

### CHAPTER III

#### SAMPLES FROM JUNIPER RIDGE

#### USED IN THIS INVESTIGATION

##### Methods of Sampling

On July 10 and 11, 1941, a survey party of the Oregon Department of Geology (31) and mineral Industries took samples of the rock at Juniper Ridge for analytic work. Only the three members of the survey party were present when the sampling was done, and at least two of them were present when each of Samples I - VI were taken. According to information volunteered by parties interested in the deposit occurrence, the "highest grade ore" consisted of the perlite obsidian and the banded felsite. Most of the location cuts dug in the area examined were in the perlite. Accordingly Samples I to VI were taken from cuts previously excavated. Later, on October 22 and 23, the property was revisited and Samples XII to XV were taken by members of the Department. *in* *inclusion* *inclusion*

In taking the six bulk samples I to VI (which weighed from 40 to 60 pounds each), standard sampling procedure was followed. In every case where possible (all but III), channel samples were taken across the bedding planes of the perlite so as to give an average of the various portions of the perlite

lense exposed in the open cuts and pits. Before sampling, from 3 to 8 in. of the wall of the cut where the sample was to be taken was broken off by means of pick, maul, or in some cases by use of short charges of dynamite, so that each sample was taken from a fresh rock surface. The sampling channels were then cut in the freshly exposed face, the vertical channels being from 4 to 6 in. wide and 1 to 2 in. deep, up and down the exposed face of rock. Moils and geologic picks were used to cut the rock as evenly as possible, and each channel was developed by going over its length at least <sup>c</sup>twice.

All the samples (I - VII) were placed in new unused canvas sacks labelled within and without the sacks, tied, and were kept (1) under lock and key until they were delivered and accepted (2) July 12th at the Chemistry Department of Oregon State College.

#### Description of Samples taken

(32)

Sample 1: From Pit No. 2, located about 2000 ft. S.S.E. of camp on flat-topped ridge 300 ft. north of road at elevation of 4975 ft. (see plate I), as described above. Pit No. 2 was about 16 ft. deep and 4 ft. square, its west side was composed of perlitic obsidian, the flow planes of which strike

N. 30° E. and dip 45° N.E.



N.  $30^{\circ}$  E. and dip  $45^{\circ}$  N.W. <sup>a</sup> Sample I was taken (1,3,4) as/vertical .W

channel 4 ft. long, from the center of the west side of the pit.

Sample II:

From Pit No. 2 as described above. The upper 6 feet of the east side of

the pit is in red banded perlite which overlies the black. Sample II was

cut (cut) (3,4) from a vertical channel 8 ft. long near the center of the east  
cut

side of the pit.

Sample III:

From open cut 10 ft. long and 4 ft. deep and wide, located 800 ft. due

west of camp, on north side of ridge at an elevation of about 4775 ft.

(see plate I). This sample was a grab sample (3,4) from the boulders

of perlitic obsidian imperfectly exposed through the slump of the par-

tially caved open cut.

Sample IV:

From Pit No. 3, 6 ft. long and 4 ft. wide and deep, located in perlitic

obsidian, about 2500 ft. west-south-west of camp, near crest of ridge

north of creek, at elevation 4900 ft. (see plate I). Sample IV was taken

(3,4) from two 4 ft. vertical channels on the north and south sides of the  
pit.

Sample V:

From Pit No. 1, 10 ft. deep and 4 ft. square, located in perlitic obsidian 6000 ft. southeast of camp and 200 ft. west of the fence-line (see plate I), the only sample which was taken within the fence-line of the Squaw Butte Ranch reservation. Pit No. 1 lies on the north side of a shallow draw at elevation 4750 ft. Sample V was taken (1,3,4) from an 8 ft. vertical channel on the north side of the pit.

Sample VI:

From pit No. 4, 12 ft. deep and 5 ft. square, located in banded perlitic and lythophysal obsidian, 3500 ft. southwest of camp just west of the creek bottom and 450 feet north of Squaw Butte Ranch fence-line (see plate I). Sample VI was taken (1,3,4) from a vertical channel 10 ft. long on the northwest side of the pit.

Sample VII:

From outcrop of banded black and red felsite which has an attitude of N.70° E., 60° S. Outcrop is 2900 ft southwest of camp on the north side of the creek in the gorge just below the forks. Sample 7 was taken (1) as a chip sample composed of  $\frac{1}{8}$  to 1 pound fragments broken off at intervals of from 1 - 2 ft. over a distance of 50 ft. along a line at right angles to the banding of the rock.



Sample VIII

Submitted (5) as being representative of the Juniper Ridge deposit. It consisted of one lump of perlite weighing from 1 - 2 pounds.

Sample IX

A part of a gross sample taken (6) from the ore-bin at the furnace plant at the Juniper Ridge camp.

Sample X

Submitted (7) as being representative of the Juniper Ridge deposit. It consisted of powdered material in a 2 oz bottle.

Sample XI

A composite of two samples submitted (8,9) as representative of rock from Claims #83 and #104.

Sample XII

A composite of two grab samples of rock totalling approximately 40 lbs. taken (2) from localities designated (8) as Claims #83 and #104.

Sample XIII

A grab sample of rock weighing approximately 40 lbs. taken (2) from locality designated (8) as Claim #29.

Sample XIV: A grab sample of perlite broken (1), from the large outcrop on the east side of the creek, 400 ft. northeast of Pit #4 and 3400 ft. southwest of camp.

Sample XV: A composite grab sample of perlite taken (1,2) from open cuts and outcrops in bed of creek just west of camp.

#### Reduction of Gross Samples

The gross samples I,II,III,IV,V,VI,VII as received <sup>1,2</sup> were in the form (33) of massive pieces ranging in size from  $\frac{1}{4}$ " to 10" in diameter. The samples used for analysis were prepared according to standard sampling procedures. <sup>10</sup> Each sample was reduced to 5 mesh size by means of a small Braun Chipmunk Crusher <sup>11</sup> and thoroughly mixed by rolling on a rubber sheet. The mixed sample was reduced in size by the cone and quarter method and the resulting 20-30 pound portion was crushed to 10 mesh size by means of a Roll Grinder, <sup>12</sup> and thoroughly mixed by rolling on a rubber sheet. This portion was further reduced in size by the cone and quarter method and the resulting 10-15 pound portion was crushed to 20 mesh size by means of the roll grinder and after thoroughly mixing a 5-8 pound sample was obtained by the cone and quarter method. One half of this portion was placed in a motor driven agate mortar and pestle grinding unit and reduced to 100 mesh or finer. These 100 mesh portions were



used for analysis. In the case of each sample the discarded portions from each step in the reduction were recombined and resampled in the above manner whenever a new portion of that sample was needed for analysis.

Samples IX and X were ~~discovered~~<sup>submitted</sup> 11 in the form of a fine powder of approximately 100 mesh size, therefore, no further reduction in size was carried out but the samples were mixed by rolling on a rubber sheet.

Samples VII, XI, XII, XIV, XV were reduced in size by grinding in an iron mortar by means of an iron pestle. These samples were reduced in size according to standard sampling procedures.

- References: (1) J. E. Allen, State Dept. of Geol. and Min. Industries
- (2) H. C. Harrison " " " " " " "
- (3) H.K. Lancaster " " " " " " "
- (4) Bruce Lancaster " " " " " " "
- (5) W. M. Hampton, Portland
- (6) F. W. Libbey, State Dept. of Geol. and Min. Industries
- (7) <sup>A.C.</sup> Kinsley
- (8) Earl Hagey, Burns
- (9) Judge R. M. Duncan, Burns

(10) N. H. ~~F~~urman, Scotts's Standard Meth. of Chem. Anal. - *incomplete*

(11) *ibid*, p. 1309

(12) " p. 1311



Report on Tin Investigation

*A. C. Harrison*

I Reference read 215

II Chemical tests for tin investigated

- 1- cacotheline
- 2- molybdic acid
- 3- ferrous dimethylglyoxime
- 4- ammonium phosphomolybdate
- 5- diazene green
- 6- flame test
- 7- rescorcinol
- 8- mercuric chloride
- 9- mercuric chloride / aniline
- 10- sodium nitro prusside
- 11- phosphomolybdic acid
- 12- phenylarsonic acid
- 13- uric acid
- 14- nitrophenylarsonic acid
- 15-  $H_2S$  *pptn*

III Chemical tests selected

- 1- cacotheline
- 2- molybdic acid
- 3- mercuric chloride / aniline
- 4- diazene green

These tests were selected because of their sensitivity, stability of reagents, sharp color changes, and because they are specific for tin when this element or its compounds are present in Juniper Ridge Rock.

IV Methods used for obtaining tin in a known form for further testing

- 1- Digestion of sample with  $HCl - H_2SO_4$  mixture.
- 2- Fusions on charcoal block
  - a-  $KCN$  / sample

- low
- b- KCN + PbO + sample
  - c- KCN + Na<sub>2</sub>CO<sub>3</sub> + sample. low
  - d- KCN + K<sub>2</sub>CO<sub>3</sub> + sample.
  - e- KCN + borax + sample.
  - f- KCN + CuO + sample.
  - g- KCN + charcoal + sample.

h- Borax + CuO + sample (mace) 40 114

### 3- Fusions in crucibles

- a- gas muffle
- b- electric muffle
- c- over open flame
- d- KCN + sample.
- e- KCN + Na<sub>2</sub>CO<sub>3</sub> + sample.
- f- Na<sub>2</sub>CO<sub>3</sub> + Na<sub>2</sub>O<sub>2</sub> + sample.
- g- NaOH + Na<sub>2</sub>O<sub>2</sub> + sample. - Ni + Fe
- h- charcoal + sample
- i- charcoal + sugar solution + sample
- j- KOH + KNO<sub>3</sub> + sample. - Ni

### 4- Jack Rabbitt furnace followed by panning.

- a- sample alone
- b- sample + charcoal
- c- sample + borax
- d- sample + CaCO<sub>3</sub>
- e- sample + CaCO<sub>3</sub> + charcoal
- f- sample + borax + charcoal
- g- sample + Na<sub>2</sub>CO<sub>3</sub>
- h- sample + Na<sub>2</sub>CO<sub>3</sub> + charcoal
- i- sample + resin

### 5- Sample roasted on wood fire followed by panning

### 6- Sample roasted on wood fire followed by oil flotation and panning

P 24  
 e - Na<sub>2</sub>CO<sub>3</sub> + sample (mace)  
 f - sample + charcoal.

\* KHSO<sub>4</sub> + sample (mace)  
 L - ore, charcoal, NaHCO<sub>3</sub> + flour  
 + salt (T. mace)

KCN + Na<sub>2</sub>CO<sub>3</sub> + K<sub>2</sub>CO<sub>3</sub>  
 KCN + K<sub>2</sub>CO<sub>3</sub>  
 Borax + CuO



7. Sample roasted on wood fire followed by oil flotation and oil float concentrate subjected to heat from an electric arc.
8. Sample heated in mutton tallow.
9. Unroasted sample oil floated and panned.
10. Sample heated in Whitton apparatus
  - a- sample alone
  - b- sample / charcoal.
11. Sample ignited in a Parr bomb.
  - a- Sample /  $K^G10_3$  / charcoal /  $Na_2O_2$

V. Samples analyzed.

1. J.R. I to which had been added c.p. stannic oxide to give the following concentrations of tin in the samples.
  - a- 5%
  - b- 3%
  - c- 1%
  - d- 0.5%
  - e- 0.3%
  - f- 0.1%
  - g- 0.05%
2. J.R. VII to which had been added c.p. stannic oxide to give the following concentrations of tin in the samples.
  - a- 5%
  - b- 3%
  - c- 1%
  - d- 0.5%
  - e- 0.3%
  - f- 0.1%
  - g- 0.05%

3. c.p. stannic oxide
4. cassiterite
5. stannite
6. portions of each sample of rock to which metallic tin was added.

#### VI. Ore samples analyzed

I 1. J.R. I sampled by Allen and Lancaster

2. J.R. II sampled by Allen and Lancaster

3. J.R. III " " " " "

4. J.R. IV " " " " "

5. J.R. V " " " " "

6. J.R. VI " " " " "

7. J.R. VII " " " " "

8. sample submitted by Mr. Hampton

9. sample taken from Juniper Ridge stock pile by Mr. Libbey

10. sample K29 sent to Alfred

11. sample taken from claims 104 and 83 taken by Hagey and Duncan

12. sample taken from claims 104 and 83 taken by Harrison

13. sample taken from claim 29 by Harrison

14. sample taken by Allen

VV 15. sample taken by Allen and Harrison

#### VII. Quantitative analyses

The following samples were analyzed quantitatively for the amount of tin present.

1. J.R. I

2. J.R. II

3. J.R. III

4. J.R. IV

5. J.R. V

*Samples were  
in Roman  
numerals*

*John will  
describe  
all samples*



6. J.R. VI
7. J.R. VII
8. Mr. Hampton sample
9. Three standard samples of tin dissolved in HCl.
10. Two samples of J.R. I to which metallic tin had been added.

#### VIII. Qualitative Chemical Analyses

1. Each different chemical test was tried on a dilute HCl solution of c.p. tin having a concentration of 0.01% tin.
2. Each method of obtaining tin in known form was investigated using:

- a- c.p. Stannic oxide
- b- cassiterite
- c- stannite
- d- prepared standard samples of tin in Juniper Ridge rock.
- e. all samples of Juniper Ridge rock except.

- (1) Mr. Hampton's sample
- (2) sample 104-83 taken by Hagey and Duncan
- (3) sample 104-83 taken by Harrison
- (4) sample K29 taken by Harrison
- (5) sample taken by Allen during last trip to Burns
- (6) sample taken by Allen and Harrison

(a) samples 2, 3, 4, 5, 6 were run through Jack Rabbitt, digested with HCl -  $H_2SO_4$  mixture, and roasted samples were oil floated.

3. All chemical tests were tried on HCl -  $H_2SO_4$  solution obtained by digesting fusions from samples listed under VIII-2 except samples e-2,3,4,5,6.
4. All samples were heated in Jack Rabbitt furnace fired with gasoline torch.

5. samples listed under VI - 1, 2, 3, 4, 5, 6, 7, were heated in Jack Rabbitt furnace fired with gas.
6. All samples except those listed under VI - 11, 12, 13, 14, 15 were tested for the presence of sulfur and found to be sulfur free; therefore, cassiterite was used as the control reagent.
7. Portions of every sample were salted with metallic tin and then leached with  $\text{HCl} - \text{H}_2\text{SO}_4$  mixture.
  - a- hot solution
  - b- cold solution
8. Portions of each sample were leached with  $\text{HCl} - \text{H}_2\text{SO}_4$  mixture, both hot and cold, and the resulting solution reduced and tested for tin.

