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COMMODITY If not obvious	gold; silver
NOTES	January 1990 Project report; geology; drill hole summary; claim map; geologic map; assays 29 p. 2 oversized plates

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(for every 1 oversized page (>11x17) with text reduce
the amount of pages by ~25)

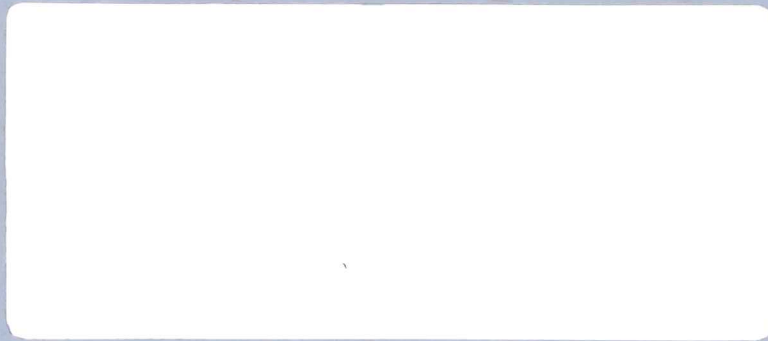
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1989 ANNUAL SUMMARY REPORT

ROSEBUD PROJECT

PERSHING COUNTY, NEVADA

K. L. Kenner
N. H. Brewer
LAC Minerals (USA), Inc.
January 1990

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1989 Annual Summary Report
Rosebud Project
Pershing County, Nevada

I. Summary

This report summarizes the 1989 exploration program on the Rosebud Property, an epithermal gold-silver project hosted in Miocene volcanics in the Kamma Mountains, northern Pershing County, Nevada.

The 1989 program focussed on detailed evaluation of numerous target areas generated during 1988. Six of these were drilled for a total of 28,866 feet in 56 holes (52 RVC, 4 core).

LAC's fifth hole, RE-5, intersected 155 feet grading 0.168 oz/T Au and 3.13 oz/T Ag on the South Equinox target. Another intercept in RL-3, 400 feet away, contained 55 feet of 0.119 oz/T Au.

Three phases of follow-up drilling have now delineated a high grade NE trending mineralized zone at least 700 feet long and 100 feet wide, open to the north. In core this zone is composed of multiple high grade clay-rich vertical structures with a few assay intervals in excess of 1 oz/T Au. The best intercept to date averaged 70.5 feet of 0.238 oz/T Au and 8.18 oz/T Ag (RE-41).

The high grade zone is surrounded by a broad halo of lower grade gold mineralization (± 0.05 oz/T). It is unoxidized and occurs in a clay-altered and weakly pyritized tuff breccia at the base of the Bud Breccia, a green clay-rich pyroclastic and epiclastic unit.

The depth to most of the significant intercepts ranges from 300 to 500 feet becoming deeper toward the northeast. The potential for shallow mineralization in the overlying Bud Breccia still needs to be evaluated. There may be parallel structures to the east as suggested by increasing alteration and gold grades in RE-8, 10 and 54.

Of the 5 other targets drill-tested this year, White Alps and East Degerstrom warrant additional drilling in 1990. Detailed follow-up work is also planned on the Wild Rose and North Equinox prospects where surface geochemistry, alteration, and IP anomalies suggest strong exploration potential.

A 1990 budget of US \$640,000 has been proposed to complete 28,000 feet of additional RVC drilling, preliminary metallurgical tests, and continued surface work on this large well mineralized property.

II. Introduction:

The Rosebud Project is located in northern Pershing County, approximately 50 miles NNW of Lovelock, Nevada (Figure 1). The 8660 acre Rosebud Property (Figure 2) encompasses numerous epithermal gold-silver prospects hosted in a thick pile of heterogeneous Miocene volcanics.

Named for the old Rosebud Mine in the center of the property, the Rosebud Mining District has recorded production of 3,700 ozs. Au and 116,000 ozs. Ag between 1908 and 1947 (Page, 1984). Modern gold exploration in the district began with Homestake in the late 70's, followed by ASARCO (~1980), St. Joe (~1981-82), and Freeport (1985-86). LAC's interest in the property was generated out of a regional reconnaissance program done in 1987.

In 1988 LAC Minerals acquired the Rosebud Property through various property agreements and claim staking. In addition most of Freeport's exploration data was recovered and added to the database. This included rock chip and soil geochemistry, as well as 9995 feet of rotary chips, pulps and assays from 22 drill holes. Their drilling results contained intercepts of up to 15 feet of 0.186 oz/T Au.

Based on these data and Lac's 1988 exploration program, a number of specific target areas were selected for detailed follow-up work and drilling (Bennett, 1988). The 1989 exploration program included completion of the IP/Resistivity survey, 1"=100' geologic mapping, detailed soil sampling, VLF, ground magnetics, an orientation biogeochemical survey, and drilling.

Six targets were drilled during the 1989 field season, with a total footage of 28,866 feet in 56 holes (52 RVC, 4 core). The following table represents a breakdown of the drilling by target area:

<u>Target Area</u>	<u>Total Holes</u>	<u>Total Footage</u>
South Equinox	38	20,831'
East Degerstrom	1	450'
Degerstrom	4	1905'
South Ridge	4	1680'
White Alps	4	2180'
Dreamland	5	1820'
=====	=====	=====
Totals	56	28,866'

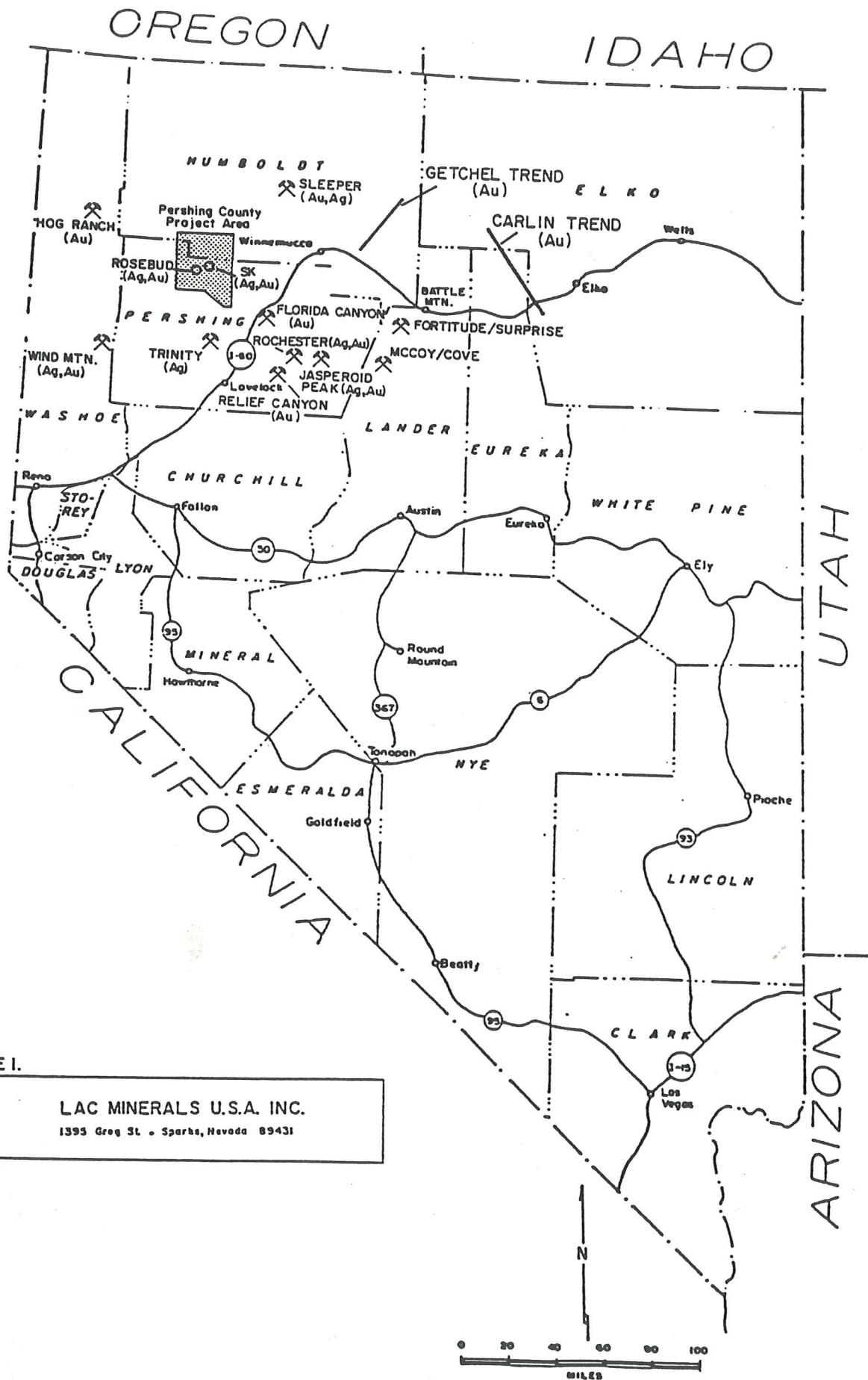


FIGURE 1.



