

Form 180 Blue

1844

Illinois Coal, Oil and Gas Co.

ILL. COAL, OIL + GAS CO.
(Strip Mine)

MINE INDEX NO. 950
COAL REPORT NO. L-260

	h	Sec. 1	
	f	T. 9	S.
	c	R. 2	E.
	a	Index No.	
8 7 6 5 4 3 2 1			

WILLIAMSON COUNTY

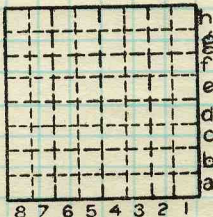
Period				Tons		
Mo.	Day	Year	Mo.	Day	Year	
					1977	2 000
<p><i>Not reporting Apr. 78 PSA</i></p>						

SUMMARIES		
No.	to	No.

Railroad, Wagon, Strip, Idle, Abandoned

IDENTIFICATION

County No. _____ Coal No. _____
 Coal Report No. _____
 Quad. _____
 County _____



Sec. 1

T. ~~209~~ S. _____
 R. 2 E. _____
 Index No. _____

ILLINOIS COAL, OIL & GAS COMPANY MINE

Approx. center N.L., SE $\frac{1}{4}$ SE $\frac{1}{4}$ Sect. 1, T 9S, R 2E,
Williamson County. Notes by John Nelson 10/11/77.

This is the smallest strip mining operation I have ever seen. The mine is located in the middle of an automobile junkyard. There are three workers including the owner, Mr. Castellano, and the only piece of equipment is a John Deere 690-B excavator.

According to Mr. Castellano, the mine has been working only about a week, but they already have coal exposed. The coal seam is the Herrin (No. 6) and it has about 20 feet of overburden. Originally the overburden was 40-50 feet thick, but a sand quarrying operation has removed the first 20-30 feet. If it were not for this, Castellano could not mine with such meagre equipment. As it is, he will only be able to strip about 3 acres.

The overburden is drilled and shot (the drill is a very small one powered by a one-cylinder gasoline engine) then the excavator loads the rock into a dump truck which hauls the rock a short distance away and dumps. Mr. Castellano says they rent a dozer from time to time to assist the excavator. They have dug out an incline 10-20 feet wide and a little over 100 feet long and exposed the top of the coal seam.

The operation has to contend with both abandoned underground workings and earlier stripping. The present pit is dug into the highwall of an older strip mine, which is said to have operated 8-10 years ago. In the pit a partially collapsed underground mine entry is visible. The coal seam is said to be about 8 feet thick.

The following is a composite section measured on the abandoned highwall at the entrance to Castellano's pit and also within the pit:

20-30'	Surface and "Sand", Removed by earlier quarry.
3.8'	<u>Sandstone (Anvil Rock)</u> , light gray, weathers orange, medium to coarse-grained, moderately

