

7-24-70

88 Roscoe :

After you consider my comments, I would be glad to discuss this mss with you again. I have not done as good a job as the area warrants.

Have I? "can't say"

Geology would be better if it were confined to points of economic import, rather than an attempt to summarize that of the "district" - an artificial geographic unit that may only ^{have} one ore deposit, and possibly only prospects.

~~Hose & Blake do not describe specific localities or units~~

Delete "sets" where possible

"Sets of faults" means little to a reader unless he has a map showing such things, if they exist. To me, the important point is this: are the faults pre-mineral, and therefore important to ore localization, or post-mineral and a complicating factor in exploration. I suspect both types are present in every mining area, including Ely. I tried to say this ^{too} cryptically?;

"Two sets, one N, the others S. Ore along the N set."

Insert

If we assume that most ore deposits are associated with igneous activity, then pattern of intrusive rock are probably more important than lines between deposits, drawn most readily along top features. You need to put more words [thought] into suggestions for exploration. (OVER)

agree

The production record is important, but please remember that ^{most} (many) of the figures collected by the U. S. Bureau of Mines were received by mail, in Washington, and locations reported were never verified. Situation is better since regionalization and coops with States. The geologists who conducted collected these data for "Mineral Resources" of USGS did a better job because they were interested in the individual commodities, in addition to statistics, and were allowed to make field visits.

Nevada State bullion tax records are equally suspect - both for location of properties and for output. So? Production included because of tradition, (See Elko County)

Dwight

and because we "Look for elephants where elephants have been found"

(1)

Comments by D.M. Lemmon July 1970

on manuscript by Roscoe M. Smith: Economic Geology (White Pine Co., Nev.)

✓ = Corrections made.

~~Add maps or sections, or refer to published material~~

~~Minimum should be sketch illustrating geologic occurrence~~

? "Sets of faults"? in all mining descriptions?

Is there a better way?

Check ages of granitic rx against available numbers. I did

✓ Any are in volcanic rx in County? There could be, as
at Atlanta (Lincoln Co.) and various places in Nye Co., but 2 do
not remember any in White Pine. Mg, CaF₂

✓ Frontispiece - I suspect that the Mesabi open pit has
so do I always been larger than Liberty Pit - (no figures in
AIMM or Lartile). Also Bingham pit.

$$\frac{5280 \times 2640 \times 900}{1.5 \text{ Billion tons} \pm}$$

~~Poss~~ to Also the Panama Canal

Abstract: p 1 I would include Ward with White Pine and
~~what can I say about it?~~ Cherry Creek as "best known" of other districts. Reserves
most indicated

Years of production

p 2. - Reserves -- maintained (?) -- also because of
prices for Cu.

deleted

p 3. - I am skeptical about economic recovery
of phosphate from McGill tails. Look up w.

In my view
they are
inappropriate
and of little use

p 4 - Maps may or not be available in published
form - why not consider using unpubl material
in text?

✓ p 8 - The list of nonmetals contains non-mineral
substances (Coal, lime, gypsum, sand & gravel, stone
; so label as "materials".

Little Flower 1945-46 1704. NO₃

(2)

- p. 9 Dewelsite ? spelling ✓ 10 Deweylite
- so? 11 Couch and Carpenter made mistakes
- ^{disposing} 12 If you cannot find a district, omit it. No point in perpetuating erroneous junk - ^{to save the readers time.}
- " " 15 "Industrial depression" is poor term for this type of zoning.
- <5? 16 WO₃ produced at Little Flower also - 194⁶⁷ which STC and/or?
- 19 Where does Little Flower W fit? mentioned as
- Not published occurrence without ^{noting} production. What does "not illustrated" mean
2 have suggested ^{of} deletion of "lens" & "lens of 1st" as being meaningless
- Yes 17 Sulfides of Manganese? Delete "lens"? or STET
Geologic setting might better be restricted to
mention of rocks and structures
"of Deckert"
- I thought I did where did I slip?
use P.C. ✓
- ✓ 20 Is Eldorado currently used in Schell Creek Range - or just by J. Hill yrs ago? Pole Canyon substituted p. 18
Cite published geologic maps in addition to the County map, if any.
- ✓ 21 Dekert (1967) not in Biblio
Prefer antimony content without "high" because of the implication that ore might be valuable for Sb at present prices. I presume the ore mined is friable?
- ✓ 22 Claim names of 100 years ago mean nothing unless claims are patented. Try to avoid.
- use " " ?
e.P. 22-L Place "contaminated by scheelite" is misleading.
Do you mean "containing a little WO₃?"
- ✓ p 23 Delete ref to anonymous report of hg occurrence
PbCO₃, carrying Ag, prob as AgCl. Cannot PbCO₃ have Ag?
2e Chrysocolla = copper Pitch on? See Dana

