

Esmeralda County - Tule Canyon
from Fred Green

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Item 11

A PRELIMINARY ESTIMATION OF COMPARATIVE CONTENTS
OF MONAZITE, URANOTHORITE AND RADIOACTIVITY OF CONCENTRATES
FOUND IN SEVERAL WESTERN DREDGING FIELDS

Two tests for monazite have been made of the granitic gravel area near Gold Point, Nevada; and, ~~here~~ estimation of uranothorite as 1:10 monazite. Test 1, was on a 1:400 magnetite free concentrate which gave 6.62 % Test 2, was on a 1:100 rough rocker run concentrate and gave 1.50 % app.

Thus the two tests, assayed by Lindsay Chemical Company, Chicago, agree roughly; and a concentrate of 1:200 is assumed to compare with concentrates tested and reported upon in MITG-201, from 6 California, 1 Idaho and 1 Montana dredging fields, hereafter listed:-

Field.	State.	Monazite %	Uranothorite %	Radioactive equivalents
Merced-LaGrange	California	.5	1.25	1.57
Mokelumne River	California	.2	.08	.112
Consumne River	California	.5	.01	.040
American River	California	.4	Tr	.018
Yuba River	California	.1	.01	.0091
Feather River	California	.2	.01	.0137
Boise Basin	Idaho	15.0	Tr	.540
Helena	Montana	.5	.015	.050
→ Gold Point	Nevada	3.0	.30	.35

These findings are certainly indicative of the great differences that occur in various fields, but they leave much to be desired as comparisons because the ratio of concentrates to gravel processed was not determined in the tests; and efforts to obtain the more recent Bureau of Mines tests results, which were no doubt better planned and more thorough, have met the stone wall of "for official use only" or "classified".

Besides the two principal radioactive minerals found in the western placer fields, each field has other minerals that have contributed minor factors to the total of the registered radioactive equivalent. Certain of the zircons in all fields are slightly radioactive, and although reports show little uranothorite in the Idaho area, it is reported by Mr. Kline that smarskite, eumenite, fergusonite, and brannerite are encountered in the Idaho sands; Mr. George mentions the radioactive zircons and possibly thorianite in the Helena, Montana report.

When proper tests of the Gold Point, Nevada sands are made, it would occasion no surprise ~~that~~ it will prove to have a long list of radioactives in the minor amount and trace categories; due to the considerable proportion of pegmatic formations that contributed to the areas gravels.