60001819

Mining District File Summary Sheet

DISTRICT	Rosebud
DIST_NO	4010
COUNTY If different from written on document	Pershing
TITLE If not obvious	Rosebud Prospect Rating and Ranking Memoranda
AUTHOR	
DATE OF DOC(S)	1999
MULTI_DIST Y / (N?) Additional Dist_Nos:	
QUAD_NAME	Sulphur 7½'
P_M_C_NAME (mine, claim & company names)	Rosebud Mine; Newmont Gold Co.; Sharkfin; Mother Lode; Gold Hill; White Alps; South Kamma; Vertex; School Bus Canyon; Deep Dreamland; Dagerstrom; Valley; Chance; Gator; Brown Palace; Wild Rose; Oscar; Short Shot; South Ridge; Saddle
COMMODITY If not obvious	gold; silver
NOTES	Property summaries; cross section; prospect list; geology; essays 30 p.

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

	Initials	Date
SS:	DP	7/31/08
DB:		
SCANNED:		

Revised: 1/22/08

ROSEBUD

PROSPECT RATING AND RANKING

MEMORANDA

6000 1819 4010

SOUTH KAMMA

TARGET CONCEPT

Moderate- to high-grade (>0.35 opt Au) structurally-controlled precious metal deposit(s) associated with moderate to strong silicification.

- Small- to moderate-volume, bulk tonnage mineralization localized within district-scale fracture zones and at fault intersections.
- Discrete veins localized along major faults.

Potential Target Size

Assuming ore-grade gold (silver) mineralization extends outward from the center and along the dip of the structure for 50 and 300 feet, respectively, then the ore body would host ~675 ounces per linear foot strike lenth.

- South Kamma has the potential to host multiple 200,000 ounce ore deposits.

Grade Potential

Gold and silver grades similar to those currently being mined at Rosebud are assumed.

- The highest gold assay in the prospect area is 160 ppb determined for calcareous siltstone with minor silty limestone interbeds within the Auld Lang Syne Group.
- The 160 ppb assay occurs along the eastern extension of one of the 070°-trrending fracture zones that control silicification within the prospect.

GEOLOGY

Volcanic units exposed in at South Kamma include the Kamma alkali rhyolte (≥30%), lava flows, pyroclastic and minor volcaniclastic deposits of the Chocolate Formation (≥30%), hypabyssal intrusions (≤30%), and greenschsit facies metamorphic rocks of the Auld Lang Syne Group.

- Age relationships between the various volcanic units, and between the volcanic and metamorphic terranes are poorly constrained.
- Important unknowns are (1) the relative age of the Kamma alkali rhyolite, and (2) the nature of the contacts between the Kamma Mountains Volcanic Group and the Auld Lang Syne Group.

Lithology

Auld Lang Syne Group

Metasedimentary rocks belonging to the Auld Lange Syne Group (ALS) are exposed in the eastern third of the prospect area.

- The main rock type is silty mudstone (phyllite) which is interbedded with thin mudstone, calcareous siltstone and silty limestone horizons, and medium to thick beds of quartzose sandstone.

- The rocks are metamorphosed to upper(?) greenschist facies

Kamma Mountains Volcanic Group

Most, if not all of the volcanic rocks belong to the Chocolate Formation.

- The youngest rocks are dikes and pipe-like bodies of intermediate and felsic composition. The largest intrusion is a pipe-like body of quartz-poor, glomeroporphyritic trachyte(?), which is very similar in composition and texture to the Kamma Trachyte intrusion forming the Gorilla landmark.

- The youngest volcanic rocks exposed are thick flow or flows of Rosebud Quartz Latite and the Chocolate Peak Alkali Rhyolite(?).

- Several relatively thin, trachytic(?) lava flows intercalated with much thicker pyroclastic deposits and thin volcaniclastic horizons separatte the Chocolate Peak Alkali Rhyolite(?) from the Kamma Alkali Rhyolite.

- The oldest(?) volcanic unit exposed is the Kamma Alkali Rhyolite (KAR). The unit is a fine- to medium-grained, relatively aphyric alkali rhyolite(?) lava containing <1% microphenocrysts of hornblende and feldspar. KAR is a strongly flow-foliated lava or lava-dome, is texturally similar to the *LBT,* but it lacks sanidine phenocrysts. The composition of KAR is similar to that of the lava domes in the Dozer Formation, and it is possible that KAR predates the Chocolate Formation.

Rock Structure

Contact Relationships

The contact between the ALS and Kamma Mountains Volcanic Group (KMV) trends approximately north, but is irregular suggesting that the contact between the two units occurs at a relatively shallow ($\leq 30^{o}$) angle.

- If there is a high-angle fault separating the two groups, as indicated by the geophysical model, then the contact must be offset by multiple northeast-trending normal faults.

Folds

Variable bedding attitudes indicate that moderate amplitude, relatively broad folds are a common feature of ALS rocks within the prospect area.

Faults and Fracture Zones

Fracture densities and silicification trends indicate that there are two dominant structural trends within the prospect area, northerly (345-355 °) and east-northeasterly (065°). Northerly-trending structures dip at moderate to steep (≥50°) angles to the east, tend to be "discrete" structures, and appear to control most of the silicification. The east-northeasterly-trending structures occur as closely spaced (~1cm), steeply west-dipping joint sets, which vary from a few meters to several 10's of meters in width. These fracture zones are the eastern extension of a major joint-fracture system that is intermittently exposed along the base of the southern flank of South Ridge from South Kamma to the Pinnacles.

