GLENFINE SOUTH GOLD MINING CO.

Location

GLENFINE ROAD WERNETH, GOLDEN PLAINS SHIRE

Municipality

GOLDEN PLAINS SHIRE

Level of significance

Heritage Inventory Site

Heritage Inventory (HI) Number

H7622-0182

Heritage Listing

Victorian Heritage Inventory

Hermes Number 11946

Property Number

History

Heritage Inventory History of Site:
28.08.1897: the shaft is down 30 feet.
14.10.1897 : company registered.
25.12.1897: commenced sinking a 9 foot by 3 foot shaft to a depth of 135 feet where the water was too heavy for the whip; after several unsuccessful attempts to bottom the shaft erected a substantial winding and pumping plant; the extra 20 feet of wash under the rock compared with the Glenfine Co. and the increase in the amount of water indicator that the prospects are good; the government bores provided information that helped in the float of this company.
03.06.1899: calling tenders for a 10 head battery.
1899: shaft down 210 feet; complete winding and pumping plant installed with 2 boilers.
10.06.1899: purchased a 20 head battery and portable engine.

18.12.1899: the poppet head and all material has been delivered to the No.2 shaft and a contract has been let to Mr. T. Edmonds to erect same; the blacksmith shop is in course of erection; 14.5 tons of concentrates have been fowarded to the pyrites works for treatment.
1899: Capital of £17,500 in 35,000 shares of 10/- each, lease of 640 acres; this company's fortunes have altered thinking about this field; while intending to work the alluvial deposits, quartz reef has been proved and are being prospected; the alluvial proved to be rather poor so far; a temporary ten head battery has been erected at the mine and it is intended to erect a 50 or 60 head battery; the quartz lodes have been proved to continue at depth; a new shaft is to be sunk 1000 feet west nearer to the quartz lodes.
12.01.1900: sinking resumed with the aide of a windlass, and good progress is being made.
23.02.1900: steadily increasing output; the large pumping, winding and battery plant has been delivered to the site and some has already been erected.
03.03.1900: progressing well with assembling winding and pumping machinery; two boilers are built in and need only be connected.
20.04.1900: put in draw lift and rods and have resumed sinking.
27.07.1900: established that the lode system is a saddle reef.
29.07.1900 : the south drive on the lode looks as well as ever, there being 11 feet of quartz in the face; the reef is wider than the drive; a little stoping is being done over the back of this drive, two faces being sufficient to keep the battery going; at the No. 2 shaft the western leg of the formation is being made ready for stoping; at No.1 shaft a rough wash was located by boring up from the east drive off the No.2 rise and the dirt contained gold; the alluvial south is being cut up preparatory to blocking; 20 head of the permanent battery is finished and ready for inspection.
31.07.1900: Directors' report: heavy expenditure on the mine during the past six months due to increases in the cost of machinery, the wet season which had made the roads impassable and increased the cost of cartage, and which had increased the cost of erecting the battery and other plant. The sinking of No. 2 shaft had been stopped for several weeks due to the non-completion of the winding and pumping plant. This shaft is now being opened out at the 253 foot level which provides 90 feet of backs. At No. 1 shaft a third puddler has been purchased and is now in the course of erection; a third boiler has also been purchased and built in. Land for the erection of additional machinery and for dams has also been purchased. The total expenditure for the half-year amounted to 25,647 pounds 10 shillings; 11,529 pounds 9 shillings and 10 pence at No. 1 shaft; and 13,362 pounds 15 shillings and 3 pence at No. 2 shaft and battery.
2713 ounces 4 pennyweight was obtained from alluvial wash dirt and 3619 ounces 10 pennyweight 12 grains from 2817 tons 9 hundredweight of stone. The total return to date for the mine was 6332 ounces 14 pennyweight and 12 grains, valued at 14,463 pounds 7 shillings.
Frequent stoppages for repairs had to be made due to fouling of the tubes in the portable engine, driving the battery, due to bad water. The new 40-head battery is nearing completion. This will include two Gates stonebreakers and Wilfley tables for concentrating the pyrites; and is expected to be one of the most up to date and complete crushing plants in the colony.
Mine Manager's report: the leased ground contains 640 acres. No. 1 shaft is within one third of a mile of the northern boundary, and No. 2 shaft is 230 feet south of west from No. 1 shaft. No. 1 shaft is 11 feet by 4 feet to a depth of 210 feet. It is worked with a 20 inch cylinder pumping engine and a 12 inch lift of pumps; an 18 inch cylinder winding engine with round wire ropes, three Cornish flue boilers, two puddling machines, with a third under erection, and a No. 4 Root's blower. Crushing is undertaken with a 10 head stamp battery driven by a portable engine. A Wilfley table has recent-ly been added. No. 2 shaft is 11 feet 6 inches by 4 feet 6 inches to a depth of 280 feet. To work it a 20 inch cylinder tandem compound pumping engine and a double 16 inch cylinder winding engine with round ropes have been placed in position. After the pumping engine was erected a 12 inch draw lift was Resident Engineer's report: during the past six months
"a set of strong poppet legs 83 feet high, fully equipped with safety catches, head pulleys and capstan pulley has been erected. "Four Cornish boilers have been made and erected, two of which have been in use for some time for sinking and pumping purposes. The boilers are made 26 feet 6 inches x 6 feet 6 inches, steel shell 0.625 inches thick, longitudinal joints, double butt straps, treble riveted, circumferential joints double riveted, giving 82.6 per cent. strength of plate, 0.5625 inch welded flue 42-inch diameter, Adams' joints, seven Galloway tubes, and water bridge, ends of shell 0.75 inch plate, flanged, and seven gusset stays, grate area 22.75 square feet, dead plate 15 inches, two 2.5 inch safety valves, one lockdown and one balanced. Working pressure 140 pounds per square inch, each flue is accessible through an iron door for cleaning purposes, each boiler is capable of developing steam for 125 effective horsepower. Constructed by Robison Brothers and Company, South Melbourne.
"A new winding engine has been erected at No. 2 shaft, and is working well. It is capable of lifting 4000 pounds 1000 feet per minute, which would require 121 effective horsepower. ... the engine is capable of developing 136 effective horsepower. Two cylinders 16 inch x 42 inch direct acting on a 10 inch shaft, piston valves, drums 8 feet initial diameter, both being loose, and engaged by a shrouded clutch, working on a square part of the shaft, each

