

Summary of Weardale Blast Furnace Statistics from Mineral Statistics

This is a summary of all the information about Weardale blast furnaces that is provided by the published "Mineral Statistics". For copies of original information, published 1855 and later, see "Weardale Blast Furnace Statistics for 1850s", "Weardale Blast Furnace Statistics for 1860s", "Weardale Blast Furnace Statistics for 1870s", "Weardale Blast Furnace Statistics for 1880s" and "Weardale Blast Furnace Statistics for 1890s".

Information from the "Smelting and Mining Magazine" which was published monthly between Jan 1862 and Mar 1865 is also included.

The Iron Works included are Stanhope, Tow Law and Witton Park.

From 1868 (published 1869) onwards, details are given of number and capacity of Bessemer Converters (*but the location is unclear*).

In 1880 to 1886 there are some details of the number of Puddling Furnaces and Rolling Mills (listed as Mills and Forges) at Witton Park.

Iron ore delivered to Wolsingham is included.

The iron ore tonnage recorded from Weardale (and nearby) District is also given.

The lists of Weardale Iron Mines and the tonnages they produced each year are also included.

Tonnages of iron ore are given in tons and cwt (t c). They are the tonnages recorded as conveyed by the North Eastern Railway [NER] (or Stockton & Darlington Railway [S&DR]) to the iron works destinations, from various origins, and in many cases do **not** indicate total tonnage of iron ore conveyed to the iron works. Some comes via the North Yorkshire and Cleveland Railway [NY&CR]. Some comes from the district of the Newcastle and Carlisle Railway [N&CR].

The Mineral Statistics were normally published during the year following the production recorded.

Numbers given in () are interpretations of the published Mineral Statistics, rather than the published number.

Stanhope Iron Works, owned by Weardale Iron Company (called "Weardale Iron Company (Limited)" from 1865, pub 1866, and "Weardale Iron and Coal Company (Limited)" from 1866, pub 1867).				
Prod. year	Pub. year	No. of furnaces	No. in blast	Iron ore records, of ore delivered to Stanhope
1854	1855	1	(1) [a]	
[a] 4 in blast is number listed for Stanhope and Tow Law combined; other evidence shows that 4 in blast is 3 at Tow Law plus 1 at Stanhope.				
1855	1856	1	0	
1856	1857	1	0	
1857	1858	1	0	
1858	1859	1	0	
1859	1860	1	1	By S&DR, to all Durham Iron Works combined, 983,582t from Cleveland, 100,173t from other places
1860	1861	1	1	
1861	1862	1	0	
1862	1863	1	1	
Mining and Smelting Magazine reported that on 1 Dec 1862, Stanhope had 0 in blast, 1 out of blast.				
1863	1864	1	0	
Mining and Smelting Magazine reported that in 1863, on 4 Feb & 1 May & Jun & 1 Jul & 1 Sep, Stanhope had 0 in blast, 1 out of blast.				
1864	1865	(1) [b]	(1) [c]	5,462t 0c, by NER, from Darlington District
[b] Total of 6 is listed for Stanhope and Tow Law combined; this must be 1 at Stanhope. [c] 5 in blast is number listed for Stanhope and Tow Law combined; the iron ore taken to Stanhope by NER shows Stanhope was in blast for some of the year. Mining and Smelting Magazine reported that in 1864, on 1 Jan & 1 Mar, Stanhope had 0 in blast, 1 out of blast. Then on 15 Apr & 1 May & 5 Aug & 14 Oct & 19 Nov, Stanhope had 1 in blast, 0 out of blast. Then at end of 1864, Stanhope had 0 in blast, 1 out of blast, possibly due to temporary stoppage caused by low prices.				

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Stanhope Iron Works, owned by Weardale Iron Company (called "Weardale Iron Company (Limited)" from 1865, pub 1866, and "Weardale Iron and Coal Company (Limited)" from 1866, pub 1867).				
Prod. year	Pub. year	No. of furnaces	No. in blast	Iron ore records, of ore delivered to Stanhope
1865	1866	1	– [d]	426t 0c, by NER, from Darlington District
[d] Listing of – for no. in blast suggests that furnace might have been in blast only early in year with ore recorded as delivered; see Tow Law note below. Mining and Smelting Magazine reported that on 3 Feb 1865, Stanhope had 1 in blast, 0 out of blast.				
1866	1867	1	0	
1867	1868	(1) [e]	(0) [f]	
[e] Total of 6 is listed for Stanhope and Tow Law combined; this must be 1 at Stanhope. [f] No. in blast listed for Stanhope and Tow Law combined is 3 at start of year, reducing to 2 from 30 Sept. This suggests Stanhope not in blast at all during 1867. The iron ore tonnages conveyed by NER are well recorded for 1867 and show none conveyed to Stanhope in 1867.				
1868	1869	Stanhope Iron Works not listed in 1868 (pub 1869) Mineral Statistics, nor in later years.		

Tow Law Iron Works, owned by Weardale Iron Company (called "Weardale Iron Company (Limited)" from 1865, pub 1866, and "Weardale Iron and Coal Company (Limited)" from 1866, pub 1867).				
Prod. year	Pub. year	No. of furnaces	No. in blast	Iron ore records, of ore delivered to Tow Law
1854	1855	6 [a]	(3) [b]	
[a] 6 furnaces at Tow Law are listed but this is incorrect ; other evidence proves it was 5. The number was corrected in the following year. [b] 4 in blast is number listed for Stanhope and Tow Law combined; other evidence shows that 4 in blast is 3 at Tow Law plus 1 at Stanhope.				
1855	1856	5	4	
1856	1857	5	4	259t 17c, by NER, from Ulverstone Ore, via Morecombe
1857	1858	5	4	539t 6c, by NER, from Ulverstone Ore, via Morecombe
1858	1859	5	5	149t 11c, by NER, from Whitehaven Haematite Ore
1859	1860	5	5	By S&DR, to all Durham Iron Works combined, 983,582t from Cleveland, 100,173t from other places
1860	1861	5	5	217t 15c, by NER, from Whitehaven Ore
1861	1862	5	3	309t 12c, by NER, from Whitehaven Ore
Owner is incorrectly listed in 1862 publication as "W. Whitwell & Co."				
1862	1863	5	3	
Mining and Smelting Magazine reported that on 1 Dec 1862, Tow Law had 4 in blast, 1 out of blast.				
1863	1864	5	4	83,492t 0c, by NER, from Darlington District
Mining and Smelting Magazine reported that in 1863, on 4 Feb & 1 May & Jun & 1 Jul & 1 Sep, Tow Law had 4 in blast, 1 out of blast.				
1864	1865	(5) [c]	(5) [d]	19,952t 0c, by NER, from Cleveland District, via S&DR 111,317t 0c, by NER, from Darlington District
[c] Total of 6 is listed for Stanhope and Tow Law combined; this must be 5 at Tow Law. [d] 5 in blast is number listed for Stanhope and Tow Law combined; see details from Mining and Smelting Magazine. Mining and Smelting Magazine reported that on 1 Jan 1864, Tow Law had 4 in blast, 1 out of blast. Then in 1864, on 1 Mar & 15 Apr & 1 May & 5 Aug & 14 Oct & 19 Nov, Tow Law had 5 in blast, 0 out of blast. Then at end of 1864, Tow Law had 3 in blast, 2 out of blast, possibly due to temporary stoppage caused by low prices.				
1865	1866	5	(5) [e]	16,748t 0c, by NER, from Cleveland District, via S&DR 97,560t 0c, by NER, from Darlington District
[e] List says 5 at Tow Law, with footnote stating "Four part of the year.". Mining and Smelting Magazine confirms 5 in blast at Tow Law in Feb, so probably just 4 in blast at Tow Law was later in year (particularly because in 1866 only 3 were in blast at Tow Law). Mining and Smelting Magazine reported that on 3 Feb 1865, Tow Law had 5 in blast, 0 out of blast.				

