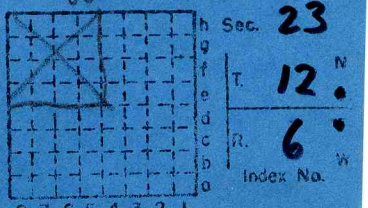
Freeman United Coal Mining Co. Crown # 2

As per Announcement Which Follows

FREEMAN UNITED COAL MNG. CO.
CROWN # 2

Mine Index No. 933

COAL REPORT NO. 5-20



MACOUPIN COUNTY

MOORE'S MODERN METHODS

(Sheets) COAL PRODUCTION (Sheet)

FREEMAN UNITED C.M.C.

CROWN MINE II

Period Mo.	Day	Year	Mo.	Day	Year	Tons	
		1976				476	586
		1977				1 098	151
		1978				1 221	759
		1979				1 648	714
		1980				1 630	255
		1981				1 113	936
		1982				1 601	150
		1983				881	695
		1984				991	408
		1985				1 017	801
		1986				1 001	759
		1987				841	439
		1988				901	830
		1989				981	804
		1990					
		1991					
		1992					
		1993					
		1994					
		1995				1 583	884
SUMMARIES							
No.		to	No.				
12/17 ended 92-day strike! →							
		1996				1 730	166
		1997					
		1998					
		1999					

Railroad, Wagon, Strip, Idle, Abandoned

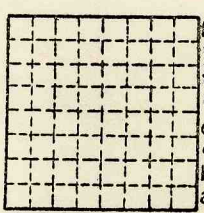
IDENTIFICATION

County No._____ Coal No. ☐ 6

Coal Report No._____

Quad.

County MACOUPIN



Sec. 23

T. 12 N.

R. 6 W.

Index No.

COAL MINE—PRODUCTION

(2732—2M—7-41) ILLINOIS GEOLOGICAL SURVEY, URBANA

2

NOTE : BECAUSE OF THE SPECIAL MAPPING PROGRAM INITIATED BY A WATER PROBLEM AT CROWN II MINE, ALL NOTES TAKEN on and AFTER DEC. 1977 ARE FILED IN SEPARATE NOTE BOOKS

early '93 moved to CS Storage Rm 205

currently held in room 32

Book 1 12/77 to 6/79

Book 2 7/79 to 12/90

Book 3 1/91 to

Eastern Illinois University will exercise the first of two one-year stoker coal contract extension clauses with **Freeman United Coal** and will not quibble if FU increases the delivered price by a contractually-limited 3.5 percent over the past year's price of $29.97/t for Crown II mine coal, an official said. "We're very satisfied with the coal," the official said. Officials said they expect the university's purchase will be more than 21,000 tons over the coming fiscal year. Eastern Illinois contracted for the supply last year (4-26-93 *Coal Week*) on specification of 10,600 Btu/lb., 4 percent sulfur, 9 percent ash, 16.5 percent moisture, size 1 1/4 x 1/4-inch, with maximum 5 percent passing through a 1/4-inch screen.

from: Coal Week
5/30/94

The University of Illinois board of trustees last week approved a three-year agreement with Freeman United Coal Co. under which the Champagne-Urbana IL school's estimated 80,000-100,000 t/y coal needs will be supplied from the Crown mine at an FOB mine price of $18.90/t, plus $7.97/t transportation and .50-cents/t gypsum and ash removal, or a delivered price of $27.37/t. The coal will contain 10,800 Btu/lb., 3.49 percent sulfur on an as-received basis.

Crown II

From Coal Week, April 11, 1994

FREEMAN COAL MINING COMPANY
DIVISION OF MATERIAL SERVICE CORPORATION
P. O. BOX 100 · WEST FRANKFORT, ILLINOIS 62896 · 618/932-2164

April 2, 1974

Russell T. Dawe, Director
State of Illinois
Department of Mines and Minerals
Springfield, Illinois 62706

Dear Mr. Dawe:

I wish to make formal notice of Freeman Coal Mining Company commitment for a new coal mine in the Virden area of Macoupin County. We hope to have contractors on the site doing the preparatory work for the construction in the very near future.

As required in Section 306 of the Act, the proposed mine location is:

NW¼ of Sec. 23, Township 12 North, Range 6 West, all in Macoupin County, Illinois.

All correspondence should be addressed to:

Freeman Coal Mining Company
P. O. Box 100
West Frankfort, Illinois 62896

Crown No 2 Mine

In the near future, when a construction office has been established, we will furnish you this address.

Very truly yours,

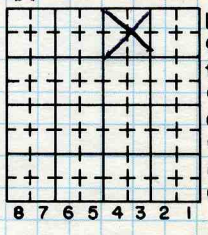
FREEMAN COAL MINING COMPANY

M. V. Harrell

M. V. Harrell
Vice President of Operations

Freeman Crown No. 2
Face Channel Sample, RBN, LEB 8/8/75
Location: NW NE (?), Sec. 22, T. 12 N., R. 6 W., Macoupin County
Approx. 100' from bottom of man and materials shaft in face of south entry.
Ls (Brereton) - est. 5.5'
Sh (Anna) - dark gray to black, fairly-well laminated, approx. 3.5' thick
Coal (Herrin-No. 6) - 8.0' measured

0'-1.2'	Coal - Normally bright banded, slight amount of pyrite on cleats.
1.2'-1.22'	Pyrite band - Fairly persistant.
1.22'-1.92'	Coal - Normally bright banded.
1.92'-2.12'	Pyrite band - Fairly lenticular.
2.12'-2.82'	Coal - Normally bright banded, small amount of calcite on cleats.
2.82'-2.92'	Fusain band - Fairly hard with vitrain laminae.
2.92'-3.12'	Coal - Normally bright banded.
3.12'-3.22'	Coal - Normally bright banded with several elongate pyrite lenses up to 0.03' thick.
3.22'-3.37'	Coal - Normally bright banded.
3.37'-3.43'	Fusain - Hard, bony.
3.43'-3.73'	Coal - Normally bright banded, contains fusain bands.
3.73'-3.80'	Shale - Dark gray with pyrite nodules up to 0.04' thick.
3.80'-4.95'	Coal - Normally bright banded, slight amount of calcite on cleats.