drum has an independent band brake, cylinders lagged and covered with planished steel and brass girders. Made by the Phoenix Foundry Company Limited, Ballarat.
"An engine with 20 inch x 48 inch single cylinder was on hand, which I regarded as not economical with our high pressure of steam, a 12.5 inch cylinder was added, tandem principle, with piston valve, also a condenser, making it a compound condensing, with a duplex independent air and circulating pump, and is therefore capable of developing 130 effective horsepower. The engine is attached to the pumping gear by means of a wheel and pinion geared at 3.25 to 1, giving a stroke of 7 feet to the pump working through ordinary connecting rods, and a bob having 16 foot centres and 15 inch trunnions, and 9 inch x 2 inch bridle straps. This engine is therefore capable of lifting 20,000 gallons 1000 feet high per hour. Made by The Austral Otis Engineering Company, Melbourne.
"(The battery engine) has been designed and erected with a view to the greatest possible economy in attendance and use of steam. High pressure cylinder 15.5 inch, low pressure cylinder 26 inch, stroke 36 inch, double beat equilibrium valves for steam and exhaust worked by trip gearing, so that it only takes steam when it is required and gets it then at full pressure. It has a surface condenser, with independent air and circulating pump. These engines have been proved to work so regularly, that from full load to empty the speed does not vary 2 per cent. The flywheel is 10 feet in diameter, and weighs 9 tons, and is grooved for eight (8) 5.5 inch ropes, which at 33 feet distance engages a similar through lighter wheel on the main shaft of the battery. The engine makes 80 revolutions per minute, and is capable of developing 300 effective horsepower. Constructed by The Phoenix Foundry Company Limited, Ballarat.
"The battery consists of eight boxes of 5 stampers each, in all 40 heads. The boxes weigh 7532 pounds with liners, and have single discharge 49 inches x 13 inches opening, having a V-shaped opening down to bottom of box to facilitate lifting of dies and cleaning. The frame is of cast iron and consists of 13 stan-dards, each of which, with plummer blocks, weighs 7028 pounds. These standards carry the main shafting, which is 9 inches diameter, and 79 feet 10 inches long, shaft and couplings weigh 25,316 pounds, each ten head of stamps are driven by separate wheel, which is engaged by a clutch working on a square part of the shaft. The cam-shaft is 5.5 inches in diameter, with cast steel cams, machine shaped, maximum lift 8 inches, stems are 3.6 inches diameter, plane with cast steel dies, having bored out jib and three cotters each, each stem is provided with a jack post for the disc to rest on when stamp is out of action. Self-feeders work by means of a 1.25 inch square steel rod passing down the centre stem and engaging a movable chute. The shoes are 10.5 inches diameter, 10 inches long. The dies are 11 inches octagon, 4.5 inches deep, made of forged scrap steel and iron mixed. The working speed of battery is 6 inch drop and 96 drops per minute. Total weight of stamps, when new, is 1050 pounds. A tramway and small trolley runs over the battery from which is suspended an episectoidal pulley and trigger, whereby one man is enabled to lift and drop any of the stamps so that changing of shoes, or lowering or raising of stamps is easily performed by one man. Two lines of counter shaft with necessary pulleys run the length of the battery house, one line drives two Gates rockbreakers, and the other line drives the Wilfley tables by means of leather belts. The battery was constructed by The Phoenix Foundry Company Limited, Ballarat.
"The quartz passes from the brace over a 40 foot tram, and is dumped in a bin, from whence it passes through two Gates rockbreakers and falls into a storage bin, from whence the self-feeders pass it as required through the mortar boxes, the pulp then passes over a copper lip 9 inches wide, then over two copper plates and one mercury well; at lower end of last table is a G shaped mercury trap, after which the pulp passes through hydraul-ic separators and over Wilfley tables, the waste passes through a 14-inch sand pump on to the tailings dump. The quartz storage bin has a capacity of 670 tons, about one week's work.
"An air compressor and receiver for working 6 rock drills is now under contract for construction. The receiver (by J. Cowley, of Ballarat) is finished, and the compressor (by Messrs. Roberts and Sons, of Bendigo) is nearly ready.
"The No. 2 shaft faces north and south, nearly; on the southside stands a steam winch, which was used for sinking purposes, but which is now being converted into a capstan engine; it is covered by a suitable shed. On the west end of shaft and 60 feet distant is a miners changing house, 30 feet x 18 feet. North and in line with same, and about 60 feet distant, is the blacksmith's shop, 30 feet x 18 feet, equipped with one forge and necessary appliances for the present requirements. On the north face of shaft is the pumping bob and pit; the pit is 44 feet long, 6 feet 5 inches wide, and 18 feet deep. It took 57,000 bricks, which are laid in Portland cement up to the trunnion plummer blocks, after which they are laid in lime mortar. From centre of bob to centre of pumping gear shaft is 42 feet. The pier is built of bricks in Portland cement and took 35,000 bricks. The crank shaft rests on a cast iron sole plate - 32 hundredweights - having two 2.5 inch and four 2 inch holding down bolts. The pumping and winding engines are also set on brick piers and the whole covered by a building 62 feet long, 28 feet wide, and 18 feet high to the eaves of the roof.
"On the east side and parallel to the engine house are the boilers, set 9 feet 6 inch centres, and the flue runs at right angles, that is, east and west, for a distance of 60 feet into a stack 980 feet high; 14 feet square base and octagon barrel, 3 feet 9 inches smallest inside opening; taking 85,000 bricks to complete. The boilers are covered by a building 42 feet wide and 46 feet long.