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Tow Law Iron Works, owned by Weardale Iron Company (called "Weardale Iron Company (Limited)" from 1865, pub 1866, and "Weardale Iron and Coal Company (Limited)" from 1866, pub 1867).				
Prod. year	Pub. year	No. of furnaces	No. in blast	Iron ore records, of ore delivered to Tow Law
1866	1867	5	3	
1867	1868	(5) [f]	3 [g]	71,550t 0c, by NER, from Darlington District 7,280t 0c, by NER, from Cleveland District, via S&DR 388t 0c, by NER, from Sundry Places
[f] Total of 6 is listed for Stanhope and Tow Law combined; this must be 5 at Tow Law. [g] No. in blast listed for Stanhope and Tow Law combined is 3 at start of year, with footnote stating "Two only from the 30th September". This must be 3 in blast at Tow Law from Jan to Sept 1867 and 2 in blast at Tow Law from 30 Sept.				
1868	1869	5	3	58,432t 0c, by NER, from Darlington District 15,714t 0c, by NER, from Cleveland District, via S&DR 3t 0c, by NER, from Sundry Places
1869	1870	5	3	85,181t 0c, by NER, from Darlington District 3,461t 0c, by NER, from Cleveland District, via S&DR 4t 0c, by NER, from Sundry Places
1870	1872	(5) [h]	(3?) [i]	992t 17c, by NER, from Northumberland, and District of N&CR 96,715t 0c, by NER, from Darlington District 11,887t 0c, by NER, from Cleveland District, via S&DR
[h] Total of 7 is listed for Tow Law and Tudhoe combined; this must be 5 at Tow Law. [i] No. in blast listed for Tow Law and Tudhoe combined is 7, with footnote stating "4 furnaces, 7 months, and 3 furnaces, 5 months". It is unclear what this means.				
1871	1872	4 [j]	3 [k]	2,318t 16c, by NER, from Northumberland, and District of N&CR 89,373t 0c, by NER, from Darlington District 9,408t 0c, by NER, from Cleveland District, via S&DR 109t 18c, by NER, from Whitehaven Ore 10t 0c, by NER, from Sundry Places
		Tudhoe is not listed, but about 75,000 tons of iron ore was taken to Tudhoe.		
[j] The reduction from 5 furnaces to 4 furnaces at Tow Law indicates that 1 furnace was abandoned or demolished during 1871. [k] 3 in blast (for Tow Law only) has footnote stating "3 for 10 months, and 2 for 2 months."				
1872	1873	4	2	2,104t 1c, by NER, from Newcastle District 2,402t 0c, by NER, from Darlington District 2,788t 2c, by NER, from Stockton District 620t 7c, by NER, from Whitehaven Ore
		Tudhoe is listed separately, having 2 furnaces total and 2 furnaces in blast, with footnote for number in blast stating "One during part of the year."		
1873	1874	4	3 [l]	**
		Tudhoe is listed separately, having 2 furnaces total and 2 furnaces in blast.		
[l] Footnote states "Two in blast to June, one from November." Unclear whether there were none or 3 in blast from July to October. ** Tons of iron ore carried by NER is only reported to districts, not to individual works.				
1874	1875	4	1	**
		Tudhoe is listed separately, having 2 furnaces total and 2 furnaces in blast.		
1875	1876	4	2 [m]	**
		Tudhoe is listed separately, having 2 furnaces total and 2 furnaces in blast, with footnote for number in blast stating "One furnace for five, and two furnaces for four months."		
[m] Footnote states "One furnace during the year, and one for four months." This appears to mean that one furnace was in blast for the whole of the 12 months and another was only in blast for 4 months; possibly production was switched from Tow Law to Tudhoe for 4 months.				
1876	1877	4	2	**
		Tudhoe is listed separately, having 2 furnaces total and 0 furnaces in blast.		

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Tow Law Iron Works, owned by Weardale Iron Company (called "Weardale Iron Company (Limited)" from 1865, pub 1866, and "Weardale Iron and Coal Company (Limited)" from 1866, pub 1867).				
Prod. year	Pub. year	No. of furnaces	No. in blast	Iron ore records, of ore delivered to Tow Law
1877	1878	4	2	**
		Tudhoe is listed separately, having 2 furnaces total and 0 furnaces in blast.		
1878	1879	4	2	**
		Tudhoe is listed separately, having 2 furnaces total and 0 furnaces in blast.		
1879	1880	4	1 [n]	**
		Tudhoe is listed separately, having 2 furnaces total and 0 furnaces in blast.		
[n] Footnote states "One furnace for six and a half months."				
1880	1881	4	0	**
		Tudhoe is listed separately, having 2 furnaces total and 0 furnaces in blast.		
1881	1882	4	0	**
		Tudhoe is listed separately, having 2 furnaces total with both in blast.		
1882	1883	4	1	**
		Tudhoe is listed separately, having 2 furnaces total with both in blast.		
1883	1884	4	1	***
		Tudhoe is listed separately, having 2 furnaces total with both in blast.		
*** From 1883, pub 1884, there are no records of iron ore tonnages carried by NER, but there are records of tonnages produced by each iron ore mine or quarry.				
1884	1885	4	1	***
		Tudhoe is listed separately, having 2 furnaces total with both in blast.		
1885	1886	4	1	***
		Tudhoe is listed separately, having 2 furnaces total with both in blast.		
1886	1887	4	1	***
		Tudhoe is listed separately, having 2 furnaces total with both in blast.		
1887	1888	4	0	***
		Tudhoe is listed separately, having 2 furnaces total with only 1 in blast.		
1888	1889	4	0	***
		Tudhoe is listed separately, having 2 furnaces total with only 1 in blast.		
1889	1891	2 [o]	0	***
		Tudhoe is listed separately, having 2 furnaces total with only 1 in blast.		
[o] The reduction from 4 furnaces to 2 furnaces at Tow Law indicates that 2 furnaces were abandoned or demolished during 1889.				
1890	1891	2	0	***
		Tudhoe is listed separately, having 2 furnaces total with only 1 in blast.		
1891	1892	2	0	***
		Tudhoe is listed separately, having 2 furnaces total with only 1 in blast.		
1892	1893	2	0	***
		Tudhoe is listed separately, having 2 furnaces total with only 1 in blast.		
1893	1894	2	0	***
		Tudhoe is listed separately, having 2 furnaces total with only 1 in blast.		
1894	1895	2	0	***
		Tudhoe is listed separately, having 2 furnaces total with only 1 in blast.		
1895	1896	2	0	***
		Tudhoe is listed separately, having 2 furnaces total with only 1 in blast.		
1896	1897	0 [p]	0 [p]	***
		Tudhoe is listed separately, having 2 furnaces total with only 1 in blast.		
[p] Tow Law is not listed in the blast furnace list for 1896, pub 1897, which indicates that the last 2 furnaces at Tow Law were abandoned or demolished in 1896.				
1897	1898	0 [q]	0 [q]	***
		Tudhoe is listed separately, having 2 furnaces total with both in blast.		
[q] Tow Law is not listed in the blast furnace list for 1897, pub 1898				

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From 1868, published 1869, until 1886, published 1887, inclusive, the Mineral Statistics include number of Bessemer Converters and Capacity of Converters. From 1887, pub 1888, these details of steel production were not included in the Mineral Statistics.

The list includes "Weardale Iron Co.", with numbers as follows, but the location is sometimes given as "Towlaw" and sometimes as "Tudhoe, Ferryhill", so it is not clear where the Bessemer Converters were, because the return might be giving the location of the Weardale Iron Co., rather than the location of the converters. It is most likely that these Bessemer Converters were always at Tudhoe and never at Tow Law.

Other evidence about Bessemer Converters and steel production comes from the Mining and Smelting Magazine of 1862 to 1865, which includes:

- 3 June 1863: "The Iron Manufacture of the North of England. Districts of Cleveland, Durham, and Cumberland" by Gruner and Lan. This paper reports a visit to Weardale Iron Company in 1860 and states "The Towlaw pig-metal is also puddled at Tudhoe for steel, and, at the time of our visit, a Bessemer apparatus was being erected, it having been proved at Sheffield itself, that it was capable of yielding by that method good cast-steel."
[So a Bessemer converter was being erected (presumably at Tudhoe) in 1860.]
- 3 Nov 1863: "Report on the Metallurgy of the District", a paper given by I L (Lowthian) Bell, T Sopwith, Dr (Thomas) Richardson and T Spencer, at the Meeting of the British Association. This paper was later published in 1864 (with slight rewording) in the book "The industrial resources of the district of the three northern rivers, the Tyne, Wear, and Tees, including the reports on the local manufactures, read before the British Association, in 1863". The book was edited by William George Armstrong, Isaac Lowthian Bell, John Taylor and Thomas Richardson. The 1st edition is dated 10 Feb 1864. The 2nd edition (with some added papers) is dated 11 Aug 1864. The book is on-line and can be downloaded from <https://archive.org/details/industrialresou00scigoog>
This paper includes a section on "The Manufacture of Steel in Northumberland and Durham" which states "The Bessemer process of making steel has also been introduced into the district, at Tudhoe, near Ferryhill, but with what success the writer is not able to say."
[So Bessemer steel-making is at Tudhoe in 1863.]
- 3 Nov 1863: "It is reported that new works for making steel are to be built at Tow Law, by Mr. Charles Attwood."
[These works were planned to be built at Tow Law, using the process patented by Attwood in 1862, but Baring Brothers did not support this, so Attwood built separate new works at Wolsingham.]
- 3 Jun 1864: "The steel works which Mr. Charles Attwood and partners have erected in the neighbourhood of Tow Law have been opened, and it is said that cast steel will be manufactured there by a process discovered by Mr. Attwood, at a much reduced cost."
[This is the opening of the Stanners Close steel works at Wolsingham, built by Attwood who set up Stanners Close Steel Company, independent of Weardale Iron Company. On 23 July 1863 Weardale Iron Company had become The Weardale Iron & Coal Company Limited, which probably reduced Attwood's influence and led to his building the new works to exploit his patent at Wolsingham, not at Tow Law as planned earlier.]

