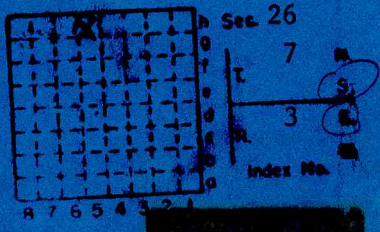


OLD BEN COAL COMPANY
MINE NO. 25

Shaft Mine- Herrin
(No. 6) Coal
MINE INDEX NO. 962

HERRIN



FRANKLIN COUNTY



(Sheets) COAL PRODUCTION (Sheet)

Period			Tons				
Mo.	Day	Year	Mo.	Day	Year		
		1977				379	247
		1978				747	748
		1979				1 109	239
		1980				1 621	985
		1981				1 566	344
		1982				1 966	741
		1983				2 035	030
		1984				2 105	684
OLD BEN COAL CO.		1985				2 383	465
MINE NO. 25		1986				2 739	884
		1987				2 276	555
		1988				2 526	248
		1989				2 321	673

SUMMARIES

No. to No.

Railroad, Wagon, Strip, Idle, Abandoned

IDENTIFICATION

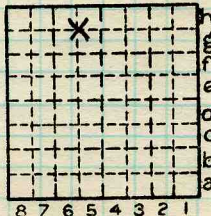
County No. _____

Coal No. 6

Coal Report No. S-27

Quad.

County FRANKLIN



Sec. 26

T. 7 S.

R. 3 E.

Index No.

COAL MINE—PRODUCTION

ILLINOIS GEOLOGICAL SURVEY, URBANA





Mine Name or No., **Old Ben Coal Co. Mine No. 25**
 mile from **West Frankfort, IL 62896**
 Operator, 19

Operator, 19

Entrance, Elev., ft. {above,
 Depth to bottom coal, **598.5** ft. {below,
 Alt. **at the hoist shaft**

SURFACE DATA.

A. Topography, See

B. Surficial materials. (1) Character,

(2) Thickness, **7-9'** (3) Effect on mining and shaft-sinking, of former drainage lines, underground water strata, etc.

C. Outcrops, (1) Character, See

(2) Structure, See

(3) Fossil horizons, See

Collection No.,

(4) Evidences of subsidence, See

D. Note collection of mine maps, drill records and shaft logs.

See mine map in map file 10-3-11

See drill record sheet,

E. Notes on surrounding area,

The preparation plant for this mine is located about two miles to the east and is shared with Old Ben Mine No. 27.

Railroad, Wagon, Idle, Abandoned

IDENTIFICATION

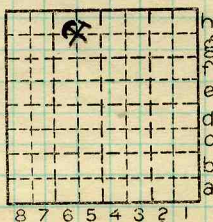
County No. **055**

Coal No. **6**



Quad. **263a Thompsonville** Part

County **Franklin**



Sec. **26**

T.	7	S.
R.	3	E.
		W.

Index No.

L.—SURFACE SHEET (Geol.)



East facing view of the overland conveyor, raw coal silos, preparation plant, and clean coal silos at the Old Ben Coal Co. No. 27 Mine. The overland conveyor brings coal from O.B. No. 25 Mine, and the coal from both mines is cleaned in one prep plant.

11/17/77 JTPopp



East ~~North~~ facing view of the raw coal silos, overland conveyor, prep plant, and clean coal silos at the Old Ben 27 Mine. Overland conveyor brings coal from O.B.25. JTBpp 11/17/77

OLD BEN COAL CO., Mine No. 25
Franklin Co.
November 17, 1977

J. Nelson, J. Popp, and Roger Blaylock (company engr.) notes by Popp

This is a preliminary visit to this mine to collect channel samples, observe roof conditions, and general geology. Evidently no one else from the Survey has visited this mine.

Mine 25 has been off the bottom about one year. There are two shafts currently, a hoist shaft and air shaft. The shaft location is NE,NW, 26, 7S-3E, Franklin County. The hoist shaft depth is 598.5 feet, and bottom elevation is ~~598.5~~. mailing address for the mine is:

Old Ben Coal Co.
Mine No. 25
West Frankfort, IL 62896

Although the company officials agreed in principle to let us take channel samples, they denied us permission on this visit. They felt that by digging a channel sample union miners might call a wildcat strike because non-union people (us) would be "mining coal. With the current wage contract about to expire the miners are apparently looking for any excuse to strike.

We went underground with one mine map (File No. 10-3-11), and intended to visit areas with falls. Entries are being developed for longwall panels oriented north-south. We headed toward those entries because falls to date have trended north-south.

Stop 1

Although top coal is left to protect the roof shales, it is typically falling and exposing the shales. Primarily the roof shales are gray, and at this stop about 8 feet of gray shale could be seen in a over-cast-fall.

Stop 2

To the north is a fall on the belt entry where a gray shale roll cuts across the entry striking ENE. The fall terminates at black shale, and prominent joints trend at 065° in the black shale.

The coal is 8.2 feet thick with 1.6 feet below the blue band.

Stop 4

At this stop along the belt entry a large roof fall exposes about 15 feet of gray shale and 2 feet or more of black shale.

A gray shale roll-like feature strikes roughly north-west-southeast at the fall zone. The roll is not well exposed; it has slips extending into the coal, and the coal thickness is decreased by about 2 feet.

The roll is not unusual in appearance and does not appear to be a big factor in causing such a large fall. There is one coal rider making the roll "asymmetrical". The gray shale has a few bedding plane coal streaks or carbonaceous matter near the shale-coal contact, and there is slippage along these planes.

Stop 5

Transitional area in which gray shale pinches out and black shale forms the immediate roof. In this very small zone, 10-20 feet wide, gray shale flanks black shale. I can't explain this feature- there is no apparent elevation change which might have caused erosion of gray shale, nor are there slips. Slickensides are measured along the base of the roof shales trending at 035° and 155° .

Mandoseal is applied almost everywhere to the roof, and the ribs are well dusted. As a result many geologic features are hidden. It looks like Old Ben is trying to seal and protect the gray shale from weathering (as at Mine No. 24) with either top coal, mandoseal, or both, but neither one is working very well.

Stop 7

Roof fall just north of the skip shaft exposing at least 15 feet of gray shale and no black shale. The fall is oriented north-south, is elliptical shaped, and appears to have to^{wo?} reason for falling. R. Blaylock indicates that the fall fell all at once.

Stop 11

Overcast exposure of the gray shale - coal contact. The exposure is oriented east-west, and 3 to 5 feet of Energy Shale is exposed. The contact is unusual in that it dips strongly (to the west) and the coal fishtails into the shale. The whole feature looks somewhat like a stretched-out roll striking northwest-southeast. Rather than displacing the coal down ward, the coal bends upwards.

Stop 13

Gray shale roll in section face. To me this roll has characteristics more like a "channel-type" roll, i.e. the roll resulted as an infilling of sediment after erosion rather than a strict injection or compaction feature. There do not appear to be any well-developed slips, but there are many fish tails, coal streaks and lenses mixed with the shale. This interlaminated appearance indicates mixing of coal (peat?) and muds by water action.

The roof rock is very irregularly slickensided due to differential compaction. The gray shale is loaded with plant debris, and the top separates along the compaction surfaces.

The face is bleeding gas but is dry.

Notes by John Nelson on visit with John Popp 11/17/77

This is Old Ben's newest mine and has been operating about a year. This is the first underground visit by members of the Survey.

Old Ben No. 25 and No. 27 are to be twin mines, sharing the same prep plant. The plant is located about a mile east of Mine No. 25's production shaft and Mine No. 27 will be just east of the prep plant. The shafts of No. 27 are reportedly down to coal, but actual mining has not yet begun. Coal moves by overland conveyor belte from mine to prep plant.

According to Roger Blaylock, the environmental engineer who accompanied us below, No. 25 is to be completely a longwall operation with three retreating longwall units in the panels. Nine continuous miner units will be used for main entry and panel development work. Currently there are six Joy 12-CM miners developing the Mains and panels; three more to be added.

At the time of this visit the Main West has been extended about 2000 feet from the bottom and the Main East and South East Mains have been started, along with three panels north off the Main East-West. The main direction of mining will be westward and No. 27 will work eastward, away from No. 25.

The layout of the Mains is the familiar Old Ben system with seven intake entries flanked on each side by three return-air entries. The northernmost intake entry (4th Main East) is on isolation and is the belt entry. The travelway is the next entry south. This is the first Old Ben mine with trackless haulage for men and materials.

Roof control plan calls for 5-foot epoxy bolts, supplemented by 9-foot conventional bolts in intersections and areas of difficult top. The bolters are manufactured by Fletcher and have twin booms with canopies.

Map in File 10-3-11.

Numbers refer to locations on map.

1.) Overcast with fall. Exposed section:

- 8' Shale (Energy), medium gray, moderately hard, poorly bedded, finely micaceous, with numerous regular bands of siderite.
- 8.65' Coal (Herrin No. 6), Blue Band 0.05' thick and 1.8' above floor.
- 0.5' Claystone, olive to dark gray, mottled, soft, micaceous.