Hydrothermal Breccia Dikes

Hydrothermal breccia dikes are characteristic of the South Kamma area. Most of these dikes strike northerly and dip steeply east or west. In areas where breccia dikes are abundant, pervasive brecciation is several 10's of meters wide.

Quartz and Carbonate Veins

Relatively thin (<5 cm) calcite stringers and bull quartz veins are common in ALS rocks. The calcite stringers and small quartz veins typically cross-cut bedding. Relatively thick (0.3 to 1.0 m wide) quartz veins preferentially intrude along fold axial planes in the ALS.

HYDROTHERMAL ALTERATION

Type and Intensity

Silicification

Silica ± calcite metasomatism is most well developed in the *Kamma Alkali Rhyolite*.

- The surface distribution of silicified rock appears to be controlled by fault and fracture zones.
- Hydrothermal breccia dikes are common, and are invariably silicified to some degree.
- Iron oxide (goethite > jarosite, or hematite >> goethite ± jarosite) is common along fractures in silicified rock, and is probably the oxidation product of iron sulfide minerals.
- Calcite may be a trace to minor component of silicification.

Argillization

Clay alteration is widespread in within the *Kamma Alkali Rhyolite*, but the types and distribution of the different types of clay were not determined.

Carbonatization

Structurally-controlled carbonate (mainly calcite) ± quartz veins and minor disseminated alteration are common in the ALS.

Areal Extent

Moderate to strong silicification and weak to moderate argillic alteration crops out over an area ~1,000 wide and ~1,500 feet long.

GEOCHEMISTRY

Surface Geochemistry

Rock

Rock-chip samples (109) collected during 1998. Gold, arsenic and selenium values for the samples are low, but weakly elevated values for these elements occur along traces of major(?) structural features.

- The contact between ALS and KMV appears to be one focal point for hydrothermal alteration ± mineralization.
- The contact zone is characterized by strong calcium and strontium depletion and locally trace amounts of gold, arsenic and selenium are present.
- Turner (1997) reported 3.65 ppm Au and 8.7 ppm Se in a rock-chip sample from an old working.

Soil

No soil samples have been taken in the South Kamma area. A soil sampling program is planned for the first quarter of 1999.

Drill Hole Geochemistry

There has been no drilling at South Kamma..

GEOPHYSICS

Induced Polarization

No induced polarization surveys were competed within the South Kamma prospect area.

Magnetics

No ground magnetic surveys were completed in the South Kamma area. Modeling of the airborne magnetic and gravity data (see attached memo) shows that the KMV overlies ALS low-grade metamorphic rock throughout the western two-thirds of the prospect, and abut ALS rocks along the inferred Kamma fault in the eastern portion of the prospect.

- A 050°-trending magnetic lineament transects the prospect.
- There are several areas of low magnetic relief, which may reflect magnetite distruction.
- The contact between the two groups is a planar, relatively flat-lying contact, possibly the "Foundation" fault.
- The eastern contact is a near vertical, westward-dipping normal fault.
- Two mafic(?) lava flows or intrusions occur within the volcanic sequence, and one dike-like intrusion cuts the contact between the two terranes.
- The Kamma Mountains Volcanic rocks are ~1000 feet thick in the South Kamma area.

Radiometrics

Ternary cluster algorithm modeling of the airborne radiometric data shows a potassium low and associated uranium high along the inferred Kamma fault zone. The combination of a K low and U high may indicate argillic alteration.

Gravity

See section on *Magnetics* above.

Thematic Mapper

End-member analysis of the thematic mapper data indicates identified argillic alteration within the prospect area. Interpretation of PIMA spectra indicates the presence of montmorillonite, illite-muscovite and kaolinite in rocks collected in the South Kamma area.

DRILL HOLES

No drilling has occurred within the boundaries of the prospect.

ACCESSIBILITY

Much of the prospect area is easily accesible, but the tops of the ridges and upper reaches of the streams will require long access roads.

LAND STATUS

Ownership

The Rosebud joint venture controls all of the claims covering the South Kamma prospect.

Royalties

- The prospect is covered by located claims with an overriding 4% net smelter return royalty to Euro-Nevada.

RECOMMENDATIONS

- Drill three, relatively shallow (<1,500 ft.), reverse circulation rotary drill holes angled at –45° toward the potential mineralized structures. Two of the drill holes are to test the 070°-trending fracture zone that may control the orientation of Rosebud Canyon. The third drill hole is sited to test the intersection of the inferred Kamma fault, a north-trending, east-dipping (45°) normal fault, and the contact between the Auld Lang Syne and Kamma Mountains Volcanic groups.

- If the drilling program is successful, it will be necessary to finish the rock-chip sampling program, and complete collect soil samples over the entire prospect area.

COST TO FIRST DECISION POINT

The total cost to the first decision point on South Kamma is estimated to be ~$67,000.

- $50,400 Reverse circulation rotary drilling (3 holes totaling 3,600 ft. at $14 per ft.)

- $11,840 Road and drill site construction (2,960 ft. at $4.00 per ft.)

- $2,700 Drill sample assays (180 samples at $15.00 per sample)

- $1,836 Drill hole surveying (3,600 ft. at $0.51 per ft.)

REFERENCES

Turner, S., 1997, Rosebud property, Pershing County, Nevada: technical review: Unpublished Newmont Gold Company Report, 19 p.

SOUTH RIDGE -- SADDLE

COMMENT

The Saddle portion of South Ridge has not been remapped, and the geology portrayed relies on interpretations made by Brady (1995, 1996) and Moore (1991), and comments made by Turner (1997). The southwestern side of the cross section passes through a portion of South Ridge that was remapped in 1998. The only additional new data are from a reconnaissance traverse along the crest of South Ridge (Mahood, 1998).