By_____ Date_____

Quadrangle_____

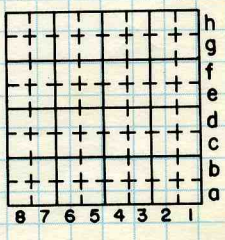
County_____ Sec._____ T._____ R._____

C18870 + C18871

4.95'-4.97'	Shale - Dark gray.
4.97'-5.62'	Coal - Normally bright banded, with some calcite and kaolinite on cleats.
5.62'-5.68'	Shale (blue band) - Medium gray to medium dark gray. Contains some pyrite stringers (EXCLUDED).
5.68'-8.23'	Coal - Normally bright banded, hard, fairly massive.

Cleat strikes: N 53° E, N 40° W.

Clat



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Quadrangle_____

County_____ Sec._____ T_____ R_____

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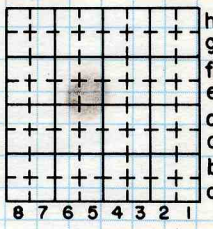

By_____ Date_____

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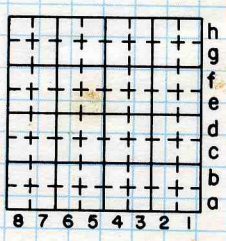

By_____ Date_____

Quadrangle_____

County_____ Sec._____ T._____ R._____

SURVEY GEOLOGIST HIRED AT CROWN # 2

March 22, 1976

On March 22, 1976, Christopher Ledvina began work at Freeman Crown # 2 as Assistant to the Superintendent. His basic assignment is to act as a liason between the superintendent, Harry Combs, and the working sections underground. In addition to this he is mapping the entire mine geologically and applying geologic knowledge to roof control procedures, a "first" in Illinois mining.

Ledvina was a research assistant at the I.S.G.S. and he participated in the Herrin (No. 6) Coal Roof Study from Jan. 1974 through March 1976. Theories develped in the roof study are now being put into practice at Crown # 2.

John Nelson

mn_act_ macoupin_01.tif

Tipple of Crown II Mine viewed from the northwest. This and the following color prints were taken by John Nelson in June 1976.

John C. Moore Corporation, Rochester, N.Y. 14604
MOORE'S MODERN METHODS
FORM 180 W

mn_act_macoudin-02.tif

View of the slope mouth and a portion of the preparation plant. Silo at left is for raw coal. At the time this picture was taken, the mine was still under construction and coal was not yet being moved from the slope.

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Car emerging from the slope mouth. The upper compartment of the slope has a conveyor belt for raising coal from the mine. The belt was not yet in operation when the picture was taken.

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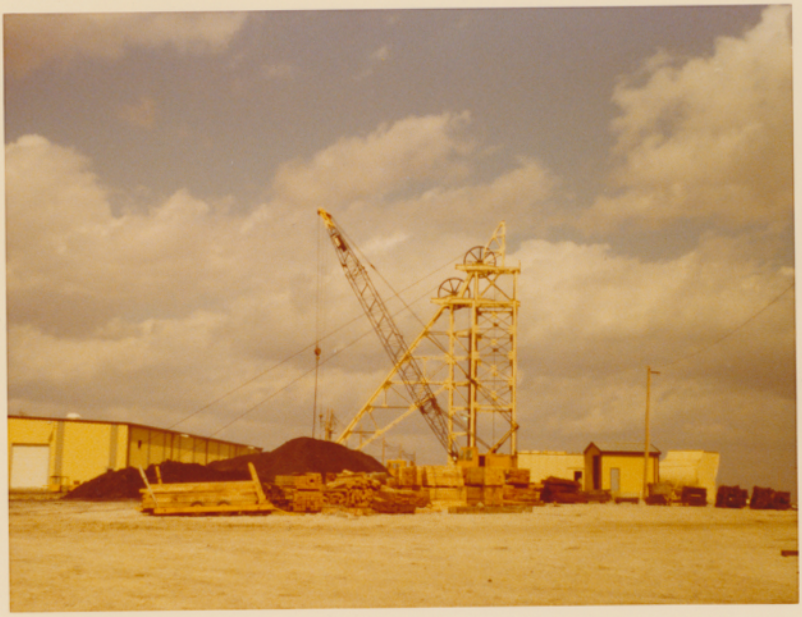

Headframe of hoisting shaft, with fan house at right. Building at left contains hoisting equipment, offices, and washrooms for miners. At the time the photo was taken coal was being mined around the shaft bottom, and hoisted in cars in the shaft. The crane would lift the cars and dump the coal onto the pile seen to the left of the shaft.

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Equipment in yard, including continuous miner (partially assembled, in foreground), shuttle cars (orange), rolls of conveyor belting, and piles of timbers.

mn-act-macoupin_06.tif

Christopher Ledvina, assistant to the superintendent, with piles of roof bolts and other material.

John C. Moore Corporation, Rochester, N.Y. 14604
FORM 180 W

mn-act-macoupin-07.tif

Chris in a battery-powered man trip. To the right of the mantrip is a shuttle car; behind and left of man trip is a transformer for the working face.

mn_act_macoupin_08.tif

A twin-boom roof bolting machine in the yard at Crown II Mine.

Freeman United Coal Mining Company. Crown #2 Virden, Macoupin County, Illinois. June 2, 1976. Roger Nance, John Nelson with Christopher Ledvina from the company. (Assistant to the Superintendent)

Bench Sample Taken for (U.) I.S.G.S. Herrin (No. 6) Coal. Roof - Shale (Anna) - Black, "slaty", well laminated. Occasional niggerheads, prominent jointing.

