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A MINERAL INVENTORY OF THE NEVADA PORTION OF THE CEDARVILLE RESOURCE AREA SUSANVILLE BUREAU OF LAND MANAGEMENT DISTRICT, NEVADA

L. J. Garside

D. A. Davis

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It has not been edited or checked for completeness or accuracy.

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Prepared for:

Reno Field Office

U.S. Geological Survey

Prepared by:

L. J. Garside

D. A. Davis

NEVADA BUREAU OF MINES AND GEOLOGY

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A MINERAL INVENTORY OF THE NEVADA PORTION OF THE CEDARVILLE RESOURCE AREA SUSANVILLE BUREAU OF LAND MANAGEMENT DISTRICT NEVADA

MINERAL RESOURCES

The Nevada part of the Susanville District is entirely underlain by late Tertiary volcanic rocks and associated volcaniclastic lacustrine and fluvial sedimentary units. The area is believed to lie west of the limit of Precambrian crust, and it completely lacks exposures of Paleozoic or Mesozoic rocks. This volcanic province is separated from areas of outcropping Paleozoic and Mesozoic rocks to the east by the Black Rock Structural Boundary (Rytuba, 1989).

Only limited metallic mineral resources have been discovered to date in the area, and many of the 7.5-minute topographic quadrangle maps are remarkable for their lack of prospect or mine-working symbols. Nonmetallic mineral resources occur in a number of areas, and there is potential for the discovery of more; however, they are commonly subeconomic, in part because of distance from markets. The reasons for lack of metallic-mineral prospects are varied, and include: 1) the area is remote from active mining areas of the late 1800s and early 1900s, and did not receive much attention from prospectors, 2) erosion has not extended very deep, and known mineralized systems are shallow, generally hot-spring types which have relatively obscure hydrothermal alteration in the silicic volcanic host rocks, 3) because of the minor erosion, and the fact that the known and undiscovered mineral systems are likely to be shallow, few gold placers were likely to form and thus be discovered by prospectors panning for gold during the historic Nevada gold-silver booms, and 4) a few flakes of gold in any alluvial courses were likely to be missed or ignored by prospectors used to more lucrative gold areas.

All or (major to small) parts of 13 U.S. Bureau of Land Management Wilderness Study Areas are included in the study area, comprising about 20 percent of the land area. Mineral resource appraisals have been done for portions of most of these. About 35 percent of the land area within the major Wilderness Study Areas was actually evaluated; however, the areas studied were often those having higher mineral potential. Additionally, the geology and mineral resources of the Sheldon Antelope Range and Refuge were studied. This area is a significant portion of the northeast part of the study area.

The Wilderness Study Areas are shown in Figure 1, with the outline of the Nevada portion of the Cedarville Resource Area. In our review of the mineral resources of this area, we have determined that many of the mineralized areas have been examined during the Wilderness Study Area investigations. In the Sheldon

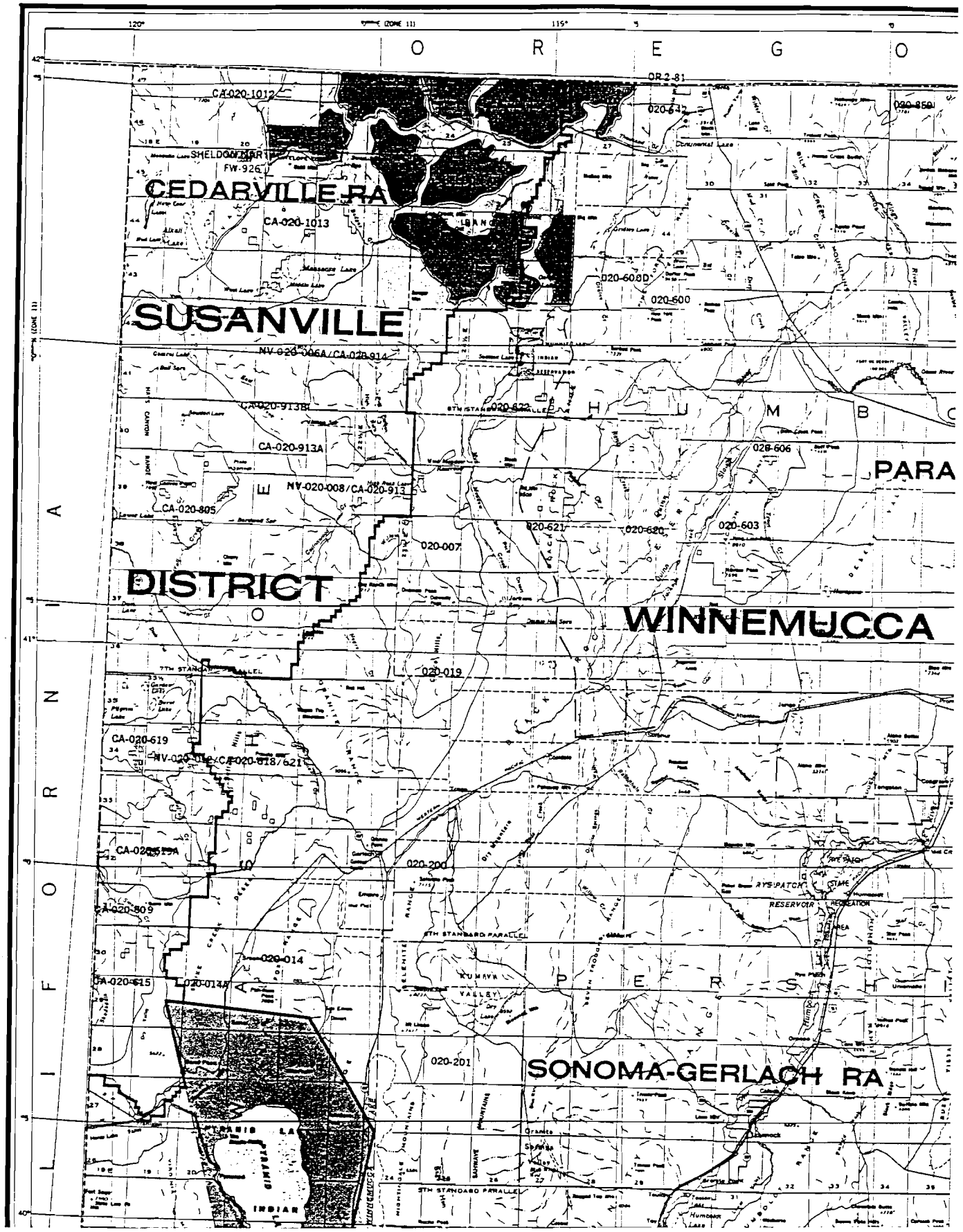

Figure 1. Wilderness Study Areas in the Nevada portion of the Cedarville Resource Area, Susanville BLM District.

Range and Refuge, sampling of mineralized rocks and descriptions of properties are relatively complete. In other areas, however, the published information available on mineralized areas is more incomplete.

DISTRICT DESCRIPTIONS

Fortynine Range District

The Fortynine Range mining district is located on the west flanks of Fortynine and Big Hat Mountains at the north end of the Hays Canyon Range. It is defined entirely by Beal's (1963) report that "the stream channels in the valley west of the range contain magnetite and titaniferous magnetite-bearing gravels". Beal also reports that 5 placer samples from these streams all contained less than 1 percent TiO_2. The range is made up of late Tertiary basalt flows, tuff, and agglomerate (Beal, 1963; Bonham and Papke, 1969). Diatomite beds are reported from the district, but they have not been exploited (Bonham and Papke, 1969).

Sheepshead District

The Sheepshead mining district is located in Nevada near the Nevada-California boundary, west of the Smoke Creek Desert, and north of Flanigan and Honey Lake Valley. The mountainous area in the district and vicinity is mainly underlain by andesite and basalt flows, with minor lahars and pyroclastic rocks. K-Ar dating suggests that the rocks are mostly 12-14 Ma (Diggles and others, 1986). The area is nearly devoid of prospect pits or other workings. Of those that are known, most are probably pits dug as "location" work to validate mining claims, or prospect pits done in search of nonmetallic resources such as perlite. The main justification for the designation of the area as a mining district is a report of work done (for gold) by the Washoe Lassen Mining Co. in 1907 (Yale, 1908). This work, if actually done, was probably for placer gold; there may be no trace left of any of these possible workings. Although there are no reports of placer gold production from the area, it is possible that gold may occur is some stream courses, as very small amounts are reported from two alluvial samples taken near the Nevada-California boundary in parts of the Skedaddle Creek drainage, and from samples to the north of the district (Munts and Peters, 1987; Miller, 1987) One speculative source of this gold is mineralized rock fragments in lahars or fluvial channel gravels derived from a mineralized area in the Amedee Mountains to the west in California.

The majority of the district visually appears to not contain hydrothermally altered rocks, although areas of iron-stained rocks (origin of staining not specified) are reported from several areas (Diggles and others, 1986). A few occurrences of placer gold and a hydrothermally altered and mineralized area near Mixie Flat, both located north of the district, suggest that

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 Sheepshead 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 Tuchek 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 (Tuchek 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 km^2 (Tuchek 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 overlie 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; Tuchek 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 uraniferous 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

late 1970s Exxon Minerals Co. drilled out a resource of greater than 20 million tons of 0.03 percent U_3O_8, and local areas of higher grade mineralization were encountered (Cuffney and others, 1988).

A red, flaggy siltstone has been quarried from one property in the district. It was used in the construction of ranch buildings in northern Nevada in the mid-1800s, and some stone was shipped to outlets in Nevada and adjacent states in the 1950s and 1960s (Cathrall and others, 1978).

Deposits which contain at least some mercury have been prospected in at least 4 localities in the district (E.H. Bailey and R.B. Jones, written communication, ca. 1983). The mineralization is usually reported to be from faulted or brecciated areas in a variety of Tertiary volcanic rocks ranging in composition from basalt to rhyolite. Silicification is the most common hydrothermal alteration reported, but argillic alteration is also associated (E.H. Bailey and R.B. Jones, written communication, 1991; Cathrall and others, 1978).

Precious opal has been produced from several mines in the district, and probably prospected for at many more areas. According to Tuchek and others (1984), the precious opal is associated with a bentonitic ash in lacustrine units of the Virgin Valley Formation. Partially petrified wood and voids where wood has rotted shortly after deposition are the sites of precious opal deposition. The precious opal is usually found as casts of limbs, twigs, cones, or small logs. The mines are all located within a few kilometers east and northeast of the Virgin Valley Ranch.

The Raven manganese prospects are located on the west flank of Rock Springs Table. At the prospects, manganese oxide minerals (cryptomelane) occur in 17 individual beds that average 15 cm in thickness. The manganese-rich beds are in a unit of tuffaceous and volcaniclastic sedimentary rocks which is interbedded with rhyolite and andesite flows (Tuchek and others, 1984; H.K. Stager, written commun., 1959). The source of the manganese is not known. The mineralization may be syngenetic, related to hot spring fluid inflow during deposition of the sediments.

Leadville District

The Leadville mining district is located on the southeast flank of Hog Ranch Mountain at the northernmost end of the Granite Range, about 60 km north of Gerlach, Nevada. Lead-zinc-copper-silver quartz veins in Oligocene andesite and dacite were discovered and worked in the early 1900s (Bonham and Papke, 1969). This portion of the district is included in the Winnemucca BLM District (see Bonham and others, 1985). The geology and ore deposits are well described in Bonham and Papke (1969) and Bonham

and others (1985). The age of this base-metal mineralization is believed to be older than the overlying unaltered middle Miocene rhyolites (Cañon Rhyolite of Bonham and Papke, 1969), and thus older than the mineralization at the Hog Ranch Mine described below.

Gold mineralization was discovered in the early 1980s about 6 km to the northwest in rhyolitic rocks of the Cañon Rhyolite. The area was first prospected for uranium, based on an airborne radioactive anomaly (Steve Bussey, oral commun., 1991). At present there are six ore bodies at the Hog Ranch Mine, along a northeast-trending zone about 4 km long. The rhyolitic host rocks are weakly peralkaline, and commonly possess well developed flow foliation. Some, and perhaps most of these rocks are air fall (agglutinate) or ash-flow tuffs that have undergone secondary flowage after deposition (Harvey and others, 1986; Bussey and others, 1991). The flow-foliated rocks interfinger with welded ash flows, and other surge or air-fall pyroclastic rocks. The mineral deposits appear to lie along the southeast margin of a donut-shaped area of rhyolite exposures that have been interpreted to be an incipient ring structure of a "failed" caldera system (Harvey and others, 1986). This feature lies just to the northwest of a major lineament extending southward from the vicinity of Denio, Nevada to the northern Granite Range.

Mineralization at the Hog Ranch Mine consists of fine-grained gold with marcasite and pyrite, and locally, stibnite, cinnabar, and realgar in silicified and argillized rhyolitic rocks. At depth, the argillic (kaolinitic) zone is underlain by a zone of quartz-adularia alteration (Harvey and others, 1986). Resistant ledges of chalcedony and zones containing hypogene alunite and native sulfur occur within the zone of kaolinitic alteration. This zone of advanced argillic alteration formed above shallow zones of boiling related to a low-sulfur adularia-sericite type of mineralizing system. In the outer parts of the district, rocks are opalized. Harvey and others (1986) believe the mineralization to be quite shallow. It probably took place within a few tens of meters of the surface and during the time of deposition of the epiclastic sedimentary rocks which overlie the rhyolites. The present exposure surfaces on some rhyolite flows may be essentially at the level of the middle Miocene, because rock exposures of flow-foliated rhyolite and tuffs contain hundreds of pits from 10 m up to 100 m in diameter that are believed to result from very near surface hydrothermal phreatic explosive processes (H.F. Bonham, Jr.,oral commun., 1991). Some pits reportedly exhibit cross-cutting relationships (H.F. Bonham, Jr., oral commun., 1991) and laminated breccia and fine rock flour (S.D. Bussey, oral commun., 1991) suggestive of an origin due to hydrothermal explosions which vented to the surface. It is possible , however, that these have been exhumed by erosion of an overlying unit. In some areas, these pits may result from collapse in slightly consolidated tuffs due to hydrothermal(?)

fluid action from below (S.D. Bussey, oral commun., 1991). A mineralized hot spring sinter (the Jabo property) is known from an area 5 km to the west of the mine. The sinter is anomalous in gold, arsenic, antimony , and mercury (Churchill,1988; Peters and others, 1987).

Soil and stream sediment samples from the area of the Hog Ranch deposits are anomalous in gold, silver, arsenic, antimony, and molybdenum (Bussey and others, 1991; Bonham and others, 1985, sample 2410).

The Hog Ranch Mine was originally explored for uranium, and several other minor occurrences have been reported in the vicinity (Garside, 1973; Castor and others, 1982). At many of these prospects, the uranium is associated with logs, wood fragments, or other organic-rich trash in the tuffaceous sedimentary units.

An area approximately 25-40 km north of the Hog Ranch Mine has been extensively prospected for gold mineralization in the past several years (Washoe County mining claim records). The exploration efforts are based at least in part on the presence of anomalous gold, silver, and mercury (as cinnabar at the GRE claims) in rock samples from several areas, especially in the vicinity of Grassy Canyon and upper High Rock Canyon (Scott, 1987).

GEOTHERMAL RESOURCES

A number of low-temperature (less than 100°F) thermal springs are found in the Nevada portion of the Susanville BLM District (Garside and Schilling, 1979). In general, spring water surface temperatures and reservoir temperatures estimated from chemical geothermometers are relatively low (e.g. Cathrall and others, 1984). Although waters of mixed thermal and non-thermal sources could have lower estimated reservoir temperatures than would be found with depth, drilling would be required to confirm an such speculations. The geothermal areas are unlikely to have subsurface temperatures suitable for the generation of electric power, and they are relatively remote from urban areas where process heat for aquiculture and similar uses might be required. Thus, the potential for utilization of geothermal resources in the area in not high.

PETROLEUM AND COAL RESOURCES

The volcanic province in northwestern Nevada has generally been considered to have a very low petroleum potential (Garside and others, 1988, Figure 3). This results from several factors, including: 1) the probability of Tertiary intrusive rocks at

depth in many areas, 2) the likelihood that any pre-Tertiary source rocks have been heated beyond the oil generation window, 3) the probable considerable depth to pre-Tertiary rocks below Tertiary volcanic cover, and 4) the absence of good Tertiary source rocks that have been buried to great enough depth to generate petroleum.

Recently, a solid hydrocarbon (gilsonite?) has been reported from fractures in the walls of a cave (Reno Gazette Journal, 9 Oct, 1991) located southeast of Mahogany Mountain (sec. 9, T39N, R22E). The rocks are Miocene diatomite and other lacustrine sedimentary units which underlie an ignimbrite (Scott McDaniel, oral commun., 1991). The significance of this discovery has yet to be evaluated, but the area is an unlikely one for petroleum resources.

No economic coal deposits are known to occur in the Susanville BLM District. However, Merriam (1910) noted coal prospects occurred along the "south side of the valley of Beet Creek" (now Big Spring Creek) in the Virgin Valley district. He noted thin, lignitic seams interbedded with carbonaceous shales.

In their theses, Fyock (1963) and Wendell (1970) described these beds as part of lacustrine and paludal deposits in the middle Miocene to early Pliocene Virgin Valley Formation. Wendell (1970) describes these beds as part of the carbonaceous member of his lacustrine facies in the Virgin Valley Formation. This carbonaceous member is up to 45 m thick and is best exposed in areas northwest of Virgin Valley. The member consists of interbedded lignite, volcaniclastic siltstone and sandstone, and diatomaceous sandstone. The lignite beds are generally 2 to 5 cm thick and make up about 70% of the member. They vary in color from dark brown and black to dark reddish brown. The lignitic material is about 90% derived from rushes and is generally soft and friable. Occasionally, it is silicified, which preserves the plant material (Fyock, 1963; Wendell, 1970).

The volcaniclastic siltstone and sandstone range from friable laminations to meter thick beds. They are buff, medium gray, and gray green in color and consist mainly of angular pumice fragments and subordinate amounts of glass shards and fragments of quartz, feldspar, and biotite. The diatomaceous mudstone makes up only a small part of the carbonaceous member (Fyock, 1963; Wendell, 1970).

PROSPECT, MINERAL LOCALITY, AND REFERENCE LISTS FOR QUADRANGLES IN THE NEVADA PORTION OF THE SUSANVILLE BLM DISTRICT

In this section, we list the following information for each of the 76 7.5-minute topographic maps contained all or partly within the Nevada portion of the Susanville BLM District: 1) name

and date of quadrangle with a 2- or 3-letter abbreviation in parentheses, 2) any borrow pit, cave (included in case they may be a misidentified adit), mine, prospect, or quarry symbols noted on map with their location(s), 3) sequentially numbered areas for each map of mining claims, prospects, mining activity, reported nonmetallic resources, anomalous metal values in geochemical samples, hydrothermal alterations, and/or other mineral resource-related locality data, 4) principal references for each notation, 5) list of geologic maps which include part or all of the quadrangle, 6) complete citation of references on the geology and mineral resources of the quadrangle, and 7) notation if a quadrangle is partly or completely covered by a wilderness study area(s), the Charles Sheldon Antelope Range, a remote sensing study by Borengasser (1987), or a uranium deposit assessment by Castor and others (1982).

The locations of listed map symbols are given to the nearest quarter-section in the form: T38N R23E 18SW, which refers to the southwest quarter of section 18, Township 38 north, Range 23 east, Mount Diablo Base and Meridian. Where sections or townships are unsurveyed, approximate UTM (Universal Transverse Mercator) coordinates for Zone 11 are given. The nearest even 1000-meter coordinate is reported without the last three zeroes.

When a mineral locality or claim group is plotted on two or more maps, reference is made to the locality number on the other map(s) by attaching the 2- or 3-letter abbreviation of that quadrangle to the locality number. This number is in parentheses before the text description. Mining claims listed are only the most recent ones located in a particular area as determined from the records of the Washoe County Recorders Office on 1 July, 1991. Claim blocks noted in the form such as "Hog #6986, 6987..." are an abbreviation for a very long claim name. For quadrangles which lie only partly within the study area, mineral localities are listed separately for areas inside and outside of the Susanville BLM District (or outside of the study area for those west of the Nevada-California border). Those numbered localities in the study area reported for each quadrangle are plotted on the plates attached to this report.

Maps of wilderness study areas, the Charles Sheldon Antelope Range, the area covered by the Borengasser (1987) remote sensing study, and areas containing potential uranium deposits is are included in Appendix A. These maps are taken from and summarize the mineral resource data in the references cited for each. The outlines of the quadrangles noted in the following section are drawn on each map. Some individual property descriptions are included in Appendix B.

ALKALI LAKE (AL) - 1966 - Photorevised 1982

QUAD LIST:

INSIDE DISTRICT

GRAVEL PITS

Gravel Pit	T44N R20E 21NW
Gravel Pit	T43N R19E 22NW

NOTES:

Quadrangle contains scattered small placer titaniferous magnetite deposits (Text p. 2) (Beal, 1962, 1963).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981

REFERENCES: Beal, 1962, 1963
Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981

ALKALI PEAK (AKP) Provisional - 1990

QUAD LIST:

INSIDE DISTRICT

CAVES

Cave	T44N R24-1/2E 27NE
Cave	T44N R25E 17NW

MINES

Shaft	T44N R24-1/2E 27NE

PROSPECTS

2 Prospects	T44N R24-1/2E 27NW

NOTES:

1. Lucky Strike
   Au trace, Ag 3 ppm
   (Cathrall and others, 1978; Tuchek and others, 1984)

2. Blue Dragon
   Au 10 ppm, Hg 0.006%
   (Cathrall and others, 1978; Parks, 1983; Tuchek and others, 1984)

3. Sample vv-39: Au .0009 ppm, Ag .021 ppm
   (Brophy, 1980)

4. Sample vv-42: Au .0006 ppm, Ag .007 ppm
   (Brophy, 1980)

5. Sample vv-113: Au .0006 ppm, Ag .005 ppm
   (Brophy, 1980)

6. Sample vv-124: Au .0025 ppm, Ag .005 ppm
   (Brophy, 1980)

7. Lucky Horseshoe
   Au trace, Ag trace, U_3O_8 <0.005%
   (Cathrall and others, 1978; Tuchek and others, 1984)

8. Golden Cash
   Au trace, Ag trace, U_3O_8 <0.005%
   (Cathrall and others, 1978; Tuchek and others, 1984)

Quadrangle contains areas favorable for U deposits (Appendix p. A23) (Castor and others, 1982).

Quadrangle is within the Charles Sheldon Antelope Range (Appendix p. A20-A21) (Greene, 1984; Tuchek and others, 1984; USGS-USBM, 1984).