#### IX. Qualitative analysis procedures.

1. Samples were digested with  $\text{HCl} - \text{H}_2\text{SO}_4$  mixture, both hot and cold, the resulting solutions were reduced with metallic Mg or test lead, the solution evaporated to 2-3 ml, centrifuged and the filtrate tested with each of the four selected chemical reagents listed in III.
2. Fusions on charcoal block.
  - a- The mixtures listed in IV - 2 were fused separately on pieces of charcoal. Each sample except those listed under VI - 10, 11, 12, 13, 14, 15 was fused under conditions listed in IV-2.
  - b- The fusion mixtures were studied under a binocular microscope or hand lens and then treated in the manner listed under IX - 1.
  - c- Fusions carried out with blow pipe under reducing conditions.
3. Fusions in crucibles
  - a- Nickel, porcelain, or clay crucibles were used depending upon the type of fusion.
  - b- The mixtures listed in IV - 3 were fused in:
    - (1) electric muffle
    - (2) flame of bunsen or meker burner



c- Each sample except those listed under VI - 10, 11, 12, 13, 14, 15 were fused under the conditions listed in IV - 3.

(1) Electric muffle, gas muffle, and open flame used.

#### 4. Fusions in Jack Rabbitt furnace

a- Jack Rabbitt furnace made at Corvallis and fired with gas.

(1) samples listed in VI - 1 to 8 were fired in this furnace.

(a) samples fired alone

(b) sample / charcoal were fired.

b- Jack Rabbitt furnace given to Mr. Hagey and Mr. Duncan by Mr. Pullin, fired with a gasoline torch and used on Juniper Ridge.

(1) Samples listed in VI - 11 through 15 were used

(a) samples fired alone

(b) samples / resin were fired

(2) Samples fired by Hagey, Duncan, and Allen

c- Jack Rabbitt built by Mike Pullin and presented to Harrison and Allen.

(1) Samples listed under VI except samples 8, 9, 10 were fired in this furnace.

(a) samples were fired under conditions listed in IV - 4 except 1. were fired in this furnace.

#### 5. KCN fusions in electric muffle

Many investigators claim that conditions in the muffle are very critical when good results are obtained, therefore, a series of fusions were made employing the draw trial principle. By employing this method of attack it is assumed that all temperature conditions over a definite temperature range will be covered. It is admitted that the atmospheric condition inside of the muffle is not absolutely constant but in view of the fact that operators have had marked success with this type of fusion using distinctly different types of furnaces it is safe to assume that the

atmospheric conditions must not be as critical as claimed. It is the opinion of this investigation that the time-temperature conditions are of the greatest importance.

The muffle used was a Hoskins electric furnace, muffle type, belonging to Oregon State College. The temperature of the interior of the muffle was controlled by means of a chromel-alumel thermocouple. The charge consisted of (a) 1.0 gm of ore 9.0 gms of KCN.

#### a- Types of draw trial investigated

##### (1) Draw trials with change in temperature.

A number of Coors porcelain crucibles containing the charge were placed in the muffle and one crucible was removed at every 25° C rise in temperature starting at 500° C for the first crucible removed and ending at 1150° C for the removal of the last crucible.

(a) Samples listed under VI - 1 to 8 were studied.

##### (2) Draw trials over different heat soaking periods at definite temperatures.

A number of crucibles each containing a charge were placed in the muffle and when the temperature of the muffle reached 500° C one crucible was withdrawn from the muffle and the remaining crucibles were removed from the muffle at five minute intervals over a period of one hour. This experiment was repeated at every 25° C. rise in temperature to and including 1150° C.

##### (3) Both of these types of draw trials were repeated using charcoal in place of the KCN.

##### (4) During draw trial (1) the furnace was so adjusted that the period of time necessary to bring the muffle from room temperature to 1150° C was four hours.



## 6. KCN fusions in gas fired muffle

a- twenty-nine fusions were carried out using samples listed in VI - 1 through 9.

- (1) clay crucibles were used with 5 gm charges of sample mixed with 10 gas of KCN and covered with 2 gms of KCN.
- (2) These experiments were carried out in Beede's laboratory and under the direction of Clarence Beede.

## 7. Heating in a closed system

a- Whitten apparatus

- (1) samples alone used.
- (2) samples / carbon used
- (3) sample or mixture placed in apparatus and heated for 30 minutes.
- (a) heated over meker burner.
- (4) samples listed under VI - 1 to 10 were used.

b- Parr bomb

- (1) charge was sample, charcoal,  $\text{Na}_2\text{O}_2$ ,  $\text{KClO}_3$
- (2) bomb was heated until ignition temperature attained, cooled, and fusion mixture removed.
- (3) samples listed under VI - 1 to 10 were used.

## 8. Charcoal, Sugar solution fusions

- a- procedure similar to the carbon fusion except that the mixture of sample plus charcoal was moistened with a concentrated solution of sugar in water.
- b- fusions carried out in muffle at state laboratory at Grants Pass.
- c- samples listed under VI - 1 to 8 were used.

## 9. Treatment of fusion mixtures

## a. all fusion mixtures were:

- (1) examined under a binocular microscope or hand lens to determine the character of fusion and to look for metallic particles.
- (2) a portion of each was panned to concentrate metallic or heavy portions of the fusions.
- (3) a portion of each was digested with  $\text{HCl} - \text{H}_2\text{SO}_4$  mixture, centrifuged, the filtrate reduced with metallic Mg or test lead, and the resulting solution tested with each of the chemical reagents listed in III.
- (4) a portion of each was digested with  $\text{HCl} - \text{H}_2\text{SO}_4$  mixture, centrifuged, neutralized with excess  $\text{NaOH}$ , centrifuged, the filtrate acidified with  $\text{HCl} - \text{H}_2\text{SO}_4$  mixture (just to neutral point plus two additional drops of acid mixture, and this solution was saturated with  $\text{H}_2\text{S}$ . The precipitate, if any, was dissolved in 2-3 ml of acid mixture, reduced with metallic Mg or test lead, and the resulting solution tested with the chemical reagents listed in III.
- (5) samples listed in VI - 1 to 10 were used.

## 10. Roasting sample on wood fire followed by panning.

a- all samples listed in VI except 8, 9 treated in Portland

b- samples listed in VI - 11, 12, 13, 14, 15 treated in Burns.

- (1) These samples were the only ones yielding a definite recovery of metallic tin.
  - (a) Repeating these experiments in Portland using portions of the same samples all gave negative results.
  - (b) samples of the roasted rock brought from Burns to Portland did not yield metallic tin when it was panned in Portland.



11. Roasting sample on wood fire followed by oil flotation and panning.

a- Report from Brown pending.

12. Roasting on wood fire followed by oil flotation and subjecting the oil concentrate to influence of the electric arc.

a- Will be done when arc is installed.

13. Unroasted samples crushed and panned.

a- samples listed in VI used.

14. Unroasted samples crushed, oil floated, and panned.

a- Report from Brown pending.

15. Samples crushed and table concentrated.

a- samples listed in VI - 1 and 7 used

(1) Work done by Professor Gleeson at Corvallis

(a) no separation could be made.

16. Samples put through the electromagnetic separator at Corvallis

a- samples listed in VI - 1 to 8 used.

(1) Work by Professor Gleeson

(2) Separated portions to be studied spectrographically

17. Fractions from IX - 16 put through electrostatic separator at Corvallis

a- Work done by Professor Gleeson

(1) fractions to be studied spectrographically

18. Digestion of sample with HCl -  $H_2SO_4$  mixture.

a- samples listed in VI used.

b- procedure described in IX - 9 - a (3)

19. Heating samples in mutton tallow

a. samples listed in VI - 1 to 8 used

b- after heating the tallow removed and residue examined for metallic tin.

## 20. Spectrographic analyses

a- sample K29 and sample not identified sent to Alfred from office.

(1) sample K29 divided into three parts and analyzed by:

(a) Harrison at Alfred

(b) Mr. McKenzie of International Business Machines Corp.,  
Endicott, N. Y.

(c) Mr. Slavin at the U. S. Bureau of Mines.

(2) Unidentified sample analyzed by Harrison

(3) Results of analysis of K29.

(a) Slavin "no tin"

(b) McKenzie "not over 0.001% tin"

(c) Harrison -- not over 0.01% tin and probably about 0.001% Sn.

## 21. Quantitative Chemical Analysis

a- Methods of analysis used.

(1) Hildebrand and Lundell's method for volumetric determination  
of tin.

(2) Low's method for volumetric determination of tin.

b- samples analyzed.

(1) standard samples prepared by dissolving c.p. tin in HCl and  
diluting to definite strengths.

(2) samples used are listed in VI - 1 to 10.

c- Analytical results.

None of the samples analyzed gave indications of containing over  
.005% of tin.

d- Tin both as oxide and metallic tin was added to samples of the  
Juniper Ridge rock and the added amount was quantitatively recovered  
by these two quantitative procedures.

e- Finely divided tin was added to samples of Juniper Ridge rock but  
tin could not be completely recovered when a KCN fusion was used.



f- samples of Juniper Ridge rock was mixed with finely divided tin and the solution obtained by leaching these mixtures with the  $\text{HCl} - \text{H}_2\text{SO}_4$  contained all of the tin added to the samples.

Conclusions:

No data has been obtained to indicate that any of the Juniper Ridge rock samples analyzed by this investigator contain commercial quantities of tin in any form. The tin content of this rock probably varies from 0.05% to 0.001%.

PETROGRAPHIC AND METALLURGICAL STUDY  
OF  
JUNIPER RIDGE "ORE" AND CONCENTRATES

*A. C. Harrison*

<sup>194</sup>  
On December 8 several samples were supplied me, listed as follows:

a. JR 2, JR 3, JR 4

Ground samples of original rock

b. An oil flotation concentrate made from material represented  
by the above samples labeled JR. <sup>112</sup> This concentrate was made  
by Brown of the State Department of Geology and Mineral  
Industries.

c. Roasted sample of a.

d. Oil flotation concentrate listed as mill run of AI & AII.

e. Jig concentrate, mill run No. 1.

f. Jig concentrate, mill run No. 2.

g. Table concentrate, mill run No. 1.

*where  
obtained*

The problem was stated as follows: What is the mineral nature of the concentrates? Is it physically possible or probable that those samples numbered d and g, could have been derived from the material represented by the samples labeled JR? Also does the concentrate obtained by Brown contain any material similar in mineral nature to that in the samples d to g? Do the concentrates contain any material which may not have been derived from the roasted sample?

Description of Samples

a. Samples JR 2, JR 3, and JR 4 were examined under the petrographic microscope. All these samples were found to be composed of volcanic glass with silicate minerals which normally accompany this glass as phenocrysts. Small amounts of dusty magnetite? No metallic sulphides were found.



- b. The flotation concentrate made by Brown using oil (specific for pyrite) as the major reagent. No yellow iron sulphides present, considerable magnetite, the remainder glass and the normally accompanying silicate minerals.
- c. Roasted sample of Juniper Ridge rock. This sample was roasted in the laboratory and then ground to a powder for microscopic examination. One to five percent of the material was opaque. Ninety percent of the opaque material was found to be magnetite. No yellow iron pyrite was found.
- d. Oil flotation concentrate - Mill run AI. This material consisted of 95% yellow iron pyrite. A very few grains of silicate minerals and volcanic glass were found. Oil flotation concentrate - Mill run AII. Similar to above.
- e. Jig concentrates Mill run No. 1. Sample slightly ground to clean particles. Examined in reflected light. Composed of angular and rounded grains of perlite and some feldspars. One to five percent of the material consisted of angular granules of yellow pyrite. The material was then ground to a fine powder and examined under a higher magnification, with transmitted and reflected light. It contains five percent or more of yellow iron pyrite. The remainder is volcanic glass, silicate minerals and a very small percentage of magnetite.
- f. Jig concentrate - Mill Run No. 2. Contains about 10% of yellow, partly rusty iron pyrite. The remaining 90% is made up of perlite, feldspars, limonite, and some magnetite.
- g. Table Concentrates - Mill run No. 1. The material was finely ground and examined under the microscope in reflected and transmitted light. It contains 20 - 25 percent of yellow iron pyrite. The remainder is volcanic glass and silicate minerals.



Gold assays were made of the various samples as follows:

GOLD (ounces)

Sample	Bassett Assay		Richards Assay		Iron Sulphide %
	Nov. 8	Nov. 22	Nov. 14	Nov. 22	
dI Oil Float AI	1.44	2.32	2.08	2.44	95
dII Oil Float AII	1.68	2.14	1.80	1.84	95
e Jig conc. No. 1	1.74	1.44	1.44	1.68	5
f Jig conc. No. 2	1.30	0.90	1.12	1.36	10
g Table Conc. No. 1	0.82	1.10	0.96	0.88	20 - 25

The comparison of these assays with the estimate percentage of pyrite in each sample (Column 5 above), indicates that the gold content is largely contained in the pyrite.

SUMMARY

The concentrates labeled c to g inclusive consist of yellow iron pyrite in percentages varying from 5 to 95%. The admixed material is volcanic glass, feldspars and possibly some quartz, and a very small percentage of magnetite.

The descriptions of the concentrate samples and the typical rock samples indicate that it is highly improbable, if not impossible, that those concentrates (other than one made by Brown of the State Department of Geology and Mineral Industries) could have come from the material represented by "typical" samples of material from Juniper Ridge. No yellow iron pyrite was found in any of the samples of original material from Juniper Ridge; while the concentrates c to g consist of 5 to 95% yellow iron pyrites. The pyrite particles in the concentrates are of such size that they would be easily recognized even in much lower concentrations in an original sample.



The concentrate made by Brown of the State Department of Geology and Mineral Industries, used essentially the same process as that used in "Oil flotation concentrate AI and AII", yet no sulphides were obtained from Juniper Ridge samples.

A study of chemical processes indicated that iron pyrite would, in a roasting process be converted to anhydrous oxides of iron, at the same time changing its color to black and/or brown from the original pale yellow. A small quantity of pyrite was mixed with some Juniper Ridge material and the material roasted. No yellow sulphides were found in the roasted product.

In making this study, 25 slides were made of Juniper Ridge material and "concentrates". All were studied under the Department petrographic microscope.

#### CONCLUSIONS

1. ~~The pyrite apparently was introduced from other sources into Juniper Ridge rock.~~
2. The gold content of the concentrates is contained in the pyrite.

