0040 0014

Douglas County - general
Item 17

NW-40-1
(Au, Ag, Cu,
Pb, Sb, W,
U, F, Pe)
Districts 38 40 187

AREA: SOUTHERN PINE NUT (Mountain House District)
(Red Canyon District)
WELLINGTON HILLS (Northern Part of Wellington District)
(gold, silver, copper, lead, antimony, tungsten, uranium, fluorite, perlite)

T. 9-12 N., R. 21-24 E.
Lyon and Douglas Counties, Nevada
U.S.G.S. Wellington, Yerington, Topaz, and Desert Creek Peak California-Nevada quadrangles 1:62,500

GENERAL BACKGROUND

The Southern Pine Nut-Wellington Hills area includes the south end of the Pine Nut Mountains and the north end of the Wellington Hills. It encompasses all or parts of three mining districts, the Mountain House, the Red Canyon, and the Wellington districts.

The area has produced primarily gold and silver but minor amounts of copper and lead ores occur. Other minerals reported include stibnite, scheelite, uranium, hematite, and fluorite.

The first gold and silver ore mined in the Pine Nut Mountains was taken in 1862 from the Longfellow Mine in the Red Canyon District. The Winters ore body just west of the Walker Planning Unit boundary was discovered in 1872. Other mines including the Taylor Hill (Yankee Girl), Imperial, South Camp, Lucky Bill, and Boulder Hill were discovered and developed in the 1870's to early 1900's. Two cyanide and two small amalgamation mills were constructed and in operation at the turn of the century. Production continued in the area through 1911 but rapidly diminished after that.

GEOLOGY AND TECHNICAL DATA

A comprehensive description of the geology and mineralization of the Pine Nut-Wellington Hills area is given in Hill (1915). In general, the geology of the southern Pine Nut Mountains consists of granular igneous rocks of intermediate chemical composition intruded into Triassic metasediments.

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The igneous pluton is primarily gray to pinkish-gray, coarsely granular to porphyritic quartz monzonite. Three types of nearly vertical dikes cut the quartz monzonite in a north-south direction. The composition of the dikes from oldest to youngest is: (1) fine-grained quartz monzonite; (2) light-gray, distinctly porphyritic quartz monzonite to quartz latite; and (3) very dark, fine-grained augite andesite porpyry.

The remnant Triassic metasediments into which the quartz monzonite is intruded consist of limestone, argillaceous shale, and quartzite. A large remnant of highly contorted and metamorphosed limestone and argillite occurs in the Red Canyon district. The sequence of sediments consists of an upper 100 to 300 foot thick bed of white, crystalline limestone; a middle 800 to 1000 foot thick sequence of thin-bedded, dark gray to black argillite with included lenses of white quartzite; and a lower 1500 to 2000 foot thick bed of massive, blue-gray limestone. The limestone is folded in a tight anticline which strikes N. 80° W. The argillites exhibit nearly vertical bedding and locally tight folding.

Southeast of Wellington a narrow belt of light-colored, tightly-folded, crystalline limestone is exposed just west of the uppermost gravels of Smith Valley. The bedding is nearly vertical and the limestone is highly metamorphosed particularly along the contact with intrusive dikes of porphyritic quartz monzonite.

A thick sequence of black, andesitic volcanic rocks overlies the quartz monzonite and Triassic metasediments in the northern Wellington Hills. The volcanics are glassy hornblende andesite porphyrys with much of the hornblende altered to epidote.

The ore deposits consist of four general types: (1) quartz veins containing pyrite, specular hematite, chalcopyrite, and galena which follow prominent vertical north-south and east-west fractures in the quartz monzonite plutons; (2) largely copper-bearing contact metamorphic deposits at the contact between

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the quartz monzonite and Triassic metasediments, particularly limestones; (3) replacement deposits in fractured or crushed zones in the metasediments at some distance from the contact with the quartz monzonite; and (4) ore deposits that occur within the Tertiary volcanic rocks.

The geology and ore deposits of the major mines and prospects of the area are described as follows:

The Longfellow mine in the Red Canyon district in W 1/2 NE 1/4 Section 10, T. 11 N., R. 22 E., is located on a vertical N 70° W striking quartz vein in quartz monzonite. Gold, galena, and chalcopyrite are associated with pyrite and specular hematite in the quartz vein. The oxidized sulfide ore was said to carry about $18 a ton, $3 to $4 of which was silver and the remainder gold (Hill, 1915).