From shaft bottom to here noted only gray shale roof. Roof problems developing despite coating of Mando-seal sealant. Roger Blaylock says most roof failure occurs on north-south headings.

2.) 5th North off Main East, one crosscut inby Mains. Belt entry of panel. Large roof fall.

Top of Fall- Anna Shale, black, well-jointed, joints trend 065. Contact sharp and slightly undulatory:

- 8' Shale (Energy), as at Stop 1, lacks joints.

This is the first we have seen of the Anna Shale. Note no slips or other structural irregularities in fall. The intersection is rather wide. "Kink" zone developing to north, with bad top.

3.) Roof fall about 8 feet high in gray shale; Anna Shale not exposed. Note a roll with a slip trending about 060; the roll has a coal "rider" rising to the northwest and the slip has about 1 foot throw down to the northwest. The entry is freshly dusted and so high we cannot easily examine the top of the coal. Coal is 8.2' thick with the Blue Band 1.6' above the base. The top of the seam undulates gently and there may be more small rolls partially obscured by rock dust.

Northward we continue to encounter bad top with small falls and well-developed "kink" zones. The

crosscuts seem to be free of roof trouble.

4.) 5th North off Main East about 560' inby Mains. Very large roof fall to base of Anna Shale. Energy Shale about 15 feet thick. It contains regular siderite banding, as before, that diminishes upward. The top of the coal is irregular, undulatory, with shallow rolls and slips. No large or unusual structures of note and no geologic weaknesses that appear large enough to have caused the fall. All slips noted so far appear to be soft-sediment compactional features; no evidence of tectonic activity.

5.) Off map; in 5th North about 950' inby Mains. Anna Shale comes close top top of coal and locally may lie directly on coal. Northward the roof is Energy Shale with an abundance of slickensided fractures, many almost horizontal. In several places slickensides were observed on bedding planes in the shale. One set ran 035 and another only 50 feet away trended 155, almost a right angle to the first set. Hard to see any pattern to the slickensides and slips. Again, study hampered by high entry and heavy coating of rock dust.

6.) 6th North about 400' inby Main East. Large roof fall blocking entry for about 100 feet. This fall has recently extended itself. Severe "kink" zones run both north and south from the fall and only the presence of cribbing has prevented further falls. The fall is 15-20 feet at the south end; apparently all in gray shale.

Note also a slip running nearly N-S north of fall. This enters rib and apparently is not the cause of the fall.

7.) Just north of the skip shaft, a 10-foot roof fall, all in Energy Shale with siderite bands. According to Roger Blaylock this fell suddenly with no warning. Again there are no apparent structural anomalies but a definite "kink" zone is present to north.

8.) Main return escapeway crosses set of overcasts.

Roof is heavily Mando-sealed but can see more than 8 feet of gray shale and no Anna in all but the southernmost overcast. This apparently has Anna Shale about 2.8' thick directly on the coal, and over 3½ feet of limestone above. The Energy Shale appears to wedge out abruptly about 50 feet north of the overcast. The view is very poor. Another 50 feet north is a 15-foot roof fall showing only gray shale.

The coal at the overcast is 7.5' thick with a Blue Band 1.5' above the base.

9.) Apparent wedge-out of Energy Shale above coal. The Anna Shale is dark gray (not black), well jointed, micaceous, and breaks in slabby fashion. A few concretions are seen. The Energy Shale is much lighter gray and contains no joints or concretions.

10.) 7th Main West 500' inby shaft (survey distance on map). Major roof fall 12-15 feet high with very strong north-south "kink" zone. The crosscut to the north is heavily cribbed and timbered. The timbers are bent and cribs are heavily taking weight--there is no doubt the place would fall without the cribs. The "kink" zone is severe and continues all the way to the 10th Main West and also north to the belt entry (4th Main West). There is an 8-foot roof fall in the 6th Main West. There are no significant slips or other structural weaknesses. The falls expose only Energy Shale. There is abundant plant debris on many bedding planes in the lower part of the shale.

11.) Overcast of 2nd North off Main West. 3-5 feet of gray shale exposed; no Anna. Contact of roof to coal is quite irregular but there are no well-defined rolls. The coal is slightly split in places but nothing that can be traced for any distance. Irregular and rather low (7') coal continues to west.

12.) Roof fall exposes the following:

15' Shale (Energy), medium gray, lacks siderite.

Contact even to slightly undulatory.

8.7' Coal (Herrin No. 6), Blue Band 0.07' thick and 1.7' above the base.

Slight "kink" to south, none noted to north. No joints, slips, or rolls.

13.) Face of 5th Main West about 1700' inby. Very irregular roll at face, cutting out 2-3' of the coal. Outby roll entry is about 8' high with thin top coal. The roll has no well-defined boundaries like most rolls we are used to seeing. Instead the coal feathers out into the shale, as shown in sketch (over). This suggests to us that this is an erosional feature.

Face of the 3rd West is definitely Anna Shale roof with numerous pyritic concretions. The shale is smooth and dark gray, not quite black.

14.) 2nd Main West about 1950'. Area of wide, ill-defined roll like that at Stop 13. Filling is gray shale and roll is some 50 feet wide and up to 3 feet deep. The roll can be traced into the 3rd M.W. but is not so deep or wide there. It is flanked on both sides by Anna Shale but we cannot tell how thick the gray shale is in the roll.

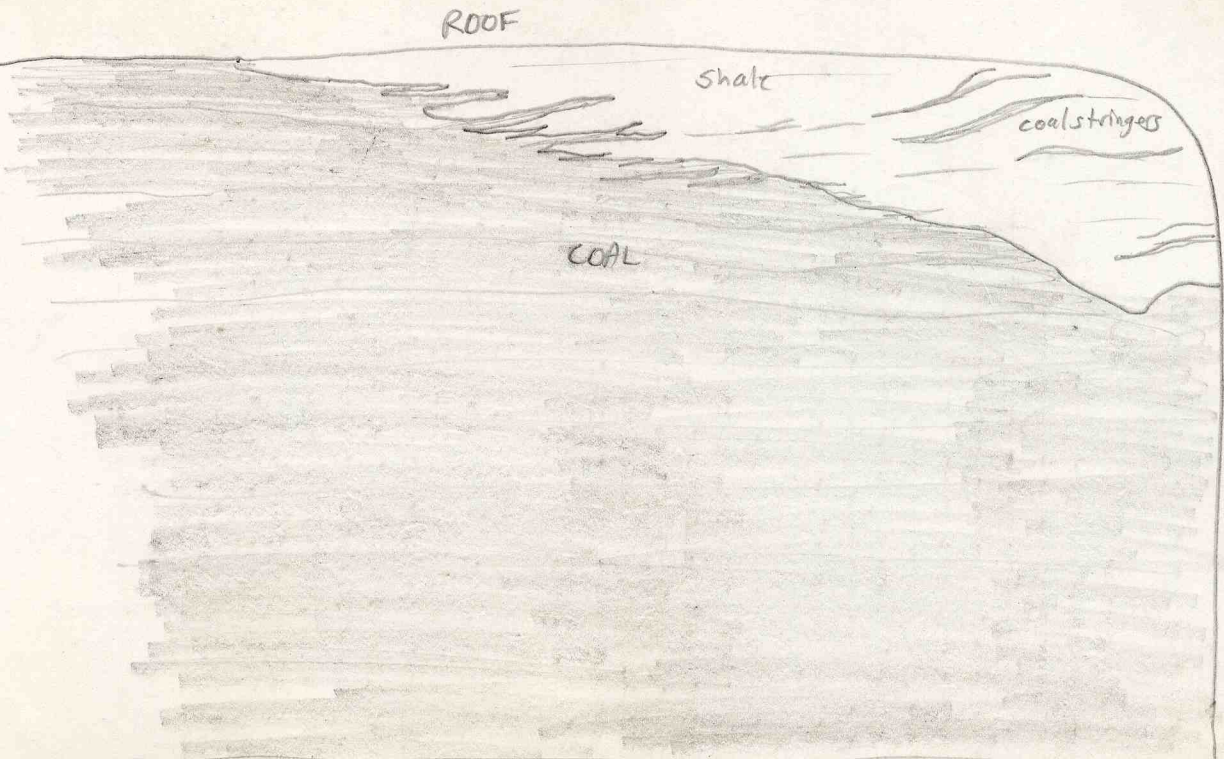
15.) Apparently the same roll traces into the 1st M.W. crossing near 1950' survey mark and trending slightly west of north across all three entries. See sketch of roll on north rib (over). Due to top coal cannot see the Anna/Energy contact, but the roll is apparently flanked and overlain by black shale. The coal-roof contact is irregular, interfingering, as at Stop 13. Large slips extend all the way through the seam and displace the underclay with well-shown "false drag".