GEOLOGIC MAPS: Castor and others, 1982
Luedke and Smith, 1981
Merriam, 1910
USGS-USBM, 1984
Willden, 1964

REFERENCES: Brophy, 1980
Castor and others, 1982
Cathrall and others, 1978
Greene, 1984
Luedke and Smith, 1981
Merriam, 1910
Parks, 1983
Tuchek and others, 1984
USGS-USBM, 1984
Willden, 1964

ASTOR PASS (AP) - 1964 - Photorevised 1981

QUAD LIST:

OUTSIDE DISTRICT

PROSPECTS

3 Prospects	T26N R20E 8SW
Prospect	T26N R20E 17NE

BORROW PITS

Borrow Pit	T27N R19E 14SE
Borrow Pit	T27N R20E 29NE

MARL PITS

Marl Pit	T27N R19E 13NW
Marl Pit	T27N R19E 23SE
Marl Pit	T27N R20E 29S

PITS

Pit	T27N R19E 13NW

NOTES:

1. Biolife #1 & 2 Placer; W., T., D., and F. Moore; 1978
   Straddles district line
   (Washoe Co. plat T27N R19E)

2. Twin Marl Placer #5 Placer; A. Wolf et al; 1975
   Straddles district line
   (Washoe Co. plat T27N R19E)

3. Mill site for Multiple Mineral Mills; L. Morton and M. Young; 1975
   Outside district
   (Washoe Co. plat T27N R19E)

4. Mill site for Railroad Manufacturing and Engineering Co.; L. Morton and M. Young; 1975
   Outside district
   (Washoe Co. plat T27N R19E)

5. Pearly White Placer; M. Perkins and R. Mitchell; 1980
   Outside district
   (Washoe Co. plat T27N R19E)

6. Marlite #1 & 2 Placer; Easton Railroad; 1976
   Outside district
   (Washoe Co. plat T27N R19E)

7. Oil and gas
   Outside district
   (Washoe Co. plat T27N R19E)

8. Twin Marl #4 placer; A. Wolf et al; 1975
   (Washoe Co. plat T27N R19E)

9. (SP-1) Twin Marl #1 placer; A. Wolf et al; 1975
   (Washoe Co. plats T27N R19E, T28N R19E)

10. Twin Marl #2 placer; A. Wolf et al; 1975
    (Washoe Co. plat T27N R19E)

11. Twin Marl #3 placer; A. Wolf et al; 1975
    (Washoe Co. plat T27N R19E)

12. Twin Marl #5 placer; A. Wolf et al; 1975
    Straddles district line
    (Washoe Co. plat T27N R19E)

13. Biomin #9 placer; W. Moore; 1975
    (Washoe Co. plat T27N R19E)

14. Biomin #7 placer; W. Moore; 1975
    (Washoe Co. plat T27N R19E)

15. Biomin #3 placer; W. Moore; 1975
    (Washoe Co. plat T27N R19E)

16. Biomin #6 placer; W. Moore; 1975
    Outside district
    (Washoe Co. plat T27N R19E)

17. Twin Marl #6 placer; A. Wolf et al; 1974
    Outside district
    (Washoe Co. plat T27N R19E)

18. Almarl #5 placer; A. Wolf et al; 1974
    Outside district
    (Washoe Co. plat T27N R19E)

19. Almarl #4 placer; A. Wolf et al; 1974
    Outside district
    (Washoe Co. plat T27N R19E)

20. Almarl #3 placer; A. Wolf et al; 1974
    Outside district
    (Washoe Co. plat T27N R19E)

21. Almarl #2 placer; A. Wolf et al; 1974
    Outside district
    (Washoe Co. plats T27N R19E, T27N R20E)

22. Millie Mine #1 & 2 placer; C. Hodges, 1972
    Outside district
    (Washoe Co. plat T27N R19E)

23. Biruta Marl placer; A. Wolf et al; 1974
    Outside district
    (Washoe Co. plat T27N R19E)

24. Roya placer; J. Carlile; 1972
    Outside district
    (Washoe Co. plats T27N R19E, T27E R20E)

25. Sections containing halloysite
    Outside district
    (Bonham and Papke, 1969; Papke, 1971; Tingley, 1989)

26. Section containing oil well (?)
    Outside district
    (Garside and others, 1988; Tingley, 1989)

27. Boglime deposit
    Outside district
    (Lincoln, 1923)

28. Double Check deposit
    $CaCO_3$
    Outside district
    (Tingley, 1989)

29. Rivermott deposit
    $CaCO_3$
    Outside district
    (Tingley, 1989)

30. Sample containing iron staining.
    Outside district
    (Tingley, 1989)

GEOLOGIC MAPS: Bonham and Papke, 1969
Luedke and Smith, 1981

REFERENCES: Bonham and Papke, 1969
Garside and others, 1988
Lincoln, 1923
Luedke and Smith, 1981
Papke, 1971
Tingley, 1989
Washoe County plats: T27N R19E, T28N R19E
T27N R20E

BADGER MOUNTAIN NW (BMN) - 1966

QUAD LIST:

INSIDE DISTRICT

GRAVEL PITS

Gravel Pit	?UTM 46/20N 2/99E
Gravel Pit	?UTM 46/13N 2/95E

NOTES:

Quadrangle is partly within the Charles Sheldon Antelope Range (Appendix p. A20-A21) (Greene, 1984; Tuchek and others, 1984; USGS-USBM, 1984).

Quadrangle is partly within the Massacre Rim Wilderness Study Area Appendix p. A11-A12) (Bergquist and others, 1988; Causey, 1987; Conrad, 1990).

GEOLOGIC MAPS: Berquist and others, 1988
Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Conrad, 1990
Luedke and Smith, 1981
Park, 1983
USGS-USBM, 1984

REFERENCES: Bergquist and others, 1988
Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Causey, 1987
Conrad, 1990
Greene, 1984
Luedke and Smith, 1981
Park, 1983
Tuchek and others, 1984
USGS-USBM, 1984

BADGER MOUNTAIN SE (BMS) - 1966

QUAD LIST:

INSIDE DISTRICT

PROSPECTS
Prospect T42N R23E 11SW

NOTES:

Quadrangle is partly within the Charles Sheldon Antelope Range (Appendix p. A20-A21) (Greene, 1984; Tuchek and others, 1984; USGS-USBM, 1984).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981
Park, 1983
USGS-USBM, 1984
Willden, 1964

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Greene, 1984
Luedke and Smith, 1981
Park, 1983
Tuchek and others, 1984
USGS-USBM, 1984
Willden, 1964

BALD MOUNTAIN (BM) - 1966

QUAD LIST:

INSIDE DISTRICT

PROSPECTS

3 Prospects	T45N R21E 22SW
2 Prospects	T45N R21E 22NE
3 Prospects	T45N R21E 23NW
Prospect	T45N R21E 23NE
Prospect	T45N R21E 23SE
Prospect	T45N R21E 24NW
2 Prospects	T45N R21E 24SW

NOTES:

1. (CL-1) Antelope #1-18 lode; Asarco; 1990
   (Washoe plat T45N R21E; R22E)

2. Antelope #1-48 lode; Asarco; 1989
   (Washoe plat T45N R21E)

3. LP #1-121 lode; Nicor Mineral; 1983
   (Washoe plat T45N R21E)

4. MRDS M232562; Bald Mtn.; Ag, Au, Hg, U

5. MRDS M232563; Antelope; Hg, Fe, Au

6. MRDS M232565; Harry Woods; Hg, Fe

7. MRDS M055254; Antelope #1-18; Hg, Au
   Hg 0.005-0.18%, produced "small amount of Hg"
   (Note 5?; Bailey and Phoenix, 1944; Cathrall and others, 1978; Tuchek and others, 1984)

8. MRDS M055598; Harry Woods; Hg, Au

9. (CL-5) Bald Mtn. claims; sections containing claims
   Au 0.3 ppm, 1.4 ppm, 113 ppm, Hg 0.02%
   (Note 4; Cathrall and others, 1978; Tuchek and others, 1984)

Quadrangle is partly within the Lone Pine District (Text p 3-4) (Bailey and Phoenix, 1944; Benson, 1956; Bonham, 1962; Bonham and Papke, 1969, Cathrall and others, 1978; Holmes, 1965; NBMG Lone Pine Mining District File; Overton, 1947; Ross, 1941; Tuchek and others, 1984; USGS-USBM, 1984; Wong, 1982).

Quadrangle is partly within the Charles Sheldon Antelope Range and Sheldon National Antelope Refuge (Appendix p. A20-A21) (Greene, 1984; Tuchek and others, 1984; USGS-USBM, 1984).

Quadrangle is partly within the Massacre Rim Wilderness Study Area (Appendix p. A11-A12) (Bergquist and others, 1988; Causey, 1987; Conrad, 1990).

GEOLOGIC MAPS: Bergquist and others, 1988
Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Conrad, 1990
Luedke and Smith, 1981
Tuchek and others, 1984
USGS-USBM, 1984

REFERENCES: Bailey and Phoenix, 1944
Berquist and others, 1988
Benson, 1956
Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Cathrall and others, 1978
Causey, 1987
Conrad, 1990
Greene, 1984
Holmes, 1965
Luedke and Smith, 1981
MRDS, 1991
NBMG Lone Pine Mining District File
Overton, 1947
Ross, 1941
Tuchek and others, 1984
USGS-USBM, 1984
Wong, 1982
Washow County Plats: T45N R22E

BARREL SPRINGS (BS) - 1966

QUAD LIST:

INSIDE DISTRICT

GRAVEL PITS
Gravel Pit T46N R18E 20NE

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981

BEAR BUTTES (BB) Provisional - 1990

NOTES:

Quadrangle is partly within the Charles Sheldon Antelope Range (Appendix p. A20-A21) (Greene, 1984; Tuchek and others, 1984; USGS-USBM, 1984).

GEOLOGIC MAPS: Castor and others, 1982
Luedke and Smith, 1981
Merriam, 1910
USGS-USBM, 1984
Park, 1983
Willden, 1964

REFERENCES; Castor and others, 1982
Greene, 1984
Luedke and Smith, 1981
Merriam, 1910
Park, 1983
Tuchek and others, 1984
USGS-USBM, 1984
Willden, 1964

BIG HAT MOUNTAIN (BH) - 1980

QUAD LIST:

INSIDE DISTRICT

PROSPECTS
Prospect T42N R18E 15SE

NOTES:

Quadrangle contains scattered small placer titaniferous magnetite deposits (Text p. 2) (Beal, 1962, 1963).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981

REFERENCES: Beal, 1962, 1963
Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981

BIG SPRING BUTTE (BSB) Provisional - 1991

NOTES:

1. Skyline group
   Au trace, Ag trace, Mn 0.4%
   (Cathrall and others, 1978; Tuchek and others, 1984)

2. Coal prospecting, approximate (?) (Text p. 7-8).
   Lignite
   (Merriam, 1910)

Quadrangle is partly within the Virgin Valley Opal District (Text, p. 4-5) (Brophy, 1980; Castor and others, 1982; Cathrall and others, 1978; Cathrall and others, 1984; Cupp and others, 1977; Fyock, 1963; Garside, 1973; Henry, 1978a, 1978b; Lovering, 1954; Merriam, 1910; Staatz and Bauer, 1951; Vanderburg, 1938; Wendell, 1970; Willden, 1964; Wong, 1982; Zielinski, 1982).

Quadrangle is within the Charles Sheldon Antelope Range (Appendix p. A20-A21) (Greene, 1984; Tuchek and others, 1984; USGS-USBM, 1984).

Quadrangle contains areas favorable for U deposits (Appendix p. A23) (Castor and others, 1982).

GEOLOGIC MAPS: Castor and others, 1982
Fyock, 1963
Henry, 1978a
Luedke and Smith, 1981
Merriam, 1910
USGS-USBM, 1984
Willden, 1964
Zielinski, 1982

REFERENCES: Brophy. 1980
Castor and others, 1982
Cathrall and others, 1978
Cathrall and others, 1984
Cupp and others, 1977
Fyock, 1963
Garside, 1973
Greene, 1984
Henry, 1978a, 1978b
Lovering, 1954
Luedke and Smith, 1981
Merriam, 1910
Tuchek and others, 1984
USGS-USBM, 1984
Wendell, 1970
Willden, 1964
Wong, 1982
Zielinski, 1982

BLOWOUT MOUNTAIN (BOM) - 1966

NOTES:

1. Crater group
   Ag trace, U_3O_8 <0.001%
   (Cathrall and others, 1978; Tuchek and others, 1984)

2. Viola and Nellie group
   U_3O_8 <0.005%
   (Cathrall and others, 1978; Tuchek and others, 1984)

3. Yellow Rock
   Au trace, Ag trace, U_3O_8 <0.001%
   (Cathrall and others, 1978; Tuchek and others, 1984)

Quadrangle is within the Charles Sheldon Antelope Range (Appendix p. A20-A21) (Greene, 1984; Tuchek and others, 1984; USGS-USBM, 1984).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981
Park, 1983
USGS-USBM, 1984
Willden, 1964

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Cathrall and others, 1978
Greene, 1984
Luedke and Smith, 1981
Park, 1983
Tuchek and others, 1984
USGS-USBM, 1984
Willden, 1964

BORDWELL SPRING (BWS) - 1980

NOTES:

Quadrangle is partly within the Wall Canyon Wilderness Study Area (Appendix p. A19) (Conrad, 1990).

Quadrangle contains areas favorable for U deposits (Appendix p. A23) (Castor and others, 1982).

Quadrangle is partly within the area of remote sensing study (Appendix p. A22) (Borengasser, 1987).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Borengasser, 1987
Castor and others, 1982
Conrad, 1990
Luedke and Smith, 1981

BOULDER LAKE (BDL) - 1979

QUAD LIST:

INSIDE DISTRICT

BORROW PITS
Borrow Pit ?UTM 45/97N 2/63E

NOTES:

Quadrangle contains scattered small placer titaniferous magnetite deposits (Text p. 2) (Beal, 1962, 1963)

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981

REFERENCES: Beal, 1962, 1963
Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981

BOULDER MOUNTAIN (BDM) - 1979

NOTES:

1. West Aspen #100-110, 112, 113, 124, lode; W. Parks; 1985 (Washoe Co. plat T39N R19E; Conrad, 1990)

2. Quadrangle is partly within the area of remote sensing study and contains areas of clay/carbonate and iron oxide alteration (Appendix p. A22) (Borengasser, 1987)

Quadrangle is partly within the Wall Canyon Wilderness Study Area (Appendix p. A19) (Conrad, 1990).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Borengasser, 1987
Castor and others, 1982
Conrad, 1990
Luedke and Smith, 1981
Washoe County plat: T39N R19E

BUFFALO CREEK (BC) - 1980

NOTES:

1. Pozzolan deposit; sample containing Ag
   (Adrian and others, 1987b; Conrad, 1990; Miller, 1987; Vercoutere and others, 1988)

2. Ba, Zn anomalies; alteration
   (Miller, 1987)

3. Ba, Zn, Au anomalies
   (Miller, 1987)

4. Ba, Zn, Au anomalies
   (Miller, 1987)

5. Zn anomaly; alteration
   (Miller, 1987)

6. Zn anomaly; alteration
   (Miller, 1987)

7. Zn anomaly; alteration
   (Miller, 1987)

8. W anomaly; alteration
   (Miller, 1987)

9. Zn, Au anomaly
   (Miller, 1987)

10. Zn, Au anomaly
    (Miller, 1987)

11. Zn, Au anomaly
    (Miller, 1987)

12. Cu, Ni anomaly
    (Miller, 1987)

Quadrangle is partly within the Buffalo Hills Wilderness Study Area (Appendix p. A2) (Conrad, 1990).

Quadrangle is partly within the Twin Peaks Wilderness Study Area, Straddles Nevada-California line but mostly in Nevada (Appendix p. A18) (Adrian and others, 1987b; Conrad, 1990; Miller, 1987; Vercoutere and others, 1988).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Luedke and Smith, 1981
Vercoutere and others, 1988

REFERENCES: Adrian and others, 1987b
Conrad, 1990
Luedke and Smith, 1981
Miller, 1987
Vercoutere and others, 1988

BURNT LAKE (BL) - 1980

NOTES:

1. MRDS M232571; Duck Flat; diatomite
   (Bonham and Papke, 1969)

Quadrangle is partly within the Buffalo Hills Wilderness Study Area (Appendix p. A2) (Conrad, 1990).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Luedke and Smith, 1981

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Conrad, 1990
Luedke and Smith, 1981
MRDS, 1991

BUTTE SPRING (BTS) - 1979

QUAD LIST:

INSIDE DISTRICT

MINES

Adit	T38N R23E 18SW

PROSPECTS

2 Prospects	T38N R23E 20NE

BORROW PITS

Borrow Pit	T39N R22E 35SW
Borrow Pit	T38N R22E 3SE

CAVE (?)	T38N R23E 7SW

OUTSIDE DISTRICT

PROSPECTS

4 Prospects	T38N R23E 21NW
3 Prospects	T38N R23E 21SW
Prospect	T38N R23E 22NW
2 Prospects	T38N R23E 22NE
4 Prospects	T38N R23E 22SW
3 Prospects	T38N R23E 22SE
2 Prospects	T38N R23E 27NW
3 Prospects	T38N R23E 27NE
Prospect	T38N R23E 27SE

NOTES:

1. (CLS-4) Gold Hog #1-24 placer; Sundesert Mining Co.; 1988
   (Washoe Co. plat T38N R22E)

2. Hog #7575-7590...lode; Western Goldfields Co.; 1986
   (Washoe Co. plats T38N R22, T38N 23E)

3. Hog #6986, 6987...lode; Western Goldfields Co.; 1988
   (Washoe Co. plat T38N R23E)

4. Hog #5151-5154...lode; Western Hog Ranch Co.; 1988
   Straddles district line
   (Washoe Co. plats T38N R22, T38N 23E)

5. Hog 1A #1-4 lode, Hog #6958, 6959...lode; Western Hog Ranch, 1987
   (Washoe Co, plat T38N R22E)

6. Stray #1-60, lode; Western Goldfields Co.; 1986
   Straddles district line
   (Washoe Co. plat T38N R23E)

7. (CLS-6) Hog #53R, 16264-16279...lode, Hole #11-85, lode; Western Hog Ranch Co.; 1989
(Washoe Co, plats T38N R22, T38N 23E)

8. (CLS-9) Hog #1-63 lode; Western Goldfields Co.; 1986
(Washoe Co. plat T38N R22E)

9. Hog #6273-6279...; Ferret Exploration Co.; 1984
(Washoe Co. plat T38N R23E)

10. (MCC-1) Jabo #1-62 lode; Houston International Minerals; 1983
Straddles district line
(Washoe Co. plat T38N R23E; Peters and others, 1987)

11. Hog #6264-6272...lode; Noranda Exploration, Inc.; 1981
(Washoe Co. plat T38N R22E)

12. (CLS-10) Hole #1-10 lode; Western Hog Ranch Co.; 1988
(Washoe Co. plat T38N R22E)

13. (CLS-11, FM-7, LV-1) Hog #5055-5069...lode; Noranda Exploration, Inc.; 1979
(Washoe Co. plats T38N R22, T38N 23E)

14. H. C. S. #2005, 2105, 2205 lode; K. Tullar/Paradigm Exploration; 1987
(Washoe Co. plat T38N R23E)

15. MRDS M232557; No. 6; U
(Garside, 1973)

16. MRDS M029061; No. 7; UNF
Outside district
(Garside, 1973)

17. MRDS M232559; No. 7; U
Outside district
(Garside, 1973)

18. Petrified forest
U3O8 7-14 ppm
Outside district
(Castor and others, 1982)

19. Section of report
(Jones, 1984)

20. Sample containing Au and Ag
(Peters and others, 1987)

21. (MCC-7) Uranium claims

Outside district
(Peters and others, 1987)

22. Denio Ranch diatomite prospect
(Peters and others, 1987)

23. Section 24 deposit
Au
(Peters and others, 1987)

24. West deposit
Au
(Peters and others, 1987)

Quadrangle contains part of the Hog Ranch Mine property (Notes 2-7, 13, 19) and is partly within the Leadvile Mining District (Text p. 5-7) (Bonham and others, 1985; Bussey and others, 1991; Drossulis, 1988; Harvey and others, 1986; Jones, 1984).

Quadrangle contains areas favorable for U deposits (Appendix p. A23) (Castor and others, 1982).

Quadrangle is partly within the Little High Rock Canyon Wilderness Study Area, which straddles the district line but is mostly inside district (Appendix p. A9-A10) (Conrad, 1990; Keith and others, 1988; Peters and others, 1987).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1981
Conrad, 1990
Drossulis, 1988
Keith and others, 1987
Luedke and Smith, 1981

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Bonham and others, 1985
Bussey and others, 1991
Castor and others, 1982
Churchill, 1988
Conrad, 1990
Drossulis, 1988
Garside, 1973
Harvey and others, 1986
Jones, 1984
Keith and others, 1988
Luedke and Smith, 1981
MRDS, 1991
Peters and others, 1987
Washoe County plats: T37N R23E, T38N R22E, T38N R23E, T39N R22E

CALCUTTA LAKE (CL) - 1966

QUAD LIST:

INSIDE DISTRICT

PROSPECTS

Prospect	T45N R21E	6SE
Prospect	T45N R21E	7NE
2 Prospects	T45N R21E	8NW
3 Prospects	T45N R21E	8SW
Prospect	T45N R21E	8NE
2 Prospects	T45N R21E	16NW
5 Prospects	T45N R21E	16SW

GRAVEL PITS

2 Gravel Pits	T45N R20E	24SE

NOTES:

1. (BM-1) Antelope #1-48 lode; Asarco, Inc.; 1990
   (Washoe Co. plat T45N R21E)

2. Sample 44 containing Au .84 ppm
   (Cathrall and others, 1977)

3. Sample 43 containing Au .10, .06 ppm
   (Cathrall and others, 1977)

4. Sample 36 containing Au .14 ppm
   (Cathrall and others, 1977)

5. (BM-9) Bald Mtn. claims; sections containing claims
   Au 0.3 ppm, 1.4 ppm, 113 ppm, Hg 0.02%
   (Cathrall and others, 1978; Tuchek and others, 1984)

Quadrangle is partly within the Lone Pine District (Text p 3-4) (Bailey and Phoenix, 1944; Benson, 1956; Bonham, 1962; Bonham and Papke, 1969, Cathrall and others, 1978; Holmes, 1965; NBMG Lone Pine Mining District File; Overton, 1947; Ross, 1941; Tuchek and others, 1984; USGS-USBM, 1984; Wong, 1982).

Quadrangle is partly within the Sheldon National Antelope Refuge (Appendix p. A20-A21) (Greene, 1984; Tuchek and others, 1984; USGS-USBM, 1984).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981
Tuchek and others, 1984
USGS-USBM, 1984

REFERENCES: Bailey and Phoenix, 1944
Benson, 1956
Bonham, 1962
Bonham and Papke, 1969
Cathrall and others, 1977, 1978
Greene, 1984
Holmes, 1965
NBMG Lone Pine Mining District File
Overton, 1947
Ross, 1941
Tuchek and others, 1984
USGS-USBM, 1984
Wong, 1982
Washoe County plat: T45N R21E

CARTER RESERVOIR (CR) - 1966

NOTES:

Quadrangle contains scattered small placer titaniferous magnetite deposits (Text p. 2) (Beal, 1962, 1963).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981

REFERENCES: Beal, 1962, 1963
Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981

CATNIP CANYON (CC) - 1966

NOTES:

1. MRDS M232568; Prospect; UNF
   Barren
   (Cathrall and others, 1978; Tuchek and others, 1984)

Quadrangle is within the Charles Sheldon Antelope Range and Sheldon National Antelope Refuge (Appendix p. A20-A21) (Greene, 1984; Tuchek and others, 1984; USGS-USBM, 1984).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981
USGS-USBM, 1984

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Cathrall and others, 1978
Greene, 1984
Luedke and Smith, 1981
MRDS, 1991
Tuchek and others, 1984
USGS-USBM, 1984

CATNIP MOUNTAIN SE (CM) - 1966

NOTES:

1. MRDS M232566; Obsidian group; Au, Ag, U
   Au trace, Ag trace, U_3O_8 <0.005%
   (Cathrall and others, 1978; Tuchek and others, 1984)

2. MRDS M232609; Lucky Jim; Au, Ag, U
   Au trace, Ag trace, U_3O_8 <0.005%
   (Cathrall and others, 1978; Tuchek and others, 1984)

3. Sunny Jim
   U_3O_8 <0.005%
   (Cathrall and others, 1978; Tuchek and others, 1984)

4. Suni
   U_3O_8 <0.005%
   (Cathrall and others, 1978; Tuchek and others, 1984)

Quadrangle is within the Charles Sheldon Antelope Range (Appendix p. A20-A21) (Greene, 1984; Tuchek and others, 1984; USGS-USBM, 1984).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981
USGS-USBM, 1984
Willden, 1964

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Cathrall and others, 1978
Greene, 1984
Luedke and Smith, 1981
MRDS, 1991
Tuchek and others, 1984
USGS-USBM, 1984
Willden, 1964

CHESTER LYONS SPRING (CLS) - 1979

NOTES:

1. Boar #7-30...lode; J. Lyons; 1984
   (Washoe Co. plats T39N R21, T39N 22E)

2. Gillam #1-44 lode; Asarco, Inc.; 1989
   (Washoe Co. plats T39N R21, T39N 22E)

3. Hummer #1-10 lode; C. Jakubowski; 1988
   (Washoe Co. plat T38N R21E)

4. (BTS-1) Gold Hog #1-24 placer; Sundesert Mining Co.; 1988
   (Washoe Co. plat T38N R22E)

5. Hog 1A #1-4, Hog #6958, 6959...lode; Western Hog Ranch Co.; 1987
   (Washoe Co. plat T38N R22E)

6. (BTS-7) Hog #53R, 16264-16279...Hole #11-85 lode, corrections; Western Hog Ranch Co.; 1989-90
   (Washoe Co. plat T38N R22E)

7. Hog #64-72 lode; Western Hog Ranch Co.; 1986
   (Washoe Co. plat T38N R22E)

8. Hog #20 & 21 Millsites; Ferret Exploration Co.; 1985
   (Washoe Co. plat T38N R22E)

9. (BTS-8) Hog #1-63 lode; Western Goldfields; 1986
   (Washoe Co. plat T38N R22E)

10. (BTS-12) Hole #1-10 lode; Western Hog Ranch Co.; 1988
    (Washoe Co. plat T38N R22E)

11. (BTS-13, FM-7, LV-1) Hog #5055-5069...lode; Noranda Exploration, Inc.; 1979
    (Washoe Co. plat T38N R22E)

Quadrangle contains part of the Hog Ranch Mine property (Notes 5, 6, 8, 9, 11) and is partly within the Leadvile Mining District. (Text p. 5-7) (Bonham and others, 1985; Bussey and others, 1991; Drossulis, 1988; Harvey and others, 1986).