Wessley Paulsen  
Junior Geologist

2 It is difficult to reconcile results obtained.  
No pyrite was found in original rock



## SUMMARY OF FLOTATION EXPERIMENTATION

### Previous work on tin flotation and roasting:

Flotation ~~has been applied~~ in two ways to the concentration of tin ores: (1) Removal of sulphides (particularly pyrite) from the gravity concentrates by oil flotation of the sulphides, while the tin oxide, cassiterite, remains in the pulp; (2) Flotation of the cassiterite from the silicate gangue by the use of fatty acids or soaps and sodium silicate.

However, no recorded results on the flotation of native tin are known to exist because of the great rarity of naturally occurring metallic tin. For this reason, and because tin is a peculiarly inert metal, the solution of the problem of tin flotation is difficult.

The procedure used on Juniper Ridge "ore" of roasting the "metallic tin ore" samples has a parallel in the commercial treatment of the cassiterite ore. In this case the roasting process serves to further separate the cassiterite from the associated sulphides before further mechanical concentration, followed by leaching in some cases, and smelting.

### Flotation tests made:

Up to the present, only unroasted samples of Juniper Ridge "ore" have been treated. These include: (1) an oil flotation test in which commercial metallic tin grains were introduced into the sample prior to grinding and introduction into the flotation machine. Samples were ground to 150 to 200 mesh. In no case was a tin concentrate obtained, even in the case of the sample intentionally salted. Results are still inconclusive, but it is believed that further work, both on the roasted and unroasted samples, will yield conclusive results.

(2) Over twenty test tube experiments with commercial metallic tin have



been made, both with rounded tin grains and with flattened grains, to find the best flotation reagents. Results have indicated that the metallic tin may be floated, but as yet the controlling factors have not been isolated.

Results:

1. No conclusive results were obtained as to possibility of floating metallic tin, although indications were obtained that a method might be <sup>worked</sup> washed out.

Randall Brown  
Economic Geologist



PETROGRAPHIC AND METALLURGICAL STUDY  
OF  
JUNIPER RIDGE "ORE" AND CONCENTRATES

On December 8 several samples were supplied me, listed as follows:

a. JR 2, JR 3, JR4

Ground samples of original rock

b. An oil flotation concentrate made from material represented by the above samples labeled JR. This concentrate was made by Brown of the State Department of Geology and Mineral Industries.

c. Roasted sample of a.

d. Oil flotation concentrate listed as mill run AI & AII.

e. Jig concentrate, mill run No. 1.

f. Jig concentrate, mill run No. 2.

g. Table concentrate, mill run No. 1.

The problem was stated as follows: What is the mineral nature of the concentrates? Is it physically possible or probable that those samples numbered d and g, could have been derived from the material represented by the samples labeled JR? Also does the concentrate obtained by Brown contain any material similar in mineral nature to that in the samples d to g? Do the concentrates contain any material which may not have been derived from the roasted sample?

Description of Samples

- a. Samples JR 2, JR 3, and JR 4 were examined under the petrographic microscope. All these samples were found to be composed of volcanic glass with silicate minerals which normally accompany this glass as phenocrysts. Small amounts of dusty magnetite? No metallic sulphides were found.



- b. The flotation concentrate made by Brown using oil (specific for pyrite) as the major reagent. No yellow iron sulphides present, considerable magnetite, the remainder glass and the normally accompanying silicate minerals.
- c. Roasted sample of Juniper Ridge rock. This sample was roasted in the laboratory and then ground to a powder for microscopic examination. One to five percent of the material was opaque, Ninety percent of the opaque material was found to be magnetite. No yellow iron pyrite was found.
- d. Oil flotation concentrate - Mill run AI. This material consisted of 95% yellow iron pyrite. A very few grains of silicate minerals and volcanic glass were found. Oil flotation concentrate - Mill run AII. Similar to above.
- e. Jig concentrates Mill run No. 1. Sample slightly ground to clean particles. Examined in reflected light. Composed of angular and rounded grains of perlite and some feldspars. One to five percent of the material consisted of angular granules of yellow pyrite. The material was then ground to a fine powder and examined under a higher magnification, with transmitted and reflected light. It contains five percent or more of yellow iron pyrite. The remainder is volcanic glass, silicate minerals and a very small percentage of magnetite.
- f. Jig concentrate - Mill Run No. 2. Contains about 10% of yellow, partly rusty iron pyrite. The remaining 90% is made up of perlite, feldspars, limonite, and some magnetite.
- g. Table Concentrates - Mill run No. 1. The material was finely ground and examined under the microscope in reflected and transmitted light. It contains 20 - 25 percent of yellow iron pyrite. The remainder is volcanic glass and silicate minerals.



Gold assays were made of the various samples as follows:

<u>Sample</u>	GOLD (ounces)				<u>Iron Sulphide %</u>
	Bassett Assay <u>Nov. 8</u>	<u>Nov. 22</u>	Richards Assay <u>Nov. 14</u>	<u>Nov. 22</u>	
dI Oil Float AI	1.44	2.32	2.08	2.44	95
dII Oil Float AII	1.68	2.14	1.80	1.84	95
e Jig conc. No. 1	1.74	1.44	1.44	1.68	5
f Jig conc. No. 2	1.30	0.90	1.12	1.36	10
g Table Conc. No. 1	0.82	1.10	0.96	0.88	20 - 25

The comparison of these assays with the estimate percentage of pyrite in each sample (Column 5 above), indicates that the gold content is largely contained in the pyrite.

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Wessley Paulsen  
Junior Geologist



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Randall Brown  
Economic Geologist

# Scouts Oregon Tin

GRANTS PASS, July 24.—To the Editor—I have formerly had the honor of addressing you on the subject of Oregon tin, and your very courteous response was greatly appreciated. I supposed the balloon was finally punctured by the report of Oregon's own spectrographic expert, Dr. Harrison, which you published, showing that there is no commercial tin in the Burns

area. Now it is up again. This time the federal government is urged to develop the Juniper Ridge bubble.

Don't you think Uncle Sam has enough on his hands at present without chasing rainbows or blowing soap bubbles? If there is anybody in Oregon who still thinks there is commercial tin on Juniper Ridge, why does he not show the courage of his convictions by developing it himself? If it can be done, there are millions in it for him. Is not this a case where applies the homely proverb, "Put up or shut up."

F. K. Vreeland.



Oregon Journal  
July 24-1942

## 'Great Tin Conspiracy'

The Burns tin controversy (some call it "The Great Tin Conspiracy") simply will not not down. Nor should it, when the war program requires from 100,000 to 150,000 tons of tin a year. Not when the Japs have cut off most of America's normal supply by capturing the Dutch East Indies and British Malaya, leaving us almost wholly dependent upon Bolivian tin. Not when American housewives are being asked to save their tin cans to meet a war materiel crisis that is as acute as the rubber crisis and for identical reasons. Not when tin from Juniper Ridge, near Burns, if indeed there is tin there, would make us independent not only of the Jap imperialists but of the international tin trust, whose game we have played for years.

Latest reanimation of the controversy comes from San Francisco, where the board of supervisors, after hearing witnesses that included Oregon's Circuit Judge Robert M. Duncan of Burns, adopted a hot resolution, lashing out at what it termed governmental failure to develop tin deposits of Burns, Oregon, as well as of Riverside, California, and of Nevada, deposits that are said to run from 1 to 18 per cent. The San Francisco board demands a congressional investigation, and says, "The attitude of the United States geological survey and the United States bureau of mines toward development of these deposits seems inexplicable, in light of the circumstances." -- --

Inexplicable is right. The Journal has repeatedly urged a thorough and complete investigation of the whole Juniper Ridge tin mess which has set expert against expert, department against department, and is now involved in a contest in which the federal land office seeks to take over for a grazing experiment some 100 tin claims held by O. F. Selle of Portland, Earl Hagey of Burns, and others, claimants represented locally by Judge Duncan.

We must have tin to prosecute the war. We have produced little tin ourselves, though we're developing our deposits in Alaska and have found at least traces of tin in various states. We have only one smelter on the continent, the one finally being built by RFC in Texas to process Bolivian ore, but that has a capacity of only 18,000 tons, or about one eighth of our annual demand.

If we have tin at Burns, as Arthur C. Kinsley, department of the interior geologist, testified in the pending land office contest, it's worth \$100,000,000 a year to us, and it could win the war.



August 1, 1942

Mr. P. Tiller, President  
Burns Chamber of Commerce  
Burns, Oregon

Dear Mr. Tiller:

We wish to acknowledge with thanks a copy of the Resolution of the Burns Chamber of Commerce dated July 14, 1942 and carrying resolutions requesting an investigation of tin deposits by the U. S. Bureau of Mines.

This Department has never taken, and will never take, exception to concerted action by the citizens of any community in this State toward the increasing or encouragement of mineral production. In the case of the so-called Burns tin controversy, you may recall that this Department took the position that in the early stages of investigation we felt that the Federal agencies had been premature in their announcements. Following that, we made very detailed tests in the field and in the laboratory—the latter over a period of several months. Our work convinced us that tin is not present in commercial quantities in the area that we examined and that the early announcements of the Federal agencies were substantially correct—whether based on sufficient preliminary work or not.

Now it is possible that there are some new developments of which we have no knowledge or that new facts are available which would cause us to change our opinion. If such is the case, this Department stands ready at any and all times to give the most careful and full consideration to such new developments. Otherwise we must continue the policy adopted after completion of our detailed work as mentioned above.

In any event, we want you to feel that this Department maintains an absolutely open mind in regard to any mineral or metallurgical developments pertaining to deposits in this State. Any other course would be stupid. I don't think we need to repeat that the opinions and policies of this Department have never been, and can never be, influenced one iota by pressure of political or economic nature from either inside or outside of this country.

We shall be glad to cooperate fully with your group and are open to consideration of any new facts or data that are sincerely presented.

Respectfully yours,

ENH:ac  
cc P.M. Robinson

Director



July 1, 1942

Mr. Luther Parker  
311 Bay Street  
Santa Cruz, Calif.

Dear Mr. Parker:

This is in reply to your letter of June 8th addressed to our Governor Sprague at Salem. Failure to reply sooner is accounted for by my extended absence from the office.

Your comment on the matter of the Burns tin controversy and inclose an editorial entitled "This Tin Business" from the Chico newspaper. The position of this Department has been quite thoroughly publicized, but I can repeat it briefly as follows: As the reports that come out of early investigations by various parties of the tin matter were confusing, and as we even went so far as to suggest that the U. S. Geological Survey's opinion was premature, we undertook a thorough and sea-going technical investigation in the field and in the laboratory of all phases of the matter. With excellent laboratory facilities and during three or four months intensive investigation, we satisfied ourselves that tin is not present in commercial quantities in the deposits in question--commonly known as the Juniper Ridge claims.

Our conclusions or opinions cannot be purchased nor can they be influenced. We reported on the facts as we found them, and our investigation of the matter we believe was very much more thorough and exhaustive than <sup>that of</sup> any other group or combination of groups, official or otherwise. So we must stand on our conclusion. Obviously we have no objection to anyone trying to carry on an investigation of these deposits to their heart's content. Meantime, however, it would seem to us to be the policy of prudence and safety for people who are presumably unequipped with technical background to follow a course of caution in making representations which they cannot substantiate. It should go without saying that there is nothing in the world that would please this Department any more than to be able to demonstrate the presence of a new and important deposit of strategic mineral in the State of Oregon. In the case of the so-called Burns tin, we just couldn't do it.

Yours very truly,

EKN:ac  
cc Gov. Sprague, cc Paul L. Roberts, Editor

Director



311 Bay St.,

Santa Cruz, Calif.

June 8, 1942.

The Governor of Oregon,  
Salem, Or.

Referred to Mr. Earl K. Nixon  
For report in duplicate to Governor  
For reply direct to inquirer-copy for our files  
Note & return

EXECUTIVE DEPARTMENT

Sir:

Some time ago I wrote you regarding information I had secured regarding the tin mines at Burns, Oregon, and you sent my letter to Judge Duncan of Burns and to the State Department of Geology, Portland.

I received answers from both Judge Duncan and an engineer of the Dept. of Geology.

Acting upon the information contained in these letters I wrote to the Secretary of the Interior, Washington, D.C., who, in turn referred my letter to the U.S. Bureau of Mines which answered me stating that my contention that the owners of the tin mine at Burns should be allowed, in all fairness, to develop tin, if there, was a reasonable contention but that there were other angles to the controversy.

The enclosed editorial from a Chico, California paper gives us some of the other angles.

Will you kindly send this correspondence on to the Department of Geology, Portland, for their information and for a check up on their former contention that there is no tin at Burns Oregon in commercial quantities.  
(over please)



Those of us who have taken up this fight to see that  
the Burns people are given a fair show to develop  
tin for war use, are in the fight to stay, and if boon-  
dogging is the reason for government opposition, then  
we hope to bring that matter out into the open relentlessly.  
We already have one radio commentator of national  
renown interested and we hope to interest more and  
more editors like Roberts & Chico, who are not afraid  
to speak out when they discover something is being put  
over that is inimical to our war effort.

Would it not be possible for your Senators from Oregon  
to look into this matter in Washington and find  
out what is back of the opposition?

Spending \$25,000 to reclaim 2000 acres of 1.25-sheep  
range while thousands of fertile acres of good crops  
are being ordered ploughed under to prevent over  
production does not make sense.

Very sincerely,

Luther Parker.



## SANDY GULCH NEWS

PUBLISHED WEEKLY ON THURSDAYS AT  
CHICO, CALIFORNIA

EDITOR ..... PAUL L. ROBERTS  
BUSINESS MANAGER ..... P. L. ROBERTS  
ASSISTANT ADV. AND CIRCULATION MGR. .... W. E. ROBERTS  
REPORTERS ..... P. LESTER and MR. PEEYAR  
POLITICAL ADVISOR ..... MAYOR PAUL L. ROBERTS

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Phone 831

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## EDITORIAL

### THIS TIN BUSINESS . . .

Every once in a while we make a smart statement or write what we are told is a good editorial which surprises our friends, flabbergasts the opposition and even causes the writer to break out in goosepimples at his temerity!

Some time ago we blasted the dim-wits in Washington for forbidding the tin miners at Burns, Oregon, to develop their rich tin mine covering some 2300 acres on account, first, because "it disturbed our friendly relations with Great Britain" who had a monopoly on tin—that is, they did have a monopoly before Singapore and the Straits Settlements landed in the heart of Japan.

Now that we need tin so badly it didn't seem that our dumb eggs in Washington, D. C. were using good sense in this tin business. The tin miners, with a new process, were getting 39 to 50 pounds of tin per ton and were handling from 300 to 500 tons of ore per day and getting enough gold while doing so to pay all operating expenses. The price of tin is about \$1.15 per pound, by the way, which would indicate the boys were cashing in in a bootlegging way but still the wise birds back in Washington maintained there was no tin there and the Agricultural Department insisted on holding this grasshopper land for cover crop, soil conservation, etc., and refused to let it be classified as mineral land.

