

No. 1 COLLIERY—**OLYPHANT.**

This colliery is located in Olyphant, Blakeley township, and situated 1,000 feet south-east of the Lackawanna river, on the loaded track of the Delaware and Hudson canal company; A. B. Nicol is assistant mine superintendent, Andrew Patten is mining boss and William Bell is outside foreman.

*Description.*—There is a breaker connected with these mines; they mine and prepare 400 tons of coal per day; they employ 65 miners, 53 laborers, 35 drivers, 9 door-boys and 9 company men in the mines; 38 slate pickers, 6 head and plate men, 22 company men, 3 mechanics and 2 bosses outside; in all 242 men and boys; they are working Nos. 1 and 2 veins of coal; average thickness 7½ feet each; they work headings 10, air-ways 14 and chambers 30 feet wide: they leave pillars 15 feet wide to sustain the roof; they leave cross-entrances 50 feet apart, for the purpose of ventilation; the roof is slate and fire-clay; the mines are in a good working condition.

*Ventilation* is produced by means of a furnace; the in-take is located at mouth of slope for the slope, and at mouth of drift for drift: areas 57 feet each; the out-casts are located in furnace air-shaft; area 50 feet; the amount of pure air is 9,300 cubic feet per minute; the main doors are hung so as to close of their own accord; they have attendants at main doors; the air is circulated to the face of the workings in one volume; the amount of pure air has been measured and reported; ventilation is good.

*Machinery.*—They use one breaker engine of 36-horse power, and one hoisting engine of 43-horse power; they have a metal speaking-tube in the slope; they have an adequate brake, and flanges of sufficient strength and dimensions for safety, attached to the hoisting drum: the ropes, links, chains and connections are in good condition; the boilers have been cleaned and examined, and reported in good condition; they have a steam gauge to indicate the pressure of steam; the breaker machinery is boxed and fenced off, so that operatives are safe.

*Remarks.*—They have furnished a map of mines; they have a second opening; they have no house for men to wash or change in; the mining boss is a competent and practical man; there are no boys working in the mines under 12 years of age; the engineers seem to be experienced, competent and sober men; they do not allow any persons to ride on loaded cars in the mines; the parties having charge know their duty in case of death or serious accident.

No. 3 COLLIERY—**OLYPHANT.**

This colliery is located in Olyphant, Blakely township, and situated 1,000 feet south-east of the Lackawanna river, on the loaded track of the Delaware and Hudson canal company's railroad. It is operated by the Delaware and Hudson canal company. Andrew B. Nicol is assistant mine superintendent, and Andrew Patten is mining boss.

*Description.*—The opening to the coal consists of a slope and tunnel; the slope is 327 feet long; the coal mined here is prepared at No. 1 breaker; they mine 60 tons of coal per day; they employ 14 miners, 10 laborers, 5 drivers and 2 company men in the mines; in all 31 men and boys; they are working No. 2 vein of coal; average thickness 5½ feet; they work headings 10, air-ways 14 and chambers 30 feet wide; they leave pillars 15 feet wide to sustain the roof; they leave cross-entrances 50 feet apart, for the purpose of ventilation; the roof is fire-clay; the mines are in a good working condition.

*Ventilation* is produced by means of a furnace; the in-takes are located at mouth of slope and drift, area 50 feet; the out-casts are located in furnace air-shaft, area 45 feet; the amount of pure air is 8,400 cubic feet per minute; the main doors are hung so as to close of their own accord; they have attendants at main doors; the air is circulated to the face of the workings in one volume; the amount of ventilation has been measured and reported; ventilation is good.

*Machinery.*—They did use two breaker engines, 86-horse power, at the breaker now abandoned; they have an adequate brake, and flanges of sufficient strength and dimensions for safety, attached to the hoisting drum; the ropes, links, chains and connections are in good condition; the boilers were cleaned and examined, and reported in good condition; they have a steam gauge to indicate the pressure of steam.

*Remarks.*—They have furnished a map of mines; they have a second opening; they have no house for men to wash or change in; there are no boys working in the mines under 12 years of age; the parties having charge know their duty in case of death or serious accident.

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#### GRASSY ISLAND COLLIERY.

This colliery is located in Blakeley township, and situated about one-half of a mile south-east of the Lackawanna river; the shaft is — feet deep to the Fourteen Feet vein; it is operated by the Delaware and Hudson canal company. David M'Donald is mining boss, and J. G. Bell is outside foreman.

*Description.*—There is a breaker connected with this mine, about 3,700 feet away from main opening; they mine and prepare about 575 tons of coal per day; they employ 140 miners, 50 laborers, 34 drivers, 18 door-boys and 21 company men in the mines; 40 slate pickers, 9 head and plate men, 4 drivers, 9 company men, 12 mechanics and 2 bosses outside; in all 334 men and boys; they are working the Fourteen Feet vein of coal, average thickness 10 feet; they work headings 10, air-ways 14 and chambers 30 feet wide; they leave pillars 15 feet wide to sustain the roof; they leave cross-entrances about 50 feet apart for the purpose of ventilation; the roof is rock; the mine is in a good working condition.

*Ventilation* is produced by means of a furnace; the in-take is located at mouth of shaft, area 144 feet; the up cast is located in furnace air-shaft, area 49 feet; the amount of pure fresh air is 40,200 cubic feet per minute; the main doors are hung so that they will close of their own accord; they have attendants at main doors; they have double doors on main traveled roads, and an extra one in case of accident to any of the others; the air is circulated to the face of the workings in 2 splits; the amount of ventilation has been measured and reported; ventilation is good.

*Machinery.*—They use 1 breaker engine, 61 3-5-horse power; 1 hoisting engine, 72-horse power; 1 hoisting engine, 77-horse power, and 1 steam pump, 97½-horse power; they have a metal speaking tube in the shaft; they have a safety carriage, with all the modern improvements; they have an adequate brake, and flanges of sufficient strength and dimensions attached to their hoisting drums; the boilers have been cleaned and examined and reported in good condition; they have a steam gauge to indicate the pressure of steam; also a safety valve for safety.