16.) 13th M.W. at 130'. Very sharp Anna/Energy contact observed on roof (see bottom only). Here the

Step 13 - View of South Rib

W

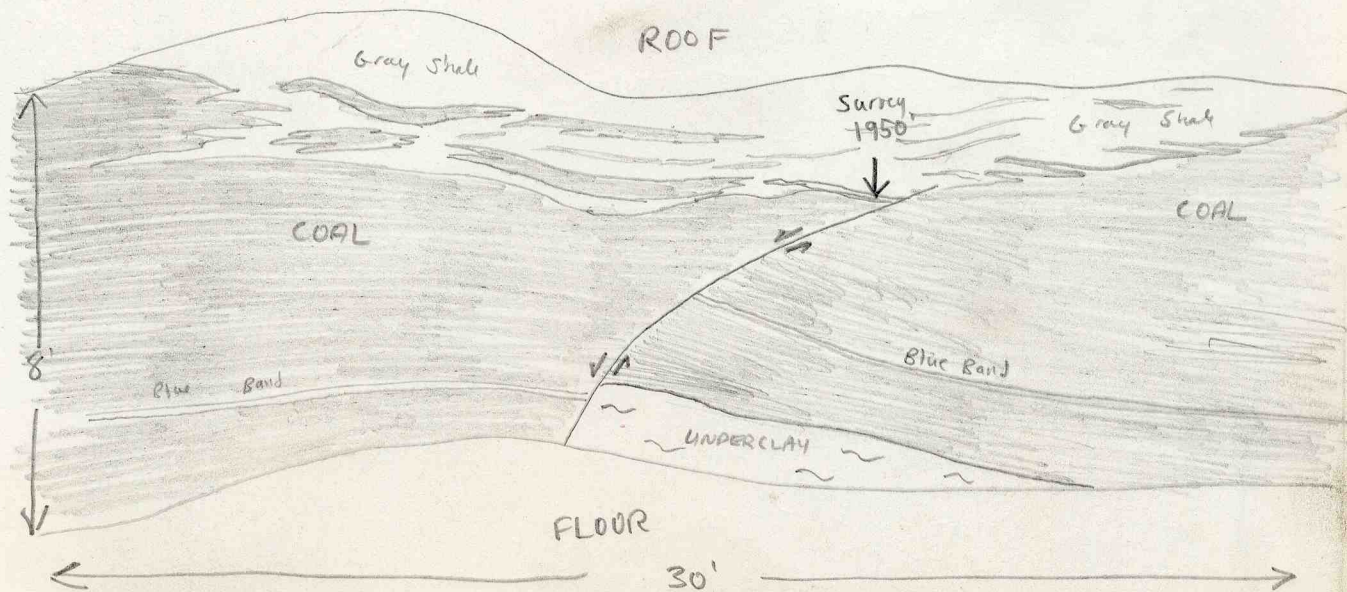
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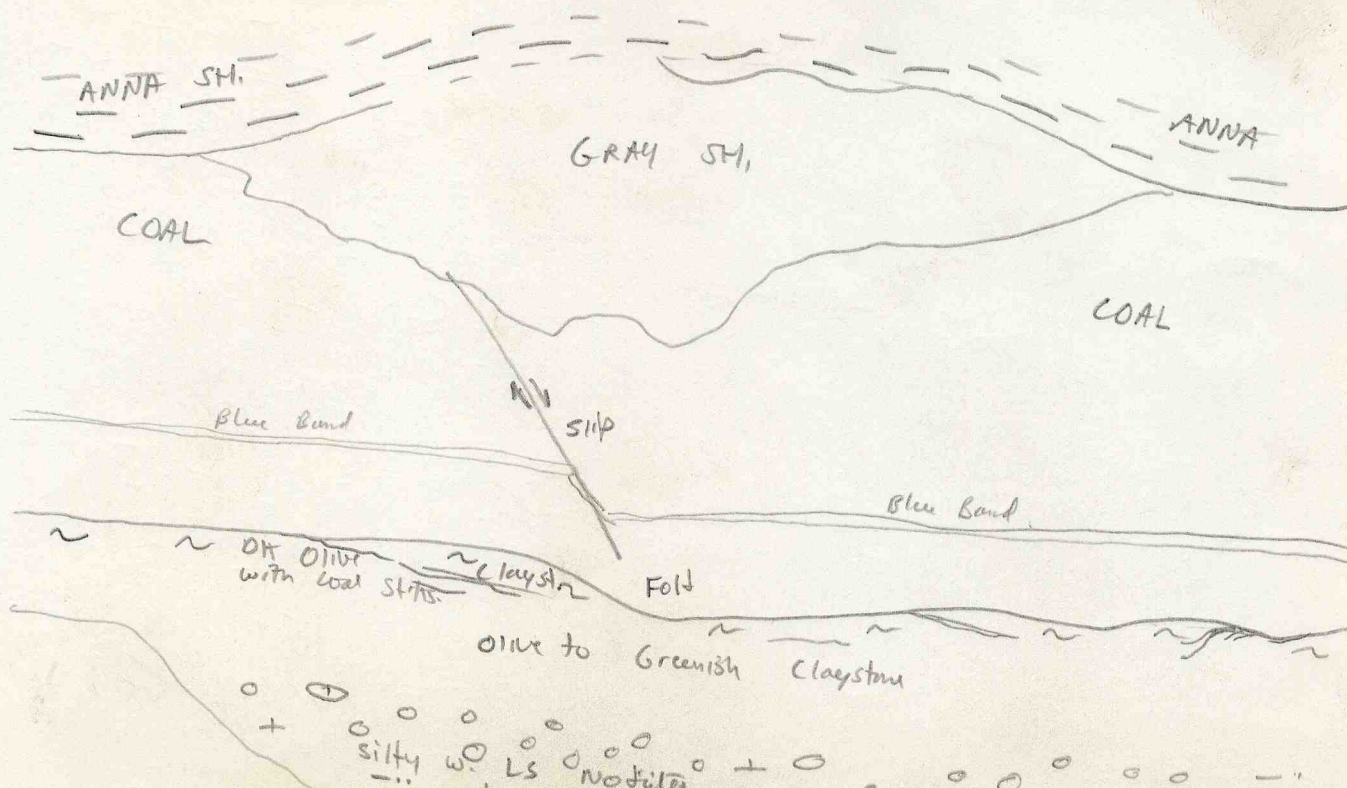
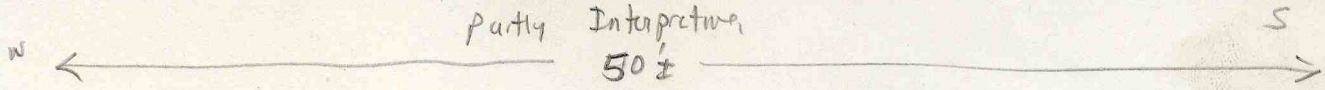
Stop 15 - North Rib
View of large "roll" in 1st west

W

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Step 16 - General View w Rib.
Partly Interpretive
50'



Anna is the typical black shale, fissile and finely micaceous, with numerous concretions and pyrite lenses. The Energy Shale is medium gray and poorly bedded, with numerous coalified bark fragments, etc.

17.) Definite black-over-gray roll about 40 feet wide and 3-4 feet deep. Black shale can be seen over almost the entire roll which is filled with gray shale.

The floor has been cut out for a sump exposing up to 5 feet of the floor strata. This presents us an unusual opportunity to see what happens to the bottom of the coal and the floor under a roll. We see that the floor is scarcely affected. On the east rib (see sketch) there is a gentle monocline at the floor tracing upward to a slip that offsets the Blue Band and higher layers. The floor is even less disturbed on the west rib. The exposure demonstrates that this type of roll is definitely not a fold affecting the entire coal seam, but a disturbance in the upper part of the coal only.

Bottom contact of coal undulates gently but is very distinct. Numerous stringers of coal branch off from the base of the seam into the underclay extending up to a foot or so downward. The upper few inches of the underclay are dark olive gray and very carbonaceous with numerous hard pyrite nodules along the coal contact. This grades to lighter olive or greenish-gray claystone up to 3 feet thick, in turn grading to very hard silty clay or argillaceous siltstone with numerous small limestone nodules. Not a true limestone.

SUMMARY AND CONCLUSIONS

Old Ben No. 25 has transitional roof conditions with both Energy Shale and Anna Shale as immediate roof. The gray shale predominates; we saw it over 80-90% of the area covered. Black shale is found in small areas near the Main West faces and generally south of the shaft bottom. In many places the Energy

Shale is over 15 feet thick. The Energy Shale appears to form thick wedges and changes in thickness quite abruptly. The actual contact was seen only in a few places but appears to be the typical sharp angular contact observed in neighboring mines.

Rolls are fairly common features but are not very well defined in most places. Some rolls appear to be channel-like features unlike rolls we have seen previously. Others are the black-over-gray rolls such as those common in other mines (Old Ben No. 24, Orient No. 4, Orient No. 5).

Slips are numerous in roll areas but are generally small and do not appear to have any preferred orientation. No evidence of tectonic faulting. None would be expected.