We were slightly in error before, thinking this bum pasture land was worth \$10 an acre. Now we learn it was worth only \$1.25 per acre and they spent \$25,000 to try to save it by soil conservation, etc. Some of these New Deal experts (?) condemned this land as non-tin bearing although they never even saw it! Other "experts" who did see it didn't know how to test it although they were mining seven or eight tons pure tin per day right before their eyes!

Now we quote from the California Mining Journal, issue of May, 1942, just to prove that we did have the goods on these New Deal screwballs who curtail the tin business. We quote:

*If this is true, why does the Dept. of Geology insist there is no tin at Burns? We can't ignore facts.*



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Now we quote from the California Mining Journal, issue of May, 1942, just to prove that we did have the goods on these New Deal screwballs who curtail the tin business. We quote:

"Late advice from Burns, Oregon, in the matter of rehearing regarding granting leases to the discoverers of the Juniper Ridge tin deposit is to the effect that the government agents were badly beaten, testimony of one Department of the Interior Engineer A. C. Kinsley upholding the contention of the locators, etc."

(Kinsley had spent three weeks there last year and took pains to prove the tin was there.) But read on, more quote:

"Attorney Becker, who is conducting the case for the locators and developers, had secured a lot of evidence to substantiate his clients' claims and before the hearing was over Mr. Lantz, who represented the Interior Dept. and two other engineers admitted that they were prejudiced before they examined the deposit, that all they did was to take samples of the ore and send it to assayers. They admitted that they did not know if said assayers were competent to make the assay and they could not swear whether or not said assays were made.

"It developed that the land in question was worth but \$1.25 per acre for grazing and that the government had already spent over \$25,000 in its efforts to keep locators from mining the ground.

"The case will now go to Washington where the Bureau of Mines officials will have two years to review it. In the meantime many lives of our boys in the service will be put in further jeopardy due to the fact that a few Bureau engineers have made up their minds that there are no commercial tin deposits in the United States and do not care to admit that they might be wrong."

Unquote and how do you like that? After reading that last paragraph you should know how to vote next election, especially if you have sons in the armed forces!

If this is true, why do we need tin?



April 1, 1942

Mr. Luther Parker  
311 Bay Street  
Santa Cruz, California

Dear Mr. Parker:

Thank you for your letter dated March 28.

I thoroughly appreciate your desire to do everything possible to encourage production of mineral products which we so urgently need, and I am sure you are doing a lot of good in your activities.

I would like to correct a statement you make in regard to depositions which this Department made in regard to a forthcoming hearing before the Department of the Interior to determine the mineral value of Juniper Ridge. We did not seek to make the depositions and would prefer to stay out of such controversies. However, we could not refuse since the Department of the Interior subpoenaed witnesses from our Department.

Sincerely yours,

F. W. Libbey  
Mining Engineer

PWL:jr



311 Bay St.,

Santa Cruz, California.

Mar. 28, 1942.

RECEIVED  
APR 1 1942

STATE DEPT OF GEOLOGY  
& MINERAL IND.

Dear Mr. Libbey,

I thank you for your answer to my letter to Governor Sprague regarding the complaint of certain persons in Burns, Oregon, that they are being deprived of land, claimed to be tin bearing, by the Department of the Interior.

The owners of the land seem to feel that such action had been originally instigated by the Good Neighbor policy of our government whereby no encouragement would be given to the development of tin in the M. S. because it might be displeasing to the tin interests of Malaya.

If such was true before Dec. 9<sup>th</sup> it would not be true now that Japan has possession of the tin mines, even though we did sell scrap and aid to the Japs for a long time and which we are now receiving back in casualties.

There could now be no legitimate excuse for our government opposing the development of any tin deposit by American citizens provided such citizens desired to attempt such development even though it might not appear commercially profitable to those who do not own the land.

You may know about the copper being gotten out by the Utah Copper Co. from low grade ore which was



Considered too poor for working but which this Copper Co. did work regardless of adverse reports. This deposit is now of great value in our war effort.

I am indeed sorry to hear that your department feels it incumbent to make adverse dispositions which will bolster the determination of the Department of the Interior to deprive the owners of this tin deposit, poor as it may be, from working it and thus aiding our war effort.

It would seem to me to be the part of wisdom for our government to give all aid possible to those who wish to develop this tin deposit, and try to find a method, if none is now known, to make extraction profitable if such is humanly possible.

I have no financial interest in this mine, in fact never had of it until recently, through a radio commentator or columnist who felt that this corner of the M. S. needed the spotlight as we have been turned on the lack of production of synthetic rubber, the tie up among international corporations, the so called sugar shortage, and like matters, which block progress toward all out production for the war that we are in.

If by judicious use of my pen I can be of any service to my country (I am too old to serve actively) I shall consider that I have done my duty.

I shall continue to contact persons competent and willing to do their part to encourage production of any vital materials needed in the war effort, and regret deeply that you people feel that you can't do anything to hold off the unfriendly action of the Department of the Interior in driving the people of Burns of their tin property in favor of sheep grazing instead of tin production.

Very sincerely yours, Luther Parker.



March 26, 1942

Mr. Luther Parker  
311 Bay Street  
Santa Cruz, California

Dear Mr. Parker:

Your letter dated March 9 addressed to Governor Charles A. Sprague has been referred to this Department for reply.

Probably no development relating to our work would give us greater satisfaction than the occurrence of tin in this State in commercial quantities. We have investigated the reported occurrence at Juniper Ridge thoroughly using all our facilities as well as those of various other laboratories both private and governmental. Our investigations extended well over a year in time. We finally were forced to conclude that while tin in extremely small amounts did exist in the rock at Juniper Ridge, the rock could not be considered by any stretch of the imagination as commercial.

We issued a press release giving the results of our testing work and recently members of our staff have made depositions for the Investigations Unit of the Department of the Interior. This unit is gathering evidence to be used in a hearing to be held next month at which a decision will presumably be reached to decide a contest as to the mineral character of the land in the Juniper Ridge area.

I am enclosing a copy of press release which this Department issued to describe our investigations and results in the Juniper Ridge tin matter.

Sincerely yours,

F. W. Libbey  
Mining Engineer

FWL:jr



Referred to Earl R. Nixon

For report in duplicate to Governor

For reply direct to inquirer-copy for our files

Note and return with comment

Note and return

RECEIVED

MAR 26 1942

STATE DEPT. OF GEOLOGY  
& MINERAL INDS.

311 Bay St.

Santa Cruz, Calif.

Mar. 9, 1942.

EXECUTIVE DEPARTMENT

Dear Governor,

I thank you for putting me in touch with Judge Duncan, of Burns Oregon, with regard to tin deposits there which, according to a national columnist, are being held up by government opposition to development.

This columnist attributed the action of the government to some understanding with British or British interests in Mayan tin mines.

Now that the Japs dominate these mines, would it not be possible to wake Washington up to that fact and secure a cessation of opposition to the working of the mines of this rare and strategic metal?

Could not the Oregonian, or other paper of consequence in Oregon, bring this question out into the open in a big way and awaken Congress and the big Eastern press to the whole significance of the fact that the U. S. has T / V? That Oregon has T / V?

I am only interested as a patriotic American willing to use his pen to keep awake those now sleeping as to some of our potentialities.

Have you taken this matter up with Donald Nelson of O. P. M.? He could do something to help, if he would.

Very truly yours,

Lucian Parker.



The enclosed letter appeared in the Tacoma News Tribune a few weeks ago, and surely merits consideration from the authorities qualified to investigate his claim.

#### TIN

By R. B. Lee

The people of these United States have been led to believe that we must not let Japan get control of the tin and rubber in the East Indies and other parts of the East.

At this time we shall confine our remarks to tin. Until recent years the British have controlled practically all of the world's tin. Several other countries are now smelting tin, but not in the U. S.

Jesse Jones was authorized to build a tin smelter in the United States. After a year or so of procrastination he is supposed to have started building a smelter in Texas. The idea seems to be to ship tin ore in from Bolivia to the smelter in Texas.

Can it be possible that our department of the interior is unaware of the fact that Juniper Ridge, near Burns, Ore., contains sufficient tin for the whole of North America?

Japan has grabbed the tin in the East. It has been predicted that Germany could grab Bolivia.

Of course we expect to put both countries back where they belong, but it will take time. In the meantime we use half of the tin produced in foreign lands after it is shipped half way around the world. Let's produce our own tin from our own ore and do it now.

Alderwood Manor.



May 26, 1942

Mr. R. H. Stringham  
40th St. & Riverdale Rd.  
Ogden, Utah

Dear Mr. Stringham:

The following is in reply to your letter of May 20 regarding the Juniper Ridge tin.

I visited this occurrence first in late November, 1939. Nearly a year later after a pilot plant which was unsuccessful had been built on the property we made further investigations. I took some samples of the alleged ore at that time and sent them to the U. S. Bureau of Mines Laboratory at Reno, Nevada, and asked that the samples be assayed and also tested with the spectrograph for tin. The report came back "no tin". Interest continued in the district and an investigator of the Division of Investigation, U. S. Department of the Interior, actually their Land Department I understand, took samples and fussed with the material over a period of months. I understand that his results were contradictory in that he was unable to check himself on quantitative determinations. In fact, I believe he told me this himself.

In the summer of 1941, I put our chief chemist and spectroscopist, Dr. Harrison, on the tin job and he worked for three or four months doing nothing else. His report is quite voluminous. He worked on samples taken by our staff geologist, Mr. Allen, who had made a geological survey of the Juniper Ridge deposit.

Harrison's conclusions were that the average tin content of the rock was somewhere between .001 and .01%. In other words that tin is not present in the deposit in what could be called commercial quantities. Traces of tin were found in various of the samples, but no sample tested showed a commercial amount of the metal.

It is my own conviction that Dr. Harrison's conclusions can be taken without question. As to the details of how the tin scare came to assume such proportions, I should prefer not to comment.

To answer your question as to whether this tin matter could mean anything to relieve the shortage of the metal, I think the answer is absolutely "no".

I might say that we have, with the spectrograph and otherwise, detected the presence of tin in small but possibly commercial quantities in vein deposits in one or two other parts of Oregon, but this does not apply to the rhyolitic obsidian of the Juniper Ridge material. The other deposits that I mention are

COMMUNALITY BY THE GOVERNMENT

UNUSUAL AND I AM NOT IN A POSITION (over) TO SAY ANY OF THEM ARE NEAR BY







Dr. Earl T. Nisou, Director,  
Oregon Department of Geology  
and Mineralogy,  
329 S.W. Oak St.,  
Portland, Oregon.

Ogden, Utah.  
May-23-42.

RECEIVED  
MAY 25 1942

STATE DEPT OF GEOLOGY  
& MINERAL IND.

Dear Sir:-

I have been talking with Mr. Brewster of the Salt Lake Mining Review regarding the persistent rumore of tin in commercial quantities in the Juniper Ridge district near Burns, Oregon.

Being a canner and realizing the potentialities of what may become of the canning industry if tin is not obtainable, I am writing to you at the suggestion of Mr. Brewster to get the real low-down on this tin situation as far as Juniper Ridge is concerned.

I know there has been a lot of argument and perhaps disagreement between assay reports and findings of private individuals and governmental agencies, but what are the facts? Is there any tin there? Is it of commercial grade? Is the deposit a big one or not? I would like to know the truth. I would appreciate any information you could give me on this.

Thanking you in advance for such information as you can give me, I am,

Very Truly Yours,

R. H. Strougham,  
40th Street and Riverside Rd.  
Ogden, Utah.



May 20, 1942

Referring to a deposition of Earl K. Nixon pertaining to the Squaw Butte mining location taken by Messrs. Lantz and Becker, representing United States and Ronald B. Crow respectively, the deposition having been taken on March 18, 1942 .....

It appears that the question of the date on which Nixon made his first inspection of the Squaw Butte deposits and referred to by him at Page #4 of the transcript of the deposition as "during the last week of November, as I recall 1939"--we find on checking the records of this office that this date is correct. The actual date of the visit was November 25, 1939.

The samples sent by me for assay to the U. S. Bureau of Mines at Reno, and referred to in the Exhibits "A" and "B", were taken in October, 1940, nearly a year after the first examination mentioned.

This clarification of dates very likely is not material, but should be borne in mind as a correction in considering the answer of Mr. Nixon at the top of Page #7 of the transcript and of the comment of Mr. Becker which immediately follows and which reads, "He had it in '39.", "It was in '40. Correct that year."

---

EKN:ac



March 30, 1942

Mr. John Carter Anderson  
453 Pacific Electric Building  
Los Angeles, California

Dear Mr. Anderson:

Thank you for your letter dated March 26th addressed to Mr. Nixon, who will be away from the office for a matter of two or three weeks. Enclosed is copy of Press Release which this Department issued sometime back, and I believe is self-explanatory.

Our investigation included both standard methods of analyses and the methods used by the owners of the property at Juniper Ridge, which methods have been stated to recover tin in the material where standard methods of analyses fail. Probably nothing would have given us greater satisfaction than to find tin in commercial quantities in this rock. We could not however, and therefore we issued the results of the investigation as given in the enclosed Release.

I do not know Mr. Arch. Malin.

If we can supply any further information, please feel free to call upon us.

Very truly yours,

F. W. Libbey  
Acting Director

FWL:ac



RECEIVED  
MAR 30 1942

JOHN CARTER ANDERSON  
CONSULTING MINING ENGINEER  
BEVERLY HILLS, CALIFORNIA

STATE DEPT OF GEOLOGY  
& MINERAL IND.

453 Pacific Electric Bldg.  
Los Angeles, California.  
March 26, 1942.

Mr. Earl K. Nixon, Director,  
Oregon State Dept. of Geology and Mineral Industries,  
702 Woodlark Bldg,  
Portland, Oregon.

Dear Sir:

As one who had a look in at the Grants Pass tin scare in 1929, I have followed with amused interest the current controversy over the Burns tin deposit. Recently, however, it has become of more direct interest, as my attention has been called to the very positive statements and charges made by the Technocrats with respect to it.

My attention was called to these claims and charges by friends of mine who are sincerely sold on the merits of Technocracy and challenged me to disprove it. I am now in receipt of a letter saying:

"In the meantime we have contacted Section Three regarding our controversy about tin. Paul was able to talk to a man who assayed the tin in Oregon and reports the following: 'The Oregon ore assays 2% and there are known to be about 99,000,000 tons of this ore. The name of the chemist who assayed this ore is Arch. Malin and he lives at 125 No. First, Montebello, California. He also said, meaning Arch. Malin, if you are interested in contacting him to just drop a post card saying the evening when you would like to come out. If you have more time you could arrange to spend a day testing samples of the ore in his laboratory. He will make the tests or if you like you may make them yourself. I also understand he would be willing to spend the time necessary to go to the deposits in Oregon if you would like to take samples and assay them yourself."