LO 1444 - 1452

0'-1.7'	Coal - Normally bright banded, few thin boney bands near top, lenticular thin pyrite band 0.4' above base. Pyrite on cleats in upper half of unit. Bench 1
1.7'-1.73'	Shale - Medium gray, included in Bench 1. Why (USGS system)
1.73'-2.65'	Coal - Normally bright banded, some calcite on cleats. Bench 2
2.65'-2.70'	Shale - Medium gray, contains some pyrite nodules. Included in Bench 2. why? (USGS system)
2.70'-3.60'	Coal - Normally bright banded, slight amount of calcite on cleats. Bench 3.
3.60'-3.64'	Pyrite band, lenticular, included in Bench 3.
3.64'-5.44'	Coal - Normally bright banded, contains an 0.02' thick calcareous fusain band 0.65' below top, and a few thin lenticular pyrite bands in lower 0.6'. Bench 4.
5.44'-5.49'	Shale - "Blue Band" - Medium gray. Sampled separately.
5.49'-7.24'	Coal - Normally bright banded, few thin fusain bands, thin lenticular pyrite band at base. Bench 5.

7.24'-8.24' Coal - Normally bright banded, slightly less cleated. Bench 6.

Floor Claystone (Seatrock) - Medium gray, soft, weak, slickensided, large carbonaceous plant fragments.

Location of Bench Sample:

Stop 1 on map
3½ crosscuts north of temporary bin on slope (point where slope intersects mine workings.)
Shaft is NW NE Section 23-12N-6W, Macoupin County.

Maps from today's visit filed in case 10-3-3 in Confidential Room. Numbered notes refer to stops on map.

Two working sections now operating in mine. The north section is loading directly on the belt in the slope. A Jeffrey 120-M miner loads a 10-S Joy Shuttle car which runs to a Stamler ratio feeder at the belt.

At the South face the shuttle car runs to the cage and dumps on the ground, where a Jeffrey 202 loading machine loads rubber tired cars on the cage. These are hoisted to the surface and dumped into a large pile just south of the cage. This coal is trucked to the power plant in Fulton County, near Canton, and will form the base of their stockpile.

The slope belt takes coal from the north face into the prep plant and this coal is loaded into unit trains. Work is continuing at the base of the slope to prepare the surge bin some 30 ft. below coal level. (See note 6.)

(1.) Location of bench sample. Prominent jointing in Anna Shale roof. Primary 045°, about 3-4 per foot, secondary 135°, irregularly spaced, maybe 1 per foot average. Both prominent and distinct.
Concretions are common.

In this bottom area development work 5' and 6' resin roof bolts are used. The plan is to use mechanical roof bolts in future entry and panel work.

Photos 1 & 2 - Bench Samples.

Normally 6" of top coal is left and 6" of floor is removed.

(2.) Stop (photo 3) - slip

(3.) Stop (photo 4)
Joint system with phophatic lenses in Anna Shale.
(photo 5)
Phosphatic lenses, same stop

Photos 6&7 - Chris & Roger

④ Roof Fall, the only one to date in the mine, located in a 3-way intersection. Considerable water dripping. Section from top:

Top	Shale - Greenish gray, strongly mottled, poorly and wavy bedded, finely silty, heavily slickensided. Apparant tree-trunk impressions visible. Forms flat irregular top of fall about 8 ft. in diameter (may be near base of Bankstone Fork Limestone.)
4.5-5.0	Siltstone to very fine sandstone - Light gray, micaceous, firm, thin bedded, fairly hard and appears non-porous. Discontinuous darker shaley interlaminations. Dripping water at numerous locations. Anvil Rock Sandstone member.
1.0 ≠	Shale - Variable; brownish to greenish gray, mottled, weak, poorly bedded, faint banding, varies in thickness. Contact fairly sharp on west side of fall is what appears to be a small channel about 2 ft. wide and 1 ft. deep, with splitting and interfingering of Anna Shale into the sides. Photo 9
4.0 ≠	Shale (Anna) - Dark gray to black, firm, well bedded but generally not fissile; vertical jointing present but not conspicuous. Contains Orbiculoides. Large oval pyrite "niggerhead" concretions in lower half, some with white calcite septarian fractures. These concretions average 0.5' thick x 2.0' diameter
1.0' max	(At NW corner of fall only) Shale (Energy?) - Medium dark gray, smooth firm, well bedded, jointed 135° direction. Occurs in a roll or series of rolls about 15' wide, 1' deep at NW corner of fall. Thin coal "riders" above at edge of roll, else-

where contact to Anna Shale appears to grade. Conspicuous large tawny brown calcite coal balls are abundant in top coal below the rolls, and nowhere else, concretions in Anna Shale are higher in the unit (halfway to top) above the rolls.

Photo 8 - General view of fall looking north (did not come out)
Photo 9 - Small channel at Lawson (?) Anna contact.
Photo 10- Roll feature and coal balls.

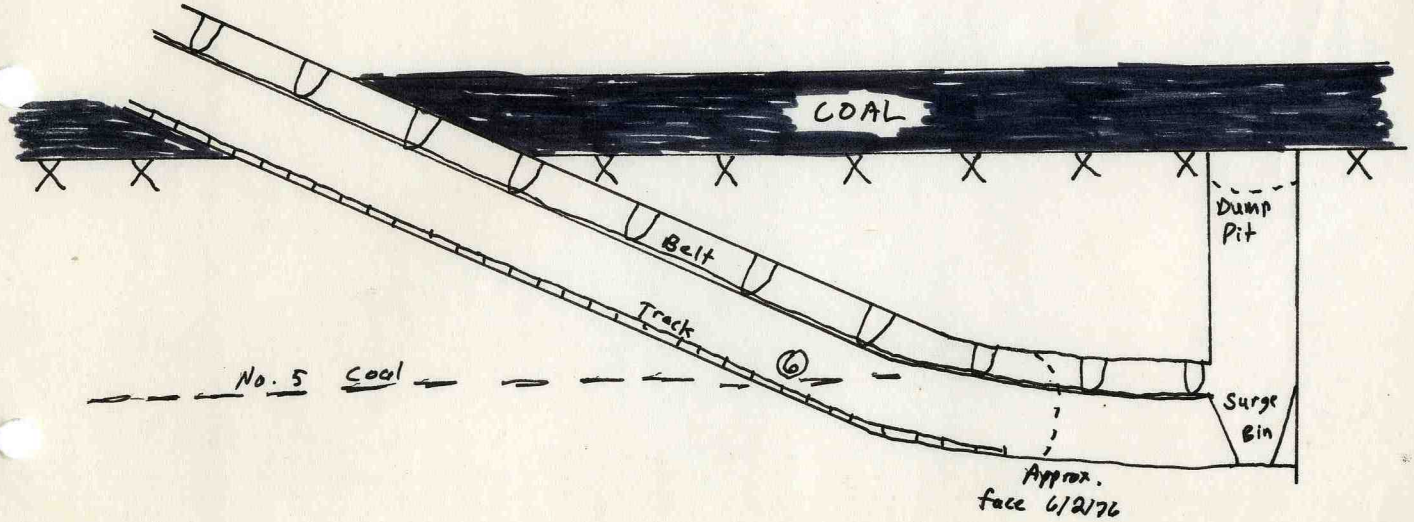
Coal approximately 7.5' thick here. This fall occurred all at once. Two men in the area heard it start to work and so they moved off to the side. About five minutes later the fall occurred. The area was wet from the time it was mined, about four or five days earlier. Fall occurred about 10 a.m. Saturday, April 24, 1976.