(3)

- p 25 Ref to Ransome and Bushnell 1922 not in biblio
- STET** Last P reporting prospect "without success" can be deleted.
- P. 26 - See attached note
- ~~sp. Other Districts~~ ~~p 29-30~~ delete because same district is not in White Pine Co.
- ✓ 32 - Mills at Dayton treated Comstock ore several years earlier
- P 31** → why do?
- ✓ 33 Sp. for Ticcup (Teacups) mine? Both
Here, and elsewhere, you report production with
a plural subject (units) and single verb (was produced).
Is this good form? Yes
- ✓ 36 Adair's name for t fms better forgotten. What is on
Hose map? Eundiff.
- ✓ 37 "The chemical influence of dolomitic portions of the 1st on
precipitating ore minerals" is not clear to me -
not a quote
delete
- The extensive guitar from Adair's Univ of Utah
MS Thesis are probably not wanted - Have you
checked his work?
- ✓ 38 Info on width of slopes of Exchequer mine seems
extraneous - no info on mine itself.
- ✓ 39 Tungsten - most production was from Cherry Creek (Ticcup)
mine - the others were minor. What is source of
statement that wolframite exists in district? ??
grade of mill tailings is extraneous

p. 26. I believe you are confused about names and locations of mines in the Osceola - Tungsten - Sacramento and Black Horse districts.

The Gilded Age Mining Co. owned and operated the mill in Spring Valley at the head in U.S. 6. Gold Ores from underground vein mining S of Osceola canyon were treated here until 1942. Subsequently, ^{some} tungsten ores from the Black Mule, Black Horse, and other deposits were milled. Reports to USBM were probably incorrectly listed.

The Black Mule mine is 2 miles SE of the Spring Valley mill, south of the Dirty Shirt. It yielded about 350 units of W_3 in 1942-43 from a pipelike ~~as~~ scheelite on body in the CM bed.

Change loc. of Black Horse mine?

yes

✓ P. 40 Schulite was known at ④ the Kolchek mine and at a prospect 1000 ft west, in the early forties. The "CM" bed may be a new discovery.

✓ p. 41 Cooper district is given substantial area but little info about mineralization. Do not quote here or elsewhere Raymond's term "industrial depression" which he used to mean unsuccessful prospecting.

~~What is the rock at Rattlesnake Knoll, and the composition of the veins.~~

✓ 42 White's description of discovery in 1869 adds nothing? delete?

✓ 42 I am confused about "the matrix itself." This it needs attention

✓ 45 last P on Devolite: ever been used commercially? and

✓ you quote something other than USGS press release?
Vitriols Bulletin? No

✓ 46 - no geology with addition to 45

✓ 47 Something queer about "hydrating" lost to form mortar

✓ How about "burned" instead? (Hydrated lime)

✓ Do not repeat the Ely Daily Times comment on ferberite; unless you do you did not see such a deposit, did you? Success district not mentioned elsewhere.

✓ 48 Why quote Young (1960) (not in biblio) if the geologic map by those uses different terminology?

✓ 68 Is almandine the right name? or almandite? Either
^{17 see over}

✓ 71 "Large"? Be deposit was not discovered as result of long effort - Disagree? found earlier but not recognized. Even present in outcrop.

✓ 72 The stratigraphic thickness of fms comprising the southern Snake Range must be much greater than 5000 ft (Ask Whitbread). What is composition and age of granitic stock? See P 1 (OVER)

69 Location of "Hanna" mine is terribly indefinite ✓
if you cannot identify the ♀, I would omit it.
I would include it for other references

✓ You have already defined Mt Moriah area
to include Smith Creek. Relation to
Gandy, Utah is immaterial -

70 "Mt Moriah mine" is not identified or
located - Omit? No. The name should be
"unreferenced"

check loc. of Grand view

Map does not agree with 11-17-68

✓ OK as shown on pl. 2

72 - are stratigraphic thicknesses needed. And does thickness vary this much in mine area?

