Roscoe:

After you consider my comments, I would be glad to discuss this map 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 one ore deposit, and possibly only prospects.

Hose & Blake do not describe specific localities or units.

"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 "cryptically":

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

If we assume that most ore deposits are associated with igneous activity, then patterns of intrusive rock are probably more important than lines between deposits, drawn most readily along topographic features. You need to put more words into suggestions for exploration. (OVER)
The production record is important, but please remember that (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 corps 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 mineral 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"
Comments by D.M. Emmerson July 1970
on manuscript by Roscoe M. Smith: Economic Geology (White Pine Co., Mo)

Add maps or sections, or refer to published material

Minimum should be sketch illustrating geologic summary

"sets of faults"? in all mining descriptions?

Is there a better way?

Check ages of granite my against available numbers. I did

Any ore in volcanic rve in County? they could be, at

Atlanta (Bingham Co.) and various places in Nye Co., but I do

not remember any in White Pine. Mg. CaFe

V Frontispiece. I suspect that the Mesabi open pit line

always been larger than Liberty pit. See figures in

A.M.E. Handbok, Also Bingham pit.

5280 x 2640 x 800 = 1.5 Billion tons

also the Panama Canal

Abstract: p 1 I would include Ward with White Pine and

Prospect as "best known" of other districts. reserves

Years of production...

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

prices for Cu.

p 3. I am skeptical about economic recovery

of phosphate from McCall tails. look up y.

p 4. Maps may or may not be available in published

form - why not consider using unpub material

m in text?

p 5. The list of nonmetallic contains non-mineral

substances (coal, lime, guano, sand, gravel, stone

so labeled as "minerals"
Little Flower 1945-46 1704. WO3
Dewelti ? spelling.

Do you think Dewelte made mistakes?

If you cannot find a distinct, omit it. No point in perpetuating erroneous junk.

"Disposing of" 15 "Industrial depression is poor time for this type of meaning.

Wo3 produced at Little Flower also - 1948? Which see below?

Where does Little Flower W fit? mentioned as not published occurrence without production. What does "not illustrated" mean?

Sulfides of Manganese, del Tr "Lens" or STET.

Hydro setting might have been restricted to mention of rocks and structures pertinent to ore deposits of Decker.

La Eldorado currently used in Schell and Rye - or just by J. Hill years ago? Pole Canyon substituted p. 18.

Cite published geologic maps in addition to the County map, if any.

Dekort (1967) not in Biblio.

Prefer continuity content without "high" because of the implication that ore might be valuable for $6 at present prices. I presume the ore mined is flashfired?

Claim names of 100 years ago mean nothing unless claims are patented. Try to avoid.

Placer "contaminated by schelte" is misleading. Do you mean "containing a little Wo3"?

Deleting of anonymous report of Hz occurrence.

PbCO3, campaning Ag, precip as AgCl. Cannot PbCO3 have Ag?

See chart on "compound". See Datta.
Ref to Ransome and Buschow A 1922 not in public list of reporting prospect "without success" can be deleted.

See attached note

SP 29-30 delete because care district is not in White Pine Co.

32 = Mills at Dayton treated Comstock ore several years earlier

33 Sph for Ticup (Teacup) mine? Both

here and elsewhere, you report production with a plural subject (units) and single verb (were mining)

Is this good form? Yes

36 Add th e names for & foes better together. What is on tree map? Eurodiff.

37 "The chemical influence of dolomite portions of the 1st in precipitating ore minerals" is not clear to me.

The extensive quote from Ander's Univ of Utah MS thesis are probably not warranted. Have you checked his work?

38 Info on width of stopes? Eschequer mine seems extraneous — no info on mine itself.

39 Tungsten - most production was from Cherry Buck (Tayp) mine - the others were minor. What is source of statement that wolframite exists in district? ??

grade of mill tailing is extraneous
p. 26. I believe you are confused about names and locations of mines in the Osoala-Tungsten-Sacramento and Black Horse districts.

The Gold Age Mining Co. owned and operated the mill in Spring Valley at the bend in U.S. 6. Gold ores from underground vein mining of Osoala canyon were treated here until 1942. Subsequently, tungsten ores from the Black Mule, Black Horse, and other deposits were milled. Reports to USBM were partially incorrectly listed.

The Black Mule mine is 2 miles S E of the Spring Valley mill, south of the Dirty Stint. It yielded about 350 units of WO3 in 1942-43 from a pipe-like ore schistite on both in the CM bed.

Change loc. of Black Horse mine?

Yes
p. 40. Schultze was known at the Kolschee mine and at a project 10,000 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 text elsewhere. Raymond's term "industrial depression" which he used to mean unsuccessful prospecting.