*Remarks.*—They have furnished a map of mine; they have a second opening, located about 1,100 feet away from main opening; they have no house for men to wash or change in; they have standing water in the mine; the mining boss seems to be a practical and competent man; there are no boys working in the mine under 12 years of age; the engineers seem to be experienced, competent and sober men; they do not allow any persons to ride on loaded cars in the mine; they do not allow more than ten men to ride on the safety carriage at one time; the parties having charge know their duty in case of death or serious accident; the shaft landings are protected by safety gates; the breaker machinery is fenced and boxed off so that operatives are safe; they have 1 locomotive, 20-horse power, to transport coal from the mine to the breaker.

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#### EATON & COMPANY'S COLLIERY.

This colliery is located at Archbald, in Blakeley township, and situated on the east bank of the Lackawanna river. It is operated by Eaton & Co. Alva Eaton is general superintendent, James Eaton is mining boss and George W. Eaton is outside foreman.

*Description.*—The opening to the coal consists of four tunnels; there is a breaker connected with these mines; they mine and prepare about 500 tons of coal per day; they employ 104 miners, 100 laborers, 42 drivers, 8 door-boys and 4 company men in the mines; 60 slate pickers, 15 head and plate men, 2 drivers, 7 mechanics and 2 bosses outside; in all 344 men and boys; they are working the Lackawanna vein; average thickness 10 feet; they work headings 10, air-ways 16 and chambers 26 feet wide; they leave pillars about 14 feet wide to sustain the

gressing slowly. It is not developed enough at present to give it an extended notice here. It will be fully reported next year.

**DELAWARE AND HUDSON CANAL COMPANY.**

**No. 3 Jermyn's Shaft, Green Ridge.**

This colliery is operated by the Delaware and Hudson Canal Company and the Delaware, Lackawanna and Western Railroad Company, in partnership. They are now grading a slope in coal inside, which will be eight hundred feet long, when completed, on the northwest side of the shaft, also a new gravitation plane, four hundred feet long, on the east side of the shaft.

**Von Storch Slope.**

They are erecting another ventilating fan at this colliery in addition to the fan which they have there at present. The new fan is seventeen feet diameter by four feet face. This is to ventilate the fourteen feet and Diamond seams of coal. The old fan, which is twenty feet diameter by five feet face, will be used exclusively for the Clark seam of coal. They have just finished a slope, six hundred feet long, in coal in the Clark seam, on the southeast side of shaft.

**Legitt's Creek Shaft.**

They have re-opened the Diamond seam of coal, which has been idle for four years. They are now ready for operation.

**Marvine Shaft.**

They are now building a gravitation plane, six hundred feet long, in the fourteen feet seam of coal, on southeast side of shaft. Also sinking a slope in coal on northwest side of shaft, which will be about twelve hundred feet long when finished. They are also driving for second opening in Diamond seam, by connecting with Diamond seam in Legitt's Creek shaft. The connection is now made.

**Olyphant, No. 2.**

They have built a new breaker over second opening shaft of this colliery, and call it Eddy Creek breaker. They have cut and graded a new gravitation plane to bring coal to foot of shaft from the northwest side of the property.

**Grassy Island Shaft.**

They are sinking a new air shaft at this colliery. It is timbered down to the rock, a distance of twenty feet from the surface. The size of shaft opening is eleven by fourteen feet. They are now drilling a bore-hole in the air shaft to let the water down through to the mine workings. They expect to finish bore-hole in a few days. The contract for sinking shaft is already let. The intention is to put up two fans on the same shaft, seventeen feet diameter by four feet face, each. They are to be run by two

Number of children left as orphans from accidents in 1890, . . . . .	132
Number of tons of coal produced for each orphan, . . . . .	<u>67,669</u>

There were 280,200 kegs of powder used in mining 8,932,235.07 tons of coal in 1890, which would give 31.88 tons of coal for each keg of powder used.

There are 2,753 horses and mules working in and about the mines in this district. There are also 34 mine locomotives with a horse-power of 1,799, making in all a total horse-power of 4,552 for transportation of coal in mines and between mines and breakers.

There are 905 steam boilers which supply steam for 385 hoisting, fan and breaker engines, which have a horse-power of 23,809; also 301 pumping engines and steam pumps with a horse-power 10,665.

There are 68 breakers which have a capacity for preparing and cleaning 53,045 tons of coal per day for shipment to market.

There are also 4 chute buildings for cleaning and dividing coal into various and different sizes, shipping some to market direct and some to breakers to be prepared for market.

Respectfully submitted.

PATRICK BLEWITT,  
*Inspector of Mines.*

#### COLLIERY IMPROVEMENTS FOR 1890.

*Delaware, Lackawanna and Western Railroad Company*, has made no improvements except driving headings and airways, so as to have their mines in proper condition for opening out their mine workings when necessary.

#### DELAWARE AND HUDSON CANAL COMPANY.

This company has made but very few improvements during the year.

*Clinton Colliery*.—Has finished one outside slope.

*Eddy Creek Colliery*.—Has built an addition to breaker for the purpose of making chestnut, pea and buckwheat coal.

*Olyphant No. 2 Colliery*.—Put in place one fan engine, 18" x 22"; size of fan 17' diameter by 4' width of face, also placed three boilers 34' long by 36" in diameter.

*Jermyn No. 3 Colliery*.—Finished sinking air shaft to "G" or 14' vein. Machinery is on the ground but not put in place yet.

*Capouse Colliery*.—Have finished one plane from "G" to Rock Vein.

*Pine Brook Colliery*.—Drove one slope in coal and one tunnel in rock.

There are also 75 fans and 14 furnaces for the purpose of ventilation. There are four mines where they are drawing back pillars, that are not ventilated mechanically.

Respectfully submitted.

PATRICK BLEWITT,  
*Inspector of Mines.*

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### COLLIERY IMPROVEMENTS FOR YEAR 1892.

#### DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY.

*Hyde Park Shaft.*—Sunk an air shaft from Big vein to New County vein  $6' \times 10' = 60'$  and 28' deep; also sunk an air shaft from New County to Clark vein  $6' \times 10' = 60'$  and 78' deep, and drove a tunnel from Big to New County vein  $7' \times 11'$  and 146' in length.