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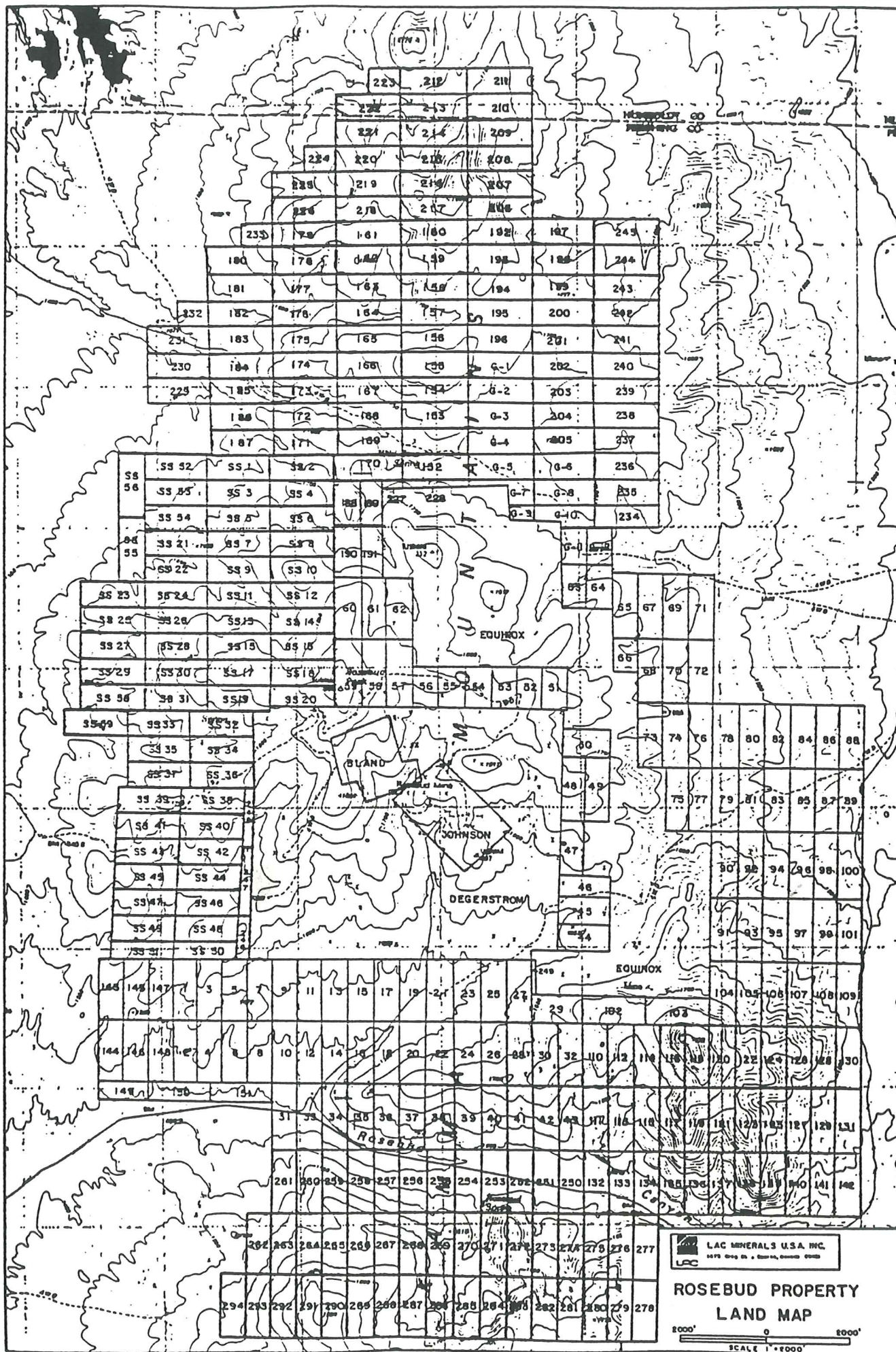


FIGURE 2.

During 1989, Rosebud project expenditures were approximately \$804,000 which brings the total to \$1,177,000 to date. With allowable employee benefits and overhead charges, approximately \$564,000 of this total is allocatable to the \$700,000 earn-in on Equinox Resources' claims; and \$160,000 to the \$500,000 earn-in on Degerstrom's claims.

III. Property Status:

LAC's current land position at Rosebud consists of three patented mining claims and eight groups of unpatented claims. (Figure 2). A summary of the land status by claim block and details of the various agreements are presented in Tables 1 and 2.

The 59 SS claims were staked in February 1989, over the existing Short Shot placer claims by agreement with the owners. These were staked to cover prospective ground west of Rosebud Peak including an open soil anomaly developed out of the 1988 grid sampling effort. The SS lode claims also cover most of the Pactolus-Chance target along the range front. This is an area of claim conflict between the senior Short Shot placer claims and the Chance lode claims recently leased by Norgold Resources.

Forty-five new Bud claims were also added south of Rosebud Canyon, to cover the South Kamma target and adjoin the east boundary of USMX's Oscar property.

IV. Geological Setting:

The Rosebud property is underlain by the Miocene Kamma Mountain volcanics, which host numerous epithermal-style gold-silver prospects. These occurrences are associated with discrete structures as well as broad areas of variable silicification, argillic alteration and bleaching. Plate 1 is a generalized geologic map of the Rosebud Project area compiled at 1"=1000'. Figure 3 shows the locations for the more significant exploration targets defined to date.

Geologic mapping by G. Massingill and R.E. Bennett in 1988 suggested that the Kamma Mountain volcanics were deposited in a north trending caldera-like subsiding trough developed in a Jurassic-Triassic basement sequence of pelitic metasediments of the Auld Lang Syne Formation. Basal Tertiary fanglomerates referred to as the Pansy Lee Formation, and derived locally from basement rocks, grade upwards into volcanic fragment-rich conglomerates of the Barrel Springs Formation. This sequence probably marks the

TABLE 1: ROSEBUD LAND STATUS

CLAIMS	ACREAGE	TOTAL	OWNERS	AGREEMENT
BUD 1-294 GATOR 1-12	5693	65.7%	LAC (100%)	\$30,600/yr assessment
WHITE ALPS LUCKY BOY 1 LUCKY BOY 2	52	0.60%	BLAND & PETERSON	PURCHASE OP
DREAMLAND 1- 4	77	0.89%	JOHNSON	PURCHASE OP
RB 1-25 WILD 1-21	765	8.8%	EQUINOX	51% E-IN JV
GP 2-49	854	9.9%	DEGERSTROM	50% E-IN JV
SS 1-59	<u>1219</u>	<u>14.1%</u>	GARRETT	PURCHASE OP
TOTALS	8660	100%		

TABLE 2: DETAILS OF THE ROSEBUD LAND OPTION AGREEMENTS

CLAIMS	DATE	AGREEMENT	PAYMENTS	COMMITMENTS
WHITE ALPS/ LUCKY BOY	7/12/88	PURCHASE	\$200,000 in 3 yrs.	None
DREAMLAND	7/12/88	PURCHASE w/ 5% NSR	\$100,000 in 3 yrs.	\$400/yr. assessmt.
WILD 1-21 RB 1-25	6/1/88	JV 51% LAC 49% EQUINOX	\$100,000 in 5 yrs.	\$700,000 in 5 yrs.
GP 2-49	10/1/88	50%/50% JV	None	\$500,000 in 4 yrs.
SS 1-59	2/16/89	PURCHASE	\$100,000 <u>in 3 yrs</u>	\$75,000 <u>in 3 yrs</u>
			\$500,000	\$1,275,400

beginning of Tertiary volcanism in the Kamma Mountains and represents an outflow facies coeval with the volcanic rocks within the inferred caldera (Bennett, 1988).

The Kamma Mountain volcanic sequence is composed of a thick section (3,000-4,000 ft.) of pyroclastics, lahars, fine grained and flow banded tuffs, and epiclastic volcanic rocks. Detailed mapping by S.R. Maynard and M.H. Bailey in 1989 revised the volcanic stratigraphy into 3 principal formations shown on Figure 4 and Plate 1. From bottom to top, these are: 1) Dozer Tuff, a granular to laminated fine grained densely welded tuff of unknown thickness; overlain unconformably by 2) the Chocolate Formation, a thick heterogeneous sequence of basal debris flows and bedded epiclastic and pyroclastic rocks which grade upwards into coarse pyroclastics, and densely welded tuff; and 3) Badger Formation, composed of poorly consolidated red clay-rich laharic breccias and clastic deposits which are largely unaltered, only locally preserved, and probably post-date most of the hydrothermal activity.

The Chocolate Formation has been subdivided into four members: a) Bud Breccia (Tcb), a basal sequence of heterolithic tuff, laharic debris flows, and well-bedded pyroclastics and epiclastics, intruded by siliceous aphanitic felsic sills (Ts); b) coarse pyroclastic breccias (Tcp) which are basal to c) the Chocolate Tuff (Tct), a thick and aerially extensive flow-banded welded tuff with distinctive maroon lapilli and sparse phenocrysts of sanidine and biotite; and d) the Gator Breccia (Tcg), an upper pyroclastic breccia composed chiefly of Chocolate Tuff fragments

In response to extensional tectonism in the late Tertiary, the Kamma Mountains have been, tilted and dissected by a complex system of major east-west, northwest, and northeast trending faults which display apparent left-lateral, oblique-slip and normal displacement. The predominantly northeast trending Basin and Range normal faults have progressively down-dropped major fault blocks from east to west and probably contribute to the regional southeasterly dip of the Tertiary stratigraphic section. (Bennett, 1988).

A regional scale N60E trending structure known as the Rosebud Shear Zone transects the southern part of the property and appears to be a major but poorly understood control for alteration and mineralization in the vicinity. Other trends, especially E-W, N-S, and NE, are also important local controls at a prospect scale.