- What is the rock at Littlewater Knoll, and the composition of the mine?

- 42 White's description discovery in 1869 adds nothing? Delete?

- 43 I am confused about "the strikes itself." This Needs attention last p on Duvelsynite; ever been used commercially? Can you quote something other than USGS press release?

- Vitoliano Bulletin? No

- 46 No geology with relation to this?

- 47 Something queer about "hydrating" that to form mortar

- How about "burned" instead? (Hydrated 1943)

- Do not repeat the Ely Daily Times comment on feasibility; unless 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 Horne uses different terminology?

- 68 Disagree?  

- 71 Are albundine the right name? or albundite? Either

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

- The stratigraphic thickness of some comprising the southern Snake Range must be much greater than 5,000 ft. (Ask Whitbread). What is composition and age of granite stock? See fig 1 (OVER)
69 location of "Hanna" mine is terribly indefinite

✓ If you cannot identify the so, I would omit it.

I would include it for other references

✓ You have already defined Mt. Mōriah area

To include Smith Creek. Relation to Gandy, Utah is immaterial.

✓ To "Mt. Mōriah mine" is not identified or located - omit? No. The name should be "invented".

✓ Check Joe, of Grand View

Map does not agree with 11-17-68

✓ OK as shown on pl. 2
72 - an orthographe thicknesser method. And what thickness very thin much in minerals?

Yes - Yes (Nowhere else is the CMBed located described)

72 - are, a good specimen might reach 25 to 40% WO₃; written any one of this grade? - but no one has been shipped.

Range in thickness of Pioreka seems also - does in last bed. OK

73 Spell Tanerlane or Tamanlane - be consistent. Why?

Not changed

74 and 75 - your "averages" are ranges on composition.

75 - Phonology in confusion. Can you clear it up? I tried

76 - Incomplete sentence.

77 loc NE 1/4 19 N 55 E? Yes, the district is in NE part of Township - but do we normally divide Tp into 16 S? No

78 - Table 12 - quantity and value of WO₃ should be stated here or on page 17 - 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 Osceola?

Sacramento? (winter 1941-42)

A deposit of scheelite in granite? Reference to Lamont? I have not seen this reference, but doubt its utility - possibly a quzzy vein.

86 Limits description unduly long considering unimportance.

88 Reform - why quite estimate of $6 million and only $1 64 K in Table 14? To indicate reliability

92 Why not stick to Maryland? Same on 93.

Any information on ore deposits of Pinto district? No and can you identify locations of these mine names? Only Queen & Tapano No of Pinto II

94 Spelling Riepertown - Ripeptown on map after p 14.

97 - Permission to quote persons? No

99 - Movie - Brooke is hyphenated in Table 16.
Table 16 first column lists "Morassie" "Morisse" did it exist? Wonderpool to confirm.

p.101 - Heiroux -- 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 seem odd -- nearly $25/ton! Also compare Figure 3 to Figure 2, 1942 is less even $3/ton.

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

p.110 - Reference to Bauer et al. (1964) not in Biblii -- should it be 1960? 1964

References should include Lewcom? are these articles in AIME.

Lindgren, Stanton-Sells, Volumes? Nothing in L. Used "Spencer"

p.112 Bauer et al, 1968 not in Biblii 1966

125 Can the quartz be identified?

Money?

121 Schulitz needs better description. Confusion over mine and Gilded Ag Co. - Have you looked at the mine?

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 by Shoshone district than 1945 was about 93,540 units 1W3 according to my information.
Get more data on Ward when it becomes available
126-127. mined down their dips as much as 140 ft implied a depth of mining rather than height of ore shoot.

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

134. Not much info on Telegraph... 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 relations of ore deposits. What formations contain the principal replacement deposits? Not described elsewhere, I can find out what is is replaced by.

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 east. The sequence includes "complexly folded, etc. (it looks simplest!)

142. Sand carbonate is not obvious to everyone. Before mead, sandy carbonates?

EA WD is generally an easier-to-find library reference than WSS. only ref at time written.

Can you say anything about new discoveries, their geology, metal content - inasmuch as their reported value vs many times past production.

How deep is the area explored?

143. I would delete this page unless you know more about it, from a personal visit. Evidence is speculative.

144. The mining field 8200 ft. (pct). (pct) a dot southwest of 18480.

145. This page is too curious. The ore was rich, but not the richest ever discovered. $500 to $1 per oz would not glut the world market. Not elsewhere available.
Bureau of Mines records on Hub mine ignore purchase of ore and concentrates from other properties in order to fill a sales contract at high price. (3,600 unitsWO₃)

**Total Contract or amt. purchased?** - Purchased

✓ 137 I do not remember such continuous stoppage
160 - fix
146. Direct quotations from Jackson probably require publisher's authorization. I think they are unlikely long and not particularly pertinent to a report on mineral resources.