*Tripp Shaft.*—Extended slope towards the river 700' in length.

*Dodge.*—Opened from New County from Big vein.

*Brisbin Shaft.*—Drove new plane up the west mountain in Clark vein 700' long.

*Storrs No. 1 Shaft.*—Driving a slope south; also opened a drift in the Richmond vein and put up a new fan, but they will not get much coal as it is too near the outcrop; also sunk No. 3 Storr's, formerly called Cayuga No. 2, from G or Big 155' deep to the Clark vein, and they are opening in the Clark and Diamond veins.

*Pyne Shaft.*—Opened a new plane in the New County vein 530' long.

#### DELAWARE AND HUDSON CANAL COMPANY.

*Leggett's Creek Shaft.*—Are now working coal in Clark vein.

*Olyphant No. 2 Shaft.*—Finished a new lowering plane in 14' vein.

*Jermyn No. 1 Shaft.*—Drove a new second opening from daylight and connected inside with both veins.

#### PENNSYLVANIA COAL COMPANY, DUNMORE, PA., 1891.

Mr. PATRICK BLEWITT,

*Mine Inspector of Second Anthracite District:*

We have during the year started a slope on a grade of  $7^\circ$ , to open up what is known as the Sawyer vein. Mouth of slope situated N.  $74^\circ$  E. and 235' from east corner of No. 1 breaker boiler house and 450' north of Old Smith tunnel. Course of slope N.  $79^\circ$  W. We have driven on above grade and course 175'. Uncovered the coal at a distance of 137' from mouth of slope. When finished it will be from 900' to 1,200' long.

second opening, which had been but recently completed. As the only other way of escape was cut off by the fire at the head of the main shaft.

The Riverside Coal Company's breaker of 1,000 tons a day capacity was destroyed by fire on May 11, since which time a new one has been erected on the site of the old one.

The Delaware and Hudson Canal Company has built a new breaker of 2,000 tons a day capacity at **Olyphant**. A new coal washery has also been erected by the same company, and a new air shaft has been sunk for the Morvine and Dickown shafts, and a 20-ton air locomotive has been installed at Leggett's creek.

Compressed air coal drills have been introduced by the Elk Hill Coal and Iron Company at Richmond No. 3.

The tail rope system of haulage has been adopted by the Delaware, Lackawanna and Western Railroad Company at Storrs No. 1 with good results.

Many other improvements have been made by other companies for facilitating and increasing the output of coal.

The ventilating facilities are ample throughout the district, and on the whole the air currents are well conducted to the faces of all working places.

Culm is being successfully flushed into the old workings of Grassy Island and Eddy Creek by the Delaware and Hudson Canal Company. Also by the Mt. Jessup Coal Company into their slope workings.

Considerable "pillar robbing" has been done during the year by several companies, but the number of accidents attending this critical work has been remarkably few.

The Russel B., formerly the Old Buffalo mine, was abandoned in August.

The general condition of the collieries is good, and I am pleased to say that the provisions of the mine law are being very generally observed by those in charge of the mines.

The report contains the usual statistical tables, together with a brief description of each accident, but in view of the fact that a monthly narrative report of the daily performance of my duties has been made to the Chief of the Bureau of Mines, containing suggestions and recommendations from time to time as the circumstances required, the report is not as lengthy as heretofore.

Respectfully submitted,

EDWARD RODERICK,

Inspector First Anthracite District.

The annual examination of applicants for mine foreman and assistant mine foreman certificates of qualification, was held at Carbondale on July 12 and 13 by the Board of Examiners, consisting of

TABLE F—Nationality of Persons Killed and Injured.

	Poles.	American.	Irish.	English.	Welsh.	Austrian.	Hungarian.	Russian.	Slavs.	Greek.	Italian.	Scotch.	German.	French.	Totals.
Killed, .....	16	10	10	9	6	5	5	2	1	1	3	.....	.....	.....	63
Injured, .....	24	19	22	13	15	2	7	.....	4	.....	5	3	2	1	116
Total, .....	40	29	32	21	21	7	12	2	5	1	8	3	2	1	184

### Examination.

The annual examination of applicants for mine foremen and assistant mine formemen certificates of qualification was held at Carbondale on July 18 and 19, by the Board of Examiners, consisting of Edward Roderick, Inspector; Chas. P. Ford, Superintendent; James E. Morrison and Joseph T. Roberts, miners, and Lewis H. John, clerk.

Fifteen applicants entered for mine foremen certificates and the following named persons were successful and were recommended: Thomas C. Boylan and Patrick F. Tigue, of Carbondale; J. W. Parfrey, Dunmore; John D. Jones and Edward Scharar, Scranton; Paul Bright, Throop; John J. Williams, **Olyphant**, and William T. Powell, Plymouth.

The following persons were recommended to receive assistant foremen certificates: John Robinson and Thomas C. Hodgson, Scranton; Thomas Johns and Benjamin Milton, Vandling; James H. Swift and Martin Murphy, Archbald; David B. Thomas, Peckville, and David J. Morgan, Carbondale.

### Improvements Made During the Year 1899.

#### Delaware and Hudson Company.

At the Leggett's Creek Colliery a new breaker of 2,000 tons a day capacity has been erected and the old one, which was built over the shaft, has been razed.

Two new air locomotives have been installed in the mine.

Also, at the Marvin, a twelve-ton air locomotive has been installed.

At Eddy Creek two new planes have been built in Grassy Island vein, and a slope has been sunk in Diamond vein.

In **Olyphant** No. 2 a chain hoist has been placed in rock vein to take empty cars from foot of shaft, doing work which formerly required three mules. Also, a new Jeanesville pump has been installed, making two pumps delivering water to surface through an 18-inch bore hole.

Eddy Creek.—Erection of new Guibal fan 28x8 feet with new brick engine room. The shaft is being enlarged from 10x23 feet in section to 12x33 feet 4 inches. At "Birds Eye" a Guibal fan 8x3 feet has been erected, driven by electricity at a speed of 200 revolutions per minute.