(5)

✓ Yes - Yes (Nowhere else is the CM Bed located described)

✓ 72 - Sure, a hand specimen might assay 25% WO₃; whether any one of this grade? - but no one has been shipped.

✓ Range in thickness of Pioche seems ~~extreme~~^{excessive} - also in last bed. OK

73 Spell Tamerlaine or Tamerlane - be consistent Why?

✓ Not changed ↗ As on Topo sheet As it was called

of averages

✓ 74 and 75 - your "averages" are ranges in composition.

✓ 75 - Ron geology is confusion. Can you clear it up? I tried

✓ 76 - incomplete sentence.
✓ 77 loc NE 1/4 19N 55E? Yes, the district is in NE part of Township - but do we normally divide Twp into 1/4's? No

✓ 78 - Table 12 - quantity and value of WO₃ should be stated here
get or on page 77 - if you do not have value and total quantity, I can get it for you!

82 - Check location of Gilded Age mine - Ops in 1940-41 at Oscoda?

✓ Sacramento? (winter 1941-42)

✓ public
can't get
this
negative
info.
anywhere
else 86 A deposit of scheelite in granite? Reference to Lambert? I have not seen this reference, but doubt its utility - probably a quartz vein.

Lignite descriptions unduly long considering unimportance.

Repetition of Hague analysis unwarranted. Accurately questionable

✓ 88 Piermont - why quite estimate of \$6 million and only \$164K in Table 14? To indicate reliability

✓ 92 Table 14 - \$ value for 1935-37 appear low. To assist the reader (recorded that way)

✓ 92 Why not stick to Maryland? Same on p 93.
Any information on ore deposits of Pinto district? No
you identify locations of these mine names? Only Queen & Fairplay

✓ 94 Spelling Reipetown - Riepetown on map after p 11t.

~~Reip~~ was correct

also GQ-758

? 97 - Permission to quote Parsons? No

✓ 99 - Morris-Brooks is hyphenated in Table 16.

(6)

Table 16 first column lists "Morrise" "Morrissé" -

did it exist? **Vanderpool to confirm**

p.101 - Sioux --- dismantled 1951 (?) - check date ↗

Iron ore production from Pilot Knob ↗ - was it used in smelter? valuable for what? flux? ?

Table 17 following p.102 - 1908-41 production and value

✓ D.C. adding machine!!! seem odd - nearly \$25/ton! / Also compare Figure 3
1942 is less than \$3⁰⁰/ton. tonnage figure.

Why? 106 - Unless you can prove late Cretaceous age of erosion, leave it out.

P 110 - Reference to Bauer et al (1964) not in Biblio -
Should it be 1960? 1964

?? References should include Lawson? are there articles on AME

Lindgren, Stratton-Sloss Volumes? Nothing in L. used
" " " Spencer"

✓ p.112 Bauer et al, 1968 not in Biblio 1966

~~120~~ Can the garnet be identified?

Mooray?

? 121 Scheelite ↗ needs better description. Confusion over miners and Gildad Age Co. - Have you looked at the ~~the~~ miners?

? 123 Info on S.F. District is awfully slim. Did you find it?

Claim names of 100 years ago of value only if patented.

✓ 125 - Table 22 - Production of Shoshone district thru 1945

was about 93,540 units of WO₃ according to my information
 $\frac{85,037}{= 8,503}$

Get more data on Ward when it
becomes available

✓ 126-127 mined "down their dips as much as 140 ft" implies depth of mining rather than height of ore shoot.

✓ 128 Did the population of Ward in 1876 exceed that of Hamilton?

✓ 134 Not much info on Telegraph
136-7 are county District except geography. Delete. 7 any info on WD3? (Inventory)

✓ P. 140 Does the magnetic anomaly indicate deep mineralization? or does it indicate an intrusion?

141 - Geologic setting would be more pertinent if confined to discussion of ^{geologic} relations of ore deposits. What formations contain the principal replacement deposits?
Not described elsewhere. I can find out what is replaced

? The statement that "entire sequence is tilted gently eastward" implies a simplicity not in accord with the geologic cross section a few miles north by Becker.
The sequence includes "complexly folded, etc" (It looks simple!)

✓ 142 Sand carbonate is not obvious to everyone. Do you mean sandy cerussite?

Get } E & M is generally an easier-to-find library reference than W.S.S. only ref. at time written

Can you say anything about new discoveries, their geology, metal content — Inasmuch as their reported value is many times past production. How deep is the area explored?