The Taylor Hill (Yankee Girl) mine occurs in the Wellington district at the east end of the common border of Sections 28 and 33, T. 11 N., R. 23 E. Here several shallow shafts and tunnels exploited two nearly vertical veins striking N 50° E. on the north side of Taylor Hill. Gold and copper occur in limonite-stained quartz.

The Imperial Mine at the east end of the common border of Sections 1 and 12, T. 10 N., R. 22 E., in the Wellington district was developed on a series of north-striking vertical or west-dipping veins in quartz monzonite. The veins range from 4 inches to 2 feet in width and contain white, iron-stained quartz with specular hematite and small bunches of pyrite or galena. Gold ocurs with the sulfide ores.

The South Camp mine lies in the Wellington district in Sections 25 (?), T. 11 N., R. 22 E. Several shallow shafts have followed a series of quartz veins which strike N 5° E. in quartz monzonite near dikes of quartz monzonite porphyry and andesite. The veins contain small pockets of partly oxidized pyrite.

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The Lucky Bill mine which is in the Red Canyon district in Section 2 (?), T. 11 N., R. 22 E., was developed according to Hill (1915) in a replacement deposit in "fractured quartzite." The fracturesstrike east-west and contain local small pockets of argentiferous galena, quartz, and stibnite with minor amounts of pyrite and chalcopyrite. Dixon (1971) in a more recent analysis contends that Hill's "fractured quartzite" is actually a "hypabyssal acidic intrusive" which was intruded before the granitic plutons in the area and which is in many places parallel to existing bedding in the metasediments. The accompanying mineralization is then interpreted as being directly associated with the intrusive and not metasomatic replacement of the intruded sediments.

Another replacement deposit is represented at the Red Canyon Claims in Section 5 and 6, T. 11 N., R. 23 E. Here Triassic limestones containing some argillaceous beds are intruded by a 10-foot wide quartz monzonite porphyry dike which strikes northwest and dips 50° N. For 100 feet southwest of the contact with the dike, the limestone is altered to a hard mass of epidote, quartz, and calcite containing pyrite, chalcopyrite and pyrrhotite. The largest lens of ore occurs between the dike and the main contact metamorphic zone and consists of the same minerals but with a high proportion of sulfides.

The Boulder Hill mine on the east scarp of the Wellington Hills in E 1/2 SW 1/4 Section 30, T. 10 N., R. 24 E., developed some silver from fault zones in Triassic-Jurassic sediments. These sediments composed of limestone and weakly metamorphosed shales and siliceous rocks are intruded by granodiorite and are faulted against Tertiary volcanic rocks lying to the west. High angle faults cutting the sediments also form the contacts between limestone and shaly or siliceous units.

Abundant fluorite is also found in two brecciated jasperoid deposits that crop out southwest of the mine. The jasperoid bodies, one 500 feet long by

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150 feet maximum width and the other 400 feet long by 50 feet maximum width, replace limestone along one of the fault zones. Fluorite forms veinlets, fills vugs, and is generally disseminated through the jasperiod. Reported analysis of the fluorite-bearing jasperoid range from 24 to 70 percent CaF_2 (Archbold, in Moore, 1969). Both jasperoid bodies are nearly vertical but may not extend to any appreciable depth.

Antimony reportedly occurs on the Fullstone prospect located in Section 24, T. 10 N., R. 23 E., (Lawrence, 1963). Stibnite occurs as pods and crystals in 8 to 10 inch veins containing quartz, pyrite, minor calcite, and some chalcedony and opal. The veins intersect a rhyolite dike which parallels the contact between granodiorite and north-trending Triassic limestone. The mineralization is weak but extends for several hundred feet. Two samples taken from small pits on the prospect yielded antimony values of 0.39% and 1.48%.