Entry to north is thoroughly propped, as is crosscut east to stopping. More medium gray Energy Shale (?) noted to north.

(5) Small fall along slips among props. Two slips about 120/45° SW displace top of coal by a few inches. About 3 ft. of roof is visible. It is medium dark gray, firm laminated shale with small pyritic concretions, presumably the Energy Shale member.

(6) Near bottom of slope. The slope is driven down below the Herrin (No. 6) Coal, through the floor strata, with about a 15 ft. high roof. There are two levels. The lower is track with cars raised by cable. The upper is conveyor belt for coal.

Diagram of Slope Bottom



At present the shaft is not complete and a mucking machine is digging ahead, dumping the rock into rail cars. The coal conveyor belt is complete to the level of No. 6 Coal and the coal produced by the north section loads onto it. The hole for surge bin is now being drilled and blasted.

The walls and roof of Slope are thoroughly coated with Gunnite. A coal seam is present about 10 ft. above slope bottom - it is about 1.5' thick. We collect a sample by chipping through gunnite. No way to measure and describe a section due to Gunnite. Chris says the coal is Springfield (No. 5) and is overlain by medium gray or medium dark gray shale, grading upward to siltstone. 15-20 ft. below No. 6 Coal and some 10 ft. above present slope bottom.

Current ventilation scheme - the slope lower level is intake air to the face. Slope communicates to mine workings. A 4 ft. diameter tube draws air up out of mine from the face of the slope. The fan is at the surface.

When finished the entire slope will be intake air. Rail will be used in heavy supplies, belt for coal.

Photo 11 - Side-dump mucking car in slope. Chris Ledvina.
Photo 12 - Roger with mucking machine that digs slope.

Face of slope has about 30 shot holes that are fired sequentially. Shooting is at end of shift. Mucking machine loads broken rock into rail car, roof bolts are installed in top, the Gunnite.

(7) Main return. Anna Shale roof, over 6 ft. thick in most places. Bad kink zone and spalling the length of the entry, due to slips and to the 135° joint pattern, which is very persistant. This is almost exactly parallel to the entry; furthermore, the thick-

ness of the Anna Shale hinders roof control. Bolts are 6 ft. resin.

8. Small roof fall along a big slip trending 045°/35° NW about 0.3' displacement. Lawson Shale directly overlies Anna Shale. Roof bolters found no limestone in 10 ft.

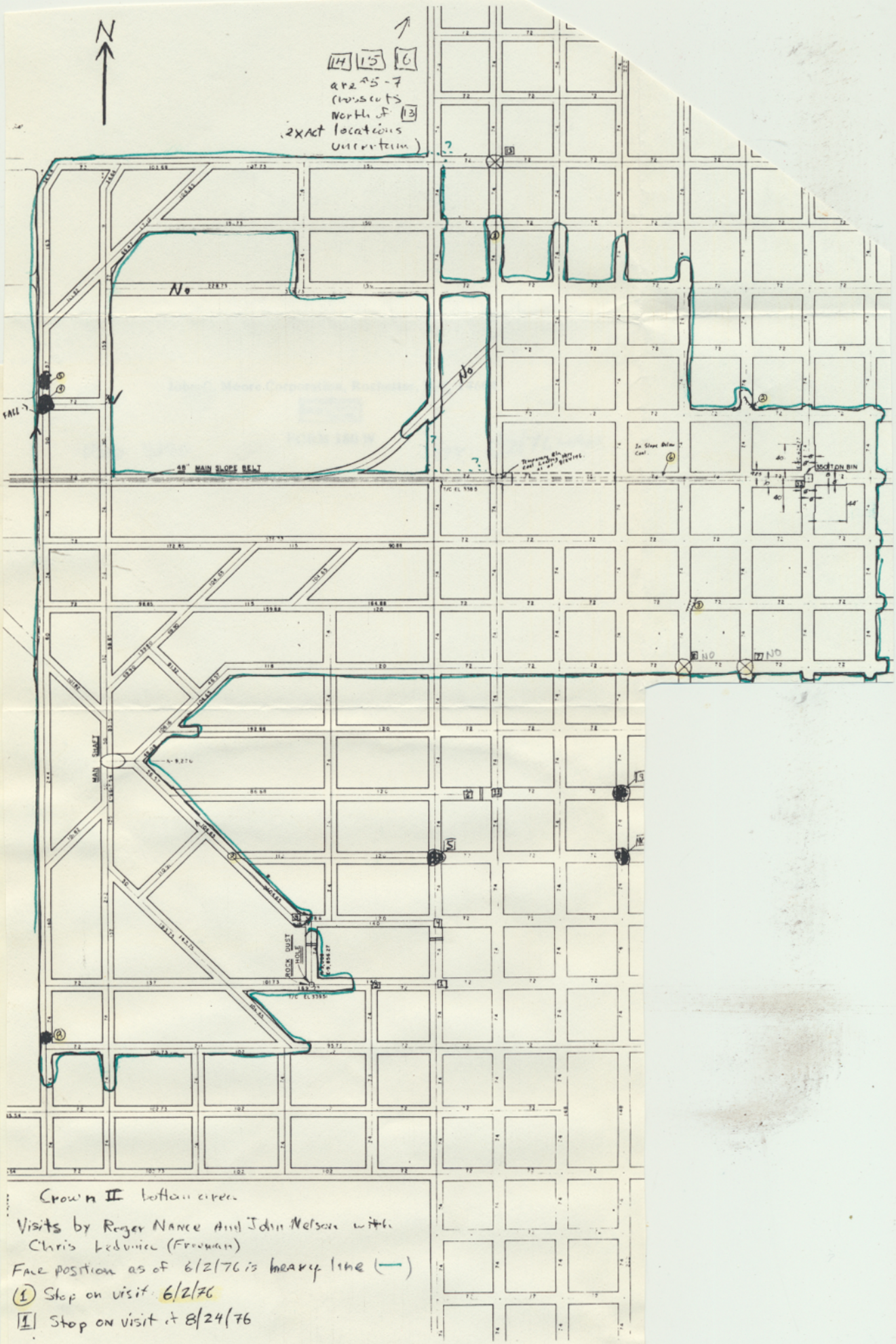
0.5' Exposed Shale (Lawson) - Green-gray, strongly mottled, very weak and soft, poorly bedded. Dripping water. Sharp contact

