Clifford Colliery.—Finished one plane in mines.

Erie Colliery.—Graded planes on west side of shaft from Bengough's heading through old chambers to Gilhool's heading.

Shaft No. 2, Forest City.—Finished plane in mines.

Glenwood No. 1 Shaft.—This shaft has been sunk through the "Grassy Island" to what is known as the Carbondale top vein, 60′ below the Grassy Island Vein. Permanent mining has not yet commenced.

Keystone Tunnel.—We are improving the breaker by enlarging it, also by putting in place one pair of rolls 26″x22″ and one pair 26″x12″, for the purpose of breaking coal down to small sizes. They will be in place January, 1891.

Elk Creek Mines.—Have sunk a shaft to third vein of coal.

Marshwood Mines.—Finished one inside plane

Ontario Mines.—Finished one inside plane 300′ long.

Pancoast Mines.—Finished rock tunnel and proved good coal.

Richmond No. 3.—Shaft down to the "G" vein of coal, they have not commenced opening out the mines yet. A breaker is in course of construction. They have not commenced to open up any of the veins of coal yet.

MT. JESSUP COAL COMPANY, LIMITED,
WINTON, PA., *January 8, 1891.*

Mr. PATRICK BLEWITT, *Inspector of Mines, Scranton, Pa.:*

DEAR SIR: Herewith I hand you our yearly report for 1890.

Regarding explosion of boiler at our fan shaft on night of January 21, 1890, by which Michael J. Murley lost his life, I would respectfully refer you to the evidence at coroner's inquest, of which you doubtless have a copy, and also to the verdict of coroner's jury.

As to our improvements for the year, we have concentrated all of our boilers at the breaker and abandoned the old plant at fan shaft, having put in three (3) new steel boilers 30″ diameter by 36′ long, and two iron boilers 40″ diameter by 35′ long, all in first class condition. Steam is conducted through a new line of 5″ gas pipe to our big pump, a distance of 2,000′, and from thence through four and three inch branch lines to our hoisting engines and pumps and up the fan shaft to fan engine.

The total distance from boiler house to our lowest pump on underground slope is 3,900′ We made connection with the Olyphant Water Company's main by laying 2,500′ of 2″ gas pipe and have now a good supply of pure water.

We put in a line of perpendicular elevators in our breaker for hoisting screenings and pickings, also put in a set of small "pony" rolls for reducing pickings. Besides which, we have made other minor improvements on breaker.

Yours truly,
ELI T. CONNER, *Superintendent.*

of new hoisting engines, 22x30, have been erected, and 1¾-inch ropes, with heavy shieves, placed in shaft. Two new carriages with pneumatic fans have also been placed in the shaft. A road has been graded and built from No. 1 shaft, in Grassy Island vein, a distance of 5,500 feet, to reach certain numbers of pillars from this vein.

At Edgerton, a road 5,250 feet long has been graded and built from what is known as the Edgerton drift to the coal upon the Pierce Coal Co. property. A tunnel is now being driven to reach coal in what is known as the Russell tract, and two planes are now being built to reach this coal.

At Lackawanna colliery eight jigs of the Reading pattern have been placed in the breaker.

Hillside Coal and Iron Company's Improvements.

A washery at Clifford breaker has been erected to wash fresh-mined culm, all sizes above birdseye having been taken out. It was started about May 1. The capacity is 300 tons a day.

Forced draft plant with Sturtevant blower, 7x4 feet, to increase the capacity of the Clifford boilers. The blower is capable of furnishing blast for 900 horse-power.

Savory's plane, on the Ontario tract, Clifford mine, 1,500 feet long, 7x14 feet in area, has been finished.

No. 6 plane, on the Ontario tract, Clifford mine, 600 feet long, 7x14 feet, in area.

One hundred horse-power electric hoist, west plane, No. 2 shaft, Forest City. This plane is 1,800 feet long. The hoist has a capacity of 500 loaded cars per day. There are four headings and two lifts. The hoist pulls the loaded cars out of the headings and draws up the empty cars.

A tunnel in No. 2 shaft, Forest City, from the upper split of the shaft vein to the lower split, 750 feet long, 7x10 feet in area. This tunnel is two-thirds completed.

A curved self-acting plane at Glenwood breaker. The plane is 990 feet long, 780 feet of which is in the Archbald seam, and 120 feet on the curve carrying the plane into the rock in an easterly direction toward the small seam above the Archbald, which was reached at a distance of 90 feet after the curve was made. The plane was projected in this way because of the pitch of the two seams. The curve has a radius of 50 feet, and the cars pass around it without difficulty, and I see no reason why it cannot be operated as easily as the ordinary straight line self-acting plane. It is 7x16 feet.