Most roof failures appear unrelated to geologic weaknesses such as slips or rolls, though bad top is locally encountered in roll regions. Major roof falls occur in intersections and along north-south headings, in thick Energy Shale. No large falls occurred in Anna Shale. Falls in Energy Shale may cap out at the base of the Anna, as is common in other mines.

The strong north-south alignment of falls and "kinks" is typical for all mines east of the Rend Lake Fault. As yet it is unexplained, though very noticeable. My personal opinion is that it is the result of unrelieved stresses parallel with the Rend Lake Fault and DuQuoin Monocline, the two dominant structures of this part of the coal field, both of which run almost due north-south.

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Core logged

Remarks:

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High methane levels close Old Ben mine

400 miners at No. 25 are idled

By Cathy A. Monroe *So. Ill. 12-23-84*
Of The Southern Illinoisan

Methane gas reaching the "prime explosive level" at Old Ben Coal Co.'s Mine No. 25 near West Frankfort has prompted state and federal mine safety inspectors to close down the mine until the air is cleared.

Illinois Department of Mines and Minerals Director Brad Evilsizer said a state inspector ordered the mine closed about 7 p.m. Thursday. The move idles approximately 400 miners.

"In our book, it was a very dangerous situation," Evilsizer said Friday. "With this much methane, you could have a widespread explosion."

Evilsizer said inspectors from the U.S. Mine Safety and Health Administration (MSHA) Wednesday found air containing up to 9.6 percent methane in an airway that had been blocked by seeping groundwater.

Federal standards allow less than 1 percent methane in air courses, and only tenths of a percent in working areas, Evilsizer said.

"Between 9 and 10 percent is the prime explosive level," he said. Methane explosions occur at concentrations between 5 and 15 percent, and even at concentrations of 3 percent if enough coal dust is present, he added.

Any atmospheric disruption — a rock fall, an electrical spark or smoldering materials — can touch off an explosion of the odorless gas, Evilsizer said.

Old Ben spokesman Mike Musulin said the company is hoping to clear the air blockage in time to resume operations with the midnight Wednesday shift, just after the Christmas holidays. Both Christmas Eve and Christmas Day are contract holidays for union miners.

Carl Adams, who heads MSHA's

sub-district office in Benton, said his inspectors issued an order closing part of the mine and two citations Wednesday after verifying the high methane readings.

Adams declined to give many specifics, saying federal litigation against the company was likely. He said an Old Ben official brought the problem to the inspectors' attention when they were at the mine for a session on mine accident prevention.

Company officials had closed down the mine area registering high readings earlier this week, removing the workers and dousing electrical power as federal regulations require, Adams said.

Company officials also recorded the high methane readings in the mine's records, as required by law.

"They didn't attempt to hide anything," Evilsizer said.

However, MSHA is concerned about the company's handling of conditions that led up to the airway blockage, Adams said. The federal agency also wanted to make certain no unauthorized personnel were allowed into the high-methane area, he said.

The airway, which carries air away from the working area, became blocked when mine seepage filled a shallow area to the mine roof, Evilsizer said.

Old Ben workers tried pumping out the area, but efforts have not been successful to date.

Air measured near the blockage contained 9.6 percent methane, but most of the readings in the affected area were in the 5 to 7 percent range, still well above accepted safe standards, Evilsizer said.

The blockage was in a "bleeder entry" near a gobbed (mine waste) area, where few people were likely to venture, Evilsizer said. Nevertheless, such high concentrations of methane could touch off a gas explosion affecting the entire mine, he added.

Mines and Minerals will be issuing "recommendations" to Old Ben based on the inspector's report, Evilsizer said.

No. 25 is one of four longwall mines Old Ben operates in Franklin County.

Correlations

by

Date

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marks

Southern Illinois 197

11/10/87

Mine may cause highway to sink

By Dave DeWitte *S. Ill.*
Of The Southern Illinoisan *11-10-87*

A new coal mining technology could give motorists on Illinois 149 east of West Frankfort that sinking feeling next summer.

The Old Ben Coal Co. recently applied to the Illinois Department of Mines and Minerals to extend a longwall mine panel at its No. 25 mine beneath a half-mile segment of Illinois 149 about three miles east of West Frankfort. Coal extraction using the longwall method will cause the highway to sink about 5 feet along the stretch of highway, state highway engineers say.

Longwall mining differs from more traditional underground mining methods because it does not leave behind any coal pillars to support ground above the mine. Earth above the mine sinks almost immediately in a somewhat uniform pattern.

No closure of the highway is expected, although damage will be unavoidable.

"It would just be a gradual dip in the highway," said Illinois Department of Transportation engineer Harold Ray, "what we call a sag."

IDOT officials said they expect the mining panel to reach the highway by July or August. Permanent repairs will not be made until the ground has stopped settling in about three months.

During the interim period, highway officials plan to place temporary lights along the highway so that motorists at night can spot any bumps or sinkage in the highway. Signalmen will be posted on the highway during the period the mining takes place to reduce the risk of accidents resulting from sinkage of the highway. Warning signs and a no-passing stripe will be installed.

The longwall mining method is relatively new to the area. It has been used previously to mine under county highways and local roads in Southern Illinois, but never a state

highway. Illinois Department of Transportation officials had previously approved the extension of a longwall mining panel at the Consolidation Coal Co.'s Rend Lake Mine beneath Illinois 154 west of Sesser. IDOT spokesman Larry Myer said the company decided for geological reasons not to extend the panel beneath the highway, but the agreement reached between Consol and IDOT will serve as the basis for an agreement between Old Ben and the state agency.

Myer said Old Ben has agreed to pay for engineering and construction work to bring the highway back up to its previous condition. He said the damage would have no net cost to the state.

Plans for the longwall panel under the highway were part of a completed mining permit modification that is expected to undergo a public review process.

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GROUP PROTESTS OLD BEN LONGWALL; FEAR DAMAGE TO IL STATE HIGHWAY

A group calling itself the "Citizens' Coal Enforcement Group" is up in arms over an Old Ben Coal Co. plan to longwall mine along a state highway near West Frankfort IL. The group held a press conference April 27 in West Frankfort to publicize its complaints.

Old Ben originally held a mine permit to room-and-pillar mine an area underlying Route 149 in Franklin County IL, but recently applied for a permit revision to conduct longwall mining on the site. The group, comprised of about 50 coal miners, farmers and

COAL WEEK • May 2, 1988

notes

townspeople, protested the permit revision because it did not include a contingency plan in case subsidence were to damage the highway. The group said Route 149 is the main throughway through West Frankfort.

Ruth Foote, spokesperson for the group, said the State Department of Mines and Minerals won't take responsibility for the omission in Old Ben's plan because the company has a separate agreement with the state transportation department governing potential damage to the road. Old Ben's agreement with the transportation department limits the company's liability to \$411,000, she said. "Old Ben is putting everyone who uses Route 149 and the taxpayers up against the longwall, and the state is allowing Old Ben to get away with it," she said.

The group alleges that the two state departments have "passed the buck" back and forth over the highway issue. "Mines and Minerals says the mining of the highway is strictly between Transportation and Old Ben. Transportation says they believe Mines and Minerals would never have approved Old Ben's mining plans if they weren't okay." The group contends both that the transportation department agreement with Old Ben should be part of the company's mining plan, and that the plan is inadequate.

Transportation department officials contend that the agreement is sufficient and that they expect only a gradual dip in the stretch of the road affected by the mining. "Our argument is that you don't hope for the best, you prepare for the worst," Foote said.

FIELD NOTES
Illinois State Geological Survey

Group: Mining may cause road problems

N-G
4/28/88

WEST FRANKFORT (AP) — There's no need for a local group to worry that problems will arise when a coal company starts long-wall mining under Illinois 149 later this summer, a state Department of Mines and Minerals spokesman says.

The state agency in March granted Old Ben Coal Co. Mine No. 25 a permit to mine under the state highway, a move that angered the Herrin-based Citizens' Coal Enforcement Group.

The group, which works to protect landowners from subsidence damage, held a news conference at a local home to illustrate their point. The subsidence-damaged yard had a 350-foot-long, 4-foot-wide crack.

They believe the crack on Gary Wade's property may be a signal of what to expect from the longwall operation on a segment of Illinois 149, three miles east of this Southern Illinois town.

Longwall is a method of mining where a steel plow or rotating cutting drum is mechanically pulled back and forth across a face of coal, usually several hundred feet long, with the loosened coal falling onto a conveyor.

The longwall method is different than more traditional underground mining methods because it does not leave behind any coal pillars to support ground above the mine.

"Cracks like this could occur around the edges of the panel," Don McNail, group president, said, referring to Wade's property.

"If they can't manage to repair this problem," he added, "what's the guarantee that they will be able to adequately repair 149?"

RAB says this is a
organization
associated with
Illinois South.

RAB indicates a
← Slope failure involved here.