V. Results of the 1989 Exploration Program:

This section briefly summarizes the 1989 exploration results by target area. Drill hole locations are shown on Figures 3 and 5. Significant drill intercepts (≥ 5 ft. @ 0.010 oz/T Au) for all 56 LAC and 22 Freeport holes are listed in Appendices 1 and 2. Detailed work including 1"=100' geologic maps, drill logs and cross sections are on file in the Reno office.

A. South Equinox:

Potentially economic gold-silver mineralization was discovered in the South Equinox area in 1989. This target was generated from a pronounced multi-element soil anomaly which extended for some 1500 feet southwest from Dozer Hill, sub-parallel with the Rosebud Shear Zone. Rock chip samples containing locally anomalous Au (≤ 850 ppb), Ag, As, Sb, Se and Hg values were collected from a few silicified and bleached outcrops in the area.

Significant intercepts of high grade gold-silver mineralization in RL-3 and RE-5 drilled early in the season, precipitated three subsequent phases of follow-up drilling to date. Total LAC drilling on this target now amounts to 38 holes and 20,381 feet. Figure 5 shows the hole locations, and significant intercepts.

As illustrated by the grade-thickness contours also on Figure 5, high grade mineralization defines an open N35-40E trending zone at least 700 feet long and up to 100 feet wide within a broad area of low grade to anomalous mineralization. As depicted in cross section (Figure 6), this zone is composed of multiple high grade clay-rich subvertical structures cross-cutting a well altered tuff breccia unit at the base of the Bud Breccia, 350 to 500 feet below the surface. In core, the host breccia locally displays many features typical of a hydrothermal origin but for the most part it appears to be a coarse lithic tuff. Both clast and matrix-supported varieties can be strongly altered and mineralized. Fragments are generally angular, fine grained, laminated, and welded pumice lapilli tuff (Dozer Tuff?).

The overlying Bud Breccia is typically green with distinctive smectite clay alteration; and is largely unmineralized although detectable to anomalous gold values are common throughout. It may have acted as an "aquaclude" to mineralizing fluids, but additional drilling is necessary to determine whether or not high grade mineralized structures project up into the Bud Breccia. Shallower intercepts in RL-3, 4, and 33 are interesting exceptions and appear to be hosted in a strongly argillized granular tuff interbed higher in the Bud Breccia.

The footwall to mineralization is sharply defined by a moderately north-dipping fault zone which strikes east-west and marks the contact with underlying fine grained Dozer Tuff. This fault is believed to be the down-dip projection of the South Ridge Fault mapped at the surface. If so, this structure shallows from a 60-80 degree north dip in outcrop to less than 35 degrees with depth. Surface mapping and slickensides suggest left-lateral oblique slip movement on the South Ridge Fault which may in part be post-mineral.

Alteration within the mineralized tuff breccia is characterized by a distinctive pinkish-tan appearance to the rock with local bleached zones of stronger clay alteration. In core these zones appear to be argillized structures which can sometimes carry spectacular grades. Patchy disseminated pyrite and narrow discontinuous veins of white clay-pyrite, drusy quartz-pyrite, and calcite are common but their direct relationship to precious metals grades is unclear.

A petrographic study of chips from RE-5 indicates the gold-silver mineralization occurs as native gold, electrum and trace amounts of silver-bearing minerals such as argentite, and proustite-pyrargyrite. Overall sulfide content is low consisting principally of pyrite (3-4%), subordinate amounts of marcasite, and traces of sphalerite, galena, arsenopyrite, and chalcOPYrite. Gold and electrum grains were observed: 1) within pyrite, or marcasite intergrown with pyrite in a quartz-lined calcite vein; 2) within quartz-clay; or 3) as electrum on proustite-pyrargyrite crystals. However, the amount of gold and potential silver carriers observed do not account for many of the high grade assays (Schurer & Fuchs, 1989).

Within the high grade zone, silver-gold ratios range from 10:1 to greater than 30:1 (e.g. 70.5 ft. @ 0.238 oz/T Au & 8.18 oz/T Ag in RE-41). Typical lower grade intercepts outside of this zone such as RE-25 (75 ft. @ 0.051 oz/T Au & 0.24 oz/T Ag) have ratios of generally less than 10:1.

Surface techniques including VLF, ground magnetics and biogeochemical sampling (sagebrush), were tried in 1989 but none of these were successful in detecting the deep high grade NE trend currently inferred from drilling. Additional parallel zones may exist especially to the east of RE-8,10, and 54 based on increasing grade-thickness values, alteration and a deep IP anomaly located just south of Dozer Hill. Additional drilling is planned in this large covered area in 1990.

B. South Ridge:

The South Ridge target is defined by a strong soil anomaly (up to 3719 ppb Au) which straddles South Ridge about 3000 feet southwest of Dozer Hill. The anomaly extends for about 800 to 1000 feet NNW across the South Ridge "saddle shaft" prospect. Rock chip samples of silicified Dozer Tuff in the area contain in excess of 1 ppm Au.

The soil anomaly coincides with the upper contact of bleached granular Dozer Tuff overlain by green smectite clay altered Bud Breccia. This contact is defined by a shallow west dipping normal fault, referred to as the Saddle Fault, which down drop the Bud pyroclastics and a felsite sill to the west.

An additional 100 rock chip samples, including road cut samples were taken from the area in 1989. Anomalous Au values ranging from 100 to 900 ppb correspond to samples of thin (cm scale) chalcedonic breccia veins with narrow argillic halos. Trace element geochemistry show weakly to moderately anomalous concentrations of Ag, As, Sb, Se, Ba, Hg, and Tl.

Four holes (1680 ft.) were drilled to test the South Ridge anomaly (Figure 3). Narrow low grade intercepts in RL-44 and 45 (e.g. 10 ft @ 0.028 oz/T Au) contain chips of tight chalcedonic breccia veins in bleached fine grained Dozer Tuff similar to surface mineralization. These veins are probably the source for the South Ridge soil anomaly and do not warrant further drilling at this time.

C. Degerstrom:

The Degerstrom target is located about 3000 feet southwest of the old Rosebud Mine area, on the northern down-dropped side of the Rosebud Shear Zone. The target was generated from spotty high soil geochemistry (up to 824 ppb Au) in an area with strong north to northeast trending silicified structures in argillized Chocolate Tuff.

Detailed soil sampling defined coherent gold anomalies (>100 ppb Au) more or less coincident with the structural trends. Rock samples of the silicified zones returned anomalous values ranging between 100 and 434 ppb Au accompanied by weak to moderately anomalous trace metals.

A total of 1905 feet in 4 holes were drilled on this target (Figure 3). The holes encountered relatively narrow mineralized zones hosted in argillized Chocolate Tuff and never penetrated the underlying Bud Breccia. The best intercepts were from the southern two holes (RD-46 & 48) which intersected as much as 25 feet grading

0.034 oz/T Au in a strongly clay altered \pm silicified fault zone. This structure projects south-southeast under post-mineral Badger Formation toward the Rosebud Shear Zone, and may warrant additional drilling along trend in the future.

D. East Degerstrom:

The East Degerstrom target is located along the projection of the Rosebud Shear Zone approximately midway between the Degerstrom and South Equinox prospect areas described above (Fig. 3). Based on anomalous values in two nearby Freeport holes (Table 4), a strong IP anomaly, and a rock chip sample with 323 ppb Au and 1.6 ppm Au, a single vertical hole (RD-56) was drilled in this largely covered area at the end of the year.

Results show that beneath 40-50 feet of post-mineral Badger Formation and alluvial cover, the rocks are strongly altered to the T.D. of 450 feet where the hole was stopped due to water. Anomalous to low grade Au and Ag values encountered throughout this hole are very encouraging. The alteration style is similar to South Equinox and the Ag:Au ratio is unusually high.

Follow-up drilling including several angle holes are planned during the next phase of exploration in 1990.

E. Dreamland:

The Dreamland target encompasses the original Rosebud Mine which produced high grade ore from three parallel E-W trending vertical structures. Surface samples contain values of up to 12 ppm Au on these narrow structures.

The Dreamland target area is underlain primarily by moderately to strongly argillized and locally silicified Chocolate Tuff. The east end is largely covered by unaltered Badger Formation. The mineralized structures are enveloped by barren white acid leached zones characteristic of a high level in the system.

Five holes totalling 1820 feet were drilled in this target area to test the covered strike extensions of the main structures and potential for low grade disseminated mineralization between them. Results were generally negative but RD-12 did intersect 15 ft. of 0.027 oz/T Au. None of the holes were deep enough to test the more receptive Bud Breccia lithologies below Chocolate Tuff. Based on the level of alteration and stratigraphic position of the known mineralization at Dreamland, additional deep drilling is recommended in the future.

F. White Alps:

The feature of interest at White Alps is a prominent quartz alunite knob which lies along a major N65E structure on the south side of Rosebud Peak. The southeast (hanging wall?) side of this structure is pervasively argillized Chocolate Tuff, with local zones of silicification. The northwest side is typical green smectite clay altered Bud Breccia. Along trend to the northeast this structure projects under a thick cover of Badger Formation.

The rock geochemistry from the quartz alunite knob is characterized by weakly to moderately anomalous Au (≤ 344 ppb), Hg, Sb, Zn, Ga, and Se.

A total of 2180 feet in 4 holes were drilled in this area in 1989 (Fig. 3). All holes were collared in Chocolate Tuff on the southeast side of the structure and ended in Bud Breccia; the Dozer Tuff was never reached. A number of structural zones were encountered with anomalous Au and favorable alteration, including significant grades up to .052 oz/T Au over 20 feet (RBP-19). Because of the pervasive favorable alteration and because the basal contact of the Bud Breccia was never tested, follow up drilling in 1990 is warranted. This should include 1 or 2 holes on the northwest side of the structure where the basal contact is anticipated at a shallower depth.