2.5 Shale (Anna) - Very dark gray to black, hard, smooth, fissile, well laminated, very well jointed - 135° direction dominates. Joints penetrate to top of unit, do not appear to enter the Lawson Shale. Small slips noted in Lawson and Anna Shale displacing the contact slightly. Unit lighter color at bottom - possible Energy Shale at base.

COAL

Prep plant actually two complete systems. Coal is washed, screened, dried, and re-mixed; no sizing. This goes to a power plant near Canton, Illinois. Cyclone driers for fine coal. The water is recirculated through the plant. The slurry is sold for its fine coal, to power plant (?). The gob will be sent back underground as a water slurry to worked-out panels to fill them and prevent ground subsidence and avoid big gob pile on surface.

Coal from mine mouth can be routed through prep plant or directly sent out ran. All stored in concrete silos - 12,000 tons each (raw and cleaned)



Crown II bottom crews

Visits by Roger Nance and John Nelson with Chris Ledvina (Foreman)

Face position as of 6/2/76 is heavy line (—)

(1) Stop on visit 6/2/76

[1] Stop on visit of 8/24/76

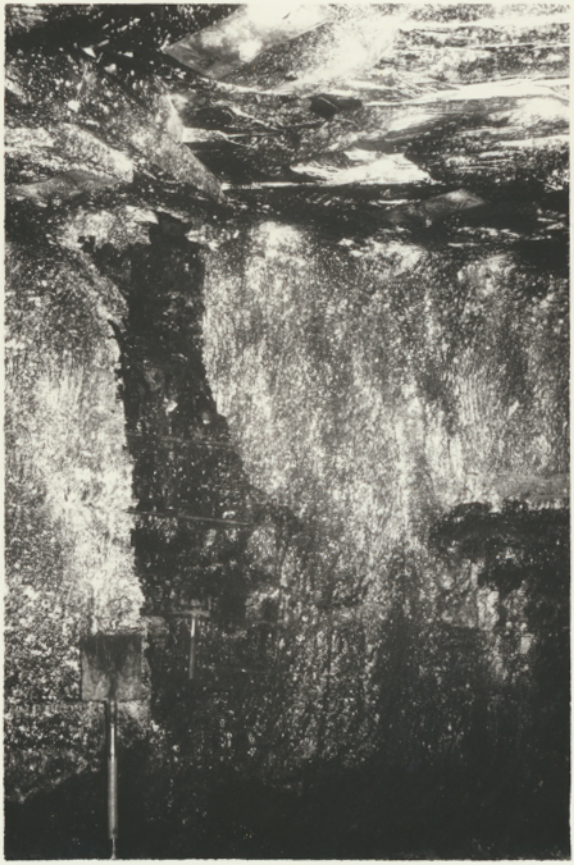


PHOTO 1

Coal face where bench sample was taken.

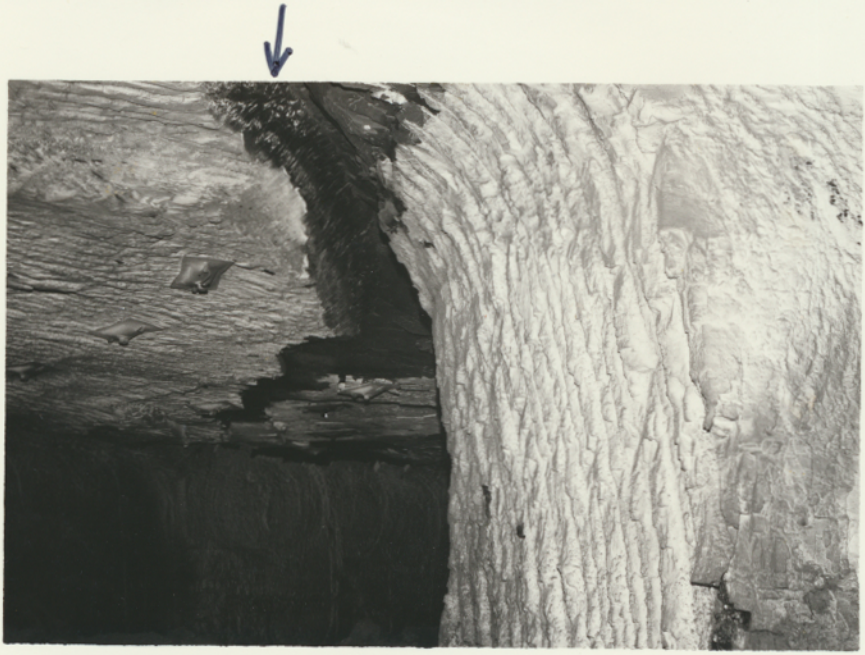


PHOTO 3

Small slickensided slip-fracture in roof (arrow)

PHOTO 4

Prominent parallel jointing in Anna Shale.

PHOTO 5

Jointing in Anna Shale. Prominent small light-colored phosphatic lenses and laminae in shale, lower half of photo.