Other information about Bessemer steel-making is on Grace's Guide:

The obituary of George Dyson, manager at Tow Law, on-line at https://gracesguide.co.uk/George_Dyson states: "Mr. Dyson's next battle was caused by his firm taking up in 1855 the manufacture of Bessemer steel, as to which process very little was known at that time. A plant sufficient to make two tons at a time was put down, and many a heartache did this matter cause him and others associated with him. These experiments proving costly and unsuccessful, the Bessemer department was closed shortly afterwards."
[This suggests that there was a Bessemer Department at Tudhoe from 1855 to circa 1857.]

The summary of Attwood's life, on-line at https://gracesguide.co.uk/Charles_Attwood states:

- 1858 Began experiments at Tow Law with the production of steel by melting together cast iron and refined bar iron.
- 1861 Installed a set of small Bessemer converters at Tudhoe but production was constrained by lack of investment.
- 1862 Patent the process for casting steel.
- 1862 First licensee of C. W. Siemens's regenerative gas-fired furnace applied to making steel.

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1864 Because of the refusal of Baring Brothers to participate in the exploitation of his patent, about 1864

Attwood built a new factory on his own account at Wolsingham, the Stanners Close works.

[This suggests that Bessemer steel-making was at Tudhoe from 1861 onwards. Attwood's cast steel process was developed at Tow Law from 1858, but was implemented at Wolsingham.]

Works having Bessemer Converters				
Prod. year	Pub. year	No. of Converters.	Capacity of Converters.	Name and Situation of Works.
1868	1869	4	2½ tons	Weardale Iron Co., Towlaw
1869	1870	4	2½ tons	Weardale Iron Co., Towlaw
1870	1872	4	2½ tons	Weardale Iron Co., Towlaw
1871	1872	4	2½ tons	Weardale Iron Co., Towlaw
1872	1873	4	2½ tons	Weardale Iron Co., Towlaw
1873	1874	4	2 tons 10 cwt	Weardale Iron Co., Tudhoe, Ferryhill
1874	1875	4	2 tons 10 cwt	Weardale Iron Co., Tudhoe, Ferryhill
1875	1876	4	2 tons 10 cwt	Weardale Iron Co., Tudhoe, Ferryhill
1876	1877	4	2 tons 10 cwt	Weardale Iron Co., Tudhoe, Ferryhill
1877	1878	4	2 tons 10 cwt	Weardale Iron Co., Tudhoe, Ferryhill
1878	1879	2	2 tons 10 cwt	Weardale Iron Co., Tudhoe, Ferryhill
1879	1880	2	2 tons 10 cwt	Weardale Iron Co., Tudhoe, Ferryhill
1880	1881	2	2 tons 10 cwt	Weardale Iron Co., Tudhoe, Ferryhill
1881	1882	4	2 tons 10 cwt	Weardale Iron Co., Tudhoe, Ferryhill
1882	1883	4	2 tons 10 cwt	Weardale Iron Co. Limited, Tudhoe, Spennymoor
1883	1884	4	2 tons 10 cwt	Weardale Iron Co. Limited, Tudhoe, Spennymoor
1884	1885	4	2 tons 10 cwt	Weardale Iron and Coal Co., Ltd., Tudhoe, Spennymoor
1885	1886	4	2 tons 10 cwt	Weardale Iron and Coal Co., Ltd., Tudhoe, Spennymoor
1886	1887	No Bessemer Steel Works listed for Weardale Iron and Coal Co., Ltd. But Weardale Iron and Coal Co., Ltd., Tudhoe, Spennymoor has Open-hearth Steel Works with 5 furnaces erected.		

From 1880, published 1881, till 1886, published 1887, the Mineral Statistics list numbers of "Mills and Forges" ("Puddling Furnaces and Rolling Mills") in operation. Those owned by Weardale Iron Co. (which are all at Tudhoe) are as follows:

Mills and Forges in Operation in Great Britain (Only Weardale Iron Co. in this table)				
Prod. year	Pub. year	Puddling Furnaces.	Rolling Mills	Owner, Name and Situation of Works.
1880	1881	-- [no. not reported]	-- [no. not reported]	Weardale Iron and Coal Co., Ltd., Tudhoe, Spennymoor
1881	1882	34	6	Weardale Iron and Coal Co., Ltd., Tudhoe, Spennymoor
1882	1883	40	6	Weardale Iron and Coal Co., Ltd., Tudhoe, Spennymoor
1883	1884	40	6	Weardale Iron and Coal Co., Ltd., Tudhoe, Spennymoor
1884	1885	36	5	Weardale Iron and Coal Co., Ltd., Tudhoe, Spennymoor
1885	1886	18	5	Weardale Iron and Coal Co., Ltd., Tudhoe, Spennymoor
1886	1887	-- [no. not reported]	-- [no. not reported]	Weardale Iron and Coal Co., Ltd., Tudhoe, Spennymoor

Witton Park Iron Works (sometimes called Witton Park and Etherley), owned by **Bolckow and Vaughan**, (called "**Bolckow and Vaughan (Limited)**") from 1865, pub 1866, and "**Bolckow, Vaughan, and Company (Limited)**" from 1867, pub 1868).

(Bolckow and Vaughan also had iron works with blast furnaces at Eston (often named as Cleveland) and at Middlesborough. The Mineral Statistics often misprint Bolckow as Bolchow.)

Prod. year	Pub. year	No. of furnaces	No. in blast	Iron ore records, of ore delivered to Witton Park
1854	1855	4	Blank	

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Witton Park Iron Works (sometimes called Witton Park and Etherley), owned by **Bolckow and Vaughan**, (called "**Bolckow and Vaughan (Limited)**") from 1865, pub 1866, and "**Bolckow, Vaughan, and Company (Limited)**" from 1867, pub 1868).
(Bolckow and Vaughan also had iron works with blast furnaces at Eston (often named as Cleveland) and at Middlesborough. The Mineral Statistics often misprint Bolckow as Bolchow.)

Prod. year	Pub. year	No. of furnaces	No. in blast	Iron ore records, of ore delivered to Witton Park
1855	1856	4	4	
1856	1857	4	4	2,297t 15c, by NER, from Ulverstone Ore, via Morecombe
1857	1858	4	4	5,273t 17c, by NER, from Ulverstone Ore, via Morecombe
1858	1859	4	4	2,458t 1c, by NER, from Ulverstone Ore
1859	1860	4	4	By S&DR, to all Durham Iron Works combined, 983,582t from Cleveland, 100,173t from other places
1860	1861	4	4	
1861	1862	4	4	51t 17c, by NER, from Ulverstone Ore
1862	1863	4	4	
Mining and Smelting Magazine reported that on 1 Dec 1862, Witton Park had 4 in blast, 0 out of blast.				
1863	1864	4	4	7,031t 16c, by NER, from Cleveland District, via NY&CR 829t 0c, by NER, from Darlington District 684t 0c, by NER, from Whitehaven Ore
Mining and Smelting Magazine reported that in 1863, on 4 Feb & 1 May & Jun & 1 Jul & 1 Sep, Witton Park had 4 in blast, 0 out of blast.				