G. Short Shot:

The Short Shot target was generated from an open soil anomaly on the northwest end of two 1988 grid lines west of Rosebud Peak. Detailed follow-up work in 1989 defined a large moderately anomalous area (50-121 ppb Au in soils) underlain by pervasively bleached and argillized Dozer Tuff. Silicified NE trending structures with values of up to 504 ppb Au are probably the sources of the soil anomaly. Overlying Bud Breccia and Chocolate Tuff exposed east of the anomaly are unmineralized.

Because the mineralization at Short Shot is apparently confined to narrow structures in fine grained unfavorable Dozer Tuff, no drilling is recommended at this time. As described in the White Alps section above, additional work in the area should focus on the basal portions of Bud Breccia as a more receptive host rock close to the White Alps structure.

H. North Equinox:

The North Equinox target covers a prominent silicified structure which trends NW across the top of USMM 212. Equinox Resources collected samples from this zone in 1984 which contained up to 3760 ppb Au (Page, 1984). LAC's highest rock chip value from this area is 283 ppb Au.

Anomalous soils from two of the 1988 grid lines, and a strong IP anomaly are located in the vicinity. A 200 X 100 foot grid was installed in 1989 and follow-up soil sampling and detailed mapping is planned for 1990.

I. Wild Rose:

The Wild Rose target was generated from anomalous rock chip geochemistry (≤ 1040 ppb Au) along NNE trending mineralized structures. Preliminary N-S soil lines 750 feet apart in late 1988 delineated two NE to E-W trending anomalies with values of 100 to 283 ppb Au.

Brief follow-up work in 1989 identified a number of NNE trending silicified structures present in bleached Dozer Tuff and Bud Breccia(?) pyroclastics on the north side of a prominent east-west photo-linear. This east-west trend is defined by widespread bleaching, local silicification, and a shallow east-west IP/Resistivity anomaly on three lines.

Intermediate grid lines were surveyed in late 1989 and detailed follow-up work is scheduled for 1990.

VI. Proposed 1990 Exploration Program

Recommendations for the 1990 exploration program at Rosebud are three fold: 1) complete infill and step out drilling on South Equinox, East Degerstrom and White Alps; 2) follow-up work on Wild Rose and North Equinox; 3) continue systematic evaluation and target development on other anomalies and prospective areas on the property.

The initial phase of the program will begin in early March and have the following objectives:

- A. South Equinox: * infill and stepout drilling along the NE trend, ~5000' in 8-9 holes
- * step out drilling east of RE-8, ~4000' in 5-6 holes
- * infill drilling around RE-3,4 ~1000' in 2 holes
- * complete preliminary metallurgical tests on selected intercepts
- B. East Degerstrom: * offset drilling near RE-56, ~2000 feet, 3-4 holes
- C. White Alps: * drill additional ~2000' in 3-4 holes

Surface work and additional drilling will follow Phase 1 pending results and BLM approval.

TABLE 3

1990
ROSEBUD PROJECT
PROPOSED 1990 BUDGET

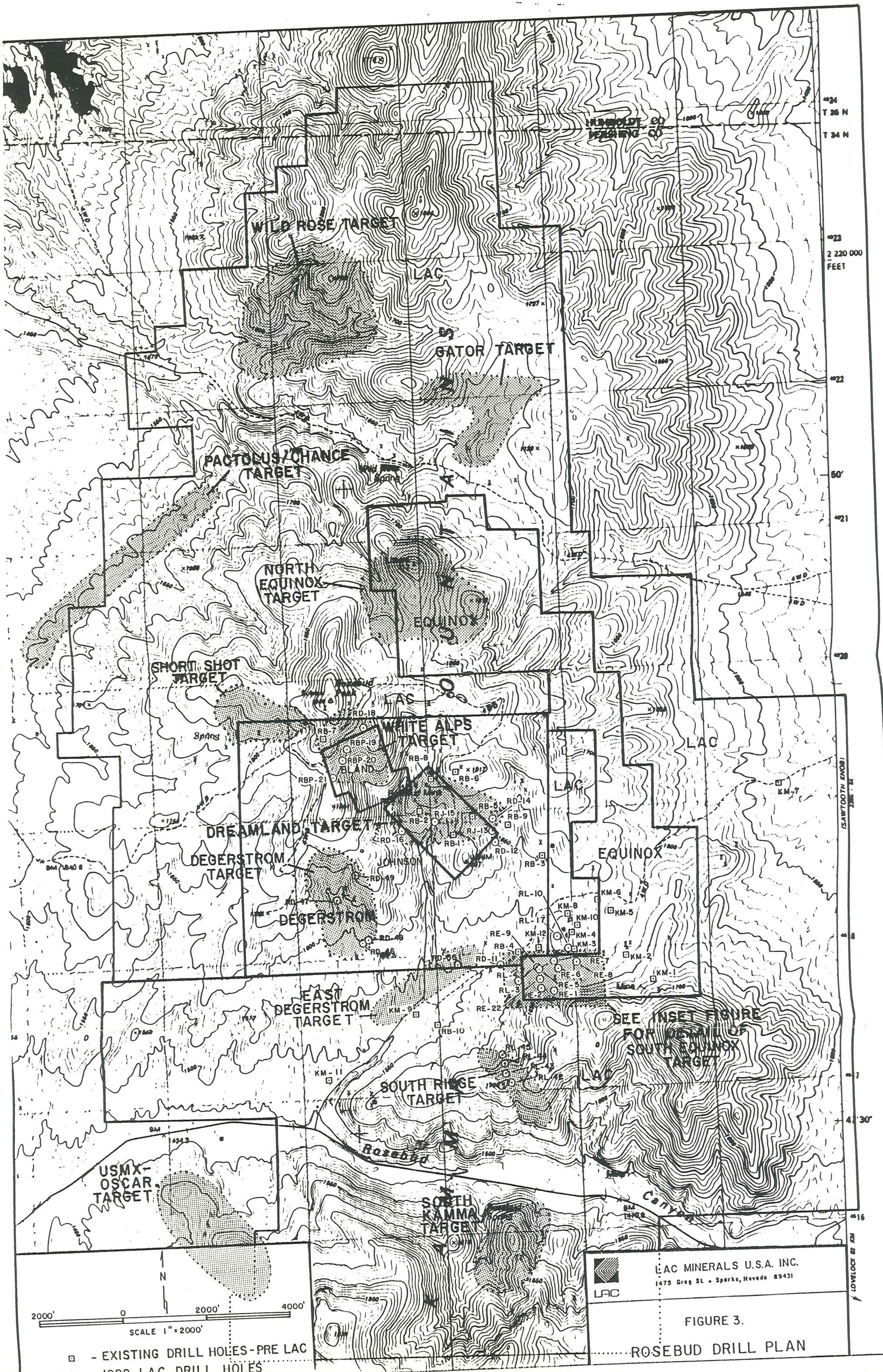
ACCOUNT CODE	ITEM	TOTAL
72001	Salaries & Wages	\$71,000
73012	Storage & Security	\$700
73013	Supplies & Stationary	\$300
74008	Legal Fees	\$2,000
74010	License, Registration, & Claim Fees	\$11,000
75002	Consulting Fees	\$11,000
75004	Meals & Entertainment	\$9,000
75006	Reproduction, Drafting, Maps, photos	\$2,000
75007	Travel & Accommodations	\$15,000
75008	Vehicle & Equipment Rental, Lease	\$10,000
75009	Vehicle Repairs, Maintenance	\$4,000
75021	Miscellaneous	\$4,000
79006	Geochemical Surveys	\$8,000
79009	Option & Lease Payments	\$95,000
79010	Road & Pad Construction	\$10,000
79011	Surveying	\$3,000
79013	Drilling	\$280,000
79014	Drill Assays	\$84,000
79015	Field Supplies & Equipment	\$5,000
79016	Reclamation	\$5,000
79017	Metallurgy	\$10,000
TOTAL:		\$640,000

COMMENTS: 1) Includes land payments of \$30,000 (obligated) and payment to Equinox to complete earn-in requirement

2) Does not account for JV contributions from Equinox of which we may be able to apply some of the above \$65,000 as work.

REFERENCES

- Bennett, R.E., 1988, Annual Summary Report, Pershing County, Nevada, Rosebud and SK Projects; LAC Company Report, November 1988.
- Hallof, P.G., 1989a, Preliminary Interpretation on the Phase IP Results from Line 13E to Line 23E at the Rosebud Grid; Consultant's Memorandum to C.J. Nelsen, 4 January, 1989.
- Hallof, P.G., 1989b, Discussion of the Reconnaissance IP and Resistivity Results from the Rosebud Project, Lovelock Area, Nevada; Consultant's Memorandum to C.J. Nelsen, 12 May, 1989.
- Page, J.W., 1984, Geological Report of the RB and Wild Claim Group (Rosebud Property) Rosebud Mining District, Pershing County, Nevada; Consultant's Report for Equinox Resources Ltd., 9 November, 1984.
- Schurer & Fuchs, 1989, Petrography & Ore Microscopy of Selected Samples From Drill Hole RE-5, July 1989, and Additional Samples From Drill Hole RE-5, Rosebud Project, October 1989; Contractor's Reports for R.E. Bennett.
- Smith, S.C., 1989, Survey Results And Biogeochemical Interpretation For A Sagebrush Survey, Rosebud Project, Pershing County, Nevada, November, 1989; Consultant's Report to N.H. Brewer.