Comprehensive abstract no when available.

154. Check use of Ellipahie for. Has been used for upper Mississippian. Is it a unit or how many? How about "Ellipahie for. of Humphrey" (possibly discussed with Rudy).

155. The age of intrusive 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? Post-hole "a few hundred tons" averaging a little more than 100 "hardly justifies preceding quotation from Raymond. Quoted as "richest for order 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.


174. Potash - I missed any mention / potential potash output from Me Gill tailings in your section on Robinson district.
Delete water Total pumpage

Get water problem at Deep Ruth

See Hal Marvin

Rewrite to avoid promotion scheme
176-179 do not appear pertinent to me, but might

\[\text{(No)}\]

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 Fergus 1927 is only an abstract. I don't remember any LD Co. deposits associated with Tertiary volcanic rhy. Mg

181 - The CM bed apparently did not work as well in White Pine Co. but the concept is a valid guide to exploration.

The generalizations about alignment of mining districts are not convincing to me, nor is the contrast with Essex Co. The largest district (CL) trends E.

182 - There is jaspidea and jaspisoid. It is perhaps most common where carbonate have been covered by lavas. Hal Monies probably has strong ideas on subject.

183 - I have not consulted Hook or his map, but I would be surprised if there were no structural complications in the Butte Range or adjoining valleys. This concept governed much of past exploration for oil. I suggest deletion of this PP on oil possibilities.
Suggest that you emphasize in your paper 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?

Does "400 producing mines..." mean that 400 are now producing? Delete "producing"?

Add as follows: "... conformably by an essentially complete regional sequence of Palaeozoic..."

Indicate depth of mining? Yes.

Pogoniptrass group status I believe.

Are the broad zone faults? I don't know but I doubt it, shallow zones?

Are these other sets normal faults?

Awkward: how about "Templeton- or copper-bearing contact metamorphic deposits (tactite) occur as
pendants in the granite and in zones as much as 15 feet wide in limestone adjacent to the stock/stocks.

On p. 35 What lithology is this large dike?

On p. 36 This entire F. may best be fitted under the heading "Ore deposits" as a Lead F. on p. 37.

On p. 37 Op Cit. not used in OS 65 pub. - is it OK for N.B. Bulls.?

On p. 48 Correct sentence to read: "The largest ore body... where it was mined for as much as 20 feet of width along 800 feet of a 325-foot strike length and for 200 feet down the dip."

On p. 51 and p. 52 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 you last search for production taken you through 1968? 69?

On p. 53, 54 How about a statement to the effect that the geology at Ellison district was not examined very thoroughly and flinns accounts for lack of information about the geologic
1. p. 11. Couldn't this sentence paragraph be included as a footnote to the next paragraph? It certainly isn't an existing lead sentence in the first main section of the report -- or as expanded statement in the parentheses on p. 6? Perhaps a lead paragraph would be appropriate.
setting and the ore deposits. Also, that these land of production 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?

\[ Conb.55 \] Some reorganization may be justified here, since under caption "History" for Santa is given data from 1874, whereas under caption "Location" the history carries back to at least 1869. Suggest either time 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 "Burckhard (1883 p. 500) reported ... sentence down into the "History" section and fixing the pronoun "This" in the "Lee et al. (1914) sentence if such a sentence change is made.

\[ Conb.56 \] The latter is also more than a township north of the Hunter district as outlined on Fig. 1.

\[ Conb.61 \] Is this location (3.5 N R. 55E) correct? You changed some in the preceding discussion.
(18) p. 62 Change to "...high on the southwest slope..."

(19) p. 66 See latter part of Comment No. 14.

(20) p. 70 For this 2nd 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) 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) p. 71 Possibly change 2nd sentence as follows: "A partial section in the Mount Washington district includes the..."

(23) p. 72 Say something about future potential? (See Comment no. 14) No-promotive fodder

(24) p. 73 Compare "Tamerlane" with "Tamberlane" at top of p. 73. Both are correct.
Based on 1972 data, Ruth operation yielded about \(10 \text{ g Au} / 2000 \text{ t Cu}\), or \(1.8 \text{ Au} / 125 \text{ tons ore}\), with 0.8% Cu.
2 on p.77 From fig. 1, it would appear that the NE part of T. 19 N, R. 55 E is outside the district boundary (mostly outside). Do you mean N-C part?

