Ventilating, Air Cleaning, Heating in the Schools

Another in the Helpful Series of Articles in the National Campaign Sponsored by the Ontario Secondary School Teachers' Federation.

In its earnest campaign for "National Fitness," it was inevitable that Ontario Secondary School Teachers' Federation should touch on the matter of health, ventilation and air-cleaning of schools. The air in a school room has a vital connection with health, and thus with National Fitness. Incidentally, it may be noted that it has also a definite connection with the progress of pupils in their studies. Here is the article in the series on this matter:-

HEATING, VENTILATING AND AIR CLEANING IN MODERN SCHOOLS
By W. E. Affleck, Sc., B. Paed., St. Catharine C. I. and V. S.

The railway systems of the North Amercian continent have recently gone through a period of marked success in re-selling their passenger services to the travelling public. Their hot, dirty, stuffy coaches were transformed into comfortable, clean, wholesome carriages in which travel became an attraction, not a trial to be endured until the journey's end. The travelling public pay gladly for their improvements. Are we educators asking too much if we ask that these same improvements be built into existing schools or be considered as standard equipment for our new schools?

The public reactions to any such forward step is always feared by a tax spending body. It is possible that many of these fears are groundless because few tax payers grumble if their money is spent wisely. Air conditioning in factories, workshops, offices, and large buildings includes heating (or cooling), ventilating, and cleaning air and has proved its worth. If it is money well spent to improve the efficiency of an office worker or a mechanic then it should be well spent money to improve the working conditions, efficiency, and health of our learners.

The effect of the heating equipment in a school room on the health and comfort of the occupants depends on three factors, namely, a sensible temperature, humidity, and purity of the air. If in any factors or combination of factors be altered, a decided change in comfort is esential to health, therefore it is important that these best conditions be secured and maintained.

Exchange teachers from the British Isles comment freely on higher temperature maintained in Ontario classrooms. Recommended Fahrenheit temperature for a workshop varies from 60 degrees to 64 degrees. For an auditorium it is 66 degrees and for a regular classroom it is 63 degrees. Tests have been made to ascertain the effect of increased temperatures. The weight of evidence indicates that the vitality of an average individual is depressed quickly for small increases in temperature. Are our Ontario pupils losing out when they carry on their work in classrooms where the temperature is seldom under 70 degrees and often reaches 74 degrees?real consideration of this problem should be undertaken by Ontario teachers, principals, and caretakers.

Too often our pupils are slightly chilly when the temperature is maintained at 68 degrees. Air that is dry causes excessive and rapid evaporation of moisture from exposed portions of the body thus causing the pupils to become chilled. If the humidifying apparatus of a school is inefficient or lacking in capacity, makeshift humidifiers should be installed in each room and given proper attention by the teacher and caretaker to insure sufficient moisture in the air. The savings in feul costs and the increased efficiency of the pupils will warrant any financial outlay necessary to purchase euxilary humidifiers like those in constant use in private homes. Hot, dry air affects the membranes of the nose and throat causing much discomfort and many irritating and dangerous coughs and colds. Thus any effort to secure proper humidity will pay dividends in comfort, health, and home education.

It must be thought from the foregoing that the makeshift arrangements described are to be considered as permanent when modern and automatic fixtures can be installed.

Just at the close of the war, many new schools were built which have a combination heating ventilating system supplying washed humidified air. The main sources of heat are thermostatically controlled steam radiators but these in many cases prove to be rather unsatisfactory. They do not supply heat in a mild form and are usually far too hot for the near-by pupils when the steam is on. Grilles built around them make conditions better but not fully satisfactory. To meet the requirements of school ventilation regulations, the air is changed by forced draft. Large motor driven fans installed in the basement of the school near the heating plant draw off the vitiated air from each classroom, force it through a warmed spray of water or through filters and heating coils and back through other ducts into the individual classrooms. Wind controlled ventilators placed on the roof of the school ensure a partial supply of fresh outside air. This outdoor air is also washed or filtered to remove dust and obnoxious odors. Theoretically, these arrangements are excellent but outside wind velocities and atmospheric pressure affect the operation of the system. Faulty operation affects the ventilation of some room, a pupil or teacher attempts to secure fresh cool air by opening windows, and throws the system still farther away from normal operation until the heating ventilating efficiency of the plant fluctuates greatly.

The most recent developments feature individual units for each room. Beauty is combined with strength and utility. Low pressure systems or vacuum systems enable the heating engineers to replace the unsightly ponderous cast iron radiators with small finned copper radiators hidden from view behind metal cabinets. Grilles on the top of the cabinet and along the bottom allow circulation of air over the radiating surface without allowing excessive radiation on near-by pupils. Outside air may be introduced, filtered heated and spread throughout the room. Inside air may be reheated and recirculated. Each unit is supplied with thermostatic controls that operate dampers and an electric fan.

When the room is to be heated valves allow steam to enter the radiator, the fan motor is cut in, air is drawn through the lower grilles and through filters to remove dust and germs, then blown through the heated copper fins and the upper grilles. This upward movement of air is fairly gentle and does not create a draft. When the room has been heated to the desired temperature thermostats regulate dampers which cut off a certain amount of air from the room and open dampers that allow outside air to be drawn into the room and across the radiators. The dampers are adjusted automatically so that for falling temperatures less outside air is drawn in and for rising temperatures more cool outside air is provided. Evaporator type humidifiers can be installed in each unit. Automatically controlled water valves ensure a constant supply of water in the trays.

Research has established that air in motion can contain a greater amount of carbon dioxide and have a less enervating effect than still air with a smaller amount. Therefore it is not necessary to change the air so often and wash it to remove carbon dioxide.

The mechanical controls of our heating and ventilating systems are less or more efficient. Perhaps it is now essential that each make a thorough study of the plant in his school and assist the caretakers in maintaining the existing plant at its greatest efficiency.

Agreement Regarding Wasu Porcupine Mines

Wasu Porcupine Mines Limited.—By agreement October 14, Hansell & Company purchased 40,000 shares at seven and one-half cents per share and received option on further 960,000 shares —360,000 shares at seven and on-half cents per share—400,000 shares at ten cents per share, and balance at fifteen cents per share, payable 60,000 shares by December 1st and thereafter at the rate of 50,000 shares per month until August, 1939, and thereafter at the rate of 100,000 shares per month until January, 1940. Company incorporated September, 1938 (Ont.), authorized capital 3,000,000 shares, $1 par; issued 1,040,005.

Diamond Drill Programme at the McGregor Porcupine

MacGregor Porcupine Gold Mines Ltd. has let a contract for a programme of diamond drilling to be carried out on the company's property located adjoining south of Hugh-Pam and a short distance northeast of Dome Mines. Drilling is expected to get under way in the near future. The company is capitalized at 4,000,000 shares, $1 par, of which 1,100,000 have been issued to the predecessor syndicate and venders, and options have been granted on 2,000,000 shares.

H. B. Hatch, geologist, has reported favourably on the property and describes the geology as similar to that of the Hallnor and Pamour properties, two miles to the northeast. He considers that there are three interesting zones warranting investigation by diamond drilling. The first hole is to be spotted under the pit on the quartz vein in the mineralized slate. This vein shows a maximum width of approximately four feet and has been traced for a short distance. It is planned to investigate the Keewatin-Temiskaming contact and also a band of conglomerate, both of which strike across the property.

Says Recent Work Did Not Indicate Ore Body at Virita

(From Northern Miner)

In a report to shareholders of Virita Porcupine Gold Mines, G. A. MacMillan, managing director, states that recent work at the company's property has failed so far to indicate an orebody. It was therefore deemed advisable to suspend operations for the present and conserve funds. L. B. Wright, consultant, is of the opinion that quite deep diamond drilling will be required to fully test the property and directors have decided to await developments on adjacent properties before giving consideration to financing a campaign of this nature.

Mr. Wright reports that the drilling was directed into apparent sheared or folded areas which were believed to be the most favourable for ore. This work did not produce commercial results, although interesting occurrences of vein quartz were disclosed.

The underground work on the Penny Veteran lot was undertaken to explore at depth a series of parallel quartz veinlets containing visible gold and occurring in a highly carbonated lava. The quartz veins did not persist downward, but were represented by pyrite mineralization containing low values. Two shallow holes were drilled to cut beneath the underground workings and to cut the plane of the downward extension of the quartz. The drilling was unproductive of favourable results.

"The presence of visible gold on the Penny Veteran lot proves that the gold bearing solutions penetrated a great thickness of tuffs and allied rocks. To what depth exploration would need to reach to test zones of greater concentration is speculative. Our geological structural sections across this portion of the area indicate several thousand feet. Therefore, we must conclude that a further attempt at deep exploration would entail an expenditure unsatisfactory to your company."

Good Progress at the Preston East Dome

Mill Construction Well Under Way Now.

Some excellent ore intersections from underground diamond drilling were obtained by Preston East Dome Mines during October, most of the holes being drilled for stope information between levels in the main ore zone. Outstanding were hole No. 87 drilled from No. 301 south drift returning .5 oz. across 27 ft. of ore, and hole No. 94 drilled from 205 north drift returning .36 oz. across 55.5 ft. of core.

Good progress is being made in mill construction with steel erection well under way. No shipments of high grade were made during October and no drifting was done in the south ore area on either the 425 or 550-ft. levels. Official summary of operations for October condensed from the report of V. A. Jones, manager, follows:

"During the month 405 ft. of crosscutting and drifting was done, and 355½ ft. of raises, sub-drifts and subcrosscuts in connection with stope preparation together with over 400 tons of slashing, some of which was for station loading pockets and sumps.

"During the month the main drive west on the 400 ft. level was advanced 154 ft. on line and on the last day of the month was within one round of the footwall. No drifting was done on this level during the month.

"The fifth level main drive west was advanced 162 ft. on line in a direction slightly north of west. At the end of the month the heading had about 260 ft. to go to the footwall.

"The fifth level grizzly drift is driven on a straight line just north of the shaft for loading pocket purposes. At the end of the month it had been driven 89 ft. and was ready to break through into the fifth main drive west. This drift gives a straight run of nearly 100 ft. for train of ore cars and connects at the south end to 502 crosscut.

"No further work was done on the fifth level during the month. Main headings were dropped to a one shift per day basis and work concentrated on stope preparation.

On the second level in 217 stope, which is the large ore area immediately north of the main drive west, 66.5 ft. of boxhole raises were driven. In 225 stope, which is on the orebody lying at the north end of the second level, formerly known as 209, there were 57 ft. of boxhol raises driven.

On the third level, in 318 stope 183.5 ft. of boxhole raises were driven and 1,120 cu. ft. of slashing was done in ore. In this stope there was also 48.5 ft. of sub drifts and 200 cu. ft. of slashing done. In 323 stope, lying along the footwall to the north of the 318 or main footwall stope, backs were taken down for a length of 60 ft. and a total of 1,848 cu. ft. of slashing and breasting was done.

No development in ore was done on the levels during the month, work being confined to stope preparation on the second and third levels and crosscutting and preparatory work on the fourth and fifth levels.

During the month 1,638 ft. of underground diamond drilling was done, for the most part between level drilling to stablish stope information. The balance was exploratory drilling towards the footwall on the levels.

Good weather favoured construction throughout the month. Steel erection started on the last day of the month. All concrete walls in the main mill and crusher house contract were poured and stripped and some inferior foundation work was done.

What appears to be an adequate water supply was found in No. 9 test well. A permanent 12 inch well is to be sunk ten ft. away from it. About 1,800 ft. of tailings dam out of a total of 2,400 ft. was built up to about half height. This work is proceeding well.

A. G. Irving New President of Timmins Kiwanis Club

At the annual election of officers at the Timmins Kiwanis Club to-day, Kiwanian A. G. Irving was elected president for the ensuing year, and Kiwanian Jack Fulton, vice-president.

Notable Dinner At Buffalo - Ankerite

Wonderful Menu Sponsored by Mrs. R. A. Vary, in Aid of St. Paul's Church.

South Porcupine, Nov. 12.—(Special to The Advance)—Mrs. Ronald Vary, of the Buffalo-Ankerite, is to be congratulated on the success of the splendid dinner for which she was sponsor at the lodge on McDonald Lake on Wednesday evening.

We understand provision had been made for 130 guests, but thirty more were accommodated. A wonderful menu of roast beef and ham with hot vegetables, and salads finishing with a dessert with cream and coffee was offered, and much appreciated.

The long room in the lodge was made into a dining room with three long tables and guests also sat in the sun porch.

When one considers the treacherous condition of the roads and the cold, unpleasant weather, the success of this dinner is wonderful.

The proceeds are to be given to St. Paul's Anglican Church, South Porcupine. Mrs. Vary thanks those who came in from town and Timmins to this affair.

Try The Advance Want Advertisements

To-day's Stocks

Listed	
Aldermac	61
Augite	37
Ashley	12
Base Metals	33½
Big Missouri	25
Beattie	1.35
Bidgood	29
Bobjo	28
Bralorne	9.75
Broulan Porcupine	1.47
Buffalo-Ankerite	14.50
Canadian Malartic	90
Castle Trethewey	1.03
Central Porcupine	7¾
Central Patricia	2.45
Chesterville	1.25
Coniagas	2.00
Coniaurum	1.55
Con. Chibougamau	29
Dome	31.12
Eldorado	2.50
Falconbridge	6.00
Gillies Lake	13
Goldale	24¼
Granada	11
Gunnar	66
Hardrock	1.85
Hollinger	14.55
Howey	24
Hudson Bay	34.75
International Nickel	56.75
Jackson Manion	10
Kerr Addison	1.69
Kirkland Lake	1.23
Lebel Oro	10
Leitch	69
Lake Shore	50.75
Little Long Lac	2.85
Macassa	5.40
McLeod Cockshutt	3.20
McIntyre	52.50
McKenzie Red Lake	1.30
McWatters	80½
Mining Corporation	2.35
Monsta	1.30
Naybob	43
Noranda	82.00
Nipissing	1.80
O'Brien	3.00
Omega	55
Pamour	4.60
Paymaster	55
Pickle Crow	5.20
Pioneer	2.65
Preston East Dome	1.43
Premier	2.22
Read Authier	3.65
Reno	22
San Antonio	1.27
Sherritt Gordon	1.58
St. Anthony	16
Sullivan Con.	1.00
Sudbury Basin	2.85
Sladaecna	48
Sylvanite	3.40
Siscoe	1.53
Teck Hughes	4.70
Toburn	2.00
Ventures	5.30
White-Amulet	8.90
Wright Hargreaves	7.80

Coniaurum Developing Ore at the 3,750 Ft. Level

Coniaurum Mines in Porcupine is developing new ore on the 3,750-ft. level located 400 ft. south of the winze at the west end of the property, says The Northern Miner. First results from the crosscut run $5 to $7 grade across four feet but drilling previously suggests better ore will be had. The new ore has particular significance because it is the farthest south ore ever had on Coniaurum.

Adding spice to Coniaurum's current production and profits, highest in history, is the commencement of exploration north on the 3,500-ft. level. Stimulated by McIntyre's phenomenal success in finding high grade ore in big shoots to the north on the 3,800-ft. level Coniaurum has started for the first time to probe virgin ground in that direction. McIntyre's ore lies over a mile west but its importance is so great that all work in ground on general strike is worth while.

Receiving Order Granted Lakeland Gold Mines Co.

On petition by Benjamin Luxenberg, K.C., a receiving order has been issued at Osgoode Hall against Lakeland Gold Mines, Limited, and the Guaranty Trust Company of Toronto has been appointed custodian. A meeting of creditors will be called shortly and it is possible that some kind of plan of re-organization will be submitted.

Capitalization of Lakeland Gold Mines, Limited, consists of 600,000 preferred shares and 1,400,000 common, both $1 par of which in October, 1936, 16,427 preferred and 1,400,000 common shares were issued. A bond issue of $6,185 in five per cent. bonds, due 1940 was also outstanding. At close of 1936 current assets amounted to $2,187 against liabilities of $23,095.

Sudbury Ranks Seventh Among Cities of Ontario

The city of Sudbury is "throwing out its chest" these days having noticed that in the matter of population the city stands seventh in the province among all the cities of Ontario. Eight years ago Sudbury was in seventeenth place for Ontario. The population of Sudbury is now given as 30,100. This is a few thousands larger than claimed for the town of Timmins.

Treasurer's Sale of Lands for Arrears of Taxes

In the Township of Whitney, District of Cochrane

BY VIRTUE OF A WARRANT issued by the Reeve of the Township of Whitney bearing date the 21st day of July, 1938, and to me directed, commanding me to levy upon the several lands being in the Township of Whitney, mentioned and described in the following list of arrears of taxes respectfully due thereon and costs, I hereby give notice, pursuant to The Assessment Act and amendments, that unless the said arrears of taxes and costs be sooner paid, I shall, on Thursday, the 10th day of November, 1938, at the Township Hall at Porcupine, at 10 a.m., proceed to sell by public auction so much of the said lands as may be sufficient to discharge the taxes and lawful costs, incurred in and about the sale and collection of same.

The following lands are all patented.

J. M. NICOLSON,
Treasurer, Township of Whitney

Dated at Porcupine this 21st day of July, 1938.

No.	Name, Address and Description	Years in Arrears	Taxes	Costs	Commission	Total
1	Canusa Mining Co., Detroit—S.E. ¼ S. ½ Lot 12, Con. 5	1935-36-37	$178.01	$3.00	$4.45	$185.46
2	Canusa Mining Co., Detroit—S.W. ¼ S. ½ Lot 12, Con. 5	1935-36-37	178.01	3.00	4.45	185.46
3	Canusa Mining Co., Detroit—N.E. ¼ S. ½ Lot 12, Con. 5	1935-36-37	178.01	3.00	4.45	185.46
4	Chappie Mammoth Mining Co., Toronto—S.W. ½ N. ½ Lot 10, Con. 2	1935-36-37	138.13	3.00	3.45	144.58
5	Chappie Mammoth Mining Co., Toronto—N.W. ¼ S. ½ Lot 10, Con. 2	1935-36-37	138.13	3.00	3.45	144.58
6	Chappie Mammoth Mining Co., Toronto—S.W. ¼ S. ½ Lot 10, Con. 2	1935-36-37	138.13	3.00	3.45	144.58
7	Chappie Mammoth Mining Co., Toronto—N.E. ¼ N. ½ Lot 10, Con. 1	1935-36-37	138.13	3.00	3.45	144.58
8	Chappie Mammoth Mining Co., Toronto—N.W. ¼ N. ½ Lot 10, Con. 1.	1935-36-37	138.13	3.00	3.45	144.58
9	Chappie Mammoth Mining Co., Toronto—S. ½ Lot 11, Con. 2	1935-36-37	552.52	3.00	13.81	569.33
10	Chappie Mammoth, Mining Co., Toronto—S.E. ¼ S. ½ Lot 12, Con. 2	1935-36-37	138.13	3.00	3.45	144.58
11	Chappie Mammoth Mining Co., Toronto—N.E. ¼ N. ½ Lot 12, Con. 1	1935-36-37	138.13	3.00	3.45	144.58
12	W. D. Cochrane Estate, Toronto—S.W. ¼ N. ½ Lot 9, Con. 1	1935-36-37	106.03	3.00	2.65	111.68
13	W. D. Cochrane Estate, Toronto—S. E. ¼ S. ½ Lot 10, Con. 2	1935-36-37	106.03	3.00	2.65	111.68
14	W. D. Cochrane Estate, Toronto—N.E. ¼ N. ½ Lot 9, Con. 1.	1935-36-37	106.03	3.00	2.65	111.68
15	W. D. Cochrane Estate, Toronto—N.W. ¼ N. ½ Lot 9, Con. 1	1935-36-37	106.03	3.00	2.65	111.68
16	W. D. Cochrane Estate, Toronto—S. ½ Lot 9, Con. 2	1935-36-37	424.12	3.00	10.60	473.72
17	W. D. Cochrane Estate, Toronto—S.E. ¼ N. ½ Lot 9 Con. 1	1935-36-37	106.03	3.00	2.65	111.68
18	W. D. Cochrane Estate, Toronto—N.W. ¼ S. ½ Lot 8, Con. 1	1935-36-37	106.03	3.00	2.65	111.68
19	W. D. Cochrane Estate, Toronto—N.E. ¼ S. ½ Lot 5, Con. 2	1935-36-37	106.03	3.00	2.65	111.68
20	W. D. Cochrane Estate, Toronto—N.E. ¼ S. ½ Lot 6, Con. 2	1935-36-37	106.03	3.00	2.65	111.68
21	W. D. Cochrane Estate, Toronto—N ½ Lot 7, Con. 1	1935-36-37	424.12	3.00	10.60	473.72
22	W. D. Cochrane Estate, Toronto—S.W. ¼ S. ½ Lot 5, Con. 2	1935-36-37	106.03	3.00	2.65	111.68
23	W. D. Cochrane Estate, Toronto—S.E. ¼ S. ½ Lot 6, Con. 2	1935-36-37	106.03	3.00	2.65	111.68
24	W. D. Cochrane Estate, Toronto—S. ½ Lot 8, Con. 2	1935-36-37	424.12	3.00	10.60	473.72
25	W. D. Cochrane Estate, Toronto—S.E. ¼ S. ½ Lot 5, Con. 2	1935-36-37	106.03	3.00	2.65	111.68
26	W. D. Cochrane Estate, Toronto—N. ½ Lot 6, Con. 1	1935-36-37	424.12	3.00	10.60	473.72
27	W. D. Cochrane Estate, Toronto—N. ½ Lot 8, Con. 1	1935-36-37	424.12	3.00	10.60	473.72
28	W. D. Cochrane Estate, Toronto—N.W. ¼ S. ½ Lot 5, Con. 2	1935-36-37	106.03	3.00	2.65	111.68
29	Dan Miller, South Porcupine—S. ½ Lot 2, Con. 5	1935-36-37	485.02	3.00	12.12	500.14
30	Dan Miller, South Porcupine—N. ½ Lot 5, Con. 2	1935-36-37	485.02	3.00	12.12	500.14
31	McCallum Estate, Timmins—Lot 120, Plan M-8	1935-36-37	17.37	3.00	.43	20.80
32	F. McMahon, Toronto—S.W. ¼ S. ½ Lot 5, Con. 1	1935-36-37	177.66	3.00	4.14	185.10
33	E. Paine, Toronto—N.E. ¼ N. ½ Lot 12, Con. 5	1935-36-37	117.52	3.00	2.94	123.46
34	E. Paine, Toronto—S.E. ¼ N. ½ Lot 12, Con. 5	1935-36-37	117.52	3.00	2.94	123.46
35	Unknown—N. ½ Lot 11, Con. 1	1935-36-37	570.99	3.00	14.27	588.26
36	L.O.L. Timmins—Lot 107, Plan M-17	1935-36-37	16.48	3.00	.41	19.89

Warrant Authorizing Sale of Land for Taxes

To the Treasurer of the Township of Whitney:

You are hereby commanded to levy upon the lands mentioned in the attached list for the arrears of taxes due thereon, with your costs, pursuant to the provisions of The Assessment Act and amendments, and according to law. For so doing this shall be your sufficient warrant and authority.

P. ROTONDO,
Reeve, Township of Whitney.

Dated at Porcupine this 21st day of July, 1938

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