Knowing what is involved in proving tonnage and grade to that extent, I know the folly of such an unsupported statement. but the uninitiated take it as gospel. Knowing that you, as well as the U. S. G. S. and Bureau of Mines, have gone to great limits to get positive disproof of the claims made, I shall appreciate a copy of any statement that may have been prepared showing what was done and how it was done, in the testing of this property.

I believe that there is grave danger in the growth of a highly organized movement of this kind, based on wrong assumptions and definite mis-statements of facts that are accepted without question by a devoted following. I will appreciate having reliable information to counter with. Also any information you have about Mr. Malin, who is unknown to me or to those members of the profession locally of whom I have inquired.

Yours very truly,

*John Carter Anderson*



UNITED STATES  
DEPARTMENT OF THE INTERIOR

~~DIVISION OF INVESTIGATIONS~~  
General Land Office

Portland, Oregon,  
March 21, 1942.

Mr. Earl K. Nixon, Director,  
Department of Geology and  
Mineral Industries,

702 Woodlark Building,  
Portland, Oregon.

Dear Mr. Nixon:

Inclosed, please find a voucher for your signature  
covering the fees due you for your attendance as a witness  
in the case of United States vs. Ronald B. Crow et al.

Kindly sign the voucher on the marked line and  
inclose and mail it in the addressed envelope.

I again wish to express my appreciation of the  
many courtesies extended by you and your associates during  
the taking of the testimony concluded yesterday.

Very truly yours,

*Ed Lantz*  
Field Examiner, G. L. O.

*Sent Mar. 24  
ac*

RECEIVED  
MAR 23 1942

STATE DEPT. OF GEOLOGY  
& MINERAL INDS.



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INDICATED BY SYMBOL IN THE PREAMBLE  
OR IN THE ADDRESS OF THE MESSAGE.  
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ARE OUTLINED IN THE COMPANY'S TARIFFS  
ON HAND AT EACH OFFICE AND ON FILE WITH  
REGULATORY AUTHORITIES.

Form 16

RB72 24/23 GOVT=TD SALT LAKE CITY UTAH 13 244P 1941 JUN 13 PM 2 21

EARL K NIXON=

702 WOODLARK BLDG=

REYRTEL TESTING PROJECT 469 I AM INSTRUCTING LEAVER AT RENO  
TO SEND VANDEL SUMMARY OF FINDINGS AND TO PREPARE FINAL REPORT  
AT ONCE=

C W DAVIS.

RECEIVED  
JUN 13 1941

STATE DEPT OF GEOLOGY  
& MINERAL IND8.



RECEIVED  
JUN 16 1941

STATE DEPT OF GEOLOGY  
& MINERAL INDS.

Mines, C. W. Davis  
Acting Chief Engineer, Metallurgic  
Division

Full Rate - Prepaid

Salt Lake City, Utah June 13, 1941

Earl K. Nixon  
702 Woodlark Building  
Portland, Oregon

REURTEL TESTING PROJECT 469 I AM INSTRUCTING LEAVER AT RENO TO SEND

VANDEL SUMMARY OF FINDINGS AND TO PREPARE FINAL REPORT AT ONCE

C. W. Davis

Postal Telegraph  
Confirmation  
Met Div  
Files

H



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF MINES

RARE AND PRECIOUS METALS EXPERIMENT STATION

METALLURGICAL DIVISION

RENO, NEVADA

November 26, 1940

Mr. Earl K. Nixon  
702 Woodlark Building  
Portland, Oregon

Dear Mr. Nixon:

On my return to this station from a short field trip, I find your letter of November 13 requesting the privilege of forwarding a considerable number of samples in order that we may determine the presence or absence of tin. Also permission to publish results of the tests.

Your request involves a question of policy, therefore I am referring this matter to Dr. R. S. Dean, Chief Engineer, Metallurgical Division, for his direct reply.

Very truly yours,

  
Edmund S. Leaver  
Supervising Engineer



November 13, 1940

Dr. Edmund S. Leaver, Supervising Engineer  
United States Bureau of Mines  
Reno, Nevada

Dear Doctor Leaver:

In regard to our investigating the tin scare in central Oregon, about which Mr. Libbey wired and wrote to you during my incapacitation--I wish to inquire whether or not you would be willing to test anywhere up to ten or twelve samples of the alleged tin ore which I may personally take in a few days. We would like to have these tested with the spectroscope--and chemically, if any individual sample is found to have more than a trace of tin.

I am determined to find out whether there is any substance in the claims of the proprietors of this plant. They have been getting some assays of tin up to 12 or 14 pounds to the ton from some reliable assayers, including Abbot Hanks of San Francisco and a reputable firm in Utah, so, as soon as I am able to travel, I wish to do some careful sampling and send the samples to you for test purposes. It seemed best to write you before sending these samples as there is apt to be a considerable number of them. We would want your permission to publish your test results, of course, and assume you would have no objection.

If you have any objection to running a number of these samples and to our publishing the results, kindly let me know promptly.

Thanking you, I am

Very truly yours,

EKN:vm

Director



RECEIVED  
OCT 25 1940  
STATE DEPT OF GEOLOGY  
& MINERAL INDUSTRIES  
METALLURGICAL DIVISION

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF MINES

RARE AND PRECIOUS METALS EXPERIMENT STATION

RENO, NEVADA

October 24, 1940

AIRMAIL

Mr. F. W. Libbey, Mining Engineer  
C/o State Dept. of Geology & Mineral Industries  
Portland, Oregon.

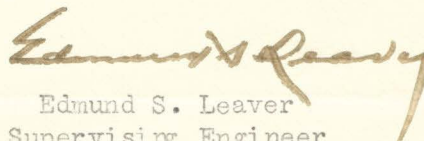
Dear Mr. Libbey:

I have your airmail letter of October 22, with copy of your telegram of same date, both regarding a questionable tin project near Burns, Oregon.

Your telegram was airmailed yesterday and your letter of October 22 will be airmailed today to Dr. R. S. Dean, Chief Engineer of the Metallurgical Division of the Bureau, both for his consideration.

The staff at this station is engaged on Strategic Mineral work which takes precedence over all other activities. I do not see that it is practical for this station to make the investigation you request.

Very truly yours,

  
Edmund S. Leaver  
Supervising Engineer



RECEIVED  
OCT 28 1940

STATE DEPT OF GEOLOGY  
& MINERAL INDS.

METALLURGICAL DIVISION

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF MINES

October 26, 1940

SALT LAKE CITY, UTAH

Mr. F. W. Libbey, Mining Engineer  
c/o State Department of Geology & Mineral Industries  
Portland, Oregon

Dear Mr. Libbey:

Your letter of October 22nd to Mr. Leaver with further reference to the process in which Judge Duncan is interested has just been received. The information contained in this letter in conjunction with the reports from Mr. Leaver substantiate our previous contention that the expenditure of Bureau of Mines funds for the investigation of this process is not warranted.

Since the samples of ore and furnace products which you secured were found by Mr. Leaver to contain no tin, it is certain that no tin could have been recovered from ore as represented by the sample.

Very truly yours,

*R. S. Dean*

R. S. DEAN  
Chief Engineer  
Metallurgical Division



RECEIVED  
OCT 28 1940

STATE DEPT. OF GEOLOGY  
& MINERAL INDS.  
METALLURGICAL DIVISION

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF MINES

October 25, 1940

SALT LAKE CITY, UTAH

Via Air Mail

Mr. F. W. Libbey, Mining Engineer  
c/o State Dept. of Geology and Mineral Industries  
702 Woodlark Building  
Portland, Oregon

Dear Mr. Libbey:

Your telegram of October 22nd to Mr. E. S. Leaver, Reno, Nevada, regarding Bureau of Mines investigation of a process that is supposed to recover tin from a product in which standard methods fail to detect its presence, has been referred to me for consideration and reply.

We have investigated many such processes in the past and in every case it has been shown that no tin could be recovered unless it was introduced, intentionally or otherwise, in the flux or in some other addition agent.

If such a process actually did recover tin it could be readily sold, and there would be no necessity for raising funds for exploitation purposes. It is therefore felt that the expenditure of funds to investigate the present process is not warranted.

Very truly yours,

*R. S. Dean*

R. S. DEAN  
Chief Engineer  
Metallurgical Division



RECEIVED  
OCT 24 1940

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF MINES

STATE DEPT OF GEOLOGY  
& MINERAL INDUSTRIES  
METALLURGICAL DIVISION

RARE AND PRECIOUS METALS EXPERIMENT STATION

RENO, NEVADA

October 23, 1940.

AIRMAIL

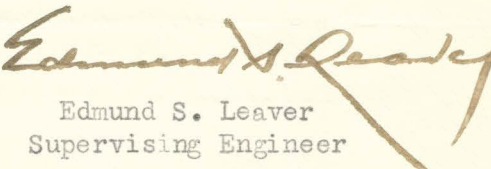
Mr. F. W. Libbey, Mining Engineer  
C/o State Dept. of Geology and Mineral Industries  
702 Woodlark Bldg.,  
Portland, Oregon.

Dear Mr. Libbey:

I have just received your telegram of October 22, requesting early Bureau of Mines investigation of certain projects located in central Oregon near Burns where they claim to obtain tin in furnace product rock that shows no tin by standard methods.

Your telegram is being referred to Mr. R. S. Dean, Chief Engineer, Metallurgical Division of the Bureau, Salt Lake City, Utah, by airmail.

Very truly yours,

  
Edmund S. Leaver  
Supervising Engineer



October 22, 1940

Dr. Edmund S. Leaver, Supervising Engineer  
United States Bureau of Mines  
Reno, Nevada

AIR MAIL

Dear Doctor Leaver:

In explanation of enclosed confirmation, I wish to say that Mr. Nixon had to go to the hospital last evening for an appendicitis operation and asked me to communicate with you, according to the enclosed copy of night letter.

Judge Robert Duncan of Burns, whom we respect and like very much, is one of the principals in this tin project. A short while ago he invited various people to visit the property to see a pilot plant furnace start work on their ore. Among others, I visited the property and took samples of the furnace products together with the rock being fed to the furnace and some samples of the ore in the ground. When I returned to Portland, I crushed these ore samples and sent triplicates to three laboratories including yours at Reno. I have reports from yours and one other, both of which give no tin. At the same time a laboratory here in Portland reports that the metal, which they are obtaining from their furnacing of the ore, is essentially tin.

A considerable amount of publicity has been given to the enterprise, and this Department is naturally quite worried about the matter, particularly since we would dislike very much to see Judge Duncan connected with anything not strictly legitimate. We have no one whom we can send to make a thorough examination, and Mr. Nixon is very eager to have your station clear the matter up. Naturally, we would like to have it made just as soon as possible. Judge Duncan has stated that they would be more than glad to have the Bureau of Mines make the investigation. He stated over the telephone today that they had some conflict with the U. S. Land Office, and a hearing upon this matter would be held November 11th. Consequently, he earnestly desired to have the investigation made before that time.

Hoping that you can see your way clear to making the investigation, I am

Sincerely yours,

FWL:vm  
encl.

F. W. Libbey  
Mining Engineer



CLASS OF SERVICE DESIRED	
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TELEGRAM	ORDINARY
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Patrons should check class of service desired, otherwise the message will be transmitted as a telegram or ordinary cablegram.

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ACCOUNTING INFORMATION

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R. B. WHITE  
PRESIDENT

NEWCOMB CARLTON  
CHAIRMAN OF THE BOARD

J. C. WILLEVER  
FIRST VICE-PRESIDENT

Send the following message, subject to the terms on back hereof, which are hereby agreed to

October 22, 1940

Edmund S. Leaver  
U. S. Bureau of Mines  
Reno, Nevada

A PROJECT IN CENTRAL OREGON NEAR BURNS IS GETTING SOME TIN AS A FINAL FURNACE PRODUCT FROM ROCK WHICH YIELDS NO TIN BY STANDARD QUANTITATIVE METHODS. STATE DEPARTMENT OF GEOLOGY UNABLE TO MAKE THOROUGH INVESTIGATION DUE TO LACK OF PERSONNEL AND FACILITIES. NIXON IN HOSPITAL FOLLOWING OPERATION URGENTLY REQUESTS YOUR STATION MAKE EXAMINATION IN ORDER TO CLEAR UP SITUATION WHICH IS DISTURBING. PRINCIPALS AT PROJECT STATE THEY WOULD WELCOME AN EARLY EXAMINATION BY YOUR BUREAU. COULD YOUR STATION DO IT IN VERY NEAR FUTURE. DO NOT BELIEVE FIELD WORK WOULD REQUIRE MORE THAN FEW DAYS WORK

F. W. Libbey  
Mining Engineer



SUBPOENA DUCES TECUM

THE UNITED STATES OF AMERICA,

To Earl K. Nixon, Director, State Department of Geology  
and Mineral Industries,  
702 Woodlark Building, Portland, Oregon.

You are hereby commanded to appear before  
Lillian Ferner, a notary public, at her office, 902 American  
Bank Building, in Portland, County of Multnomah, State of  
Oregon, at the hour of 10 a. m., on the 18th day of March,  
1942, to testify in behalf of the United States, at a hearing,  
to be then and there held, wherein Ronald B. Crow et al. are  
defendants, and bring with you the following documents in  
your custody and possession as Director of the State Depart-  
ment of Geology and Mineral Industries, State of Oregon, viz:

1. All reports of examinations made by your Department  
of lands in the so-called Squaw Butte Region in  
Townships 23 and 24 North, Ranges 25 and 26 East,  
W. M., Oregon, to determine the occurrence of tin  
therein.
2. All reports of the testing by your Department of the  
samples of ore or rocks taken during said examination  
by fusions, qualitative and quantitative chemical  
tests, by panning and by the use of the spectroscope.

Issued this \_\_\_\_\_ day of \_\_\_\_\_,

1942.

*W. F. Jackson*  
Register, U. S. Land Office,  
The Dalles, Oregon.

County of \_\_\_\_\_ )  
State of \_\_\_\_\_ ) ss.

I, \_\_\_\_\_, being first duly sworn,  
upon my oath say that I served the above subpoena in the County



of \_\_\_\_\_, in the State of \_\_\_\_\_,  
on the \_\_\_\_\_ day of \_\_\_\_\_, 1942, by then  
and there delivering a true copy thereof to the within-named  
witness, to wit: \_\_\_\_\_  
\_\_\_\_\_

Subscribed and sworn to before  
the undersigned this \_\_\_\_\_ day  
of \_\_\_\_\_, 1942.