Quadrangle contains areas favorable for U deposits (Appendix p. A23) (Castor and others, 1982).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Drossulis, 1988
Luedke and Smith, 1981

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Bonham and others, 1985
Bussey and others, 1991
Castor and others, 1982
Churchill, 1988
Drossulis, 1988
Harvey and others, 1986
Luedke and Smith, 1981
Washoe County plats: T38N R21E, T38N R22E, T39N R21E, T39N R22E

COLEMAN CANYON (CMC) - 1966

NOTES:

Quadrangle is partly within the Sheldon National Antelope Refuge (Appendix p. A20-A21) (Greene, 1984; Tuchek and others, 1984; USGS-USBM, 1984).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981
USGS-USBM, 1984

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Greene, 1984
Luedke and Smith, 1981
Tuchek and others, 1984
USGS-USBM, 1984

CROOKS MEADOW (CRM) - 1966

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981

CRUTCHER CANYON (CRC) - 1981

QUAD LIST:

OUTSIDE DISTRICT

GRAVEL PITS
Gravel Pit T35N R21E 28E

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Luedke and Smith, 1981

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Luedke and Smith, 1981

DUCK LAKE (DL) - 1979

NOTES:

1. Great Scott lode; J. Frost; 1972
   (Washoe Co. Plats T36N R18E

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981
Washoe County plat: T36N R18E

EDDIES GARDEN (EG) - 1981

NOTES:

Quadrangle is partly within the Buffalo Hills Wilderness Study Area (Appendix p. A2) (Conrad, 1990).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Luedke and Smith, 1981

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Conrad, 1990
Luedke and Smith, 1981

FLANIGAN (FL) - 1964 - Photorevised 1981

GEOLOGIC MAPS: Bonham and Papke, 1969
Luedke and Smith, 1981

REFERENCES: Bonham and Papke, 1969
Luedke and Smith, 1981

FORTYNINE MOUNTAIN (FNM) - 1966

QUAD LIST:

INSIDE DISTRICT

GRAVEL PITS
Gravel Pit T43N R18E 17N

NOTES:

1. MRDS M232574; Fortynine Camp; Diatomite (Bonham and Papke, 1969)

Quadrangle contains scattered small placer titaniferous magnetite deposits (Text p. 2) (Beal, 1962, 1963).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981

REFERENCES: Beal, 1962, 1963
Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981
MRDS, 1991

FOX MOUNTAIN (FM) - 1980

NOTES:

1. (LCP-1) Tex #73-76 lode; Simplot Resources; 1988
   (Washoe Co. plat T37N R21E)

2. Tex #1-72 lode; Simplot Resources; 1988
   (Washoe Co. plat T37N R21E)

3. Dall #10-28, Short #10-23 lode; Placer Dome US, Inc.; 1988
   (Washoe Co. plat T38N R22E)

4. Por #20-35 lode; Simplot Resources; 1988
   (Washoe Co. plat T38N R22E)

5. Por #1A-19A lode; Simplot Resources; 1988
   (Washoe Co. plat T38N R22E)

6. (LV-2) Hog #5151-5154...lode; Western Hog Ranch Co.; 1988
   (Washoe Co. plat T38N R22E)

7. (BTS-13, CLS-11, LV-1) Hog #5055-5069...lode; Noranda Exploration, Inc.; 1979
   (Washoe Co. plat T38N R22E)

Quadrangle contains part of the Hog Ranch Mine property (Notes 6, 7) and is partly within the Leadvile Mining District. (Text p. 5-7) (Bonham and others, 1985; Bussey and others, 1991; Drossulis, 1988; Harvey and others, 1986).

Quadrangle contains areas favorable for U deposits (Appendix p. A23) (Castor and others, 1982).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Drossulis, 1988
Luedke and Smith, 1981

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Bonham and others, 1985
Bussey and others, 1991
Castor and others, 1982
Churchill, 1988
Drossulis, 1988
Harvey and others, 1986
Luedke and Smith, 1981
Washoe County plats: T37N R21E, T37N R22E

GOOCH LAKE (GL) Provisional - 1990

QUAD LIST:

INSIDE DISTRICT

PROSPECTS

3 Prospects	?UTM 46/29N 3/21E
9 Prospects	?UTM 46/28N 3/22E
4 Prospects	?UTM 46/29N 3/23E
4 Prospects	?UTM 46/29N 3/22E

NOTES:

1. Kim
   Barren
   (Cathrall and others, 1978; Tuchek and others, 1984)

2. MRDS M232664; Hope group; U?, Au?, Ag?
   Barren
   (Cathrall and others, 1978; Tuchek and others, 1984)

3. Grubstake
   Au trace, Ag trace, U3O8 <0.005%
   (Cathrall and others, 1978; Tuchek and others, 1984)

4. Sample vv-2, Au .0012 ppm, Ag .010 ppm
   (Brophy, 1980)

5. Bighorn group
   Ag trace, U3O8 <0.001%
   (Cathrall and others, 1978; Tuchek and others, 1984)

Quadrangle is partly within the Virgin Valley Opal District (Text, p. 4-5) (Brophy, 1980; Castor and others, 1982; Cathrall and others, 1978; Cathrall and others, 1984; Cupp and others, 1977; Fyock, 1963; Garside, 1973; Henry, 1978a, 1978b; Lovering, 1954; Merriam, 1910; Staatz and Bauer, 1951; Vanderburg, 1938; Wendell, 1970; Willden, 1964; Wong, 1982; Zielinski, 1982).

Quadrangle is within the Charles Sheldon Antelope Range (Appendix p. A20-A21) (Greene, 1984; Tuchek and others, 1984; USGS-USBM, 1984).

Quadrangle contains areas favorable for U deposits (Appendix p. A23) (Castor and others, 1982).

GEOLOGIC MAPS: Castor and others, 1982
Fyock, 1963
Henry, 1978a
Luedke and Smith, 1981
MRDS, 1991
USGS-USBM, 1984

Wendell, 1970
Willden, 1964
Zielinski, 1982

REFERENCES:

Brophy, 1980
Butler and others, 1962
Castor and others, 1982
Cathrall and others, 1978
Cathrall and others, 1984
Cupp and others, 1977
Fyock, 1963
Garside, 1973
Greene, 1984
Henry, 1978a, 1978b
Lovering, 1954
Luedke and Smith, 1981
Merriam, 1910
Tuchek and others, 1984
USGS-USBM, 1984
Wendell, 1970
Willden, 1964
Wong, 1982
Zielinski, 1982

HART MOUNTAIN (HM) - 1978

QUAD LIST:

INSIDE DISTRICT

BORROW PITS
Borrow Pit T40N R21E 27NE

NOTES:

1. SPDY #1-28 lode; P. Noland; 1982
   (Washoe Co. plat T40N R22E)

2. Amalgam #1, 2,..; C. Nichols; 1985
   (Washoe Co. plat T40N R22E)

3. Amalgam #6, 7,...; C. Nichols; 1985
   (Washoe Co. plat T40N R22E)

4. Amalgam #11; C. Nichols; 1985
   (Washoe Co. plat T40N R22E)

5. Hart #1-36 lode; Kennecott Corp.; 1988
   (Washoe Co. plat T39N R21E)

6. Ebony #1-28 lode; C. Jakubowski; 1988
   (Washoe Co. plat T39N R22E

7. MRDS M232573; Perlite deposit
   (Bonham and Papke, 1969)

8. Section containing oil seep (Text p. 7-8)
   (S. McDaniel, personal communication, 1991)

Quadrangle contains areas favorable for U deposits (Appendix p. A23) (Castor and others, 1982).

Quadrangle is partly within the Massacre Rim Wilderness Study Area (Appendix, p. A11-A12) (Bergquist and others, 1988; Causey, 1987; Conrad, 1990).

GEOLOGIC MAPS: Bergquist and others, 1988
Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Conrad, 1990
Luedke and Smith, 1981

REFERENCES: Bergquist and others, 1988
Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982

Causey, 1987
Conrad, 1990
Luedke and Smith, 1981
MRDS, 1991
Purington, 1985
Washoe County plats: T39N R21E, T39N R22E,
T40N R22E

HAYS CANYON (HC) - 1977

NOTES:

1. Antler #8-12 lode; W. Kinkade; 1988
   (Washoe Co. plat T39E R18E)

2. Antler #1-7 lode; W. Kinkade; 1988
   (Washoe Co. plat T39E R18E)

3. West Aspen #100-110...; W. Parks III; 1985
   (Washoe Co. plat T39E R18E)

4. HC #1-16 lode; Houston International Minerals; 1983
   (Washoe Co. plats T39E R18E, T39N R19E; Conrad, 1990)

Quadrangle is partly within the Wall Canyon Wilderness Study Area (Appendix p. A19) (Conrad, 1990).

Quadrangle is partly within the of area remote sensing study (Appendix p. A22) (Borengasser, 1987).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Borengasser, 1987
Castor and others, 1982
Conrad, 1990
Luedke and Smith, 1981
Washoe County plats: T39N R18E, T39N R19E

HIGH ROCK LAKE (HR) - 1972

QUAD LIST:

INSIDE DISTRICT

MINES
Adit T40N R23E 27S

NOTES:

1. Sample containing Au
   (Peters and others, 1987)

2. Pit (adit?)
   (Schmauch, 1986)

3. Sample containing Ag
   Outside district
   (Schmauch, 1986)

4. Sample containing Au
   (Schmauch, 1986)

5. Sample containing Ag
   (Schmauch, 1986)

6. Sample containing Ag
   (Schmauch, 1986)

7. Sample containing Au
   (Schmauch, 1986)

8. Area of 1911 placer claims
   Au $0.06/cu. yd.=0.00015 oz/cu. yd.
   (Scott, 1987)

9. Zeolites
   (Scott, 1987)

Quadrangle is partly within the East Fork High Rock Canyon Wilderness Study Area, which straddles the district line but is mostly inside district (Appendix p. A5-A6) (Ach and others, 1988; Conrad, 1990; Schmauch, 1986).

Quadrangle is partly within the High Rock Canyon Wilderness Study Area (Appendix p. A8) (Conrad, 1990; Scott, 1987; Turrin and others, 1988).

Quadrangle is partly within the Little High Rock Canyon Wilderness Study Area (Appendix p. A9-A10) (Conrad, 1990; Keith and others, 1988; Peters and others, 1987).

GEOLOGIC MAPS: Ach and others, 1988, 1991
Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Conrad, 1990
Keith and others, 1988
Luedke and Smith, 1981
Noble and others, 1988
Turrin and others, 1988

REFERENCES: Ach and others, 1988, 1991
Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Conrad, 1990
Keith and others, 1988
Luedke and Smith, 1981
Noble and others, 1988
Peters and others, 1987
Schmauch, 1986
Scott, 1987
Turrin and others, 1988

HILLSIDE SPRING (HSS) - 1981

QUAD LIST:

INSIDE DISTRICT

BORROW PITS

Borrow Pit	T36N R20E 25SE
Borrow Pit	T36N R20E 36N

NOTES:

1. Northwest #1 & 2 lode; R. & J. Scott and S. Braly; 1981 (Washoe Co. plat T36N R21E)

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Luedke and Smith, 1981

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Luedke and Smith, 1981
Washoe County plats: T36N R20E, T36N R21E

HOG SPRING (HS) - 1980

QUAD LIST:

OUTSIDE DISTRICT

BORROW PITS

Borrow Pit	T32N R20E 35NE
2 Borrow Pits	T32N R20E 33SW

NOTES:

1. (HSC-1) Sadie #56-65 lode; J. Prichard et al; 1989
   Outside district
   (Washoe Co. plat T32N R20E)

2. Sam Flo #1 & 2 lode; D. Kirk and E. Newby; 1989
   Outside district
   (Washoe Co. plat T32N R20E)

3. (HSC-2) Great Eagle lode; L. Iverson et al; 1972, 1980
   Outside district
   (Washoe Co. plat T32N R20E)

4. Section containing sodium sulfate deposits.
   Outside district
   (Bonham, 1962; Bonham and Papke, 1969; Overton, 1947; Papke, 1976; Phalen, 1919; Russell, 1885)

Quadrangle is partly within the Sheepshead Mining District (Text p. 2-3) (Bonham, 1962; Bonham and Papke, 1969; Overton, 1947; Papke, 1976; Phalen, 1919; Russell, 1885).

GEOLOIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Luedke and Smith, 1981

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Luedke and Smith, 1981
Overton, 1947
Papke, 1976
Phalen, 1919
Russell, 1885
Washoe County plat: T31N R20E

HOLE IN THE GROUND (HG) - 1980

NOTES:

Quadrangle is partly within the Buffalo Hills Wilderness Study Area (Appendix p. A2) (Conrad, 1990).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Luedke and Smith, 1981

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Conrad, 1990
Luedke and Smith, 1981

HORSE CANYON (HSC) - 1981

QUAD LIST:

INSIDE DISTRICT

GRAVEL PITS
Gravel Pit ?UTM 45/01N 2/77E

SAND PITS
Sand Pit ?UTM 45/02N 2/77E

NOTES:

1. (HS-1) Sadie #56-65 lode; J. Prichard et al; 1989
   Outside district
   (Washoe Co. plat T32N R20E)

2. (HS-3) Great Eagle lode; L. Iverson et al; 1972, 1980
   Outside district
   (Washoe Co. plat T32N R20E)

Quadrangle is partly within the Poodle Mountain Wilderness Study Area, which straddles the district line but is mostly outside district (Appendix p. A13) (Conrad, 1990).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Luedke and Smith, 1981

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Luedke and Smith, 1981
Conrad, 1990
Washoe County plat: T32N R20E

JUNIPER SPRINGS (JS) - 1980

QUAD LIST:

INSIDE DISTRICT

PROSPECTS
2 Prospects ?UTM 45/43N 2/63E

BORROW PITS
Borrow Pit ?UTM 45/48N 2/59E

NOTES:

1. Spencer Mining #6-9 placer; J. Spencer et al; 1989
   (Washoe Co. plat T36N R20E)

2. (RPC-1) #145A-148A; Spencer; 1991
   (Washoe Co. plat T36N R19E)

3. DOJR #70-78...; Prichard/Miller; 1990
   (Washoe Co. plat T36N R19E)

4. (RPC-3) Spencer Mining Lode #108A-117A...; J. Spencer; 1990
   (Washoe Co. plat T36N R19, 20E)

5. (RPC-4) Spencer Mining #1A-69A, Trudy #1A-7A lode; J. Spencer; 1990
   (Washoe Co. plat T36N R19E)

6. (RPC-5) Recon #41-72...lode; C. Spencer; 1989
   (Washoe Co. plats T36N R19E, T36N R20E)

7. Recon #73-122...lode; C. Spencer; 1989
   (Washoe Co. plats T36N R19E, T37N R19E)

8. Newton #5 placer; Bilyeu et al; 1989
   (Washoe Co. plat T36N R19E)

9. Newton #11 place; Bilyeu et al; 1989
   (Washoe Co. plat T36N R19E)

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981
Washoe County plats: T36N R19E, T36N R20E, T37N R19E

LEADVILLE (LV) - 1980

QUAD LIST:

OUTSIDE DISTRICT

PROSPECTS

3 Prospects	T37N R23E 8SW
16 Prospects	T37N R23E 8SE
Prospect	T37N R23E 17NW
Prospect	T37N R23E 17NE
11 Prospects	T37N R23E 9SW
2 Prospects	T37N R23E 9SE
6 Prospects	T37N R23E 16NW
3 Prospects	T37N R23E 16NE

NOTES:

1. (FM-7, CLS-11, BTS-13) Hog #5055-5069...lode; Noranda Exploration, Inc.; 1979
   (Washoe Co. plat T37N R22E)

2. (FM-6) Hog #5151-5154...lode; Western Hog Ranch Co.; 1988
   (Washoe Co. plat T37N R22)

3. Vent #39-98 lode; Transwestern Mining Co.; 1985
   (Washoe Co. plats T37N R22E, T37N R23E)

4. Vent #1-38 lode; Transwestern Mining Co.; 1985
   Straddles district line
   (Washoe Co. plat T37N R23E)

5. Prong #93-173 lode; Transwestern Mining Co.; 1985
   Sraddles district line
   (Washoe Co. plats T37N R22E, T37N R23E)

6. Mineral Survey 3876-3878; patented
   Outside district
   (Washoe Co. plat T37N R23E)

7. TB #1-11 lode, TB placer; Luna Mining Co./Idaho Mining Co.; 1972
   Outside district
   (Washoe Co. plat T37N R23E)

8. Arlen #1 & 2 lode; Simplot Resources; 1988
   (Washoe Co. plat T37N R22E)

9. Moose #1-98 lode; Santa Fe Mining, Inc.; 1982
   (Washoe Co. plat T37N R22E)

10. Prong #1-92 lode; Transwestern Mining Co;, 1985
    (Washoe Co. plat T37N R23E)

11. Elk #1-176 lode; Rocky Mountain Surveyors; 1981
    (Washoe Co. plat T37N R23E)

12. MRDS M232560; upper niter claims; niter

13. MRDS M232556; Leadville Mine; Ag, Pb, Zn, Cu, Au
    Outside district

14. MRDS M232558; Happy Day property; U
    Outside district

15. MRDS M232561; niter prospects; niter

Quadrangle contains areas favorable for U deposits (Appendix p. A23) (Castor and others, 1982).

Quadrangle contains part of the Hog Ranch Mine property (Notes 4, 5, 6, 7) and is partly within the Leadvile Mining District Notes 1, 2, 8, 9) (Text p. 5-7) (Bonham and others, 1985; Bussey and others, 1991; Drossulis, 1988; Harvey and others, 1986).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Drossulis, 1988
Luedke and Smith, 1981

REFERENCES: Bonham, 1962
Bonham and others, 1985
Bussey and others, 1991
Castor and others, 1982
Churchill, 1988
Couch and Carpenter, 1943
Drossulis, 1988
Harvey and others, 1986
Lincoln, 1923
Luedke and Smith, 1981
MRDS, 1991
NBMG Leadville Mining District File
Overton, 1947
Washoe County plats: T37N R22E, T37N R23E

LITTLE COLEMAN CANYON (LCC) - 1966

QUAD LIST:

INSIDE DISTRICT

GRAVEL PITS
Gravel Pit T47N R20E 20SW

NOTES:

1. Rosebud #1-8 lode; J. and D. Ogle; 1982
(Washoe Co. plat T47N R20E)

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981
Washoe County plats: R19E, T47N R20E

LOST CREEK PASS (LCP) - 1980

NOTES:

1. (FM-1) Tex #73-76 lode; Simplot Resources; 1988
   (Washoe Co. plat T37N R21E)

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981
Washoe County plat: T37N R21E

MAHOGANY MOUNTAIN (MM) - 1972

NOTES:

1. Hart #1-10, A, B lode; Simplot Resources; 1988
   (Washoe Co. plat T39N R22E

2. MRDS M232572; Demo Ranch diatomite deposit
   (Bonham and Papke, 1969)

3. Woodruff Camp
   U3O8 19-105 ppm
   (Castor and others, 1982

4. Unnamed mineralized area
   Chalcedony and opal
   (Conrad, 1990; Keith and others, 1988)

5. Sample containing Au
   (Peters and others, 1987)

6. Sample containing Au
   (Peters and others, 1987)

Quadrangle is partly within the East Fork High Rock Canyon Wilderness Study Area (Appendix p. A5-A6) (Ach and others, 1988; Conrad, 1990; Schmauch, 1986).

Quadrangle is partly within the High Rock Canyon Wilderness Study Area (Appendix p. A8) (Conrad, 1990; Scott, 1987).

Quadrangle is partly within the Little High Rock Canyon Wilderness Study Area (Appendix, p. A9-A10) (Conrad, 1990; Keith and others, 1988; Peters and others, 1987).

Quadrangle contains areas favorable for U deposits (Appendix p. A23) (Castor and others, 1982).

GEOLOGIC MAPS: Ach and others, 1988
Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Conrad, 1990
Keith and others, 1988
Luedke and Smith, 1981

REFERENCES: Ach and others, 1987
Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Conrad, 1990
Keith and others, 1988
Luedke and Smith, 1981

Peters and others, 1987
Schmauch, 1986
Scott, 1987
Washoe County plat: T39N R22E

MASSACRE CREEK (MC) - 1966

QUAD LIST:

INSIDE DISTRICT

GRAVEL PITS

2 Gravel Pits	?UTM 46/08N 2/81E
Gravel Pit	?UTM 46/08N 2/84E
Gravel Pit	?UTM 46/08N 2/87E

NOTES:

1. (NS-1, YHW-1, NM-1) GC #1-207 lode; Western Mining Corp.; 1989
   (Washoe Co. plats T41N R22E, T42N R22E)

2. R & H placer; R. Hoover; 1982
   (Washoe Co. plat T43N R21E)

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981
Park, 1983

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981
Park, 1983
Washoe County plats: T41N R22E, T42N R22E, T43N R21E

MASSACRE LAKE (ML) - 1966

QUAD LIST:

INSIDE DISTRICT

GRAVEL PITS
Gravel Pit ?UTM 46/12N 2/92E

NOTES;

Quadrangle is partly within the Massacre Rim Wilderness Study Area (Appendix p. A11-A12) (Bergquist and others, 1988; and Causey, 1987; Conrad, 1990).

GEOLOGIC MAPS: Bergquist and others, 1988
Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Conrad, 1990
Luedke and Smith, 1981
USGS-USBM, 1984

REFERENCES: Bergquist and others, 1988
Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Causey, 1987
Conrad, 1990
Luedke and Smith, 1981
USGS-USBM, 1984

MASSACRE LAKE NW (MLN) - 1966

QUAD LIST:

INSIDE DISTRICT

GRAVEL PITS
Gravel Pit T44N R20E 21NW

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981

McCONNEL CANYON (MCC) - 1980

QUAD LIST:

OUTSIDE DISTRICT

PROSPECTS

5 Prospects	T38N R23E 22SE
Prospect	T38N R23E 23SW
Prospect	T38N R23E 27N
Prospect	T38N R23E 27SW
Prospect	T38N R23E 27SE
2 Prospects	T38N R23E 26SW

NOTES:

1. (BTS-10) Jabo #1-62 lode; Noranda Exploration; 1981
   Au
   Outside district
   (Washoe Co. plat T38N R23E; Peters and others, 1987)

2. Unnamed alterred area
   Epithermal
   Outside district
   (Conrad, 1990; Keith and others, 1988; Paters and others, 1987)

3. Big Doubt prospect
   U3O8
   Outside district
   (Conrad, 1990; Keith and others, 1988)

4. Pozzolanic sediment
   Outside district
   (Conrad, 1990; Keith and others, 1988)

5. Perlite claims
   Outside district
   (Conrad, 1990; Keith and others, 1988)

6. Jabo extension
   Silicified
   Outside district
   (Conrad, 1990; Keith and others, 1988; Peters and others, 1987)

7. (BTS-21)·Uranium claims
   Outside district
   (Peters and others, 1987)

8. Sample containing Ag
   (Peters and others, 1987)

9. Sample containing Au
   (Peters and others, 1987)

10. Sample containing Au
    (Peters and others, 1987)

11. Sample containing Ag
    Outside district
    (Peters and others, 1987)

12. Sample containing Au and Ag
    Outside district
    (Peters and others, 1987)

13. Sample containing Au and Ag
    Outside district
    (Peters and others, 1987)

14. Sample containing Au and Ag
    Outside district
    (Peters and others, 1987)

15. Sample containing Au and Ag
    Outside district
    (Peters and others, 1987)

16. Sample containing Au and Ag
    Outside district
    (Peters and others, 1987)

Quadrangle is partly within the Little High Rock Canyon Wilderness Study Area, straddles district line (Appendix p. A9-A10) (Conrad, 1990; Keith and others, 1988; Peters and others, 1987).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Conrad, 1990
Keith and others, 1988
Luedke and Smith, 1981
Willden, 1964

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Conrad, 1990
Keith and others, 1988
Luedke and Smith, 1981
Peters and others, 1987
Willden, 1964
Washoe County plat: T38N R23E

McGEE MOUNTAIN (MG) Provisional - 1990

QUAD LIST:

OUTSIDE DISTRICT

PROSPECTS

Prospect	T45N R26E 11SE
Prospect	?UTM 46/32N 3/35E
2 Prospects	T45N R26E 2NE
3 Prospects	T45N R26E 2SE
2 Prospects	?UTM 46/27N 3/44E

NOTES:

1. Goodwill
   Hg 20 ppm
   Outside district.
   (Cathrall and others, 1978; Tuchek and others, 1984)

2. Ladd
   U3O8 trace
   Outside district.
   (Cathrall and others, 1978; Tuchek and others, 1984)

Quadrangle contains areas favorable for U deposits (Appendix p. A23) (Castor and others, 1982).

Quadrangle is partly within the Charles Sheldon Antelope Range (Appendix p. A20-A21). (Greene, 1984; Tuchek and others, 1984; USGS-USBM, 1984).

Quadrangle is partly within the Virgin Valley Opal District (Text, p. 4-5) (Brophy, 1980; Castor and others, 1982; Cathrall and others, 1978; Cathrall and others, 1984; Cupp and others, 1977; Fyock, 1963; Garside, 1973; Henry, 1978a, 1978b; Lovering, 1954; Merriam, 1910; Staatz and Bauer, 1951; Vanderburg, 1938; Wendell, 1970; Willden, 1964; Wong, 1982; Zielinski, 1982).

