | <0.002 | 0.03 | P4 BA-9 | | ~~0.030~~ | 0.06 |
| D2 RL-194 633-638 | | <0.002 | 0.04 | D2 RL-194 810-815 | | 0.022 | 0.08 |
| D2 RL-194 638-643 | | <0.002 | <0.02 | D2 RL-194 815-820 | | 0.111 | 0.23 |
| D2 RL-194 643-648 | | 0.010 | 0.04 | D2 RL-194 820-825 | | 0.006 | 0.09 |
| RL 195 D2 RL-194 643-648 DUP | | 0.459 | 0.53 | D2 RL-194 825-830 | | 0.006 | 0.18 |
| D2 RL-194 648-653 | | 0.002 | 0.03 | D2 RL-194 830-835 | | 0.006 | 1.79 |
| D2 RL-194 653-658 | | 0.005 | 0.04 | D2 RL-194 835-840 | | 0.005 | 0.79 |
| D2 RL-194 658-663 | | <0.002 | 0.05 | D2 RL-194 840-845 | | <0.002 | 2.02 |
| D2 RL-194 663-668 | | <0.002 | 0.03 | D2 RL-194 845-850 | | <0.002 | 0.09 |
| D2 RL-194 668-673 | | <0.002 | 0.03 | D2 RL-194 850-855 | | <0.002 | 0.04 |
| D2 RL-194 673-678 | | <0.002 | 0.03 | D2 RL-194 855-860 | | <0.002 | 0.07 |
| D2 RL-194 678-683 | | <0.002 | 0.05 | D2 RL-194 860-865 | | <0.002 | 0.07 |
| RL195 ~~D2 RL-194 678-683 DUP~~ | | 0.029 | 0.18 | D2 RL-194 865-870 | | <0.002 | 0.07 |
| D2 RL-194 683-688.3 | | 0.010 | 0.07 | D2 RL-194 870-875 | | <0.002 | 0.04 |
| D2 RL-194 688.3-693 | | 0.005 | 0.07 | D2 RL-194 875-880 | | 0.003 | 0.05 |
| D2 RL-194 693-696.4 | | 0.012 | 0.13 | D2 RL-194 880-885 | | <0.002 | 0.04 |
| D2 RL-194 696.4-701.7 | | 0.014 | 0.16 | D2 RL-194 885-889 | | <0.002 | 0.08 |
| D2 RL-194 701.7-707 | | 0.003 | 0.06 | D2 RL-194 889-892 | | <0.002 | 0.06 |
| D2 RL-194 707-712 | | 0.011 | 0.09 | D2 RL-194 892-895 | | <0.002 | 0.08 |
| P4 BA-8 | | 0.023 | 0.12 | | | | |
| D2 RL-194 712-717 | | 0.032 | 0.16 | | | | |
| D2 RL-194 717-722 | | 0.036 | 0.09 | | | | |
| D2 RL-194 722-727.5 | | 0.022 | 0.16 | | | | |
| D2 RL-194 727.5-732.5 | | 0.004 | 0.09 | | | | |
| D2 RL-194 732.5-738 | | 0.014 | 0.12 | | | | |
| D2 RL-194 738-743 | | 0.022 | 0.11 | | | | |
| 753? D2 RL-194 743-748 | | 0.003 | 0.06 | | | | |
| D2 RL-194 748-753 | | 0.004 | 0.08 | | | | |
| 758 D2 RL-194 758-763 | | 0.010 | 0.11 | | | | |
| RL195 ~~D2 RL-194 758-763 DUP~~ | | 0.009 | 0.04 | | | | |
| D2 RL-194 763-768 | | 0.019 | 0.12 | | | | |
| D2 RL-194 768-773 | | 0.018 | 0.18 | | | | |
| D2 RL-194 773-778 | | 0.066 | 0.23 | | | | |
| D2 RL-194 778-783 | | 0.180 | 0.13 | | | | |
| D2 RL-194 783-788 | | 0.184 | 0.19 | | | | |
| D2 RL-194 788-793 | | 0.124 | 0.18 | | | | |
| D2 RL-194 793-798 | | 0.131 | 0.24 | | | | |
| D2 RL-194 798-803 | | 0.014 | 0.10 | | | | |
| D2 RL-194 803-807 | | 0.013 | 0.13 | | | | |