\_\_\_\_\_  
(Official designation.)



March 2, 1942

AIRMAIL

Mr. J. H. Favorite, Regional Field Examiner  
General Land Office  
808 Sharon Building  
San Francisco, California

Dear Mr. Favorite:

Your letter of February 9th written by Mr. Hedges is acknowledged.

Your letter arrived in my absence, and if I am not mistaken a letter of similar import from your office was forwarded to me in Washington. I have just returned from Washington and have had no chance to start on the accumulated work before me. However, it seemed best to advise you that you may take depositions from Dr. Harrison and Mr. Allen in Portland within the next week or two if you wish. The only other party who assisted in this work was our mining engineer whose headquarters are at Baker, Oregon. His name is Hugh K. Lancaster. It would be very inconvenient and somewhat expensive to have him make a trip to Portland, so I wonder if you could arrange to take a deposition from him at Baker on a date to be arranged in advance between you and him.

We are quite willing, of course, to give all reasonable cooperation on this tin matter.

Cordially yours,

Director

EKN:ac



February 13, 1942

Mr. J. H. Favorite, Regional Field Examiner  
General Land Office  
808 Sharon Building  
San Francisco, California

Dear Mr. Favorite:                      Attention: George S. Hedges

Mr. Nixon is in Washington, D. C. on departmental business and is not expected to return to Portland until the latter part of the month, possibly on February 26.

Since I am not familiar with the matters about which you inquire, I am forwarding your letter to Mr. Nixon and he will either write you or advise this office in order that we may send the necessary information to you.

Very truly yours,

F. W. Libbey  
Mining Engineer

FWL:jr





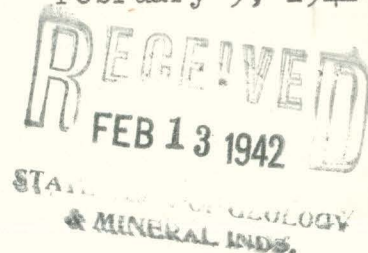
UNITED STATES  
DEPARTMENT OF THE INTERIOR

~~DIVISION OF INVESTIGATIONS~~

General Land Office  
Branch of Field Examination  
808 Sharon Building  
San Francisco, California

February 9, 1942

Mr. Earl K. Nixon, Director,  
State Department of Geology and  
Mineral Industries,  
702 Woodlark Building  
Portland, Oregon



Dear Mr. Nixon:

In December 1941, Mr. Paul F. Cutter of this office interviewed you with reference to the work that your department has done in connection with the alleged tin deposits near Burns, Oregon.

Mr. Cutter made a memorandum report from which it appears that your department has made a geological survey of the alleged tin deposits, the survey being made by Mr. John E. Allen, the State's Geologist, and that tests of the samples taken were made by Dr. H. C. Harrison, a chemist.

It appears that Mr. Cutter discussed with you the possibility of obtaining the depositions of the members of your department who did work on this case, for use in a hearing which is to be held at Burns, Oregon, on March 18 next, and that you indicated that the testimony of Dr. Harrison and Mr. Allen would be available, if they should be properly subpoenaed by the United States.

It is proposed to take these depositions in Portland the latter part of this month or the first part of March. If Dr. Harrison or Mr. Allen had any assistants in this work who, in your opinion, should be called as witnesses in the Government's case, I will be very glad if you will furnish me with their names and addresses so that arrangements can be made to take their depositions also.

Very truly yours,

J. H. FAVORITE  
Regional Field Examiner

By

George S. Hedges  
Acting.

IL:HR



March 6, 1942

Mr. J. H. Favorite, Regional Field Examiner  
General Land Office  
808 Sharon Building  
San Francisco, Calif.

Dear Mr. Favorite:

This will acknowledge your letter of March 4th. The depositions of Dr. Harrison and Mr. Allen may be taken on March 18th, but I am confident that it will be impossible for me to be here at that time. I shall be somewhere in California on War Production Board work in connection with strategic minerals. However, Mr. Libbey will be acting in my capacity and can identify any records or satisfy the amenities in my absence.

Yours very truly,

Director

EKN:ac



UNITED STATES  
DEPARTMENT OF THE INTERIOR

~~DIVISION OF INVESTIGATIONS~~

~~OFFICE OF SPECIAL AGENT IN CHARGE~~

GENERAL LAND OFFICE

Airmail

808 Sharon Building  
San Francisco, Calif.,  
March 4, 1942.

Mr. Earl K. Nixon, Director,  
State Department of Geology  
and Mineral Industries,  
702 Woodlark Bldg.,  
Portland, Oregon.

Dear Mr. Nixon:

In connection with my recent letter to you concerning the depositions to be taken with relation to the Squaw Butte mining claims, I mentioned to you that subpoenas had been prepared and had been sent up for service in order to avoid any misunderstanding. I have just now received a telegram from the agent who was to serve the subpoenas advising that he is ill and will be unable to deliver them until the first of next week.

I am therefore writing to advise you that the depositions are set in Portland for March 18. You are being asked to appear in order that you may identify the records of your office that pertain to the tests that were made. The subpoenas also call for the attendance of Dr. H. C. Harrison and Mr. John E. Allen, and a copy of this letter is being sent to each of them. The depositions are set before Lillian Ferner, notary public, 902 American Bank Building.

Thanking you again for your cooperation in the matter, I am

Sincerely yours,

*J H Favorite*  
J H Favorite

Regional Field Examiner

JHF:MM

cc: Dr. H. C. Harrison  
cc: Mr. John E. Allen

RECEIVED  
MAR 5 - 1942

STATE DEPT OF GEOLOGY  
& MINERAL INDS.



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
~~DIVISION OF INVESTIGATIONS~~  
GENERAL LAND OFFICE

~~OFFICE OF SPECIAL AGENT IN CHARGE~~

RECEIVED  
MAR 4 - 1942

STATE DEPT OF GEOLOGY  
& MINERAL INDS.

808 Sharon Building  
San Francisco, Calif.,  
March 3, 1942.

Mr. Earl K. Nixon,  
Director,  
State Department of Geology  
and Mineral Industries,  
702 Woodlark Building,  
Portland, Oregon.

Dear Mr. Nixon:

Please accept my thanks for the information contained in your letter of March 2. The details pertaining to the taking of testimony in the mining claim cases near Burns are being handled by Field Examiner Lantz. Mr. Lantz was compelled to leave this morning for Albuquerque, New Mexico, to start taking depositions in this case and he has with him the correspondence and files pertaining to the same.

For this reason I am unable to decide at this moment how we shall handle the testimony of Mr. Hugh K. Lancaster of Baker, Oregon. It is possible that we might be able to work out an arrangement for him to testify at the hearing at Burns, Oregon, which will be on or about March 25.

Just before Mr. Lantz left San Francisco he sent subpoenas for service on several employees of the State Department of Geology in order that there may not be any misunderstanding about the time when the depositions are to be taken. These subpoenas were sent to one of our men in Portland for delivery and have probably been delivered to the officials by this time.

I appreciate your willingness to cooperate and we shall do our best to work out all of the details to the satisfaction of all concerned.

Very truly yours,

*J H Favorite*  
J H Favorite  
Regional Field Examiner

JHF:MM

cc: Mr. Ira Lantz



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
DIVISION OF INVESTIGATIONS

OFFICE OF SPECIAL AGENT IN CHARGE

808 Sharon Bldg.,  
#55 New Montgomery St.,  
San Francisco, Calif.,  
December 30, 1941.

Mr. Earl K. Nixon,  
Director,  
State Department of  
Geology and Mineral Industries,  
702 Woodlark Building,  
Portland, Oregon.

Dear Mr. Nixon:

Please accept my thanks for the information contained in your letter of December 26, 1941, concerning the experiments that have been made by your Department on the material taken from the mining claims near Burns, Oregon. We were very glad to get the information that was secured by Special Agent Cutter and appreciate your willingness to cooperate with us in permitting us to take the testimony of those who have spent a great deal of time experimenting with this material.

We are submitting to our office in Washington the matter of procedure in taking the testimony, and as soon as we are able to work out a plan for handling this I shall communicate further with you.

I note what you say about Dr. Petri and I shall be glad to write him as suggested by you.

Very truly yours,

*J H Favorite*

J H Favorite  
Special Agent in Charge.

JHF:MM

RECEIVED  
DEC 31 1941  
STATE DEPT. GEOLOGY  
& MINERAL IND.

*n*



Charge to the account of \_\_\_\_\_

\$ \_\_\_\_\_

CLASS OF SERVICE DESIRED	
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# WESTERN UNION

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PRESIDENT

NEWCOMB CARLTON  
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J. C. WILLEVER  
FIRST VICE-PRESIDENT

CHECK
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Send the following message, subject to the terms on back hereof, which are hereby agreed to

FA 199 24 Govt-WF SAN FRANCISCO CALIF 17 149 P Dec. 17, 206 PM

Earl K. Nixon

Director State Depp. Geology & Mineral Industries  
Portland, Oregon

tin

ADVISE BY WIRE WHEN YOU CAN MEET SPECIAL AGENT PF CUTTER GRANTSPASS  
EUGENE OR PORTLAND THIS WEEK FOR DISCUSSION SQUAW BUTTE TIN DEVELOPMENTS.

J. H. FAVORITE SPECIAL AGENT IN CHARGE.

Forwarded to Mr. Nixon at Sunset Inn, Gold Beach.



December 26, 1941

Mr. J. H. Favorite, Special Agent in Charge  
Division of Investigations  
United States Department of the Interior  
401 Federal Office Building  
San Francisco, Calif.

Dear Mr. Favorite:

Mr. Cutter was here Tuesday, and we gave him the full results of Dr. Harrison's work on the Burns tin samples. We are inclined to feel that the work in question is rather conclusive, and the results may be of considerable interest to you. Mr. Cutter inquired if I thought Dr. Petri of the Aluminum Corporation would be willing to testify at your hearing in regard to his spectrographic results on the tin samples submitted to him. I don't recall the answer I gave exactly, but it is my impression that I stated that I could not answer for Dr. Petri. It escaped me at the moment that Mr. Cutter was referring to samples sent Dr. Petri from this Department. As regards these I should say that this Department would be very much embarrassed if your department should subpoena Dr. Petri to give testimony in regard to work done by him as an accommodation to us. As I say, that angle escaped me when Mr. Cutter asked the question.

I was under the impression that Mr. Cutter and Mr. Lawson on the occasion of their visit to Portland visited Dr. Petri and that the latter was kind enough to make spectrograms of two or three samples they submitted. Am not certain on this score.

However, it seems Mr. Cutter, a few minutes before leaving this office, telephoned Dr. Petri at the Aluminum Corp. laboratory asking if he would testify. Dr. Petri's answer, as I understand it, was that he could not without the approval of Mr. Thayer who is superintendent of the plant. Mr. Thayer refused and that was the essence of Dr. Petri's phone call to me after Mr. Cutter left. I could not reach Cutter at any of the hotels, so this is to advise you that the Aluminum Corp., that is Dr. Petri and Mr. Thayer, certainly do not wish to give testimony at your hearing.

I am particularly anxious also that you do not call Dr. Petri because the work that he did was strictly as an accommodation, and some of the samples at least were run as a favor to us. I should consider it a distinct favor--in return for favors conferred on Mr. Cutter--if you will advise Dr. Petri of the Aluminum Corp. that he will not be called for testimony.

Might say that we expect to have our spectrographic laboratory going soon, and Dr. Harrison is anxious to do some work on these tin samples by this method--in further confirmation of the chemical analysis and various tests formerly made--and I feel certain that Dr. Harrison will be willing to give you the benefit of results of this work that he will do.

Cordially yours,



CLASS OF SERVICE DESIRED	
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# WESTERN UNION

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TIME FILED

R. B. WHITE  
PRESIDENT

NEWCOMB CARLTON  
CHAIRMAN OF THE BOARD

J. C. WILLEVER  
FIRST VICE-PRESIDENT

Send the following message, subject to the terms on back hereof, which are hereby agreed to

702 Woodlark Bldg.  
Portland, Oregon  
December 18, 1941

J. H. Favorite, Special Agent in Charge  
Department of the Interior  
Division of Investigations  
401 Federal Office Bldg.  
San Francisco, Calif.

NIXON IN FIELD BUT ADVISES CAN MEET CUTTER EUGENE HOTEL EUGENE AT NOON SATURDAY  
20 ALTHOUGH PREFERS MEETING PORTLAND OFFICE MONDAY 22 KINDLY WIRE NIXON  
~~PORTLAND~~ SUNSET INN GOLDBEACH OREGON BEFORE FRIDAY NOON.

F. W. Libbey

Send Collect  
Day Letter  
Please hurry delivery however



STANDARD TIME INDICATED

RECEIVED AT

TELEPHONE YOUR TELEGRAMS  
TO POSTAL TELEGRAPH

Form 16

# Postal Telegraph

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THIS IS A FULL RATE TELEGRAM, CABLE-  
GRAM OR RADIOGRAM UNLESS OTHERWISE  
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MG122 44 COLLECT NL=TCO GOLDBEACH ORE 17

DEPT OF GEOLOGY=

1941 DEC 17 PM 8 12

535 702 WOODLARK BLDG PORTLAND ORE=

WIRE J H FAVORITE DIVISION INVESTIGATOR HIS SANFRANCISCO ADDRESS  
QUOTE NIXON IN FIELD BUT ADVISES CAN MEET CUTTER EUGENE HOTEL  
EUGENE AT NOON SATURDAY 20 ALTHOUGH PREFERS MEETING PORTLAND  
OFFICE MONDAY 22 STOP KINDLY WIRE NIXON SUNSET INN GOLDBEACH  
OREGON BEFORE FRIDAY NOON=

EARL K NIXON.

F. W. L.

20 22.



# CLASS OF SERVICE

This is a full-rate Telegram or Cablegram unless its deferred character is indicated by a suitable symbol above or preceding the address.

# WESTERN UNION (40)

R. B. WHITE  
PRESIDENT

NEWCOMB CARLTON  
CHAIRMAN OF THE BOARD

J. C. WILLEVER  
FIRST VICE-PRESIDENT

## SYMBOLS

DL = Day Letter

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The filing time shown in the date line on telegrams and day letters is STANDARD TIME at point of origin. Time of receipt is STANDARD TIME at point of destination

BFA38 10 TOUR XC=BURNS ORG 19 925A

E K NIXON=

1940 DEC 19 AM 9 41

702 WOODLARK BLDG PORTLAND ORG=

WILL ARRIVE PORTLAND LATE TONIGHT AND GO NOON CORVALLIS  
FRIDAY=

KINSLEY.