TARGET CONCEPT

Rosebud-style precious metal deposit.

Potential Target Size

It is reasonable to expect an orebody, if it exists, to be similar to Rosebud, i.e., 250,000 to 600,000 ounces of contained gold.

Grade Potential

Gold grades similar to those at Rosebud are likely to occur in an orebody in the Saddle area. The expected average grade is ~0.4 opt Au.

GEOLOGY

Lithology

Very little of the Saddle area has been remapped. Brady's (1995) geologic map indicates that most of the area is underlain by Dozer Formation. Remapping indicates that there are more than one "Dozer" Members within the formation. Unconformialy overlying the Dozer flow-dome complex is a sequence of intercalated volcaniclastic and ignimbrite units near the base and intercalated trachyte(?) lavas and volcaniclastic units near the top of the section. The trachyte(?) lavas are texturally and compositionally similar to the LBT unit.

Rock Structure

A north-trending fault is inferred to transect Saddle area of South Ridge. The location of the fault is based on mapped fault planes and a moderate to strong multielement geochemical anomaly.

HYDROTHERMAL ALTERATION

Type and Intensity

- Moderate to strong argillic alteration (kaolinite, illite ± smectite)

- Weak to moderate silicification
- Weak to moderate, calcite-dominant, carbonate alteration

Areal Extent

- Rock bleaching and argillic alteration is relatively widespread in the lava flows and domes in the Saddle area. The volcaniclastic and intercalated ignimbrite deposits are less altered, and the alteration is generally smectite ± chlorite. The distribution of the clay minerals must be varified by PIMA or x-ray diffraction analyses.
- Silicification appears to be restricted to relatively narrow halos along small(?) faults and fracture zones.
- Carbonate alteration is is common in the 070°-trending fracture zone that occurs near the base of the southern flank of South Ridge.

GEOCHEMISTRY

Surface Geochemistry

Rock

The results of widely spaced rock-chip sampling in the Saddle area outline:

- A ~2,000 by ~2,000 foot area of generally weak to moderate Au, As and Se values that is centered on the ridge crest.
- A 300 to 500 feet wide and ~3,500 feet long zone of weakly to moderately anomalous Au, As and Se values. The zone trends along the western boundary of the large area of anomalous rock-chip chemistry, and may be related to a north-trending fault that dips ~75° to the west.

Soil

The results of extensive soil sampling in the Saddle area defined an extensive, northwest-trending area (~2,000 by ~3,000 ft.) that covers nearly all of the prospect. The geochemical anomaly consists of weak to moderate Au and Ag values associated with moderate Hg and weak Se values. Only one soil sample was moderately anomalous in As.

Drill Hole Geochemistry

Significant drill intercepts for holes completed in the Saddle area of South Ridge are summarized in Table 1.

GOLD MINERALIZATION

Past Production

There are numerous prospect pits and one shallow shaft in the Saddle area of South Ridge, but there was no significant past production from the area.

Table 1. Significant drill intercepts.

Drill Hole	Interval (ft.)	Depth (ft.)	Au (opt)	Ag (opt)
RL – 42	--	--	--	--
RL – 43	--	--	--	--
RL – 43	15	40 – 55	0.017	0.02
RL – 44	10	55 – 65	0.029	0.02
	5	240 -- 245	0.014	0.04

Distance from the Rosebud Mine

The Saddle area is between 1,500 and 3,000 feet from the Rosebud mine.

GEOPHYSICS

Induced Polarization

There are no significant IP anomalies in the Saddle area.

Resistivity

Moderate resistivity anomalies do not follow mapped lithology and may reflect silicification. There is a north-striking resistivity low in the eastern portion of the prospect area.

Magnetics

Airborne

The airborne magnetic data may be a useful tool in extrapolating geologic contacts through areas with little or no outcrop.

- Magnetic susceptibility contrasts strike 030° and appear to reflect lithologic units.
- A 050°- and 090°-striking magnetic lineaments truncate prospect-scale magnetic trends to the north and south of the prospect, respectively. The magnetic lineaments may reflect faults.

Ground

There is no ground magnetic data for the Saddle area of South Ridge.

Radiometrics

Cluster analysis of the radiometric data produced element ratios indicative of hydrothermal alteration on the crest of South Ridge.

Potassium

There is a potassium low on the crest of South Ridge, and potassium highs on the northern and southern flanks of the ridge.

Thorium

Thorium values are variable and do not form discrete anomalies.

Uranium

Uranium mimics potassium with a low on the crest of South Ridge and high on the flanks of the ridge.

Gravity

The Saddle area of South Ridge occurs within a large gravity high.

- The prospect area is bounded to the north and south by major gravity lineaments, which may reflect regional-scale structure, possibly fracture or shear/faults zones.
- Small-scale gradients in the contoured gravity data may reflect the trace of relatively thin fracture zones and/or discrete faults.

Thematic Mapper

Thematic mapper data indicates that hydrothermally altered rocks occur in a large portion of the Saddle area.

- There is a significant north-striking fault within the prospect area.
- There are large-scale, concentric TM lineaments on South Ridge, one of which coincides with a segment of the inferred Rosebud Canyon structural (fault?) zone.
- End member analysis variable alteration assemblages within the prospect area.
- PIMA analyses identified smectite clays in samples collected in the Saddle area.

DRILL HOLES

In November, 1989, four reverse circulation rotary drill holes (5.5 in. hammer) were completed by Gustin Corporation in the Saddle area of South Ridge (Table 2).