From 1864 (published 1865) Witton Park Iron Works furnaces are listed with Cleveland, Middlesboro' and Witton Park combined, so it is not possible to be certain how many furnaces were in blast at Witton Park. Tonnages to Witton Park are listed, so a likely number in blast could be estimated.

Witton Park Iron Works, owned by **Bolckow and Vaughan**, (called "**Bolckow and Vaughan (Limited)**") from 1865, pub 1866, and "**Bolckow, Vaughan, and Company (Limited)**" from 1867, pub 1868).
(Bolckow and Vaughan also had iron works with blast furnaces at Eston (often named as Cleveland) and at Middlesborough).

Prod. year	Pub. year	Total for Cleveland, Middlesboro' and Witton Park		Iron ore records, of ore delivered to Witton Park
		No. of furnaces	No. in blast	
1864	1865	13 [a]	13 [a]	136,313t 0c, by NER, from Cleveland District, via S&DR 636t 0c, by NER, from Darlington District
[a] Must be 4 at Witton Park, all in blast. Mining and Smelting Magazine reported that in 1864, on 1 Jan & 1 Mar & 15 Apr & 1 May & 5 Aug & 14 Oct & 19 Nov & at end of year, Witton Park had 4 in blast, 0 out of blast.				
1865	1866	18 [b]	17½ [b]	103,284t 1c, by NER, from Cleveland District, via S&DR 42,503t 6c, by NER, from Cleveland District, via NY&CR 316t 0c, by NER, from Darlington District 4,633t 0c, by NER, from WhiteHaven Ore (<i>not seaborne</i>)
[b] Must be 4 at Witton Park, probably all in blast. Mining and Smelting Magazine reported that on 3 Feb 1865, Witton Park had 4 in blast, 0 out of blast.				
1866	1867	18 [c]	16 [c]	
[c] Must be 4 at Witton Park, possibly 1 or 2 not in blast.				
1867	1868	18 [d]	14 [e]	13,843t 0c, by NER, from Stockton District 102,350t 0c, by NER, from Cleveland District, via S&DR 25,118t 0c, by NER, from WhiteHaven Ore 103t 0c, by NER, from Sundry Places
[d] Must be 4 at Witton Park. [e] Footnote states "16 from January to June 19; 14 from June 19 to August 26; 12 from August 26 to December 31". So possibly some not in blast at Witton Park.				

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<p>Witton Park Iron Works, owned by Bolckow and Vaughan, (called "Bolckow and Vaughan (<i>Limited</i>)" from 1865, pub 1866, and "Bolckow, Vaughan, and Company (<i>Limited</i>)" from 1867, pub 1868). (Bolckow and Vaughan also had iron works with blast furnaces at Eston (often named as Cleveland) and at Middlesborough).</p>				
Prod. year	Pub. year	Total for Cleveland, Middlesboro' and Witton Park		Iron ore records, of ore delivered to Witton Park
		No. of furnaces	No. in blast	
1868	1869	18 [f]	12 [f]	42,576t 0c, by NER, from Stockton District 6,304t 0c, by NER, from Cleveland District, via S&DR 1,982t 6c, by NER, from Cleveland District, via NY&CR 8,888t 0c, by NER, from Ulverstone Ore 55,073t 0c, by NER, from WhiteHaven Ore 98t 0c, by NER, from Sundry Places
[f] Must be 4 at Witton Park, possibly some not in blast.				
1869	1870	18 [g]	12 [g]	3,273t 0c, by NER, from Northumberland, and District of N&CR 10,461t 0c, by NER, from Darlington District 28,776t 0c, by NER, from Stockton District 10,497t 0c, by NER, from Cleveland District, via S&DR 19,655t 0c, by NER, from Ulverstone Ore 41,934t 0c, by NER, from WhiteHaven Ore 63t 0c, by NER, from Sundry Places
[g] Must be 4 at Witton Park, possibly some not in blast.				
1870	1872	18 [h]	12 [h]	230t 9c, by NER, from Newcastle District 52,774t 0c, by NER, from Stockton District 11,032t 0c, by NER, from Cleveland District, via S&DR 60t 0c, by NER, from Ulverstone Ore 49,040t 0c, by NER, from WhiteHaven Ore 245t 0c, by NER, from Sundry Places
[h] The 3 rd location is named Eston, rather than Cleveland. Must be 4 at Witton Park, possibly some not in blast.				
1871	1872	15 [i]	15 [i]	827t 1c, by NER, from Newcastle District 350t 0c, by NER, from Darlington District 88,075t 11c, by NER, from Stockton District 5,518t 0c, by NER, from Cleveland District, via S&DR 22,033t 0c, by NER, from Ulverstone Ore 19,685t 0c, by NER, from WhiteHaven Ore 376t 0c, by NER, from Sundry Places
[i] The 3 rd location is named Eston, rather than Cleveland. Probably 4 at Witton Park, all in blast. Probably 3 at Middlesboro' and 8 at Eston (Cleveland), as per 1876.				
1872	1873	15 [j]	15 [j]	43,174t 1c, by NER, from Newcastle District 68,423t 0c, by NER, from Darlington District 38,748t 3c, by NER, from Stockton District 13,760t 18c, by NER, from Cleveland District, via S&DR 74t 0c, by NER, from Ulverstone Ore 35,735t 0c, by NER, from WhiteHaven Ore 11,296t 0c, by NER, from South 107t 0c, by NER, from Sundry Places
[j] The 3 rd location name reverts from Eston to Cleveland. Probably 4 at Witton Park, all in blast. Probably 3 at Middlesboro' and 8 at Eston (Cleveland), as per 1876.				
1873	1874	15 [k]	15 [k]	**
[k] Probably 4 at Witton Park, all in blast. Probably 3 at Middlesboro' and 8 at Eston (Cleveland), as per 1876. ** Tons of iron ore carried by NER is only reported to districts, not to individual works.				
1874	1875	15 [l]	14 [l]	**
[l] Probably 4 at Witton Park, possibly 1 not in blast. Probably 3 at Middlesboro' and 8 at Eston (Cleveland), as per 1876.				

Summary of Weardale Blast Furnace Statistics from Mineral Statistics ctd

From 1875, published 1876, Witton Park Iron Works furnaces are listed separately from other locations.

Witton Park Iron Works, owned by Bolckow and Vaughan , (called " Bolckow and Vaughan (Limited) " from 1865, pub 1866, and " Bolckow, Vaughan, and Company (Limited) " from 1867, pub 1868). (Bolckow and Vaughan also had iron works with blast furnaces at Eston (often named as Cleveland) and at Middlesborough).				
Prod. year	Pub. year	No. of furnaces	No. in blast	Iron ore records, of ore delivered to Witton Park
1875	1876	5 [a]	2	**
[a] In 1875, pub 1876, the numbers for Middlesboro' and Cleveland combined are 11 total (3 at Middlesboro' and 8 at Cleveland) with 9 in blast. It is uncertain when the 5 th blast furnace was built at Witton Park, but it may have been completed in 1875. A photo caption in the book "Witton Park, Forever Paradise" says that blast furnaces 5 & 6 were the largest in England when they were built in 1875. The Mineral Statistics are consistent with the 5 th furnace being completed in 1875 and the 6 th completed in 1876. ** Tons of iron ore carried by NER is only reported to districts, not to individual works.				
1876	1877	6 [b]	3	**
[b] In 1876, pub 1877, the numbers for Middlesboro' are 3 existing with 1 in blast and for Cleveland are 8 existing with 8 in blast and a further 3 being built at Cleveland. In 1876, Bolckow, Vaughan & Co. built a new Cleveland Steel Works at Eston, with new modern machinery. In January 1877 these new works were rapidly approaching completion (ref. The Engineer, 19 Jan 1877, as per https://www.gracesguide.co.uk/Eston Steel Works)				
1877	1878	6	4	**
1878	1879	6	4	**
1879	1880	6	4	**
1880	1881	6	3	**
1881	1882	6	2	**
1882	1883	6	3	**
1883	1884	2 [c]	2	***
[c] The reduction from 6 furnaces to 2 furnaces at Witton Park indicates that the 4 old furnaces were abandoned or demolished during 1883. *** From 1883, pub 1884, there are no records of iron ore tonnages carried by NER, but there are records of tonnages produced by each iron ore mine or quarry.				
1884	1885	2	1	***
1885	1886	2	0	***
1886	1887	2	0	***
1887	1888	2	0	***
1888	1889	2	0	***
1889	1891	2	0	***
1890	1891	2	0	***
1891	1892	2	0	***
1892	1893	2	0	***
1893	1894	2	0	***
1894	1895	2	0	***
1895	1896	2	0	***
1896	1897	2	0	***
1897	1898	0 [d]	0 [d]	***
[d] Witton Park is not listed in the blast furnace list for 1897, pub 1898, which indicates that the last 2 furnaces at Witton Park were abandoned in 1897. There are photos of these 2 furnaces being demolished, taken by William Lancaster who was a local Witton Park photographer. The Lancaster family thought that these were taken in 1923, but a different photo published in October 1921, shows that the furnaces had been demolished before Oct 1921. [Information from Dale Daniel of Witton Park, by email on 1 & 2 Mar 2021].				

