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R E P O R T

ON

THE GOLD STANDARD PLACERS

ON

LITTLE BIG HORN RIVER. SHERIDAN COUNTY,

WYOMING.

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SITUATION.

The Gold Standard Placers are situated in the Big Horn Mountains, near the head waters of the Little Big Horn River, in the northwestern part of Sheridan County, Wyoming, being located in the unsurveyed township described as Township 56 North, Range 91 West, distant about thirty-five miles by wagon road, southwest from Parkman Station on the Chicago, Burlington & Quincy Railroad, the nearest railroad point, all as shown on the outline map of this vicinity accompanying this report.

EXTENT.

The placers consist of thirty-five placer claims located along the course of the Little Big Horn River and tributaries, as shown on sketch map accompanying this report, and listed as follows:-

1. Elliott.
2. Scotland.
3. 20th Kansas.
4. Hawkeye.
5. Buckeye.
6. Yale.
7. Elinor.
8. Eagleside.
9. Josephine.
10. Catherine.
11. Alma.
12. Mary Louise.
13. Honey Peddler.
14. Golden Age.
15. Cabin.
16. Pittsburg.

17. Empire.
18. McCormick Bar.
19. Mary S.
20. Constitution.
21. Washington.
22. Lafayette.
23. Independent.
24. Ethel.
25. Carnival.
26. Imperial.
27. Colonial.
28. Gold Run.
29. Gold Standard.
30. Calumet.
31. Mountain Belle.
32. Model.
33. Merrie England.
34. Walton.

35. Kaw's Mouth,

making a total of about six hundred and fifty acres of placer land.

TITLE.

All the above claims are held by location and discovery under the laws of the United States and the State of Wyoming, by the Gold Standard Mining, Milling and Improvement Company, of Huron, South Dakota, with offices at 323 Bryant Building, Kansas City, Missouri, as shown by the county records at Sheridan, Wyoming.

Numbers 13, 14, 15, 16, 17, 18 and 19 are held by Mr. F. R. Moulton, of 323 Bryant Building, Kansas City, Missouri, not having been as yet transferred to the company, but Mr. Moulton stated to the writer that this would be done at the request of the company at any time.

THE BIG HORN MOUNTAINS.

This range extends from Central Wyoming to the Montana-Wyoming state line, and forms the principal water shed of the Eastern Rocky Mountains.

Here the mountains rise abruptly from the Central Great Plains region, the many smaller ranges of the group forming a series of high peaks, broad table lands, narrow valleys, canons and gulches, and the whole covering an area of about one thousand square miles of mountainous region.

The altitudes vary from seven thousand feet to twelve thousand five hundred feet, the average altitude being about eight thousand five hundred feet above sea level.

Numerous rivers and streams rise in this range and flow off on all sides towards the principal water ways of Wyoming, Montana and adjacent states; prominent among these is the Little Big Horn River, on which these placers are located.

The Little Big Horn rises at a point just north of Bald Mountain on the summit of the range and flows northerly through a deep canon, out to the Great Plains where it joins the Big Horn River at a point near Fort Custer in Montana.

The general aspect of the scenery and conditions, timber, etc., may be noted from the attached photographs, taken on the ground by the writer and Mr. W. S. Moulton. The whole range is included in the Big Horn Forest Reserve and so marked on all official publications.

GENERAL GEOLOGY.

The geology of the Big Horn Range may be briefly described as a great core of reddish granite, having a general north and south direction, flanked on all sides by white and red limestones and succeeding sedimentary formations.

The limestone extends over a greater portion of the range, leaving islands and small exposures of the granite visible at many points in the limestone area.

In the northern portion of the range the "Deadwood Formation" is the most prominent feature, and the composing quartzites, sandstones and iron stained conglomerates form a considerable portion of the sedimentary formations, as well as forming a distinct feature in the wash of the various streams.

Dykes of diorite, diabase and similar rocks are to be noted throughout the granite areas, and boulders of these

rocks are prominent in the wash of all the streams.

THE GOLD STANDARD PLACERS.

As shown by the attached maps, these placers are located along the course of the Little Big Horn River, and are so located as to cover the stream bed and adjacent bars in what appears to be the best and most economic manner for practical development. The group naturally divides itself into three portions, as the work already performed has shown a distinct difference in condition of the gravel at these three points, may be taken as the Northern, Middle and Southern portions. As the stream has a northerly course from its source, the most northerly portion of the group is considered the most available for larger work to be installed as soon as arrangements can be completed for the laying out of the work.