Table 2. Drill hole statistics.

Drill Hole	Company	Azmuth (°)	Angle (°)	TD (ft.)
RL – 42	Lac	000	-90	450
RL – 43	Lac	076	-60	310
RL – 44	Lac	224	-60	430
RL – 45	Lac	226	-61	490

ACCESSIBILITY

The difficulty of accessing South Ridge is strongly dependent on the location within the prospect area. There are reclaimed roads from the Rosebud mine area to the crest of South Ridge, and along the crest of the ridge. Access to other areas will be difficult and require significant amounts of excavation and reclamation, particularly on the southern flank of South Ridge.

LAND STATUS

Ownership

The entire Saddle area is covered by either Bud or RB lode claims controlled by the Rosebud joint venture company.

Royalties

The Wild Rose prospect area is completely within the limits of Euro-Nevada's 4% net smelter return royalty.

RECOMMENDATIONS

Finish remapping the Saddle area. Specifically concentrating on locating potential mineralized structures and identifying the various clay minerals and their spatial distribution.

COST TO FIRST DECISION POINT

The cost to the first decision point is ~$1,100.

- 50 rock-chip samples at $21.50 each

REFERENCES

Brady, M. W., 1995, Reconnaissance geology of the Rosebud property, Pershing and Humboldt County, Nevada: Unpublished Hecla Mining Company Report, December 1, 25 p.

---, 1996, A geologic study and drilling project at the Rosebud property, Pershing County, Nevada: Unpublished Hecla Mining Company Report, May 29, 19 p.

Culbert, R.R., 1991, Report on geophysical and soil geochemisty surveys, Wildrose property, Pershing county, Nevada: Unpublished Equinox Operations Group Report, 14 p.

Kuhl, T., 1993, 1992 summary report, Rosebud project, Pershing county, Nevada: Unpublished Lac Minerals Report, 17 p.

Mahood, G.A., 1998, Topics in volcanic geology related to the Rosebud mine: Unpublished Newmont Gold Company Report, 17 p.

Moore, S. C., 1991, Rosebud structural study, Rosebud project, Pershing County, Nevada: Unpublished LAC Minerals Report, August 20, 39 p.

Turner, S., 1997, Rosebud property, Pershing County, Nevada: technical review: Unpublished Newmont Gold Company Report, 19 p.

ROSEBUD PROSPECT EVALUATION
February 3-4, 1999

White Alps

TARGET CONCEPT

Bonanza-grade stockworks, veins, and disseminations adjacent to a major fault.

***Potential Target Size*:** 400,000 to 1,000,000 ounces Au

Grade Potential: 0.2 to multiple ounce Au, averaging 0.4 oz/st Au and 5 oz/st Ag

GEOLOGY

Lithology Planar-laminated rhyolite (of the Wildrose) correlates with LBT. Multiple green-to-gray epiclastic units are interbedded with the rhyolite. Rosebud quartz latite is mapped at the surface and was intersected in a pre-collar drill hole. White Alps porphyry is also mapped at the surface.

Rock Structure White Alps occurs at the intersection of a major NE-trending fault zone (Schoolbus Canyon fault) and an ENE extensional joint set. The latter contains iron-oxide coated fractures cutting less-altered rock. Several major faults were intersected in drill holes; some are low- to moderate-angle. The fault geometry is poorly understood, given that only two deep holes have been drilled and the shallow holes are RC. More data are needed. Resistivity also shows strong lineaments in plan and interpreted sections.

HYDROTHERMAL ALTERATION

Type and Intensity Moderate to strong silicification extends along an ENE trend. Argillization is weak to strong at the surface, consistent with high-level epithermal alteration. Alteration intensity down hole is weak to strong, consisting of silicification, argillization, and pyritization.

Areal Extent Large: at least 1000 by 800 ft of discontinuous to strong alteration

GEOCHEMISTRY

Surface Geochemistry

Rock

Many rock chip samples contain 0.01-0.5 ppm Au, and 5 contain 0.5-1.0 ppm. A dozen Ag values are >1 ppm. The NW side of White Alps has 15 rocks with Ag > 5 ppm. Strong Se values occur in silicified outcrops in the NE part of the target area. Hg is high, Sb is spotty high, and a few As values are >50 ppm.

Soil

Many are > 50 ppb Au; Sb is moderate (10-50 ppm); several Se are 1-5 ppm; As and Ag are generally low; Hg is spotty with several 0.5-1 ppm.

Drill Hole Geochemistry

A series of narrow but significant structurally controlled veins with sub-economic Au-Ag values were intersected in the first deep hole drilled at White Alps. The highest values occur along silicified veins, clay-sulfide veins, and shears. These mineralized structures are approaching Au-Ag values seen around the Rosebud deposits, and they may represent leakage from nearby deposits.

Table 1. Significant drill intercepts, White Alps.