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FEET

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50'

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20

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47 30'

46

100' 200' 300' 400'



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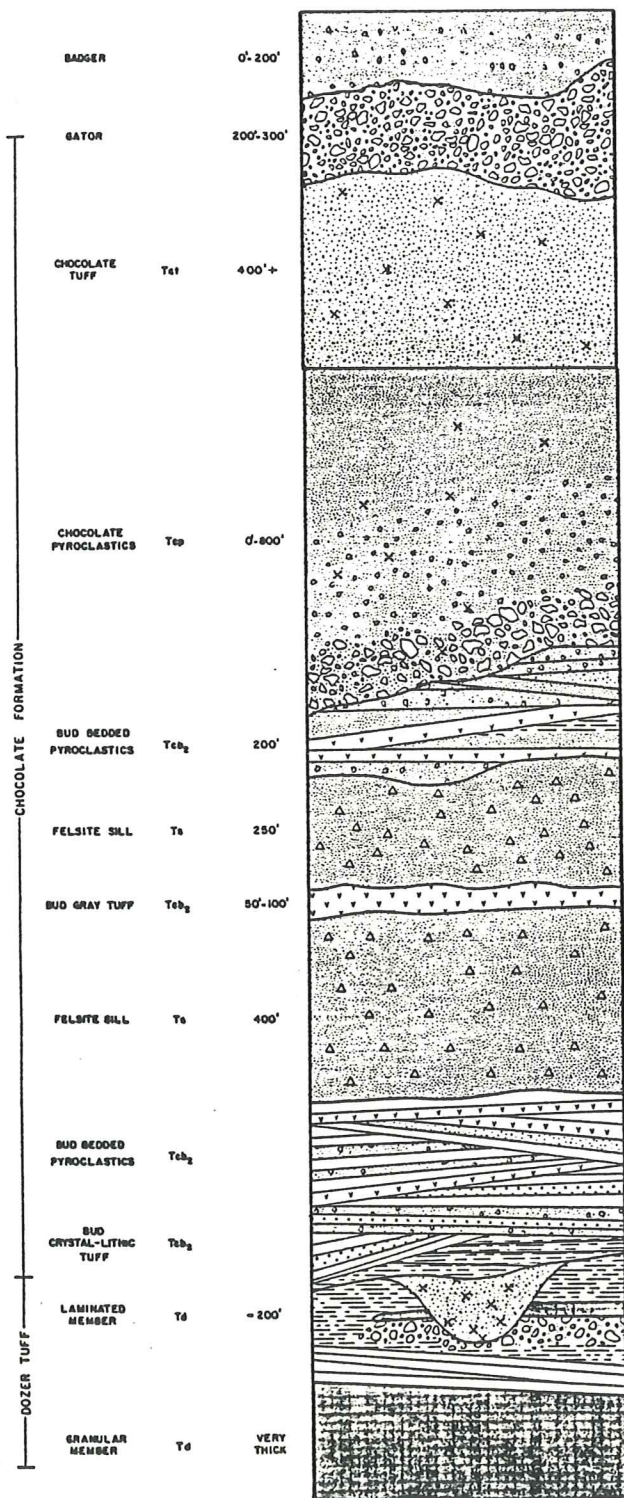
FIGURE 3.

ROSEBUD DRILL PLAN

□ - EXISTING DRILL HOLES - PRE LAC
○ - 1989 LAC DRILL HOLES

FORMATION MEMBER SYMBOL THICKNESS

EXPLANATION



SILICEOUS WELDED TUFF. SPARSE PHENOCRYSTS OF BIOTITE AND SANIDINE, MAROON TO GRAY TO CHOCOLATE BROWN. RESISTANT. MAROON LITHICS - LAPILLI-SIZE.

COARSE, UNBEDDED PYROCLASTICS. TUFFACEOUS MATRIX. BLOCK-SIZED LITHICS NEAR BASE. GRAY TO RED.

WELL BEDDED, MODERATE TO WELL SORTED PYROCLASTICS. RED TO BROWN TO PALE GREEN

MAROON, FINE GRAINED EQUIGRANULAR.

GRAY CRYSTAL-LITHIC TUFF

MAROON, FINE GRAINED EQUIGRANULAR.

WELL BEDDED, MODERATE TO WELL SORTED PYROCLASTICS. RED TO BROWN TO PALE GREEN.

Tch2 - CHANNEL-FILLING METERO-LITHIC TUFF.

LAMINATED WELDED TUFF, VITROPHYRIC, VITROPHERE PARTLY GONE TO SPHERULITES.

GRANULAR, TAN-COLORED TUFF.

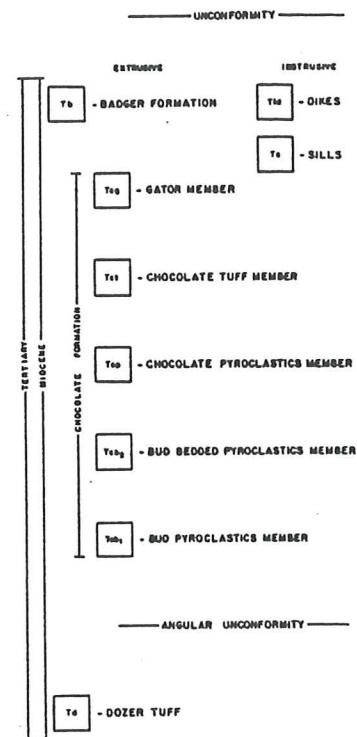
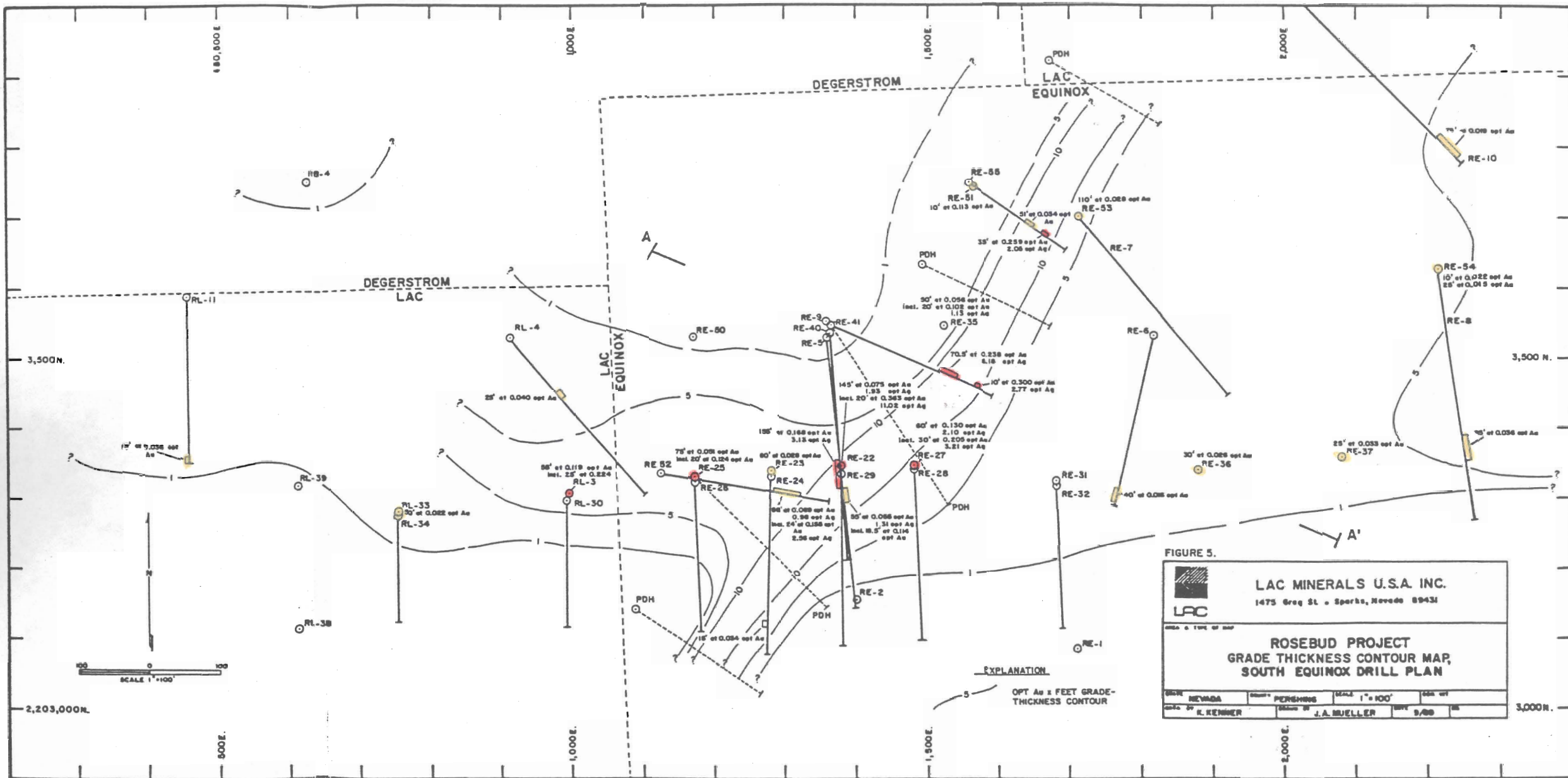


FIGURE 4.