NORTHERLY PORTION.

Commencing at the northerly or lower end of the group, the two claims noted on the map as "Elliott" and "Scotland" were taken mostly for the purpose of providing ample dump room when large operations are installed above them, and, at

the present time, are not considered in the scheme of placer development. At a point near the southerly end of the "Twentieth Kansas" claim, the bed of the river approaches a narrow canon some two hundred feet wide and having a length of about six or eight hundred feet. This is locally known as the "neck", and, at the northerly end of this neck is considered the most available point to begin the heavy development work of this group.

The gravel at this point consists of granite, diorite, quartz, boulders and pebbles, and, from inspection of the ground, it is evident that a rock crane will be necessary to remove the larger of these boulders, but it is considered that the greater portion of this mass can be moved by means of giants and the usual hydraulic machinery. With a properly prepared pit, it is quite evident that the tailings will take care of themselves in the usual manner, owing to the steep grade of the canon below this point.

The depth of the gravel here and at other points is at present unknown, as it has been found impossible up to the present time, with the means at hand, to handle the heavy underground flow of water noted at all points through the upper Little Big Horn valley, hence no estimate is made in this report as to the number of yards of gravel to be handled.

It is evident, however, that this yardage will be enormous and provide working material for the heaviest practicable hydraulic plant for many years to come.

At the present time it was impossible to do anything but make some pan tests of the gravel along the banks of the streams at this point, and values were encountered in nearly every case, indicating that there is a considerable gold content in these gravels which would justify the further opening up and development on a commercial scale.

PRELIMINARY INVESTIGATIONS.

It is recommended that an accurate survey by a competent engineer be made of the entire group, making such relocations as may be necessary to complete the work of location and tying in of the various claims of the group with each other in a practicable manner; also that this survey include an accurate taking of all levels throughout the group so as to give a complete exposition of the flow and grade conditions at the various working points, the same to be shown on practicable working sections and maps, so that future work may be planned with accuracy and intelligence.

From a careful observation of the conditions noted in

the vicinity, it is evident that a ditch from a point below the mouth of Dayton Gulch to a point below the "neck" will provide a considerable fall through which the entire flow of the Little Big Horn could be handled for hydraulic purposes. In addition to this, the waters of Dayton Gulch may be turned by a ditch to a point above this hydraulic work and a greater fall secured for this water for supplementary hydraulic work. At this time it is recommended that the practicability and expense of turning the waters of Lick and Lake Creeks into the head of Dayton Gulch for further power and water be carefully considered and shown on a proper map; and, in case this is found to be possible within a reasonable cost, as it now appears from investigation of the ground, this work should be taken up without delay and all additional power possible be directed to the commencement of the hydraulic work at the point above indicated. At the same time, further ditches from accessible points of the Little Big Horn should be considered and shown in their relation to the above work.

Owing to the late season which prevailed in the mountains of Wyoming during the present year, it is considered that all that will be possible to accomplish this year will be the surveying and determination of these points, and it is strongly recommended that this work be taken up at once.

THE CENTRAL PORTION.

As will be noted in the photographs accompanying this report, the gulch immediately above the "neck" widens out into a broad flat, which continues for nearly two miles, and it is here that the greater amount of the gravel of these placers will be found. As before noted, it has been found impossible, with the limited means at hand, to sink a shaft to bed rock through this gravel. Various attempts have been made, but were compelled to be abandoned after reaching a depth of anywhere from twelve to twenty feet, owing to the strong underground flow of water which literally drove the miners out of the shafts. It is considered desirable that this work be further prosecuted to determine the depth of gravel and the values at bed rock, but, unless it can be done at a reasonable cost, it is considered that the money would be employed to better purpose in installing the hydraulic plant at the neck below, and other work to be hereinafter mentioned.

To sink a series of these shafts will require a heavy steam capacity, installation of heavy pumping and entail a considerable expense in labor and similar items. At the time of the writer's visit, a brief inspection was made

of a steam pumping plant now at a point on Bald Mountain, some seven miles from this point, and the suggestion was made by the writer, that the matter be taken up with the owners of this plant, and, if satisfactory arrangements could be made for the practically free use of the machinery until this preliminary work was completed, that this plant be removed to these placers and used for the sinking of these shafts, in connection with the steam and pumping machinery now on the ground. This was made in the nature of a suggestion for investigation, and the actual cost determined, as it was considered by the writer that this would be much more economical than to purchase and install new machinery at this time.

