



Morrison Park Heritage Trail.

Further Walks – If you enjoyed this walk, check out the other walks in this series. Harod World Copperworks Industrial Heritage Trail.

Visit our website www.friendswhiterock.org.uk and email info@friendswhiterock.org.uk away.

Facilities – There are no facilities at White Rock. There are toilets Monday to Saturday at the Landore Park & Ride, five minutes walk from the Mofa Shopping Centre, ten minutes walk from White Rock.

Bus – Regular bus services run between Swansea City centre and the Mofa Shopping Centre, ten minutes walk from White Rock.

Cycle – White Rock is located off national cycle route number 43. www.swansea.gov.uk/cycling

Car – From the M4, J45 take the A407 south to the Liberty Stadium. Turn left at the Stadium roundabout, straight on at the next roundabout (Park & Ride), right at the next roundabout and take the third exit into the White Rock car park.

From Swansea take the A4217 along the east bank of the Tawe. It the roundabout in sight of the Liberty Stadium take the first exit into the White Rock car park.

How to Get There

LOWER SWANSEA VALLEY CWM TAWA ISAF

White Rock Heritage Trail



A circular walk, 1 mile, 2,300 steps,
75 calories, 30 mins – 1 hour.



1. View of the White Rock site taken from near what is now the hill next to the current car park. There is much of interest here. The tall structure in the middle left of the photo is close to the canal basin and formed part of the support for the railway incline and flue chimney which went up the side of Kilvey Hill. Only the lower section remains, which also contains an archway appearing to descend underground. Whether this was a kiln, furnace or part of the flue system is uncertain. Just across the pathway is the wall of a higher section which once carried a railway. Some of the four metal pillars which supported the incline at this point can still be seen. To the right of these is the start of the lower ramp of the incline. Under this is a brick archway which contains two bricked-up portals which lead directly to a chimney which is built into this part of the ramp.

Going across the centre of the photo from left to right are the entrance offices (partly obscured by the incline support structure, the masonry of which forms the northern portal of the canal tunnel and over which was one of the work's main entrances). Looking carefully at the right hand wall of the pathway there is a notch where a railway bridge brought wagons into this section of the works. The ground appears to be the first floor of a building of unknown function, the external walls of which are visible beside the top of the ramp. On the right middle of the picture just below the river meandering into the distance are the remains of two further buildings which once contained furnaces.

Again traversing the photo a little further up are stores. The long arched structure was part of the 'Great Workhouse' which formed the main smelting hall of the original plant.

Finally, just above the centre of the photo are the entrance bridge over the railway coming up from Swansea St Thomas station, and one of the last buildings to be constructed on the site which is, thought to have been a sheet lead plant. Towards the end of its life, the section from the stores to the lead sheet plant was apparently used as a scrap yard, the old railway loop and sidings being barely visible on later photos due to the piles of old vehicles and scrap.

Images 1, 2, 3, 5, 6, 7, 8, 9 and 10 are © Crown copyright: Royal Commission on the Ancient and Historical Monuments of Wales



2. View of the old site looking across the river from where the remains of the Vivian Engine Shed is today. On the river is one of the wooden-clad quayside structures. Just in front of the slag tip in the right middle of the picture is the one remaining wall of what was once part of the Vivian's silver and lead processing plant. It was constructed around the start of the 1870's, at the same time as the incline and flue system up Kilvey Hill.

It is thought that the building on the right hand bank of the river was a boiler house (with its square plan chimney) and pump house. The other buildings on the right hand middle of the photo eventually formed what may have been the lead pipe works.

3. The exterior west wall of one of the buildings nearer to the river and just to the north of the excavated river dock. Note also the brick archway which appears to have been given a 'first floor' connection to the adjacent building.

The main building has probably fulfilled a number of roles in its life. In the early days, this part of the plant was dedicated to water-powered production of furnace linings. However, later illustrations show it as a roasting or smelting furnace house, while other documentation suggests further use as a brass annealing house and later even a lead pipe plant.