Drill Hole	Interval (ft)	Depth (ft)	Au oz/st	Ag oz/st	Comment	Trace elements
RL-18	10	275-285	0.021	1.87	hole lost at 465	none available
RL-19	5	20-25	0.016	0.25	hole lost at 445	none available
	5	75-80	0.013	0.52		
	15	120-135	0.016	1.13		
	20	195-215	**0.052**	1.04	**incl 10' of 0.075 Au**	
RL-20	5	150-155	0.01	1.24	625' T.D.	none available
	5	375-380	0.011	0.5		
	5	395-400	0.016	0.36		
RL-21	5	550-555	0.015	<0.10	645' T.D.	none available
	5	560-565	0.012	<0.10		
	5	570-575	0.011	<0.10		
RL-79	5	260-265	0.012	0.13	705' T.D.	none available
	10	290-300	0.011	0.89		
	15	490-505	0.014	1.47		
RL-80	5	265-270	0.01	0.77	675' T.D.	none available
	5	295-300	0.012	1.11		
RL-81	nil				805' T.D.	none available
RL-83	5	410-415	0.01	<0.10	815' T.D.	
RS-446						
precollar	1100		Detectable		cumulative intervals	
	0.8	1756.2-1757.0	**0.037**	**32.85**	pyrarg + cp	314 As, 1140 Sb, 218 Se, 1.47 Hg
	2.4	1759.7-1762.1	0.011	**3.52**	pyrarg + cp + stib	
	2.3	1766.8-1769.1	**0.024**	**16.8**	py-ba-clay-Si	592 As, 351 Sb, 201 Se
	0.7	1817.7-1818.4	0.006	**7.15**	black silica	
	4.6	1883.2-1887.8	0.009	**4.44**		
	1.5	1887.8-1889.3	0.017	**8.42**	Si-gouge-gray-sulfidic	168 As, 65 Sb, 31 Se
	1.0	2339.4-2340.4	0.015	0.32	Sulfidic slfd bxa	342 As, 70 Sb,118 Se
RS-456	1.5	2373.7-2375.2	0.006	**2.13**		145 As, 18 Sb, 22 Se

GOLD MINERALIZATION

Past Production None.

Distance from the Rosebud Mine 6000 feet

GEOPHYSICS

Induced Polarization small chargeability anomaly of 20 msecs striking N70E dipping gently to the west. Coincident with resistivity high and ground magnetic low.

Resistivity High anomaly (>150 ohm-m). Resistivity defines N15E and N70W linear features. Resistivity highs correlate well with subcropping silicified bodies. LAC's shallower drill holes intersected strongly silicified and pyritic rock, which appears to be fault-bounded on several sections.

Magnetics

Airborne Maps lithology; low magnetic relief suggests magnetite destruction at surface.

Ground Poor coverage; low anomaly may be magnetite destruction (i.e., argillization).

Radiometrics no significant anomalies, lithology mapped.

Gravity White Alps is on a N35E gradient that could be caused by increasing densities at depth to the northwest. The prospect is also on a N50W lineament which runs along the north-east side of the Rosebud deposit.

Thematic Mapper good surface alteration and N-S linear identified to the east of prospect. Good probability of clay alteration at surface. PIMA work identifies kaolinite at surface. (Note: LAC geologists also visually identified alunite in outcrops; SFPG identified some alunite using PIMA.)

DRILL HOLES (see table above). NGC has drilled two holes:

RS-446	-90	3070	straight hole to the basement
RS-456	-90	2620	flattened to the northwest

ACCESSIBILITY Good roads, but locally steep. Building sumps is challenging.

ROYALTIES 4% to Euro-Nevada on all; plus 5% to Degerstrom on GP claims

COST TO FIRST DECISION POINT $120,000

2 deep holes (1 angle, 1 vertical?): 1600 foot precollars plus 900 foot core tails Additional holes are needed to provide (1) offsets of good mineralization, (2) constraints on the structural setting, and (3) geochemical vectors towards higher grades.

REFERENCES

Brady, M. W., 1996, Drill proposal for the Rosebud property, Pershing and Humboldt County, Nevada: unpublished consulting report for Hecla Mining Company dated 1/15/96, >100 p. (White Alps is discussed on p. 39-43).

Brewer, N.H., 1991, 1990 annual progress report, Rosebud project, Pershing County, Nevada: unpublished LAC Minerals report, 28 p.

Conelea, R., and McCulla, M., 1996, Rosebud target rankings: draft report by Santa Fe Pacific Gold Corporation, 19 p., 1 location map.

Kenner, K. L., and Brewer, N. H., 1990, 1989 annual summary report, Rosebud project, Pershing County, Nevada: unpublished LAC Minerals report, 15 p., 1 pl. (White Alps is discussed on p. 12, 13).

Turner, S. J., 1997, Rosebud property, Pershing County, Nevada: technical review: unpublished Newmont Exploration Ltd report, 19 p.

WILD ROSE

COMMENT

The Wild Rose prospect area includes all of the northern portion of the Rosebud claim block north of Wild Rose canyon and west and north of the Gator prospect. The area includes Brady"s North Kamma and Wild Rose South, West and East prospects.

TARGET CONCEPT

Without a more compete understanding of the prospect geology, the target concept is relatively unconstrained. Because much of the mineralization appears to be structurally-controlled, and the Wild Rose alkali rhyolite is similar in texture and composition to the LBT unit, Rosebud-type deposits are the principal exploration target.

Potential Target Size

The area easily could host a deposit 0.5 to 1.0 million ounces gold.

Grade Potential

Gold grades similar to those at Rosebud (0.35 to >1.0 ounces Au per ton) can be expected.

GEOLOGY

Descriptions and distributions of the major rock units shown on the various geologic maps of the Wild Rose area are inconsistent, and the prospect must be remapped.

Lithology

It appears from the geologic maps that the rocks exposed in the Wild Rose region can be grouped into five "units," all of which probably unit within the Chocolate Formation. The units are listed below in probable stratigraphic sequence beginning with the youngest(?) unit.