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Quadrangle OB, 25

County Franklin

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FORM 180 W

p 1 of 5
(+ 2 maps)

Mine Notes - Old Ben No. 25 - Franklin County

Trip: Feb. 7, 1989, by Phil DeMaris, Y. Paul Chugh and Anil Atri of SIU, escorted by Mark Mormino, Eng., of Old Ben Coal

Coverage: Introduction
Visit to "old" North Mains
Summary
Samples Set "A" (-1 to -6)

Introduction

This visit is in support of a ground stability study under Dr. Chugh's direction; this is the second mine studied. Contact person was Dan Mouyard, Geologist, but he was unavailable so Mark Mormino, Engineer, escorted us underground. Mark has been at mine 2 1/2 yrs; he indicated we would look at older mined areas today.

I had a chance to chat with Mark Cavender, new Gen. Supt. of mine (here only a week from O.B. 26). We met in 1976 at O.B. 24 and he has been running longwalls ^{ever} since then. He mentioned hitting concentrated coal balls at both O.B. 26 and O.B. 25. Now with higher horsepower shearers they can just cut the coal balls, accepting the higher bit costs. They can partly duck or partly ride over the more concentrated portions of some occurrences.

Visit to "old" North Main

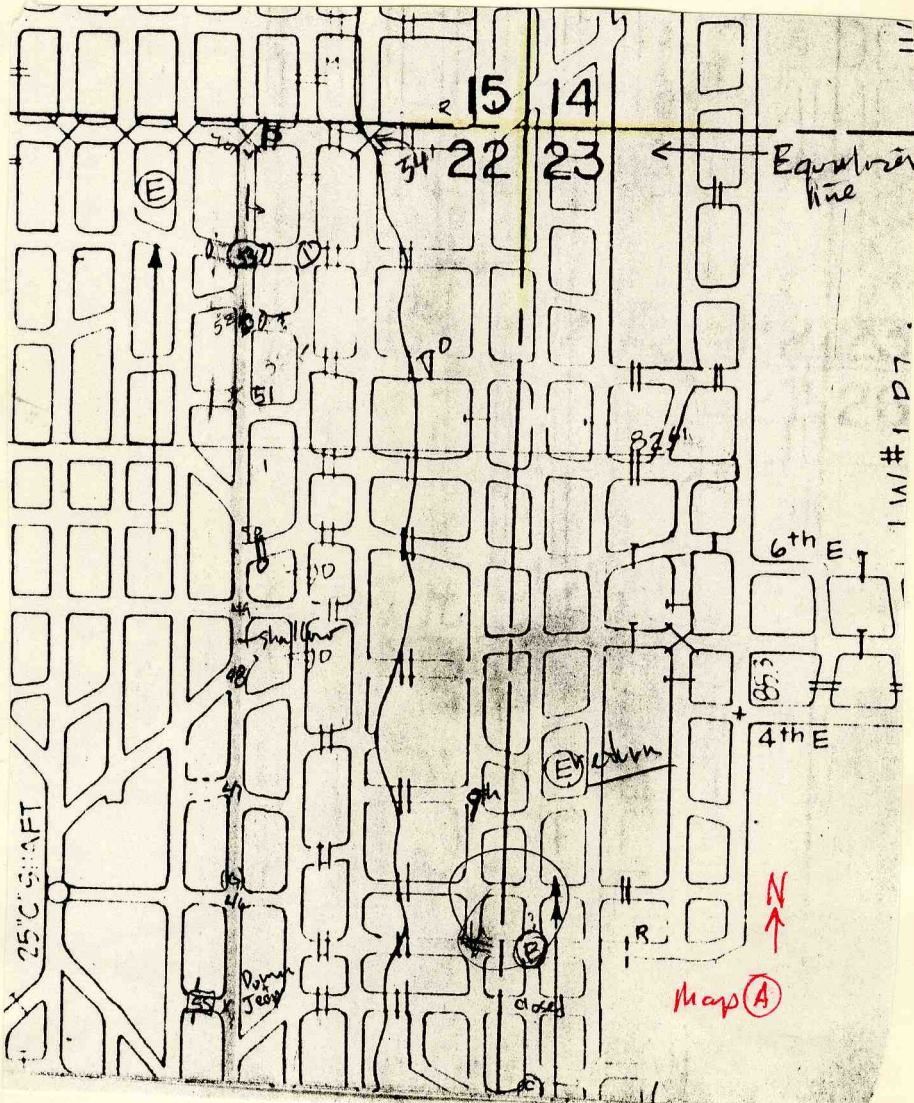
A. We parked at crosscut 45 and walked North on travelway. Mark indicated that Gray shale was often 4' to 6' thick, and has more N-S falls than E-W falls. See Map A.

cc46 Energy Shale has pref. fracture pattern in NE-SW direction.



2/7/89

Map A





FORM 180 W

P20F5
(+2 lumps)

cc47 Weak E-W fracture in Energy

cc48/9 Coal is unusually thick (8 1/2') and has Energy Shale which is not well jointed.

Energy Shale is med. gray with scattered plant debris. I sampled some Sigilaria at 1.7' above contact with siderite bands above and below (-A-1).

cc52 Weak "kink zone" for short distance near left side of entry. Chugh thinks it is from compression. It looks indistinct to me and could also be due to weathering of lower roof; area is 6 yrs. old. The bottom 0.4' of roof has potted out in several directions between lines of bolts in the area. A siderite nodule band position at 0.4' up was not seen to be broken in the area. Top coal was originally bolted in this area.

cc53 Linear N-S fall in east crosscut. Further east there is potting to 1' in shale over wide area, but little linear trend. No real jointing in shale seen.

cc54 Large erosional channel (sensu O.B. 24) or "roll" running N-S centered between east pillars. Coal rider on west side seen in roof at mid-entry between 53 and 54. Anna Shale roof is seen over channel-fill material about 6' above coal; coal has lost 2-3' here probably due both to erosion of peat and compactional deformation combined. Channel-fill material sampled (-A-2).

We went east and then south into returns to see some roof falls.

B. (Approx. loc. on map) Fall shows about 12' Energy Shale, about 1 1/2' Anna Sh., and flat, level bottom (f) Brereton.



FORM 180 W

A 3 of 5
plus 2 maps

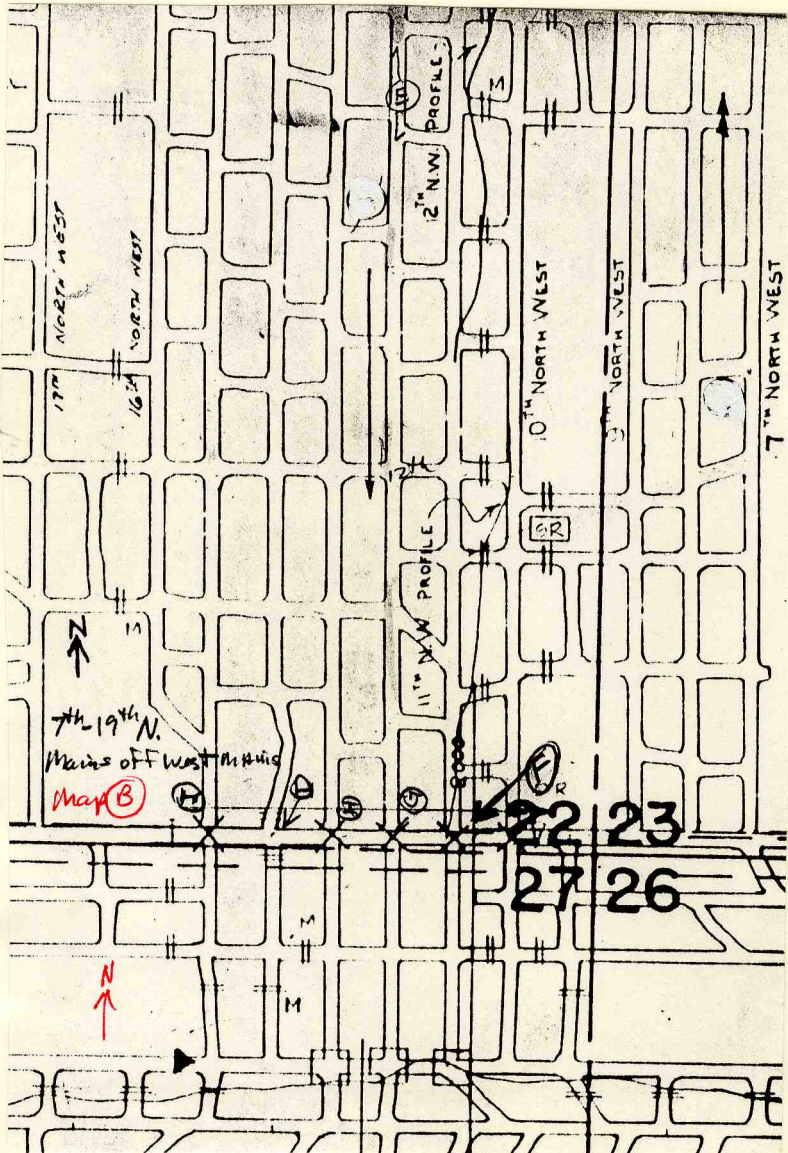
- C. 2 crosscuts south of B. the Fall shows a large slickensided high-angled Fault on north side. Estimated 15' Energy Shale in Fall, but couldn't see top.
- D. 3 or 4 crosscuts further south (about 6 cc south of "C" shaft) we saw: 8 to 9' Energy, about 1' Anna seen. Fall tops out in what appears to be Anna; top of Fall slight elongated in N-S direction (see F. below). Blue band of Herrin collected here (-A-3) about 1 1/2' off floor.
- We took vehicle south to base of mains where there is an E-W set of overcasts ("equilizers"). See Map B.
- E. Between 6th and 7th crosscuts there was a small (60' wide?) swath of Anne Shale roof, with estimated thickness of 3' below Brereton. Top 0.2' of underclay sampled (-A-4).
- F. We parked at 3rd cc (door). First overcast showed: 3' Anna Shale, thickening to west, with a gradational upper contact due to bioturbation from Brereton environment; 4' Brereton Limestone, gray, dense, tough (-A-5 from mid-unit); gradational contact to 2 1/2' dark calcareous shale topping cut exposure. Map indicated there is/was one more overcast to east (not examined).
- G. Second overcast shows Energy shale wedge increasing in thickness to W. Starts at E. side and would be excellent spot for photo of truncated Energy shale nodule bands. Above Energy is 1.9' Anna Shale below Brer.; bioturbation traces seen just below Brer. contact.
- H. 3rd overcast shows upto 10' of Energy shale with truncated nodule bands: levels off slightly at about 11', and Anna Shale can be seen toward west side.