WORK ON THE PITTSBURG CLAIM.

At a point on the Pittsburg claim, opposite what is known as the "Davidson Cabin", a long cut has been made to a depth of some ten feet through the gravel, and the gravel sluiced in the usual manner. This has been the method employed through these placers, but mostly on a small scale, and the universal testimony of the miners of this district is that good values have been encountered. Pan tests in this cut showed considerable fine gold, but no deep test pits could be

sunk, for the reasons before stated. It is recommended that this cut be extended from the present head to an old shaft which is said to have reached a depth of twenty-five feet, but is at present inaccessible, and that an accurate record be kept of the yardage handled and results obtained in regard to actually demonstrating gold contents of the gravels at this point.

By commencing this work at a point near the present mouth of the cut and continuing on a uniform grade to the shaft, a depth equal to the shaft depth will be obtained and will offer a practicable working test of the gravel. It is recommended that the present ditches and work necessary to complete this test be repaired and placed in shape to perform this work as rapidly as possible, and to complete this and as much of a cut as may be possible beyond the shaft before the close of the present placer season. In the writer's opinion, this is one of the most important works to be done, and should be taken up without delay.

THE SOUTHERN PORTION.

As will be noted on the accompanying photographs, the southerly portion of the group is very heavily wooded, and for the present it is recommended that all work be confined to

the present stream beds and accessible bars, which can be done on a small scale without machinery or clearing the adjacent ground.

At a point on the Lafayette claim, a cut has been made at the bed of a small tributary stream, and it is recommended that this work be completed during the present season and a clean-up made at this point, as numerous pan tests made here showed a considerable result. It is considered by the writer a good point to demonstrate gravel conditions on these southerly claims.

At various points south and west of the Lafayette workings, considerable work has been done in former years, but, at the present time, no work is in progress at this point, and it is recommended that all work for the present season be confined to the Lafayette and Pittsburg openings, and the investigation work at the "neck", as before outlined.

In an area as large and scattered as these locations necessarily are, in order to cover the desirable points of the field, it is impossible to do much successful work unless it is concentrated at the most available points for preliminary work, hence it is strongly urged that the work be concentrated, as above, and the best possible results obtained from the gravel worked.

MAGNETIC MACHINERY.

At all portions of the field tested, a considerable amount of black sand was noted, heavier in some places than others, and, in former years, a magnetic separator has been installed by the Messrs. Griffith Bros., but, at the time of the writer's visit, this machinery had not been set up, owing to the lateness of the opening of the season, and hence no opinion of this machinery may be included here. It is recommended, however, that this machinery be used for further tests in connection with the work at the Pittsburg or Lafayette cuts, and that every opportunity be offered to demonstrate its efficiency in handling these gravels, as, in the writer's opinion, it will be necessary to separate these magnetic sands from the values in order to obtain a close saving.

PLACER GOLD AND VALUES.

As before noted, it was found impossible at the time of the writer's visit to make an extended investigation of the deeper gravels and their contents, hence the work was entirely confined to panning at the most available points. The results of these panning tests were uniform, and, as a rule, showed

small gold values, those at the Lafayette cut being the greatest in amount. The gold encountered was in the form of fine, flat grains, the edges being jagged, and present a general appearance of being derived from sources not very far distant, as in many cases the grains were entirely free from water wearing and present sharp jagged edges when noted closely under a glass.

For the reasons above stated, the writer does not submit figures as to values per yard of this ground, as, in his opinion, the same can only be determined by handling a large amount of this gravel on a commercial scale, as outlined for the Pittsburg cut, and computing gravel values per yard, as determined by this actual test. The writer states, however, that his personal opinion is that these gravels contain a considerable gold content, as evidenced by the results of the pan tests, and are, in his opinion, commercial gold gravels.

WATER SUPPLY.

Records of the Irrigation Investigations Bureau have shown that the flow of the Little Big Horn and its tributaries are practically constant during the summer months (after

the spring freshets are exhausted) and it is recommended that the streams be accurately measured during the survey, above outlined, in order that the power and other data may be accurately computed at the completion of this work. At the time of the writer's visit, no facilities were at hand for this work, and it was considered advisable to have it done in connection with the above survey, as stated.