GEOLOGIC MAPS: Castor and others, 1982
Cupp and others, 1977
Fyock, 1963
Henry, 1978a
Luedke and Smith, 1981
Merriam, 1910
USGS-USBM, 1984
Wendell, 1970
Willden, 1964

REFERENCES: Brophy, 1980
Castor and others, 1982
Cathrall and others, 1978
Cathrall and others, 1984

Cupp and others, 1977
Fyock, 1963
Garside, 1973
Greene, 1984
Henry, 1978a, 1978b
Lovering, 1954
Luedke and Smith, 1981
Merriam, 1910
Staatz and Bauer, 1951
Tuchek and others, 1984
USGS-USBM, 1984
Vanderburg, 1938
Wendell, 1970
Willden, 1964
Wong, 1982
Zielinski, 1982

MIXIE FLAT (MF) - 1980

NOTES:

1. Sample containing Au
   (Adrain and others, 1987b)

2. W anomaly; alteration
   (Miller, 1987)

3. W anomaly; alteration
   (Miller, 1987)

4. Au, Zn anomalies; alteration
   (Miller, 1987; Vercoutere and others, 1988)

5. Ag, Zn anomalies; alteration
   (Miller, 1987)

6. Zn anomaly; alteration
   (Miller, 1987)

7. Au, Zn anomalies; alteration
   (Miller, 1987)

8. W anomaly; alteration
   (Miller, 1987)

9. W anomaly; alteration
   (Miller, 1987)

10. Radioactivity
    (Miller, 1987)

11. Radioactivity
    (Miller, 1987)

12. Ba, Zn anomalies; alteration
    (Miller, 1987)

13. Ba, Zn anomalies; alteration
    (Miller, 1987)

14. Ba, Zn anomalies; alteration
    (Miller, 1987)

15. Cu, Ni anomalies; alteration
    (Miller, 1987)

16. Zn anomaly
    (Miller, 1987)

Quadrangle is partly within the Buffalo Hills Wilderness Study

Area (Appendix p. A2) (Conrad, 1990).

Quadrangle is partly within the Twin Peaks Wilderness Study Area, which straddles the Nevada-California border but is mostly within Nevada (Appendix p. A18) (Conrad, 1990; Miller, 1987; Vercoutere and others, 1988).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Conrad, 1990
Luedke and Smith, 1981
Vercoutere and others, 1988

REFERENCES: Adrian and others, 1987b
Bonham, 1962
Bonham and Papke, 1969
Conrad, 1990
Luedke and Smith, 1981
Miller, 1987
Vercoutere and others, 1988

MOSQUITO VALLEY (MV) - 1966

NOTES:

1. Eva #5-8 lode; G. Bell; 1972
   (Washoe Co. plats T45N R19E, T46N R19E)

2. Eva #1-4, Merna #1-10 lode; G. Bell; 1972
   (Washoe Co. plats T45N R19E, T46N R19E)

3. Lost Soldier #1-3 placer; D. Eddie et al; 1989
   (Washoe Co. plat T45N R19E)

4. Phyliss # 1-3 lode; R. Williams; 1974
   (Washoe Co. plat T45N R19E)

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981
Washoe County plats: T45N R19E, T46N R19E

NELLIE SPRING MOUNATIN (NS) - 1979

QUAD LIST:

INSIDE DISTRICT

PROSPECTS

8 Prospects Cluster	?UTM 45/85N 2/89E
Prospect	?UTM 45/85N 2/89E
4 Prospects	?UTM 45/85N 2/88E
Prospect	?UTM 45/85N 2/89E

NOTES:

1. (MC-1, YHW-1, NM-1) GC #1-207 lode; Western Mining Corp.; 1989
   (Washoe Co. plat T41N R22E)

2. Gold Plug #801-813 lode; C. Nochols; 1988
   (Washoe Co. plat T41N R22E)

3. GC #7-23 lode; Lacana Gold; 1988
   (Washoe Co. plat T41N R22E)

4. Gold Plug #102, 104...lode; C. Nichols; 1988
   (Washoe Co. plat T41N R22E)

5. GC #1-6 lode; Lacana Gold; 1988
   (Washoe Co. plat T41N R22E)

6. Gold Plug #111-114...lode; H. Schull; 1988
   (Washoe Co. plat T41N R22E)

7. Gold Plug #81, 91, 93 lode; C. Nichols; 1988
   (Washoe Co. plat T41N R22E)

8. Gold Plug #101, 103...lode; C. Nichols; 1988
   (Washoe Co. plat T41N R22E)

9. Gold Plug #131-140 lode; C. Nichols; 1986
   (Washoe Co. plat T41N R22E)

10. Gold Plug #29-42...lode; C. Nichols; GC #1-10...Gold Plug #29A, 30A; American Copper and Nickel Co.; 1988
    (Washoe Co. plats T41N R22E, T40-1/2N R22E)

11. GC #15-76 lode; American Copper and Nickel Co.; 1988
    (Washoe Co. plat T41N R22E)

12. GC #9 & 10 lode; American Copper and Nickel Co.; 1988
    (Washoe Co. plat T41N R22E)

13. Amalgam #1, 2...lode; C. Nichols; 1988

(Washoe Co. plat T40-1/2N R22E)

14. Amalgam #3, 4...lode; C. Nichols; 1988
    (Washoe Co. plat T40-1/2N R22E)

15. (YHW-4) Gold Plug #29-42...lode; C. Nichols, GC #1-10...Gold Plug #29A, 30A; American Copper and Nickel Co.; 1988
    (Washoe Co. plat T40N R22E)

16. Opaline veins
    (Purington, 1985)

17. Perlitic alteration
    (Purington, 1985)

18. Sample containing Ag
    (Scott, 1987)

19. Opal claims
    (Scott, 1987)

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981
Purington, 1985

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981
Purington, 1985
Scott, 1987
Washoe County plats: T41N R22E, T40N R22E
T40-1/2N R22E

NUT MOUNTAIN (NM) - 1966

QUAD LIST:

INSIDE DISTRICT

PROSPECTS

Prospect	?UTM 46/02N 2/95E
Prospect	?UTM 46/01N 2/94E

GRAVEL PITS

Gravel Pit	?UTM 46/09N 2/99E

NOTES:

1. (YHW-1, MC-1, NS-1) GC #1-207 lode; Western Mining Corp.; 1989
   (Washoe Co. plats T41N R22E, T42N R22E)

2. (YHW-2) Gree #100-103 lode; Pacific Coast Miines, Inc.; 1984
   (Washoe Co. plat T41N R22E)

3. MRDS M232567; Pretty Rock group; Au, Ag, U
   Au trace, Ag trace, U3O8 <0.001%
   (Cathrall and others, 1978; Tuchek and others, 1984)

Quadrangle is partly within the Charles Sheldon Antelope Range (Appendix p. A20-A21) (Greene, 1984; Tuchek and others, 1984; USGS-USBM, 1984).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981
Park, 1983
USGS-USBM, 1984

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Cathrall and others, 1978
Greene, 1984
Luedke and Smith, 1981
MRDS, 1991
Park, 1983
Tuchek and others, 1984
USGS-USBM, 1984
Washoe County plats: T41N R22E, T42N R22E

PAINTED POINT (PP) - 1966

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981

PARKER CANYON (PC) - 1980

QUAD LIST:

INSIDE DISTRICT

PROSPECTS

2 Prospects	T28N R18E 17SE
Prospect	T28N R18E 29NE

NOTES:

1. Section containing perlite
   (Bonham and Papke, 1969)

2. Areas containing iron staining
   (Diggles and others, 1986)

3. Broken Shovel claims
   Perlite
   (Conrad, 1990; Diggles and others, 1988a; Linne, 1987; Tingley, 1987)

4. Sample containing Au in California
   (Munts and Peters, 1987)

Quadrangle is partly within the Dry Valley Rim Wilderness Study Area, which straddles Nevada-California border but is mostly within Nevada (Appendix p. A3-A4) (Conrad, 1990; Diggles and others, 1986, 1988a; Linne, 1987).

Quadrangle is partly within the Skedaddle Mountain Wilderness Study Area, which straddles Nevada-California line but is mostly within Califonria (Appendix p. A16-A17) (Conrad, 1990; Diggles and others, 1988b, 1989; Munts and Peters, 1987).

GEOLOGIC MAPS: Bonham and Papke, 1969
Conrad, 1990
Diggles and others, 1988a, 1988b
Luedke and Smith, 1981

REFERENCES: Bonham and Papke, 1969
Conrad, 1990
Diggles and others, 1986, 1988a, 1988b, 1989
Linne, 1987
Luedke and Smith, 1981
Munts and Peters, 1987
Tingley, 1989

PEGLEG CANYON (PLC) - 1980

QUAD LIST:

INSIDE DISTRICT

BORROW PITS
Borrow Pit ?UTM 45/60N 2/52E

NOTES:

Quadrangle is partly within the Wall Canyon Wilderness Study Area (Appendix p. A19) (Conrad, 1990).

Quadrangle is partly within the area of remote sensing study (Appendix p. A22) (Borengasser, 1987).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Borengasser, 1987
Castor and others, 1982
Conrad, 1990
Luedke and Smith, 1981

PINTO SPRINGS (PS) - 1979

NOTES:

Quadrangle is partly within the Wall Canyon Wilderness Study Area (Appendix p. A19) (Conrad, 1990).

Quadrangle is partly within the area of remote sensing study (Appendix p. 22) (Borengasser, 1987).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Borengasser, 1987
Castor and others, 1982
Conrad, 1990
Luedke and Smith, 1981

POODLE MOUNTAIN (PM) - 1981

NOTES:

Quadrangle is partly within the Poodle Mountain Wilderness Study Area, which straddles the district line but is mostly outside of the district (Appendix p. A13) (Conrad, 1990).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Luedke and Smith, 1981

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Conrad, 1990
Luedke and Smith, 1981

POWERS WELL (PW) - 1979

QUAD LIST:

INSIDE DISTRICT

BORROW PITS

Borrow Pit	?UTM 45/91N 2/71E
Borrow Pit	?UTM 45/88N 2/74E

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981

RED ROCK CANYON (RR) - 1980

NOTES:

1. Capricorn #11-15 placer, S. Hill and R. Bailey, 1972
   Montmorillonite clay
   (Washoe Co. plat T30N R19E; Conrad, 1990; Diggles and others, 1988a; Tingley, 1989)

2. Area of iron oxide staining
   (Diggles and others, 1986)

3. Area of iron oxide staining
   (Diggles and others, 1986)

4. Area of iron oxide staining
   (Diggles and others, 1986)

5. Area of iron oxide staining
   (Diggles and others, 1986)

6. Area of iron oxide staining
   (Diggles and others, 1986)

7. Red Rock zeolite
   (Conrad, 1990; Diggles and others, 1988a; Linne, 1987; Tingley, 1989)

8. Rocky Springs zeolite
   (Conrad, 1990; Diggles and others, 1988a; Linne, 1987; Tingley, 1989)

9. Willow Spring zeolite
   (Conrad, 1990; Diggles and others, 1988a; Linne, 1987; Tingley, 1989)

10. (SHP-2) Willow Springs perlite
    (Conrad, 1990; Diggles and others, 1988a; Linne, 1987; Tingley, 1989)

11. Jasper float
    In California
    (Munts and Peters, 1987)

12. (SHP-3) Section containing Fuller's Earth
    (Tingley, 1989)

13. (SHP-1) Section containing perlite
    (Bonham and Papke, 1969)

Quadrangle is partly within the Dry Valley Rim Wilderness Study Area, which straddles the Nevada-California border but is mostly within Nevada (Appendix A3-A) (Conrad, 1990; Diggles and others,

1986, 1988a; Linne, 1987).

Quadrangle is partly within the Skedaddle Mountain Wilderness Study Area, which straddles the Nevada-California border but is mostly within California (Appendix p. A16-A17) (Conrad, 1990; Diggles and others, 1988b, 1989; Munts and Peters, 1987).

GEOLOGIC MAPS: Bonham and Papke, 1969
Conrad, 1990
Diggles and others, 1988a, 1988b
Luedke and Smith, 1981

REFERENCES: Bonham and Papke, 1969
Conrad, 1990
Diggles and others, 1986, 1988a, 1988b, 1989
Linne, 1987
Luedke and Smith, 1981
Munts and Peters, 1987
Tingley, 1989
Washoe County plats: T30N R19E

ROCK SPRING TABLE (RST) Provisional - 1990

NOTES:

1. Raven Manganese
   Au trace, Ag 0.4 oz/ton, Mn 0.04-10%
   (Cathrall and others, 1978; Tuchek and others, 1984)

2. Sample vv-118 containing Au .0011 ppm, .187 ppm
   (Brophy, 1980)

3. Sample vv-134 containing Au .0009 ppm, Ag .005 ppm
   (Brophy, 1980)

4. Sample vv-145 containing Au .0012 ppm, Ag .013 ppm
   (Brophy, 1980)

5. Sample vv-146 containing Au .0033 ppm, Ag .005 ppm
   (Brophy, 1980)

Quadrangle contains areas favorable for U deposits (Appendix p. A23) (Castor and others, 1982).

Quadrangle is within the Charles Sheldon Antelope Range (Appendix p. A20-A21) (Greene, 1984; Tuchek and others, 1984; USGS-USBM, 1984).

GEOLOGIC MAPS: Castor and others, 1982
Cupp and others, 1977
Fyock, 1963
Henry, 1978a
Luedke and Smith, 1981
Merriam, 1910
Park, 1983
USGS-USBM, 1984
Wendell, 1970
Willden, 1964
Zielinsky, 1982

REFERENCES: Brophy, 1980
Castor and others, 1982
Cathrall and others, 1978
Cupp and others, 1977
Fyock, 1963
Greene, 1984
Henry, 1978a
Luedke and Smith, 1981
Merriam, 1910
Park, 1983
Tuchek and others, 1984
USGS-USBM, 1984
Wendell, 1970
Willden, 1964

Zielinsky, 1982

RYE CREEK (RC) - 1966

QUAD LIST:

INSIDE DISTRICT

GRAVEL PITS
Gravel Pit T46N R22E 4NW

NOTES:

Quadrangle is partly within the Charles Sheldon Antelope Range and Sheldon National Antelope Refuge (Appendix p. A20-A21) (Greene, 1984; Tuchek and others, 1984; USGS-USBM, 1984).

Quadrangle is partly within the Sheldon Contiguous Wilderness Study Area (Appendix A14-A15) (Conrad, 1990; Esparza, 1986).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Conrad, 1990
Luedke and Smith, 1981
USGS-USBM, 1984

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Conrad, 1990
Esparza, 1986
Greene, 1984
Luedke and Smith, 1981
Tuchek and others, 1984
USGS-USBM, 1984

RYE PATCH CANYON (RPC) - 1981

QUAD LIST:

INSIDE DISTRICT

BORROW PITS

Borrow Pit	?UTM 45/42N 2/63E
Borrow Pit	?UTM 45/38N 2/64E
Borrow Pit	T36N R20E 29SW

NOTES:

1. (JS-2) #145A-148A; Spencer; 1991
   (Washoe Co. plat T36N R19E)

2. DOJR #92-107; Prichard/Miller; 1990
   (Washoe Co. plat T36N R19E)

3. (JS-4) Spencer Mining lode #108-117A...; J. Spencer; 1990
   (Washoe Co. plats T36N R19E, T36N R20E)

4. (JS-5) Spencer Mining #1A-69A lode, Trudy 1A-7A lode; J. Spencer; 1990
   (Washoe Co. plat T36N R19E)

5. (JS-6) Recon #73-122...lode; C. Spencer; 1989
   (Washoe Co. plats T36N R19E, T36N R20E)

6. Recon #1-16...lode; C. Spencer; 1989
   (Washoe Co. plats T36N R19E, T36N R20E)

7. Danny Boy and Danny Boy #1 placer...; J. Spencer et al; 1986
   (Washoe Co. plat T36N R20E)

Quadrangle is partly within the Buffalo Hills Wilderness Study Area (Appendix p. A2) (Conrad, 1990).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Luedke and Smith, 1981

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Conrad, 1990
Luedke and Smith, 1981
Washoe County plats: T36N R19E, T36N R20E

SAGE HEN HILLS (SH) - 1966

NOTES:

1. MRDS M232564; Charlines Nos. 1 and 2; UNF
   Barren
   (Cathrall and others, 1978; Tuchek and others, 1984)

2. Echo group
   Au trace, Ag trace, U_3O_8 <0.001%
   (Cathrall and others, 1978; Tuchek and others, 1984)

Quadrangle is within the Charles Sheldon Antelope Range (Appendix p. A20-A21) (Greene, 1984; Tuchek and others, 1984; USGS-USBM, 1984).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981
USGS-USBM, 1984
Willden, 1964

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Cathrall and others, 1978
Greene, 1984
Luedke and Smith, 1981
MRDS, 1991
Tuchek and others, 1984
USGS-USBM, 1984
Willden, 1964

SALT MARSH (SM) - 1980

QUAD LIST:

INSIDE DISTRICT

GRAVEL PITS

Gravel Pit	T31N R19E 14SE
Gravel Pit	T31N R19E 23NE
Gravel Pit	T31N R19E 23SW
Gravel Pit	T31N R19E 27SE
Gravel Pit	T31N R19E 34SE

NOTES:

1. Mineral Survey
   (Washoe Co. plat T32N R19E)

2. Mineral Survey
   (Washoe Co. plat T31N R19E)

3. Mineral Survey MS-2175
   (Washoe Co. plat T31N R20E)

4. Mineral Survey
   (Washoe Co. plat T31N R20E)

5. Mineral Survey
   (Washoe Co. plat T31N R20E)

6. Section containing Buffalo Springs Salt Works
   (Bonham, 1962; Bonham and Papke, 1969; Lincoln, 1923; Overton, 1947; Papke, 1976; Phalen, 1919; Russell, 1885)

7. W, Hg anomalies; alteration
   (Miller, 1987)

8. Au, W, Hg anomalies; alteration
   (Miller, 1987)

9. W, Hg anomalies; alteration
   (Miller, 1987)

Quadrangle is partly within the Twin Peaks Wilderness Study Area, which straddles the California-Nevada border but is mostly within Nevada (Appendix p. A18) (Conrad, 1990; Miller, 1987; Vercoutere and others, 1988).

Quadrangle is partly within the Sheepshead Mining District (Text p. 2-3) (Bonham, 1962; Bonham and Papke, 1969; Overton, 1947; Papke, 1976; Phalen, 1919; Russell, 1885).

GEOLOGIC MAPS: Bonham, 1962

Bonham and Papke, 1969
Conrad, 1990
Luedke and Smith, 1981
Vercoutere and others, 1988

REFERENCES:

Bonham, 1962
Bonham and Papke, 1969
Conrad, 1990
Lincoln, 1923
Luedke and Smith, 1981
Miller, 1987
Overton, 1947
Papke, 1976
Phalen, 1919
Russell, 1885
Vercoutere and others, 1988
Washoe County plats: T31N R19E, T31N R20E, T32N R19E

SAND PASS (SP) - 1980

QUAD LIST:

INSIDE DISTRICT

BORROW PITS

Borrow Pit	T29N R19E 22NE

NOTES:

1. (AP-9) Twin Marl No. 1 placer; A. Wolff et al; 1975
   (Washoe Co. plat T28N R19E)

GEOLOGIC MAPS: Bonham and Papke, 1969
Luedke and Smith, 1981

REFERENCES: Bonham and Papke, 1969
Luedke and Smith, 1981
Washoe County plat: T28N R19E

SHEEPSHEAD PASS (SHP) - 1981

NOTES:

1. (RR-13) Sections containing perlite
   (Bonham and Papke, 1969)

2. (RR-10) Willow Springs perlite
   (Diggles and others, 1988a; Linne, 1987; Tingley, 1989)

3. (RR-12) Section containing Fuller's Earth
   (Tingley, 1989)

Quadrangle is partly within the Dry Valley Rim Wilderness Study Area, which starddles the California-Nevada border but is mostly within Nevada (Appendix p. A3-A4) (Conrad, 1990; Diggles and others, 1986, 1988a; Linne, 1987).

GEOLOGIC MAPS: Bonham and Papke, 1969
Conrad, 1990
Diggles and others, 1988a
Luedke and Smith, 1981

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Conrad, 1990
Diggles and others, 1986, 1988a
Linne, 1987
Luedke and Smith, 1981
Tingley, 1989

SMOKE CREEK RANCH (SC) - 1980

QUAD LIST:

INSIDE DISTRICT

GRAVEL PITS

Gravel Pit	T31N R18E 16NE
Gravel Pit	T31N R19E 32SW

NOTES:

1. Pozzolan
   (Miller, 1987)

2. Pozzolan
   (Miller, 1987)

3. Pozzolan
   (Miller, 1987)

4. Pozzolan
   (Miller, 1987)

5. Au, tufa
   (Miller, 1987)

6. Tufa
   (Miller, 1987)

Quadrangle is partly within the Dry Valley Rim Wilderness Study Area, which straddles the California-Nevada border, but is mostly within Nevada (Appendix p. A3-A4) (Conrad, 1990; Diggles and others, 1986, 1988a; Linne, 1987).

Quadrangle is partly within the Five Springs Wilderness Study Area, which straddles the California-Nevada border, but is mostly within California (Appendix p. A7) (Conrad, 1990).

Quadrangle is partly within the Twin Peaks Wilderness Study Area, which straddles the California-Nevada border, but is mostly within Nevada (Appendix p. A18) (Conrad, 1990; Miller, 1987; Vercoutere and others, 1988).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Conrad, 1990
Diggles and others, 1988a
Luedke and Smith, 1981
Vercoutere and others, 1988

REFERENCES: Bonham, 1962
Bonham and Papke, 1969

Conrad, 1990
Diggles and others, 1986, 1988a
Linne, 1987
Luedke and Smith, 1981
Miller, 1987
Vercoutere and others, 1988

SUMMIT LAKE (SML) Provisional - 1990

NOTES:

Quadrangle is partly the Charles Sheldon Antelope Range (Appendix p. A20-A21) (Greene, 1984; Tuchek and others, 1984; USGS-USBM, 1984).

GEOLOGIC MAPS: Castor and others, 1982
Luedke and Smith, 1981
Merriam, 1910
USGS-USBM, 1984
Willden, 1964

REFERENCES: Castor and others, 1982
Greene, 1984
Luedke and Smith, 1981
Merriam, 1910
Tuchek and others, 1984
USGS-USBM, 1984
Willden, 1964

SWAN LAKE (SL) - 1966

NOTES:

1. MRDS M232569; Prospect #2; Au, Ag, U
   Au trace, Ag trace, U_3O_8 <0.005%
   (Cathrall and others, 1978; Tuchek and others, 1984)

2. MRDS M232570; Wild Rose prospect; Au, U
   Au trace, U_3O_8 <0.001%
   (Cathrall and others, 1978; Tuchek and others, 1984)

Quadrangle is partly within the Massacre Rim Wilderness Study Area (Appendix p. A11-A12) (Bergquist and others, 1988; Causey, 1987; Conrad, 1990).

Quadrangle is partly within the Charles Sheldon Antelope Range and Sheldon National Antelope Refuge (Appendix p. A20-A21) (Greene, 1984; Tuchek and others, 1984; USGS-USBM, 1984).

GEOLOGIC MAPS: Bergquist and others, 1988
Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Conrad, 1990
Luedke and Smith, 1981
USGS-USBM, 1984

REFERENCES: Bergquist and others, 1988
Bonham, 1962
Bonham and Papke, 1969
Cathrall and others, 1978
Causey, 1987
Conrad, 1990
Greene, 1984
Luedke and Smith, 1981
MRDS, 1991
Tuchek and others, 1984
USGS-USBM, 1984

THOUSAND CREEK GORGE Provisional (TC) - 1990

QUAD LIST:

OUTSIDE DISTRICT

PROSPECTS

Prospect	?UTM 46/38N 3/42E
Prospect	?UTM 46/38N 3/42E
Prospect	?UTM 46/38N 3/42E

QUARRIES

Quarry	T46N R27E 30NW

NOTES:

1. Fortune group
   Barren
   Outside district
   (Cathrall and others, 1978; Tuchek and others, 1984)

Quadrangle is within the Charles Sheldon Antelope Range (Appendix p. A20-A21) (Greene, 1984; Tuchek and others, 1984; USGS-USBM, 1984).

Quadrangle is partly within the Virgin Valley Opal District (Text, p. 4-5) (Brophy, 1980; Castor and others, 1982; Cathrall and others, 1978; Cathrall and others, 1984; Cupp and others, 1977; Fyock, 1963; Garside, 1973; Henry, 1978a, 1978b; Lovering, 1954; Merriam, 1910; Staatz and Bauer, 1951; Vanderburg, 1938; Wendell, 1970; Willden, 1964; Wong, 1982; Zielinski, 1982).

MAPS: Castor and others, 1982
Cupp and others, 1977
Fyock, 1963
Henry, 1978a
Luedke and Smith, 1981
Merriam, 1910
USGS-USBM, 1984
Wendell, 1970
Willden, 1964
Zelinski, 1982

REFERENCES: Brophy, 1980
Castor and others, 1982
Cathrall and others, 1978
Cathrall and others, 1984
Cupp and others, 1977
Fyock, 1963
Garside, 1973
Greene, 1984
Henry, 1978a, 1978b
Lovering, 1954

THOUSAND CREEK GORGE Provisional (TC) - 1990

QUAD LIST:

OUTSIDE DISTRICT

PROSPECTS

Prospect	?UTM 46/38N 3/42E
Prospect	?UTM 46/38N 3/42E
Prospect	?UTM 46/38N 3/42E

QUARRIES

Quarry	T46N R27E 30NW

NOTES:

1. Fortune group
   Barren
   Outside district
   (Cathrall and others, 1978; Tuchek and others, 1984)

Quadrangle is within the Charles Sheldon Antelope Range (Appendix p. A20-A21) (Greene, 1984; Tuchek and others, 1984; USGS-USBM, 1984).