Remarks on Accidents.

A few brief notes on fatal accidents, made from actual observations by visiting, for the purpose of investigation, the scene of each one,

SCR Coal Co

At their Ontario Colliery the Blue Ridge shaft has been sunk from the Clark to the Dunmore vein, a distance of 90 feet, cutting 4 feet of very fine coal.

At Raymond Colliery, Archbald, a second shaft has been sunk to the Rider or New County vein, and equipped with a 22 horse power gasoline engine, driving a ten-foot fan.

Delaware, Lackawanna and Western Railroad Company

Storrs Mines.—An electric motor system has been installed. Four motors at Storrs No. 1. Three motors at Storrs No. 2. Two motors at Storrs No. 3.

Also two generators to furnish power for Storrs Nos. 1 and 2, and one generator at Storrs No. 3.

A washery annex, with a capacity of 500 tons daily.

Also three steel towers, one each at Storrs Nos. 1, 2 and 3.

Mine Foremen's Examinations

The annual mine foremen and assistant mine foremen's examinations were held at Carbondale, October 8 and 9. Thirty-seven persons were recommended for mine foremen's certificates, and 24 for assistant mine foremen's certificates.

Mine Foremen

George Smith, Wm. E. Lewis, Aneirin L. Morgan, Joseph A. Scharar, Wm. Pugh, George Imes, Thomas Lewis, David J. Llewellyn, Evan H. Evans, David G. Thomas, Edward Lewis, John Sirwatka, Theobald Field, Gomer Parry, James Jones, Benjamin F. Bowen, David S. Jones, Patrick Parks, Solomon Jones, Patrick J. O'Hara, Walter H. Vizzeard, John Morgan, John Moore, Patk. B. Gilmartin, John H. Bexon, David A. Beynon, Thomas C. Harvey, Ivor E. Davies, Patk. J. McAndrew, George E. Maxey, Charles Richards, John J. Renshaw, Joseph Vickers, Arthur C. LaMonte, Thomas Haddock, George C. Knight, Thomas Sullivan.

Assistant Mine Foremen

William D. Johns, George Evans, John T. Watkins, David Parry, Charles J. Arnold, Phillip W. Foster, John V. Fadden, Thomas Woods, Robert Reid, Wm. Rooke, Edward Reid, Thomas Robinson, Wm. P. Kelly, John Elderkin, Joseph Rafferty, David J. Davies, Wm. I. Richards, Thomas Taylor, Wm. J. Williams, Wm. Miles, John F. Jones, Jacob Evans, William A. Stephens, Wm. J. Davies.

Condition of Collieries

The mines in this district are in a safe condition. As to ventilation and drainage, I report the following:

Scranton Coal Company

Johnson No. 1.—Dunmore vein gives off some gas, and for this reason the ventilation is good. Diamond vein is practically a non-gaseous seam; the ventilation is fair, but was being improved on my last inspection.

Johnson No. 2.—This is a non-gaseous mine. A large portion of it is dependent upon natural ventilation, and for this reason the ventilation is bad for a few days at a time, particularly when the weather changes. The officials have done everything in their power to improve this condition. By placing doors on all chambers they have greatly improved the conditions.

Raymond.—The mining at this colliery consists principally in taking down what is called "top coal" in abandoned chambers, and while it would be impracticable to establish a systematic arrangement of air currents on account of the openness of the workings, the men are well provided with pure air. This is due to the unusual thickness of the vein at this locality, and the arranging of small groups of men at different places throughout the mine.

The haulage and drainage at this colliery are in excellent condition. Much attention is paid to maintaining room along tracks, and keeping the roads surfaced with ashes.

Ontario.—The veins at this colliery are very thin. The ventilation is good. The connnecting of Jermyn No. 6 and Klondyke workings, has improved the ventilation, haulage and drainage considerably.

On account of the thinness and irregularity of these veins, it requires tact and good judgment to successfully mine them, and their condition is the best endorsement of the management.

Richmond No. 3.—This colliery has seen a complete reformation during the year. The ventilation has been very much improved, the roads cleaned, with ample room for the handling of cars, and the colliery throughout is in a very satisfactory condition.

Riverside.—Mining in the lower vein at this colliery is not very extensive, but one of the upper veins is being developed.

Richmond No. 4.—Operations at this colliery are not in any way extensive, but the ventilation is good.