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DEC 19 1940

STATE DEPT OF GEOLOGY  
& MINERAL INDS.



CLASS OF SERVICE DESIRED	
DOMESTIC	CABLE
TELEGRAM	<input checked="" type="checkbox"/> ORDINARY
DAY LETTER	<input type="checkbox"/> URGENT
SERIAL	<input type="checkbox"/> RATE
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SPECIAL SERVICE	<input type="checkbox"/> NIGHT LETTER
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# WESTERN UNION

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R. B. WHITE  
PRESIDENT

NEWCOMB CARLTON  
CHAIRMAN OF THE BOARD

J. C. WILLEVER  
FIRST VICE-PRESIDENT

Send the following message, subject to the terms on back hereof, which are hereby agreed to

DECEMBER 18, 1940

A. C. KINSLEY  
ARROWHEAD HOTEL  
BURNS, OREGON

WIRED JUDGE YESTERDAY ARRANGEMENT MADE WITH GLEESON. SEE DUNCAN WIRE.

EARL K. NIXON.

EKN:vm  
4:45 P.M.



December 21, 1940

Mr. A. C. Kinsley  
Division of Investigations  
United States Department of the Interior  
401 Federal Office Building  
San Francisco, California

Dear Mr. Kinsley:

It is now noon, and I am afraid you will not have a chance to drop by the office. I am returning the copy of the Charlton Laboratories which you so kindly lent me and which I found had not been previously mailed to you at Burns. I am also attaching copy of letter I have written to Mr. Favorite. I hope you will drop me a line at any time in regard to further matters of interest connected with the tin business.

Sincerely yours,

Director

EKN:vm  
encl.2



CHARLTON LABORATORIES, INC.

CHEMISTS

BACTERIOLOGISTS

2340 S. W. Jefferson St.  
Portland, Oregon  
December 4, 1940

Via Air Mail

U. S. Department of the Interior  
Division of Investigations  
San Francisco, California

Attention: Mr. A. C. Kingsley

Gentlemen:

The 10 samples of ore presented to this laboratory November 16, 1940, by Mr. A. C. Kingsley, have been analyzed as directed. The following samples were delivered to this laboratory by Mr. Kingsley:

Sample # 5-K  
7-K  
9-K  
29-K  
37-K

Sample # 82-K  
84-K  
90-K  
100-K  
104-K

At the direction of Mr. Kingsley, these samples were run by the so-called wet assay method. Of all the methods available, that proposed by Mr. Albert Howard Low, as found in the textbook "Technical Methods of Ore Analysis for Chemists and Colleges" by Arthur J. Weinige and William P. Schoeder, based upon a text by Low, was used. As Mr. Weinige is Director of the Experimental Plant of the Colorado School of Mines, we felt that we could find no better authority for a method in connection with these ores.

In brief, the method as used by this laboratory, assuming that the ore might contain copper or other interfering metals, was as follows:

A 1-grm. sample of ore, ground to pass a 200-mesh screen, was treated in a platinum dish with 10 ml. of concentrated nitric acid and 10 ml. of hydrofluoric acid. The mixture was allowed to digest below the boiling point for some time, and then a few ml.'s of concentrated sulfuric acid was added, whereupon the mixture was carefully evaporated until most of the sulfuric acid and other volatile materials were removed. This step in the procedure apparently decomposes all silicates, and should convert most of the metals to their sulfates. In the case of tin, should the tin be affected by this treatment a soluble sulfate is formed.

The material is taken up with some water and a small amount of hydrochloric acid, heated to boiling and treated with a half gm. of powdered iron, which removes the copper if any. The mixture is then filtered and washed. The filtrate is reserved for a later stage. The residue is washed from the filter paper and treated with a few ml.'s of nitric acid, diluted to 300 ml., and held near the boiling point for several hours, thus allowing for a precipitation of any metastannic acid that may be formed from the tin that was precipitated along with the copper.

This solution is again filtered and washed, and the residue on the 2 papers is ignited in a nickel crucible. To this is added 8 grms. of potassium hydroxide, and



the material is carefully heated to the full strength of a Bunsen burner. The fusion is usually carried on approximately one-half hour.

The crucible upon cooling is returned to the initial filtrate, where the melt is quickly dissolved out and the crucible removed and washed. 50 ml. of concentrated hydrochloric acid is added, and the solution transferred to an Erlenmeyer flask, where it is made up to a 200 ml. volume. A scroll of metallic nickel is added, and the solution is heated to boiling. It is maintained at just below the boiling point for not less than 45 minutes, thus bringing about the reduction of tin to the stannous form. A small amount of sodium carbonate is then added to the flask, and the flask quickly cooled to room temperature, whereupon it is titrated with iodine to determine the content of tin.

Blanks were obtained on all of the above samples except sample 84-K, where a trace of tin was detected. Small amounts of tin were added to several samples and recovered quantitatively, but in no case did there appear to be any quantitative tin recovered from the sample itself. The work on this method was carried out in every case in duplicate, with the greatest of care, and had we not examined the ore by the fire assay method suggested by Mr. W. D. Rhea we would never have known that these ores actually contained any tin at all.

The method as proposed by Mr. Rhea is not as yet an approved method, since the fusion with potassium cyanide is carried out at a temperature far below that recommended in most textbooks. Likewise, as I shall later point out, the method is not quantitative, since the results cannot be reproduced; and unless the ores are run statistically it cannot be relied upon qualitatively, since approximately one-third of the trials made on the same ore--according to Mr. Rhea--will show blanks, whereas the other two-thirds will show considerable quantities of tin.

The method proposed by Mr. Rhea is approximately as follows: A. 5-grm. sample of ore, ground to pass a 100-mesh screen, is intimately mixed with 20 grms. of potassium cyanide. A 10-grm. crucible is filled to the depth of about  $\frac{1}{2}$  in. with potassium cyanide, upon which is placed the charge containing the ore and cyanide mixture. Over this is placed a cap of potassium cyanide, which is finally covered with sodium chloride. The crucible is then placed, with its charge, in a furnace operating at a red heat. I should judge that this temperature would not be less than 700° C. nor more than 900° C.

The crucible is not left in the furnace, when the furnace is operating at a so-called normal temperature, for more than 15 min. Upon cooling, the crucible is broken and the mass inside examined for "buttons" of tin. The charge itself is not of a glassy character as in the case of higher temperature fusions, but appears to be a powdery sintered type of material.

If the fusion has been carried out properly, a small amount of potassium cyanide should remain in the bottom of the crucible below the sinter, and the button is ordinarily found in contact with this small amount of cyanide. The conditions required to obtain this exact type of fusion are not entirely known, and it is difficult to stop the process at the right point.

The writer examined samples 5-K, 9-K, 29-K, 37-K and 84-K by this method, in the presence of Mr. Kingsley, at Mr. John Beede's assay office. Mr. Kingsley's crucibles were used but the sample pulps were those submitted by Mr. Kingsley to



this laboratory. Likewise the cyanide used was a C.P. grade taken from this laboratory and used immediately in the presence of Mr. Kingsley and myself.

Of these 5 samples, "buttons" were produced in 2 cases--namely samples 29-K and 84-K. The button obtained from sample 29-K weighed 74.4 mg. The button from sample 84-K weighed 57.9 mg. Another button brought in a few days earlier by Mr. Kingsley from sample 29-K, which he had run personally, weighed 595.1 mg. This was taken from a 10-grm. sample instead of a 5-grm. sample as were the buttons obtained by myself.

The analyses of these 3 buttons are as follows:

Sample 29-K from Kingsley	97.7% tin.	This indicates the ore must have contained 5.81 plus % tin.
Sample 29-K, button obtained by myself	98.6% tin.	This indicates the ore contained 1.48 plus % tin.
Sample 84-K	99.3% tin.	This indicates the ore contained 1.15 plus % tin.

At the present time this laboratory is carrying on extensive studies to find out why the Low method failed to produce tin from these ores, using sample 29-K as a control. It is not the intention of this chemist to indicate that there is anything mysterious concerning these ores, other than that for some reason unknown at the present time tin has not been recovered from these samples by the wet assay method. This is either a difficulty in the method itself or a difficulty in manipulation by the chemist. Until further examination and study have been made, it is impossible to indicate quantitatively the actual percent tin which may exist in these samples. Judging from Mr. Kingsley's own results, however, it would appear that sample 29-K contains 5.81% tin, and perhaps more, since we are in no way certain that his recovery was complete.

Very truly yours,

(signed) Vernon C. Bushnell, Ph.D.



December 21, 1940

Mr. J. H. Favorite, Special Agent in Charge  
Division of Investigations  
United States Department of the Interior  
401 Federal Office Building  
San Francisco, California

Subject: Burns Tin Matter.

Dear Mr. Favorite:

I trust that the following will terminate the tin incident, at least for a few weeks. We have been bothering you considerably and your Mr. Kinsley especially.

I want to take this method of expressing our appreciation of Kinsley's many kindnesses. He was good enough to discuss all phases of the matter frankly with me while I was in Burns last Saturday and Sunday. I am afraid he may have taken slight offense a time or two at remarks that I made because of his not understanding all of the background. I am sending a copy of this letter to Kinsley so that the matter will be clear.

First, as regards salting—ever since this tin business was mentioned, people have asked me about it and said, "Doubtless it is salted". Even some of the members of the American Institute of Mining and Metallurgical Engineers at a luncheon took me to task pretty hard for the position I had taken in the matter which was, "I am not going to reach a decision until all facts are known." I told them of Kinsley's work, that I thought he was a competent assayer and engineer, and that he wasn't kidding himself or anyone else. I also told them that I didn't think there was any question of salting for, if there was, every "Tom, Dick, and Harry" who assayed the material would be getting tin, whereas the material only seems to give tin when handled in a special fashion by cyanide fusion.

Principally in deference to Judge Duncan at Burns, I arranged to have some of the "experts" meet at Corvallis yesterday, at which <sup>time</sup> Mr. Kinsley was kind enough to agree to show how tin buttons are obtained by low temperature fusion. That arrangement had to be called off because Gleeson's men were down with the flu, and he had had no chance to set up a furnace for the job. Out of the welter of negotiations Kinsley may have obtained the idea that some of us had him on the pan. Nothing is farther from the truth. He was the first engineer to indicate to me that the tin is probably bona fida, and we were naturally interested in his technique. It was further confirmed by Dr. Bushnell of the Charlton Laboratories.







December 16, 1940

Mr. J. H. Favorite, Special Agent in Charge  
Division of Investigations  
United States Department of the Interior  
401 Federal Office Building  
San Francisco, California

Subject: Burns Tin Matter.

Dear Mr. Favorite:

Thank you for your letter of December 13th.

I spent yesterday and the day before on the so-called tin property near Burns in central Oregon. I had an opportunity to observe the work that they are doing and to go over the situation with Kinsley in the field.

They were trying very hard to get their furnace in operation and to make a substantial quantity of tin oxide from the "ore" as a demonstration for me and others but, as the old compressor was not working properly, it appeared that the furnace temperature could not be raised sufficiently high to obtain a satisfactory operation. I am convinced in my own mind that there is something very strange indeed about this ore, and I am inclined to feel that samples that are being sent out for assay are probably not being salted by any of the persons involved in the operation. If they were, it is obvious that every "Tom, Dick, and Harry" assayer in the country would be getting tin results, whereas as a matter of fact almost no one is getting tin by the usual wet method.

The amount of tin, which Kinsley and Dr. Bushnell obtained by potassium cyanide fusion--which really is an orthodox method but an old-time method--is in no sense of the word a "small amount of tin". If it can be demonstrated that these ores contain tin by whatever method of assaying and the work is confirmed by outstanding analysts, the next problem is, 'What is the score on metallurgy? Can the tin be recovered economically?'

It is my unqualified opinion that, if tin is found to be present in amounts as much as one-half of one percent, which would make \$5.00 ore approximately, no good purpose would be served by vacating the mining claims on the theory that the proprietors of the claims might never work out the metallurgy. I think the Bureau of Mines and the Defense Commission authorities would be justified in spending a substantial amount of money if it can be demonstrated that the rock contains appreciable amounts of tin in whatever form.

Thanking you, I am

Very truly yours,



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DEC 16 1940

STATE DEPT OF GEOLOGY  
& MINERAL INDS.

UNITED STATES  
DEPARTMENT OF THE INTERIOR

DIVISION OF INVESTIGATIONS

OFFICE OF SPECIAL AGENT IN CHARGE

401 Federal Office Bldg.,  
San Francisco, Calif.,  
December 13, 1940.

Mr. Earl K. Nixon,  
Director,  
State Department of  
Geology and Mineral Industries,  
702 Woodlark Building,  
Portland, Oregon.

Dear Mr. Nixon:

Receipt is acknowledged of your letter of December 11th concerning the Squaw Butte tin claims.

I appreciate your interest in this whole matter and agree with you that it will be necessary to make additional tests in order to determine just how tin can be found in some of the samples by certain methods and yet by the usual methods no trace of tin is shown.

Of course, you appreciate the fact that in the final analysis the main question to be determined is whether there is sufficient tin in the material to make it possible to extract it on a commercial basis. The fact that small amounts of tin can be found by certain methods does not necessarily mean that the ground has any real value for actual mining.

Very truly yours,

*J. H. Favorite*

J. H. FAVORITE  
Special Agent in Charge.

JHF:MM



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
DIVISION OF INVESTIGATIONS

OFFICE OF SPECIAL AGENT IN CHARGE

401 Federal Office Bldg.,  
San Francisco, Calif.,  
January 4, 1941.

RECEIVED  
JAN 6 1941  
STATE DEPT OF GEOLOGY  
& MINERAL INDS.

Mr. Robt. M. Duncan,  
Burns,  
Oregon.

Dear Mr. Duncan:

I have been authorized by our Washington office to grant further continuances in the hearings involving the Squaw Butte mining claim cases in order that more time may be allowed for additional testing of the material found on these claims. In due time I shall ask the Register of the United States Land Office at The Dalles, Oregon, to fix a new date for the hearings, and it will be understood that these hearings will not be held until we have full opportunity to make all necessary tests.

Very truly yours,

*J H Favorite*

J. H. FAVORITE  
Special Agent in Charge,  
Division of Investigations,  
Department of the Interior.

JHF:MM

✓  
CC: Mr. Earl K. Nixon,  
Director,  
State Dept. of Geol.  
& Min'l. Indus.,  
Portland, Oregon.