143 I would delete this page unless you know more Inventory + Neg. info. about it, from a personal visit. Existence is NO speculative.
~~Humphrey genl 0200 ft (p. 6) (poor at B.M. 8002)~~ Looks like
~~Humphrey elev 10,200 ft + settled later confused USGS Rand~~

145 This page is too lurid. The ore was rich, but not the richest ever discovered. \$500 t per ton would not glut the world market Not elsewhere available

? When I first read Humphrey I was disappointed by lack of background.

196

Bureau of Mines records on Hals mine ignore purchase
of ore and ^{concentrate} from other properties in order to
fill a sales contract at high price. (3,600 units WO₃)
Total Contract or amt. purchased? - Purchased

✓ 137 I do not remember such continuous shipping

160 - fix

(8)

146 et seq : Direct quotations from Jackson probably require publisher's authorization. I think they are unduly long and not particularly pertinent to a report on mineral resources

Comprehensive abstract nowhere available

154 Check use of Ellipah fm :- Has been used for
 omit Fm. names? Upper Mississippian. Is it a unit or Hoe map?
 How about "Ellipah fm of Humphrey" (possibility discussed
 with Rudy).

✓ 155 Is age of intrusives known?
 No (?)

✓ 159 Something missing in last sentence
 ✓ 160 Cinnabar not mentioned by Humphrey. Did you see it? Yes
 ✓ 160 - what is wrong with "Only"?
 ✓ 164 Total production of Post-hole "a few hundred tons" averaging a little more than \$100" hardly justifies preceding quotation from Raymond. Quoted as "richest" for orders of magnitude

167-168 If you cannot identify these "other districts", do not repeat these old tales. Delete - No
 It will save somebody days of research

✓ 171 CaF₂ - Ely? or Robinson? district
 geonet - what mineral

✓ 174 Potash - I missed any mention of potential potash output from McGill Tills in your section on Robinson district.

Delete ~~water~~ Total pumpage

Get water problem at Deep Ruth

See Hal Morris

Re write to avoid promotion scheme

(9)

? ✓ p 176-179 do not appear pertinent to me, but maybe
Nevada wants it that way - No

Insert If water is mentioned, then problems it creates in deep mining might be mentioned. ✓

Didn't the Deep Ruth shaft have water trouble?

180 - GP-392 is best mentioned in Part I (for depth of fill).
✓ Reference to Fergie 1927 is only an abstract - Isn't there a published article?
I don't remember any ^{White Pine ore} ~~Lead~~ Co ~~ore~~ deposits assoc. with Tertiary volcanic rx. Mg

? 181 - The CM bed apparently did not blot so well in White Pine Co. but the concept is valid guide to exploration. Leave it in.

Rewrite ✓ The generalizations about alignment of mining districts are not convincing to me, nor is the contrast with Eureka County. The ^{by} far largest district (Ely) trends E

182 Expand ? There is jasperoid and jasperoid. It is perhaps most common where carbonates have been covered by lavas. Hal Morris probably has strong ideas on subject.

183 I have not consulted Hove or his map - but I would be surprised if there were no structural complications mentioned in the Butte Range or adjoining valleys. This concept governed much of past exploration for oil. I suggest deletion of this P on Oil possibilities. Why

COMMENTS BY KLEINHAMPF (Aug, 1970 - see red pencil in margin
of text)
ON PART II, ECONOMIC GEOLOGY
OF GEOLOGY & MINERAL RESOURCES OF
WHITE PINE COUNTY, NEVADA

✓ — indicates corrections made by RMS.

① On p. 7. — Suggest that you emphasize on prior page that there are three major sets [of faults?] in the region, so as to tie in better with phrase used here at comment 1. Perhaps add at comment 1, the following "... to all major FAULT sets ..." Also, more pertinent technically, do you really mean, as I read this statement, that all ore deposits in sedimentary rocks are along the "subsidiary faults ONLY?"

② On p. 8. — Does "400 producing mines..." mean that 400 are now producing? Delete "producing"?

③ On p. 17. — Add as follows: "... conformably by AN ESSENTIALLY COMPLETE regional sequence of Paleozoic ...".

④ On p. 17. — Indicate ~~to how deep~~ depth of mining? Yes

⑤ On p. 20. — Pogonip has group status I believe.

⑥ On p. 20. — Are the broad zones faults? ^{I don't know but I don't think so.} shatter zones?

