

Shale from WESTFIELD, Rutherglen, 24½ gals., sp. gr. .961, Sulphate of Ammonia, 10 lbs. The laboratory tube experiments give an oil with specific gravity higher than the present retort, and corresponding roughly to that of the old vertical retort.

**RAEBURN SHALE.** In the Boxburn field in a basin to the east of Uphall. This seam has a thickness of 4 feet and yields 54½ gals. per tons, specific gravity .887, Sulphate of Ammonia 7 lbs. (lab. tube.)

At Neibigen, near Broxburn, about 4 feet of this seam contains 28 gallons, and the overlying eleven inches 11 galls., Sulphate of Ammonia, 9 lbs.

**FELLS SHALE.** This shale yields from 26 to 40 gals. of crude oil and 20 to 35 lbs. of Sulphate of Ammonia per ton, with retort of Young and Bulby.

**OAKBANK** new shale yields 35.59 gals. of crude oil at Oakbank and Oakbank big shale, 4 feet thick, gives 22.32 gals. per ton. The nitrogen content being 0.720 per unit.

**BROXBURN GREY SHALE.** At Broxburn the shale yields from 24 to 26 gals. per ton. In one place it is as low as 20 gals. at another as high as 33 gals. The Sulphate of Ammonia runs from 24 to 36 lbs. and in some cases reaches 41 lbs.

The lower big shale at Oakbank, 6 feet thick, yields 29.34 gals. to the ton.

The **CURLY** seam at Broxburn, about 5 feet thick lies above the Broxburn seam. The following sections may be taken as guides to the yields—

Section, say, No. 1—Top, 2 ft. b, 18.57 gals. oil, 19.17 lbs. Ammonia (lab. tube). Bottom—2.2, 28.56 gals., oil, 17.04 lbs. Ammonia, (lab. tube). Average—4.10, 23.05 gals. oil, 18.21 lbs. Ammonia, (lab. tube.)

Section No. 2—Top, 2.8, 30.04 gals. oil, 17.04 lbs. Ammonia, (lab. tube.) Bottom—1.16, 20.12 gals. oil, 14.91 lbs. Ammonia, (lab. tube.) Average, 4.6, 26.21 gals. oil, 16.17 lbs. Ammonia, (lab. tube.)

Section No. 3, Top—2.7, 32.67 gals. oil, 19.41 lbs. Ammonia, (lab. tube.) Bottom—2.5, 31.26 gals. oil, 19.73 lbs. Ammonia, (lab. tube.) Average—5.0, 32.00 gals. oil, 19.56 lbs. Ammonia, (lab. tube.)

The Dunnet seam at Broxburn yields 18 to 20 gals. crude oil and 40 lbs. Sulphate of Ammonia."

The probability is that the yields given of oil are those obtained at the plants, and not merely laboratory analyses. We wish our correspondent had given the yields as obtained by laboratory test and the actual retort yield. Nova Scotia shales have never, so far as we are aware, had a retort test. Our real practical knowledge of oil bearing coals and shales does not extend much further than the fact that when stellarite was exported, sixty years or so ago, the yield of oil was greater than from any other coal or shale on the continent. So far as our knowledge goes there never was a test made to discover whether the stellarite contained any sulphate of Ammonia. The presumption is that it does not, owing to its wonderful oil content.

It will be noticed that several of the Scottish oil seams are of small height. In Nova Scotia there are seams as high as thirty feet and deposits—for it would be hazardous to say they were seams of fifty feet, and even upwards. The laboratory tests for oil in our shales, even after making allowance for the higher yield from the source of testing, show that our shales are equal to those of Scotland, if not superior,—which some maintain they are. Labor-

atory tests have yielded 78 lbs. of Ammonia to the ton. A weather beaten shale yielded on analyses nigh 40 lbs. of Ammonia with an oil yield of over thirty three.

It strikes one as peculiar that the Nova Scotia Mines Department has never taken a lively interest, or in fact any interest, in determining the value of our shales. It has not, as yet, entered the heads of the Department that their interest might extend beyond the readiness to accept thirty dollars from any one desirous of securing a right of search. The defence of the Department may be that up till within a short period the shales belonged to the proprietors of the land. But should not the government take an active hand in attempts to develop the resources of the province? 'What are they there for,' but for that very purpose? If the shale did belong to the landlords, why did the government not spur them up? What would be the good of the Agricultural College did not mining give employment to a very large part of the population? In what position were the farmers of this province before the mining of coal assumed large proportions? The best assistance the farmers ever had was that given them by the mining industry. Without mining the province would be in a pitiable condition. The government should realize that the country cannot prosper, as it should, without the expansion of the mining industry, for Nova Scotia is not a farming country, as are the provinces to the West. The government may say: 'We have taken an interest in the shale business.' So they did. As stated the government spent a little less than forty dollars in obtaining samples, and then they stopped dead broke and worn out with their huge endeavor.

## LABOR'S RESPONSIBILITY

The Mining Record has for long maintained, and given frequent expression to the opinion, that Labor Unions should be forced to become incorporated by statute as in the case of industrial business. When a bargain is made between the employees, through their unions, and employers there should be means of compelling the unions to implement the agreement, as readily as the employers can be forced to do so. The Record is pleased to believe that its opinion in this regard is gradually obtaining support in certain influential quarters. The following extracts from a series of articles, bearing on the responsibility of labor, we quote in support of this belief:—

Under this system by which employers and organized employees 'get together,' it frequently happens that arrangements entered into are set forth in contractual form, the employer, whether a corporation or an individual, on one side, and the trades union on the other. Such contracts define what shall be the working conditions, wage scale, etc., for a specified period of time. These contracts are entered into as being mutually advantageous. Theoretically they are so; actually, as demonstrated time and again in practice, they operate solely to the advantage of the employees concerned. The reason for this is that the trades union, while ready