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ITEM

Please Return to: D. L. Stevens
133 South Van Gordon St., Suite 300
Lakewood, Colorado 80228

Respondent Robert B. Hawkins

Address Freeport Exploration Company

Lakewood, Colorado Phone: 988-0224

Property Name Jerritt Canyon (Bell Mine) Location S 33/34/35 T41N R53E

Published Reserves: Oxide Ore 6.25 million tons grading 0.23 oz/T

Carbonaceous Ore 6.25 million tons grading 0.23 oz/T

Annual Production: Mill (TPY) 962500

Leach (TPY)

1. Regional Geology (10 mile radius)

   A. Structure; faulting, folding, age: Antler/Late Devonian, early Miss. folding, uplift & thrusting, Tertiary Basin and Range normal faulting

   B. Intrusives; age, composition, geometry, alterations, mineralization: 7 mile south small qtz monzonite dike or plug (100' diameter outcrop) several small andesitic intrusives as dikes w/closest to Bell Mine 2 miles south - probably mid-Tertiary (Tuscarora Age?)

   C. Volcanics; age, composition, type (flow, tuff, etc.), proximity, depth of mineralization relative to pre-volcanic surface: mid-Tertiary (Tuscarora equiv) ryodacitic ash flow tuff - 7 miles east of Bell Mine assoc. w/Basin and Range faulting (3 mile diameter outcrop) Depth of min. 1000-3000'

D. Basement lithology; stratigraphic section - thickness and lithology, known or inferred basement lithology: inferred - Precambrian Granite

2. Local Geology (1 mile radius)

A. Host rock(s); age, lithology, porosity, permeability, pyrite (syngenitic) and organic content: Roberts Mountains Formation - Silurian

laminated calcareous siltstone w/good porosity .5-1% syng. py, <2% organic carbon

Hanson Creek Form. - Ordovician thin bedded , banded silty dolomite & limestone w/<.5% syng. py., <2% organic carbon, low porosity, permeability

B. Structure; folding, faulting, control on mineralization, age(s): mid-late Tertiary normal faulting - NE trends control mineralization, earlier east-west trend breaks host rocks to provide porosity

possible Roberts Mtns. Thrust fault as preparer of host permeability

C. Igneous rocks; type, chemistry, geometry, age and relationship to mineralization: none identified to date

3. Geochemistry/Alteration

A. Major elements; % addition/depletion MgO, K_2O, Al_2O_3, SiO_2, minerals, spatial/temporal relationship to gold mineralization: Regional relationship of 10-100% silicification of limestones, dolomites, siltstones

(Cont.)

suspected depletion of MgO

suspected addition of K_2O, Al_2O_3

1-5% depletion of MnO

B. Minor elements; value range in ppm Hg, As, Sb, W, Ba, Ag, Cu, Pb, Zn or other, mineralogy, zoning with ore:

(cinnabar)
Hg - 300-3000 ppb Ag - nil

(opriment-realgar-arsenopyrite)
As - 25-2000 ppm Cu - 50-350 ppm (along major conduits)

(stibnite-antimony oxides)
Sb - 25-500 ppm Pb - 50-350 ppm " " "

W - 10-100 ppm Zn - 50-350 ppm " " "

(Barite)
Ba - 100-5000 ppm (Hg,As,Sb,Ba occur w/ore, others unknown)

C. Principal alteration characterists: silicification, pervasive argillization in close proximity to conduit faults

remobilized carbon along conduit faults, and as selective fronts w/in host and ore

probable hydrothermal oxidation - possible related to boiling decarbonization

D. Organic carbon; evidence of remobilization, carbon and gold relationships, nature of carbon oxidation, carbon compounds, metallurgical problems: gold intimately related to organic carbon probably acted as precipitant, presents metallurgy problems refining pre-oxidation to normal cyanide circuit

gold tied up in complex organic compounds for which chemistry is not well known

carbon remobilized along obvious feeder structure, and within permeable host w/gold ore

E. Silicification; spatial/temporal relation to ore, % jasperoid and % ore in main mineralized area, geochemistry of jasperoid (trace elements): silicification found stratigraphically above, below, and with ore within mine, and over large area (several miles radius) outside mine

30-40% jasperoid in mine area

5-10% of ore is jasperoid

jasperoid anomalous in same suite trace elements mentioned above

4. Mineralization

A. Nature of gold; size, distribution, associated carbon, pyrite or clay, types of ore: free gold in oxide ore generally <1 micron in diameter, disseminated w/in host rock as organic complex in carbon ore (not free gold)

associated w/pyrite, and clay?

B. Speculation as to composition; temperature and pressure of hydrothermal fluid and mechanism of gold precipitation:

3-17 wt. % Nacl solutions, 175°C-200°C, predominantly meteoric waters from Radtke's Carlin work

near surface temperature - pressure changes deposited gold from solution where hosts were physically and chemically favorable

C. Fluid inclusion data: none available

D. Possible sources of gold: igneous and/or sedimentary

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5. History of Discovery

Geologists conducting a regional search for antimony recognized structure, host, and mineralization similar to that published for the Carlin Mine, 30 miles to the south. Subsequent soil sampling for gold detected surface anomalies related to economic gold mineralization at depth, structure, and alteration.