LAC MINERALS U.S.A. INC. 1395 Greg St. • Sparks, Nevada 89431			
SIZE & TYPE OF MAP			
ROSEBUD PROJECT ROSEBUD STRAT. COLUMN AS SEEN ON SOUTH RIDGE			
STATE	COUNTY	TOWNSHIP	RANGE
NEVADA	PERMITS	34E	36E
DATE	DRAWN BY	CHECKED BY	DATE
7/79	S.R. MAYNARD	J.A. MUELLER	1/90



ROSEBUD PROJECT
DRILLING SUMMARY

APPENDIX 1: LAC DRILL HOLES (1989)

<u>HOLE NO.</u>	<u>T.D.</u>	<u>BEARING/ INCLINATION</u>	<u>INTERCEPT FROM-TO/WIDTH</u>	<u>AU OPT</u>	<u>AG OPT</u>
RE-1	565'	VERT.	15-20'/5'	0.036	-
			25-30'/5'	0.096	0.11
			275-280'/5'	0.046	-
			325-335'/10'	0.015	-
			345-375'/30'	0.016	0.08
			385-390'/5'	0.019	-
RE-2	820'	VERT.	50-55'/5'	0.013	-
			315-320'/5'	0.010	0.27
			385-390'/5'	0.016	0.15
RL-3	505'	VERT.	35-40'/5'	0.011	-
			95-100'/5'	0.015	-
			175-180'/5'	0.010	-
			220-355'/135'	0.064	0.15
			incl. 220-275'/55'	0.119	0.26
			incl. 225-250'/25'	0.224	0.47
RL-4	585'	S40E/-60	5-10'/5'	0.012	-
			155-160'/5'	0.010	-
			175-180'/5'	0.010	-
			195-200'/5'	0.016	0.10
			205-230'/25'	0.040	0.55
			270-275'/5'	0.016	-
			285-290'/5'	0.026	-
			310-315'/5'	0.047	-
			320-325'/5'	0.012	0.30
RE-5	780'	S05E/-58	225-230'/5'	0.020	0.10
			360-365'/5'	0.013	0.11
			370-525'/155'	0.168	3.13
			525-780'/255'	0.073	1.86
			(Prob. Contam. 525-780')		
RE-6	492' Lost	S13W/-59	80-85'/5'	0.013	-
			180-185'/5'	0.023	-
			445-485'/40'	0.016	0.11
RE-7	620'	S39E/-58	40-45'/5'	0.020	-

ROSEBUD DRILLING SUMMARY CONTINUED:

<u>HOLE NO.</u>	<u>T.D.</u>	<u>BEARING/ INCLINATION</u>	<u>INTERCEPT FROM-TO/WIDTH</u>	<u>AU OPT</u>	<u>AG OPT</u>
RE-8	680'	S08E/-58	30-35'/5'	0.014	-
			110-115'/5'	0.089	0.12
			150-160'/10'	0.012	-
			260-265'/5'	0.067	-
			285-290'/5'	0.011	0.10
			430-435'/5'	0.015	0.10
			445-510'/65'	0.036	0.34
			530-535'/5'	0.011	-
			575-585'/10'	0.013	0.11
RL-9	700'	VERT.	600-605'/5'	0.012	-
			125-130'/5'	0.014	-
RE-10	600'	S44E/-58	305-310'/5'	0.049	0.80
			325-330'/5'	0.011	-
			335-340'/5'	0.014	-
			400-405'/5'	0.041	0.10
			425-430'/5'	0.014	-
			455-460'/5'	0.011	0.10
			475-480'/5'	0.012	-
			510-585'/75'	0.019	0.02
			incl. 525-540'/15'	0.047	0.06
RL-11	480'	S00E/-60	465-480'/15'	0.036	0.07
RD-12	405'	NOSE/-58	30-45'/15'	0.027	1.51
			365-370'/5'	0.013	-
RJ-13	385'	N00E/-60	NIL		
RD-14	285'	N00E/-60	NIL		
RJ-15	445'	N19W/-60	NIL		
RD-16	300'	N05E/-66	NIL		
RL-17	605'	S36E/-67	215-225'/10'	0.013	0.01
			260-265'/5'	0.034	0.19
			510-515'/5'	0.013	0.18
			530-535'/5'	0.046	0.24
RD-18	465' Lost	N49W/-61	275-285'/10'	0.021	1.87

ROSEBUD DRILLING SUMMARY CONTINUED:

<u>HOLE NO.</u>	<u>T.D.</u>	<u>BEARING/ INCLINATION</u>	<u>INTERCEPT FROM-TO/WIDTH</u>	<u>AU OPT</u>	<u>AG OPT</u>
RBP-19	445' Lost	N70W/-60	20-25'/5'	0.016	0.25
			75-80'/5'	0.013	0.52
			120-135'/15'	0.016	1.13
			195-215'/20'	0.052	1.04
RBP-20	625'	VERT.	150-155'/5'	0.010	1.24
			375-380'/5'	0.011	0.50
			395-400'/5'	0.016	0.36
RD-21	645'	N41W/-58	550-555'/5'	0.015	-
			560-565'/5'	0.011	-
			570-575'/5'	0.011	-
RE-22	700'	VERT.	265-270'/5'	0.041	.16
			355-360'/5'	0.023	
			370-375'/5'	0.017	0.27
			395-540'/145'	0.075	1.93
			incl. 395-450'/55'	0.159	4.62
			incl. 425-445'/20'	0.363	11.02
RE-23	660'	VERT.	565-580'/15'	0.012	0.09
			175-180'/5'	0.013	.13
			340-345'/5'	0.014	
			360-420'/60'	0.028	.85
			incl. 390-405'/15'	0.060	1.77
			445-490'/45'	0.023	-
			525-535'/10'	0.029	0.13
RE-24	480'	S02W/-58	555-560'/5'	0.014	0.50
			35-40'/5'	0.024	-
			110-115'/5'	0.033	-
			395-410'/15'	0.034	0.60
			435-450'/15'	0.013	0.12
RE-25	640'	VERT.	465-480'/15'	0.026	0.33
			0-5'/5'	0.030	0.44
			70-75'/5'	0.017	-
			270-345'/75'	0.051	0.24
			incl. 320-340'/20'	0.124	0.66
			360-365'/5'	0.012	-
			420-425'/5'	0.014	-
			435-485'/50'	0.019	0.05
			515-520'/5'	0.013	0.18
			535-540'/5'	0.010	0.14
			560-570'/10'	0.020	0.09
			620-625'/5'	0.010	-

ROSEBUD DRILLING SUMMARY CONTINUED:

<u>HOLE NO.</u>	<u>T.D.</u>	<u>BEARING/ INCLINATION</u>	<u>INTERCEPT FROM-TO/WIDTH</u>	<u>AU OPT</u>	<u>AG OPT</u>
RE-26	405'	S02E/-58	50-55'/5' 90-95'/5' 300-310'/10'	0.033 0.015 0.012	0.18 0.13 0.45
RE-27	580'	VERT.	incl. 405-520'/115' incl. 420-480'/60' incl. 445-475'/30' 555-560'/5' 575-580'/5'	0.076 0.130 0.205 0.010 0.032	1.15 2.10 3.21 - -
RE-28	485'	S02E/-58	245-250'/5' 265-275'/10' 410-415'/5'	0.061 0.016 0.010	0.96 0.54 -
RE-29	505'	S02W/-59	290-295'/5'	0.010	-
RL-30	365'	S02W/-59	20-25'/5' 110-115'/5'	0.010 0.028	- -
RE-31	512'	VERT.	265-270'/5' 395-400'/5' 480-490'/10'	0.018 0.048 0.011	- 0.23 0.38
RE-32	405'	S02E/-60	110-115'/5' 160-165'/5' 245-250'/5'	0.046 0.011 0.034	- - 0.15
RL-33	465'	VERT.	incl. 110-115'/5' 120-170'/50' incl. 135-145'/10' 185-190'/5' 200-215'/15' 225-240'/15' 285-290'/5' 445-450'/5' 455-560'/5'	0.012 0.022 0.062 0.010 0.010 0.016 0.010 0.014 0.020	0.58 0.38 1.40 0.42 0.42 0.08 - - -
RL-34	300'	S03E/-59	NIL		
RE-35	625' Lost	VERT.	205-210'/5' 315-320'/5' 345-350'/5' 385-435'/50' incl. 400-420'/20' 475-545'/70' 580-585'/5'	0.013 0.013 0.011 0.056 0.102 0.020 0.019	0.28 - - 0.87 1.13 0.44 -

ROSEBUD DRILLING SUMMARY CONTINUED:

<u>HOLE NO.</u>	<u>T.D.</u>	<u>BEARING/ INCLINATION</u>	<u>INTERCEPT FROM-TO/WIDTH</u>	<u>AU OPT</u>	<u>AG OPT</u>
RE-36	500'	VERT.	75-80'/5'	0.010	-
			130-135'/5'	0.012	-
			435-465'30'	0.026	0.05
RE-37	495'	VERT.	20-30'/10'	0.025	-
			35-40'/5'	0.011	-
			75-80'/5'	0.018	-
			175-180'/5'	0.013	-
			200-205'/5'	0.013	-
			225-230'/5'	0.015	-
			305-315'/10'	0.033	0.28
			325-340'/15'	0.014	-
			400-410'/10'	0.025	-
			460-485'/25'	0.033	0.14
RL-38	296' Lost	VERT.	NIL		
RL-39	370'	VERT.	55-60'/5'	0.015	-
			125-130'/5'	0.011	-
			135-140'/5'	0.014	-
			155-160'/5'	0.010	0.11
RE-40 (Core)	610'	SO4E/-58	395-400'/5'	0.020	0.46
			411-466.5'/55.5'	0.055	1.31
		Incl.	445.5-463'/18.5'	0.114	1.90
			510.5-513.5'/3'	0.010	-
RE-41 (Core)	624'	S65E/-67	412.5-483'/70.5'	0.238	8.18
		Incl.	416.5-436'/19.5'	0.271	13.18
		Incl.	474-483'/9'	1.09	28.88
			523-528'/5'	0.013	-
			553-558'/5'	0.013	0.16
			563-573'/10'	0.300	2.77
			573-576.5'/3.5'	0.016	-
RL-42	450'	VERT.	NIL		
RL-43	310'	N76E/-60	NIL		
RL-44	430'	S44W/-60	40-55'/15'	0.017	0.02
RL-45	490'	S46W/-61	55-65'/10'	0.028	0.02
			240-245'/5'	0.014	0.04
RD-46	430'	N31E/-61	70-90'/20'	0.013	-

