

bushels per year, though at one time, during the late war, the yield was as high as 10,000 bushels per day.

According to this analysis the rock-salt contained:

Na Cl.....	93.05
K Cl.....	trace
CaSO <sub>4</sub> .2H <sub>2</sub> O.....	2.40
MgSO <sub>4</sub> .....	.07
Fe <sub>2</sub> O <sub>3</sub> .....	.83
SiO <sub>2</sub> .....	2.81
H <sub>2</sub> O.....	.30
	99.46

An analysis of the salt as marketed gave 98.89 per cent. NaCl with a small percentage of CaSO<sub>4</sub>.2H<sub>2</sub>O and a trace of MgSO<sub>4</sub>, showing it to be a high-grade salt.

## ANALYSIS OF A DEPOSIT OF ZINC OXIDE IN A BLAST FURNACE AT LONGDALE, VA.

BY THOMAS RADCLIFFE.

As is well-known these deposits of impure zinc oxide are some times found in furnaces where zinc-bearing ores are used. The name cadmia is given them in Dana's mineralogy. The green flame of burning zinc is noticed at the tyrup of these furnaces and was formerly looked upon by furnace-men as indieative of sulphur—especially as this burning left on substances in the near neighborhood of the tyrup a coating of zinc oxide which was yellow whilst hot. The specimen examined was sent through the courtesy of the manager of the Longdale Iron Co's. furnaces. According to analysis no zinc is contained in the ores used by this company, the said ores being ordinary brown hematite. Nor has zinc been found in the coke and limestone used—evidently occurring then in minute traces probably in the ore. The deposit was very large, nearly choking the mouth of the furnace. The specimen had a laminated appearance, as if deposited in layers, and was greenish-brown in color. It was quite hard, breaking in thin plates, like shale, in the

direction of the lamination and the specific gravity was 5.0405 (temp. of water 16°C).

The analysis gave:

ZnO .....	93.34
PbO .....	2.37
Fe (metallic).....	1.99
CaCO <sub>3</sub> .....	1.01
C.....	.20
SiO <sub>2</sub> .....	1.11
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	100.02

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## ABSTRACTS.

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Abstracts from the Journal of the Chemical Society (London), by Arthur H. Elliott, Ph. B., F. C. S.

**On Rotary Polarization of Chemical Substances under Magnetic Influence.** By W. H. PERKIN, F. R. S. (Vol. XL., p. 330).

Author used tubes 10 c. m. long, closed with glass plates; which tubes had their ends inserted a short distance into perforations in the armature of an electro-magnet, as proposed by De la Rive. Water and carbon disulphide were used as standards of comparison. The results obtained bear little or no relationship to the chemical composition of the substance examined. But by referring the observations to lengths of tubes related to each other in proportion to their molecular weights, and making the necessary corrections for density, it is found that the molecular magnetic rotary power of bodies follows more or less regularly with the chemical composition.

**A Spectroscopic Study of Chlorophyll.** By W. J. RUSSELL, Ph. D., F. R. S., and W. LAPRAIK, F. C. S. (Vol. XL., p. 334).

By making an alcohol-ether solution of leaves, the authors obtained a chlorophyll solution and studied the four least refrangible absorption bands. Authors tried the action of hydrochloric acid gas upon the spectra and observed some remarkable movements in the position of the bands. They also state that other acids produce