FORM 180 W

2/7/89

Map B





FORM 180 W

p. 4 of 5
(+ 2 maps)

I. 4th overcast position (undercast collapsed) shows about 18' Energy Shale with Anna and Brereton above. Chugh sees slips which contributed to fall; largest one is roughly 60° near coal and appears to level out at top of Anna. Lg. Slip is continuous through Energy/Anna.

J. 5th overcast shows Energy still minimum of 10'. At 1 1/2' above Herrin are some coal stringers, contorted, with multiple siderite bands above and below. Approx. 45° slip through full thickness of Energy, steepening slightly downward. Energy about 6' up sampled (-A-6).

Summary

We had a discussion of findings at mine. I indicated that roof was similar to that seen at O.B. 24 and other mines in Franklin. Exposures, especially the set of overcasts, suggest that the Energy shale was originally a blanket deposit at least 18' thick which was then locally eroded (see O.B. 24 depositional model).

We agreed that my summary of d.h. data should include the presence and thickness of Anvil Rock ss. in public holes (confidential data not released).

Study areas defined to date:

- #1 Sec. 22 (NE/NE) far N. mains (AM visit)
- #2 Sec. 22 (SE/SE) N. mains junction overcasts (PM visit)



FORM 180 W

p50f5
(+2 maps)Samples: Set A (-1 to -6)

#	Site	Desc.	Clay No.
-A-1	cc49	Compression of a segment of <u>Sigillaria</u> in Energy Sh. roof at 1.7' up; unit is lt. gray in weak bedding	3183A
-A-2	cc54	Channel-fill material from large Channel ("roll") cut into Herrin, med. gray w. small bivalve (cf. "Solemyia"-RJJ)	3183B
-A-3	D	"Blue band" of Herrin where .05' thick, about 1 1/2 from u/c; sm. block +crushed sample; contains 1-2 mm. pellets at middle and top.	3183C
-A-4	E	Top 0.2' of underclay - old but damp (top o , low).	3183D
-A-5	F	Brereton ls. from mid-unit	-
-A-6	J	Energy Shale about 6' above base	3183E



COAL WEEK, Vol. 16 No. 31 July 30, 1990

ZEIGLER CONCLUDES OLD BEN PURCHASE; B CANYON DROPPED, PRICE AT \$95 MILLION

Zeigler Coal, became Illinois's largest coal producer last week by acquiring nearly all of British Petroleum's remaining coal operations in the US.

The previously announced purchase price for BP properties Old Ben and Franklin Coal, a holding and sales company, was \$115 million, but it was reduced just before the sale closing (see related story page 2). Sources said the final base price was \$95 million with an additional \$10 million to be paid by Zeigler if it reaches undisclosed production levels.

Zeigler president Michael Reilly predicted his privately-held company's leaner managerial approach would boost operations at Old Ben mines in Illinois, Indiana and West Virginia. "In a year, you're going to see a big difference in Old Ben," Reilly told *Coal Week*. "It will be a lot more efficiently run." Old Ben's office in Cleveland will be closed within a few months and layers of management are being trimmed up and down the corporate hierarchy.

Combined Illinois offices at Benton

Zeigler plans to combine the current operations office for its three southern Illinois mines with Old Ben's Benton IL office, which had responsibility for four mines. The two former Old Ben mines in Indiana and Mine 20 will be grouped together.

Despite last week's announcement by a southern Illinois politician, Reilly insisted that no decision has been made to reopen the Old Ben No. 21 mine, closed since the end of March. No. 21 coal is "several dollars a ton" higher than what Zeigler can sell it for a profit, he said. "We have to find a way to get that cost down." Sources told *Coal Week* the BP-Zeigler sale agreement contains an option that could serve as a disincentive for the reopening of No. 21. "If Zeigler doesn't operate 21, they don't pick up some of the liabilities associated with the closing of 21," a source said.

Most Old Ben employees to stay on at Zeigler

Reilly said the "vast majority" of Old Ben and Franklin Coal personnel would stay on with Zeigler, but he didn't provide any numbers. According to sources, about 15 people at Old Ben's 80-person office in Cleveland were offered positions with Zeigler. At Old Ben's Benton office, 17 or 18 people were terminated, including high-ranking officials. The fewest cuts came in the coal sales group.

Reilly said his immediate goal is to "mine everything we can sell." He hopes the combined operations produce about 18 million tons a year. Zeigler has produced about 4 million tons a year and Old Ben about 14 million tons. Long range, Zeigler wants to continue growing. Said Reilly: "I'd like to expand in the West and expand in the East, but not this month."



Mine Name or No.,
 mile from
 Operator, 19
 Operator, 19

Elev. ft. {above,
 below

DB25

**ZEIGLER CUTS 76 AT OLD BEN 25;
 LAYOFFS HIT 20 PERCENT OF MINERS**

As expected, Zeigler Coal Co. announced a layoff last week at its newly acquired Old Ben No. 25 mine, the move following job cuts at two other former Old Ben mines in southern Illinois.

But the size of the No. 25 layoff, 76 miners, nearly 20 percent of the underground mine's work force, shows Zeigler is serious about recasting the Old Ben mines into a lean, no-frills operation.

All of the employees who lost jobs are members of the United Mine Workers, which represents hourly workers at all former Old Ben and Zeigler mines in southern Illinois. About 330 union and company personnel still are employed at No. 25.

The cutback at No. 25, located near West Frankfort, coupled with the 88 miners furloughed last month at nearby Old Ben Nos. 24 and 26, means Zeigler now has eliminated more than 160 Old Ben mining jobs since it purchased the venerable coal producer from British Petroleum earlier this summer.

Mike Reilly, Zeigler's president and chief executive officer, said the reductions were necessary. "In light of the economic conditions in the coal industry and our determination to be in the business long term, Zeigler must continue to make company operations and management more efficient and competitive," he said.

Coal week - Oct 11/1990

X

See drill record sheet,

E. Notes on surrounding area,

Railroad, Wagon, Idle, Abandoned

IDENTIFICATION

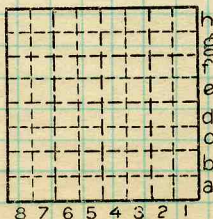
County No.

Coal No.

Quad.

Part

County



Sec.

T. N.
 S.
 E.
 R. W.

Index No.

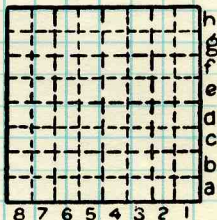
Coal Week 6/22/92

**MO. PUBLIC SERVICES BUYS COAL;
ZEIGLER TO SUPPLY SIBLEY 150,000 T**

A possible coal solicitation Missouri Public Service officials talked about in early spring (3-23-92 *Coal Week*) has become a reality, with MoPub eventually deciding to buy 150,000 tons of Illinois coal from Zeigler Coal's Old Ben No.s 24 and 25 mines. Deliveries to the Sibley power plant via Illinois Central and Santa Fe railroads began in April and will continue through December, an official said.

Final results of the utility's testing of three trainloads of coal from Coastal Coal's Skyline mine and a trainload of coal from Colowyo Coal Co.'s Colowyo mine have not been completely reviewed, but the coals burned well, the official said.

Both coals were blended and tested separately at Sibley with coal from ARCO Coal's Black Thunder mine. Additionally, the coals were burned without blending. Sometime in the third quarter MoPub could begin considering additional coal test candidates for extensive testing next year, but no coals have yet been selected.