ROSEBUD DRILLING SUMMARY CONTINUED:

<u>HOLE NO.</u>	<u>T.D.</u>	<u>BEARING/ INCLINATION</u>	<u>INTERCEPT FROM-TO/WIDTH</u>	<u>AU OPT</u>	<u>AG OPT</u>
RD-47	490'	N81E/-61	165-170'/5'	0.010	-
RD-48	440'	VERT.	30-55'/25'	0.034	0.10
RD-49	545'	S25E/-61	500-505'/5'	0.010	0.14
RE-50	510'	VERT.	145-150'/5'	0.025	0.11
			185-190'/5'	0.015	0.12
			200-205'/5'	0.030	-
RE-51	510'	VERT.	305-310'/5'	0.018	0.11
			335-345'/10'	0.113	0.32
			390-395'/5'	0.015	0.31
			400-405'/5'	0.017	0.13
RE-52 (Core)	570'	S79E/-64	367-453'/86'	0.069	0.98
		Incl.	387-428'/41'	0.120	1.97
		Incl.	399-423'/24'	0.155	2.56
			(Assays Incomplete)		
RE-53	470'	VERT.	325-330'/5'	0.010	-
			335-340'/5'	0.010	-
			360-470'/110'	0.028	0.25
		Incl.	405-470'/65'	0.037	0.32
			(Poss. Contam. 450-470')		
RE-54	625'	VERT.	170-175'/5'	0.017	0.25
			215-220'/5'	0.011	0.10
			240-245'/5'	0.018	0.14
			255-265'/10'	0.022	-
			280-305'/25'	0.015	-
			325-330'/5'	0.018	-
			365-370'/5'	0.014	-
			395-400'/5'	0.015	-
RE-55 (Core)	692'	S52E/-76	290-310'/20'	0.036	0.03
			335-340'/5'	0.044	0.25
			355-360'/5'	0.021	0.16
			378-382'/4'	0.010	-
			396-447'/51'	0.034	0.07
		Incl.	396-412'/16'	0.050	0.06
		Incl.	427-447'/20'	0.047	0.12
			455-460'/5'	0.024	0.13
			514-549'/35'	0.259	2.05
		Incl.	524-534'/10'	0.726	5.54

ROSEBUD DRILLING SUMMARY CONTINUED:

<u>HOLE NO.</u>	<u>T.D.</u>	<u>BEARING/ INCLINATION</u>	<u>INTERCEPT FROM-TO/WIDTH</u>	<u>AU OPT</u>	<u>AG OPT</u>
RD-56	450'	VERT.	55-105'/50'	0.014	0.82
			145-150'/5'	0.015	-
			285-295'/10'	0.046	-
<u>TOTAL:</u>	28,866'	56 Holes			

APPENDIX 2: FREEPORT DRILL HOLES

(1985-1986)

<u>HOLE NO.</u>	<u>T.D.</u>	<u>BEARING/ INCLINATION</u>	<u>INTERCEPT FROM-TO/WIDTH</u>	<u>AU OPT</u>	<u>AG OPT</u>
KM-1	605'	S12W/-75	NIL		
KM-2	605'	VERT.	100-105'/5' 390-400'/10' 590-605'/15'	0.020 0.014 0.012	~0.05 1.04 0.29
KM-3	600'	VERT.	15-25'/10' 115-120'/5' 430-435'/5' 450-470'/20' 490-495'/5' 555-560'/5' 575-585'/10' 595-600'/5'	0.094 0.093 0.026 0.011 0.011 0.011 0.018 0.013	0.06 0.39 0.05 0.06 0.15 0.04 0.07 0.09
KM-4	600'	VERT.	160-170'/10' 175-180'/5' 250-255'/5' 530-540'/10'	0.018 0.021 0.041 0.117	0.07 ~0.04 ~0.03 0.03
KM-5	400'	VERT.	NIL		
KM-6	400'	VERT.	275-280'/5'	0.025	0.02
KM-7	340'	VERT.	NIL		
KM-8	600'	S40E/-50	235-240'/5' 265-270'/5' 285-290'/5' 320-325'/5' 540-550'/10' 560-565'/5' 590-600'/10'	0.019 0.010 0.039 0.076 0.016 0.049 0.019	0.08 0.04 0.03 ~0.05 0.07 ~0.04 -
KM-9	365'	VERT.	165-170'/5' 180-190'/10' 325-335'/10' 350-365'/15'	0.016 0.018 0.053 0.027	ND ND ND ND
KM-10	380'	VERT.	70-75'/5'	0.025	ND
KM-11	405'	S46E/-60	180-185'/5'	0.046	ND
KM-12	445'	N75E/-60	NIL		

FREEPORT DRILL HOLES CONTINUED

<u>HOLE NO.</u>	<u>T.D.</u>	<u>BEARING/ INCLINATION</u>	<u>INTERCEPT FROM-TO/WIDTH</u>	<u>AU OPT</u>	<u>AG OPT</u>
RB-1	500'	N05E/-70	255-260'/5' 355-360'/5'	0.019 0.032	ND ND
RB-2	660'	N05E/-60	0-5'/5'	0.013	ND
RB-3	460'	N35W/-70	NIL		
RB-4	405'	VERT.	25-30'/5' 75-80'/5' 120-125'/5'	0.010 0.010 0.013	ND ND ND
RB-5	425'	VERT.	0-5'/5' 35-40'/5' 115-135'/20' 175-190'/15' 205-220'/15'	0.042 0.010 0.027 0.014 0.015	ND ND ND ND ND
RB-6	405'	VERT.	NIL		
RB-7	305'	S07E/-60	NIL		
RB-8	300'	VERT.	NIL		
RB-9	305'	VERT.	75-90'/15'	0.186	ND
RB-10	485'	S85E/-60	NIL		
<u>TOTAL:</u>	9995'	22 Holes			
<u>GRAND TOTAL:</u>	38,857'	78 Holes	(LAC & FREEPORT)		