Some perlite has been prospected along the west bank of the West Walker River in Hoye Canyon SW 1/4 Section 3 and SW 1/4 Section 10, T. 10 N., R. 23 E. The perlite occurs as east to northeast-trending, elongate bodies up to 1000 feet long, 100 feet wide, and 50 feet thick in agglomeratic and columnar andesite. A sample of the perlite analyzed by the U.S. Bureau of Mines and reported by Archbold (in Moore, 1969) yielded the following results:

SiO_2	68.2%	MgO	0.4%
Al_2O_3	13.8%	K_2O	4.07%
Fe_2O_3	1.79%	Na_2O	3.4%
CaO	1.7%	Loss on ignition	3.4%

Expansion - 14 mesh at 1800° = 30%

Expansion - 14 mesh at 2200° = 65%

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Garside (1973) reports some radioactivity associated with iron-stained fractures in Jurassic (?) granitic rocks and in highly-altered metamorphosed conglomerate in two sets of claims near the Imperial Mine. No uranium minerals are reported from either set of claims.

CURRENT ACTIVITY

No major exploration or development activity is presently being conducted in the Southern Pine Nut-Wellington Hills area. Activity is restricted to small scale prospecting on an intermittent basis. Many claims within the area, however, have maintained a record of annual assessment work and are considered active.

ACCESS

Several unimproved dirt roads leading from Route 3 and 22 and the Colony District Road northwest of Wellington provide limited access to the subject area. In general these unimproved roads extend for various distances up the steep canyons of the east flank of the Pine Nut Mountains. Most dead-end in the canyons and do not afford access to the higher ridges. The higher elevations may best be reached by unimproved roads leading from Pine Nut Creek canyon and the Sunrise Pass road on the west flank of the Pine Nut Mountains.

PRODUCTION STATISTICS

Few of the producing mines in the Southern Pine Nut-Wellington Hills area were ever patented. Therefore, reported production is mainly attributable to national resource lands. Few adequate early production figures are reported from mines in the area. Hill (1915, p. 53) reports an estimated $50,000 of ore was taken from the Longfellow mine. Hill (1915, p. 53) also reports the following production figures for the years 1903-1911 in the Red Canyon and Gardnerville districts:

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Gardnerville district - $3,430 of gold, 1,785 ounces of silver, 38,593 pounds of copper for a total district tonnage of 407 tons at a value of $7,051. 1/

Red Canyon district - $3,547 of gold, 33,190 ounces of silver, 4000 pounds of lead for a total district tonnage of 1,902 tons at a value of $22,114.

Hill records no production statistics from the Wellington District.

Moore (1969, p. 30, after Couch and Carpenter) records the following total production prior to 1940:

Red Canyon District	-	$102,818
Wellington District	-	$6,099
Mountain House	-	$6,754

Since the boundaries of these mining districts are so vague it is impossible to determine what proportion of the reported production pertains to the Southern Pine Nut-Wellington Hills area described in this report.

POTENTIAL FOR DEVELOPMENT

Past mining activities indicate the area is characterized by small, scattered deposits of generally low-grade ore. There is good potential for further identification of similar ore bodies in the future. Such deposits will likely be worked on an intermittent basis by one and two-man mining operations. Initially most production will be from small surface mines followed by underground mining.

The geology is favorable for the discovery of other base metal deposits through the use of modern exploration techniques.

1/ Much of the production in the Gardnerville district is from mines outside of the Southern Pine Nut-Wellington Hills area defined in this report.

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MANAGEMENT OPPORTUNITIES

Published reports imply that portions of the subjective area contain hypothetical resources. The Red Canyon area may well be one of these areas but more field work and exploration is needed before the hypothetical resources can be delineated.

The opportunity exists to further define and identify mineralized areas and the ore deposits they may contain.

There is also the opportunity to protect the lands within the speculative area NW-40-1 from exclusion from the general mining laws so that the needed identification and delineation of the mineral resources and potential mineral deposits may be accomplished.

COMPANIES AND CLAIMANTS ACTIVE IN THE AREA

1. Brocious, Chester A.
   1698 Ordway Avenue - Reno, Nevada 89502
   Michael E. McLean
   1021 Wright Street - Reno, Nevada 89502
   Claims: Resource Nos. 1, 2, & 4
   (3 lode claims)

2. Compston, James
   (no address)
   Claims: Pinhook Nos. 1-12
   (12 lode claims)

3. Dufford, Murvin
   197 Poppy Lane - Reno, Nevada
   Claims: Tag-a-Long D (lode claim),
   Tag-a-Long D (millsite),
   Duffs Placer (placer claim)