Not sure

~~RL 191C~~ no
~~RL 193C~~ no
RL 194 C
~~RL 195C~~ no
RL 197C
~~RL 196C~~ No

**Bondar-Clegg, Inc.**
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

REPORT: R91-11053.4 ( COMPLETE )

DATE PRINTED: 14-JUN-91
PROJECT: ROSEBUD



| SAMPLE NUMBER | ELEMENT UNITS | Au OPT | Ag OPT | SAMPLE NUMBER | ELEMENT UNITS | Au OPT | Ag OPT |
|---|---|---|---|---|---|---|---|
| RL-194 15-20 | | <0.002 | <0.02 | | | | |
| Duplicate | | <0.002 | <0.02 | | | | |
| RL-194 65-70 | | <0.002 | <0.02 | | | | |
| Duplicate | | <0.002 | <0.02 | | | | |
| RL-194 120-125 | | <0.002 | <0.02 | | | | |
| Duplicate | | <0.002 | <0.02 | | | | |
| RL-194 170-175 | | <0.002 | <0.02 | | | | |
| Prep Duplicate | | <0.002 | <0.02 | | | | |
| Duplicate | | <0.002 | <0.02 | | | | |
| RL-194 220-225 | | <0.002 | 0.04 | | | | |
| Duplicate | | <0.002 | 0.05 | | | | |
| RL-194 250-255 | | 0.005 | 0.05 | | | | |
| Prep Duplicate | | 0.004 | 0.03 | | | | |
| RL-194 270-275 | | <0.002 | 0.04 | | | | |
| Duplicate | | 0.003 | 0.05 | | | | |
| RL-194 325-330 | | <0.002 | 0.05 | | | | |
| Duplicate | | <0.002 | 0.06 | | | | |

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A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

# Geochemical Lab Report

REPORT: R91-11055.4 ( COMPLETE )

~~DATE PRINTED: 14-JUN-91~~
PROJECT: ROSEBUD



| SAMPLE NUMBER | ELEMENT UNITS | Au OPT | Ag OPT |
|---|---|---|---|
| RL-194 643-648 DUP | | 0.459 | 0.53 |
| Duplicate | | 0.426 | 0.40 |
| RL-194 688.3-693 | | 0.005 | 0.07 |
| Duplicate | | 0.007 | |
| RL-194 722-727.5 | | 0.022 | 0.16 |
| Duplicate | | | 0.13 |
| RL-194 732.5-738 | | 0.014 | 0.12 |
| Prep Duplicate | | 0.018 | 0.06 |
| RL-194 743-748 | | 0.003 | 0.06 |
| Duplicate | | 0.006 | |
| RL-194 793-798 | | 0.131 | 0.24 |
| Duplicate | | 0.128 | |
| BA-9 | | 0.030 | 0.06 |
| Duplicate | | | 0.11 |
| RL-194 810-815 | | 0.022 | 0.08 |
| Prep Duplicate | | 0.030 | 0.10 |
| RL-194 840-845 | | <0.002 | 2.02 |
| Duplicate | | <0.002 | |
| RL-194 889-892 | | <0.002 | 0.06 |
| Duplicate | | <0.002 | |
| RL-194 892-895 | | <0.002 | 0.08 |
| Duplicate | | | 0.10 |

RL-195C

# 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 :
Comments: ATTN: BOB THOMAS CC: GARFIELD MACVEIGH


Certificate Date: 14-JUN-91
Invoice No. : I9116170
P.O. Number :