**Olyphant** No. 2.—The 4-foot vein has been cut by two rock planes.

#### PENNSYLVANIA COAL COMPANY

Gipsy Grove, Outside.—New pair of 15x24 inch geared hoisting engines for shaft. Stable inside with capacity of 20 mules in second Dunmore vein. In third Dunmore vein a stable of same capacity was made.

No. 1 Colliery.—Work is progressing on installation of additional horse power Babcock and Wilcox boilers, which will increase the capacity to 1,200 horse power. A new 10-foot forced draft fan is being erected for the same; also, new Cochrane feed water heater and 12x8x12 inch duplex Scranton pump. A new water tank is being built with a capacity of 50,000 gallons. One alternating current generator 2,300 volts 7 5-10 amperes, speed 1,200 revolutions, belted to a 10x10 inch, 62 horse power McEwen engine. This furnishes power to run the drills and a 20 horse power induction motor, with 220 volts 50 amperes. The 20 horse power induction motor is located at the river end of the tunnel, about 7,500 feet from the generator and is used to run a 57 inch exhaust fan which supplies air to the tunnel. It is connected by belt to a 5 horse power dynamo which gives the direct current to the motors which run the drills. Also one Rand air compressor to furnish power to run air drills at No. 1 end of tunnel. New car and blacksmith shop 30x112 feet with 16x20 feet ell. New supply house 34x50 feet.

Water tunnel from Lackawanna river to No. 1 shaft has been driven in 1,200 feet during the year, and on the No. 1 end of the tunnel 500 feet. In the third Dunmore vein a new gravity plane has been made, section 6x15 feet and 800 feet in length. A new stable has been made in same vein with capacity of 30 mules; also new air bridge sectional area 60 feet and new 16x8½x14 inch Scranton pump.

No. 2 Shaft.—New locomotive boiler, outside. Work is progressing on new engine plant. When completed will be about 5,000 feet in length and will be operated by a pair of 15x24 inch geared hoisting engines, which are now on the foundation. New air course and traveling way have been made at No. 1 tunnel.

#### STERRICK CREEK COAL COMPANY

Sterrick Creek.—The new shaft 12x30 feet in section which was commenced to sink in 1903 has been completed. This shaft is sunk



Blue Ridge Tunnel.—Condition as to safety good, drainage and ventilation fair. They are robbing pillars.

Richmond No. 3 Colliery.—Condition as to safety good, drainage fair, ventilation good.

DELAWARE AND HUDSON COMPANY

**Olyphant** Colliery No. 2 Shaft.—Condition as to safety and drainage good, ventilation generally good.

Grassy Island Slope.—Condition as to safety and drainage good, ventilation good with the exception of the Four Foot vein. This vein is very difficult to ventilate as it is thin and the roof is continually falling in the air courses.

Grassy Island Shaft.—Condition as to safety and drainage good, ventilation fair. There is room for improvement.

Eddy Creek Colliery, Birds Eye Mines.—Condition as to safety, drainage and ventilation good.

No. 4 Drift.—Condition as to safety good, drainage and ventilation fair.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Storrs Colliery No. 1 Shaft.—Condition as to safety, drainage and ventilation good.

No. 2 Shaft.—Condition as to safety and drainage good, ventilation fair. There is room for improvement.

PENNSYLVANIA COAL COMPANY

No. 1 Colliery No. 1 Shaft.—Condition as to safety and drainage good, ventilation fair.

No. 2 Shaft.—Condition as to safety and drainage good, ventilation fair.

Gipsy Grove Colliery.—Condition as to safety, drainage and ventilation good. This mine has been very much improved.

STERRICK CREEK COAL COMPANY

Sterrck Creek Colliery.—Condition as to safety, drainage and ventilation good. Six air bridges were built during the year, which improved the ventilation.

LACKAWANNA COAL COMPANY

Lackawanna Colliery.—Condition as to safety, drainage and ventilation good.

DOLPH COAL COMPANY

Dolph Colliery, Hackley Slope.—Condition as to safety, drainage and ventilation good.

Hannah Bell.—Condition as to safety good, drainage and ventilation fair.

MOUNT JESSUP COAL COMPANY

Mount Jessup Colliery, Peck's Shaft.—Condition as to safety good, drainage fair, ventilation good.

## MOOSIC MOUNTAIN COAL COMPANY

Marshwood Drift.—Condition as to safety good, drainage poor, but it is being improved. Ventilation fair.

## BLAKELY COAL COMPANY

Blakely.—Condition as to safety, drainage and ventilation good.

## MOTT HAVEN COAL COMPANY

Mott Haven.—Condition as to safety, drainage and ventilation good.

## IMPROVEMENTS

## SCRANTON COAL COMPANY

Johnson.—Man shaft tower rebuilt.

Ontario.—Three new locomotive type boilers installed. New washery built.

Bryden Shaft.—Fourteen foot fan constructed in brick and concrete.

## DELAWARE AND HUDSON COMPANY

**Olyphant.**—No. 16 Rock Plane driven from Diamond to Four Foot, a distance of 103 feet.

No. 18 Rock Plane driven 475 feet through fault in Diamond vein.

No. 10 Rock Slope (Miles) driven 842 feet from Rock to No. 4 Dunmore vein.

Grading 400 feet of No. 3 Tunnel from Rock to Fourteen Foot vein.

No. 9 Rock Plane driven 108 feet from Fourteen Foot toward Rock vein.

Grassy Island.—At Grassy No. 1 Rock Tunnel from New County to Fourteen Foot vein, driven 210 feet for second opening.

Rock Plane from Four Foot to No. 2 vein driven 200 feet.

Shaft from surface to No. 2 vein sunk 36 feet for second opening.

No. 4 Dunmore vein opened in Grassy No. 2 Shaft, 250 feet on east side and 100 feet on west side, and Clark vein opened 75 feet on east side.

Grassy Island No. 4 shaft sinking down a distance of 611 feet, not completed.

## DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Storrs No. 3.—A new ventilating fan has been placed and is in operation at Storrs No. 3 steel casting and brick building.