4. Fulstone, B.
   E. Adrian
   Yerington, Nevada
   Claims: Bromite-Hill Lode Claim Group
   (16 lode claims)

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5. Gilbert, Jim and Ellen
   2680 Solari Drive - Reno, Nevada 89502
   Claims: Pinenut Nos. 6-12
   (7 lode claims)

6. Kitchen, Ronald
   P.O. Box 471 - Carson City, Nevada
   Alex Bernhard
   St. Rt. No. 1 Box 619 - Carson City, Nevada
   Claims: Lucky Peak, Lucky Peak Extension
   (2 lode claims)

7. Lawson, Olney E.
   C.E. Lawson
   F.E. Lawson
   Claims: Pooh and Pooh Nos. 2 & 3
   (3 lode claims)

8. Miller, M. Douglas
   4249 Kings Canyon - Carson City, Nevada 89701
   John P. Davis
   P.O. Box 985 - Minden, Nevada 89423
   Paul H. Travis
   Robert Holmes
   Claims: Valley Lode Nos. 1-17, 3A, 3B
   (19 lode claims)

9. U.S. Mining and Exploration Inc.
   1230 Berrum Lane Apt. E - Reno, Nevada
   Claims: Silver Lode (Crown) Nos. 1-9, Silver Lode Nos. 10-37, Resource Annex No. 1, Empire Placer
   (38 lode and a placer claim)

10. Wedertz, Gordon and Florence
    4765 Mayberry Drive - Reno, Nevada 89502
    Claims: Rainbow Nos. 1-4 & 13
    (5 lode claims)

11. Western Standard Corporation
    P.O. Box 1760 - Riverton, Wyoming
    Claims: Boulder Hill, Bromite, Hill, and Jay Claim Groups
    (90+ lode claims)

12. Westsmith, Frank K.
P. O. Box 520 - Carson City, Nevada
Claims: Westsmith Lode, Orpheus Nos. 1-5
(6 lode claims)

SELECTED REFERENCES

Dixon, R.L., 1971, The geology and ore deposits of the Red Canyon mining district, Douglas County, Nevada: Ph.D. thesis, Univ. of Nevada (Reno).

Garside, L.J., 1973, Radioactive mineral occurrences in Nevada: Nevada Bur. Mines and Geol. Bull. 81.

Hill, J.M., 1915, Some mining districts in northeastern California and northwestern Nevada: U.S. Geol. Survey Bull. 594.

Lawrence, E.F., 1963, Antimony deposits of Nevada: Nevada Bur. Mines Bull. 61.

Moore, J.G., 1969, Geology and mineral deposits of Lyon, Douglas, and Ormsby Counties, Nevada: Nevada Bur. Mines Bull. 75.

Partial field examination J.R. Gilbert April 1976.