Spillertown Road

T
L
R
T
3
7

1/4 mile

Cedar Grove Church



office

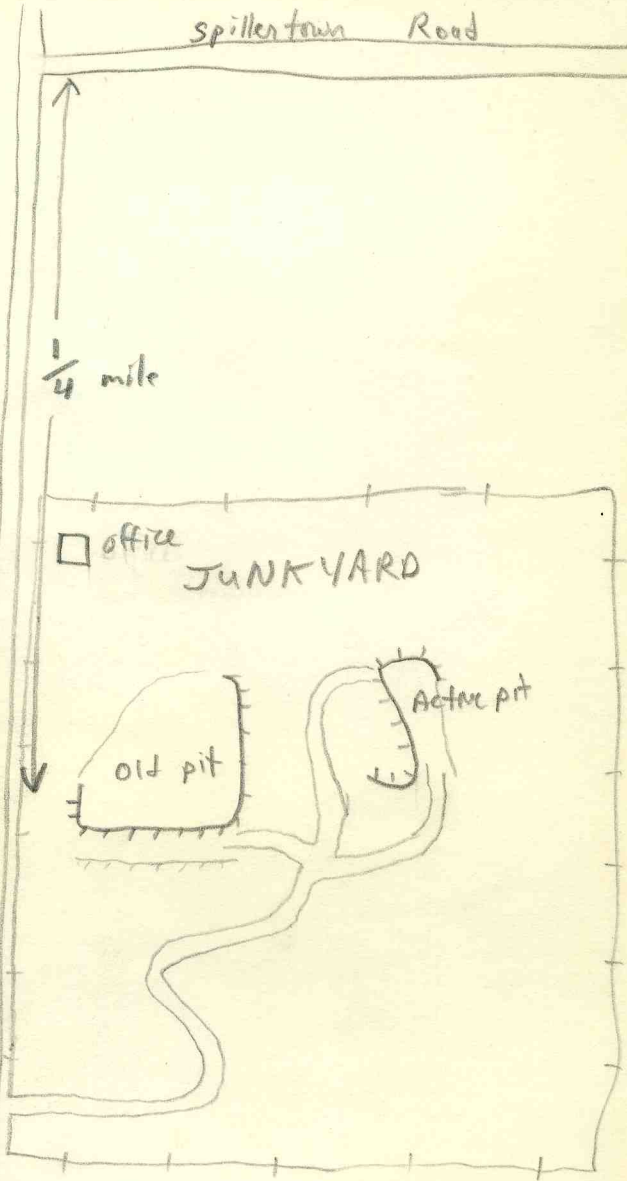
JUNKYARD

old pit

Active pit

Road

SE cor. NW-
SE Sect. 1
95-2E



- hard, porous, friable, consists mainly of angular quartz grains in a clay matrix, with a trace of mica. Large-scale low-angle cross bedding. Bands of concretionary ironstone especially at base of unit. Sharp contact:
- 0.5-1.7' Shale (?) deeply weathered, dark gray, stained orange to brown, weak, flaky, contains ironstone which closely resembles clinkers from a stove. Possibly this is Anna Shale weathered prior to deposition of sandstone. Grades into:
- 2.5' Shale (Anna), black, hard, smooth, fissile, closely jointed, contains occasional concretionary sharp contact:
- 3.0' Shale (Energy), dark gray, moderately hard, poorly bedded, finely silty, highly carbonaceous, with fine plant debris; occasional fractures with filling of gypsum crystals. Only present locally. Grades into:
- 17' Shale (Energy), medium gray, moderately hard, poorly bedded, silty, occasional iron-stained fractures with gypsum crystals, occasional small limestone concretions (mostly near top) and siderite nodules.
- 8' Coal (Herrin No. 6) Only top uncovered.

The "sand" that was quarried here is deeply weathered Anvil Rock Sandstone. This is not the first place I have seen this sandstone so soft that it can be quarried as sand. It can be difficult to distinguish this weathered sandstone from glacial outwash sand.

West of the active pit, within the junkyard, is an abandoned strip mine pit roughly 500 feet square with highwalls facing north and west. This was excavated from the surface; it does not appear the sand was quarried (though perhaps the sand was removed before or with mining just over the area of the pit). No coal is exposed. The bottom of the pit is covered with piles of spoils and is partly filled with water.

This pit provides an excellent exposure of some unusual Anvil Rock Channel features.

The Anna Shale appears to be continuous around the L-shaped highwall. The shale dips to the northwest at nearly a 10° angle. Below it is Energy Shale increasing from about 5' at the NE and SW corner to some 25' at the SE corner of the pit. This is only the exposed thickness and, because I cannot see the coal, I cannot tell the true thickness of the Energy Shale. However, I would guess from appearances that the coal lay roughly level and that the Energy Shale forms a wedge thickening to the southeast.

In several places around the highwall collapsed underground mine openings are clearly visible. The falls have generally stayed within the Energy Shale.