Delaware and Hudson Company

Coal Brook Colliery.—On December 1, a mine fire was discovered under the culm bank in the workings of the Coal Brook tunnel that had been abandoned some forty years ago.

with the old drift fire room, and be a considerable saving in fuel with improved service.

At Ontario a slope has been sunk from the tunnel level, to take out the pillars and some solid coal from the Ontario tunnel workings.

A Scranton duplex plunger pump 18x8x18 has been installed in the above slope.

The working of the old Jermyn No. 6 has been connected to the Klondyke working by tunnel, which made it possible to abandon the Jermyn No. 6 shaft, and favored the haulage of these two mines so that coal and water are delivered to one surface opening by gravity. This was a great saving to the colliery; it improved the service and was a good move in mining.

On May 7, the tower and fan house of the Blue Ridge opening were destroyed by fire; the effect on production was only temporary, and the buildings were rebuilt as soon as possible.

At Richmond No. 3, a gravity plane 700 feet long, running four cars on each track, was built in the Clark vein, which will deliver coal from a newly acquired tract.

DELAWARE AND HUDSON COMPANY

At Coal Brook colliery, a rope haulage 6,300 feet long, has been installed, delivering coal to surface from Coal Brook tunnel. It is an up to date haulage; great care was exercised in the alignment, and there is ample room along the track everywhere.

An electric plant of 450 Kilowatt capacity has been installed at this same colliery, furnishing light for the Company's Carbondale railroad yard, lighting the coal taken outside, and furnishing power for three fans where it was quite impracticable to use steam as a power.

The engine room is a substantial brick building with a concrete floor. The equipment and building present a substantial appearance.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

At the Storrs colliery, the wooden towers at Shafts Nos. 1, 2 and 3, have been replaced by substantial steel towers.

A rock slope 300 feet long has been sunk, to connect the Big and New County veins in No. 1 shaft.

The 25 pound rail track on nearly all main headings, has been relaid with heavier rails, using the lighter rails in the chambers where motors with reel attachments haul cars.

In relaying tracks, great care was taken to modify grades and curves, also to provide more room along tracks.

IMPROVEMENTS

SCRANTON COAL COMPANY

Johnson—No improvements reported.

Ontario.—The portion of the breaker blown down by the tornado last fall, has been rebuilt and is expected to resume operations about March 12. The Raymond washery was torn down and moved to this colliery and is now being rebuilt. This will necessitate an increase in the power plant, and it is intended to add two boilers to the present plant for this purpose.

Richmond No. 3.—An additional 200 H. P. Maxim boiler has been added to the present plant. The new shaft has been named in honor of General Manager John R. Bryden, and is now known as Bryden Shaft.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Storrs.—Seven hundred feet of the Clark Vein Slope at No. 3 shaft have been graded; average thickness 5 feet. This was done in order to enable them to run the cars to the bottom lift of the slope.

The floors of the boiler house have been concreted; also concrete fronts at their No. 3 shaft. Four new Emery Pickers were installed in the breaker. A scraper line was constructed to convey the culm from the breaker to the washery in order to do away with the handling of cars.

DELAWARE AND HUDSON COMPANY

Eddy Creek.—Grassy Island No. 2 shaft sinking completed to the No. 4 Dunmore vein, a distance of 117 feet. The sinking of No. 4 shaft has been started and is down a distance of 50 feet. This shaft is to be used as a second opening to the No. 2 shaft.

One 78 inch locomotive boiler has been installed at the Grassy Island Washery, also a 10 inch x 14 inch engine and a 600 foot scraper line for feeding bank to washery.

Miles slope extended in rock from the Rock Vein towards the No. 4 Dunmore Vein, a distance of 750 feet. This slope is to used as a second opening to the Eddy Creek.

A 28 foot Guibal fan has been installed at the Eddy Creek. The shaft has been widened from 10 feet x 24 feet to 12 feet x 33.4 feet from surface to the 14 foot vein.

PENNSYLVANIA COAL COMPANY

No. 1 Colliery.—In 1904 work was commenced on a new brick building 16x36 to contain three rooms; office for the outside foreman, shifting shanty for the fireman and a shifting shanty for the breaker men. This work has been completed.

No. 2 Shaft, Outside.—The following buildings have been erected during the year: a new concrete building 14 feet x 40 feet with three rooms; office for the inside foreman, shifting shanty for the fireman and a shanty for the miners. Two additional locomotive boilers have been installed and a new corrugated iron boiler house 40 feet x 60 feet has been built.

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

Sterrick 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.

IMPROVEMENTS

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.