Summary of Weardale Blast Furnace Statistics from Mineral Statistics ctd

From 1880, published 1881, till 1886, published 1887, the Mineral Statistics list numbers of "Mills and Forges" ("Puddling Furnaces and Rolling Mills") in operation. The numbers for Witton Park are as follows:

Mills and Forges in Operation in Great Britain (Only Witton Park in this table)				
Prod. year	Pub. year	Puddling Furnaces	Rolling Mills	Owner
1880	1881	104	6	Bolckow, Vaughan, & Co. (Limited)
1881	1882	87	6	Bolckow, Vaughan, & Co. (Limited)
1882	1883	87	3	Bolckow, Vaughan, & Co., Limited
1883	1884	87	3	Bolckow, Vaughan, & Co., Limited
1884	1885	-- [none in use]	-- [none in use]	Bolckow, Vaughan, & Co., Ltd.
1885	1886	-- [none in use]	-- [none in use]	Bolckow, Vaughan, & Co., Ltd.
1886	1887	-- [no. not reported]	-- [no. not reported]	Bolckow, Vaughan, & Co., Ltd.

Iron Ore delivered to Wolsingham		
(There is one record of delivery of iron ore to Wolsingham. Presumably this was delivered to Attwood's Wolsingham Steel Works)		
Prod. year	Pub. year	Iron ore records, of ore delivered to Wolsingham
1869	1870	9t 0c, by NER, from WhiteHaven Ore

Iron Ore tonnage from Weardale District						
(These are all figures for "Northumberland and Durham". Until 1869, pub 1870, it is difficult to know how much of this is from Weardale and how much from other districts.)						
(Quantity and money value are given in Mineral Statistics; equivalent £/ton is calculated for this summary)						
Prod. year	Pub. year	District	Character of ore	Quantity tons cwt qrs	Money value £ s d	Equiv. £/ton
1855	1856	Weardale	Argillaceous Carbonate, &c.	185,000t		
		Alston				
		Haydon Bridge				
		Tyne District				
1856	1857	Weardale	Argillaceous Carbonate & Spathose Ore	495,500t		
		Alston				
		Haydon Bridge				
		Coal Measures of the District				
1857	1858	Weardale	Argillaceous Carbonate and Spathose, &c.	500,000t		
		Alston				
		Haydon Bridge, &c.				
1858	1859	Weardale and Newcastle District	Brown Haematite and Argillaceous Carbonate	19,740t 0c 0q	£8,883 0s 0d	£0.45
1859	1860	Weardale and Newcastle District	Brown Haematite and Argillaceous Carbonate	13,320t 0c 0q	£4,500 0s 0d	£0.338
1860	1861	Weardale and Newcastle District	Brown Haematite and Argillaceous Carbonate	12,500t	£3,125	£0.25
1861	1862	Weardale and Newcastle District	Brown Haematite and Argillaceous Carbonate	10,750t	£3,000	£0.28
1862	1863	Weardale, Newcastle and Darlington Districts	Spathose Ore and Argillaceous Carbonates	12,475t 0c 0q	£3,430 0s 0d	£0.275
1863	1864	Weardale, Newcastle and Darlington Districts	Spathose Ore and Argillaceous Carbonates	125,000t 0c 0q	£37,500 0s 0d	£0.30
1864	1865	Weardale, Newcastle and Darlington Districts	Spathose Ore and Argillaceous Carbonates	175,500t 0c 0q	£52,650 0s 0d	£0.30

Summary of Weardale Blast Furnace Statistics from Mineral Statistics ctd

Iron Ore tonnage from Weardale District						
(These are all figures for "Northumberland and Durham". Until 1869, pub 1870, it is difficult to know how much of this is from Weardale and how much from other districts.)						
(Quantity and money value are given in Mineral Statistics; equivalent £/ton is calculated for this summary)						
Prod. year	Pub. year	District	Character of ore	Quantity tons cwt qrs	Money value £ s d	Equiv. £/ton
1865	1866	Weardale, Newcastle and Darlington Districts	Spathose Ore and Argillaceous Carbonates	120,000t 0c 0q	£30,000 0s 0d	£0.25
1866	1867	Weardale, Newcastle and Darlington Districts	Spathose Ore and Argillaceous Carbonates	105,000t 0c 0q	£27,250 0s 0d	£0.26
1867	1868	Weardale and Coal Measures	Spathose Ore and Argillaceous Carbonates (<i>estimated</i>)	115,700t 0c 0q	£31,770 0s 0d	£0.275
1868	1869	Weardale	Spathose Ore	125,000t 0c 0q	£31,250 0s 0d	£0.25
		Mines in Coal Measures	Argillaceous Carbonate			
1869	1870	Weardale	Spathose Ore	30,000t 0c 0q	£7,500 0s 0d	£0.25
		Sundry Coal Mines	Argillaceous	129,500t 0c 0q	£32,375 0s 0d	
1870	1872	Weardale	Spathose Ore	100,332t 0c 0q	£25,083 0s 0d	£0.25
		Sundry Coal Mines	Argillaceous	125,000t 0c 0q	£43,750 0s 0d	*£0.35
* The value of £43,750 equates to 175,00 tons at £0.25, so the value was probably calculated wrongly						
1871	1872	Weardale	Spathose Ore	88,449t 0c 0q	£22,112 5s 0d	£0.25
		Weardale	Argillaceous	900t 0c 0q	£250 0s 0d	£0.278
		Ridsdale (Bellingham)	Argillaceous	20,948t 0c 0q	£5,237 0s 0d	£0.25
		Sundry Coal Mines	Argillaceous	175,000t 0c 0q	£43,750 0s 0d	

Iron Ore tonnage from Weardale Mines and Quarries						
(From 1872, pub 1873, the tonnages from each individual mine and quarry are given in some years. This table lists the Weardale tonnages, but not the tonnages from other parts of Durham and Northumberland.)						
(Quantity and money value are given in Mineral Statistics; equivalent £/ton is calculated for this summary)						
Prod. year	Pub. year	Weardale	Character of ore	Quantity tons cwt	Money value £ s d	Equiv. £/ton
1872	1873	Killhope Quarry	Argillaceous	464t 0c	£36,730 0s 0d	£0.375
		Levelgate Quarry	Argillaceous	4,837t 0c		
		North Grane Quarry	Argillaceous	5,941t 0c		
		North Grane Mine	Argillaceous	3,795t 11c		
		North Groove Rake Mine	Argillaceous	7,459t 1c		
		South Groove Rake Mine	Argillaceous	8,906t 6c		
		North Grane Mine	Argillaceous			
		Queensbury Quarry	Argillaceous	12,848t 11c		
		Rowantree A Mine	Argillaceous	4,323t 17c		
		Rowantree B Quarry	Argillaceous	4,763t 9c		
		Rowantree B Mine	Argillaceous	3,826t 0c		
		Slitt Pasture Quarry	Argillaceous	9,220t 5c		
		Slitt West Mine	Argillaceous	20,310t 1c		
		Red Vein Mine	Argillaceous	11,260t 12c		
Total of Weardale				97,953t 13c	£36,730 0s 0d	£0.375