21 on p.81 Define a "miner's inch" in a footnote? Is it uncommon enough, perhaps, to do so?

27 on p.81 This sentence on Summit area placer deposits out of place as it stands. Suggest in a ft. discussing mining methods. Suggest rewrite:

"A minor gold rush to placer ground in the Summit area was reported by Vanderburg (1936, p. 171) as follows: ..."

28 on p.96 "Failures HAVE BEEN attributed..."? Also, give reference? Why, if such cases always were unsettled for basic area, did the lines go work at Eureka?

Delete or elaborate.

29 on p.104 If "Cor Coffee" was an entity until 1959, as indicated here, Table 18 (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 states correlations for different regions? No.

34. on p. 107
Overturned to the left?

35. on p. 109
"Early-stage" and "late-stage" nearly used here I think and cannot be tied into description of borophyia at top of p. 108. Clarify.
Also, note underlined word "before" on 2nd line from bottom of page 109. Does not fit with words "during" and "after" used in 1st sentence of this text. Seems OK to me.

36. on p. 110?
Does and if this the mark end of take phrasing of Fournier's work? Yes so?

37. on p. 113
Should mention Te, which is amusingly high for the intrusions at Ruth. Possibly I misremember—see that you discuss Te at Ward 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 prefer to see the text not broken up by too many references, so the latter approach gets my vote. See Acknowledgments.

Is it necessary?


46 on p. 133 Are these breccia zones the intraformational breccias that are so common in the Guilmette? 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 repeat.

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."
88 on p. 118?

Must be one if Cu is recovered, as you describe in the next sentences.

Is this worth spelling out? - yes

89 on p. 120?

Tompak but not shown on Fig. 3 (near p. 11).

I don't know when it is.

90 on p. 125?

The 1936 year referred to in several places in text is not shown on Table 22.

91 on p. 126

"stated or added by..." seems to be an awkwardly phrased thing. Can you change it?

The ou bodies "are" veins

92 on p. 128

"present" Snake district - is there here defined by you?

93 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.

94 on p. 130 & 131

This is a general comment and raises a somewhat philosophical point. Here and everywhere in What is mine? Sunrise & Self Cooke? Not...
Little Lake & Big Lake are mentioned here but nowhere else. Suggest deletion, since contributes little to discussion.

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

Incorrect total on table.

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."

Not specified in what reference?

This 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 or this page seems not to be discussed at all in the remaining paragraphs. Suggest minor rewriting to clarify some of these points.

Pahres (1979) p. 247 gives 1867 as discovery of Ag-08p — just read on in your report to next page. All is cleared up!
Repeat the fact that folds are north-trending.

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 readers 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.

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 modify as indicated in text, add to end of the latter sentence thus: "... in and near the strata and especially in the fractured central part of the seligman."

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

Do you mean one is in the dolomites adjacent to faults as indicated by my modification of your sentence? Or is the
on p.157 (cont) one in breccia goes along the faults where the breccia is dolomite? Not clear to reader.

(61 on p.158) (See also comment on p.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 "with" after Aurora since it was 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 bridge 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. HEWITT INDICATE THAT SILVER MANGANATES IN BLACK CALCITE COULD ACCOUNT FOR THE LARGE HIGH-GRADE DEPOSITS OF SECONDARY CERARGYRITE (SMITH, 1970, p. —)." The block calcite
appears to be a primary mineral, and the contained 
hydrous silver manganate attains a concentration 
of as much as... etc.

67 on p.167. — Is this the Patterson district described in 
the Lincoln County report (Tschenz and 
Pampyan, 1970, p.165-170)?

67 on p.167b. — Any conclusion as to which, the 
Oscoda or Anna, was meant? needed?

68 on p.167b. — Capitalize or otherwise emphasize the 
Latham, Manning & Warren districts in these 
quotation.

maybe in a different range than you indicate.

70 on p.171. — Only 21 listed in table 26.8 on Fig. 6. 
I did not check to see that locations on map matched 
the locations listed in table 26.

71 on table 26. — Since you show location of holes on map, why not 
delete here in Table 26 and show total hole depth?

72 on p.173. — Applies to Simonson Dol as well (No sod in place).

“Where - how much”
73 on p.174. - According to Table 26, only 1673 holes in 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, please.

SAND CARRIED BY LOCOMOTIVES OF THE NEVADA NORTHERN RAILWAY AND USED TO... HAS BEEN PRODUCED..."

Not a textbook on the use of sand - I don't explain use of flintspar or Palaeozoic.

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. Safe = 750 sp, cond = 500 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 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 necessarily follow from what precedes.