⑦ On p. 23. — Are these other 2 sets normal faults? ?

⑧ On p. 24. — Awkward; how about "Templet or copper-bearing contact/metamorphic deposits (fattite) occur as

2'

pendants in the granite and in zones as much as 15 feet wide in limestone adjacent to the stock/stocks.

⑨ on p. 35 What lithology is this large dike?

⑩ on p. 36 This entire it may best be fitted under the heading "Irc deposits" as a lead to on p. 37.

⑪ on p. 37 Op Cit. not used in USGS pub. - is it ok
for Nev. Bull.?

⑫ on p. 48 Correct sentence to read: "The largest ore body... where it was mined for as much as 20 feet of width along ~~300~~ feet of ~~the~~ a 325-foot strike length and for 200 feet down the dip."

⑬ on p. 11 and p. 50 Mention at these places, or at appropriate places in production tables, the last year for which figures are represented in the tables. Many end between 1958 and 1964. Did your last search for production take you through 1968 ? '69?
(see title of each table)

⑭ on p. 53, 54 How about a statement to the effect that the geology at Ellison district was not examined very thoroughly and this accounts for lack of information about the geologic

① p.6, l.1 Couldn't this sentence paragraph be included as a footnote & the next paragraph? It certainly isn't an exciting lead sentence for the first main section of the report -- or -- as expanded statement in the parentheses on l.6? Perhaps a lead ^{summary} paragraph would be appropriate ✓

setting and the ore deposits. Also, ~~that their lack of~~
~~geod value indicate something about the potential of the~~
area. In view of fact that you say so little about it
(and the Geyser Ranch area, next page of text) does this
mean that you consider them unimportant for future
production?

(15) On p. 55 Some reorganization may be justified here, since
under caption "History" ~~the~~ ~~text~~ is given data
from 1894, whereas under caption "Location" the history
carries back to at least 1869, ~~Suggest either~~
and production table shows major values prior to 1902.
Suggest either lumping "Location" & "History" sections, or
adding an introductory statement to "History" section
indicating that earliest (1869-1901) production
was large but records are lacking. Also, possibly
remove the ~~Buchard~~ "Buchard (1883, p. 560) reported ..."
sentence down into the "History" section and fixing
the pronoun "This" in the "Lee et. al, (1916) ... sentence
if such a sentence change is made.

(16) On p. 58 The latter is also more than a township
north of the Hunter district as outlined on fig. 1.

(17) On p. 61 Is this location (T.25N R.55E) correct? You changed some
in the preceding discussion.

- (18) on p. 62 Change to "... high on the southwest slope..."
- (19) on p. 66? See latter part of comment No. 14.
- (20) on p. 70 For this 2^d sentence on the page, I prefer the following (since you are describing the quarried rock): "Thin-bedded quartzite was quarried from near the top of the Prospect Mountain Formation along a dip slope that forms the surface of a major bedding fault and above which the upper plate rocks have been eroded."
- (21) on p. 71? Remove statement about the region once having been in Nye County to your introductory material at beginning of the report, where you can and should elaborate a bit on this subject. Steers reader to right records. ? - Part I
- (22) on p. 72 Possibly change 2^d sentence as follows: "A partial section in the Mount Washington district includes the..."
- (23) on p. 72 Say something about future potential? (See Comment no. 14). No - promoter fadder
- (24) on p. 73 Compare "Tamerlane" with "Tambentaine" at top of p. 73. Both are correct

Based on 1942 data, Ruth operation yielded
about 10g Au / 2000# Cu,
or
10g Au / 125 tons of ore,
with .8% Cu ✓

- ② on p. 77 From fig. 1, it would appear that the NE part of T. 19 N, R55 E is outside the district boundary (mostly outside). Do you mean N-C part?
- ③ on p. 81 Define a "miners inch" on a footnote? Is uncommon enough, perhaps, to do so.
- ④ on p. 81 This sentence on Summit area placer streams out of place as it stands. Suggest in a H. discussing mining methods. Suggest rewrite:
H "A minor gold rush to placer ground in the Summit area was reported by Vandenberg (1836, p. 174) as follows: . . ."
- ⑤ The "1838" does not fit with all dates shown for 1838-1872. Delete 1838
- ⑥ on p. 95 "Failures HAVE BEEN attributed..."? Also, give reference? Why, if siliconous linings were unsuited for basic ores, did the linings work at Eureka?
Delete collaborate.
- ⑦ on p. 104 If "Con Copper" was an entity until 1959, as indicated here, Table 1B (last column) is in error.