"From the eastern side of engine house and at the southern end is the battery engine erected in a separate building 49 feet long, 25 feet wide, and 20 feet high. In it is left room for electric lighting plant.
"At right angles to this building, tat is, north and south, is the battery house, a very substantial building 97 feet long, 56 feet wide, and 56 feet 6 inches to top of roof. The main building is 28 feet 6 inches wide, 347 feet 6 inches between plates; the plates are 12 inches by 8 inches, studs 12 inches by 4 inches for the hopper. This building alone has consumed over 60,000 superficial feet of timber, 4 tons of galvanised corrugated iron, and 3 tons of iron bolts.
"Midway between No. 1 and No. 2 shaft an office and store have been erected; the office consists of two rooms, each 14 feet x 12 feet, and 14 feet studs. The storeroom is 20 feet x 14 feet, and the whole is built in the form of a T cottage."
31.08.1900: cages put in and more rapid progress made in handling the dirt.
21.09.1900: battery is not working well as yet and alterations and running trials are continuing and the first 20 head are expected to be running constantly by the end of the week.
13.10.1900: No.2 shaft is looking strong and No.1 shaft is consistent.
03.11.1900: half of the battery is being operated with satisfactory results; the remaining 20 head is being modified to make it run more smoothly.
24.11.1900: yield from Glenfine is 780 ozs per fortnight; battery working smoothly, soon all 40 heads will be running, at present 30 are workable but only 20 are being used; the last 10 are still under construction.
14.12.1900: both batteries are crushing regularly and good returns seem assured.
29.12.1900: yield from No.1 shaft was 50 ozs and 608 ozs from No.2 shaft.
31.12.1900: the Glenfine South was the largest single contributor for the year with a yield of 4032 ozs from alluvial mining and 7136 ozs from 6685 tons of quartz; at the beginning of the year the No.2 shaft was being sunk and an up-to-date winding and crushing plant was being erected; the shaft has since been sunk 230 feet and cross-cuts put in to cut the eastern and western legs of the reef, which have developed splendidly; the No.1 and No.2 shafts have been connected, and it intended to confine the No.1 shaft to alluvial mining; the alluvial section of the mine is maintaining its value; at the No.2 shaft the new plant includes four Cornish boilers, winding plant capable of lifting 4000 lbs a distance 1000 feet per minute, pumping engine and gear, battery engine, and 40 head battery.
31.12.1900: No. 2 shaft: modern winding and crushing plant erected and consisting of: 4 Cornish boilers, winding engine capable of lifting 4000 pounds at 1000 feet per minute, pumping engine and gear, battery engine and 40 head battery.
04.01.1901: total output for the past year was 11,168 ozs; as the underground workings have improved the equipment has been improved to be the most modern winding, gold saving and crushing which is second to none in the district.
02.02.1901: alluvial mining successfully conducted from the No.1 shaft and a good quality stone is being extracted to supply the No. 1 battery.
12.04.1901: Mr. Richards, the manager of the Glenfine Estate Co. has been appointed manager of the Glenfine South alluvial mining operations.
19.04.1901: an electric lighting plant has been installed at the No.2 shaft and another will be fitted at the No.1 shaft.
20.07.1901: yield for the quarter of 5378 ozs; 251 men working at the mine; value of plant is £31,500.
30.08.1902: company proposes substituting compressed air rock drills for the present hand drills.
10.01.1903: its yield from quartz reef mining has decreased from 17066 ozs in 1901 to 10488.5 in 1902; the alluvial yield also decreased from 2732 ozs to 674 ozs and the alluvial part of the mine was closed down.
1903: electric lighting installed
1903: this company was doing well two years ago but has now reached the low water mark and is stoping out blocks of stone already opened up; it is regretable that this company did not push their shaft down while on good gold, a task that must now be tackled in order to save the mine and bring it back to prosperity.
1904: this years operations have been directed to locating the wash in the western poerion of the mine; the quartz has not improved, there is plenty of stone but it is poor in gold.
1905: erecting puddling machines; a good strip of wash has been opened up ready for the machines; the quartz has been neglected.
1906: have demonstrated the probability of a good alluvial field further south; the large bodies of low grade quartz is being prospected.
1907: some good payable wash-dirt has been uncovered; the quartz section has not received much attention.
25.07.1908: after a some ups and downs during its career this mine has closed; approximately 10 years ago a trial crushing from a large body of stone yielded at 2 oz per ton; this result sent the shares in this company up to £11 to £12; the quartz yield fell and the share prices fell just as quickly as they had risen; the alluvial yields have been declining for some time and investors declined to pay calls and the mine was forced to cease operations.
08.1908: No. 2 Shaft Winding Engine House:

two 16 inch x 42 inch winding engines with 8 foot drums, double clutch and brake
8 inch double cylinder steam capstan and sinking winch
16 inch x 14 inch x 30 inch air compressor
5 inch cylinder vertical steam engine and dynamo 11 inch x 22 inch compound condensing steam engine with heavy spur gear, 11 inch shaft, balanced crank, mounted sweep rod and massive bob
the building is 70 feet x 50 feet x 14 feet ;
Battery House
two 26 inch x 36 inch steam battery engines, Corliss gear and rope drive the building for engines is 40 feet x 30 feet x 14 feet
40 head stamp battery with 1200 pound stampers, shafting, counter-shafting and all necessary gear
2 x Challenge ore feeders with belt wheels and counter-shafting
seven Wilfley tables
two Berdan pans
the building for battery is 90 feet x 50 feet x 30 feet
14 inch double cylinder sand pumps
20 foot x 6 foot water tank (from boiler plate)
8 inch vertical steam engine driving No.4 Roots blower
14 inch plunger workings
12 inch plunger workings
fifty 0.5 ton ore trucks
20 foot x 6 foot diameter air receiver ;
Changing House: 30 feet x 20 feet x 12 feet ;
Smith's Shop
21 foot lead screw lathe with all necessary changing wheels
6 inch cylinder steam engine for driving lathe
14 inch cylinder steam puddling engine
two cast iron puddling machines
baling tank
the building is 40 feet x 40 feet x 10 feet ;
Poppet heads, 70 feet high, has brace and pulley wheels complete, plus a 4 horsepower boiler;
Boiler House: 40 feet x 40 feet ;
No. 1 Shaft
18 inch cylinder steam winding engine with 8 foot drums
18 inch cylinder steam pumping engine with gear, sweep rod and bob complete with 200 feet of 12 inch pumps and draw lift in the shaft
Three Cornish flue boilers, 26 feet x 6 feet 6 inches, complete with mountings ;Poppet head, 65 feet high.
1908: mine closed down, machinery sold
05.09.1908: Important Sale of Mining Machinery - Glenfine South Property
Bell, Lambert & Co., Auctioneers of Ballarat announce the sale of the above valuable property on Wednesday and Thursday at the mine, Pitfield; the battery is a first class up-to-date one of 40 head, with rock breakers and feeders; there is also a tandem compound pumping engine, a pair of 16 inch winding engine, an air compressor, electric lighting plant, puddling machines, boilers, tracks, etc., that go to make up the requirements of an extensive mining plant; those that require good cottages in first class repair and suitable for removal should not miss the opportunity.