Quadrangle is partly within the Virgin Valley Opal District (Text, p. 4-5) (Brophy, 1980; Castor and others, 1982; Cathrall and others, 1978; Cathrall and others, 1984; Cupp and others, 1977; Fyock, 1963; Garside, 1973; Henry, 1978a, 1978b; Lovering, 1954; Merriam, 1910; Staatz and Bauer, 1951; Vanderburg, 1938; Wendell, 1970; Willden, 1964; Wong, 1982; Zielinski, 1982).

MAPS: Castor and others, 1982
Cupp and others, 1977
Fyock, 1963
Henry, 1978a
Luedke and Smith, 1981
Merriam, 1910
USGS-USBM, 1984
Wendell, 1970
Willden, 1964
Zelinski, 1982

REFERENCES: Brophy, 1980
Castor and others, 1982
Cathrall and others, 1978
Cathrall and others, 1984
Cupp and others, 1977
Fyock, 1963
Garside, 1973
Greene, 1984
Henry, 1978a, 1978b
Lovering, 1954

Luedke and Smith, 1981
Merriam, 1910
Staatz and Bauer, 1951
Tuchek and others, 1984
USGS-USBM, 1984
Vanderburg, 1938
Wendell, 1970
Willden, 1964
Zielinski, 1982

THOUSAND CREEK SPRING (TCS) Provisional - 1991

NOTES:

1. Lucky Four
   Ag trace, U_3O_8 <0.005%
   (Cathrall and others, 1978; Tuchek and others, 1984)

2. McKenny Camp
   Au trace, Ag trace, U_3O_8 <0.005%
   (Cathrall and others, 1978; Tuchek and others, 1984)

3. MRDS M029071; Cactus claims; U
   U_3O_8 7-250 ppm
   (Castor and others, 1982; Garside, 1973)

4. Virgin Duff group
   Ag trace, U_3O_8 <0.005%
   (Cathrall and others, 1978; Tuchek and others, 1984)

Quadrangle is partly within the Virgin Valley Opal District (Text, p. 4-5) (Brophy, 1980; Castor and others, 1982; Cathrall and others, 1978; Cathrall and others, 1984; Cupp and others, 1977; Fyock, 1963; Garside, 1973; Henry, 1978a, 1978b; Lovering, 1954; Merriam, 1910; Staatz and Bauer, 1951; Vanderburg, 1938; Wendell, 1970; Willden, 1964; Wong, 1982; Zielinski, 1982).

Quadrangle is within the Charles Sheldon Antelope Range (Appendix p. A20-A21) (Greene, 1984; Tuchek and others, 1984; USGS-USBM, 1984).

Quadrangle contains areas favorable for U deposits (Appendix p. A23) (Castor and others, 1982).

GEOLOGIC MAPS: Castor and others, 1982
Fyock, 1963
Henry, 1978a
Luedke and Smith, 1981
Merriam, 1910
USGS-USBM, 1984
Wendell, 1970
Willden, 1964
Zielinski, 1982

REFERENCES: Brophy, 1980
Castor and others, 1982
Cathrall and others, 1978
Cathrall and others, 1984
Cupp and others, 1977
Fyock, 1963
Garside, 1973
Greene, 1984
Henry, 1978a, 1978b

Hodson and Dake, 1950
Lovering, 1954
Luedke and Smith, 1981
Merriam, 1910
MRDS, 1991
Nichols, 1979
Tuchek and others, 1984
USGS-USBM, 1984
Wendell, 1970
Willden, 1964
Wong, 1982
Zielinski, 1982

VIRGIN VALLEY (VV) Provisional - 1990

QUAD LIST:

INSIDE DISTRICT

CAVES

Cave	T45N R25E 35SW

MINES

Virgin Mine Adit	?UTM 46/34N 3/27E
2 Open Pit Mines	?UTM 46/33N 3/28E
Open Pit Mine	?UTM 46/32N 3/38E
Open Pit Mine	?UTM 46/30N 3/26E
Open Pit Mine	?UTM 46/29N 3/26E
Open Pit Mine	?UTM 46/28N 3/26E
Royal Peacock Mine Open Pit Mine	?UTM 46/28N 3/27E

PROSPECTS

Prospect	T46N R26E 31SW
2 Prospects	T46N R26E 32SE
8 Prospects	T45N R26E 3NE
3 Prospects	T45N R26E 3NW
12 Prospects	T45N R26E 3SW
Prospect	T45N R26E 10NE
3 Prospects	T45N R26E 10SW
9 Prospects	?UTM 46/36N 3/30E
Prospect	?UTM 46/36N 3/31E
8 Prospects	?UTM 46/35N 3/31E
2 Prospects	?UTM 46/34N 3/30E
2 Prospects	?UTM 46/34N 3/31E
6 Prospects	T45N R26E 9NW
Prospect	T45N R26E 9SE
10 Prospects	?UTM 46/34N 3/29E
6 Prospects	?UTM 46/34N 3/28E
3 Prospects	?UTM 46/34N 3/27E
2 Prospects	?UTM 46/33N 3/26E
2 Prospects	?UTM 46/33N 3/27E
40 Prospects	?UTM 46/33N 3/28E
13 Prospects	?UTM 46/33N 3/29E
11 Prospects	?UTM 46/32N 3/25N
12 Prospects	?UTM 46/32N 3/26E
7 Prospects	?UTM 46/32N 3/27E
14 Prospects	?UTM 46/32N 3/28E
21 Prospects	?UTM 46/32N 3/29E
Prospect	?UTM 46/32N 3/30E
Prospect	T45N R26E 18NW
3 Prospects	T45N R26E 18NE
2 Prospects	T45N R26E 18SW
7 Prospects	T45N R26E 18SE
9 Prospects	T45N R26E 17NE

7 Prospects	T45N R26E 17SE
2 Prospects	T45N R26E 17SW
13 Prospects	?UTM 46/31N 3/25E
15 Prospects	?UTM 46/31N 3/26E
2 Prospects	?UTM 46/30N 3/25E
Prospect	?UTM 46/30N 3/26E
15 Prospects	?UTM 46/31N 3/30E
19 Prospects	?UTM 46/31N 3/31E
4 Prospects	T45N R25E 24NW
7 Prospects	T45N R25E 24SW
7 Prospects	T45N R25E 24NE
Prospect	T45N R25E 24SE
Prospect	T45N R25E 25NW
2 Prospects	T45N R25E 25SW
4 Prospects	T45N R25E 25NE
2 Prospects	T45N R25E 25SE
7 Prospects	T45N R25E 36NW
Prospect	T45N R25E 36SW
3 Prospects	T45N R25E 36NE
3 Prospects	T45N R25E 36SE
2 Prospects	T44N R25E 2NE
3 Prospects	?UTM 46/30N 3/27E
4 Prospects	?UTM 46/30N 3/29E
19 Prospects	?UTM 46/30N 3/30E
10 Prospects	?UTM 46/30N 3/31E
Prospect	?UTM 46/29N 3/26E
4 Prospects	?UTM 46/29N 3/29E
15 Prospects	?UTM 46/29E 3/30N
Prospect	?UTM 46/28E 3/27N
Prospect	?UTM 46/27E 3/27N
3 Prospects	?UTM 46/26E 3/26N
8 Prospects	?UTM 46/26E 3/27N
2 Prospects	?UTM 46/26E 3/28N
2 Prospects	?UTM 46/25E 3/26N

QUARRIES

Quarry	T45N R26E 2NW

OUTSIDE DISTRICT

MINES

Rainbow Ridge Mine Open Pit Mine	?UTM 46/29N 3/33E
Open Pit Mine	?UTM 46/29N 3/33E

PROSPECTS

6 Prospects	T45N R26E 2SW
8 Prospects	T45N R26E 10SE
Prospect	T45N R26E 11NW
Prospect	T45N R26E 14NW
5 Prospects	T45N R26E 14SW
2 Prospects	?UTM 46/31N 3/31E
16 Prospects	?UTM 46/31N 3/32E

5 Prospects	?UTM 46/31N 3/33E
3 Prospects	?UTM 46/30N 3/31E
2 Prospects	?UTM 46/30N 3/32N
4 Prospects	?UTM 46/30N 3/33E
7 Prospects	?UTM 46/29N 3/31E
7 Prospects	?UTM 46/29N 3/32E
6 Prospects	?UTM 46/28N 3/32E

QUARRIES

Quarry	T45N R26E 2SW

NOTES:

1. Lemac
   Ornamental building stone
   (Cathrall and others, 1978; Tuchek and others, 1984)

2. Virgin Mine
   Opal
   (Cathrall and others, 1978; Tuchek and others, 1984)

3. Eddy group
   Opal
   (Cathrall and others, 1978; Tuchek and others, 1984)

4. Opal Queen Mine
   Opla
   (Cathrall and others, 1978; Tuchek and others, 1984)

5. Meyer group
   Opal
   (Cathrall and others, 1978; Tuchek and others, 1984)

6. Rainbow Ridge Mine
   Opal
   Outside district
   (Cathrall and others, 1978; Hodson and Dake, 1950; Nichols, 1979; Tuchek and others, 1984)

7. CC claims
   U3O8 0.01%
   (Garside, 1973)

8. Virgin Valley
   U3O8 trace-1.00%
   (Castor and others, 1982)

9. MRDS M232679; Royal Peacock Mine; opal
   Opal
   (Bower, 1977; Cathrall and others, 1978; Nichols, 1979; Tuchek and others, 1984)

10. Virgin Valley claims

U3O8 0.02-0.08%
(Cathrall and others, 1978; Tuchek and others, 1984)

11. Mesa
Barren
(Cathrall and others, 1978; Tuchek and others, 1984)

12. Steamboat group
U3O8 trace-0.037%
(Cathrall and others, 1978; Tuchek and others, 1984)

Quadrangle is partly within the Virgin Valley Opal District (Text, p. 4-5) (Brophy, 1980; Castor and others, 1982; Cathrall and others, 1978; Cathrall and others, 1984; Cupp and others, 1977; Fyock, 1963; Garside, 1973; Henry, 1978a, 1978b; Lovering, 1954; Merriam, 1910; Staatz and Bauer, 1951; Vanderburg, 1938; Wendell, 1970; Willden, 1964; Wong, 1982; Zielinski, 1982).

Quadrangle is within the Charles Sheldon Antelope Range (Appendix p. A20-A21) (Greene, 1984; Tuchek and others, 1984; USGS-USBM, 1984).

Quadrangle contains areas favorable for U deposits (Appendix p. A23) (Castor and others, 1982).

GEOLOGIC MAPS: Castor and others, 1982
Fyock, 1963
Henry, 1978a
Luedke and Smith, 1981
Merriam, 1910
USGS-USBM, 1984
Wendell, 1970
Willden, 1964
Zielinski, 1982

REFERENCES: Bower, 1977
Brophy, 1980
Butler and others, 1962
Castor and others, 1982
Cathrall and others, 1978
Cathrall and others, 1984
Cupp and others, 1977
Fyock, 1963
Garside, 1973
Greene, 1984
Henry, 1978a, 1978b
Hodson and Dake, 1950
Lovering, 1954
Luedke and Smith, 1981
Merriam, 1910
MRDS. 1991
Nichols, 1979
Tuchek and others, 1984

USGS-USBM, 1984
Vanderburg, 1938
Wendell, 1970
Willden, 1964
Wong, 1982
Zielinski, 1982

VYA (VY) - 1966

QUAD LIST:

INSIDE DISTRICT

GRAVEL PITS

3 Gravel Pits	?UTM 46/06N 2/62E
Gravel Pit	?UTM 46/06N 2/70E

NOTES:

1. MRDS W001579; Fortynine Range placers; Ti, Fe (Beal, 1963)

Quadrangle contains scattered small placer titaniferous magnetite deposits (Text p. 2) (Beal, 1962, 1963).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor, 1982
Luedke and Smith, 1981

REFERENCES: Beal, 1962; 1963
Bonham, 1962
Bonham and Papke, 1969
Castor, 1982
Luedke and Smith, 1981
MRDS, 1991

WALL CANYON RESERVOIR (WC) - 1979

NOTES:

1. Shawn Ray 1-9 lode; S. Spencer; 1989
   (Washoe Co., plat T38N R19E)

Quadrangle is partly within the area of remote sensing study (Appendix p. A22) (Borengasser, 1987).

Quadrangle is partly within the Wall Canyon Wilderness Study Area (Appendix p. A19) (Conrad, 1990).

GEOLOGIC MAPS: Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Luedke and Smith, 1981

REFERENCES: Bonham, 1962
Bonham and Papke, 1969
Borengasser, 1987
Castor and others, 1982
Conrad, 1990
Luedke and Smith, 1981
Washoe County plat: T38N R19E

YELLOW HILLS EAST (YHE) - 1972

NOTES:

1. Sample containing Ag
   Outside district
   (Schmauch, 1987)

2. Sample containing Ag
   (Schmauch, 1987)

3. Sample containing Ag
   (Schmauch, 1987)

4. Sample containing Ag
   (Schmauch, 1987)

5. Sample containing Ag
   (Schmauch, 1987)

Quadrangle is partly within the East Fork High Rock Canyon Wilderness Study Area (Appendix p. A5-A6) (Ach and others, 1988; Conrad, 1990; Schmauch, 1987).

GEOLOGIC MAPS: Ach, 1988a
Ach and others, 1988
Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Conrad, 1990
Luedke and Smith, 1981
Willden, 1964

REFERENCES: Ach, 1988a
Ach and others, 1988
Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Conrad, 1990
Luedke and Smith, 1981
Schmauch, 1986
Willden, 1964

YELLOW HILLS WEST (YHW) - 1972

NOTES:

1. (NS-1, MC-1, NM-1) GC #1-207 lode; Western Mining Corp.;1989
   (Washoe Co. plat T41N R22E)

2. (NM-2) Gree #100-103 lode; Pacific Coast Mines, Inc.; 1984
   (Washoe Co. plat T41N R22E)

3. (NS-11) GC #15-76 lode; American Copper and Nickel Co.; 1988
   (Washoe Co. plats T41N R22E, T40-1/2N R22E)

4. (NS-15) Amalgam #3,4..., Gold Plug #901-906 lode; C. Nichols, 1988
   (Washoe Co. plat T40N R22E)

5. Sample containing Ag
   (Schmauch, 1986)

6. Sample containing Ag
   (Schmauch, 1986)

7. Sample containing Ag
   (Schmauch, 1986)

8. Sample containing Au and Ag
   (Scott, 1987)

9. Sample containing Au and Ag
   (Scott, 1987)

Quadrangle is partly within the High Rock Canyon Wilderness Study Area (Appendix p. A8) (Conrad, 1990; Scott, 1987; Turrin and others, 1988).

Quadrangle is partly within the East Fork High Rock Canyon Wilderness Study Area (Appendix A5-A6) (Ach and others, 1988; Conrad, 1990; Schmauch, 1987).

GEOLOGIC MAPS: Ach, 1988b
Ach and others, 1988
Bonham, 1962
Bonham and Papke, 1969
Castor and others, 1982
Conrad, 1990
Luedke and Smith, 1981
Turrin and others, 1988

REFERENCES: Ach, 1988b
Ach and others, 1988
Bonham, 1962
Bonham and Papke, 1969

Castor and others, 1982
Conrad, 1990
Luedke and Smith, 1981
Schmauch, 1986
Turrin and others, 1988
Scott, 1987
Washoe County plats: T41N R22E, T40N R22E
T40-1/2N R22E

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APPENDIX A: MINERAL RESOURCE MAPS FOR WILDERNESS STUDY AREAS WITHIN THE NEVADA PORTION OF THE SUSANVILLE BLM DISTRICT AND MAPS OF THE CHARLES SHELDON ANTELOPE RANGE, THE AREA COVERED BY A REMOTE SENSING STUDY, AND AREAS FAVORABLE FOR URANIUM DEPOSITS.

LOW mineral resource potential is assigned to areas where geologic, geochemical, and geophysical characteristics define a geologic environment in which the existence of resources is permissive. This broad category embraces areas with dispersed but insignificantly mineralized rock as well as areas with few or no indications of having been mineralized.

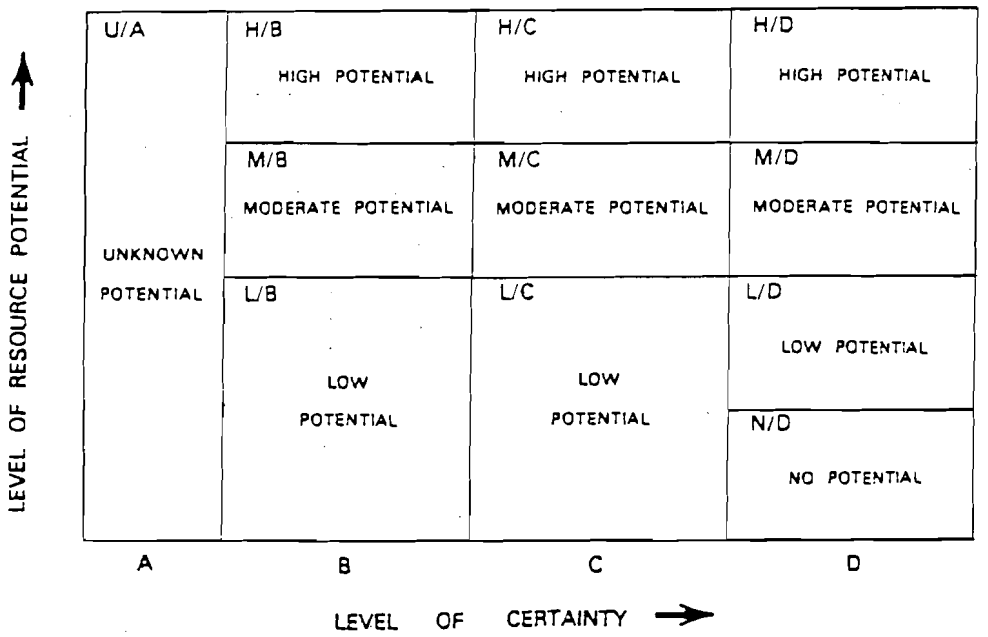
MODERATE mineral resource potential is assigned to areas where geologic, geochemical, and geophysical characteristics indicate a geologic environment favorable for resource occurrence, where interpretations of data indicate reasonable likelihood of resource accumulation, and (or) where an application of mineral-deposit models indicates favorable ground for the specified type(s) of deposits.

HIGH mineral resource potential is assigned to areas where geologic, geochemical, and geophysical characteristics indicate a geologic environment favorable for resource occurence, where interpretations of data indicate a high degree of likelihood for resource accumulation, where data supports mineral-deposit models indicating presence of resources, and where evidence indicates that mineral concentration has taken place. Assignment of high resource potential to an area requires some positive knowledge that mineral-forming processes have been active in at least part of the area.

UNKNOWN mineral resource potential is assigned to areas where information is inadequate to assign low, moderate, or high levels of resource potential.

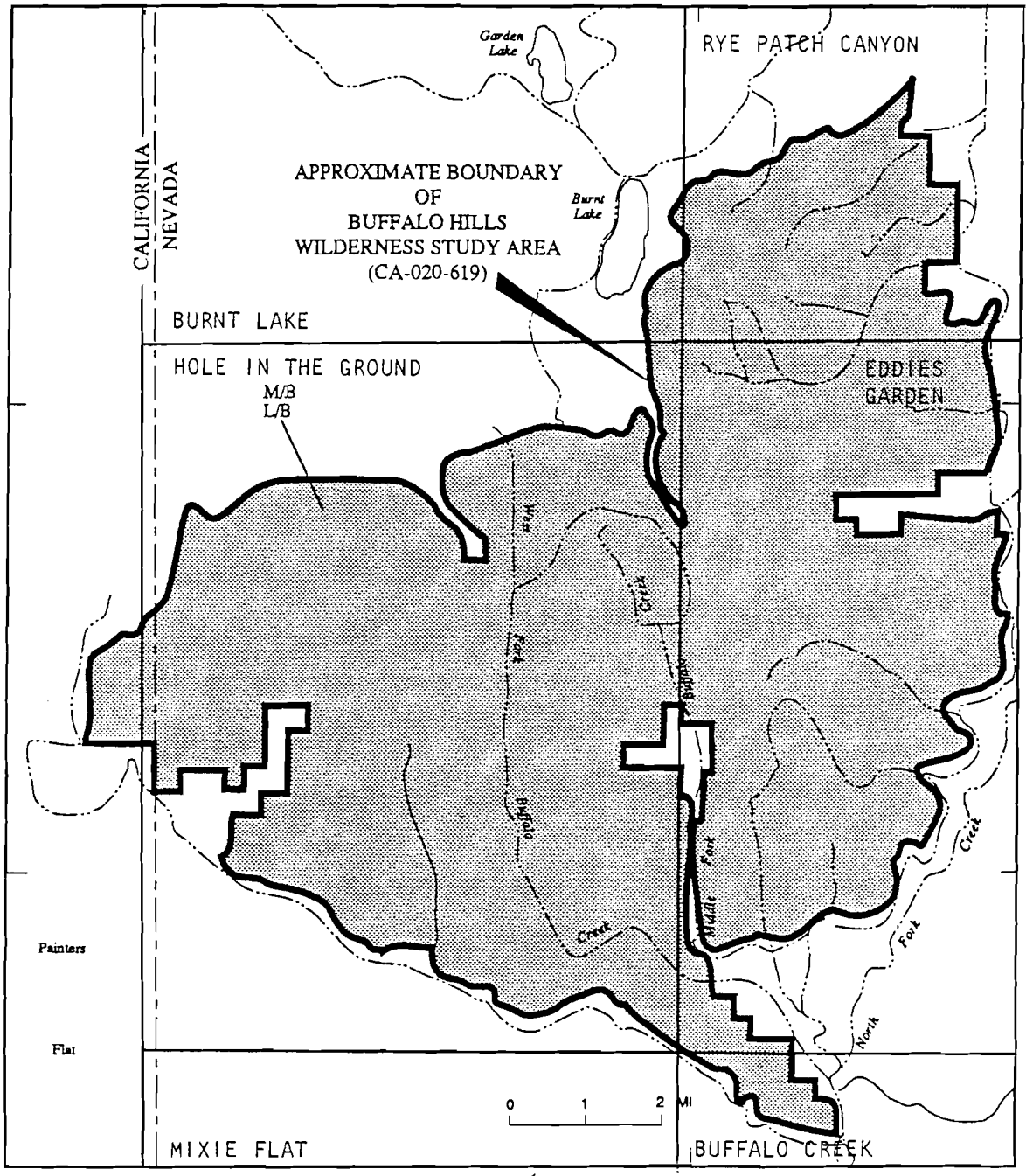
NO mineral resource potential is a category reserved for a specific type of resource in a well-defined area.

Levels of Certainty



A. Available information is not adequate for determination of the level of mineral resource potential.
B. Available information suggests the level of mineral resource potential.
C. Available information gives a good indication of the level of mineral resource potential.
D. Available information clearly defines the level of mineral resource potential.

Definition of levels of mineral resource potential and certainty of assessment (Ach and others, 1987).

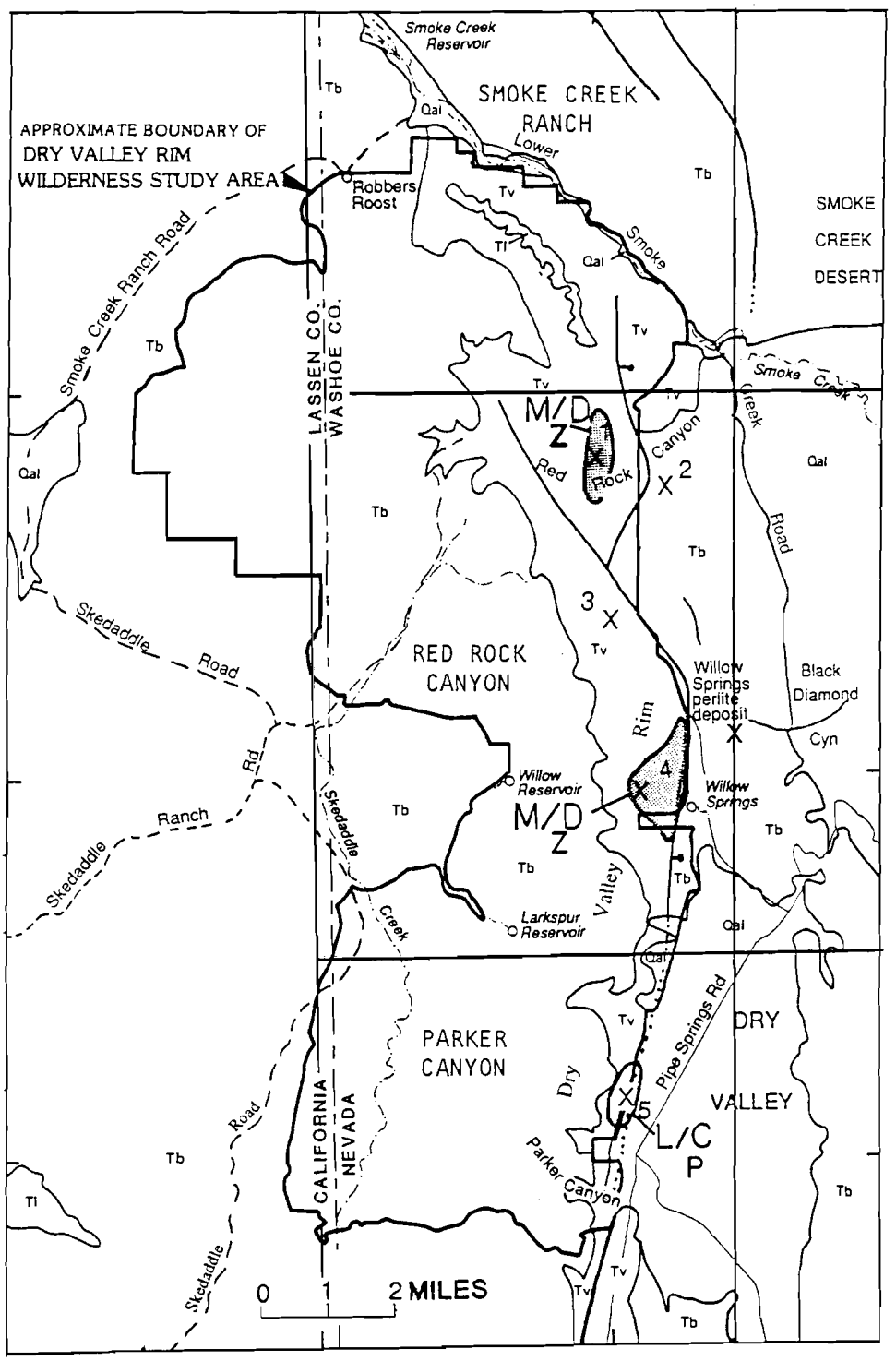


EXPLANATION

M/B Geologic terrane having moderate mineral resource potential for gold, silver, copper, lead, zinc, clay, zeolites, pozzolan with certainty level B

L/B Geologic terrane having low mineral resource potential for geothermal energy with certainty level B

Mineral resources of the Buffalo Hills Wilderness Study Area (modified from Conrad, 1990).