- (30) On p. 106 Underlined part not clear. Also, formations shown on table 19 do not coincide with statement at top (1st line) of p. 106.
- (31) ✓ On p. 107? Incomplete reference here. Needed?
- (32) ✓ On table 19 & p. 107. — Note red lines on table 19 to clarify arrangement of items in the table.
- (33) ✓ p. 107 Can you refer to a table that ~~serves~~ correlates the different usages? No
- (34) ✓ On p. 107 Overturned to the east to the west?
- (35) ✓ On p. 109 "Early-stage" and "late-stage" newly used here, I think, and cannot be tied into descriptions of morphemes at top of p. 108. Clarify.
Also, note underlined word "before" on 2^d line from bottom of page (109). Does not fit with words "during" and "after" used in 1st sentence of this H.
seems OK to me.
- (36) ✓ On p. 110? Does end of this H mark end of para-phrasing of Fouquer's work? ~~yes - so?~~
- (37) ✓ On p. 113 Should mention Te, which is anomalously high for the intrusives at Ruth. — Possibly I ~~remember~~ misremember — see that you discuss Te at Word District.

The text much detail is given but lacks reference so that reader cannot evaluate degree of authenticity of the data. Would it be possible to give more complete references or to indicate somewhere how all this mass of data was acquired?

I would ~~still~~ prefer to see the text not broken up by too many references, so the latter approach gets my vote. See Acknowledgments.

Is it necessary?

(45) ✓ on p. 131 What 2 mines? The Lorraine and Self-Locker? Nuclear,

(46) on p. 133 Are these breccia zones the intraformational breccias that are so common in the Boulmette? Probably - so?

(47) ✓ on p. 134 Why not mention the uranium if it's there? I see that you are deleting this for reasons unknown to me.

Unreliable source of report

(48) ✓ on p. 135 The thought of this sentence seems better developed as follows: "AN ADIT ON THE MAIN VEIN AND PROSPECTS ON OTHER VEINS EXPOSED WOLFRAMITE, SCHEELITE, AND TRACES OF GOLD AND SILVER.

(38) on p. 118 ? Must be one if Cu is recovered, as you describe in the next sentences.

Is this worth spelling out? - yes

(39) on p. 120 ? Tonopah pit not shown on Fig. 3 (near p. 111).
I don't know what it is.

(40) ✓ on p. 125 The 1936 year referred to in several places in text is not shown on Table 22.

(41) ✓ on p. 126 "rotated or folded by ..." seems to be an awkwardly phrased thing. Can you change it?

~~Also the 1937 and 1938 pits were described below. Should be identical to one.~~

The on bodies "are" veins

(42) ✓ on p. 128 "Present" Snake district - is this here defined by you?

(43) ✓ on p. 130 Rewrite so that this last sentence does not appear to be misplaced here - or delete and where mills are mentioned below, use parentheses to refer to notation under Nevada dist., p. 73.

(44) on p. 130 & 131 This is a general comment and raises a somewhat philosophical point. Here and elsewhere in what 2 mines? Sunrise & Self-Cocker? Not clear.

(45) on p. 131

49 on p. 138

Little Lake & Big Lake are ~~the~~ mentioned here but nowhere else. Suggest deletion, since contributes little to discussion.

50 on p. 138 ?

Was this Nye or White Pine County then?
add W.P.? No

51 on Table 24

Incorrect total on table

52 on p. 141

Since one doesn't know exactly what the sequence is in the valley to the east of the range, I suggest revision like this: "The entire sequence is tilted gently eastward, and bedrock below about 6,800 feet is covered by Quaternary alluvium."

53 on p. 143

Not specified in what reference?

54 on p. 143

This 2^d last sentence seems to imply that the previously described production may be from the Robinson district. If so, state more clearly. Also, if so, then your mention of a Lead King mine in the 1st ¶, this page, seems not to be discussed at all in the remaining paragraphs. Suggest minor rewriting to clarify some of these points.

55 on p. 145

Paher (1970, p. 247) gives 1867 as discovery of Ag-Osps - just read on in your report to next page. All is cleared up!

56 on p. 155

Repeat the fact that folds are north-trending.