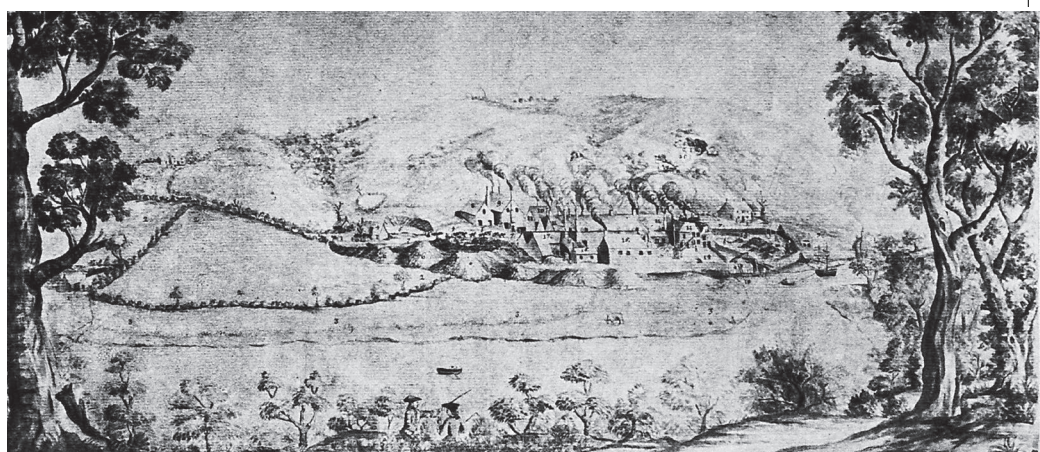
This goes to show just how usage of the plant changed regularly over its 200 year history. It also shows that the White Rock works was not just another copper smelter. It has been used for the production of silver and gold as well as lead and possibly brass.



4. Thomas Lightfoot's famous engraving of White Rock in the earlier years of its existence. Note the marshland/field by the river (complete with cow) and the early slag mounds which eventually reclaimed the marshland by the river.

The old millpond and mill are visible to the left of the works. The Great Calciner building is located at the centre of the engraving while just a little lower and stretching almost the length of the works is the Great Workhouse. The buildings nearer the river were additional calcining and smelting furnaces, while to the right is the extant dock and the Mansell coal yard.

The 'Great Coal Road' – an early horse drawn tramway – ran down the valley from the local mines past the mill and just to the north of the Great Workhouse, and ended in a coal tipping tower by the river at the southern end of the site.



5. General view of the Copper works part of the White Rock site. Just above the river quay walls are the two buildings which have been suggested as being brass annealing plant, although in earlier days probably were either roasting or smelting houses.

Another smelting house is located above these and forms the masonry remains which currently lie to the south of the top of the ramp.

The wall of the Great Workhouse – the main smelting hall – crosses the right middle of the photo. Just to the left of centre are the two buildings which formed the Gatehouse Offices while above the Great Workhouse wall and located above the location of the canal tunnel are the railway sidings and yard. The main building here appears to be a later prefabricated structure either related to the lead sheet production plant or the later scrap yard.



6. View of the southern end of the site following the land clearance taken from the towpath of the Hafod Works. Visible are the old quayside adjacent to the excavated river dock, and running across the middle of the photo is the back wall of what was once the Great Workhouse – the main smelting hall of the early works. This was built adjacent to the canal so that the coal could be off-loaded directly into the smelting hall.

To avoid access problems, the canal at this point was covered over to make a tunnel. Boats gained access to the Great Workhouse by portals built into the side of the tunnel, some of which are still extant.



7. The White Rock Ferry was the essential means of crossing the Tawe for copper workers at White Rock and Hafod and the public going from Pentrechrwyth to the town. (Photograph courtesy of West Glamorgan Archive Service.)

A flat bottomed boat sculled from the stern carried at least 20 passengers. Two families, Owens /Leyshon and Llewellyn/Clarke, managed the ferry on behalf of Vivian & Sons for 100 years until closure in 1945. When the weather was bad or the river was in flood a wire rigged across the river prevented the ferry from being swept downstream. The return fare of 1/4d. in 1902 became 2d. by the closure.

Employees often manned the boat, including William Livingstone in the 1870s. Life was hard – his wife Margaret was imprisoned for 10 days in 1877 for stealing coal in her apron from the White Rock yard!