Mineral resources of the Dry Valley Rim Wilderness Study Area (modified from Conrad, 1990).

Area with moderate mineral resource potential

Area with low mineral resource potential

See appendix for definition of levels of mineral resource potential (M,L) and certainty of assessment (C,D)

Commodities

Z Zeolites
P Perlite

X Prospect—Red symbol indicates identified resources

1 Red Rock zeolite
2 Capricorn claims
3 Rocky Springs zeolite
4 Willow Springs zeolite
5 Broken Shovel claims

Correlation of map units

Qal — QUATERNARY

Unconformity

Tb, Tv, Tl — TERTIARY

Geologic map units

Qal Alluvium (Quaternary)—Unconsolidated silt, sand, and gravel deposited by fluvial processes; also includes colluvial, aeolian, lacustrine, and landslide deposits

Tb Basalt (Tertiary)—Olivine basalt flows consisting of fine-grained to aphanitic or glassy rocks with phenocrysts of olivine (less than 1 mm), often altered to iddingsite or with iddingsite rims

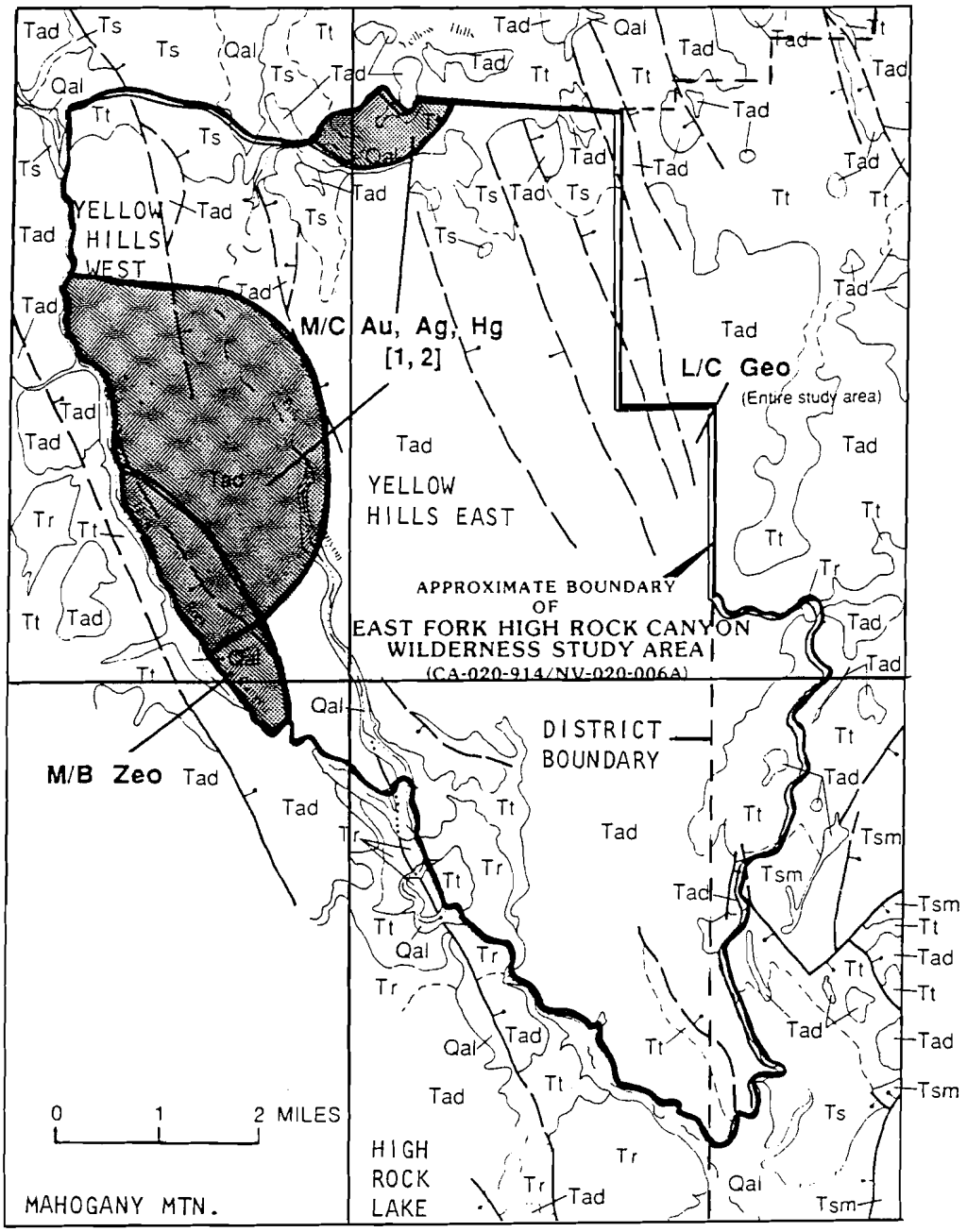
Tv Volcanic rocks (Tertiary)—Volcanic rocks consisting of intercalated basalt, andesite, rhyolite ash-flow tuff, and lahar deposits. Basalt is locally zeolitic and rhyolite is locally perlitic

Tl Lahar deposits (Tertiary)—Volcanic debris flow and breccia. Occurs as thick sequences of flows in northern part of study area, elsewhere as lobate flows filling channels and as crusts on sides of channels. Contain poorly sorted, angular to sub-rounded clasts of basaltic, andesitic, and (or) dacitic material, in a clast-supported matrix of fine lithic fragments and ash

——— Contact

Fault—Dotted where concealed; bar and ball on downthrown side

Explanation for mineral resource map of the Dry Valley Rim Wilderness Study Area (Conrad, 1990).



Mineral resources of the East Fork High Rock Canyon Wilderness Study Area (modified from Conrad, 1990).

Area with moderate mineral resource potential

Area with low mineral resource potential

See appendix for definition of levels of mineral resource potential and certainty of assessment

Commodities

Au	Gold
Ag	Silver
Hg	Mercury
Zeo	Zeolites
Geo	Geothermal

[ ] Deposit types

1	Epithermal or hot-spring deposits of gold and silver in volcanic and volcaniclastic rocks
2	Epithermal mercury deposits in volcanic and volcaniclastic rocks

Geologic map units

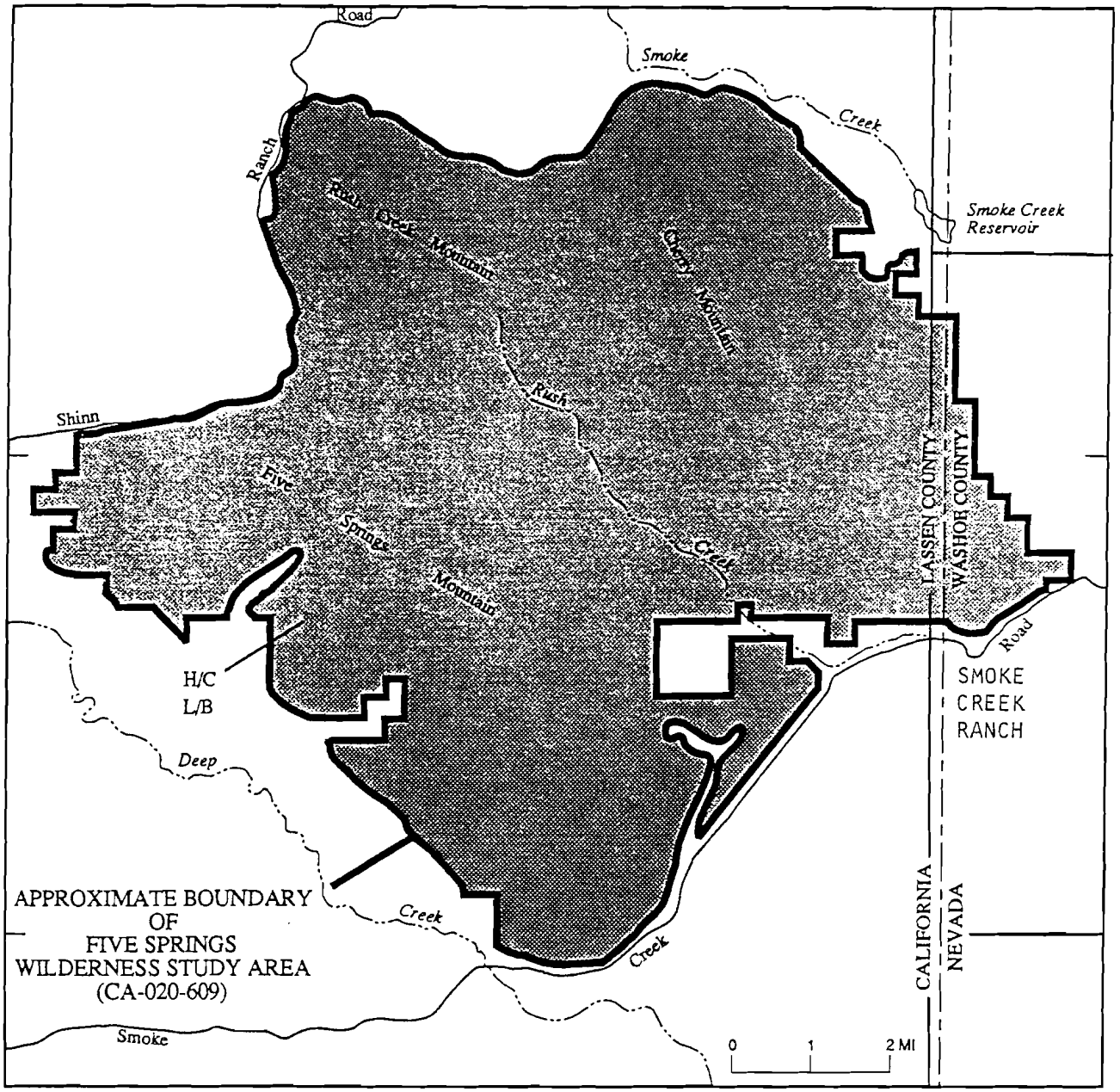
Qal	Alluvium (Quaternary)
Ts	Lacustrine sedimentary rocks (Tertiary)
Tad	Andesite to dacite flows and dikes (Tertiary)
Tr	Rhyolite flows, domes, and dikes (Tertiary)
Tt	Air-fall tuff (Tertiary)
Tsm	Soldier Meadow Tuff (Tertiary)

Contact—Dashed where approximate

Normal fault—Dashed where approximate, dotted where concealed; bar and ball on downthrown side

Intermittent stream

Explanation for mineral resource map of the East Fork High Rock Canyon Wilderness Study Area (Conrad, 1990).

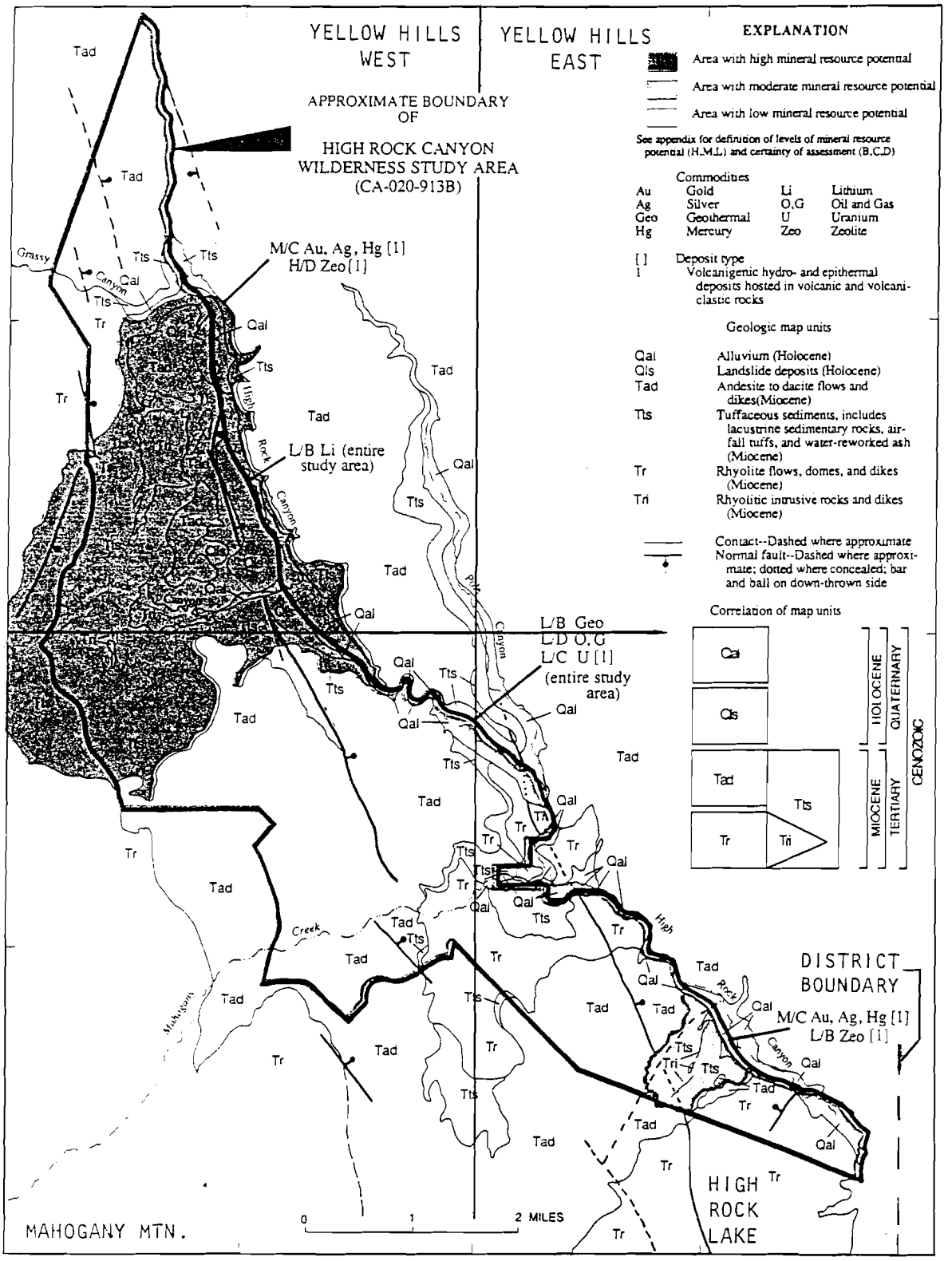


EXPLANATION

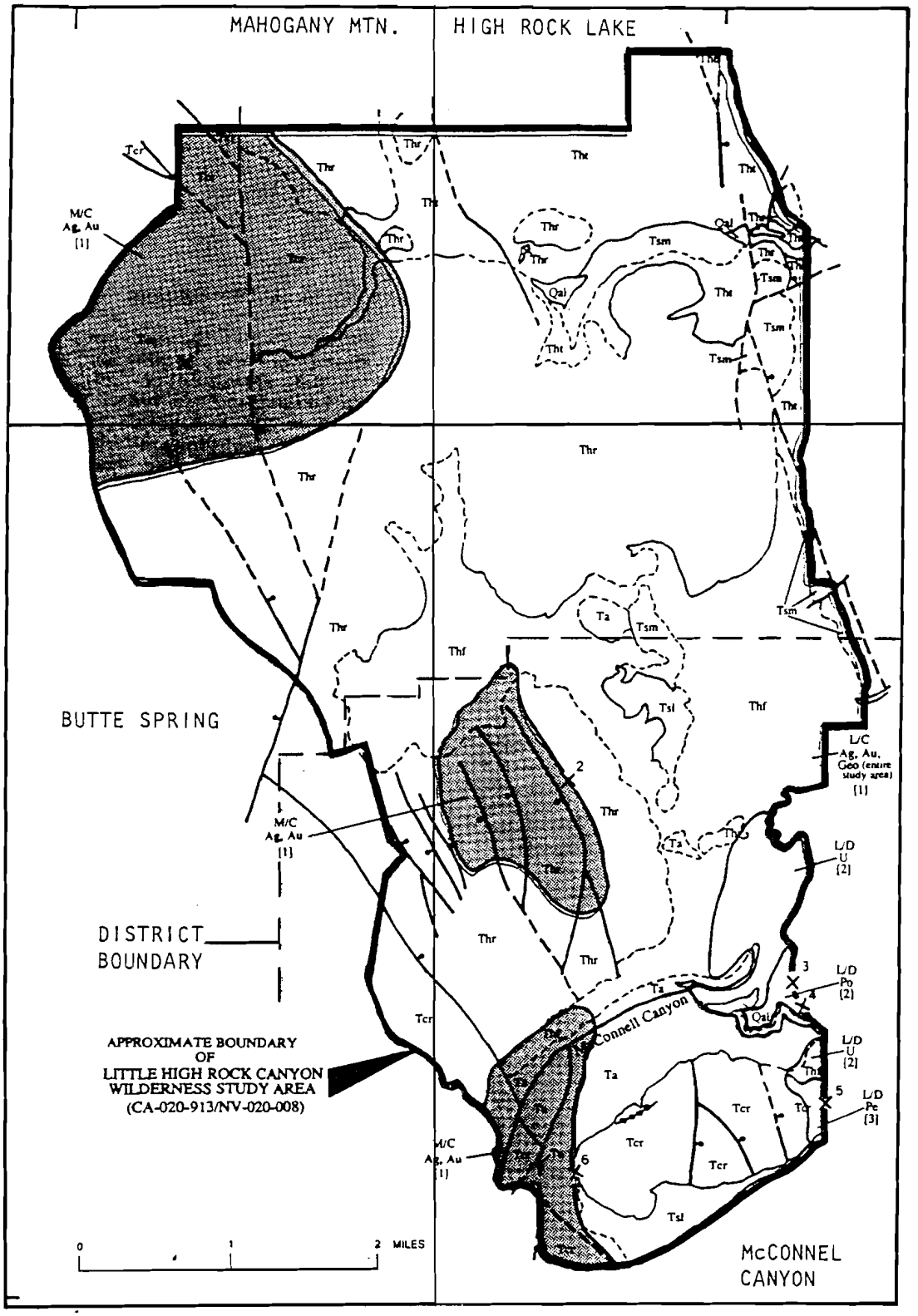
H/C Geologic terrane having high mineral resource potential for clay with certainty level B

L/B Geologic terrane having low mineral resource potential for diatomite with certainty level B

Mineral resources of the Five Springs Wilderness Study Area (modified from Conrad, 1990).



Mineral resources of the High Rock Canyon Wilderness Study Area (modified from Conrad, 1990).



Mineral resources of the Little High Rock Canyon Wilderness Study Area (modified from Conrad, 1990).

Area with low mineral and geothermal resource potential

Area with moderate mineral resource potential

See appendixes for definition of levels of mineral resource potential and certainty of assessment

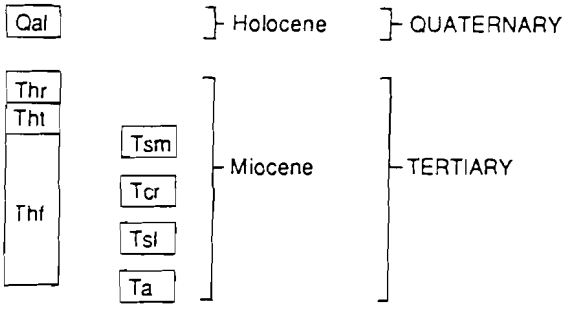
Commodities

Ag	Silver
Au	Gold
Geo	Geothermal
Pe	Perlite
Po	Pozzolan
U	Uranium

[ ] Types of deposits or occurrences

1	Epithermal hot-spring low-grade bulk-mineable
2	Tuffaceous sediments
3	Basal vitrophere

Correlation of Map Units



Geologic map units

Qal	Alluvium (Holocene)
	High Rock Sequence of Bonham (1969) (Miocene)
Thr	Rhyolite of Little High Rock Canyon
Tht	Tuff of Little High Rock Canyon
Thf	Fluviolacustrine sediments--Locally includes air-fall tuffs
Tsm	Soldier Meadow Tuff (Miocene)
Tcr	Cañon Rhyolite of Merriam (1910) (Miocene)
Tsl	Summit Lake Tuff (Miocene)
Ta	Andesite lava flows (Miocene)--Rocks equivalent to the Steens Basalt

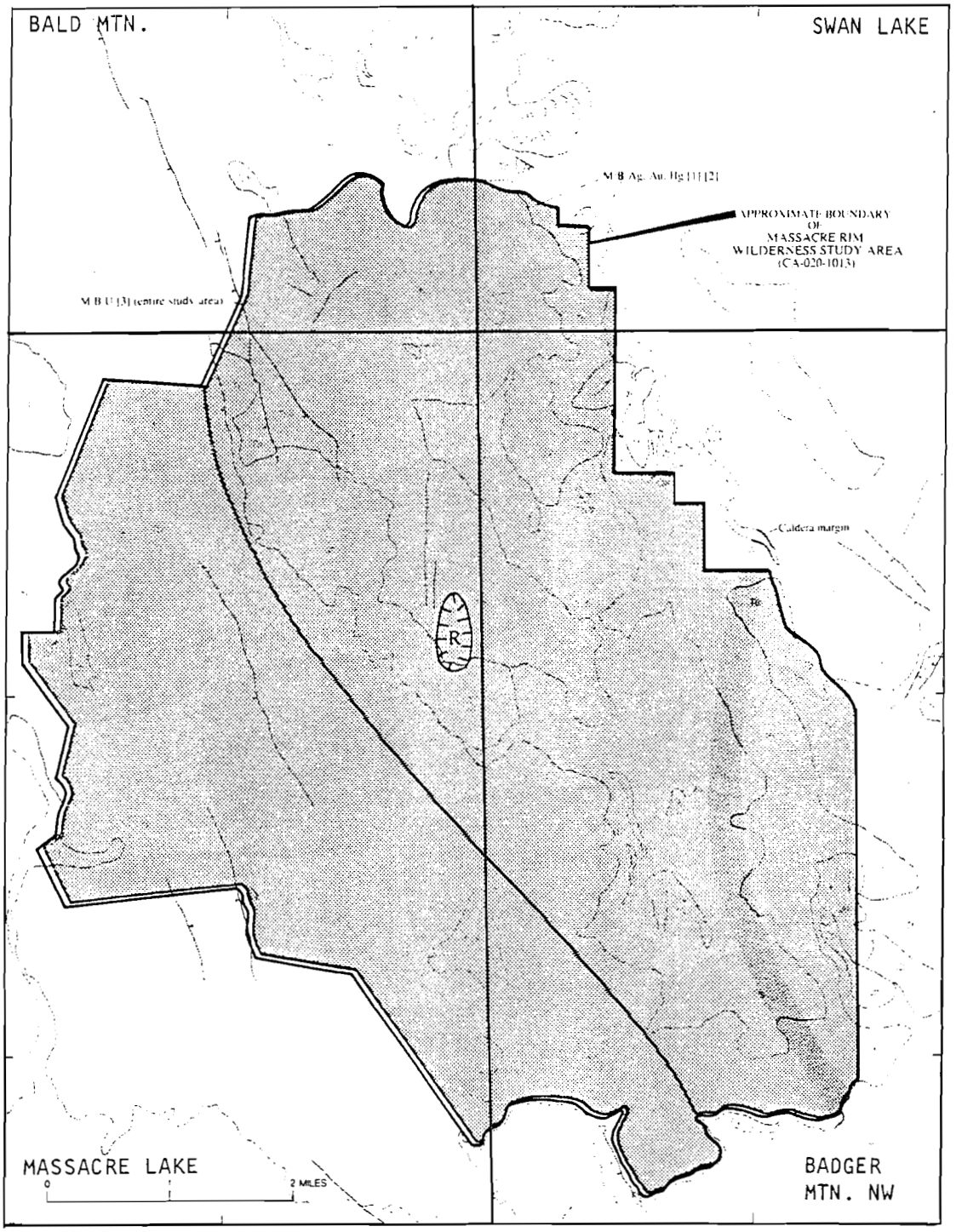
Contact--Dashed where approximately located

Fault--Dashed where approximately located. Bar and ball on downthrown side

2 Prospect or mineralized area--See table 1 for description

Fissure

Explanation for mineral resource map of the Little High Rock Canyon Wilderness Study Area (Conrad, 1990).



