State Department of Geology and Mineral Industries

RS/11

Misc.

702 Woodlark Building
Portland, Oregon

Report by: N. S. Wagner
Date exam: 2/13/47

TEN-MILE RIDGE CLAIMS ($CaCO_3$ and $MgCO_3$) UNCLASSIFIED DISTRICT LAKE COUNTY

Owner:

Ross Small, Box 310, Lakeview, Oregon

Delbert Baker, Summer Lake, Oregon

Location:

T 31 S; R 18 E; S 34. This is on the east side of Summer Lake valley and 12½ miles by dirt road from state highway #31 at Paisley. The nearest rail connection is at Lakeview, and is 58 miles distant to the south of the claims. The next nearest rail connection is at Lapine which would be about 88 miles distant to the northwest of the claims given an access road along the west side of Summer Lake from the claims to the town of Summer Lake.

Area:

Six placer claims.

History:

It was originally believed that soda existed here and application for proper title was made accordingly. When the identity of the material was established as being chiefly calcium carbonate, the present claims were filed. There has been no past production here of previous history of significance.

Development Work:

Development work to date has consisted of one pit and several shallow bulldozer cuts to expose portions of the deposit, and a few hundred feet of access road.

Geology:

The formations of especial interest on these claims are for the most part loosely consolidated lake beds. One is a brownish-colored ~~coquina~~ Marl which is a rock composed largely of (sea) shells or fragments thereof. The other formations are white to light gray in color and powdery in texture. All are calcarious.

The coquina seemingly underlay the fine-textured formations on these claims, but the exposures seen were too far separated for the relationships to be established conclusively. Insufficient time was available for more than a reconnaisance examination and most attention was directed towards sampling the various formations with the view of establishing their grade. However, similar formations are known to occur elsewhere in the Summer Lake valley and it is quite possible these formations, or similar formations, are repeated several times in the lake bed series.

The development work on these claims was not so located as to permit precise measurements of the various formations. Substantial amounts of the light-colored, fine-textured formations occured on the claims where they were exposed by erosion as long low ridges and small, rounded hills. The coquina strata seen was exposed only in a gully, but surface exposures reportedly exist. The Thickness as seen in the gully amounted to only a couple feet of clean coquina asthe formation graded rapidly into normal clastic lake bed material of a non-calcarious nature. Coquina thickness ~~of~~ up to 15 feet, however, are reported. As already stated these formations are known to occur elsewhere in the valley and in line with this, variations in thickness of the formations as well as variations in thickness and nature of overburden are to be expected.

Samples taken and the results thereof are as follows:

	Ign. Loss	Silica (SiO_2)	R_2O_3	Calcium (CaO)	Magnesium (MgO)	Phos. (P_2O_5)	Sol. Salts
Coquina formation (HB-22 #4)	37.04	10.50	9.28	32.26	10.86	.25	.90
Fine textured gray material which appears to overly the coquina formation. (HB-19 #1)	15.30	39.34	21.02	13.10	5.20	.24	2.87
White colored layer 3 to 4" thick which overlies the gray horizon. (HB-20 #2)	35.46	15.60	10.06	23.83	14.56	.58	3.02
Hard, fine grained white capping layer. (HB-21 #3)	41.50	5.50	5.12	28.79	19.26	.11	.74

Analytical results of samples of materials similar in appearance to the foregoing, but submitted to this Department for analyses on the routine service basis, and reported as originating in T 32 S; R 18 E; S 11, 12, 14, and 16, are included as a supplementary page in this report. Included also as supplementary, are copies of analyses made for the owners by a commercial laboratory and by a seed and fertilizer company.

Although the coquina is clearly a lake bed formation, certain aspects of the loosely consolidated, fine textured beds seen, suggested that they might have originated, in part at least, from hot spring deposition. This was particularly so in the case of sample HB-21 #3 which represents a thin, but dense and compacted, capping, surmounting the powdery, fine grained formations. This capping was white and broke with a siliceous sort of fracture. It commonly did not give a calcarious reaction with acid, so that on such occasions as it did, the presumption followed that a limey coating or streak had been encountered in an otherwise non-calcareous formation. In view of this, a portion of the sample of the formation was earmarked for petrographic examination.

Analytical results show this formation to actually have the lowest silica content of all the formations sample. Its magnesium content is the highest, and it has the second highest CaO content.

The petrographic examination showed it to be made up largely of a carbonate mineral in the form of fine aggregates. A leached portion of the sample did not contain any of the carbonate mineral. The main impurity is plagioclase. Hypersthene, hornblende, basic volcanic glass, and chalcedony or opal, or both, and a few diatoms are also present. The mineralogic nature of the magnesium content has not been established.