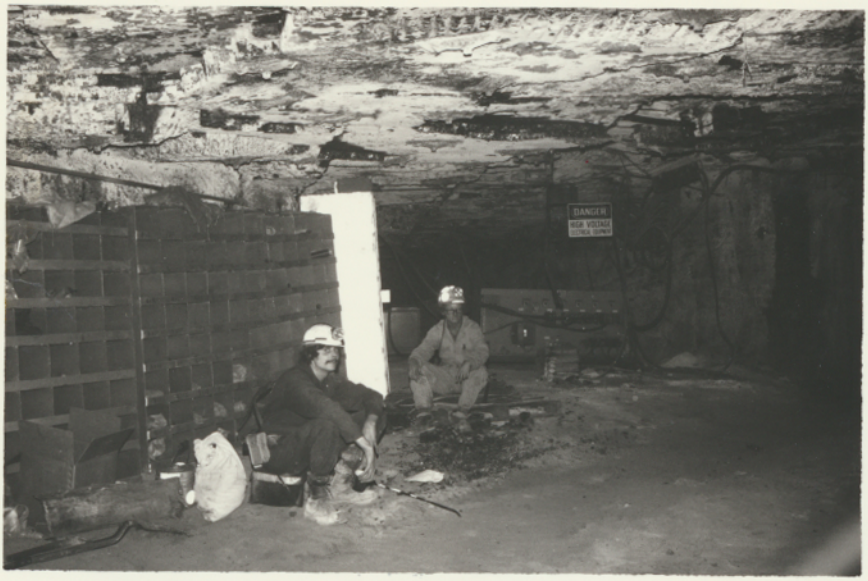


PHOTO 6

Supply room just NW of shaft bottom. Chris Ledvina (left) and Roger Nance.

PHOTO 9

Small channel of light-colored siltstone into dark shale (just above top of ruler). This is looking west in the large roof fall.

PHOTO 10

Roll feature and coal balls in roof fall. Riders of coal near ruler top extend irregularly into the roof shale. Coal balls are marked with "X".

Site 4 June 2 76
(Just NNW of shaft)

mn_act-macoupin_09.tif

PHOTO 11

Chris Ledvina with side-dump mucking car in slope under construction. The car is used to carry rock to the surface.

mn_act_macoupin_10.tif

PHOTO 12

Roger Nance with mucking machine in slope. This machine loads broken rock into mucking car.

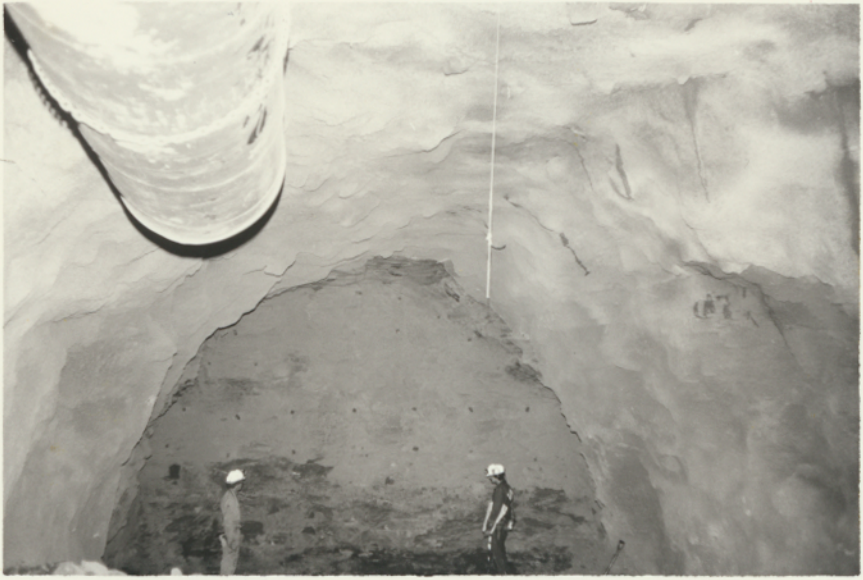


PHOTO 13

Face of slope, about 30 ft. below No. 6 Coal. Note shot holes drilled in face. Roger Nance (left), Chris Ledvina.

PHOTO 14

Surface works at Crown II. Maintenance shop at left, then wash house, then man-and-materials shaft. Pile of coal behind water tower is from the mine's south face and was loaded out on the cage. Coal from the north face went up the belt directly to the prep plant (not shown here).

PHOTO 15

Closer view of hoisting shaft. The crane is moving a carload of coal from the cage to the big pile.

PHOTO 16

View of Crown II prep plant from the northwest.

Photographs taken in Freeman Crown Mine No. II by John Nelson, June 2, 1976. See text for more details. Camera was a Nikonos 35 mm, with a Bauer electronic flash unit.

Not all photos are here because some were duplicates and some did not come out.

FREEMAN UNITED COAL MINING CO. CROWN MINE NO. 2
Virden, Macoupin County, Ill.

Aug. 24. 1976 John Nelson and Roger Nance with Christopher Ledvina from the company. MAP IN FOLDER 10-3-3 IN CONFIDENTIAL ROOM.

All coal produced is now leaving the mine via conveyor belt- no more loading cars onto cage as was being done during our last visit. Slope is not complete, however. Loading is still at the temporary bin, at coal level in the slope.

Four Jeffrey 120-M continuous miners are in use at present. They are solid-head rippers. Today active faces are in the Main North and the Main East.

1) Clay dike with accompanying slip. Trend approx. 010/50 W. The dike is 0.2-0.3' wide at the top of coal and narrows downward, dying out about a foot below the roof. Bottom of dike obscured by rock dust. Strongly developed reverse drag in footwall. This is a fairly simple clay dike-no branching. Dike widens and deepens to the north, in the crosscut adjacent to the stopping. There the dike branches both laterally and vertically, the roof is irregular and the bedding in the Anna Shale is highly distorted. The shale is less than a foot to about two feet thick and is overlain by Brereton Limestone with very poddy, irregular lower surface.

Small "X" fault (a pair of opposite-dipping faults that intersect near the roof line forming an "X"-pattern) with jumbled shale and clay, coal mixture much like "white-top" in the immediate roof. See sketch (over).