Summary of Weardale Blast Furnace Statistics from Mineral Statistics ctd

Iron Ore tonnage from Weardale Mines and Quarries							
(From 1872, pub 1873, the tonnages from each individual mine and quarry are given in some years. This table lists the Weardale tonnages, but not the tonnages from other parts of Durham and Northumberland.)							
(Quantity and money value are given in Mineral Statistics; equivalent £/ton is calculated for this summary)							
Prod. year	Pub. year	Weardale	Character of ore	Quantity tons cwt	Money value £ s d	Equiv. £/ton	
1873	1874	Killhope Quarry	Argillaceous	598t 11c	£179 0s 0d	£0.30	
		Levelgate Quarry	Argillaceous	6,610t 10c	£1,983 0s 0d		
		North Grane Quarry	Argillaceous	2,293t 17c	£688 4s 0d		
		North Grane Mine	Argillaceous	8,598t 4c	£2,579 8s 0d		
		North Groove Rake Mine	Argillaceous	5,334t 16c	£1,600 8s 0d		
		South Groove Rake Mine	Argillaceous	5,301t 3c	£1,590 6s 0d		
		Queensbury Quarry	Argillaceous	17,337t 14c	£5,201 2s 0d		
		Rowantree A Mine	Argillaceous	5,275t 18c	£1,582 10s 0d		
		Rowantree B Quarry	Argillaceous	7,650t 19c	£2,295 6s 0d		
		Rowantree B Mine	Argillaceous	1,605t 9c	£481 10s 0d		
		Slitt Pasture Quarry	Argillaceous	10,238t 7c	£3,068 8s 0d		
		Slitt West Mine	Argillaceous	18,138t 4c	£5,441 8s 0d		
		Red Vein Mine	Argillaceous	10,409t 17c	£3,122 19s 0d		
		Total of Weardale			99,393t 9c		£29,813 9s 0d
1874	1875	Levelgate (Mine)	Spathose Carbonate and Silicious Haematite	360t 0c	£51,388 11s 0d	£0.60	
		Levelgate Quarry		5,663t 16c			
		North Grane (Mine)		8,965t 0c			
		Groove Rake (Mine)		4,208t 12c			
		South Groove Rake (Mine)		3,339t 0c			
		Queensbury Quarry		17,620t 18c			
		Rowantree A (Mine)		5,015t 17c			
		Rowantree B Quarry		7,349t 7c			
		Rowantree B (Mine)		1,172t 1c			
		Slitt Pasture Quarry		7,537t 17c			
		West Slitt (Mine)		15,517t 18c			
		Red Vein (Mine)		8,741t 1c			
		Total of Weardale					85,491t 7c
1875	1876	8 mines and 4 quarries, as below	Spathose Carbonate & Silicious Haematite	34,828t 15c	£21,626 0s 0d	£0.62	
		Total of Weardale			34,828t 15c	£21,626 0s 0d	£0.62
		The 8 mines are Levelgate, North Grane, Groove Rake, South Groove Rake, Rowantree A, Rowantree B, West Slitt and Red Vein. The 4 quarries are Levelgate, Queensbury, Rowantree B and Slitt Pasture.					
1876	1877	Levelgate	Spathose and Silicious Haematite	2,479t 5c	£14,521 16s 0d	£0.60	
		Queensbury		7,094t 8c			
		Rowantree		360t 1c			
		Slitt Pasture		2,148t 2c			
		West Slitt		5,879t 15c			
		Red Vein		6,241t 1c			
Total of Weardale			24,202t 12c	£14,521 16s 0d	£0.60		

Summary of Weardale Blast Furnace Statistics from Mineral Statistics ctd

Iron Ore tonnage from Weardale Mines and Quarries								
(From 1872, pub 1873, the tonnages from each individual mine and quarry are given in some years. This table lists the Weardale tonnages, but not the tonnages from other parts of Durham and Northumberland.)								
(Quantity and money value are given in Mineral Statistics; equivalent £/ton is calculated for this summary)								
Prod. year	Pub. year	Weardale	Character of ore	Quantity tons cwt	Money value £ s d	Equiv. £/ton		
1877	1878	Levelgate (Mine)	Spathose and Silicious Haematite	4,907t 3c	£30,806 8s 0d	£0.60		
		Queensbury Quarry		15,188t 18c				
		Rowantree A (Mine)		3,720t 13c				
		Rowantree B Quarry		520t 18c				
		Slitt Pasture Quarry		3,775t 17c				
		West Slitt (Mine)		9,357t 2c				
		Red Vein (Mine)		13,733t 16c				
		Foulwood (Mine)		139t 18c				
Total of Weardale				51,334t 5c	£30,806 8s 0d	£0.60		
1878	1879	4 mines and 3 quarries, as below	Spathose and Silicious Haematite	35,619t 0c	£21,371 0s 0d	£0.60		
		Total of Weardale				35,619t 0c	£21,371 0s 0d	£0.60
		The 4 mines are Level Gate, Rowantree A, West Slitt and Red Vein. The 3 quarries are Queensbury, Rowan Tree B and Slitt Pasture.						
1879	1880	4 mines and 3 quarries, as below	Spathose Carbonate & Silicious Haematite	16,679t 0c	£10,007 0s 0d	£0.60		
		Total of Weardale				16,679t 0c	£10,007 0s 0d	£0.60
		The 4 mines are Level Gate, Rowantree A, West Slitt and Red Vein. The 3 quarries are Queensbury, Rowan Tree B and Slitt Pasture.						
1880	1881	Red Vein (Mine)	Spathose and Silicious Haematite	24,439t 10c	£24,814 0s 0d	£0.60		
		Rowantree A (Mine)						
		Slitt Pasture Quarry	Spathose and Silicious Haematite	16,918t 8c				
		Queensbury Quarry Rowan Tree B Quarry						
Total of Weardale				41,357t 18c	£24,814 0s 0d	£0.60		
1881	1882	2 mines and 3 quarries, as below	Spathose and Siliceous Haematite	70,771t 0c	£42,462 12s 0d	£0.60		
		Total of Weardale				70,771t 0c	£42,462 12s 0d	£0.60
		The 2 mines are Red Vein and Rowantree A. The 3 quarries are Slitt Pasture, Queensbury and Rowan Tree B.						

From 1882, pub 1883, iron ore quarries are termed "Open Works", and for each county the Mineral Statistics now give "Mine", "Where situated", "Owner", "Quantity", "Average percentage of Iron" and "Value of the Ore at the Mine or Open Work."

The character of the ore is given by an abbreviation, including S. & S.H. and B., as detailed below.

The table below lists the Weardale tonnages, but not the tonnages from other parts of Durham.

Other mines listed in County Durham include "Dirt Pit" at Ettersgill, owned by Duke of Cleveland, and "Snaigsill" at Middleton, owned by Thomas Grieve.

Summary of Weardale Blast Furnace Statistics from Mineral Statistics ctd

Iron Ore tonnage from Weardale Mines and Open Works

(This table lists the Weardale tonnages, but not the tonnages from other parts of Durham.

S. & S.H. signifies Spathose and Siliceous Haematite.

B. signifies chiefly Brown ironstone or ore (hydrated peroxide).

“Weardale Iron and Coal Co., Limited” is abbreviated to W.I.&C.Co.Ltd.

The equivalent £/ton is calculated for this summary.)