By _____ Date _____

Quadrangle _____

County _____ Sec. _____ T _____ R _____



FORM 180 W

SAMPLE HISTORY

Plant sampled: John Ross Prep Plant (Old Ben 25) Date Nov. 18, 1992
 R.R.#3, Box 172B, West Frankfort IL, 62896

Company: Old Ben Coal Co, David M. Young, President
 500 N. DuQuoin, Benton, IL 62812
 (Div. Zeigler Coal Company)

Sample ID: OLDBEN25
 C32802

Company representative: Tom Sears - General Surface Manager
 (618)439-5299

Mine (source of sample): Old Ben 25
 Seam identification: Herrin No. 6

Collected by: Wayne T. Frankie
 Time of closure: *

Mining period represented (dates): 11/17/92 -Sample represents 5084 tons
 (midnight), 4902 tons (day), and 3400 tons (Evening). Sample collected by
 company personnel.

Panel(s) & location(s) in mine: Panel 21, under pond, north part of mine,
 section running east-west

Mine locations (descriptive): Take blacktop road first right after leaving
 West Frankfort and crossing old railroad bed, follow blacktop to county road
 "1770 East" sign at turn reads East Fork Missionary Baptist Church, turn left
 heading north, prep plant located on the left approximately 1/2 mile.

$\frac{1}{4}$ or footage N 1/2 Section 14 Twp 7S Rge 3E

Frankie

Type of Preparation Plant: Built by Roberts & Schaefer Co. in 1977, process
 1,000 tons per hour, with 28-30 percent reject. Uses 2 Mogul Jig Washers
 (water wash), Flotation Cells use diesel fuel and flotation reagent. Have copy
 of prep plant flow sheet.

Sampling point: on clean coal belt # increments:

Belt (describe position in plant) between prep plant and coal storage
 silos
 Train load unit trains from silos Truck

Company's sampling device (yes)
 Type: 2 stage system

Other (describe) Plant use to process coal from Old Ben 27

Procedures (describe other aspects):

* Sampled by company staff. Process steam coal only no stoker product.

Additional Data:

Developing Panel 20 for a Long Wall Panel, using continuous miners for
 development.



FORM 180 W

OLD BEN No. 25 MINE - GEOLOGY AND GENERAL CONDITIONS

John Nelson - March 15, 1995

This is a report on the geology and general conditions in the Old Ben No. 25 underground coal mine, located near West Frankfort, Illinois. It is based on mapping that I conducted in January and February, 1995. Mapping was conducted on behalf of the National Museum of Coal Mining, which proposes to open the mine for public exhibition.

Background

Mine No. 25 was opened in 1977 and operated until August of 1994. The Herrin (No. 6) Coal was mined at a depth of approximately 600 feet below the surface. Access to the mine is via two vertical shafts; one (A Shaft) contains skips used for hoisting coal and the other (B Shaft) contains a cage for hoisting people, equipment, and supplies. These shafts also serve for ventilation. Mining was conducted largely by the longwall method, which involves the complete removal of the coal in large rectangular panels. In longwall mining, the overlying strata subside into the mined-out area as the coal is removed. After coal production ceased in 1994, most of the mine workings were sealed. An area approximately 3,000 feet long by 1,000 feet wide remains accessible, and is the subject of this report.

The base map that I used was provided by Old Ben and has a scale of 1:2,400 (1 inch = 200 feet). I later enlarged this map photographically to the scale of 1:1,200 (1 inch = 100 feet) and traced it onto Mylar sheets for reproduction. This process inevitably introduced errors, which probably are minor. I did not survey the mine workings in any fashion.

General Conditions

I must warn the reader that my background is strictly in geology. Although I have spent considerable time mapping geologic features in coal mines, I have no formal training or practical experience in coal mining. My comments on the physical conditions in Mine No. 25 therefore should be taken as those of a novice.

Ventilation and access. I did not attempt to construct a ventilation plan for the mine because that is beyond my level of expertise. I did map all ventilation control devices, including seals, stoppings, overcasts, and doors. Stoppings that were obviously broken or leaking are indicated; however, some stoppings and other features shown as intact on the map may be in need of repair.

Accessibility in the mine is quite limited. Roughly half of the workings are either completely blocked by gob and roof falls or are unsafe to enter because of unsupported roof. The major areas that are accessible are (1) the bottom area; a triangular area that includes the bottoms of A and B Shafts and underground shops, (2) the 4th and 5th Main East Entries east of the shaft bottom, and

(3) the escapeways, which follow the perimeter of the mine around the seals. Because water and methane accumulate in the abandoned works behind the seals, the escapeways must be kept well ventilated and open for inspection and repair of the seals.

Roof falls. Three types of roof falls are shown on the map. They are (1) falls that have been cleaned and re-supported by bolting or timbering, (2) falls that are unsupported but would be accessible to bolting and timbering crews, and (3) falls where the fallen rock completely blocks the entry. In general, I mapped only falls that extend 3 feet or higher above the top of the coal. Scale of the base map did not permit mapping small falls or small areas of unsupported roof. Many unmapped falls probably exist in inaccessible parts of the mine.

Besides mapped falls, many areas of the mine may need additional roof support. Top coal and shale have fallen away from between the roof bolts in many parts of the mine, leaving the lower ends of the bolts dangling. In other places the top coal and shale remain intact only directly above the header boards or plates at the bolt heads.

Steel archways were constructed beneath some large roof falls to maintain open passage beneath. After the arches were built, more rock fell onto the arches. Some arches appear to be sagging under the load of fallen rock. Arches are located in the escapeways east and west of A Shaft in the northwest part of the mine.

Gob. Large quantities of gob (waste rock) are stowed in the workings of Old Ben No. 25. I mapped gob where it completely or largely fills the entry (access impossible, or only by crawling or on hands and knees).

A minimum estimate of the volume of gob in the mine is 18,500 cubic yards. This figure was obtained by multiplying the length of gob areas (in yards) by an average height of 2 yards and an average entry width of 5 yards. Entry-blocking roof falls were treated as gob, although some are much higher than 2 yards. Large amounts of gob undoubtedly are present in inaccessible areas of the mine. Small deposits of gob occur throughout the mine, and most entries will need to be cleaned and graded before the public is admitted. The total amount of waste rock in the mine may be twice my estimated figure.

Water. Water is seeping into the mine in several areas and must be pumped. The wettest area is near the South East seals. Here are several large pools of standing water, and pumps operate almost continuously. The water appears to be entering mainly through the floor adjacent to the seals, but in some cases it is tapped and collected by pipes built into the seals. Several small pumps feed water to holding tanks at the large, centrally-located surface pump, which removes the water from the mine. These pumps operate more or less continuously.

According to Gary McCloskey of Old Ben, the holding tanks and surface pump are very difficult to reach for maintenance and repair due to lack of overhead clearance. He recommends digging a deep



FORM 180 W

- 3 -

sump to gather water and provide better space to service and replace pumps.

Smaller amounts of water are collecting near the 10th Main East Seal, the North Seals in the northeast corner of the mine, and in the escapeway immediately north of A Shaft. These areas require only occasional pumping at present.

Other conditions. I did not observe any indication of floor heave or squeeze in this mine. The actual floor rock (underclay) is rarely exposed. Near the bottom of A Shaft, where the floor was excavated to a depth of about 3 feet, it consists of 12 to 18 inches of claystone overlying shaly and nodular limestone. In wet areas of the mine the claystone rapidly turns to mud.

No kink zones or other evidence of directional, horizontal stress were observed. This is fortunate, for kink zones create serious problems for ground control in north-south headings of several nearby mines in southern Illinois. Old Ben No. 25 is prone to cutter roof falls, however. Cutters are narrow falls that develop along one or both ribs, extending upward at an angle above the pillars. Most cutters that I observed are in east-west headings. Possible causes of cutter roof falls and roof-control strategies are discussed by Hill (1986) and E.R. Bauer and Hill (1987). However, the cutter roof falls that I observed at Old Ben No. 25 differ in some respects from those described by the above authors.

Geology

Roof Strata. Three rock units are visible in the roof of the Old Ben No. 25 Mine. These are the Energy Shale, the Anna Shale, and the Brereton Limestone.

The Energy Shale forms the immediate roof in approximately 80% of the mapped area. It is generally a medium gray shale that is weakly laminated, slightly silty, and contains sideritic bands and nodules. In some places the lower part of the shale is slightly darker gray, carbonaceous, and contains abundant poorly preserved plant fossils, including occasional large sections of flat-lying logs and branches. No upright tree stumps (kettlebottoms) were observed. The Energy Shale ranges in thickness from a feather-edge to more than 15 feet. Thickness changes are rapid; the shale thickens from 0 to 10 feet within a lateral distance of 50 feet near the 12th South East Seal.

The Energy Shale is, at best, moderately competent. Many falls 10 feet or higher have developed in this shale. The Energy Shale is sensitive to moisture, especially the seasonal changes in humidity experienced in intake air. Under repeated wetting and dry the shale gradually deteriorates and crumbles away between roof bolts and timbers. This steady deterioration weakens the roof supports and may lead to large falls.