- Kamma andesite(?): intermediate lava flows and hypabyssal intrusions
- Wild Rose quartz latite(?): rhyolite porphyry lava flows and hypabyssal intrusions
- Lower Bud Sequence(?): pyroclastic breccias (Knob Gulch breccia), welded ashflow tuff and minor vitrophyre
- Wild Rose alkali rhyolite(?): fine-grained, relatively aphyric, flow-banded, fissile rhyolite

Rock Structure

Geochemical, airborne magnetic and restivity anomalies all indicate a dominant northeast-trending structural fabric in the Wild Rose area. A second order structural fabric trends in a northwest direction.

- The locations of major faults on the Wild Rose geologic maps show only a modest correlation with the geochemical and geophysical anomalies.

HYDROTHERMAL ALTERATION

Type and Intensity

Geologic maps indicate that much of the hydrothermal alteration within the Wild Rose area resulted from relatively low-temperature fluids that were mildly to strongly acid.

- Silicification and argillization/bleaching are the main types of alteration recorded on the geologic maps. Of these, silicification is by far the most common alteration type.

- Alunite is commonly occurs within silicified fault zones, but whether alunite is hypogene or supergene is not known.

Areal Extent

Hydrothermal alteration occurs within an area that is ~3,000 feet wide and ~4,000 feet long.

- Silicification ± argillization mainly occurs as discontinuous halos along most of the mapped fault zones.

GEOCHEMISTRY

Surface Geochemistry

Rock

Rock-chip geochemistry is available for a large portion of the Wild Rose area. The data show a very strong northeast to east-northeast structural fabric in several elements.

- Gold values >50 ppb form conherent anomalies ranging from 100 to 400 feet wide and 2,500 to >5,000 feet long.

- One cluster of three rock-chip gold values ~50 feet across varied form 1.79 to 3.34 ppm.

Soil

There is relatively good soil geochemical data for the western portion of the Wild Rose prospect.

- Soil gold values >10 ppb form a very large (~3,000 by ~3,000 feet), coherent anomaly. Within this area there are several >50 ppb gold anomalies ~500 feet wide and ranging form 500 to 1,000 feet in length.

Drill Hole Geochemistry

Significant drill intercepts are summarized in Table 1. Data for drill hole RL – 120B(?) are in the drilling database, but drill log and sample geochemistry could not be located.

Table 1. Significant drill intercepts.

Drill Hole	Interval (ft.)	Depth (ft.)	Au (opt)	Ag (opt)
RL - 119	5	465 - 470	0.010	--
RL - 120A	5	40 - 45	0.035	0.10
	15	110 - 125	0.015	0.09
	20	155 - 175	0.015	0.06
	5	265 - 270	0.042	0.27
RL - 120B?	10	125 – 135	0.010	--
	10	195 – 205	0.010	--
RL 157	10	225 – 235	0.010	--
	15	275 – 290	0.010	--
	10	295 – 305	0.010	--
	40	320 – 360	0.011	--
97 - 392	10	215 – 225	0.10	--

GOLD MINERALIZATION

Past Production

There is no known precious metal production from the Wild Rose area.

Distance from the Rosebud Mine

The prospect area is ~6,500 feet northeast of the Rosebud mine.

GEOPHYSICS

Induced Polarization

No induced polarization data.

Resistivity

A resistivity survey was conducted at Wild Rose, but the data can not be located. Hand-contoured data shows a strong correlation between low resistivity values, positive geochemical anomalies, and exposed and inferred geologic structures.

Magnetics

Airborne

Dominant set of 050°-trending structures are coincident with anomalous rock-chip geochemistry, and intersect east-trending structures. Areas of low magnetic relief may reflect hydrothermal alteration. Modeling indicates the presence of an intrusive body, represented by K values ≈ 5000 $x10^{-6}$ cgs and hydrothermal alteration (K = 0 $x10^{-6}$ cgs).

Ground

No ground magnetic data were collected.

Radiometrics

The ratio of the three elements (K, Th, U) identifies surficial hydrothermal alteration. The radiometric signature is similar to alteration-related anomalies in other parts of the Rosebud mining district. Radiometric anomalies may be related to hydrothermal clay minerals.

Potassium

There is a strong potassium signature that reflects 2 to 4 wt.% K .

Thorium

The thorium data shows high relief.

Uranium

The uranium data shows high relief.

Gravity

There is poor gravity coverage in the Wild Rose area. Small gravity features may reflect lithologic contacts and areas of hydrothermal alteration.

Thematic Mapper

End member analysis identified clay alteration, and 070°- and 090°-striking lineaments.

DRILL HOLES

Geologic and drill hole collar maps indicate that eight reverse circulation rotary drill holes were completed within the Wild Rose prospect area (Table 2). Drill hole RL – 120B? is plotted on the drill hole collar map, but the drilling statistics could not be located.

Table 2. Drill hole statistics.

Drill Hole	Company	Azmuth (°)	Angle (°)	TD (ft.)
RL – 118	Lac	035	-45	640
RL – 119	Lac	180	-45	500
RL - 120A	Lac	020	-60	495
RL - 120B?	Lac	157	?	?
RL 157	Lac	020	-60	405
97 - 388	Santa Fe	155	-70	920
97 – 391	Santa Fe	180	-60	1400
97 - 392	Santa Fe	180	-60	1200

ACCESSIBILITY

The Wild Rose area is relatively inaccessible. The only roads are four-wheel-drive tracks along the stream valleys of Juniper and Wild Rose canyons.

LAND STATUS

Ownership

The prospect is covered by unpatented (Bud Group) lode claims.

Royalties

The Wild Rose prospect area is completely within the limits of Euro-Nevada's 4% net smelter return royalty.