Crown II bottom circa

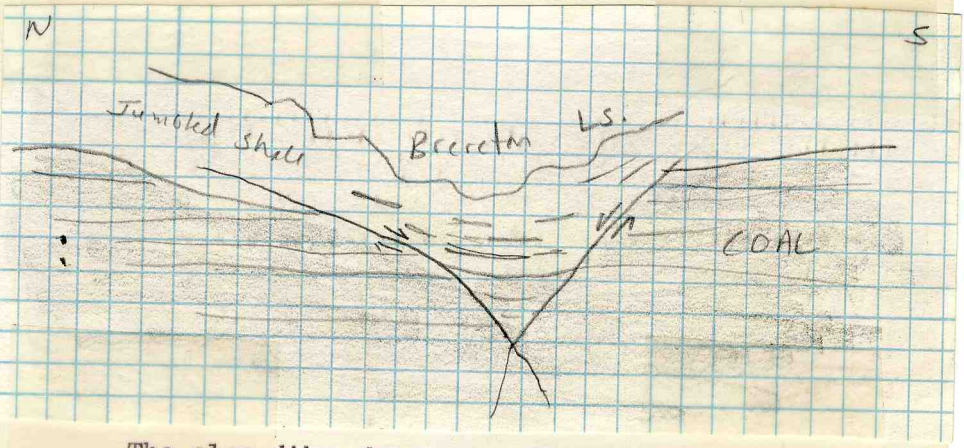
Visits by Roger Nance And John Nelson with Chris Ledvina (Freshman)

Face position as of 6/2/76 is heavy line

(1) Stop on visit 6/2/76

[1] Stop on visit of 8/24/76

"X" Fault and "White-top", looking east.



The clay dikes here are not much different from those seen in other mines of central Illinois or in the Peoria strip-mining district. The clay is medium gray and contains irregular pyrite nodules.

2) Small exposure of black shale (Anna Shale) roof. Very regular, prominent joints trending 040 and 120 . The 040 joints are spaced about 0.4 ft apart and the 120 joints occur at about 1.2 ft intervals.

3) Joints 050 and 140 (approx.) spaced as at Stop 2. Return airway is parallel to the 140 set and has a severe "kink" zone apparently due to the joints. The entry is timbered with rail bar cross-pieces, and cribs are set next to the man-door.

The cleats in the top coal are prominent and are parallel to the joints. Most joints connect directly to cleats in the coal. Several elongate concretions are present in the Anna Shale.

4) Clay dike system continues to branch and expand to north, and in places up to 3 ft of the roof has fallen. Bad top; area is cribbed.

North end of intersection, top is wet and a small pod of Energy Shale is seen in a downfaulted place near center of crosscut. Shale is dark gray, finely laminated

5) Large roof fall which occured about a month ago.

Approximate Section:

TOP- Limestone (Bankston Fork), mottled light brown, very argillaceous, silty, micaceous, bumpy lower surface.

0.5' Shale, greenish-gray, weak, may be claystone. Varies in thickness.

5' Siltstone to sandstone (Anvil Rock), very light gray, argillaceous, micaceous, finely laminated, seeping water at base. Sharp lower contact.

0.5' Claystone, light greenish-gray, mottled, weak, wet. Sharp contact.

0.2-1.5'(Average about 0.5') Shale (Anna), black, hard, fissile, finely laminated. Appears to have sharp lower contact. Varies in thickness.

3.5' Shale (Energy), dark gray, firm, finely laminated micaceous, finely silty, trace of very fine carbonaceous debris. Contains very well-preserved, pyritized small pectenoid pelecypods. Vertical jointing, widely spaced, about 050 trend.

7.5' Coal (Herrin- No. 6)

Minor water seepage. Fall due to lack of competent layers in roof. Clay dikes not present here (they die out in crosscut to south). No faults or major slips.

Photo 1- Looking north in fall.

In middle of intersection we find fragments of the Bankston Fork Limestone fallen from roof. It contains what appears to be small bones, 0.02' in diameter, circular in cross-section, up to 0.20' in length, and straight or slightly curved. Outer surface is black, interior is brownish-gray, crystalline, probably phosphate. These may be ribs of a fish or small amphibian; though ribs normally have an elliptical cross-section.

6) Fall 4-5' high, to base of Anvil Rock Sandstone.

Minor water dripping. On east side of fall is a series of slips trending about 135/45 NE. These appear to be a primary cause of the fall. Energy Shale occurs here, in irregular, variable pods 2-3 ft thick, riddled with small slips and shear planes. Contact to Anna Shale is hard to pick. Shale appears somewhat jumbled.

7) Pre-bolted overcast. 11-foot holes are drilled in roof, and 5-foot resin bolts installed at the top of the holes. These are coupled to 6-foot extensions below. After resin sets the 6-foot bolt is unscrewed. Then 6-ft-deep shot holes are drilled, and the rock is blasted down. If all goes well the blasting brings down 6 feet of rock, leaving the roof above resin-bolted. Last header boards are installed on the resin bolts.

Chris Ledvina is supervising the construction of these pre-bolted overcasts.

This particular overcast exposes about 3 feet of normal-appearing Anna Shale and 2-3 feet of Brereton Limestone.

8) Overcast, partially pre-bolted. 5 feet of Anna Shale topped by Brereton Limestone. Overcast was shot to base of limestone. These overcasts are shot with dynamite and so all men must be out of the mine during shooting.

9) Large roof fall. Top of fall is smooth, flat, even limestone, buff to cream-colored with darker gray mottling. Believe it is the Bankstone Fork Limestone.

TOP- Base of limestone.

0.5' Shale (Lawson), mottled brownish to greenish-gray, appears weak, poorly bedded. Varies in thickness.

5.0' Shale (Anna), black, hard, fissile, finely laminated, prominent vertical joints 055 and 120 ; numerous light brown phosphatic lenses and laminae in bottom 1 foot; occasional septarian concretions to 2 feet in diameter and 1 foot thick present near base of unit.

8.0' Coal (Herrin-No. 6)

Large northwest-trending slip at northeast corner of intersection. This area was originally bolted with 5-foot resin bolts which ended just short of the limestone. Longer bolts probably would have prevented the fall.

This mine presently uses 5 and 6-foot resin bolts. Areas without limestone get 5-foot bolts. This intersection might have been saved with 6-footers.