## PENNSYLVANIA COAL COMPANY

No. 1 Colliery Outside.—A brick building 18 feet x 18 feet to be used as an electric light plant, containing one 8 x 10, 40 H. P. engine, 100 ampere, continuous current 250 volts. Also one brick building 24 feet x 38 feet, with an annex 9 feet x 23 feet. This building contains one pair 12 x 24 hoisting engines to operate two inside slopes in No. 1 Shaft, one in the third Dunmore vein and one in the second Dunmore vein, which is being driven.

## STERRICK CREEK COAL COMPANY

Sterrck Creek Colliery.—Condition as to safety, ventilation and drainage good.

## LACKAWANNA COAL COMPANY

Lackawanna Colliery.—Condition as to safety and ventilation good; drainage fair.

## DOLPH COAL COMPANY

Dolph Colliery.—Condition as to safety, ventilation and drainage good.

## MOUNT JESSUP COAL COMPANY

Mount Jessup Colliery.—Condition as to safety, ventilation and drainage good.

## MOOSIC MOUNTAIN COAL COMPANY

Marshwood.—Condition as to safety good; ventilation and drainage good.

## BLAKELY COAL COMPANY

Blakely Colliery.—Condition as to safety, ventilation and drainage good.

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**IMPROVEMENTS**

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## SCRANTON COAL COMPANY

Johnson Colliery: Johnson No. 1.—An air compressor 24 x 24½ x 30 feet installed.

Johnson No. 2.—Installed a 10-foot fan at Mountain shaft; rebuilt plane trestle and constructed a 2,500-ton breaker.

Ontario Colliery: Sturgess Shaft.—Rebuilt tower and trestle and installed two boilers, 66 inches x 16 feet.

Blue Ridge Shaft.—Installed a return boiler, 66 inches x 16 feet.

Ontario Washery.—Installed one 54 inch fire-box boiler.

## DELAWARE AND HUDSON COMPANY

**Olyphant** Colliery: Olyphant No. 2.—Installed an additional electric generator to furnish power for operating hoists, fans and pumps at Birds Eye No. 10 slope; lights and signals at Grassy Island No. 2, consisting of an 18 inch x 18 foot McEwen engine and a 150 K. W. generator.

Grass Island No. 2, Rock Vein.—Graded 1,400 feet of main gangway to shaft landing; graded 120 feet for chain hoist of light cars, and 150 feet for light car road.

## CONDITION OF COLLIERIES

### DELAWARE AND HUDSON COMPANY

Olyphant.—Safety, ventilation and drainage good.  
 Legitts Creek.—Safety and ventilation good; drainage fair.  
 Eddy Creek.—Safety, ventilation and drainage good.  
 Marvine.—Safety, ventilation and drainage good.

### SCRANTON COAL COMPANY

Johnson.—Safety, ventilation and drainage good.  
 Ontario.—Safety, ventilation and drainage good.  
 Richmond No. 3.—Safety, ventilation and drainage good.

### TEMPLE IRON COMPANY

Lackawanna.—Safety and ventilation good; drainage fair.  
 Sterrick Creek.—Safety, ventilation and drainage good.  
 The Sterrick Creek breaker was destroyed by fire October 26.

### DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Storrs.—Safety, ventilation and drainage good.

### DOLPH COAL COMPANY

Dolph.—Safety, ventilation and drainage good.

### MOUNT JESSUP COAL COMPANY

Mount Jessup.—Safety, ventilation and drainage good.

### MOOSIC MOUNTAIN COAL COMPANY

Marshwood.—Safety good; ventilation and drainage fair.

### BLAKELY COAL COMPANY

Blakely.—Safety, ventilation and drainage good.

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## IMPROVEMENTS

### DELAWARE AND HUDSON COMPANY

**Olyphant** Colliery.—Grassy Island No. 2 Shaft. Rock slope, 7 x 12 feet, from Four Foot to Diamond vein driven 250 feet to completion. Chain hoists were installed in Rock and Dunmore No. 4 veins.

Rock plane 125 feet was driven from Clark to New County vein, for return airway.

**Olyphant** No. 2 Shaft.—Car hoist, 110 feet long, installed in the Diamond vein, and landing rebuilt.

## CONDITION OF COLLIERIES

## DELAWARE AND HUDSON COMPANY (INSIDE)

## HUDSON COAL COMPANY (OUTSIDE)

**Olyphant**, Eddy Creek and Marvine Collieries.—Ventilation, drainage and condition as to safety, good.

Legitts Creek Colliery.—Ventilation and condition as to safety, good. Drainage fair.

## DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Storrs Colliery.—Ventilation, drainage and condition as to safety, good.

## SCRANTON COAL COMPANY

Ontario Colliery.—Ventilation and drainage fair. Condition as to safety, good.

Johnson and Richmond No. 3 Collieries.—Ventilation and condition as to safety, good. Drainage fair.

## STERRICK CREEK COAL COMPANY, LIMITED

Sterrck Creek Colliery.—Ventilation, drainage and condition as to safety, good.

## LACKAWANNA COAL COMPANY, LIMITED

Lackawanna Colliery.—Ventilation, drainage and condition as to safety, good.

## MOUNT JESSUP COAL COMPANY, LIMITED

Mount Jessup Colliery.—Ventilation and condition as to safety, good. Drainage fair.

## MOOSIC MOUNTAIN COAL COMPANY

Marshwood Colliery.—Condition as to safety, good. Ventilation and drainage, fair.

## DOLPH COAL COMPANY, LIMITED

Dolph Colliery.—Condition as to safety, good. Ventilation and drainage, fair.

## IMPROVEMENTS

## DELAWARE AND HUDSON COMPANY (INSIDE)

## HUDSON COAL COMPANY (OUTSIDE)

**Olyphant** Colliery.—Grassy Island No. 1 Shaft.—Built new engine plane, with 12½ by 15 engine, on surface to handle pillar coal on East crop 14 Foot vein.

Started to sink Grassy No. 1 shaft, from New County vein to Dunmore No. 4 vein, about 300 feet, for air intake and additional outlet for men.

