

REPORT OF TERRITORIAL ASSAYER.

His Excellency, J. W. Hoyt, Governor of Wyoming.

DEAR SIR:—In accordance with the legislative requirements pertaining to my office, I submit to you the following report :

The office of territorial assayer was created by the last legislature of Wyoming, and on the 9th, of Sept. 1878, I received my commission. I immediately ordered the necessary material for the establishment of an assay office, and proceeded to Rawlins for the purpose of securing an appropriate building. I found it impossible to do this as there was no building vacant which could be secured at reasonable terms. In the emergency I rented the stable of Homer Morrell, Esq., situated about one-half a mile from town, and proceeded to fit it up for an office. The material and supplies ordered from New York were delayed at Omaha, so that it was the middle of November, 1878, before I was ready to assay.

The material ordered from New York consisted, among other thing, of a fusion furnace, mfflue furnace, covered platinum crucible, retort and condenser, beakers, glass tubes and rods, and an apparatus for determining the flashing and burning points of oils.

Beginning with the assay apparatus I would state that I am enabled by means of the above apparatus to make two kinds of assays, crucible assay or scorification assay. The latter is the one employed in the west as it requires for assay much less material and is far more expeditious. I may in fact state that I can make twelve scorification assays to one crucible assay, but on the other hand the scorifica-

tion assay is not reliable for low grade gold ores as the amount of ore which can be used for assay is too small. An explanation of the two methods of assay would not be desirable or interesting in this report, therefore I shall simply state that the usual charge of ore for a scorification assay is one-tenth of an assay ton (less than 50 grains of ore) while 4 assay tons may be charged in a crucible, but the latter method is also much more expensive. The kind of assay to be employed for an ore should be left to the discretion of the assayer, as the methods are equally reliable for certain kinds of ore, notably rich gold ores and all silver ores.

The covered platinum crucible is used for determining the coking properties of coal. The condenser and retort for making fractional distillation of crude oils. And the other apparatus, consisting of beakers, glass rods, tubes, etc., for making any kind of chemical analysis which may be required, so that I may state that the Territory of Wyoming has at this time the finest assay and chemical laboratory west of the Mississippi river.

The appropriation, of \$1,000, made by the legislature was not sufficient to meet the demands made upon us, the surplus being advanced by Mr. Blydenburgh and myself and for which I shall present a relief bill to the next legislature.

Considering the excellent character of the office, its success has not realized my expectations, the chief cause of this is to be found in the clause of the legislative act which imposes a penalty of \$300 per assay on all persons who send ore unaccompanied by an affidavit. It is generally true that the parties who send ore to the office for assay, did not find the ore themselves, but had it given to them by others; now such parties cannot make such an affidavit stating where ore was found, giving depth of shaft, length of tunnel, etc., and it is manifestly unjust that a penalty of \$300 per assay should be imposed upon

Message of Governor Hoyt to the Sixth Legislative Assembly of Wyoming Territory, November 4 1879 (Cheyenne Leader Steam Book and Job Printing House, 1879)

them. From this cause alone we have lost fully 400 assays of North Park ores which have been sent from Cheyenne to Denver, Georgetown and elsewhere. The price of \$1.00 per assay for gold and silver, and an additional \$1.00 for any other metal should be the uniform one with or without affidavit.

The appropriation made for assayer's fees has been inadequate, as seen by the following statement to Sept. 30, 1879:

Total number of assays 253, total charges	\$445.00
Unpaid on books	80.00
Total amount received on assays	365.00
Add amount of appropriation	600.00
Total	\$965.00

DISBURSEMENTS.

Paid for chemical supplies	\$209.61
“ “ fuel	81.30
Homer Merrell's rent from July 14, to Oct. 14, 3 months at \$15 per month	45.00
Total	\$335.91 335.91

Net receipts, \$629.09

Chemicals and supplies purchased by the assayer on personal account:

Boneash, 150 lbs. @ 20 cents,	30.00
Borax, 100 lbs. @ 15 cents,	15.00
Bi-carbonate soda, 100 lbs. @ 7½ cents,	7.75
Litharge, 100 lbs. @ 15 cents,	15.00
Test lead, (chemically pure) 100 lbs. @ 63 cents,	63.00
Scorifins, 500, @ 3 1-10 cents,	15.50
Crucibles, 100 nests @ 25 cents,	25.00
One dozen roasting dishes, @ 13 cents,	1.56

Amount carried forward 172.81

Amount brought forward,	172.81
Sulph. acid, 18 lbs. @ 30 cents,	5.40
Nitric “ 75 “ @ 30 cents,	22.50
Muriatic acid, 18 lbs. @ 30 cents,	5.40
Aq. ammonia, 5 lbs. @ 25 cents,	1.25
Bi-carb. ammonia, 5 lbs. @ 25 cents,	1.25
Argol, crude, 5 lbs. @ 20 cents,	1.00

Total, \$209.61

The cost of supplies and chemicals, \$209.61, was not the cost of what was consumed, but the cost of the amount purchased, the half of which is not yet consumed. Mr. Merrell's rent was paid out of the appropriation until consumed, and the cost of fuel for office is properly chargeable to the Territory also, therefore the above expenditure has fallen upon us only by reason of the inadequacy of the appropriation, and I would therefore beg to present this bill of \$335.91 to the consideration of the legislature as a relief bill to re-imburse me for my personal expenditure.

I would also suggest, for the consideration of the legislature, that the clause in reference to affidavits in the original act be stricken out as I have had but twenty-eight affidavits presented during the year.

It is unnecessary for me to speak of the importance of having a good assay office and a reliable assayer at home (*i. e.* in the Territory) for every one who has been compelled to send his ores out of the Territory will realize it.

In conclusion I would say that I hope the next legislature will make such changes in the office that it may be a source of profit, not only to the assayer, but also to Wyoming prospectors and mining speculators.

Very respectfully submitted,

J. G. MURPHY,
Territorial Assayer.

Office of Territorial Assayer,
Rawlins, Oct. 1, 1879.