The following is a description of materials above the Energy Shale:

- 2.0' Topsoil, brown, with modern vegetation.
- 6.7' Glacial drift, yellow-brown silty clay with small rounded quartz granules. Roots of bushes on surface extend to base. Sharp contact:
- 10-30' Sandstone (Anvil Rock), very light gray, weathering yellow-brown, medium grained, very soft, loose, friable, locally unconsolidated; appear massive from distance but close-up very fine laminations are visible. Sharp contact:
- 2-12' Clay and Silt. Highly variable, completely unconsolidated fine-grained sediments. 2-3' thick along west-facing highwall and increasing to 12 feet or more in SW corner of pit near abandoned mine opening.

Colors range from light gray to pink, salmon, orange, and all shades of brown to nearly black. Texture varies from fine, soft, sticky clay to a silty material closely resembling loess. Not the slightest trace of bedding except locally near the base where it may grade into deeply weathered shale. The clay in places contains very fine parallel lamin-

ations like varves in glacial lake sediments. Locally these are contorted, probably by slumping.

In the southwest part of the pit where the unit is thickest there is a layer of coal and carbonaceous shale up to 2 feet thick near the top. The shale is black, soft, poorly bedded and highly carbonaceous. The coal occurs as lenticular layers of clean, hard, cleated coal within the shale. Some coal layers are 0.5' thick.

3' If it were not for this coal I could easily be convinced the whole sequence is Pleistocene. Shale (Anna), black, hard, fissile, well-jointed. Deeply weathered below sandstone. Locally upper part of unit eroded.

I believe that practically everything above the Anna Shale here is channel-fill material. The Brereton Limestone is absent. It seems odd that the limestone should have been eroded and the shale left intact. Maybe at the time of erosion the limestone was in the form of soft lime mud and the Anna was partly consolidated. Or maybe the channeling is contemporaneous with the Brereton.

The layer of unconsolidated mud and clay, with coal, below the sandstone is most unusual. As noted above, were it not for the presence of the coal this could easily be Pleistocene deposits. It is hard to imagine conditions under which this could have been protected from lithification. Apparently it was deposited in a quiet water regime. This is especially indicated by the fine varvelike laminations seen in the clay.

The only explanation I can give at this time is that ever since deposition the sand, clay and silt remained so saturated with water that they never lithified. I do not believe these materials were ever

(5)

lithified as there is not the slightest trace of bedding in them. And again we have the fine varvelike laminations. These would not be seen if the silt and clay resulted from weathering or leaching of shale.

This same day I visited another nearby strip mine with similar features. This is the Claude White Construction Co. North Side Mine, located in the SW $\frac{1}{4}$ NW $\frac{1}{4}$ Sect. 12, 9S-2E. As documented in the notes and sketches from that visit, this mine also had channel sandstone with unconsolidated materials at the base and stringers of coal. At one place in the North Side Mine I saw sandstone overlying what I first took to be Anna Shale. After viewing the abandoned pit near the Castellano Mine I have to re-interpret this as a stray layer of carbonaceous shale within unconsolidated channel fill deposits.

This whole situation obviously deserves much more study.