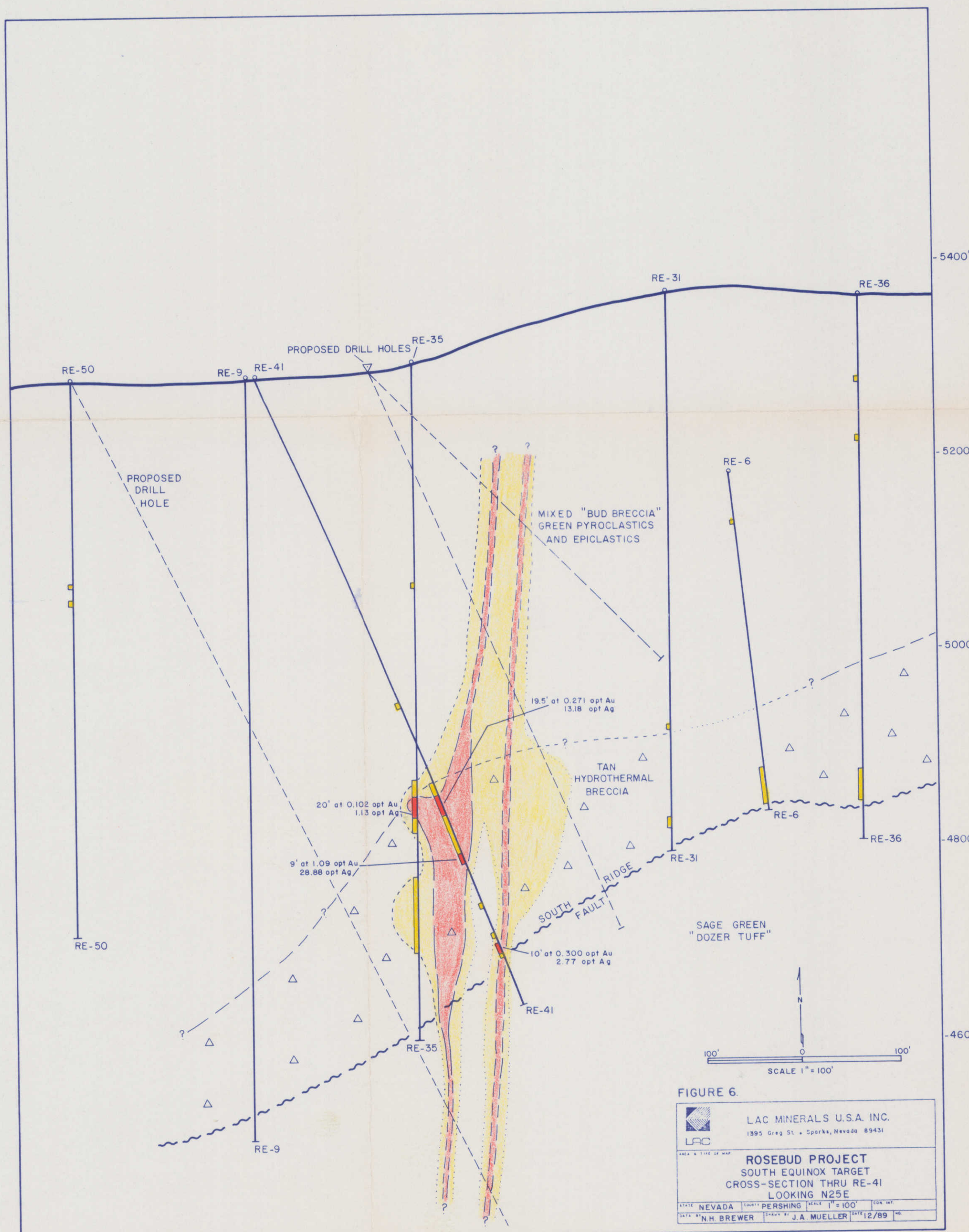
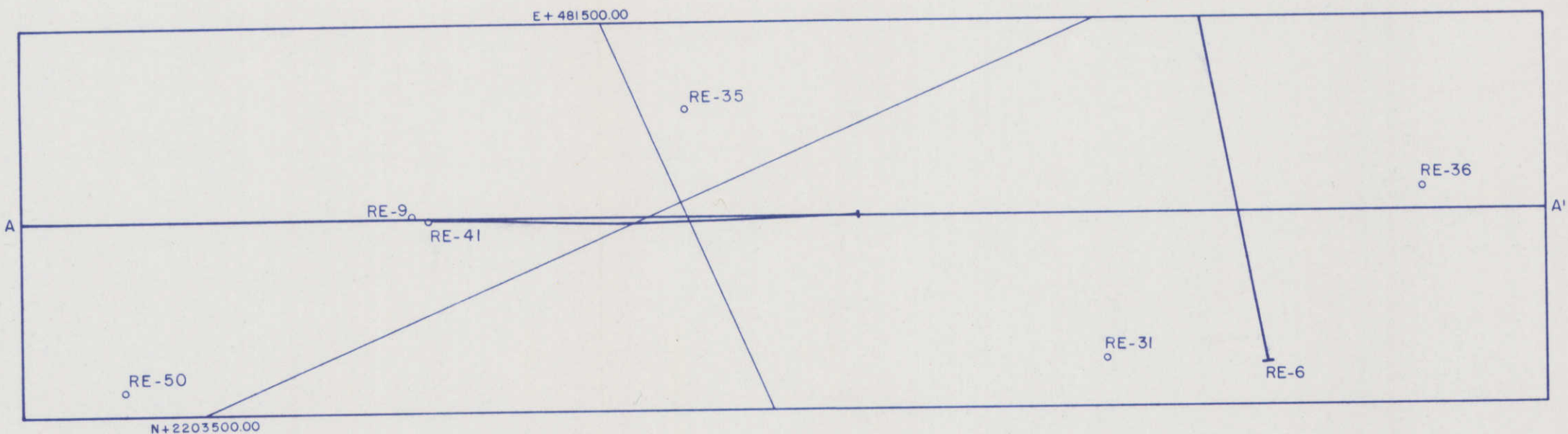


FIGURE 6.

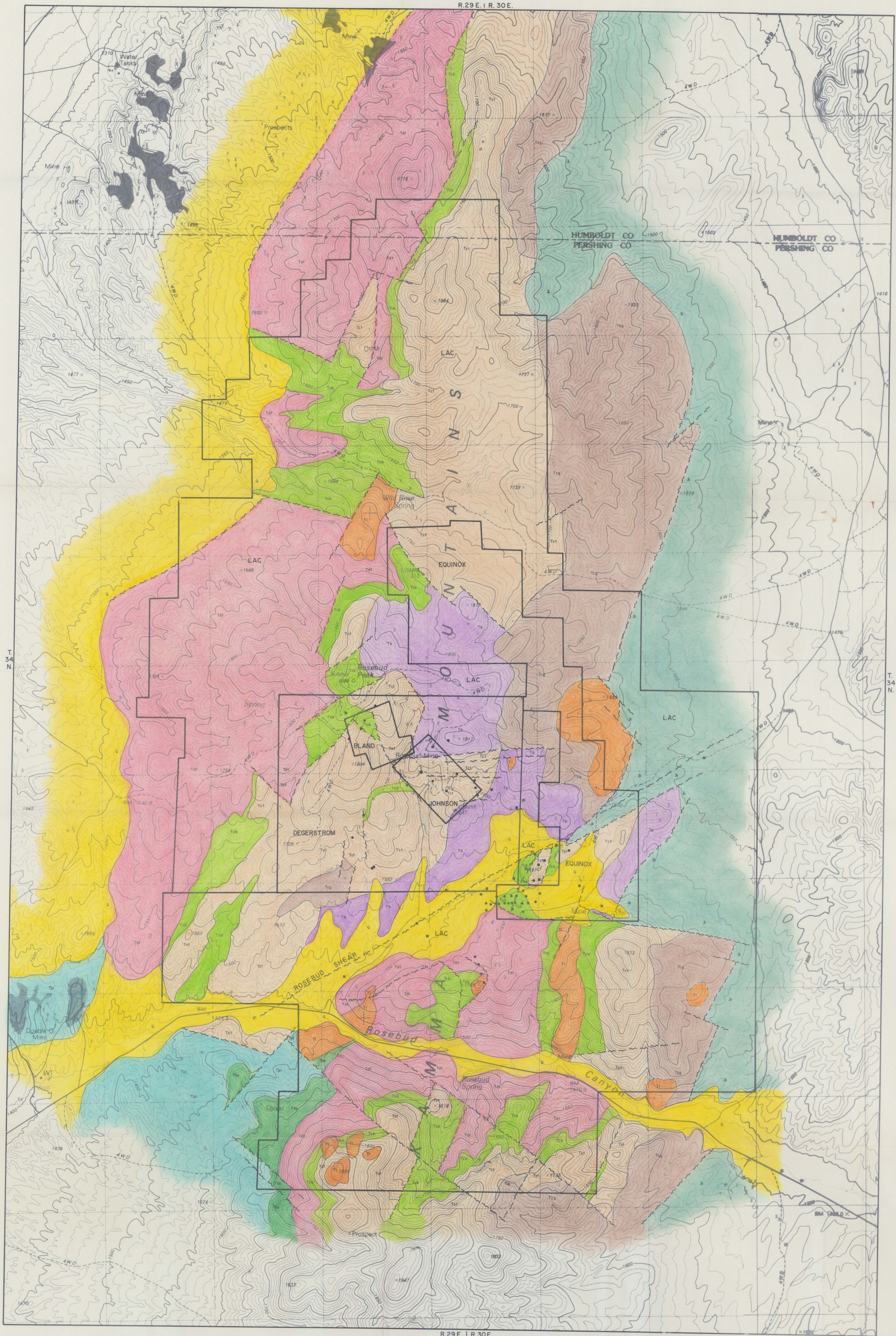
LAC MINERALS U.S.A. INC.
1395 Greg St. • Sparks, Nevada 89431

ROSEBUD PROJECT
SOUTH EQUINOX TARGET
CROSS-SECTION THRU RE-41
LOOKING N25E

STATE	NEVADA	COUNTY	PERSHING	SCALE	1" = 100'	CON. INT.
DATE	12/89	DRAWN BY	J.A. MUELLER	DATE	12/89	NO.

EXPLANATION

- QUATERNARY GRAVELS.
- "BARREL SPRINGS FORMATION" CONGLOMERATES WITH ABUNDANT VOLCANIC CLASTS AND INTERBEDDED AIRFALL TUFFS; PROBABLE "OUTFLOW FACIES", TIME-EQUIVALENT TO THE KAMMA MOUNTAIN VOLCANICS.
- "BADGER FORMATION" POORLY CONSOLIDATED POST-MINERAL CLASTICS.
- INTRUSIVE PLUGS AND SILLS; FELSIC AND INTERMEDIATE.
- "GATOR BRECCIA" PYROCLASTICS.
- "CHOCOLATE TUFF" FLOW-BANDED, WELDED AND NON-WELDED TUFF; BASAL PYROCLASTICS
- "BUD BRECCIA" WELL BEDDED TO POORLY BEDDED EPICLASTICS, LAHAR DEPOSITS AND PYROCLASTICS.
- ANGULAR UNCONFORMITY-
- "DOZER TUFF" LAMINATED AND VARIABLY WELDED FINE GRAINED TUFF; LOCALLY VITROPHYRIC.
- "FANSY LEE FORMATION" CONGLOMERATES AND FAN DEPOSITS DERIVED FROM A BASEMENT ROCKS; VOLCANIC CLASTS ABSENT.
- ANGULAR UNCONFORMITY-
- "AULD LANG SYNE FORMATION" PREDOMINANTLY SLATES AND PHYLLITES.
- FAULT
- CLAIM BOUNDARY
- FREEPORT DRILL HOLES
- LAC DRILL HOLES



SCALE 1" = 1000'

LAC MINERALS U.S.A. INC.
1475 Greg St. • Sparks, Nevada 89431

ROSEBUD PROJECT
SUMMARY MAP

STATE	NEVADA	COUNTY	PERKINS	SCALE	1" = 1000'	DATE	10/89
DRAWN BY	N.H. BREWER	CHECKED BY	J.A. MUELLER	DATE	10/89		