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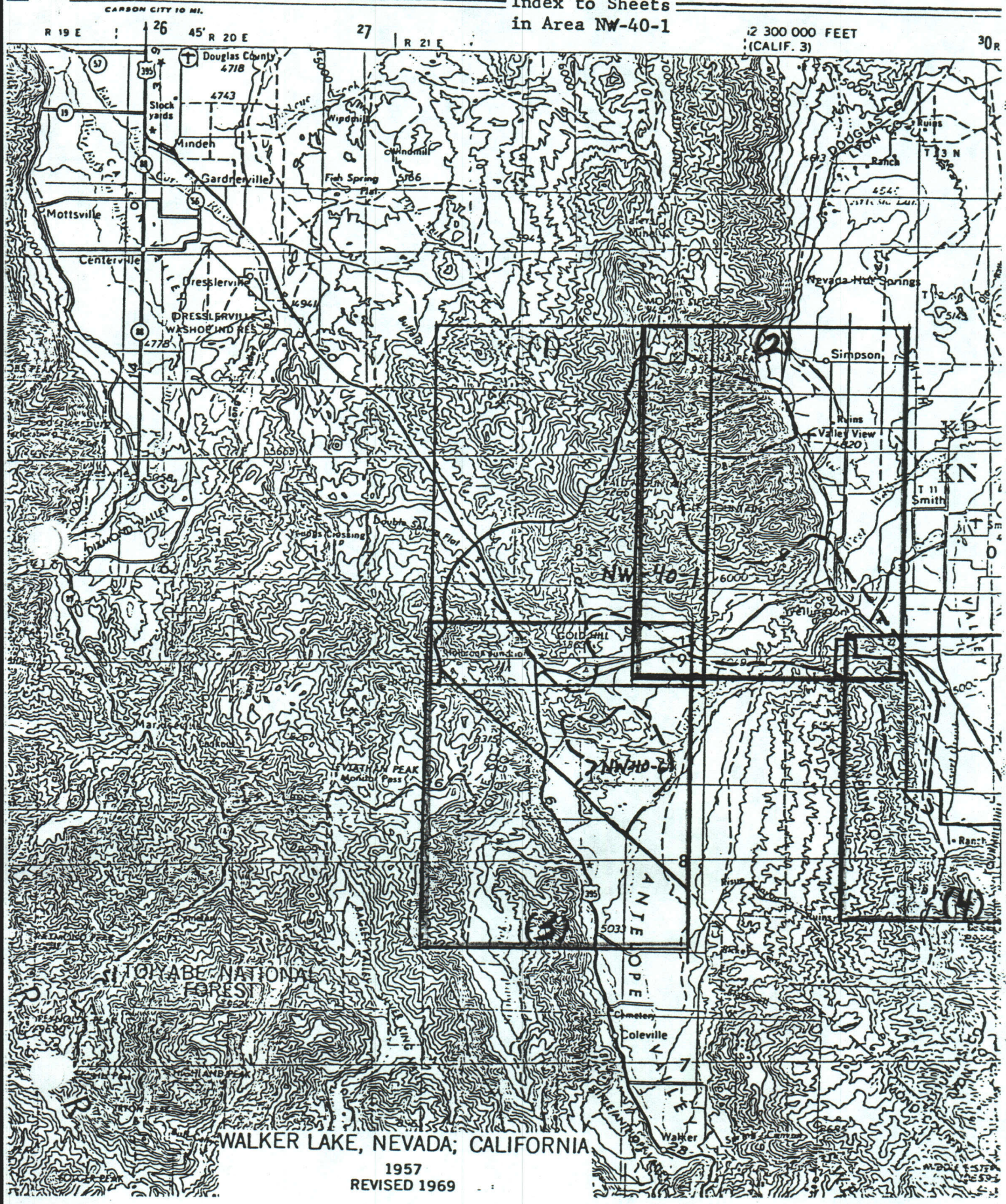
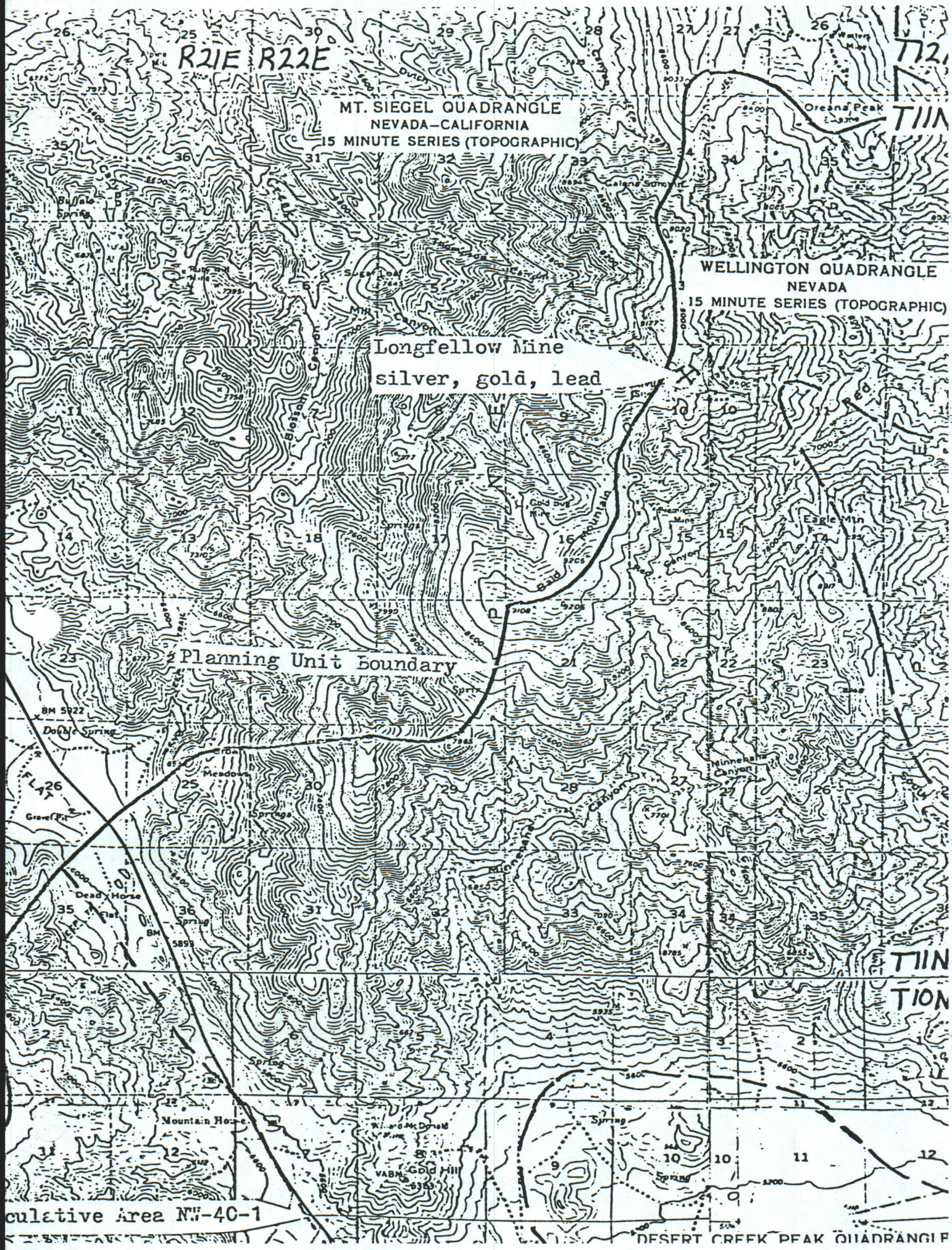
May 1976