General Information:

Assuming these materials to be of commercial value, the working conditions on these claims with respect to year round operations would be satisfactory as annual precipitation would impose no great difficulties. With respect to access to the nearest paved highway, topographic relief is a minumum and the nature of the ground in most places would make a solid and sound roadbed. Water is lacking and would have to be obtained from drilled wells.

Economics:

The coquina has the highest $CaCO_3$ content of the various calcareous formations sampled, and it most likely will be found to be the most consistently high. This $CaCO_3$ content however, is far lower than that of good limestone, and its neutralizing value for agricultural purposes is also lower accordingly-------so much so that any commercial value of a product made from the coquina would be limited to a local market within easy trucking distance of the deposits, and this because of the absence of a local source of a truly high grade lime. How far such a market could be extended would be governed almost entirely by distribution costs and the ability to compete with higher grade products.

Informant: Ross Small
Published Reference: U. S. Water Supply Paper 220 by Waring
Petrography: W. D. Lowry
Analyses: L. L. Hoagland

Samples of similar materials from T 32 S - R 18 E - S 11, 12, 14, & 16, were submitted to this Department for analysis. The results are as follows:

P-5688	Ignition loss	29.30%	
	Silica (SiO_2)	22.58%	
	Iron & Alumina (R_2O_3)	11.46%	
	Calcium oxide (CaO)	25.58%	Equivalent to 45.35% $CaCO_3$
	Magnesium oxide (MgO)	10.13%	Equivalent to 21.13% $MgCO_3$
	Phosphorus (P_2O_5)	0.17%	
	Nitrates	None found	
P-5689 (coquina)	Igniton loss	43.22%	
	Silica (SiO_2)	4.54%	
	Iron & Alumina (R_2O_3)	2.36%	
	Calcium oxide (CaO)	34.49%	Equivalent to 61.39% $CaCO_3$
	Magnesium oxide (MgO)	14.78%	Equivalent to 30.82% $MgCO_3$
	Phosphorus (P_2O_5)	0.12%	
	Nitrates	None found	

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Analyses of samples taken by the owners and analyzed by commercial laboratories:

Sample		Lab I	Lab II
"Shell rock"(coquina)	Neutralizing value (as $CaCO_3$)	80.5 %	67.5 %
	Phosphate	0.12%	0.08%
Sample			
"Fine lime dust"	Neutralizing value (as $CaCO_3$)	60.8 %	63.5 %
	Silicia & Insol	26.1 %	
	Phosphorous as P	0.07%	.23%
	" " P_2O_5	0.164%	

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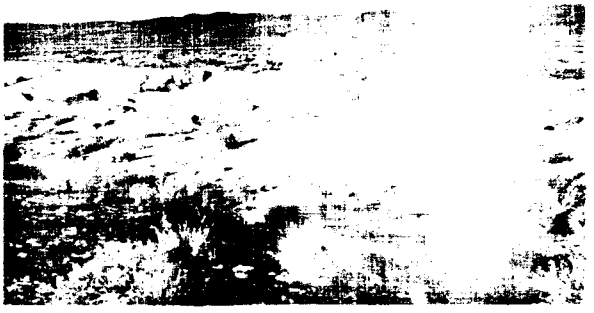
Tin Pinole Ridge Claims
N S Wagner 4/13/47

Unclassified
20 ft. B.T.

$CaCO_3$
$MgCO_3$

General view of the valley showing nature of exposures. Low rounded hummocks like that **in the left foreground are common as** are ridges seen in the **distance. The coquina exposure is situated several hundred yards to the left of this view at about the point where Mr. Small is standing.**

Close-up of rounded hummock in above picture. Sample HB 19-#1 originated here.



View of ridge in the picture [illegible]e, but from a nearer point.

The coquina as exposed in pit in gully in extreme left corner of picture. Although thin and poorly exposed here substantial thicknesses are reportedly well exposed elsewhere on these claims and in this general portion of the valley.

Ten Mile Ridge Claims		Ca & Mg Carbonate	
NAME	OLD NAMES	PRINCIPAL ORE	MINOR MINERALS

31 S	13 E	34
T	R	S

Lake ..... COUNTY

Unclassified ..... AREA

about 4,300 ..... ELEVATION

..... ROAD OR HIGHWAY

..... DISTANCE TO SHIPPING POINT

PUBLISHED REFERENCES

Water Supply Paper 220---Waring

MISCELLANEOUS RECORDS

PRESENT LEGAL OWNER (S) Rose Small ..... Address Box 310 Lakeview, Oregon .....

Delbert Baker ..... Summer Lake, Oregon .....

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OPERATOR ....

Name of claims	Area	Pat.	Unpat.
Six placer claims			x

Name of claims	Area	Pat.	Unpat.

EQUIPMENT ON PROPERTY

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