Prod. year	Pub. year	Mine or Openwork	Ore	Location	Owner	Qty. Tons	% Iron	Value £	Equiv. £/ton			
1882	1883	Foulwood	S. & S.H.	Rookhope	W.I.&C.Co.Ltd	115t	30.0%	£57	£0.50			
		Red Vein	S. & S.H.	Stanhope	W.I.&C.Co.Ltd	23,904t	30.0%	£11,952	£0.50			
		Rowan Tree A	S. & S.H.	Weardale	W.I.&C.Co.Ltd	21,519t	30.0%	£10,760	£0.50			
		Side Head	S. & S.H.	Weardale	W.I.&C.Co.Ltd	988t	30.0%	£494	£0.50			
		Weardale Iron Stone Workings	S. & S.H.	Weardale	W.I.&C.Co.Ltd	36,074t	30.0%	£18,037	£0.50			
1883	1884	Red Vein	S. & S.H.	Stanhope	W.I.&C.Co.Ltd	4,185t	30.0%	£9,079	£0.375			
		Rowan Tree A	S. & S.H.	Weardale	W.I.&C.Co.Ltd	20,026t	30.0%					
		Weardale Iron Stone Workings	S. & S.H.	Weardale	W.I.&C.Co.Ltd	23,898t	30.0%	£8,962	£0.375			
1884	1885	Levelgate	S. & S.H.	Weardale	W.I.&C.Co.Ltd	123t	30%	£40	£0.375			
		Red Vein	S. & S.H.	Stanhope	W.I.&C.Co.Ltd	---	---	---				
		Rowan Tree A	S. & S.H.	Weardale	W.I.&C.Co.Ltd	23,910t	30%	£8,966	£0.375			
		Weardale Iron Stone Workings	S. & S.H.	Weardale	W.I.&C.Co.Ltd	24,339t	30%	£9,127	£0.375			
1885	1886	Carricks	S. & S.H.	Weardale	W.I.&C.Co.Ltd	21t	30%	£10,002	£0.375			
		Levelgate	S. & S.H.	Weardale	W.I.&C.Co.Ltd	1,369t						
		Middlehope	S. & S.H.	Weardale	W.I.&C.Co.Ltd	5,339t						
		Rowan Tree A	S. & S.H.	Weardale	W.I.&C.Co.Ltd	19,943t	30%	£4,913	£0.375			
		Weardale Iron Stone Workings	S. & S.H.	Weardale	W.I.&C.Co.Ltd	13,105t						
		Total of Weardale						39,777t	30%	£14,915	£0.375	
1886	1887	Middlehope	S. & S.H.	Weardale	W.I.&C.Co.Ltd	566t						
		Rowan Tree A	S. & S.H.	Weardale	W.I.&C.Co.Ltd	1,193t						
		Total of Weardale						1,759t	30%	£660	£0.375	
From 1887, pub 1888, The Mineral Statistics had separate lists for “Iron Ore from Mines” and “Ironstone produced from Openworks”												
1887	1888	Middlehope	S. & S.H.	Weardale	W.I.&C.Co.Ltd	1,182t						
		Rowan Tree A	S. & S.H.	Weardale	W.I.&C.Co.Ltd	1,324t						
		Total of Weardale						2,506t	30%	£939	£0.375	
		Middlehope and Rowan Tree A are both in the “Openworks” list, but this may be an error.										
1888	1889	Carrick or Cray *	B.	Weardale	W.I.&C.Co.Ltd	19,596t	30%					
		Middlehope *	B.	Weardale	W.I.&C.Co.Ltd	4,724t	30%					
		Rowan Tree *	B.	Weardale	W.I.&C.Co.Ltd	15,913t	30%					
		* = in Mines list						Total of Weardale Mines	40,233t	30%	£15,090	£0.375
		Weardale (Openwork)				Weardale	W.I.&C.Co.Ltd	6,970t	30%	£2,614	£0.375	
1889	1891	Carrick’s or Craig’s Level *	B.	Weardale	W.I.&C.Co.Ltd	2,087t	30%	£783	£0.375			
		Middlehope *	B.	Weardale	W.I.&C.Co.Ltd	1,857t	30%	£696	£0.375			
		Rowantree ‘A’ *	B.	Weardale	W.I.&C.Co.Ltd	47t	30%	£18	£0.375			
		* = in Mines list						Total of Weardale Mines	3,991t	30%	£1,497	£0.375
		Weardale (Openwork)				Weardale	W.I.&C.Co.Ltd	Nil				

Summary of Weardale Blast Furnace Statistics from Mineral Statistics ctd

Iron Ore tonnage from Weardale Mines and Open Works

(This table lists the Weardale tonnages, but not the tonnages from other parts of Durham.

S. & S.H. signifies Spathose and Siliceous Haematite.

B. signifies chiefly Brown ironstone or ore (hydrated peroxide).

“Weardale Iron and Coal Co., Limited” is abbreviated to W.I.&C.Co.Ltd.

The equivalent £/ton is calculated for this summary.)

Prod. year	Pub. year	Mine or Openwork	Ore	Location	Owner	Qty. Tons	% Iron	Value £	Equiv. £/ton
1890	1891	Carrick's or Craig's Level *	B.	Weardale	W.I.&C.Co.Ltd	6,476t	30%	£2,429	£0.375
		Middlehope *	B.	Weardale	W.I.&C.Co.Ltd	25t	30%	£9	£0.375
		Rowantree 'A' *	B.	Weardale	W.I.&C.Co.Ltd	3,047t	30%	£1,143	£0.375
		* = in Mines list		Total of Weardale Mines		9,548t	30%	£3,581	£0.375
		Weardale (Openwork)		Weardale	W.I.&C.Co.Ltd	1,940t	30%	£727	£0.375
1891	1892	Carrick or Craig's Level *	B.	Weardale	W.I.&C.Co.Ltd	5,772t	30%	£2,165	£0.375
		Rowantree 'A' *	B.	Weardale	W.I.&C.Co.Ltd	1,943t	30%	£728	£0.375
		* = in Mines list		Total of Weardale Mines		7,715t	30%	£2,893	£0.375
		Weardale (Openwork)		Weardale	W.I.&C.Co.Ltd	Nil			
1892	1893	Carrick or Craig's Level *	B.	Weardale	W.I.&C.Co.Ltd	7,601t	30%	£2,850	£0.375
		Rowantree 'A' *	B.	Weardale	W.I.&C.Co.Ltd	1,674t	30%	£628	£0.375
		* = in Mines list		Total of Weardale Mines		9,275t	30%	£3,478	£0.375
		Weardale (Openwork)		Weardale	W.I.&C.Co.Ltd	Nil			
1893	1894	Carrick or Craig's Level *	B.	Weardale	W.I.&C.Co.Ltd	Nil			
		Rowantree 'A' *	B.	Weardale	W.I.&C.Co.Ltd	Nil			
		* = in Mines list		Total of Weardale Mines		Nil			
		Weardale (Openwork)		Weardale	W.I.&C.Co.Ltd	Nil			
1894	1895	Carrick or Craig's Level *	<i>Brown iron ore</i>	Weardale	W.I.&C.Co.Ltd	2,679t	30%	£1,005	£0.375
		Rowantree 'A' *	<i>Brown iron ore</i>	Weardale	W.I.&C.Co.Ltd				
		* = in Mines list		Total of Weardale Mines		2,679t	30%	£1,005	£0.375
1895	1896	Carrick or Craig's Level *	<i>Brown iron ore</i>	Weardale	W.I.&C.Co.Ltd	17,059t	30%	£7,149	£0.375
		Rowantree 'A' *	<i>Brown iron ore</i>	Weardale	W.I.&C.Co.Ltd	2,005t			
		* = in Mines list		Total of Weardale Mines		19,064t	30%	£7,149	£0.375
1896	1897	Carrick or Craig's Level *	<i>Brown iron ore</i>	Weardale	W.I.&C.Co.Ltd	19,277t	30%	£7,229	£0.375
		* = in Mines list							
1897	1898	Carrick or Craig's Level *	<i>Brown iron ore</i>	Weardale	W.I.&C.Co.Ltd	16,852t	30%	£6,319	£0.375
		* = in Mines list							

Later Mineral Statistics exist, but are not included in this summary.

Summary of Weardale Blast Furnace Statistics from Mineral Statistics ctd

From 1864, published 1865, the Mineral Statistics included lists of iron mines “at work”. This list was for mine inspection purposes, and was separate from the records of iron ore transported by railways and from tonnages of ore produced by mines. The following tables record what iron mines were listed for Weardale and (later) for the county of Durham. Although the mines are listed as “at work”, the list probably includes some mines not being used (= standing) in some years.