RECOMMENDATIONS

- Collect gravity data on a 400 by 400 foot grid.
- Complete a detailed geologic of the prospect area.

COST TO FIRST DECISION POINT

The cost to complete the recommended work is approximately $14,000.

- Gravity survey: $6,000; 200 stations at $30 per station.
- Geochemistry: $7,950; 100 rock-chip assays at $21.50 each, 200 soil samples at $10 each, and 200 soil assays at $19 each.

REFERENCES

Brady, M.W., 1996, Drill proposal for the Rosebud property, Pershing and Humboldt Counties, Nevada: Unpublished Hecla Mining Company Report, 81 p.

Brewer, N.H., 1991, 1990 Annual progress report, Rosebud project, Pershing County, Nevada: Unpublished Lac Minerals company report, 28 p.

Conelea, R., and McCulla, M., 1996, Rosebud target rankings: Unpublished Santa Fe

Culbert, R.R., 1991, Report on geophysical and soil geochemisty surveys, Wildrose property, Pershing county, Nevada: Unpublished Equinox Operations Group Report, 14 p.

Kuhl, T., 1993, 1992 summary report, Rosebud project, Pershing county, Nevada: Unpublished Lac Minerals Report, 17 p.

Turner, S., 1997, Rosebud property, Pershing County, Nevada: technical review: Unpublished Newmont Gold Company Report, 19 p.

APPENDIX 1

Prospect Rating and Ranking

WORKSHEET DEFINITIONS

The objective of *rating* the prospects within the Rosebud district is to develop a relatively uniform basis for their comparison and internal *ranking*. The prospects are rated by assigning a very favorable (++), favorable (+), neutral (0) or unfavorable (-) rating to the most important attributes of the prospect. This process is clearly qualitative, but adherence to a standard questionnaire ensures that comparable data are compiled for each prospect, and that ranking process is as quantitative as possible. Because the databases used for the prospects are at different stages of completion, and it is not possible to evaluate all of the rating categories for each area, and because the significance of the various attributes varies, the final ranking may not necessarily reflect the mathematical sum of the ratings. Ranking is a collective effort made by simultaneously comparing the ratings data for all of the prospects. The position of a prospect within the priority seriatim reflects the groups "belief" that there is a higher probability that economic gold will be discovered at the prospect than at the those positioned below it.

TARGET CONCEPT

Explain the target concept in two to three sentences.

Potential Target Size

The resource tonnage potential, in million short tons, given the current understanding of the target style and geometry, and assuming underground gold grades.

+ >1.0 million tons
0 0.2 to 1.0 million tons
- <0.2 million tons

Grade Potential

The ore grade potential in ounces per short ton Au equivalent, for the deposit style and geometry modeled.

++ >1.0 ounce per ton
+ 0.5 to 1.0 ounce per ton
0 0.25 to 0.4 ounce per ton
- <0.25 ounce per ton

GEOLOGY

Lithology

Briefly describe the geologic setting of the prospect. Include descriptions of the units which are suspected to host ore.

+ Favorable setting with significant thickness of favorable host rocks
0 Permissive setting and\or limited thickness of favorable host rocks
- Unfavorable setting and\or host rocks

Rock Structure

Briefly describe the structural setting of the prospect. Emphasize the structural features that control, or may control hydrothermal alteration and mineralization, ie. bedding, joints, faults and folds.

+ Structural setting is highly favorable for hosting a large ore deposit
0 Unknown or permissive structural setting for hosting a large ore deposit
- Unfavorable structural setting for hosting a large ore deposit

HYDROTHERMAL ALTERATION

Describe the type, intensity and arial extent of hydrothermal alteration exposed at the surface and identified core or cuttings. Note whether or not the alteration type associated with the target is associated with ore elsewhere in the district, and if there is quantitative (XRD, PIMA) confirmation of the clay minerals present.

+ Large areas of strong hydrothermal alteration of a type favorable for hosting ore
0 Unknown type of hydrothermal alteration, moderate extent of hydrothermal alteration of type that is favorable for hosting ore, or hydrothermal alteration of a type that is only permissive for hosting ore
- Unaltered, or limited extent of weak hydrothermal alteration

GEOCHEMISTRY

The geochemical ranges that should be used during prospect ranking and to prepare the prospect compilation worksheets are: ore-grade gold , Au ≥0.18 opt; strongly anomalous, Au ≥ 500 ppb, Ag ≥0.25 opt, Se ≥5 ppm, As ≥50 ppm, Sb ≥10 ppm, Mo ≥5 ppm.

Surface Geochemistry

Briefly discuss the annalyzed elements, detection limits and laboratories (if more than one), areal extent of the survey(s), sample intervals, and results of both surface rock-chip and soil sampling programs.

++ Multiple ore-grade Au assays within a discrete area of strongly anomalous multielement geochemistry
+ Strongly anomalous Au, Ag, Se and As ± Sb and Mo within a discrete area
0 Detectable Au, Se and As ± Ag, Sb and Mo
- Gold assays <5ppb associated with weakly anomalous Ag, As, Se, Sb and Mo values that do not form a coherent spatial pattern

Drill Hole Geochemistry

Summarize the drilling results for the prospect, emphasizing significant gold and/or silver grade-thickness intervals. Briefly discuss intensity and extent of significant isolated intervals or continuous zones (multiple drill hole intercepts) of anomalous Au, Ag, Se, As, Sb and Mo in both reverse circulation rotary cuttings and/or diamond drill core.