8. Westward wall of the 'Great Workhouse'. This was one of the first buildings on the site, designated to hold over 20 copper reverberatory furnaces. It was the first such building to adopt a long and narrow format with the furnaces arranged primarily so that their grates were near the arches (good air supply) and their chimney flues central permitting better support from the high roof.



9. View of the slag tips to the north of the works site. The old copper smelting process produced a lot of iron-rich slag, which was initially just dumped.

A sizeable section of the White Rock site itself is probably built on such slag heaps as the section near the river was marshland. (The level of the quays is now a good 2 metres above the river level). However, the land soon became dry and plants grew wherever they could, including on the mountainside behind the smelter works.

In later years it was realised that so long as the slag wasn't contaminated with poisonous chemicals it could be successfully used as landfill for roads. The track visible in the photo was probably there to allow trucks access to collect slag for such a purpose.



10. The incline support tower with its enigmatic archway in the base. The archway forms what appears to be either a hearth or flue exit. It has been suggested that it was once a blast furnace or a lime kiln. However, it was built at the time of the incline itself and how it could have functioned as such is very much open to conjecture given its location relative to other adjacent structures.

Pre 1830
1831 - 1853
Post 1854

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Wrth edrych ar ganol y llun, y'r ochr dde'r i'r chwth, gallwch weld swyddfedd y fynedfa (sydd wedi'i cuddio braidd gan adeiledd cynnal y'r incleini, y mae ei waith maen yn fuffio rhan o borth gortlewinol twnnel y gallas, y'r oedd yn ei bryd fynedfedd y gwaith wedi'i leoli uwch ei ben). Gan edrych yn ofalus ar wal ochr dde'r llwybr, mae thicyn lle'r oedd porth reilffordd yn cludo wagenni i'r rhar hon o'r gwaith. Mae'n ymddangos mab llawr cymat adeilad nad ydych chi ei swyddogaeth yn hysbys syddol ar lawr, a gellir gweld ei walliau atlanol ar bwys pen y rhamp. Yn nghanol ochr dde'r llun, ychydig islaw'r afor sy'n ymdeolennu i'r pellter mae adeiladu dau adeilad arall, a fu gynt yn cynnwys ffrwensi.

Yn olaf, ychydig uwchben canol y llun mae'r bont fynedfa drws y rheilffordd, yn dod o orsaf St Thomas **Abertawe**, sef un o'r adeiladau ariall i'w godi ar y safle, y tybir mai gwaith dalennau plwm ydoedd. Tuag at ddiwedd ei bywyd, defnyddiwyd yr ardal rhwng y storffeydd a'r gwaith dalennau plwm fel iard sborion, a braidd y gellir gweld yr hen reilffordd a'r seidins mewn lluniau diweddarach oherwydd y pentyrrau o hen gerbydau a sborion.

Tybir mai tŷ boeler (gyda'i sinnai sgwâr) a thŷ pwmpio oedd yr adeilad ar ochr dde glan yr afon. Roedd yr adeiladau eraill ar ochr dde canol y llun yn y pen draw wedi ffurfio'r hyn a oedd efallai'n waith pibellau plwm.