## CERTIFICATE OF ANALYSIS A9116170

| SAMPLE DESCRIPTION | PREP CODE | | Au oz/T |
|---|---|---|---|
| RL-194 045-050 | 205 | 272 | 0.002 |
| RL-194 095-100 | 205 | 272 | 0.001 |
| RL-194 145-150 | 205 | 272 | 0.026 |
| RL-194 195-200 | 205 | 272 | 0.001 |
| RL-194 245-250 | 205 | 272 | 0.001 |
| RL-194 295-300 | 205 | 272 | 0.002 |
| RL-194 345-350 | 205 | 272 | 0.003 |
| RL-194 663-668 | 205 | 294 | 0.001 |
| RL-194 707-712 | 205 | 294 | 0.009 |
| RL-194 758-763 | 205 | 294 | 0.004 |
| RL-194 855-860 | 205 | 294 | 0.003 |
| RL-195 045-050 | 205 | 272 | 0.003 |
| RL-195 095-100 | 205 | 273 | 0.001 |
| RL-195 145-150 | 205 | 272 | 0.002 |
| RL-195 195-200 | 205 | 272 | 0.002 |
| RL-195 245-250 | 205 | 272 | 0.001 |
| RL-195 295-300 | 205 | 294 | 0.025 |
| RL-195 345-350 | 205 | 294 | 0.001 |
| RL-195 485-490 | 205 | 272 | 0.004 |
| RL-195 538-543 | 205 | 272 | 0.012 |
| RL-195 588-593 | 205 | 272 | 0.020 |
| RL-195 638-643 | 205 | 272 | 0.137 |
| RL-195 698-703 | 205 | 272 | 0.075 |

Equinox

LAC-

CERTIFICATION: Nandia M. Adam

# 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 : 75350
Comments: ATTN: TIM KUHL


Certificate Date: 22-JUL-91
Invoice No. : I9118188
P.O. Number :

## CERTIFICATE OF ANALYSIS A9118188

| SAMPLE DESCRIPTION | PREP CODE | | Au FA oz/T |
|---|---|---|---|
| RL191 680-685 | 214 | 227 | 0.168 |
| RL191 685-690 | 214 | 227 | 0.100 |
| RL191 690-695 | 214 | 227 | 0.183 |
| RL191 695-700 | 214 | 227 | 0.171 |
| RL191 700-705 | 214 | 227 | 0.026 |
| RL191 705-710 | 214 | 227 | 0.083 |
| RL191 710-715 | 214 | 227 | 0.016 |
| RL191 715-720 | 214 | 227 | 0.034 |
| RL192 538-543 | 214 | 227 | 0.034 |
| RL192 543-548 | 214 | 227 | 0.102 |
| RL192 548-553 | 214 | 227 | 0.047 |
| RL192 553-558 | 214 | 227 | 0.185 |
| RL192 558-563 | 214 | 227 | 0.637 |
| RL192 563-568 | 214 | 227 | 0.656 |
| RL192 568-573 | 214 | 227 | 0.360 |
| RL192 573-578 | 214 | 227 | 0.310 |
| RL192 578-583 | 214 | 227 | 0.055 |
| RL194 773-778 | 214 | 227 | 0.085 |
| RL194 778-783 | 214 | 227 | 0.106 |
| RL194 783-788 | 214 | 227 | 0.145 |
| RL194 788-793 | 214 | 227 | 0.144 |
| RL194 793-798 | 214 | 227 | 0.077 |
| RL194 798-803 | 214 | 227 | 0.022 |
| RL194 803-807 | 214 | 227 | 0.022 |
| RL194 807-810 | 214 | 227 | 0.011 |
| RL194 810-815 | 214 | 227 | 0.015 |
| RL194 815-820 | 214 | 227 | 0.118 |
| RL195 588-593 | 214 | 227 | 0.021 |
| RL195 593-598 | 214 | 227 | 0.004 |
| RL195 598-603 | 214 | 227 | 0.002 |
| RL195 603-608 | 214 | 227 | 0.121 |
| RL195 608-613 | 214 | 227 | 0.224 |
| RL195 613-618 | 214 | 227 | 0.035 |
| RL195 618-623 | 214 | 227 | 0.006 |
| RL195 623-628 | 214 | 227 | 0.324 |
| RL195 628-633 | 214 | 227 | 0.085 |
| RL195 633-638 | 214 | 227 | 0.071 |
| RL195 638-643 | 214 | 227 | 0.136 |
| RL195 648-653 | 214 | 227 | 0.177 |
| RL195 653-658 | 214 | 227 | 0.311 |

27 EG
13 LAC

CERTIFICATION: _____