TIMBER.

As before noted, and as shown by the accompanying photographs, there is abundant timber for all purposes at various points along the group, which may be felled under the direction of the Forest Supervisor of the Big Horn Forest Reserve, and used for all required purposes. A small saw-mill installed at this point during the construction of the ditch and flume and other work will be found to be economical, and will contribute greatly to the economy and success of this work, as the lumber may be manufactured, as required.

ROADS AND SUPPLIES.

Reference to the general map will show roads from

Parkman, the present nearest available railroad point over which supplies are brought in and distributed to all points of the district of the Big Horn Mountains. It is recommended, however, that additional surveys be made to determine the practicability of a shorter and more accessible route from both Parkman and other railroad points on the east and west sides of the mountains. In the writer's opinion, this is a very important matter, and should be given due consideration before any expenditure is made on the construction or improvement of any one route.

Parkman Station is the nearest available supply point where mining and all necessary supplies may be had or delivered from the supply centers of Sheridan, Omaha or Denver, as may be found most desirable for purchase. As the Sheridan community is an old settled community, prices have reached a standard basis, and it is usually considered merely a question of securing the delivery of supplies rather than a small differential in prices.

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It is the writer's opinion that the Gold Standard

Placers present an excellent opportunity for the development of a large enterprise on a commercial scale, and that the investigation work should be carried forward at once, being amply warranted by the conditions noted on this ground.

It is especially urged that the investigation work herein outlined be completed as soon as possible, and that all consideration be given to the points emphasized herein, as it is believed these have the most important bearing on the proposition.

Respectfully submitted,

Herman L. Beal.

State Geologist.

Date of Examination, July 12th to 20th, 1908.

Photograph Number 1.

A general view of the Upper Little Big Horn Valley, from Little Bald Mountain, looking northerly and illustrating the general aspect of the Gold Standard Placers vicinity.

Photograph Number 2.

View looking nottherly and down the "Neck" from a point on the Hawkeye Claim, showing the narrow condition of the river bottom at this point: the hydralic works to be installed at a point opposite the high cliff at right of picture.

Photograph Number 3.

View showing creek bottom, gravel and boulders, miners panning for gold and general conditions on the 80th Kansas Claim, near the "Neck".

Photograph Number 4.

A view looking northerly and across the Hawkeye Claimtowards the "Neck", below Dayton Gulch , showing site for ditches on hillside beyond main placer flat.

Photograph Number 5.

View looking easterly and up Dayton Gulch, from a point on the Hawkeye Claim, and showing old shafts on the main placer flat in the foreground.

Photograph Number 6.

A view looking southerly up the main placer flat on the Little Big Horn River, showing shafts sunk in gravel etc; from a point on the 20th Kansas Claim, below Dayton Gulch.

Photograph Number 7.

View looking southerly at the main cut on the Pittsburg Claim, near the "Davidson Cabins"; this is the point where active work is recommended for the present season.

Photograph Number 8.

View showing the creek bottoms and general conditions at a point on the McCormicks Bar Claim, looking southwesterly towards the Constitution, Washington and adjoining claims.

Photograph Number 9.

View looking northeasterly across the McCormicks Bar, Pittsburg and adjoining claims on the Little Big Horn River, towards payton Gulch and lower end of the placers.

Photograph Number 10.

A view looking westerly on the Washington Claim , showing the timber and general surface conditions on this branch of the placers.

Photograph Number 11.

View showing the lower end of the Lafayette Cut, showing the granite outcrops, surface conditions, trees etc at this point.

Photograph Number 13.

View on the Lafayette Claim looking westerly, showing the upper portion of the Lafayette Cut, where it is recommended that work be done during the present season?

Photograph Number 13.

View looking southerly on the Ethel Claim, showing timber and general surface conditions of the sotherly portion of these placers.

Photograph Number 14.

View on the Carnival Claim, showing the live timber and the surface conditions on these claims.

Photograph Number 15.

View looking southwesterly on the Cabin Claim, showing the "Davidson Cabins" and general aspect of the camps.

Photograph Number 16.

View of the placer cut on claims of Mr Ben Dunshee, near the Gold Standard Placers and shwing the general working conditions of the cuts, sluices, etc.