Mineral resources of the Massacre Rim Wilderness Study Area (modified from Conrad, 1990).

Area with moderate mineral resource potential (M); data only suggest certainty level (B)

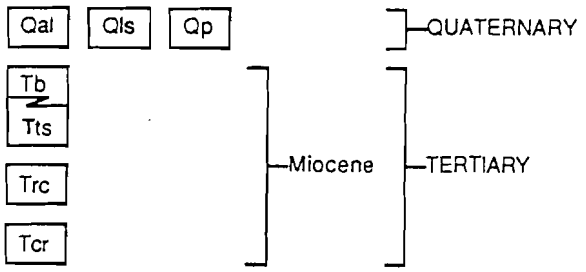
Commodities

Au	Gold
Ag	Silver
Hg	Mercury
U	Uranium

[ ] Types of deposits

1	Hot-spring gold-silver
2	Hot-spring mercury
3	Volcanogenic uranium

Correlation of map units



Description of geologic map units

Qal **Alluvium and colluvium (Quaternary)**--Stream deposits of clay, silt, sand, gravel, and boulders, and colluvium

Qls **Landslide deposits (Quaternary)**--Chaotic masses and blocks of basalt and tuffaceous sedimentary rocks; arrow shows direction of movement

Qp **Playa and lacustrine deposits (Quaternary)**--Clay, silt, sand, and alkali salts

Tb **Basalt of Catnip Creek of Greene (1984) (Miocene)**--Brownish-black- to black-weathering basalt flows; dark to medium gray on fresh surfaces; individual flows typically 10 to 20 ft thick; locally vesicular to scoriaceous

Tts **Tuffaceous sedimentary rocks (Miocene)**--Unconsolidated to weakly consolidated, weakly to distinctly bedded, mostly lacustrine deposits of volcanic ash, claystone, siltstone, volcaniclastic sandstone, and pumice-rich, air-fall, and water-laid tuffs. Rock colors are white, light shades of gray and brown, light pink, and reddish

Trc **Rhyolite of Catnip Mountain of Greene (1984) (Miocene)**--Light- to medium-gray rhyolite, locally streaked light reddish gray; locally pumiceous or glassy; minor amounts of obsidian; phenocrysts of quartz, alkali feldspar, and sodic amphibole in aphanitic groundmass

Tcr **Canon Rhyolite of Merriam (1910) (Miocene)**--Reddish-gray to maroon rhyolite, streaked and mottled medium to light gray; banded, lithophysal, and vesicular textures; phenocrysts of quartz, alkali feldspar, and biotite in aphanitic groundmass

Contact--Dashed where approximate

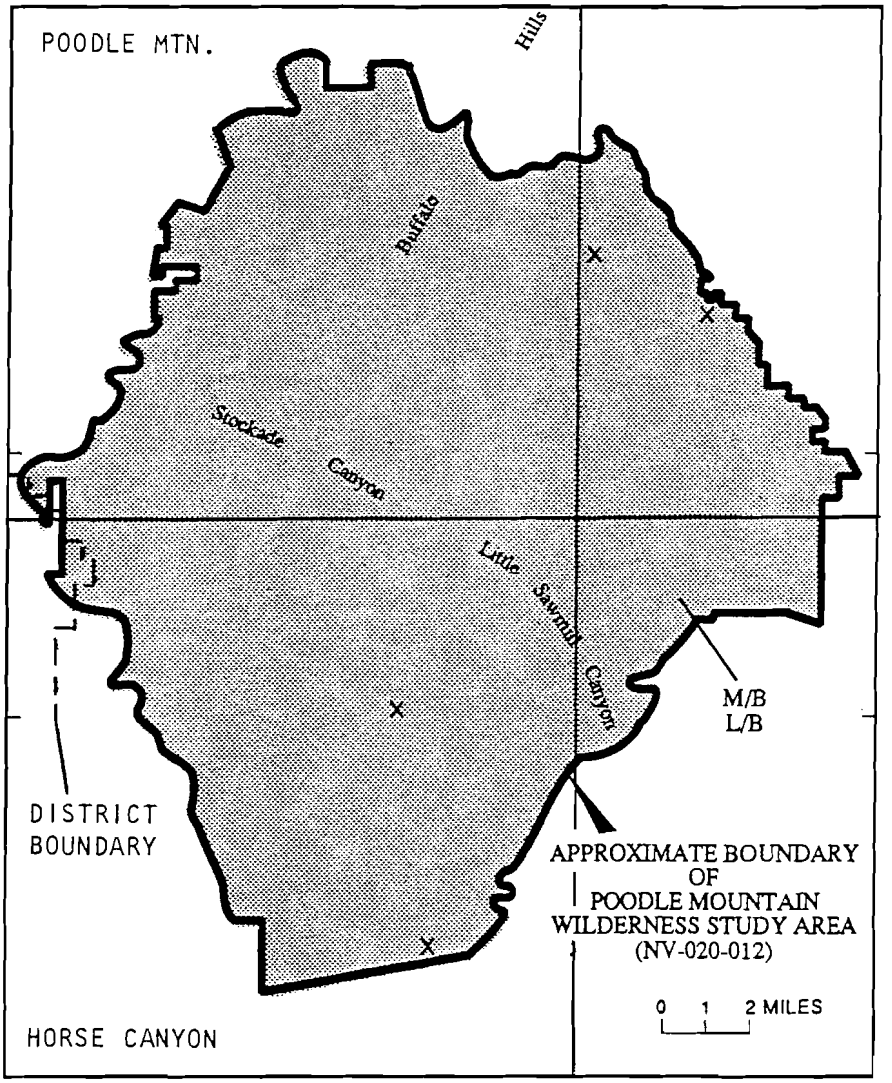
Fault--Dashed where approximate. Bar and ball on downthrown side

Flow ridges in basalt

Inferred margin of buried caldera

Area of anomalous radioactivity

Explanation for mineral resource map of the Massacre Rim Wilderness Study Area (Conrad, 1990).

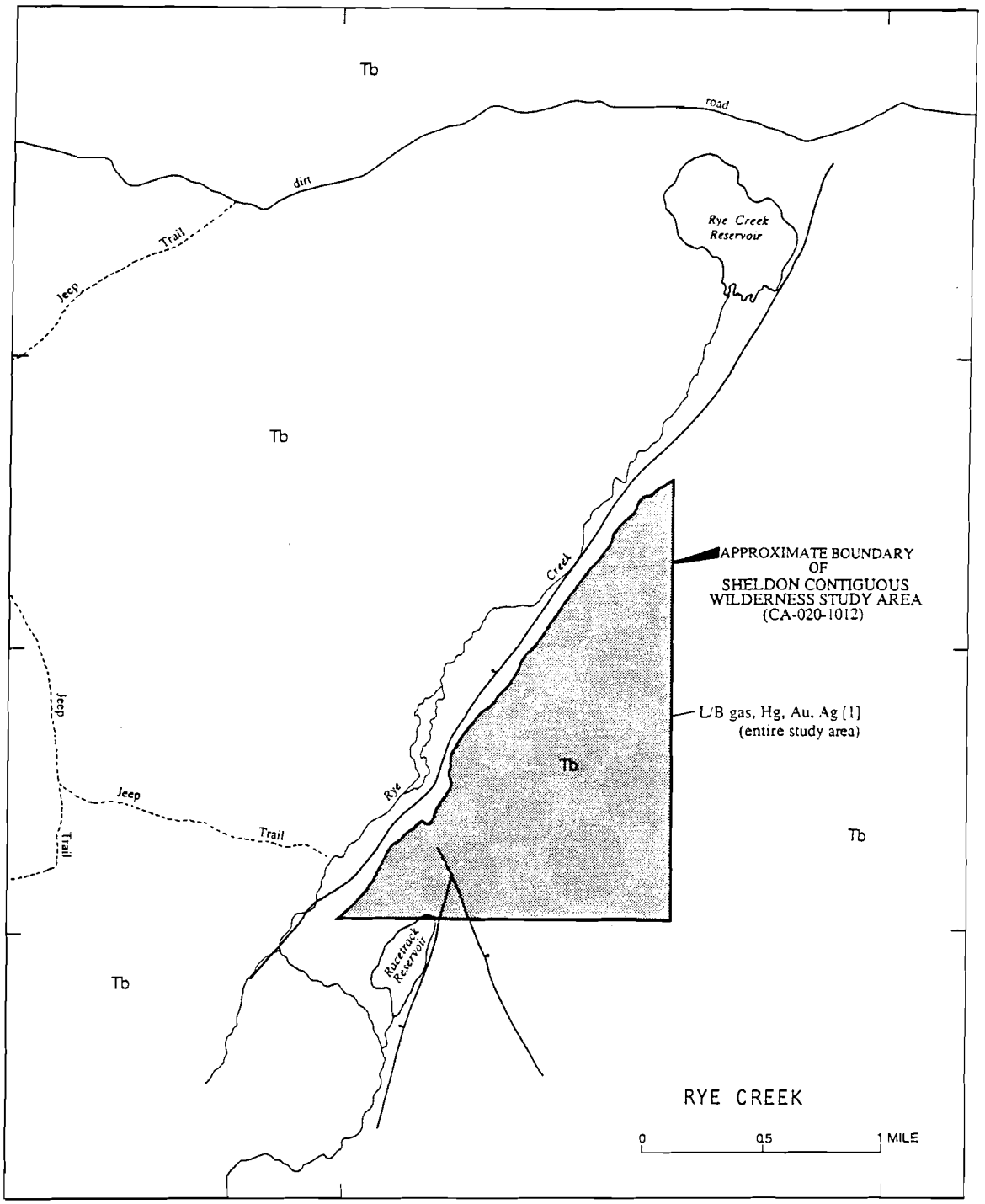


EXPLANATION

M/B Geologic terrane having moderate mineral resource potential for gold, silver, copper, lead, zinc, titanium, iron, perlite, clay, zeolite, and pozzolan with certainty level B

L/B Geologic terrane having low mineral resource potential for gold, silver, lead, zinc, copper, tungsten, uranium, lithium, borates, diatomite, and geothermal energy with certainty level B

Mineral resources of the Poodle Mtn. Wilderness Study Area (modified from Conrad, 1990).



Mineral resources of the Sheldon Contiguous Wilderness Study Area (modified from Conrad, 1990).

Area having low mineral resource potential (L); data only suggest certainty of assessment (B)

COMMODITIES

Ag	Silver
Au	Gold
Hg	Mercury
	Gas

[ ] TYPE OF DEPOSIT OR OCCURANCE

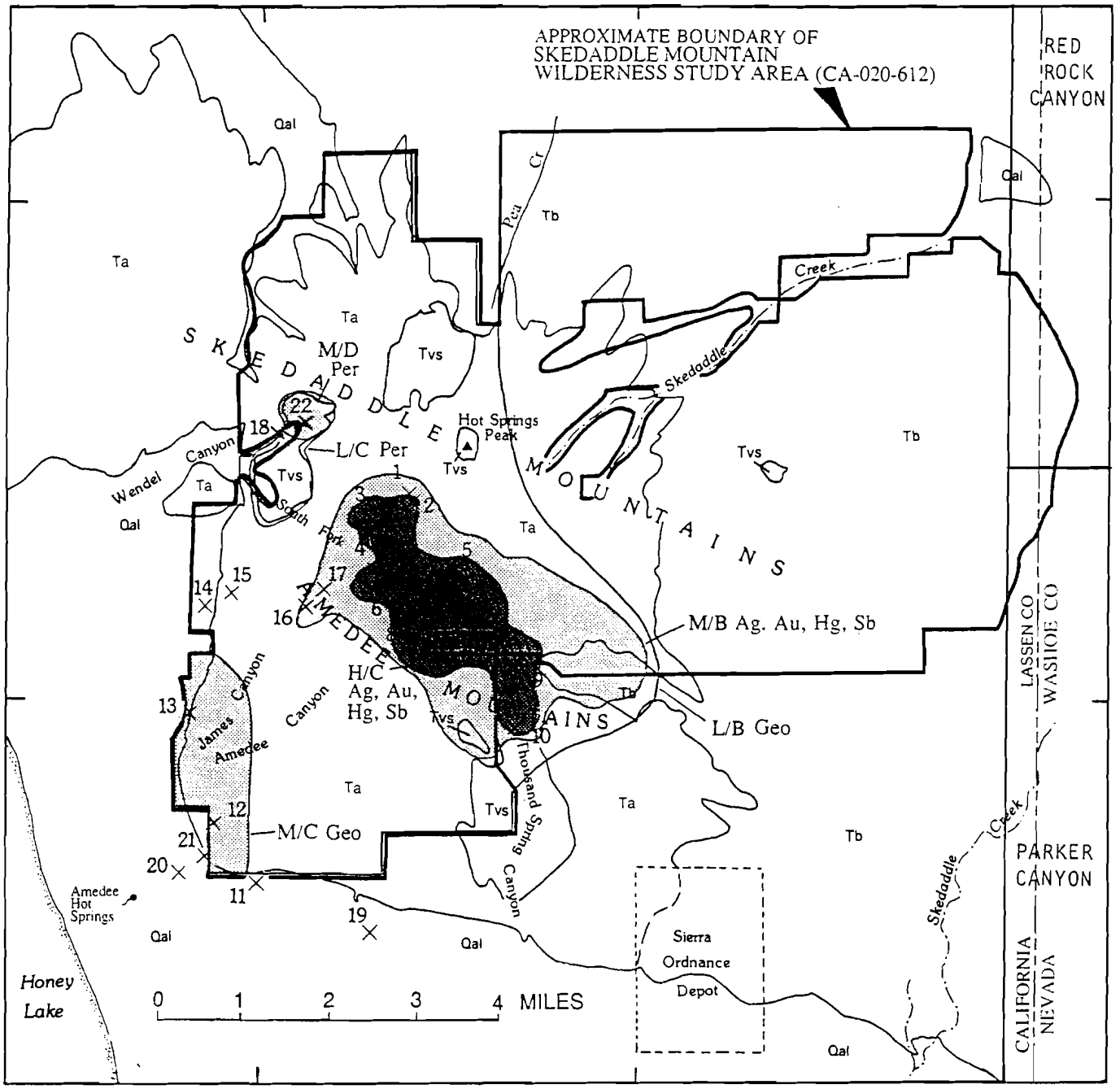
1 Hot spring mercury, gold, and silver

DESCRIPTION OF MAP UNIT

Tb Basalt of Catnip Creek of Greene (1984) (Miocene)—Brownish black- to black-weathering basalt flows dark to medium grey on fresh surfaces; individual flows typically 10 to 20 ft thick; locally vesicular to scoriaceous

Fault—Dashed where approximately located. Bar and ball on downthrown side

Explanation for mineral resource map of the Sheldon Contiguous Wilderness Study Area (Conrad, 1990).



Mineral resources of the Skedaddle Wilderness Study Area (modified from Conrad, 1990).

Area with high mineral resource potential

Area with moderate mineral resource potential

Area with low mineral resource potential

See appendix for definition of levels of mineral resource potential (L, M, H) and certainty of assessment (B, C, D)

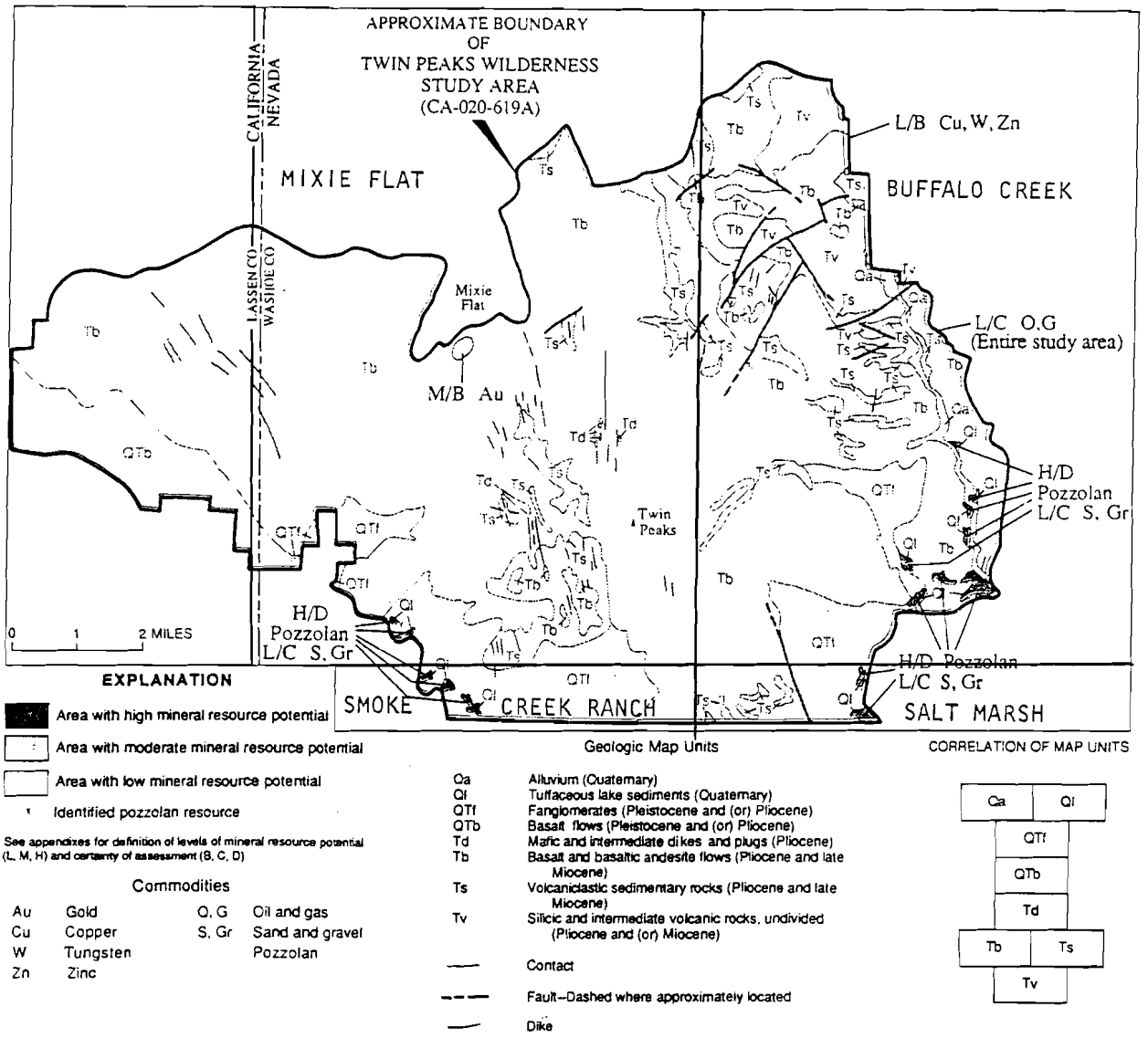
Commodities

Ag	Silver
Au	Gold
Geo	Geothermal energy
Hg	Mercury
Per	Perlite
Sb	Antimony

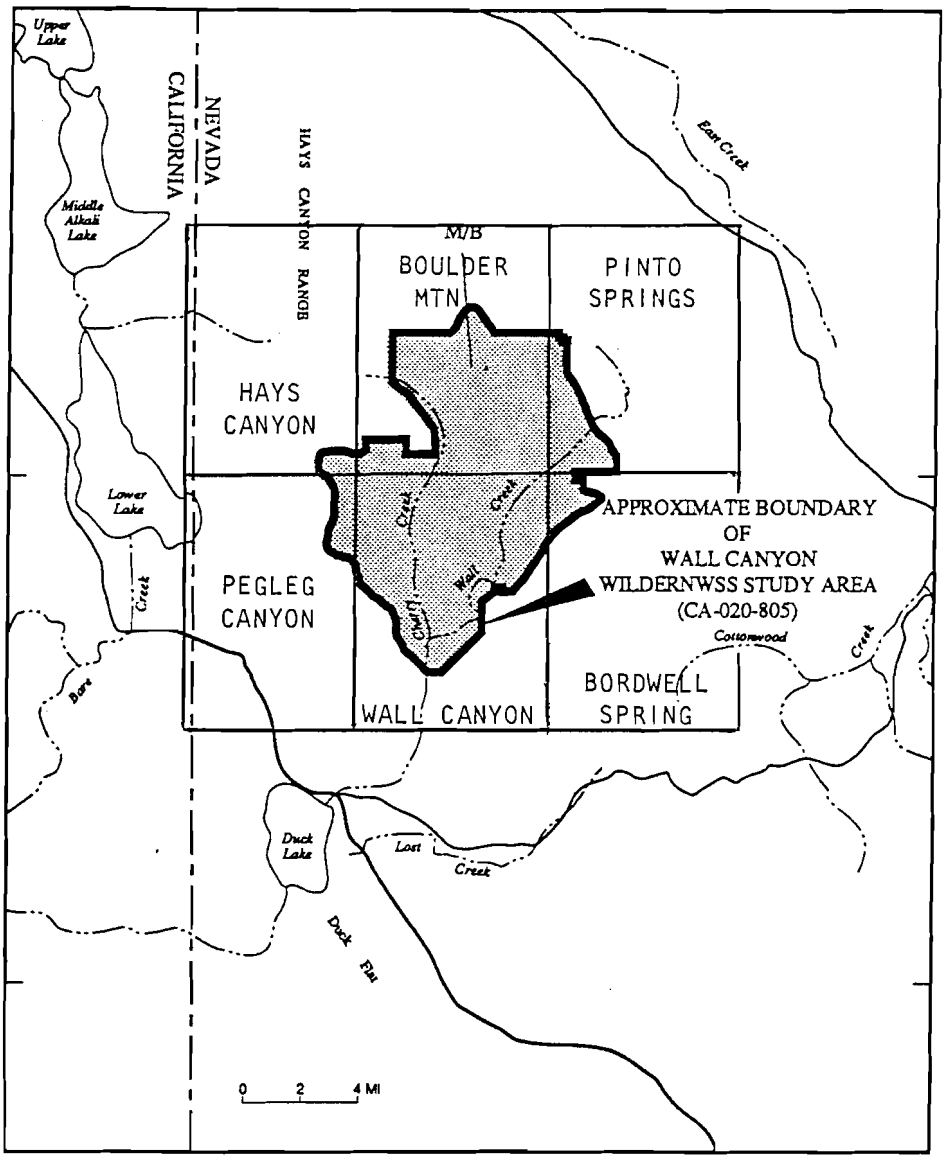
Description of map units

Qal	Alluvium (Quaternary)
Tv	Volcanic rocks (Tertiary)—Hachured where silicified, or propylitically or potassically altered
Tvs	Silicic volcanic rocks (Tertiary)—Consists of dacite and rhyolite
Ta	Andesite and lahar deposits (Tertiary)
Tb	Basalt (Tertiary)
———	Contact
×2	Prospect (Red symbol indicates identified resources)—Numbers refer to table 1 in appendix

Explanation for mineral resource map of the Skedaddle Wilderness Study Area (Conrad, 1990).



