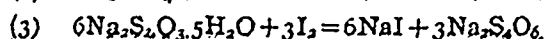
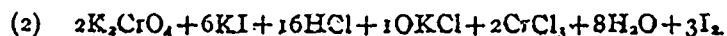


the back titration, in terms of chromate. The equations of the back titration are :



"Equation (1) shows that, of a solution of  $K_2CrO_4$  of 9.396, or approximately 9.4 g. per liter, 1cc. will precipitate 10 mg. of lead. If the dichromate solution be used, it should contain 7.12 g. to the liter, in order to give the same strength. Equations (2) and (3) show that, of a solution of 'hypo' of 36 g. of the pure crystalized salt to the liter (or 18 g. to the liter, if the more desirable half-strength be used), 1 cc. equals 1 cc. of the chromatic standard. This is very nearly the strength of the standard 'hypo' in common use for the iodide assay for copper, and if only a small number of wet lead-assays are made daily, it may be more convenient to use the copper 'hypo' solution for the back titration of the chromate; in the latter case the factor necessary to convert the copper 'hypo' solution to terms of chromate is about 0.54, the exact factor being readily ascertainable by standardizing the one solution against the other.

(To be continued.)

### The Cassiar Coal Co.

The Cassiar Coal Development Company, with headquarters at Toronto, is pushing work on its coal areas which were discovered some three years ago. These areas lie in the Babine Range, north of Cariboo, and are reported as being only fourteen miles from Kitimat Harbor. The near advent of the Grand Trunk Pacific Railway Company is the cause for the development, as there is, at present, no possible outlet for the coal. Five valuable seams, of which two measure 16 feet and 20 feet in thickness respectively, are said to occur in the fifty-two square miles now licensed to the Cassiar Coal Company. Prof. A. P. Coleman, of Toronto, is reported to have examined the areas this summer, and to have a favorable opinion of their value.

The officers of the company are well known men of good standing. The president is the Hon. John Dryden, Minister of Agriculture for Ontario; the vice-president is Mr. R. Y. Ellis, of the Crown Bank, and Mr. W. Munns, Toronto, is the secretary. Both the local members from Hamilton are on the Board of Directors.

The Company has a paid-up capital of \$300,000.00, and hence is in a strong financial position. Of this sum, \$200,000.00 has been set aside for the purchase of the area now held under license, and \$100,000.00 has been appropriated for the development of the coal seams. Over \$20,000.00 of this has already been expended on the property.

### The Shakespeare Mine Accident.

W. E. H. Carter, of the Ontario Bureau of Mines, attended the inquest held by Dr. Flaherty, coroner, on the bodies of six men who last month lost their lives at the Shakespeare gold mine, near Webbwood, Ont. The accident is one of the most serious that has occurred in mining in New Ontario, and the Department was anxious that there should be a full investigation, in order that the responsibility should be placed where it belonged.

The Shakespeare is a newly developed gold property, which was opened up a year ago by T. W. Trotter, and sold to J. D. Miller, who subsequently sold to the Shakespeare Gold Mining Co., retaining a large block of the stock. The shaft is perpendicular, 100 feet deep. On the morning of the accident the bottom of the shaft was filled with the heavy gas which follows a blast. The natural ventilation of the lower workings has always been poor, and it has been customary, after each blast, to blow in air under pressure to remove the poisonous gases. This had not been done on the day of the accident. Four miners who descended by a ladder were overcome and called for help. The engineer, instead of turning on the air blast, also descended the ladder, to be in turn overcome by the gas. The manager, Mr. N. McMillan, who had been in charge only eleven days, turned on the air, and, after waiting fifteen minutes, proceeded to investigate. He also was asphyxiated. The verdict of the coroner's jury was "Accidental death by suffocation owing to neglect of the company to provide proper ven-

tilation." The mine had been inspected three weeks before, and the ventilating apparatus found to be in good order. It appears, however, that it is somewhat expensive to operate the apparatus, and that some miners make a practice of doing so only at intervals. The miners who lost their lives were prompted by curiosity to visit the place to see what the blast had disclosed. The engineer neglected to turn on the air before descending, and the death of the manager. Mr. Carter declares, was an act of deliberate self-sacrifice. Mr. McMillan, who was only thirty-four years of age, was inexperienced in mining, being by profession an accountant. He had been business manager of the Mikado, in the Lake of the Woods district, for nine years. With the appointment of Mr. McMillan to the Shakespeare, arrangements had been made to push development work more vigorously than ever and to erect a stamp mill. The accident is a most regrettable one, but we hope it will have its salutary lessons as to mine ventilation.

## PERSONALS.

Mr. Eugene Coste, President of the Canadian Mining Institute, returned to Toronto during the month, but was called to Manitoba again, where he is making some investigations into possible territorial petroleum fields.

Dr. H. M. Ami, of the Geological Survey of Canada, recently made an investigation of the oil wells in the vicinity of Moncton, N.B., and has reported favorably on what he saw.

Much satisfaction continues to be expressed at the election of Mr. G. G. S. Lindsey as General Manager of the Crow's Nest Pass Coal Company. Mr. Lindsey is also third vice-president of the Company, as well as being its legal adviser, and will probably be a resident of Fernie for a portion of each year.

The Canadian Manufacturers' Association elected Mr. W. K. George, of Toronto, to the presidency of that association at the closing session on Thursday, the 22nd September. Mr. George is well known in the silver-plate trade, being the managing director of both the Simpson, Hall, Miller Co. and of the Standard Silver Co.

Mr. Homer N. Galer, manager of the International Coal and Coke Company, at Coleman, Alberta, was married to Miss McLaren at Carson on the 20th inst.

Mr. J. D. Kendall, the eminent English mining engineer, advises that after October 1st his London offices will be at Mansion House Chambers, Queen Victoria Street, London, E.C.

Professor Coleman, of the School of Practical Science, Toronto, recently made an examination of the nickel deposits in Northern Ontario, for the purpose of making a full report to the Provincial Department of Mines. T. W. Gibson, of the Bureau of Mines, accompanied him during part of his inspection.

A. McPhail, D.Sc., has been appointed professor of general engineering, and W. O. Tague, lecturer in mechanical engineering, at the Toronto School of Mines. Mr. McPhail is a graduate of McGill University, and has recently been engaged in large engineering works in the vicinity of Boston. Mr. Tague is a graduate of the Massachusetts Institute of Technology, and has been employed by the New York Shipbuilding Company and the Fore River Shipbuilding Company of Quincy, Mass.

H. A. Guess, a graduate of Queen's University, has been appointed chemist to the Consolidated Copper Co., Cananea, Sonora, Mexico, the fourth largest copper producing organization in the world. Mr. Guess previously held a position at Silverton, Colorado, and has also had experience in British Columbia and Ontario.

Mr. J. Walter Wells, late of the Belleville assay office, has been in Manitoba investigating the cement-making material of that province. This has involved the examination of many deposits of limestone, shale and clay.

Alexander K. Kirkpatrick has been appointed to the chair of civil engineering in the School of Mines in Kingston, Ont.

G. H. Barnhart has resigned the management of the Ymir mine, and will give his personal attention to the Porto Rico mine. He is succeeded by S. J. Speak, of London.

### Mining Share Market.

There has been but little movement during the month, and the amount of stock that has changed hands, both here and in the West, is comparatively small.

The chief transactions were in Canadian Gold Fields Syndicate, Payne, White Bear and Granby Consolidated; the former stock is firm