57 on p. 156

Since the text treats the geology of the Hamilton district, I suggest that you include a page-size geologic map of the district like you did for the Robinson. This would aid reader to establish a better picture of the many features that you describe. The need for this may be seen by some of my other comments.

58 on p. 157

Take the last clause of sentence 3, page 155 (lines 7 & 8) and place at end of the partial sentence on very top of p. 157, or, ~~and if as indicated in text~~, add to end of the latter sentence this: "... in and near the stocks AND ESPECIALLY IN THE FRACTURED CENTRAL PART OF THE SELIGMAN."

59 on p. 157

"Goodwin dol." is not a formal name, is it - also, it is a formation within the Pogonip Grp. "Pogonip dolomite"

~~Fix~~
is not a formal name either; if you refer here to local names (Miner's terminology) suggest you so indicate, but would prefer to see you use the standard terminology so as to decrease confusion.

60 on p. 157

Do you mean ~~are~~ is in the dolomites adjacent to faults as indicated by my modification of your sentence? Or is the

(60) on p. 157 (cont.) are in breccia zones along the faults where the
~~Fix~~ breccia is dolomite? Not clear to reader.

(61) ✓ on p. 158 (See also comment no. 57 on p. 156) — Here on p. 158 is an example of where a map illustration (page-size) would be useful to reader. You refer to the Flats again on p. 160, but by that time I had concluded that the Flats were a northern or southern extension of the Summit area, and was surprised to learn that the Flats lie to the west.
Clarified, without a map

(62) ✓ on p. 162? Why is "depths" in quotes? Delete "North" after Aurora since it was not used previously.

(63) ? on p. 161-162 Why are some mine names underlined?
Italics — delete?

(64) ✓ on p. 163 Something bothers me about this sentence — guess I can't understand it too well.

(65) ✓ on p. 164-165 I think that a better bridge is needed between the last sentence on p. 164 and the last sentence on p. 165. Or, better yet, restructure the last sentence on p. 165 and lead off with it at top of p. 165, such as: "RECENT INVESTIGATIONS BY D.F. HEWETT INDICATE THAT SILVER MANGANATE IN BLACK CALCITE COULD ACCOUNT FOR THE LARGE HIGH-GRADE DEPOSITS OF SECONDARY CERARGYRITE (SMITH, 1970, P. —). The black calcite

appears to be a primary mineral, ~~and the~~ contained hyposene silver manganate attains a concentration of as much as ... " etc.

(66) on p. 167. - Is this the Patterson district described in the Lincoln County report (Tschang and Pampeyan, 1970, p. 165-170)?

(67) on p. 167b. - Any conclusion as to which, the Oseola or Aura, word meant? needed?

(68) on p. 167b. - Capitalize or otherwise emphasize the Latham, Manning & Warren districts in these quotations.

(69) on p. 168 See Lincoln County rpt, (1970), p. 162-163.
Maybe in a different range than you indicate.

(70) on p. 171 Only 21 listed in Table 26 & on Fig. 6.
I did not check to see that locations on maps matched the locations listed in Table 26.

(71) on Table 26 Since you show location of holes on map, why not delete here in ~~the~~ Table 26 and show total hole depth?
"What - Where - how much"

(72) on p. 173. - Applies to Simonson Dol as well (for Sodor in places also).

(73) on p. 174. - According to Table 26, only 1 of 3 holes is named "County Line".

(74) ✓ on p. 174 Like "structural sand" above, "railroad sand" is not an expression known to me. Now, beach sand I understand (or dig). Elaborate? ~~change position of the Sand for the lines~~

"SAND CARRIED BY LOCOMOTIVES OF THE NEVADA NORTHERN RAILWAY AND USED TO . . . HAS BEEN PRODUCED . . ."
Not a Text book on the use of sand - I don't explain use. of flourspar or Paleozoic

(75) on p. 178 This statement doesn't square with the extreme upper limits of Specific Conductance (Table 27) listed by you. Suggest making statement less general, or deleting it.
 $\text{safe} = 750 \text{ sp. cond.} = 500 \text{ mg/l}$. "Most sources" are < 750

(76) ✓ on p. 178 Is this maximum ever recorded, or an average for the largest stream in the County?

(77) ✓ on p. 182 This looks like a statement that should just have appeared in the section of report on Robinson district; if it was mentioned, I don't recall it.

(78) ✓ on p. 183 This conclusion doesn't ~~have to~~ necessarily follow from what precedes.