Grassy Island No. 2 Shaft.—Completed grading motor road about 3,000 feet toward No. 1 shaft in Dunmore vein.

Installed 4 air motors, 2 in Clark vein and 2 in Dunmore vein, for haulage.

Completed 12 inch reinforced concrete partition wall between intake and return compartments of No. 4 shaft, about 760 feet.

Bored 8 inch hole to flush ashes from boiler house directly into Rock and 14 Foot veins.

Installed new 22-36 by 25-16.5 by 12.5-7.5 by 42 inch stroke Laidlaw-Dunn-Gordon four-stage air compressor for use in motor haulage.

Miles Slope.—Replaced 150 feet of timbering with concrete and I beams, at mouth of main slope, under O. and W. Railroad.

Eddy Creek Colliery.—Placed 12 inch reinforced concrete partition wall between intake and return compartments of shaft, about 690 feet.

Completed rock plane for return of Clark vein.

**Olyphant** Shaft.—Completed rock plane 200 feet. Four Foot to No. 2 vein east of plane to fault.

Completed No. 12 rock slope, Rock vein to Clark vein 800 feet, cutting New County vein and 14 Foot vein.

Installed 16-25 by 25-16 by 24 inch two-stage Laidlaw-Dunn-Gordon air compressor for general use, pumping, haulage and rock-cutting.

Installed 24 by 24 first motion winding engine on surface in Smoke-town to operate No. 12 rock slope.

Birdeye.—Completed No. 7 rock tunnel, 200 feet from surface to bottom split 14 Foot vein.

Installed 5 by 4 Buffalo fan, and fan house, to ventilate bottom split of 14 Foot workings.

Drove rock tunnel 225 feet from Clark vein to New County vein off No. 3 slope and also rock return from same 75 feet.

Legitts Creek Colliery.—Rock plane, 12,300 feet long from Dunmore No. 3 to Dunmore No. 2 vein, for the purpose of opening Dunmore No. 2 vein.

Headings Nos. 42 and 39 to Rock vein graded to foot of No. 13 plane, for transportation.

Gangway from landing in Clark vein to pumping plant was bricked and I beams set. The same improvement was also begun in pipe-way from No. 2 pump.

#### DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Storrs Colliery.—Installed fan engine; hoist, motor, etc., at Storrs No. 3 shaft, Clark vein.

Remodeling Jeffrey locomotives. New waterway, West slope, No. 1 shaft. New plane in Fourteen Foot vein, No. 2 shaft.

Throughout the district there has been a decided improvement in the equipment. Fireproof barns have been erected at the various collieries.

#### MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in City Hall, Scranton, June 5 and 6. The Board of Examiners was composed

## CONDITION OF COLLIERIES

## DELAWARE AND HUDSON COMPANY

**Olyphant.**—Ventilation, drainage and general condition good.  
 Coal Brook.—Ventilation, drainage and general condition good.  
 Jermyn.—Ventilation, roads and drainage fair; condition as to safety good.  
 Powderly.—Ventilation, drainage and general condition good.  
 Gravity Slope.—Ventilation, drainage and general condition good.

## STERRICK CREEK COAL COMPANY

Sterrick Creek.—Ventilation fair; drainage and general condition good.

## SCRANTON COAL COMPANY

Raymond.—Ventilation, roads and drainage good; condition as to safety good.  
 Riverside.—Ventilation, roads and drainage fair; condition as to safety good.

## HILLSIDE COAL AND IRON COMPANY

Erie.—Ventilation, roads and drainage fair; condition as to safety good.

## ARCHBALD COAL COMPANY

Tappans.—Ventilation, roads and drainage fair; condition as to safety good.

## HUMBERT COAL COMPANY

Sunnyside.—Ventilation, roads and drainage fair; condition as to safety good.

## WEST MOUNTAIN COAL COMPANY

West Mountain.—Ventilation good; roads and drainage fair; condition as to safety good.

## FALL BROOK COAL COMPANY

Murrins.—Ventilation, roads and drainage fair; condition as to safety good.

## IMPROVEMENTS

## DELAWARE AND HUDSON COMPANY

**Olyphant** Colliery.—Rock plane driven 120 feet from the Diamond vein to the Four foot vein. Rock tunnel driven 100 feet from the Top Clark to the Bottom Clark, together with rock return airway 100 feet. The timbers at the Rock vein landing were replaced by steel "I" beams and concrete a distance of 400 feet. Car haul 140 feet long completed in the Clark vein to handle empty cars from shaft. Completed sinking No. 1 shaft from the New County to the Dunmore vein, connections being made with the workings in the several veins intercepted. Ladders were placed in the manway compartment of No. 1 shaft from Dunmore to Clark vein. Installed a Jeffrey steel fan,

plane and branches. A car haul, steam driven, 140 feet long, is in course of construction in the Clark vein for the same purpose. Extended Rock slope No. 14, 300 feet on pitch of 12 degrees, in Dunmore vein, through big fault from top of Eddy Creek anticlinal into Miles basin. An air shaft, 10 by 10 feet, 40 feet deep, and fan drift 75 feet long were completed, connecting with up-cast of Eddy Creek shaft for proposed emergency fan.

**Olyphant Shaft.**—A second opening and return airway, 7 by 18 feet, was driven from Clark vein to Rock vein, 700 feet on 28 degree pitch. An intake shaft, 12 by 12 feet, to Rock vein, was sunk through 60 feet of wash at face of No. 25 plane near crop.

**Bird Eye.**—Extended No. 4 slope 150 feet through fall and graded 1,200 feet of slope in Clark vein.

**Olyphant Breaker.**—Installed a central power plant, comprising one 1,000 K. V. A., 25 cycle alternating generator, directly connected to a Hamilton-Corliss cross compound engine. The voltage is 2,300, and power will be furnished to mine motors in Archbald, Olyphant and Scranton districts. Steam for the plant is provided by two batteries of Sterling boilers, yielding 1,800 H. P. The whole is housed in a brick and steel structure.