*n*



RECEIVED  
DEC 30 1940

STATE DEPT. OF GEOLOGY  
& MINERAL INDS.  
OFFICE OF SPECIAL AGENT IN CHARGE

UNITED STATES  
DEPARTMENT OF THE INTERIOR

DIVISION OF INVESTIGATIONS

401 Federal Office Bldg.,  
San Francisco, Calif.,  
December 26, 1940.

Mr. Earl K. Nixon,  
Director,  
State Department of Geology  
and Mineral Industries,  
702 Woodlark Bldg.,  
Portland, Oregon.

Dear Mr. Nixon:

Please accept my thanks for the information contained in your letter of December 21st concerning the mining claims in conflict with the Squaw Butte Experiment Station. Special Agent Kinsley has just returned to San Francisco and has not yet prepared his report, and I am not in a position at this time to say just what further action will be taken concerning these claims.

Very truly yours,

*J H Favorite*

J. H. FAVORITE  
Special Agent in Charge,  
Division of Investigations.

JHF:MM

*[Red handwritten mark]*



RECEIVED  
DEC 21 1940

UNITED STATES  
DEPARTMENT OF THE INTERIOR

DIVISION OF INVESTIGATIONS

STATE DEPT OF GEOLOGY  
& MINERAL INDS.

OFFICE OF SPECIAL AGENT IN CHARGE

401 Federal Office Bldg.,  
San Francisco, Calif.,  
December 18, 1940.

Mr. Earl K. Nixon,  
Director,  
State Department of Geology  
and Mineral Industries,  
702 Woodlark Bldg.,  
Portland, Oregon.

Dear Mr. Nixon:

I was glad to get your letter of December 16th concerning the alleged tin claims near Burns. Your position in this matter agrees exactly with mine. If there is tin in this material that can be extracted economically and if there is sufficient amounts of the tin-bearing material available, certainly those interested in developing war materials should have an opportunity to consider it. I have already suggested this but the trouble heretofore has been that no one yet has been able to say how much tin there really is in the material or whether it can be extracted in sufficient quantities to warrant the undertaking.

Very truly yours,

*J H Favorite*

J. H. FAVORITE  
Special Agent in Charge,  
Division of Investigations,  
Department of the Interior.

JHF:MM



December 11, 1940

Mr. J. H. Favorite, Special Agent in Charge  
Division of Investigations, Department of the Interior  
401 Federal Office Building  
San Francisco, California

Dear Mr. Favorite:

Thank you for your letter of December 9th.

Sometime before leaving Portland for San Francisco, Mr. Kinsley hinted to me that he surprisingly had obtained some metallic buttons using potassium cyanide fusion on samples that he had cut himself but I did not have a chance to ask him later whether the metallic buttons contained tin.

I called on Dr. Charlton yesterday and asked if he had been able to duplicate Kinsley's work on the metallic buttons. (I did not ask him and he did not show me the report he had made to you on the wet tin assays.) Charlton confessed that he, or rather Dr. Bushnell, his chemist, had obtained metallic buttons of almost pure tin from the same sample which Mr. Kinsley was testing although the amounts obtained by Bushnell and Kinsley were very different. The difference was readily accounted for by the furnace temperature which seems to be quite critical. This material apparently fuses and the metallic button volatilizes if brought up to 1000° as is outlined in standard method of tin analysis in the textbooks.

The point of reciting the above to you is merely to convey the idea that I am now personally convinced that we do not have the entire story on this tin matter. I am sending some of the tin samples to a very highly regarded technician for testing with the spectroscope. The answer will be interesting. We may on our own account at one of our laboratories decide to carry on some work, or we may go further with Charlton to find out what is so screwy about this allegedly tin-bearing material. If you would like to have the result of our work, we shall be pleased to give it to you.

Very truly yours,

EKN:vm

Director



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
DIVISION OF INVESTIGATIONS

OFFICE OF SPECIAL AGENT IN CHARGE

401 Federal Office Bldg.,  
San Francisco, Calif.,  
December 9, 1940.

RECEIVED  
DEC 11 1940

STATE DEPT OF GEOLOGY  
& MINERAL INDS.

Mr. Earl K. Nixon,  
Director,  
State Department of Geology  
and Mineral Industries,  
702 Woodlark Bldg.,  
Portland, Oregon.

Dear Mr. Nixon:

Please accept my thanks for the copy of letter that you wrote to the Burns TIMES-HERALD concerning the alleged tin deposit. Also, I have your letter of December 5 with general reference to these cases.

As you probably know, the plan has been for us to observe the operations of the testing plant that was built by the claimants and which has been shut down for some considerable time. I understand that the plant will soon be ready to operate, and Special Agent Kinsley is returning to Burns to check on the operations of this plant. In the meantime the hearings have been postponed until January 14.

There will be no objection to your being present at the hearing when the same is held, and whether the hearing will be held on January 14th will depend upon whether we have been able to secure sufficient data by that time.

Very truly yours,

*J. H. Favorite*

J. H. FAVORITE  
Special Agent in Charge,  
Division of Investigations,  
Department of the Interior.

JHF:MM



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GENERAL LAND OFFICE  
DISTRICT LAND OFFICE

The Dalles, Oregon,

December 10, 1940.

RECEIVED  
DEC 11 1940

STATE DEPT. OF GEOLOGY  
& MINERAL INDS.

Mr. Earl K. Nixon, Director,  
State Department of Geology,  
702 Woodlark Building,  
Portland, Oregon.

Dear Sir:

Replying to your letter of December 9th in regard to the dates of hearings involving mining locations, you are advised that the hearings which were set before H. B. Schmalz, Notary Public, at Burns, Oregon, on December 11, and December 13, 1940, have been continued to January 14th and January 16, 1941. These hearings will be heard on the later dates at Burns, Oregon, before the same officer.

There were three cases as follows:

Contest No. 2635, United States vs. F. W. Gloster, which was set for December 13, 1940, has been postponed until January 16, 1941.

Contest No. 2641, United States vs. W. H. McKenzie and R. O'Farrel, which was set for December 13, 1940, has been postponed to January 16, 1941.

Contest No. 2636, et al., United States vs. Ronald B. Crow, which was set for December 11, 1940, has been postponed to January 14, 1941.

Respectfully,

*W. F. Jackson*

Register.

*N*



December 9, 1940

The Register  
U. S. Government Land Office  
The Dalles, Oregon

Dear Sir:

A reply to my note of inquiry of December 5th, addressed to the Division of Investigations, Department of the Interior in San Francisco, is not clear to me. The letter, referring to a departmental hearing on the tin situation near Burns, states that you had requested a continuance of these hearings to January 14-16, 1941. It does not say whether the hearings will be in The Dalles or in Burns or in San Francisco.

Would you kindly advise me if the letter means that the previous tentative date of December 11th has been postponed until January 14-16 and where the hearing will be held?

Very truly yours,

Director

EKN:vm



RECEIVED  
DEC 9 1940

UNITED STATES  
DEPARTMENT OF THE INTERIOR

DIVISION OF INVESTIGATIONS

401 Federal Office Bldg.,  
San Francisco, Calif.,  
December 6, 1940.

STATE DEPT OF GEOLOGY  
& MINERAL INDS.  
OFFICE OF SPECIAL AGENT IN CHARGE

Mr. Earl K. Nixon,  
Director,  
State Department of Geology  
and Mineral Industries,  
702 Woodlark Bldg.,  
Portland, Oregon.

Dear Mr. Nixon:

Referring to your letter of December 5, 1940,  
in connection with the hearings which were set at  
Burns, Oregon, you are advised that the Register  
at The Dalles Land Office was requested to contin-  
ue these hearings to January 14 and 16, 1941, re-  
spectively.

Mr. Favorite is out of the city but will be  
back Monday and your letter will be called to his  
attention as to the attendance of some one from  
your office at the hearings.

Very truly yours,

*George S. Hedges*

For - J. H. FAVORITE  
Special Agent in Charge,  
Division of Investigations,  
Department of the Interior.

JHF:MM

*N*



December 5, 1940

Mr. J. H. Favorite, Special Agent In Charge  
Division of Investigations  
United States Department of the Interior  
272 Federal Office Building  
San Francisco, California

Dear Mr. Favorite:

We called Mr. Kinsley's hotel a day or so ago and learned that he had checked out. We wish to inquire whether your department plans to have a hearing on the tin matter, if so, when and where. We gathered from discussing the matter with Mr. Kinsley that if the samples did not show tin in commercial quantities that there would be a hearing on December 11th, probably at Burns, but the entire matter was uncertain awaiting the outcome of the assaying.

Yesterday we heard a rumor that there was to be a hearing on the tin mat<sup>ter</sup> at The Dalles, Oregon.

I do not know whether a representative of this Department would be present in the event that you do hold a hearing, but if the hearing is open to all, and if it should be convenient to us, I think I might send someone or be present myself.

If we could be of any assistance to you in the matter that might help in our making a decision.

Very truly yours,

Earl K. Nixon  
Director

EKN:ac  
AIRMAIL



UNITED STATES  
DEPARTMENT OF THE INTERIOR

DIVISION OF INVESTIGATIONS

Airmail

OFFICE OF SPECIAL AGENT IN CHARGE

272 Federal Office Bldg.,  
San Francisco, Calif.,  
November 20, 1940.

RECEIVED  
NOV 22 1940

STATE DEPT. OF GEOLOGY  
& MINERAL INDS.

Mr. Earl K. Nixon,  
Director,  
State Dept. of Geology  
and Mineral Industries,  
702 Woodlark Bldg.,  
Portland, Oregon.

Dear Mr. Nixon:

Please accept my thanks for the information contained in your letter of November 19th concerning the alleged tin deposits and the mining claims in conflict with the Squaw Butte Experiment Station.

I am sorry that I cannot agree to have Special Agent Kinsley furnish you with copies of the assay results he obtained from the samples he has taken. These are to be introduced in evidence in the case and it would be improper for me to give any one copies of them prior to the time they are offered in evidence.

I have no objection to Special Agent Kinsley discussing the matter with you and appreciate your interest and the information you have given.

Very truly yours,

*J. H. Favorite*

J. H. Favorite  
Special Agent in Charge,  
Division of Investigations,  
Department of the Interior.

JHF:MM  
CC: Spec. Agt. Kinsley



November 19, 1940

Mr. J. H. Favorite  
Special Agent in Charge  
Division of Investigation  
Department of Interior  
Box 468  
San Francisco, California

AIR MAIL

Dear Mr. Favorite:

I have had the pleasure of two visits from your engineer, Mr. Kingsley, in the last few days. We have discussed the tin scare just outside of Burns, Oregon.

For your information, I went over the so-called tin claims with Judge Duncan and G. Earl Hagey in December, 1939, took two samples at points where Hagey indicated to me that they had obtained commercial assays for tin, and sent these samples to the United States Bureau of Mines' laboratory for spectroscopic and chemical assay. The result was, "No tin detected".

Recently when the tin people held open house for various notables, including the Governor and the Secretary of State of Oregon, our engineer, Mr. Libbey, was present and took several samples of the alleged ore as well as samples of material being fed to the furnace. We had these samples tested by three different laboratories, including the U. S. Bureau of Mines' laboratory, and all of them reported no tin.

I have agreed to satisfy Judge Duncan and ourselves as to the question of merit and commercial possibilities of this enterprise. Meantime, we were pleased to note the coming into the picture of your department. I have been quite frank to Mr. Kingsley and given him information which might be of some assistance,--for example, my knowledge of the past record of the elderly engineer who was in charge of the job.

We are wondering if you would be willing to authorize Mr. Kingsley to furnish us with a copy of the assay results of his sampling. They will be ready, I gather, late this week. If you would do this, I would appreciate it very much. I am making this request partly at the suggestion of Mr. Kingsley who felt that it might not be within his province to divulge the information without your approval.

If we can cooperate with you at any time--now or in the future--kindly call on us. Thanking you, I am

Very truly yours,

EKN:vm  
cc: Mr. Kingsley

Director



August 25, 1941

Mr. William Huntley Hampton  
Consulting Mining and Civil Engineer  
2037 S. W. Park Avenue  
Portland, Oregon

Dear Mr. Hampton:

Thank you kindly for your letter of August 24th with which you enclose your letter to Mr. Derry. I am very much interested in your results and am taking the liberty of sending copy of your letter to our Dr. H. C. Harrison who is now working on the same problem.

As you must appreciate, this tin controversy has been very embarrassing to me. I have been bull-headed on it from the first--not because I am convinced that tin is present in commercial quantity in the Squaw Butte deposits, because I am not, but rather because I feel that there has been entirely too much loose talk by individuals including, strangely enough, a lot of otherwise good engineers. Right or wrong, I have felt and still feel that none of us knows enough of the facts in regard to this alleged occurrence of tin. I have listened to both sides, have been soundly criticized by both sides for my attitude, but I am still holding to my original thesis.

In line with my feeling in the matter I put our Dr. H. C. Harrison, whom we employed this summer as spectroscopist and chief chemist, on this problem and he has been working with available facilities at Oregon State College for nearly a month. Harrison has a research type of mind and has started work with a perfectly open mind as to what results may come. Incidentally, he has been professor of chemistry at Cornell and another large eastern university for the past nine or ten years and impresses me as being quite sound!

I don't know yet what results, if any, he is getting as I have been out of touch with him most of the time. I am suggesting to him, however, that he call on you when he comes to Portland as he will one of these days so that you can discuss this tin matter.

I have been promising myself a visit with you for a number of months, but it appears that I am one of the worst procrastinators. However, when Harrison comes up, I shall definitely plan to run up with him and see you.

Again thanking you, I am

Sincerely yours,

EKN:vm

Director



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PORTLAND, OREGON

2037 S.W. Park Ave.

August 24, 1941

Mr. Earl K. Nixon,  
State Department of Mines,  
Woodlark Bldg,  
Portland, Or.

Dear Sir:-

I have noted the tin controversy in the papers recently and that you stood up against the findings of the Geological Survey pronouncement of absence of tin, etc.

I exposed the tin frauds in southern Oregon some years ago and was doubtful of the existence of tin in the obsidian when I was shown some samples sometime ago by Mr. Derry.

I recently got a sample from Mr. Derry expecting that I might make another expose and settle the controversy and confirm the conclusions anyone versed in mineralogy would arrive at when viewing the samples. I was very much surprised to find that the Obsidian does carry tin in quite a percentage. Heretofore unknown as a silicate combination in an uncrystalline magma. Tin, in a few instances has been sparingly found in some silicates with some of the rarer elements but not to such an extent as the present instance.

I am enclosing a copy of my letter to Mr. Derry on my findings for your information and hope it will be helpfull.

Yours very truly,

RECEIVED  
AUG 25 1941

STATE DEPT OF GEOLOGY  
& MINERAL IND.

*Wm N. Hampton*

correct  
D