Weardale Iron Mines (producing Spathose Ore) at work.				
Prod. year	Pub. year	Name of Proprietor or Company	Name of Manager or Agent	Name of Mine
1864	1865	Weardale Iron Co.	W. H. Ware	Slit Pasture, Rowan Tree, Heights, West Slit, North Grain, Rispey, Stanhope Burn
		Allergill Mining Co.	J. T. Bell	Allergill
1865	1866	Weardale Iron Co.	W. H. Ware	Slit Pasture, Rowan Tree, Heights, West Slit, North Grain, Rispey, Stanhope Burn
		Allergill Mining Co.	J. T. Bell	Allergill
<i>Note that this list, published in 1866, is the same as published in 1865, and remains the same for several years, so it may not have been updated and may be inaccurate.</i>				
1866	1867	Weardale Iron Co.	W. H. Ware	Slit Pasture, Rowan Tree, Heights, West Slit, North Grain, Rispey, Stanhope Burn
		Allergill Mining Co.	J. T. Bell	Allergill
1867	1868	Weardale Iron Co.	W. H. Ware	Slit Pasture, Rowan Tree, Heights, West Slit, North Grain, Rispey, Stanhope Burn
		Allergill Mining Co.	J. T. Bell	Allergill
1868	1869	Weardale Iron Co.	W. H. Ware	Slit Pasture, Rowan Tree, Heights, West Slit, North Grain, Rispey, Stanhope Burn
		Allergill Mining Co.	J. T. Bell	Allergill
1869	1870	Weardale Iron Co.	W. H. Ware	Slit Pasture, Rowan Tree, Heights, West Slit, North Grain, Rispey, Stanhope Burn
		Allergill Mining Co.	J. T. Bell	Allergill
1870	1872	Weardale Iron Co.	W. H. Ware	Slit Pasture, Rowan Tree, Heights, West Slit, North Grain, Rispey, Stanhope Burn
		Allergill Mining Co.	J. T. Bell	Allergill
1871	1872	Weardale Iron Co.	W. H. Ware	Slit Pasture, Rowan Tree, Heights, West Slit, North Grain, Rispey, Stanhope Burn
		Allergill Mining Co.	J. T. Bell	Allergill
<i>From 1864, published 1865, up till 1871, published 1872, the list of Weardale Iron Mines at work is the same. This suggests that updated information was not obtained and that the same list was reprinted each year. The list changed in 1872, published 1873 (which was when mine reporting changed). The following mine lists for the 1870s differ slightly from the tonnage outputs listed above, so need careful interpretation. Eg. Killhope is listed here in 1874 to 1877, but not in the tonnage output lists.</i>				
1872	1873	Weardale Iron Co. (Weardale)	W. H. Ware	Slit Pasture, Rowan Tree A, Rowan Tree B, West Slitt, North Grane, Rispey,
		Weardale Iron Co. (Weardale)	J. R. Crone	Stanhope Burn or Redvein
		Killhope Iron Co. (Stanhope)	J. R. Crone	Killhope, North Grove Rake, South Grove Rake, Level Gate, Queensbury
1873	1874	Weardale Iron Co. (Weardale)	J. R. Crone	Killhope, North Groove Rake, South Groove Rake, Level Gate, Queensbury, Slit Pasture, Rowan Tree A, Rowan Tree B, West Slitt, North Grane, Stanhope Burn or Redvein

Summary of Weardale Blast Furnace Statistics from Mineral Statistics ctd

Weardale Iron Mines (producing Spathose Ore) at work.				
Prod. year	Pub. year	Name of Proprietor or Company	Name of Manager or Agent	Name of Mine
1874	1875	Weardale Iron Co. (Weardale)	J. R. Crone	Killhope, North Groove Rake, South Groove Rake, Levelgate, Queensbury, Slit Pasture, Rowan Tree A, Rowan Tree B, West Slitt, North Grane, Stanhope Burn or Redvein
1875	1876	Weardale Iron Co. (Weardale)	J. R. Crone	Killhope, North Groove Rake, South Groove Rake, Levelgate, Queensbury, Slit Pasture, Rowan Tree A, Rowan Tree B, West Slitt, North Grane, Stanhope Burn or Redvein
1876	1877	Weardale Iron Co. (Weardale)	J. R. Crone	Killhope, North Groove Rake, South Groove Rake, Levelgate, Queensbury, Slit Pasture, Rowan Tree A, Rowan Tree B, West Slitt, North Grane, Stanhope Burn or Redvein
1877	1878	Weardale Iron and Coal Co. (Weardale)	J. R. Crone	Killhope, North Groove Rake, South Groove Rake, Levelgate, Queensbury, Slit Pasture, Rowan Tree A, Rowan Tree B, West Slitt, North Grane, Stanhope Burn or Redvein, Red Vein, Foulwood
1878	1879	Weardale Iron and Coal Co. (Weardale)	J. R. Crone	Level Gate, Queensbury Quarry, Slitt Pasture Quarry, Rowan Tree A Quarry, Rowan Tree B Quarry

From 1879, pub 1880, the list of mines in County Durham includes some that are not in Weardale.

List of Mines. Iron Ore Mines in County Durham.				
Prod. year	Pub. year	Name of Proprietor or Company	Name of Manager or Agent	Name of Mine
1879	1880	Weardale Iron and Coal Co. (Weardale)	J. R. Crone	Level Gate, Queensbury Quarry, Slitt Pasture Quarry, Rowan Tree A Quarry, Rowan Tree B Quarry
		Iron Mining Co. (Ettersgill, Middleton)	Thomas Greaves	Dirt Pit
1880	1881	Weardale Iron and Coal Co. (Weardale)	J. R. Crone	Level Gate, Rowan Tree A Quarry, Rowan Tree B Quarry, Queensbury Quarry, Slitt Pasture Quarry
		Iron Mining Co. (Ettersgill, Middleton)	Thomas Greaves	Dirt Pit
1881	1882	Weardale Iron and Coal Co. (Weardale)	J. R. Crone	Level Gate, Red Vein, Rowan Tree A Quarry, Rowan Tree B Quarry, Queensbury Quarry, Slitt Pasture Quarry
		Iron Mining Co. (Ettersgill, Middleton)	Thomas Greaves	Dirt Pit

In 1882, pub 1883, there is no list of mines, but production tonnages are given for each mine, as listed above.

Summary of Weardale Blast Furnace Statistics from Mineral Statistics ctd

In 1883, pub 1884, the mines list becomes a list of mines and openworks, and gives the postal address of the Owner or Company. From 1883 the list also gives a reliable record of whether the mine was working or standing. In 1883 (only) it includes number of persons employed.

List of Mines and Openworks. Iron Ore Mines in County Durham.						
Prod. year	Pub. year	Owner or Company and Postal Address	No. employed	Name of Mine	Where situated	Name of Manager or Agent
1883	1884	Grieve, Thomas, Middleton-in-Teesdale	6	Snaisgill	Weardale	Thos. Grieve
		Hope, Alexr. Cleveland Cottage, Middleton-in-Teesdale	9	Dirt Pit	Weardale	Alexr. Hope
		Weardale Iron and Coal Co., Ltd., Tudhoe, Spennymoor	94	Foul Wood (Standing) Level Gate (Standing) Red Vein Rowan Tree A. Side Head (Standing)	Weardale Weardale Weardale Weardale Weardale	T. Teesdale

List of Mines and Openworks. Iron Ore Mines in County Durham.						
Prod. year	Pub. year	Owner or Company and Postal Address	Name of Mine	Where situated	Name of Manager or Agent	
1884	1885	Grieve, Thomas, Middleton-in-Teesdale	Snaisgill (Standing)	Weardale	Thos. Grieve	
		Hope, Alex. Cleveland Cottage, Middleton-in-Teesdale	Dirt Pit	Weardale	Alex. Hope	
		Weardale Iron and Coal Co., Ltd., Tudhoe, Spennymoor	Foul Wood Level Gate Middlethorpe Red Vein (Standing) Rowan Tree A. Side Head (Standing)	Weardale Weardale Weardale Weardale Weardale	T. Teesdale	
1885	1886	Hope, Alex. Cleveland Cottage, Middleton-in-Teesdale	Dirt Pit	Weardale	Alex. Hope	
		Weardale Iron and Coal Co., Ltd., Tudhoe, Spennymoor	Foul Wood Carricks Level Gate Middlethorpe Red Vein (Standing) Rowan Tree A. Side Head (Standing)	Weardale Weardale Weardale Weardale Weardale Weardale	T. Teesdale	
1886	1887	Hope, Alex. Cleveland Cottage, Middleton-in-Teesdale	Dirt Pit *	Weardale	Alex. Hope	
		Weardale Iron and Coal Co., Ltd., Tudhoe, Spennymoor	Foul Wood * Carricks * Level Gate * Middlethorpe * Red Vein * Rowan Tree A. * Side Head *	Weardale Weardale Weardale Weardale Weardale Weardale	T. Teesdale	
		* Mines marked with an asterisk are standing, but ready for work when required.				

Summary of Weardale Blast Furnace Statistics from Mineral Statistics ctd

List of Mines and Openworks. Iron Ore Mines in County Durham.					
Prod. year	Pub. year	Owner or Company and Postal Address	Name of Mine	Where situated	Name of Manager or Agent
		Hope, Alex. Cleveland Cottage, Middleton-in-Teesdale	Dirt Pit *	Weardale	Alex. Hope
1887	1888	Weardale Iron and Coal Co., Ltd., Tudhoe, Spennymoor	Foul Wood Carricks Level Gate Middlethorpe Red Vein Rowan Tree A. Side Head	Weardale Weardale Weardale Weardale Weardale Weardale	T. Teesdale
* Mines marked with an asterisk are standing, but ready for work when required.					

From 1888, pub 1889, the Mineral Statistics did not include a list of mines and openworks, but gave production tonnages for each mine within the iron ore records.