The darker, carbonaceous phase of the Energy Shale appears to be less sensitive to moisture than the normal lighter gray variety. Little deterioration was noted in the carbonaceous shale, which unfortunately occurs only in small areas. I did not map the

carbonaceous shale because the change from carbonaceous to non-carbonaceous type is subtle and gradual.

The Anna Shale is a black, highly fissile shale that overlies the Energy Shale. It is well jointed and contains large calcareous concretions. Where the Energy Shale is absent, the Anna forms the immediate roof. Anna Shale is found as immediate roof mainly in the south and southeast parts of the mine workings. The contact between the Anna and Energy Shales is sharp and erosional, as shown by truncated layering in the Energy Shale below. Locally, the Anna Shale truncates the Energy at an angle of 15° to 20°. Thickness of the Anna Shale ranges from a few inches to about 4 feet; it is 2 to 3 feet thick in most places.

The Anna Shale forms good roof and is not subject to moisture slaking. No large falls were observed in areas of Anna Shale roof. Large falls in the Energy Shale commonly cap out at the base of the Anna. Stability of the Anna partially relates to character of the shale itself, and partially to competence of the overlying Brereton Limestone.

The Brereton Limestone was observed only at the bottom of B Shaft and in overcasts west of the 12th South East Seals. In these exposures the limestone ranges from 5 to 8 feet thick, with the top above roof line. The lower 2 to 3 feet has nodular bedding, with shaly partings separating the nodules. Upward the limestone either becomes more massive or takes on regular, planar bedding. In Old Ben No. 25, as elsewhere in southern Illinois, the Brereton is the most competent rock unit in the roof. Nevertheless, blocks can separate along shaly partings, especially where the limestone has been cut away (as for an overcast).

Rolls. Rolls at Old Ben No. 25 are bodies of shale that lie within and replace the upper part of the coal seam. Rolls are linear or gently curved in map view and lens-shaped in cross section. They range up to 30 feet wide and 5 feet deep, but most are less than half this size. As shown on the map, rolls commonly occur in parallel sets or swarms.

The shale filling the rolls is Energy Shale, although in many cases the Anna Shale directly lies on the coal along the margins of the rolls. The gray shale intertongues with the coal along the margins of the rolls. Slickensided "slips", or small faults, commonly run along the axis of rolls.

Rolls at this mine appear to be small erosional channels that developed either during or immediately after the late stages of peat accumulation. Peat was ripped out and replaced by mud, which then compacted in irregular fashion. Later, the upper parts of some rolls were eroded and overlain by the Anna Shale. Rolls at Old Ben No. 25 are closely similar to rolls at Old Ben Mine No. 24 (R.A. Bauer and DeMaris 1982; DeMaris et al. 1983).

Rolls and their accompanying slips weaken the mine roof and are responsible for small falls.

Other Features. A group of small faults was mapped along the 7th through 10th Main East Entries, about 900 to 1,000 feet of B Shaft. They are high-angle normal faults that strike NNW and have displacements of a few inches to about one foot. Unlike the



FORM 180 W

"slips" associated with rolls, these faults do not die out downward but penetrate the entire thickness of the coal seam to the underclay. These faults have the typical trend and style of subsidiary faults in the Cottage Grove Fault System, the major faults of which lie about 6 miles south of Old Ben No. 25. Although the faults are small, they weaken the roof; a large roof fall developed where a fault ran the length of a crosscut between the 9th and 10th Main East.

The Anna Shale contains well developed, regular, parallel joints that strike $N70^{\circ}E$ to $N90^{\circ}E$. These joints are spaced a few inches apart in most places. Although they weaken the shale to some degree, they do not appear to be responsible for any large falls. Joints in the Energy Shale are weakly developed.

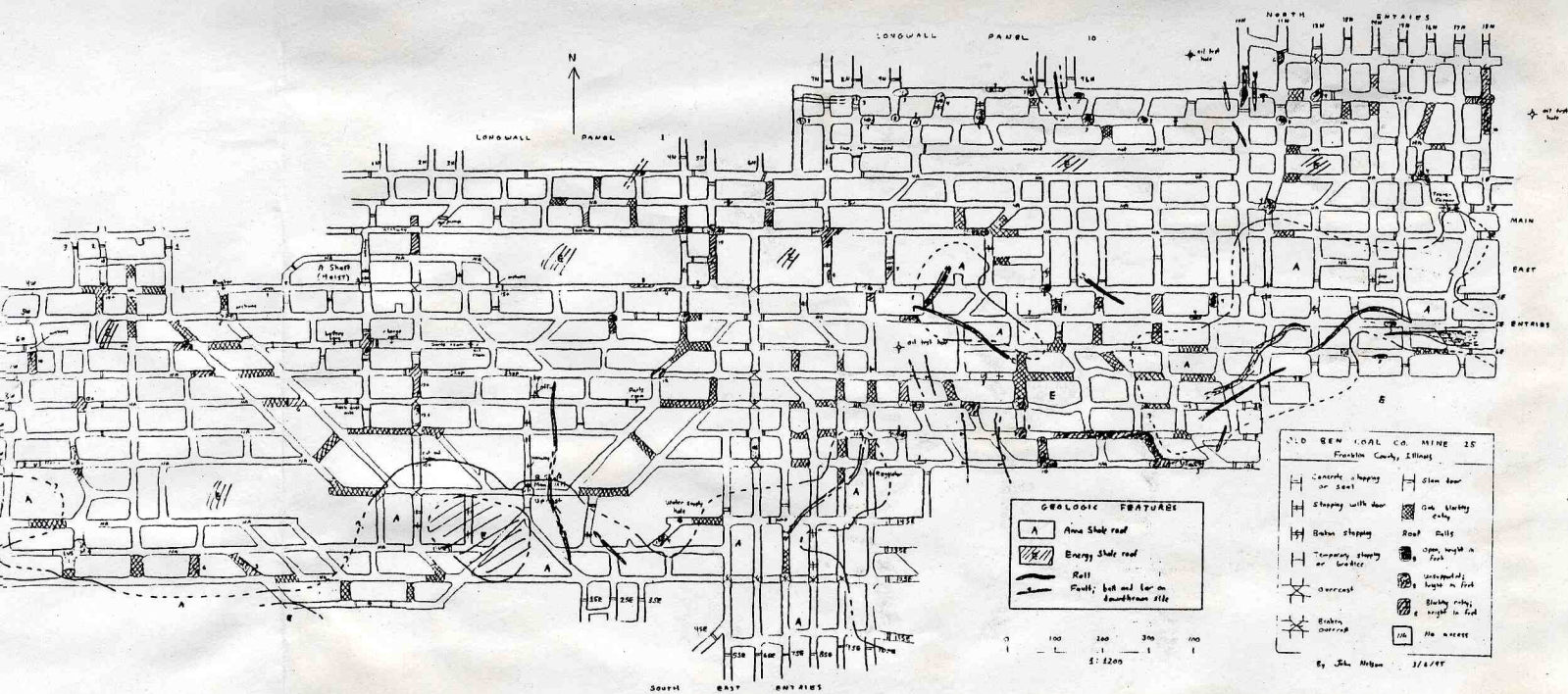
Small coal balls were observed in the uppermost one foot of the seam in a few places. These coal balls are oval or irregular masses of brown limestone, ranging up to a few inches in diameter. They represent peat that was mineralized instead of coalified. Coal balls occur only near the margins of Anna Shale roof areas. Coal balls of this size pose no hazard.

Summary. Geologic conditions at the Old Ben No. 25 Mine are nearly identical to those in the nearby Old Ben No. 24 Mine, as described by R. A. Bauer and DeMaris (1982) and DeMaris et al. (1983). The most noteworthy geologic differences between the two mines were that Old Ben No. 24 encountered larger faults and masses of coal balls that were a serious hindrance to mining.

For the proposed use of Old Ben No. 25 as a museum exhibit, the geologic condition of greatest concern is unstable roof in the Energy Shale. Areas of this shale (some 4/5 of the mine) will require substantial roof-bolting and timbering to ensure long-term stability. Every effort should be made to shield the Energy Shale from seasonal changes in humidity.

References

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- DeMaris, Philip J., Robert A. Bauer, Richard A. Cahill, and Heinz H. Damberger, 1983, Geologic investigation of roof and floor strata, longwall demonstration, Old Ben Mine No. 24 - prediction of coal balls in the Herrin Coal: Illinois State Geological Survey, Contract/Grant Report 1983-2, 69 p.
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LONGWALL PANEL 1

LONGWALL PANEL 10

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↑

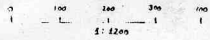
oil hole

A Shaft (Hoist)

SOUTH EAST ENTRIES

GEOLOGIC FEATURES

	Area shale roof
	Energy shale roof
	Roll
	Fault; both and bar on downthrow side



OLD BEN COAL CO. MINE 25
Franklin County, Illinois

	Concrete stepping or seal		Slam door
	Stepping with door		Gas blocking entry
	Babin stepping		Roof rolls
	Temporary stepping or brace		Open height in foot
	Overcast		Unsupported height in foot
	Broken overcast		Slaking entry; height in foot
			No access

By John Nelson 1/4/11