

at least some mineralized rocks occur in the vicinity of the district.

In the late 1800s and early 1900s salt (sodium chloride) was produced from the vicinity of Buffalo Springs (Papke, 1976) on the west side of the Smoke Creek Desert and east of Burro Mountain about 12 km northeast of Sheephead Spring and Ranch.

Lone Pine District

The Lone Pine mining district is located on the south and west flanks of Bald Mountain in northern Washoe County about 20 km south of the Nevada-Oregon boundary. Historically, the area is predominantly a mercury district, although apparently only very minor production has ever been noted. Recent exploration activity has concentrated on the potential for gold mineralization. The geology and history of the district has been summarized by a number of authors, including Ross, 1941; Bailey and Phoenix, 1944; Benson, 1956; Holmes, 1965; Cathrall and others, 1978; and Tuckek and others, 1984. As originally reported by Bonham and Papke (1969), Bald Mountain is an area of Miocene andesitic and lesser rhyolitic rocks surrounded on three sides by younger Miocene basalt flows. The andesitic rocks consist of flows and associated tuffaceous sedimentary rocks (Green, 1984).

Most of the cinnabar occurrences in the district are at the Antelope prospect, where cinnabar occurs as scattered veinlets, stringers, paint, and disseminated crystals in silicified and argillized andesite along an east-west zone over 3 km long (E.H. Bailey and R.B. Jones, written communication, 1991). Trace amounts of gold also occur with the cinnabar (Bonham and Papke, 1969). Northwest-trending, high-angle faults are locally important in controlling mineralization (Tuckek and others, 1984) and are probably related to more regional faults having a similar trend (Green, 1984, Plate 1). The Antelope prospect is located just south of the south border of the Sheldon National Antelope Refuge, in sec. 22, 23, and 24, T45N, R21E. To the north, within the Refuge, numerous prospects are present on the flanks of Yellow Peak and Bald Mountain, covering an area of at least 8 km² (Tuckek and others, 1984). Many of these prospects are not shown on the Bald Mountain and Calcutta Lake 7.5-minute topographic maps in areas within the Refuge. A certain number of these prospects were done in search of gold rather than mercury. Gold and silver prospecting in the district was conducted in the late 1800s and early 1900s. Following the discovery of mercury in the vicinity of the Antelope prospect in 1929, exploration was also conducted for mercury in the entire Bald Mountain area. Additionally, claims were staked in the area during the uranium boom of the 1950s (Cathrall and others, 1984), although there seems to be little evidence that significant uranium mineralization was found (based on later geochemical studies and the absence of later, more extensive exploration or development

work). Rock geochemical samples collected from the district, especially from the Bald Mountain-Yellow Peak area are anomalous in several elements, including antimony and(or) arsenic. Rare anomalous gold, silver, and tungsten were noted as well, and anomalous values of mercury range from 1-100 ppm (Cathrall and others, 1977). Cathrall and others (1984) also report anomalous molybdenum, barium, manganese and cadmium-zinc ratios. The geochemical suite and shallow nature of the mineralization suggests the possibility of concealed deposits. Additionally, remnants of opalite are reported from the hills north of the Antelope prospect (Nevada Bureau of Mines and Geology unpublished mining district files). Blanket opalite and associated mercury mineralization may overlies gold mineralization in some Nevada volcanic-hosted gold deposits (e.g. the Hollister deposit in the Ivanhoe mining district; Bartlett and others, 1991).

A review of the geochemical sampling in the Lone Pine mining district and vicinity done for the wilderness study areas suggests that there may be undiscovered gold-silver mineralization in economic concentrations.

Virgin Valley District

The Virgin Valley mining district is located in northwestern Humboldt County, in the vicinity of Virgin Valley, 40 km southwest of the community of Denio, Nevada. The majority of the district is within the Susanville BLM District. The earliest production from the district was building stone for use in local ranch construction. A considerable amount of precious opal has been produced from the area, and there are numerous occurrences of uranium in the Late Tertiary lacustrine and volcanic rocks. Additionally, several mercury occurrences, including those to the south near Hell Creek and to the southeast of the district (east of McGee Mountain at the Painted Hills Mine) should probably be included in the district, as well as a manganese occurrence west of Rock Spring Table.

Numerous uranium prospects and localities have been described from the Virgin Valley area (Garside, 1973; Cathrall and others, 1978; Henry, 1978a; Castor and others, 1982; Zielinski, 1982; Tuckey and others, 1984). The uranium mineralization occurs in opalized air fall tuff and tuffaceous sedimentary rocks of the Virgin Valley Formation, and locally in brecciated areas in the underlying Cañon Rhyolite flow domes (Castor and others, 1982). Because of the stratabound and continuous nature of the uraniumiferous lacustrine beds, Castor and others (1982) suggest that the stratabound uranium mineralization in the lacustrine and pyroclastic units probably took place during or shortly after deposition of the host rocks. They believe that hot spring activity produced lake waters rich in uranium, silica, and other trace elements. The uranium mineralization in the rhyolite flows may represent the remains of hot spring feeder systems. In the