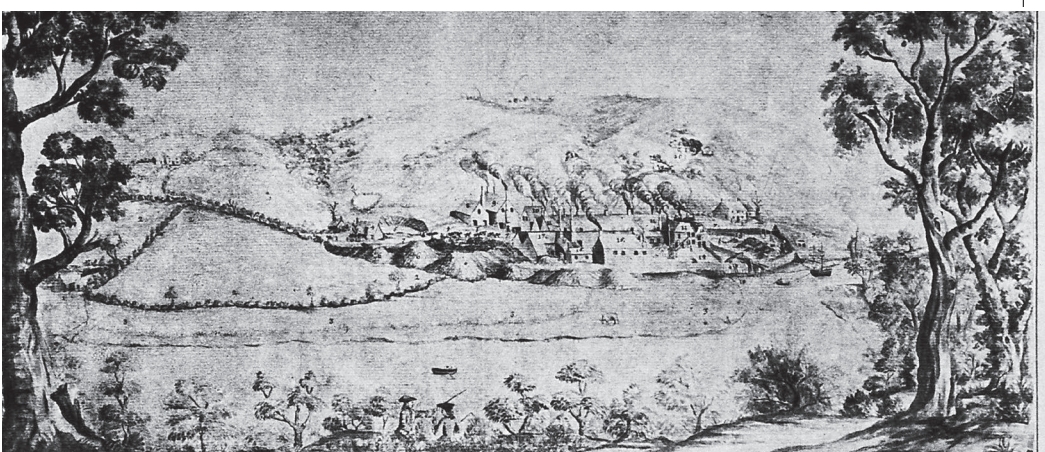
Defnyddiwyd y prif adeilad ar gyfer sawl rôl yn ystod ei fywyd yn ôl pob tebyg. Yn y dyddiau cynnar, neilltudiwyd y rhan hon o'r gwaith i waith cynhyrchu leiniau fwrneisi a bwerwyd gan ddŵr. Fodd bynnag, mae darluniau hwyrach yn ei ddangos fel tŷ crasu neu fwyndoddi, ac mae dogfennaeth arall yn awgrymu y'i defnyddiwyd ymhellach fel tŷ tymheru pres, a hyd yn oed gwaith pibellau plwm yn ddiweddarach.

Mae hyn yn dangos sut y newidiwyd defnydd y gwaith yn rheolaidd dros 200 mlynedd ei oes. Mae hefyd yn dangos nad gwaith smeltio copr yn unig oedd gwaith y Garreg Wen. Fe'i defnyddiwyd i gynhyrchu arian ac aur yn ogystal â phlwm ac efallai pres hefyd.



Mae'r hen bwl melin a'r felin i'w gweld i ochr chwith y gwaith.
Mae adeilad y Calchynnydd Mawr i'w weld yng nghanol yr
ysgythriad ac ychydig yn is na hynny y mae'r Gweithydd Mawr
sydd bron yn ymestyn ar draws hyd y gwaith. Roedd yr adeiladau
sydd agosaf at yr afon yn ffwrneisi calchynnu a mwynddosi
ychwanegol, ac i'r dde gweler y doc ac iard lo Mansel.

Roedd y 'Ffordd Lo Fawr' - tramffordd gynnar a dynnwyd gan geffylau - yn rhedeg i lawr drwy'r cwm o'r glofeydd lleol, heibio'r felin ac ychydig i'r gogledd o'r Gweithdy Mawr, ac yn diweddu mewn tŵr tipio glo ger yr afon ar ben deheuol y safle.



5. Golwg gyffredinol o waith copr safle'r Garreg Wen. Ychydig uwchben waliau ceir' afon mae dau adeilad, ac awgrymwyd mai gwaith tymheru pres oedd y rhain, er yn y dyddiau cynnar mae'n debyg mai tai crasu neu fywindodi oeddent.

Mae tŷ mwyndoddi arall uwchben y rhain sy'n rhan o olion y gwaith maen sy'n gorwedd ar hyn o bryd ar ben deheuol y ramp.

Mae wal y Gweithdy Mawr - y brif neuadd fwyndoddi - i'w gweld yng nghanol y llun. Ychydig i'r cwhith o'r anol mae dau adeiledd a oedd yn rhoi na swyddfeyd y Porthdy, ac uwchben wal y Gweithdy Mawr a thwnnell gamlas mae seidins y rheilffordd ac iard. Mae'n ymddangos mai adeiledd parod a adeiladwyd yn hwyrach yw'r prif adeilad yna, a oedd naill ai'r ymneudod â'r gwaith cynhyrchu dalennau plwm neu'r iard sborion yn diweddardach.



6. Golwg o ben deheuol y safle yn dilyn y gwaith clirio tir, wedi'i dynnu o lwybr halio Gwaith yr Hafod. Gallwch weld yr hen geir ger dot dactladdedig yr afon, ac yn rhedeg ar draws canol y llun gallwch weld wal gefn yr hen Weithdy Mawr - prif neuadd fwyndoddi'r gwaith cynnar. Fe'i hadeiladwyd ger y gamlas fei y gellid dadlwytho'r glo'n unigolychol i'r neuadd fwyndoddi.