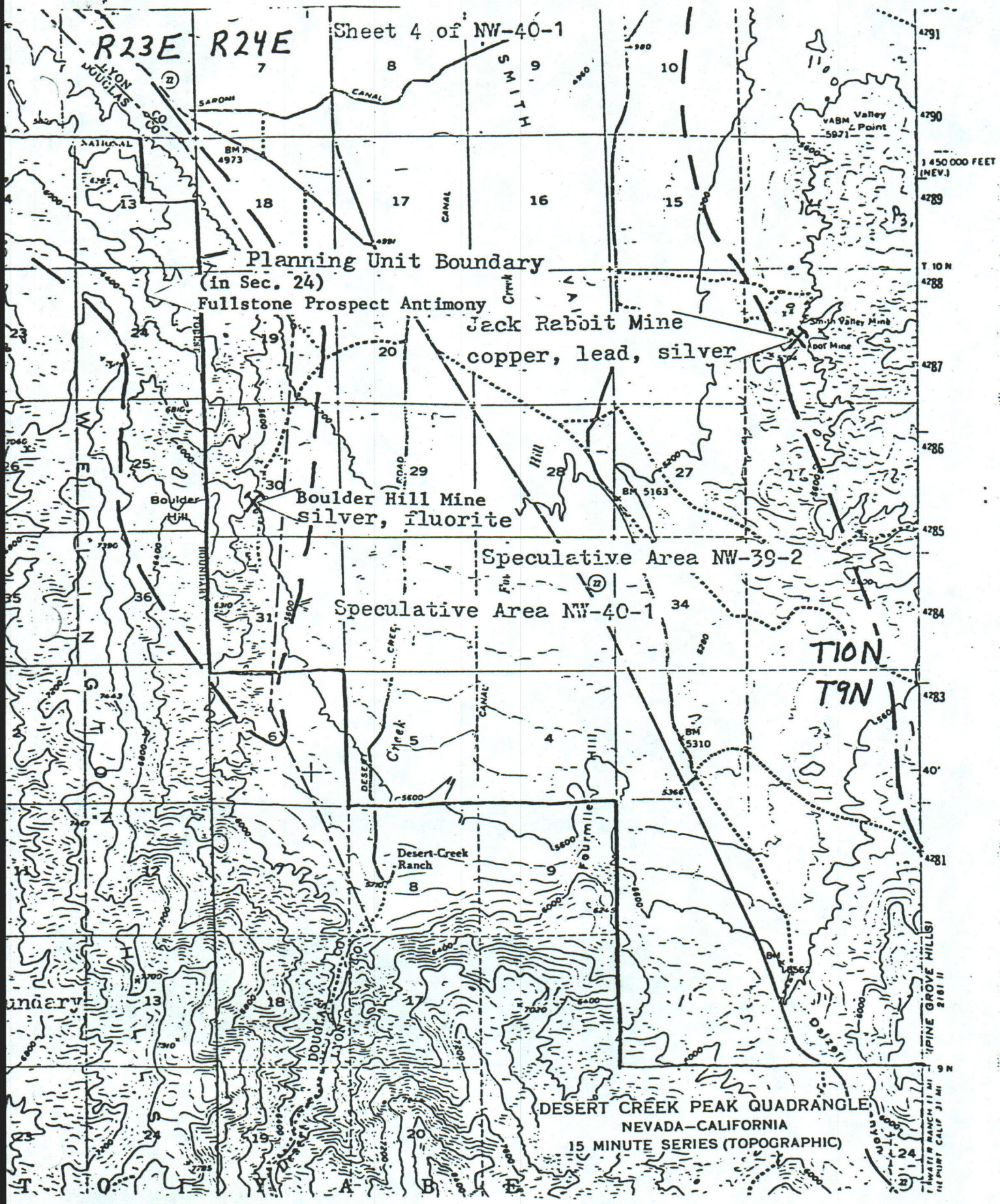
ATES 1:250,000

Index to Sheets
in Area NW-40-1




R21E R22E
MT. SIEGEL QUADRANGLE
NEVADA—CALIFORNIA
15 MINUTE SERIES (TOPOGRAPHIC)
WELLINGTON QUADRANGLE
NEVADA
15 MINUTE SERIES (TOPOGRAPHIC)
Longfellow Mine
silver, gold, lead
Planning Unit Boundary
T11N
T10N
culative Area NV-4C-1
DESERT CREEK PEAK QUADRANGLE


WELLINGTON QUADRANGLE
NEVADA
15 MINUTE SERIES (TOPOGRAPHIC)
Planning Unit Boundary
Lucky Bill Mine
Silver, lead
Copper, antimony
(in Secs. 5 & 6)
Red Canyon Claims
Copper, Gold
Sec. 25 (?)
Camp Mine
Copper
Taylor Hill Mine
gold, copper
Speculative Area NW-40-1
Imperial Mine
gold, silver, lead
Planning Unit Boundary
Oreana Peak
Eagle Mtn
Burbank Canyon
Little Burbank
Wedell Canyon
Bickey Canyon
Taylor Hill
Jack Wright Summit
Wellington
Beaman Lakes
Walker River
Sand Pit
BM 4770
BM 4804
BM 4780
BM 4794
BM 4784
BM 4821
BM 4831
T12N
T11N
T11N
T10N
LYON CO
DOUGLAS CO
COLONY
DITCH
CANAL
PLYMOUTH


Sheet 4 of NW-40-1
R23E
R24E
T10N
T9N
Planning Unit Boundary
(in Sec. 24)
Fullstone Prospect Antimony
Jack Rabbit Mine
copper, lead, silver
Boulder Hill Mine
silver, fluorite
Speculative Area NW-39-2
Speculative Area NW-40-1
Desert-Creek Ranch
DESERT CREEK PEAK QUADRANGLE
NEVADA—CALIFORNIA
15 MINUTE SERIES (TOPOGRAPHIC)

Taken from:

.42 Minerals

Inventory and Analysis

of the

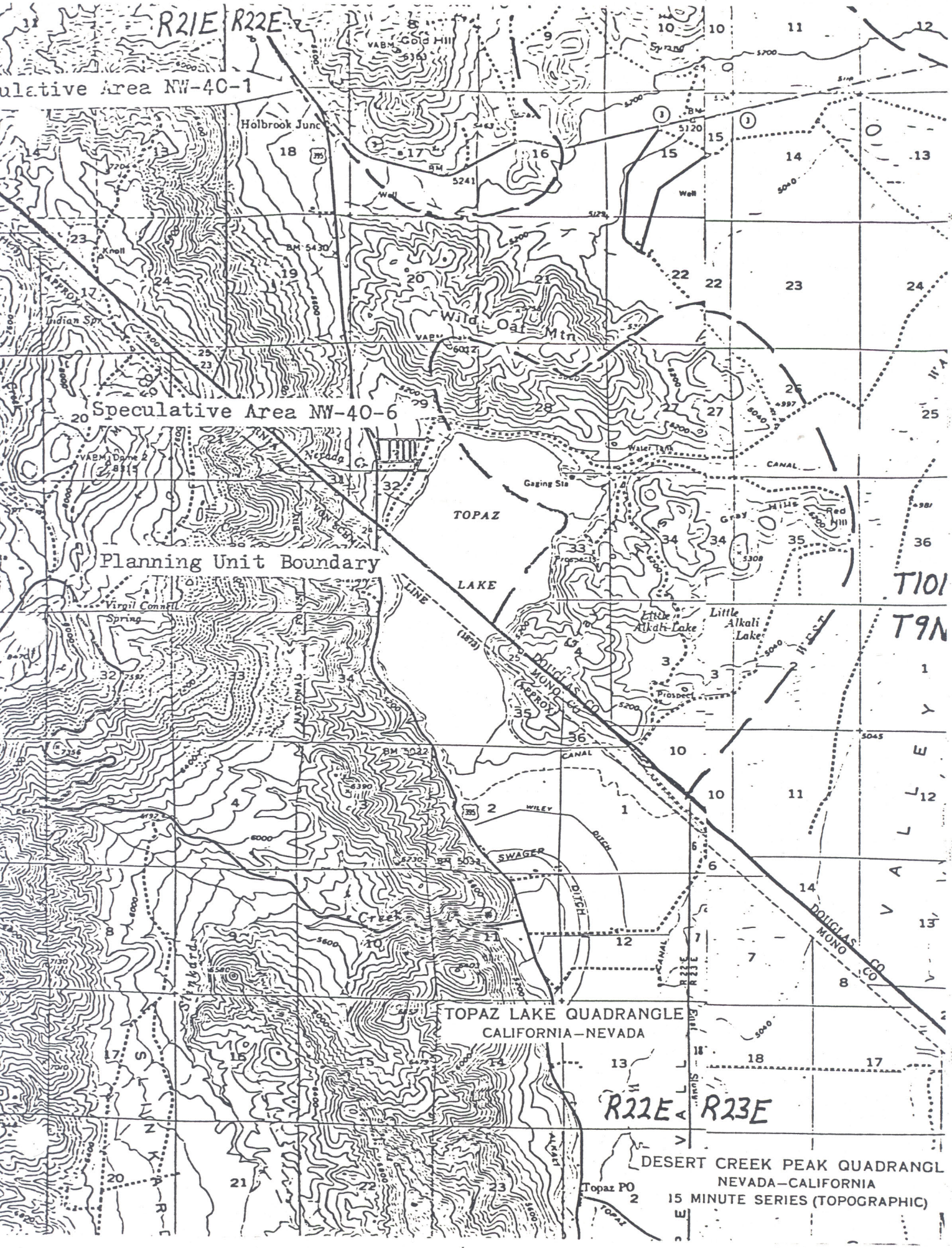
Walker Planning Unit

Carson City District
Nevada and California

by

J. R. Gilbert
1976

see Lyon County - general file, Item 13 for general preface remarks.


R21E
R22E
Speculative Area NW-40-1
Holbrook Junc
Gold Hill
Wild Oat Mtn
Speculative Area NW-40-6
Planning Unit Boundary
TOPAZ
LAKE
Gaging Sta
Little Alkali Lake
Red Hill
Gray Hills
Virgil Connell Spring
Indian Spr
Knoll
Nevada
Creek
Stubbard
DOUGLAS CO
MONO CO
CANAL
WILEY
SWAGER
DITCH
TOPAZ LAKE QUADRANGLE
CALIFORNIA—NEVADA
R22E
R23E
T10
T9N
DESERT CREEK PEAK QUADRANGL
NEVADA—CALIFORNIA
15 MINUTE SERIES (TOPOGRAPHIC)
Topaz PO