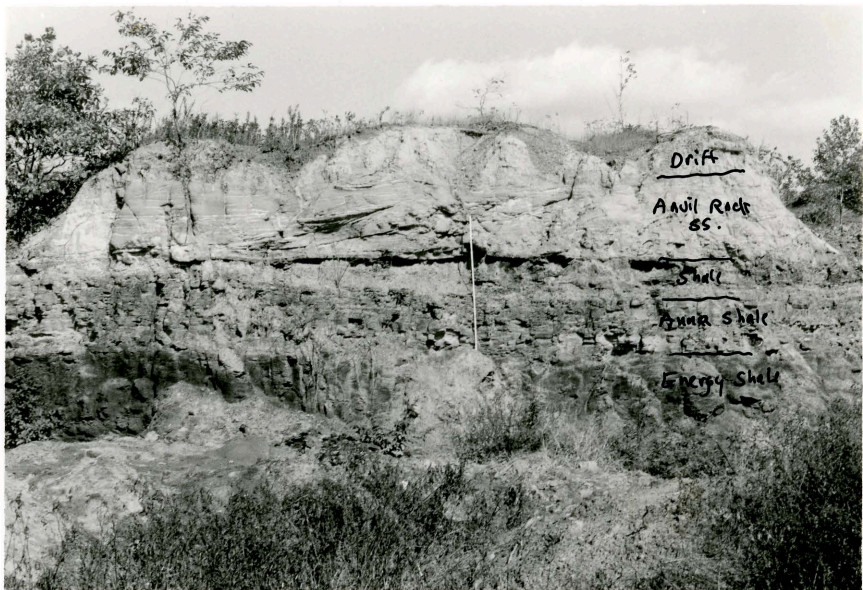
View looking north in Illinois Coal, Oil and Gas Co. mine. Dump truck is on incline into pit. The excavator is in the pit (out of view just above truck). Note junk cars in background.

m. 46-001 tip



This John Deere 690-B excavator is the only piece of earth moving equipment in the mine. The top of the coal seam is just being uncovered.

MA 46-002. P. 8



View of abandoned strip mine highwall just west of entrance to Ill. Coal, Oil and Gas Co. pit. Glacial drift overlies strongly cross-bedded Anvil Rock Sandstone in upper half of wall. Below the sandstone is about a foot of deeply weathered shale and 2.5 feet of black, fissile Anna Shale (base of ruler). Below this is the gray Energy Shale, which is about 17 feet thick in the active pit.

The Anvil Rock sandstone in this locality is extremely soft and friable and was quarried as sand. The quarry operation conveniently removed about half the overburden on the coal and has made coal mining possible without heavy equipment.

mn. 46.003.419



View looking northeast in abandoned pit about 500 feet west of active pit. Top surface of Energy Shale dips to northwest (left) with corresponding thickening of light-colored Anvil Rock Sandstone above. The coal appears to lie level in the pit and the Energy Shale thins to the northwest, creating the apparent dip.

mn-48-004.119



Partially caved abandoned underground mine opening in southwest part of old pit. In lower part of photo (ruler) are Energy and Anna Shales (weathered to light color and blocky appearance. Above the Anna Shale is some 12 feet of unconsolidated Pennsylvanian clay, silt, and sand, with stringers of coal. It is an unusual type of channel-fill deposit, from what I can see.

Illinois Coal, Oil and Gas Co. ("Junkyard Mine")

June 6, 1978

Notes by John Nelson on a visit with John Popp

Mine is inactive but equipment is on site. A series of small random diggings since last visit. Two pits have encountered old underground workings - note collapsed entries, old mine timbers. Appears the stripping operation has been troubled by water from old works.

The big square pit is now partially backfilled, and it appears that a small amount of additional coal mining has occurred there since previous visit. Exposures of unusual clay-silt channel fill are still available, but not as good as before.

Junkyard owner told us that mining stopped because the buyer no longer wanted the coal, it was too dirty. Apparently too much rock, etc., was being sold with the coal. This is a problem where mining company must strip through abandoned workings and does not clean the the coal.

ILLINOIS COAL, OIL AND GAS COMPANY - "Junkyard Mine"
Williamson County

June 6, 1978

Notes by Popp on a visit with C. J. Nelson

The mine is currently inactive reportedly because the last coal sold from the pit had "dirt" mixed with it, and now the buyer no longer wants the coal.

We looked at the relationship of the Energy Shale, Anna Shale and Anvil Rock Sandstone lithologies overlying the coal. The Energy is evidently very irregular in thickness. The Anvil Rock varies from a white, very clean sandstone to a dirty siltstone with thin coal. It is difficult to distinguish the overlying glacial drift from the soft, weathered Anvil Rock sandstone. The sandstone is soft enough that it has been quarried.

For more detail on the stratigraphy see notes by Nelson.