I osgoi problemau mynediad, gorchuddiwyd y gamlas yn y man hwn er mwyn creu twnnel. Byddai cychod yn cyrraedd y Gweithdy Mawr drwy byrth a oedd wedi'u hadeiladu i mewn i ochr y twnnel - mae rhai ohonynt yn bodoli o hyd.



7. Roedd Fferi'r Garreg Wen yn ffordd hanfodol i weithwyr copr y Garreg Wen a'r Hafod groesi afon Tawe, ac i aelodau'r cyhoedd fynd drefn i'r Bentre-chwyth i'r dref. (Llun trwy garedigrwydd Gwasanaeth Archifau Gorllewin Morgannwg).

Roedd cychw gwaelod gwastad a oedd yn cael ei rodlu wrth y pen-ôl yn cludo o Talar 20 o deithwyr. Roedd dau ffeulod, sef y tueluoedd Owen/Leysnon a Llewellyn/Clarke, yn rheoli'r fferyl ar ran Rivian & Sons am 100 o flynyddoedd nes iddi gau ym 1945. Pan roedd y tywydd yn wael neu'r afon yn gorlifo, roedd gwifren a osodwyd ar draws yr afon yn atal y fferi rhag cael ei llusgo i lawr yr afon. Roedd pris swirnai dwyffordd o ddimai ym 1902 wedi cynyddu i 2 z geinog erbyn iddi gau.

Roedd gweithwyr yn aml yn criwio'r cwch, gan gynnwys William Livingstone yn y 1870au. Roedd bywyd yn anodd - carcharwyd ei wraig Margaret am 10 niwrnod ym 1877 am ddwyn glo yn ei ffedog o iard y Garreg Wen!



8. Wal orllewinol y Gweithdy Mawr. Dyma un o'r adeiladau cyntaf ar y safle, a gyllnwyd i ddal dros 20 o ffwrneisi cor atseinol. Dyma oedd yr adeilad cyntaf o'r fath i fabwysiadu cynllun hir a chul, gyda'r ffwrneisi wedi'u trefnu'n bennaf fel bod eu gratiau ger y pythr bwaog (cyflenwad aer da) a'u ffliwiau'n ganolog i ganiatáu gwell cynhalieth gan y uchel.



9. Golwg o'r tomenni sorod i'r gogledd o safle'r gwaith. Roedd yr hen broses fwyndoddi'n cynhyrchu llawer o sorod a oedd yn llawn haearn, y cafwyd gwared arno i ddechrau.

Mae rhan fawr o safle'r Garreg Wen ei hun wedi'i hadeiladu fwy na thebyg ar domenni sorod o'r fath, gan fod yr ardal ger yr afon yn gorstïr yn y bôn. (Mae lefel y ceiau bellach 2 fetr uwchben lefel yr afon). Fodd bynnag, daeth y tir yn ychydig yn dechreuoddi blanhigion dyfu yno, gan gynnwys ar ochr y mynydd y tu ôl i'r fwyndoddfa.

Yn y blynyddoedd wedi hynny, sylweddolwyd y gellid defnyddio'r sorod yn llwyddiannus fel deunydd gwastraff ar gyfer adeiladu ffyrdd cyhyd ag nad oedd wedi'i halogi â chemegau gwenwynig. Mae'n debyg bod y tro sydd i'w weld yn y llun ar y safle i ganiatáu i dryciau fynd yno i gasglu sorod at y diben hwn.



10. Y tŵr cynnal clein gyda'r porth bwaog enigmatig yn y gwaelod. Mae'r porth bwaog yn ffurfio'r hyn sy'n ymddangos ei fod yn waelod ffrwnnais neu allanfa flin. Awgrymwyd mai ffrwnnais chwyth neuodyn galch ydoedd. Fodd bynnag, fe'i hadeiladwyd ar adeg y'r incleîn ei hun, ac mae ansicrwydd ynghylch sut y gallai fod wedi gweithredu o ystyried ei leoliad mewn perthynas ag adeileddau cyfagos eraill.