**Marvine Colliery.**—Extended Rock plane 7 by 12 feet, from 14 foot vein to the Diamond vein 1,000 feet on a pitch of 12 degrees to lower coal to 14 Foot landing at shaft. This plane is operated by a 14 by 20 inch Flory engine, located on surface. Extended Rock plane 400 feet on pitch of 12 degrees from No. 4 Dunmore to No. 3 Dunmore vein. Built a new pump room in Clark vein, 17 by 32 by 11 feet, for locating plant to deliver water to 14 Foot vein level.

**Legitts Creek Colliery.**—Extended Rock plane from Rock to Diamond vein 350 feet on 12 degree pitch for handling coal in latter vein on northwest end of property.

#### DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

**Storrs Colliery.**—Installed one 18 by 6 foot fan, including engine and fan house. Remodeled scales. Added two 5 by 6 inch plunger pumps with motors, and one haulage electric motor with reel.

**Brisbin Colliery.**—Installed one 18 by 6 foot ventilating fan, including engine and house. Built brick and concrete oil house. Made second opening shaft from four foot to five foot vein.

**Cayuga Colliery.**—Installed one 7-ton electric motor with reel in Dunmore No. 2 vein.

#### SCRANTON COAL COMPANY

**Johnson Colliery.**—Built a hospital, 12 by 14 feet, equipped with steam heat, electric lights, hot and cold water, cots and First Aid outfit.

**Richmond No. 3 Colliery.**—Built a hospital, 14 by 15 feet, equipped with steam heat, electric lights, hot and cold water and First Aid outfit.

**West Ridge Colliery.**—Built a hospital, 10 by 12 feet, equipped with steam heat, hot and cold water and First Aid outfit.



## CONDITION OF COLLIERIES

## DELAWARE AND HUDSON COMPANY

**Olyphant**, Coal Brook, Powderly, Jermyn and Gravity Slope.—Ventilation, roads, drainage and condition as to safety, good.

## TEMPLE COAL COMPANY

Sterrick Creek.—Ventilation, roads, drainage and condition as to safety, good.

## SCRANTON COAL COMPANY

Raymond.—Ventilation, roads, drainage and condition as to safety, good.

Riverside.—Ventilation, roads, drainage and condition as to safety, fair.

## HILLSIDE COAL AND IRON COMPANY

Erie.—Ventilation, roads, drainage and condition as to safety, fair.

## ARCHBALD COAL COMPANY

Tappans.—Ventilation, roads, drainage and condition as to safety, fair.

## HUMBERT COAL COMPANY

Sunnyside.—Ventilation, roads, drainage and condition as to safety, fair.

## WEST MOUNTAIN COAL COMPANY

West Mountain.—Ventilation, roads, drainage and condition as to safety, good.

## FALLBROOK COAL COMPANY

Murrins.—Ventilation, roads, drainage and condition as to safety, fair.

## IMPROVEMENTS

## DELAWARE AND HUDSON COMPANY

**Olyphant** Colliery.—Completed wash house, 110 feet long 20 feet wide, equipped with 24 shower baths and 224 lockers.

Installed new boiler plant on East side, comprising one battery of Sterling boilers to produce 540 H. P. for use in handling coal on the planes of the several veins in this vicinity.

Started to place one pair of 14 inch by 20 inch Florey type and one pair of 18 inch by 36 inch Dickson hoisting engines adjacent to new boiler plant, to handle coal on plane No. 14 New County vein and plane No. 3 in the Dunmore vein.

Finished rock plane 450 feet from the Clark vein to the New County vein. Drove rock plane 275 feet from New County to Fourteen Foot vein, east of No. 2 shaft, to facilitate handling coal from Fourteen Foot vein.

## SCRANTON COAL COMPANY

Raymond Colliery.—Two Maxim water tube boilers, capacity 300 H. P. each are being installed. This work will be completed early in the year 1915.

## CONDITION OF COLLIERIES

## DELAWARE AND HUDSON COMPANY

**Olyphant** and Coal Brook Collieries.—Ventilation, roads, drainage and condition as to safety, good.

Gravity Slope and Jermyn Collieries.—Ventilation, roads and drainage, fair. Condition as to safety, good.

Powderly Colliery.—Ventilation, roads and condition as to safety, good. Drainage, fair.

## TEMPLE COAL COMPANY

Sterrick Creek Colliery.—Ventilation, roads, drainage and condition as to safety, good.

## SCRANTON COAL COMPANY

Raymond Colliery.—Ventilation, roads and drainage, fair. Condition as to safety, good.

Riverside Colliery.—Ventilation, roads and drainage, fair. Condition as to safety, good.

## HILLSIDE COAL AND IRON COMPANY

Erie Colliery.—Ventilation, roads and drainage, fair. Condition as to safety, good.

## ARCHBALD COAL COMPANY

Tappans Colliery.—Ventilation, roads and drainage, fair. Condition as to safety, good.

## WEST MOUNTAIN COAL COMPANY

West Mountain Colliery.—Ventilation, roads, drainage and condition as to safety, good.

## HUMBERT COAL COMPANY

Sunnyside Colliery.—Ventilation, roads, drainage and condition as to safety, fair.

## SACANDAGA COAL COMPANY

Sacandaga No. 3 Colliery.—Ventilation, roads, drainage and condition as to safety, fair.

## FALL BROOK COAL COMPANY

Murrin's Colliery.—Ventilation, roads, drainage and condition as to safety, fair.

## IMPROVEMENTS

## HUDSON COAL COMPANY

**Olyphant** Colliery.—Outside: One Duplex 20 by 36 inch slush pump was installed for pumping culm into mines. Installed one 14 by 20 inch Flory second motion hoisting engine on surface, No.

14 plane, New County vein, Grassy Island No. 2 shaft. Installed one 18 by 36 inch Dickson first motion hoisting engine on surface, Dunmore vein, No. 4 plane, Grassy Island No. 2 shaft.

Coal Brook Colliery.—Outside: Changed main and steamboat rolls to slow-g geared rolls. Installed in the power plant a 1600 KVA 2300 volt, 25-cycle, 3-phase, G. E. generator, with a 28 by 44 by 42 Hamilton-Corliss compound non-condensing engine, and one 600 KW G. E. frequency changer, changing 25 cycle to 60 cycle, 2300 volts, 3-phase.