++ Drill holes which intersected extensive intervals of strong hydrothermal alteration with multiple ore-grade gold and/or silver intercepts
+ Drill holes which intersected extensive intervals of strong hydrothermal alteration with detectable Au and Ag
0 Undrilled or varied drilling results
- Dominantly negative drilling results

GOLD MINERALIZATION

Past Production

Describe the type and extent of prospecting and/or past production within the prospect area.

++ Past production, abundant ore-grade surface rock-chip values, or significant ore-grade intercepts in multiple drill holes
+ Extensive prospect pits and/or short adits and shallow shafts, scattered ore-grade Au values in surface rock-chip samples, or significant intervals of strongly anomalous Au in multiple drill holes
0 Sparse and/or small prospect pits, detectable Au in surface rock-chip samples, no significant drilling results
- No obvious prospecting activity

Distance from the Rosebud Mine

Is it possible to access the proposed deposit from the existing underground workings?

+ The proposed deposit is within 4000 feet of the existing mine workings
0 The proposed deposit is between 4000 and 6000 feet of the existing workings
- The proposed deposit is >6000 feet from the existing mine workings

GEOPHYSICS

Induced Polarization

Describe the intensity, extent and significance of all chargeability anomalies.

+ The modeled chargeability data supports the target concept
0 No data, or the modeled chargeability data does not alter the target concept
- The modeled chargeability data does not support the target concept

Resistivity

Describe the intensity, extent and significance of all resistivity anomalies.

+ The modeled resistivity data supports the target concept
0 No data, or the modeled resistivity data does not alter the target concept
- The modeled resistivity data does not support the target concept

Magnetics

Describe the ground and airborne magnetic signature of the prospect area.

+ The modeled magnetic data supports the target concept
0 No data, or the modeled magnetic data does not alter the target concept
- The modeled magnetic data and the target concept

Radiometrics

Describe the intensity, extent and significance of any radiometric anomaly (K, Th, U, total counts.

+ The modeled radiometric data supports the target concept
0 No data, or the radiometric data does not alter the target concept
- The modeled radiometric data does not support the target concept

Gravity

Describe the gravity signature of the prospect area

+ The modeled gravity data supports the target concept
0 No data, or the modeled gravity data does not alter the target concept
- The modeled gravity data does not support the target concept

Thematic Mapper

Describe the type (mineral) and extent of the alteration anomaly.

+ Strong, spatially extensive anomaly that supports the target concept
0 Weak, moderately extensive anomaly that does not alter the target concept
- No alteration anomaly

DRILL HOLES

Briefly summarize the extent to which the prospect has been drilled, and amount of area that remains "untested." If drilling has occurred on the prospect, include a table showing the number, type and depth of all drill holes.

+ Very limited or no drilling
0 Moderately drilling
- Extensively drilled

ACCESSIBILITY

Summarize the difficulty in accessing the prospect due to terrain and weather constraints.

+ Easily accessible from existing roads with a minimal amount of surface disturbance and permitting
0 Not accessible from existing roads, but requires only modest surface disturbance and permitting
- Difficult accessibility requiring extensive surface disturbance and permitting

LAND STATUS

Ownership

Give the names of the people or organization that controls the property if the prospect is outside the boundaries of the Rosebud joint venture agreement.

+ The property is open for claim staking
0 The property status is unknown, or the property may be acquired through a relatively simple and inexpensive agreement
- The property is not available for acquisition, or may be acquired only through a complex and expensive agreement

Royalties

Describe any royalty agreement, other than Euro-Nevada's 4% net smelter return, that may adversely effect profitability if the joint venture company were to produce from the conceptual deposit.

+ No royalty
0 Combined royalty payments are <5% of the net smelter return
- Combined royalty payments are ≥5% of the net smelter return

RECOMMENDATION

What should be done with the prospect? If it is recommended to continue exploration on the property, describe in detail how to proceed to the "first decision point."

COST TO FIRST DECISION POINT

Define the "first decision point." What information is needed and how much it will cost (in dollars) to gain sufficient encouragement to continue exploring for the conceptual target. Cost estimates are to be itemized under the following headings: geology (number of man days needed for mapping), geochemistry (number of samples, estimated cost per sample), geophysics (technique(s) and their estimated costs), and drilling (road construction and reclamation, reverse circulation rotary footage, core footage, assay costs).

++ <$50,000
+ $50,000 to $100,000
0 $100,000 to $200,000
- >$200,000

REFERENCES

Any material cited in the text should be listed at the end of the prospect summary sheet. Ultimately, this section should include all published reports that pertain to the property, unpublished reports and memoranda, geochemical and geophysical surveys, all databases, maps, and cross sections.

Please follow the reference format used in the Geological Society of America Bulletin.

ADVANCED

1. 26-N. ZONE FEEDER (#24)
2. FAR EAST
3. S. ZONE FEEDER
4. NE OF MINE (16)
5. 1-a - SE OF S. ZONE / SHARKFIN
6. 3 - 96-356 INTERCEPTS
7. SHARKFIN
8. 2a - VENT RAISE

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9. CAVE F. / M. LODE / GOLD H.
10. WHITE ALPS
11. N. EQUINOX

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12. S. KAMMA
13. VERTEX

X

NEEDS MORE

1. SCHOOL BUS CANYON
2. DEEP DREAMLAND
3. DEGERSTROM
4. CAVE F. / VALLEY
5. LUCKY BOY
6. CHANCE
7. GATOR
8. BROWN PALACE

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9. WILD ROSE
10. OSCAR
11. SHORT SHOT

X

Barrel Springs, Rosebud

350574E,4515283N - 352472E,4514575N

Tue Feb 09 14:03:31 1999