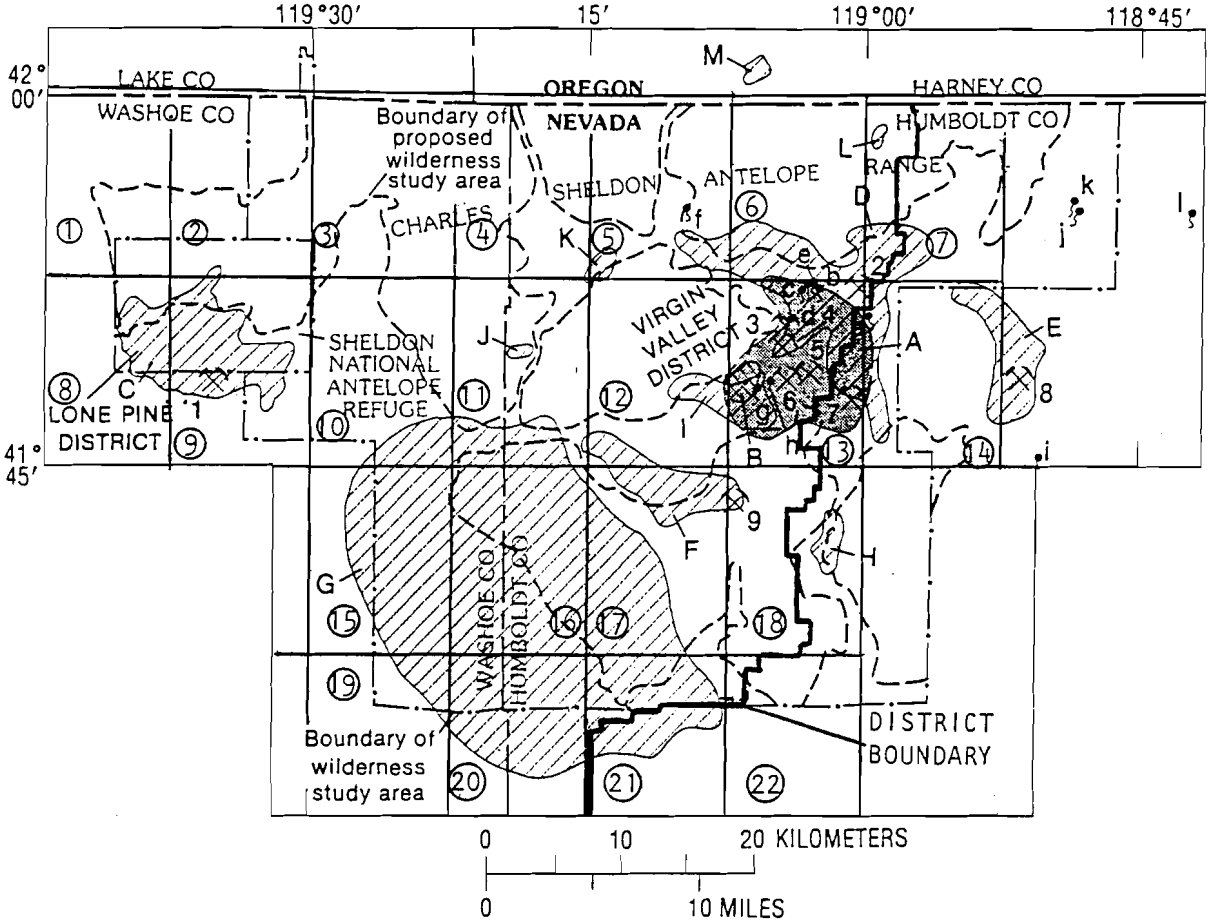
Mineral resources of the Twin Peaks Wilderness Study Area (modified from Conrad, 1990).



EXPLANATION

M/B Geologic terrane having moderate mineral resource potential for gold, silver, mercury, uranium, lithium, zeolites, clay, and pozzolan with certainty level B

Mineral resources of the Wall Canyon Wilderness Study Area (modified from Conrad, 1990).



EXPLANATION

AREAS OF MINERAL POTENTIAL

A Precious opal, high potential

B Low-grade uranium, high potential

C-H Mercury, base and precious metal sulfide deposits

C-F High potential

G-M Medium to high potential

a Thermal spring (table 5)

MINE OR PROSPECT

Lone Pine district

1 Antelope Nos. 1-18

Virgin Valley District

2 Lemac Nos. 1-5 (Quarry)

3 Virgin Opal (Bonanza) mine

4 Opal Queen group, mine

5 Meyer group, mine

6 Royal Peacock, mine

7 Rainbow Ridge Opal, mine

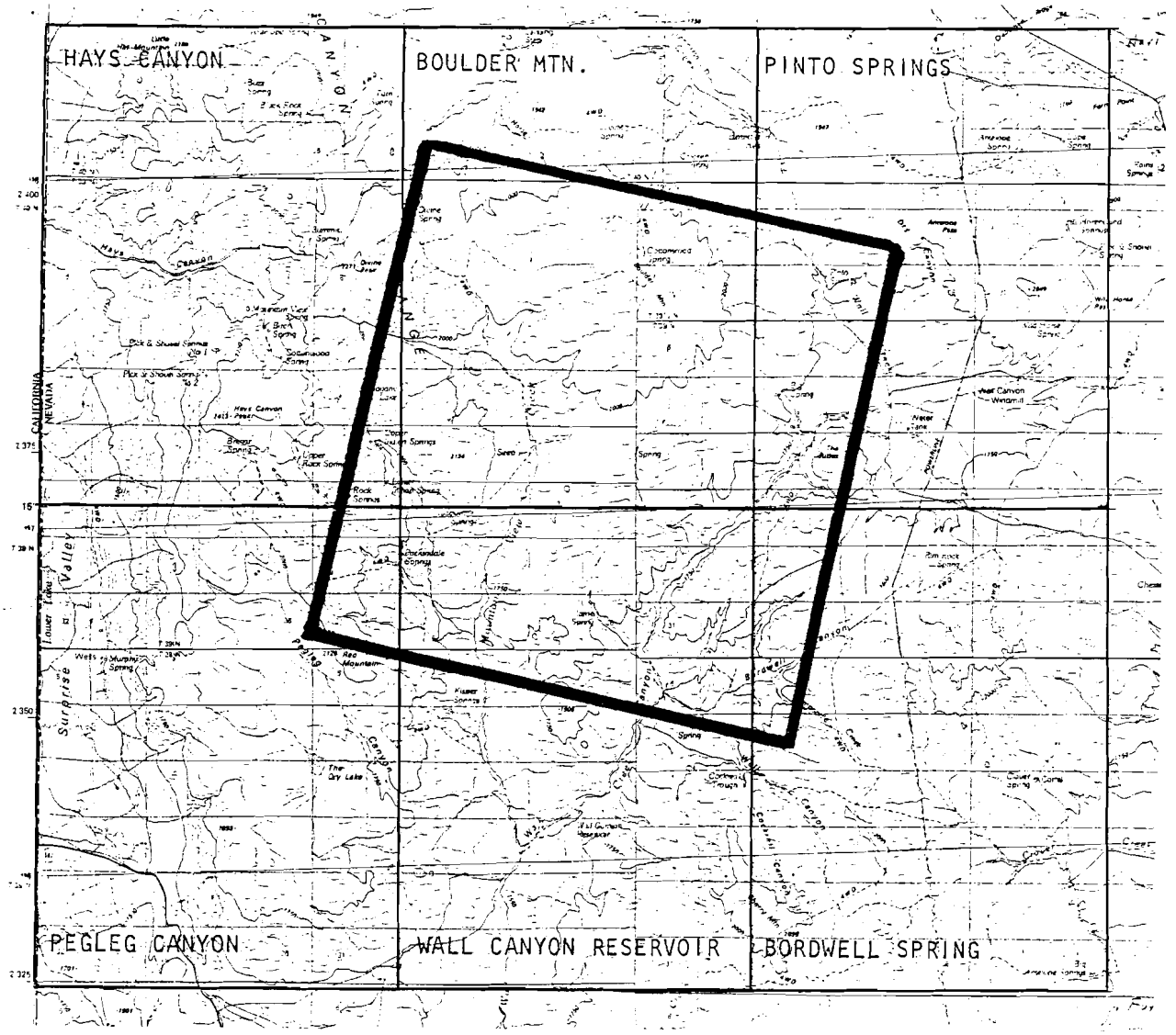
8 Painted Hills, mine

9 Raven manganese group

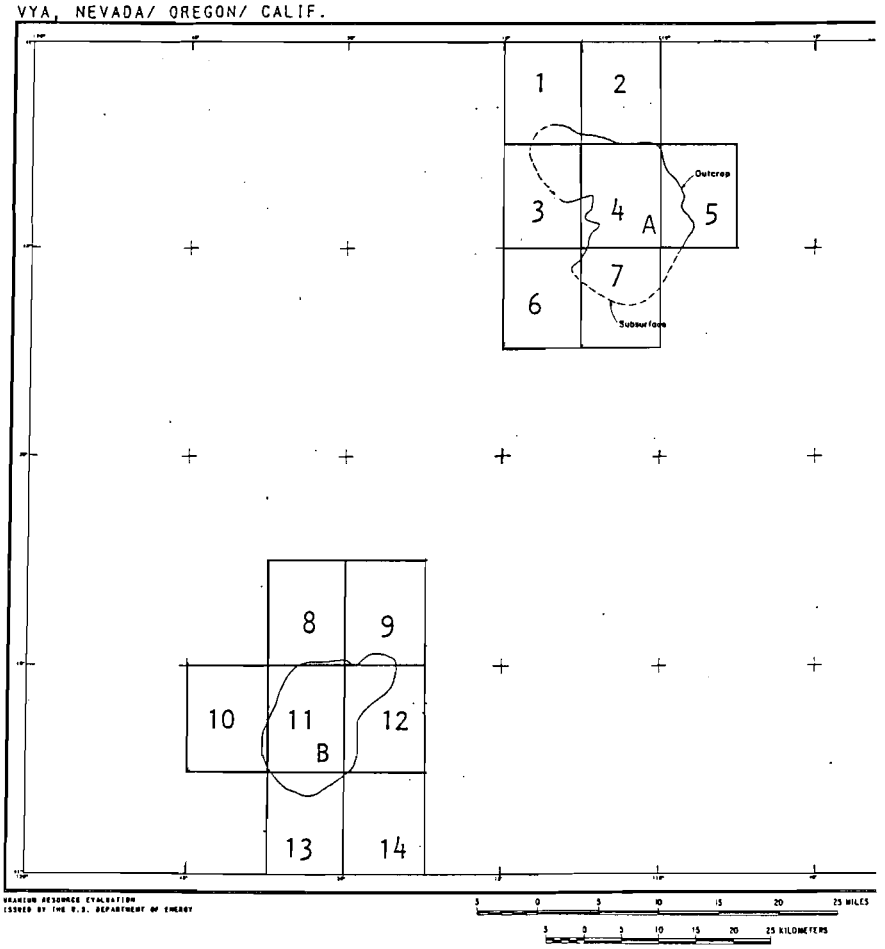
Mineral resources of the Charles Sheldon Antelope Range and the Sheldon National Antelope Refuge (modified from USGS-USBM, 1984).

1. Coleman Canyon
2. Rye Creek
3. Catnip Canyon
4. Sage Hen Hills
5. Big Spring Butte
6. Thousand Creek Spring
7. Thousand Creek Gorge
8. Calcutte Lake
9. Bald Mtn.
10. Swan Lake
11. Catnip Mtn.
12. Gooch Table
13. Virgin Valley
14. McGee Mtn.
15. Badger Mtn., NW
16. Blowout Mtn.
17. Alkali Peak
18. Rock Spring Table
19. Nut Mtn.
20. Badger Mtn., SE
21. Bear Buttes
22. Summit Lake

Key to 7 1/2 minute quadrangles numbered on mineral resource map of the Charles Sheldon Antelope Range and the Sheldon National Antelope Refuge.



Area covered by the remote sensing study of Borengasser (1987).



EXPLANATION

A. Virgin Valley
B. Cottonwood Basin

1. Big Spring Butte
2. Thousand Creek Spring
3. Gooch Lake
4. Virgin Valley
5. McGee Mtn.
6. Alkali Peak
7. Rock Spring Table
8. Hart Mtn.
9. Mahogany Mtn.
10. Bordwell Spring
11. Chester Lyons Spring
12. Butte Spring
13. Fox Mtn.
14. Leadville

Areas favorable for uranium deposits (modified from Castor and others, 1982).

APPENDIX B: MINERAL PROPERTY DESCRIPTIONS FOR THE NEVADA PORTION OF THE SUSANVILLE BLM DISTRICT

MINERAL PROPERTY DESCRIPTIONS FOR THE NEVADA PORTION OF THE SUSANVILLE BLM DISTRICT

PROPERTY NAME: Name unknown
OTHER NAMES:
MINING DISTRICT: Sheepshead
COUNTY: Washoe
MINERAL COMMODITY(IES): unknown
TYPE OF DEPOSIT:
QUAD SHEET: Parker Canyon 7.5-minute
OWNERSHIP:
LOCATION: c E½ sec. 29, T28N, R18E
North: 4461530 East: 0246510
PRODUCTION: None
HISTORY: Pit may be location pit for claim; old location(?) post noted at site.
DEVELOPMENT: One small pit.
GEOLOGY: A small prospect(?) pit is located in a thin, silicic, opalized welded tuff which underlies a chocolate brown colored basaltic tuff overlying olivine basalt flow. No mineralization was noted in the pit or the vicinity.
REMARKS:
SAMPLE SITE:
REFERENCES:
FIELD EXAMINATION: L. J. Garside, D. A. Davis, 28 Aug 91

PROPERTY NAME: Name unknown
OTHER NAMES:
MINING DISTRICT: Sheepshead
COUNTY: Washoe
MINERAL COMMODITY(IES): Unknown
TYPE OF DEPOSIT: Unknown
QUAD SHEET: Parker Canyon 7.5-minute
OWNERSHIP:
LOCATION: S½ SE¼ sec. 17, T28N, R18E
North: 4464130 East: 0246300
PRODUCTION: None
HISTORY:
DEVELOPMENT: Two prospect pits about 300 m apart.
GEOLOGY: Two prospect pits are cut in a light gray, 1-2 m bed of light-weight rhyolite ash. The ash is not noticeably bedded or laminated and occurs in a sequence of poorly exposed pebble and cobble conglomerate. The ash is not hydrothermally altered or mineralized, and the reason for the prospect pits is unknown. Possibly the area was explored for perlite. The conglomerate appears to be a fluvial unit, possibly a channel deposit. The cobbles are generally well rounded, 1 cm to 20 cm in diameter, and consist of 90 percent unaltered basalt and andesite and 10 percent silicified andesite. The silicified andesite cobbles appear to consist mainly of chalcedony, or locally, opal, and weather a yellowish color typical of pyritized rocks. Finely disseminated pyrite was observed in mottled dark gray and white

silicified material. The source of the mineralized cobbles in the conglomerate is not known, but could be hydrothermally altered and mineralized dacitic rocks of Tertiary age in the Amedee Mountains in California about 12 km to the northwest (Diggles and others, 1988). Anomalous gold values were noted in two alluvial samples collected from near the California-Nevada boundary approximately 9 and 13 km north of this area (Munts and Peters, 1987). It is possible that these values are derived from mineralized cobbles or fragments in stream gravels or lahars derived from mineralized rocks in the Amadee Mountains. The mountain range to the north of Flanigan and west of the Smoke Creek Desert has a report of progress at a mine(?) in the district (Yale, 1908, p. 382), reported to be the Sheepshead district. There is no more information available, but this report may refer to placer values. If so, this would explain why no bedrock prospect pits or other workings for metallic minerals are known from the area.
REMARKS: Sample 451 is pieces broken from select cobbles of altered andesite in the conglomerate.
SAMPLE SITE: 451
REFERENCES:
FIELD EXAMINATION: L. J. Garside and D. Davis, 28 Aug 91

PROPERTY NAME: Name unknown
OTHER NAMES:
MINING DISTRICT: Sheepshead
COUNTY: Washoe
MINERAL COMMODITY(IES): Unknown
TYPE OF DEPOSIT: Unknown
QUAD SHEET: Parker Canyon 7.5-minute
OWNERSHIP:
LOCATION: c E½ sec. 29, T28N, R18E
North: 4461530 East: 0246510
PRODUCTION: None
HISTORY: Pit may be a location pit for claim; an old location(?) post was noted at the site.
DEVELOPMENT: One small prospect pit
GEOLOGY: A small prospect pit is located in a thin, silicic, opalized welded tuff which underlies a chocolate brown basaltic tuff and overlying olivine basalt flow. No mineralization was noted in the pit or the vicinity.
REMARKS:
SAMPLE SITE:
REFERENCES:
FIELD EXAMINATION: L. J. Garside and D. Davis, 28 Aug 91

PROPERTY NAME: Woodruff Camp
OTHER NAMES:
MINING DISTRICT: Leadville
COUNTY: Washoe
MINERAL COMMODITY(IES): Uranium
TYPE OF DEPOSIT: Sediment-hosted

QUAD SHEET: Mahogany Mountain 7.5-minute
OWNERSHIP:
LOCATION: sec. 30, T39N, R23E
North: 4569280 East: 0296000
PRODUCTION: None
HISTORY:
DEVELOPMENT: Small, hand-dug pits on opalized logs.
GEOLOGY: Castor and others (1982) report anomalous radioactivity and U_3O_8 values up to 166 ppm in silicified (opalized) logs in a flat-lying sequence of tuffaceous sedimentary rocks. Small pits (25-50 cm in diameter) have been dug on a number of logs in a shale unit exposed on a ridge just north of the dam for Little High Rock Reservoir. These pits were probably dug by opal hunters (rock hounds) in search of precious opal. Although Castor and others (1982) report anomalous radioactivity of 5-7 times background in pits, those examined during this study were only 2 times background or less. The area visited is near Castor and others sample site 465. They report anomalous molybdenum and yttrium as well.
REMARKS: Sample 4545 is grab silicified wood from logs in a tuffaceous shale.
SAMPLE SITE: 4545
REFERENCES: Castor and others, 1982
FIELD EXAMINATION: L. J. Garside, 2 Oct 91

PROPERTY NAME: Opal Claims
OTHER NAMES:
MINING DISTRICT: Leadville
COUNTY: Washoe
MINERAL COMMODITY(IES): Common opal
TYPE OF DEPOSIT: Epigenetic
QUAD SHEET: Nellie Spring Mountain 7.5-minute
OWNERSHIP:
LOCATION: unsurveyed, T40½N, R22E
North: 4585160 East: 0289150
PRODUCTION: None
HISTORY:
DEVELOPMENT: Numerous large bulldozer cuts
GEOLOGY: Spotty patches of common opal occur in light gray and cream massive, fine-grained tuffs. Opal is cream to brown in color.
REMARKS: A grab sample of opal from a trench wall was collected (no. 4544). The bulldozer cuts may have been made in search of precious opal.
SAMPLE SITE: 4544
REFERENCES: Scott, 1987
FIELD EXAMINATION: L. J. Garside, 2 Oct 91

PROPERTY NAME: Amalgam Claims
OTHER NAMES: Opaline veins (Purlington, 1985)
MINING DISTRICT: Leadville
COUNTY: Washoe

MINERAL COMMODITY(IES): Common opal
TYPE OF DEPOSIT: vein
QUAD SHEET: Nellie Spring Mountain 7.5-minute
OWNERSHIP:
LOCATION: unsurveyed, T40½N, R22E
North: 4585290 East: 0288220
PRODUCTION: None
HISTORY: Probably prospected first by rockhounds; later sampled by mining companies.
DEVELOPMENT: Small bulldozer cut and very small pits.
GEOLOGY: A vein of opal cuts fine-grained white tuff and light gray ignimbrite. The vein is apparently along a fault which separates the two lithologies. Opal is strongly mottled to rarely crudely banded. The "common"opal is white, cream, black, greenish, and yellow. The vein is at least 1 m wide and extends for about 25 m. No anomalous radioactivity was noted; background is 30-40 cps. Purlington (1985) reports several other similar veins in the vicinity.
REMARKS: Sample 4543 is grab opal from the vein.
SAMPLE SITE: 4543
REFERENCES: Purlington, 1985; Scott, 1987
FIELD EXAMINATION: L. J. Garside, 2 Oct 91

PROPERTY NAME: Jabo Property
OTHER NAMES:
MINING DISTRICT: Leadville
COUNTY: Washoe
MINERAL COMMODITY(IES): Gold
TYPE OF DEPOSIT: Hot spring
QUAD SHEET: Butte Spring 7.5-minute
OWNERSHIP: Tenneco
LOCATION: NE¼ NE¼ sec. 10, T38N, R23E
North: 4559730 East: 0299630
PRODUCTION: None
HISTORY:
DEVELOPMENT: None observed; drilling has been reported.
GEOLOGY: Scattered anomalous values in gold, arsenic, antimony, and mercury (Peters and others, 1987; Churchill, 1988) are reported from chalcedonic hot spring sinter exposed near the top of a small hill. The sinter appears to overlie a hydrothermal breccia unit which contains sinter fragments, and both overlie a breccia of uncertain origin. Sinter has an attitude of N85W, 25°S in one area, but dips up to 50°are observed locally. The sinter has apparently been tilted after deposition. Sinter deposition probably occurred at the same time as mineralization at the nearby Hog Ranch Mine.
REMARKS: A grab sample of sinter was collected (no. 4542).
SAMPLE SITE: 4542
REFERENCES: Peters and others, 1987; Churchill, 1988
FIELD EXAMINATION: L. J. Garside, 29 Apr 88; 20 Oct 91

PROPERTY NAME: Gold Plug Claims

OTHER NAMES: GC Claims
MINING DISTRICT: Leadville
COUNTY: Washoe
MINERAL COMMODITY(IES): Mercury, gold
TYPE OF DEPOSIT: Hot spring (?)
QUAD SHEET: Nellie Spring Mountain 7.5-minute
OWNERSHIP:
LOCATION: sec. 9, T41N, R22E
North: 4594050 East: 0290050
PRODUCTION: None
HISTORY: Claims staked in mid- to late 1980s
DEVELOPMENT: None
GEOLOGY: Scott (1987) reports cinnabar and anomalous gold and silver in massive opal and opalized breccia. Although the wall rock type is not reported, Scott's locality plots in an area of rhyolite flows (Cañon Rhyolite; Bonham and Papke, 1969). The locality is in a U.S. Bureau of Land Management Wilderness Study Area. No prospect pits are observed in the area, and the locality could not be located during a brief examination.
REMARKS: Photos of rugged rhyolite outcrops and nearby white, tuffaceous sedimentary rocks.
SAMPLE SITE:
REFERENCES: Scott, 1987
FIELD EXAMINATION: L. J. Garside, 2 Oct 91

PROPERTY NAME: Hog Ranch Mine
OTHER NAMES:
MINING DISTRICT: Leadville
COUNTY: Washoe
MINERAL COMMODITY(IES): Gold
TYPE OF DEPOSIT: Hot Springs
QUAD SHEET: Leadville 7.5-minute; Butte Spring 7.5-minute
OWNERSHIP: Western Mining Company
LOCATION: T37 and 38N, R22 and 23E
North: 4558000 East: 0295000
PRODUCTION:
HISTORY: The Hog Ranch Mine was originally explored for uranium.
DEVELOPMENT: Six moderate-sized open pits
GEOLOGY: Gold mineralization was discovered in the early 1980s about 6 km to the northwest of the historic Leadville mining district in rhyolitic rocks of the Miocene Cañon Rhyolite. The area was first prospected for uranium, based on an airborne radioactive anomaly (Steve Bussey, oral commun., 1991). At present there are six ore bodies at the Hog Ranch Mine, along a northeast-trending zone about 4 km long. The rhyolitic host rocks are weakly peralkaline, and commonly possess well developed flow foliation. Some, and perhaps most of these rocks are air fall (agglutinate) or ash-flow tuffs that have undergone secondary flowage after deposition (Harvey and others, 1986; Bussey and others, 1991). The flow-foliated rocks interfinger with welded ash flows, and other surge or air-fall pyroclastic rocks. The mineral deposits appear to lie along the southeast margin of a

donut-shaped area of rhyolite exposures that have been interpreted to be an incipient ring structure of a "failed" caldera system (Harvey and others, 1986).

Mineralization at the Hog Ranch Mine consists of fine-grained gold with marcasite and pyrite, and locally, stibnite, cinnabar, and realgar in silicified and argillized rhyolitic rocks. At depth, the argillic (kaolinitic) zone is underlain by a zone of quartz-adularia alteration (Harvey and others, 1986). Resistant ledges of chalcedony and zones containing hypogene alunite and native sulfur occur within the zone of kaolinitic alteration. This zone of advanced argillic alteration formed above shallow zones of boiling related to a low-sulfur adularia-sericite) type of mineralizing system. In the outer parts of the district, rocks are opalized. Harvey and others (1986) believe the mineralization to be quite shallow. It probably took place within a few tens of meters of the surface and during the time of deposition of the epiclastic sedimentary rocks which overlie the rhyolites. The present exposure surfaces on some rhyolite flows may be essentially at the level of the middle Miocene, because rock exposures of flow-foliated rhyolite and tuffs contain hundreds of pits up to 100 m in diameter that are believed to result from very near surface hydrothermal phreatic explosive processes (H.F. Bonham, Jr.,oral commun., 1991). Some pits reportedly exhibit cross-cutting relationships (H.F. Bonham, Jr., oral commun., 1991) and laminated breccia and fine rock flour (S.D. Bussey, oral commun., 1991) suggestive of an origin due to hydrothermal explosions which vented to the surface. It is possible , however, that these have been exhumed by erosion of an overlying unit. In some areas, these pits may result from collapse in slightly consolidated tuffs due to hydrothermal(?) fluid action from below (S.D. Bussey, oral commun., 1991). A mineralized hot spring sinter (the Jabo property) is known from an area 5 km to the west of the mine. The sinter is anomalous in gold, arsenic, antimony , and mercury (Churchill,1988; Peters and others, 1987). Soil and stream sediment samples from the area of the Hog Ranch deposits are anomalous in gold, silver, arsenic, antimony, and molybdenum (Bussey and others, 1991; Bonham and others, 1985, sample 2410).

REMARKS:

SAMPLE SITE:

REFERENCES: Harvey and others, 1986; Bussey and others, 1991; Bonham and others, 1985.

FIELD EXAMINATION: L. J. Garside and D. A. Davis, 30 Oct 91