Powderly Colliery.—Outside: Installed 6 Wilmot jigs in the east end of the breaker. Equipped each of the six boilers in boiler plant with Coppus blowers.

Jermyn Colliery.—Outside: Boiler plant was enlarged by the installation of 926 HP B. and W. Stirling boilers. An electric hoist was installed No. 8 plane, 730 HP, 250 volt, direct current. Also installed one 250 G. E. Co. 250 KW, 250 volt D. C. belt driven generator, and a 22 by 22 McEwen engine in power house. Installed one Joplin jig in washery.

#### SCRANTON COAL COMPANY

Raymond Colliery.—Two 300 horse power boilers were installed.

#### HILLSIDE COAL AND IRON COMPANY

Erie Colliery.—A rock tunnel, 7 feet by 12 feet and 400 feet in length, was driven from the Clark vein to the New County vein, to facilitate inside transportation. Many of the motor roads have been regraded.

#### ARCHBALD COAL COMPANY

Tappans Colliery.—No. 2 New County slope has been extended a distance of 2500 feet on a gradient of 7 degrees, and two rock slopes were driven from this slope a distance of 300 feet, each, to reach the coal in the Dunmore veins on the Archbald anticlinal. A new slope has been started in the Dunmore vein and is now down a distance of 200 feet on a gradient of 4 degrees.

### MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen, was held in Watt's Hall, Carbondale, May 18 and 19. The Board of Examiners was composed of P. J. Moore, Mine Inspector, Carbondale; Richard Beer, Engineer, Carbondale; John F. Boland, Miner, Carbondale; David Evans, Miner, Olyphant.

The following persons passed a satisfactory examination and were granted certificates:

#### MINE FOREMEN

Frank J. Hevers, John J. Ford, Patrick J. O'Rourke, Michael F. Brennan, Martin F. Murphy, Archbald; William Loftus, Olyphant; Thomas H. Williams, Carbondale; Patrick J. Murray, Peckville; Martin J. Loftus, Jessup.

## IMPROVEMENTS

## DELAWARE AND HUDSON COMPANY

**Olyphant** Colliery.—The breaker is being remodeled. A tunnel, 325 feet long, was driven from Five Foot vein to 20 Inch vein. No. 15 plane was extended 190 feet from Clark vein to New County vein. Two 7-ton electric locomotives were installed in Dunmore vein, and two in New County vein. Three coal-cutting machines were also installed.

## SCRANTON COAL COMPANY

Johnson Colliery.—Removed 75 feet of roof 10 feet wide and 3 feet thick in the Dunmore No. 3 vein at the foot of No. 1 plane, for the purpose of grading the road so that the electric motor could be used to haul the cars on the plane instead of the rope.

Removed 200 feet of bottom rock 10 feet wide and 4 feet thick in the Dunmore No. 2 vein for the purpose of using electric motor for haulage on slope instead of rope.

The second opening shaft was recribbed, and the brattice between the upcast and downcast renewed from top to bottom.

Two Scranton pumps 10 by 18 by 22 were installed in the Big vein for emergency purposes.

## CARNEY AND BROWN COAL COMPANY

Carney and Brown Colliery.—The old breaker was destroyed by fire November 26, 1915, and a new 250-ton capacity breaker was erected and started operations September, 1916.

Erected 2 air-bridges in Clark vein for ventilation purposes. Graded the Clark slope to improve haulage system.

Erected 4 air-bridges in No. 3 Dunmore vein for ventilation. Installed 2 3-stage electrical driven centrifugal pumps with a capacity of 800 gallons per minute.

#### DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Storrs Colliery.—Completed second openings connecting Nos. 2, 3, and 4 drifts. Installed one 7-ton electric locomotive.

No. 1 Shaft. One 7 by 12 by 63 feet rock tunnel driven from No. 1 Dunmore to No. 3 Dunmore vein. One 7 by 10 by 133 feet rock tunnel driven through fault in Clark vein. Installed one 7-ton electric motor.

No. 2 Shaft. One 7 by 12 by 108 feet tunnel driven from Top Split to Bottom Split 14 foot vein for development. Installed one 7-ton electric motor.

No. 3 Shaft. One 7 by 12 by 132 feet rock tunnel driven from Clark vein to New County vein for development. One 8 by 8 by 42 feet shaft from Clark to New County vein for ventilation. Installed one 7-ton electric motor.

#### DELAWARE AND HUDSON COMPANY

**Olyphant** Colliery.—Grassy-Island Shaft. A rock tunnel was driven from New County vein to Clark vein 588 feet long. One rock return tunnel driven from Top Clark to New County vein 99 feet long. Concreted No. 1 shaft 9 feet above surface and 35 feet below surface. Installed electric hoist at No. 15 plane to lower coal from 14 foot and New County veins to Clark vein shaft landing.

Miles slope. A gangway and airway 950 feet long driven up pitch in No. 4 Dunmore vein for ventilation. No. 34 plane 100 feet long driven from Bottom rock to Top rock vein. No. 35 plane 72 feet long driven from Bottom rock to Top rock vein for development.

#### SCRANTON COAL COMPANY

Johnson Colliery.—Erected a new wash house, and two B. and W. 300 H. P. boilers. Outside. Installed one duplex pump 24 by 10 by 36.

Richmond No. 3 Colliery.—A rock tunnel 7 by 10 feet driven from No. 2 Dunmore vein to No. 1 Dunmore vein for second opening.

#### SPENCER COAL COMPANY

Spencer Colliery.—The breaker of this operation was destroyed by fire February 3. Erected coal pocket and the coal from the mine is loaded into railroad cars and is taken to the Minooka breaker for preparation.

#### MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in Scranton, May 8 and 9. The Board of Examiners was composed of D. T. Williams, Inspector, Scranton; Joseph P. Jennings, Superintendent, Moosic; James W. Reese, Miner, and William J. Jenkins, Miner, Scranton.

The following persons passed a satisfactory examination and were granted certificates: