







Illinois State Geological Survey

(1611.8a) October 21, 1931

## M and H Plant

Conference with H.D. Caruse, in charge of research work.

No. 7 coal underclay 30' thick used only for condensers because it is extremely plastic, one of the best for this purpose. Is too low fusing for other uses such as retorts. Use Missouri clay (Cheltenham) for retorts. Have tried Goose Lake clay - can't use it. Camt even use their firebrick. Use No.7 underclay for mortar.

Are mining No. 5 coal but have driven shaft to No. 2 coal and are driving entries. Have concreted the main entries. Will use modified long wall method of mining as it does away with the lifting of so much dirt. Underclay of No. 2 coal is very irreqular in occurence. In some places the sand rock occurs immediately below the coal and the clay occurs in lenses which reach as much as 5' thick. Took a sample of where clay was ½' thick, 100' north of hoist shaft. Coal is 40" thick. Has much pyrite which occurs as broad flat lenses, saw some 4" thick 4' long. Frequently, about middle of coal but not always. No continuous partings. Gypsum veins are not rare particularly at base. Very nearly horizontal - slight dip to west. Roof is usually shale, but

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Sec. 11 T 33N R 1E County\_ LaSalle ginal: Willman, H.P. 1823



## FIELD NOTES





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locally black slate comes down on roof. Large concretions in slate. Much pyrite throughout roof shale.

In putting in a loading hopper an excavation was made 160' below the coal. A large part of this had been concreted in when we were present. A sandy shale 8' thick 18' below the coal was sampled for us by one of the miners who was let down the hole, but it seems to be principally sand rock. It rests on white hard sandrock which has been strongly cemented to a quartzite. 34' below the coal comes in a green shale which is 10' thick. We got a sample of this shale from the dump pile.

Shaft 60t to No. 7 coal

310 to No. 5 not accurate thickness 462 to No. 2 because of slight dip.

Have put in cement kiln for the production of zinc oxide by (Waely process). This method was discovered by M and H researchers but before brought out, the Waely process came out in Germany. Have American patents on most steps of the process. Use slag and old retorts which contain zinc. This is passed through kiln with powdered coal. Zinc volatizes and is condensed in separate bins.

Send Mr. Caruse results of our tests and the dope on tests of clay from LaSalle shaft. By H.B. Willman Date 1931 LaSalle Quadrangle\_\_\_\_

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