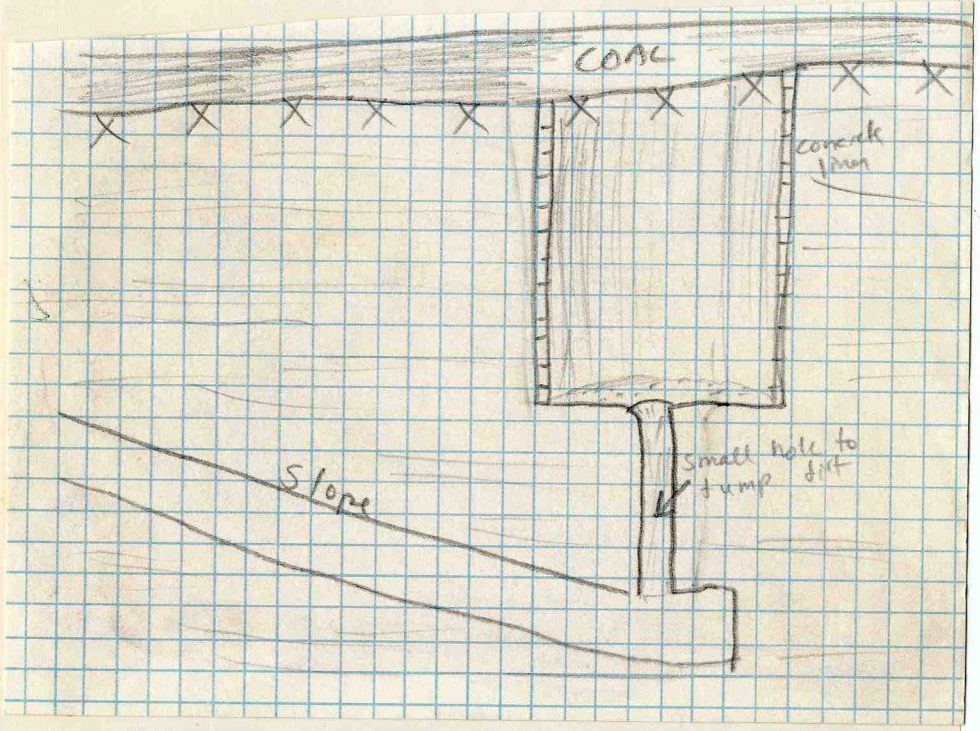
10) Fall very similar to that at Stop 9, but slightly smaller in area. Sides of fall are bounded by 120 joint surfaces in shale. Minor water dripping here as at Stop 9.

11) Falls and bad top; zone of slips and small clay dikes trending approx. north-south. Roof is dripping slightly. 1-2 ft. of badly jumbled Anna Shale overlain very irregularly by Lawson Shale.

In places the Anna Shale contains large abundant lenses of finely sandy phosphatic (?) material in lower 1 foot of roof. In other areas apparent "white-top" is present- a mixture of shale, clay and coal stringers.

The Lawson Shale is light gray to brownish or greenish gray, mottled, very sandy, poorly bedded, and finely carbonaceous. Moderately firm, more so than usual non-sandy mottled shale. This appears to be reworked, as does the Anna Shale. The sand probably is from the Anvil Rock Sandstone, which is not exposed in the roof here.

12) Surge bin is being sunk toward the bottom of the slope (see sketch-over). The hole is being dug from above and the dirt is dumped down a small hole into the slope, where it is loaded out on the belt to the surface. The surge bin has reinforced concrete liner and the area around the top is Mando-sealed. Presently the hole is about 40 ft deep- final depth will be about 100 ft.



13) Overcast shot to base of Bankston Fork (?) Limestone. Only the base of the limestone is exposed. It appears similar to that at Stops 9 and 10. Below is less than 0.2' of light brown, silty shale, grading into typical, normal black Anna Shale. Cannot be sure which limestone forms the roof, but it does not look like the Brereton, as it lacks the typical "clod" and rough, lumpy lower surface.

14) Fall on Main North belt entry (Entry 2). Fall is cribbed, dripping water.

Approximate Section:

4' Sandstone (Anvil Rock), light gray, argillaceous, thinly bedded, carbonaceous, laminated, dripping water. Grades into:

1' Shale, gray to brown, sandy laminae, weak, poorly bedded. Sharp contact:

3-4' Shale (Anna), black, appears normal; concretions

near base. Fairly sharp contact:
2-3' Shale (Energy), dark gray, laminated, forms a wedge-shaped body.
9' Coal (Herrin No. 6)

This fall is near the bottom of a gentle swale or or dip in the coal. This whole area is very wet and dripping, on the travelway (Entry 3) a large pool of water has formed.

15) Face of Main North belt entry (Entry 2). Immediate roof is Energy Shale; dark gray, with pyritized shells and occasional carbonaceous tree trunks. Small east-west slips near face. Wet and dripping area. Inby one slip near the face is 0.3-0.5' of typical-appearing "white top" with abundant coal fragments, associated with a small clay dike. Clay dike in coal is heavily pyritized.

16) Small roof fall in Entry 1 just outby last crosscut at face. This fell yesterday (8/23/76) just after Chris had been standing under it. He said it fell with no warning.

Approximate Section:

2' Sandstone, light brown to greenish-gray, very argillaceous, dripping water. Lower part contains many large hard oval limestone nodules. Bottom contact highly irregular.
1' (thickness varies)
Shale (Anna), dark gray to black, with abundant light green highly irregular veinlets of clay. Bedding indistinct, appears reworked.
1' (north side of fall only)
Shale (Energy), dark gray, carbonaceous, poorly bedded, appears reworked also.
7' Coal (Herrin-No. 6) Top few inches very pyritic, with numerous small pyritic coal balls.

Several small clay dikes lie between here and Stop 15. They are very thin, less than an inch to just a

film of clay, and penetrate up to 4 ft into the coal. Some are pyritized. Typical clay-dike-type slips are associated with them.

A general observation is that in areas where the Anvil Rock Sandstone lies close to the coal (within 5 ft), lower units have disturbed bedding and appear reworked, commonly with intermixed clay, sand, and silt. Slips and fractures are common and top is bad in these areas, with numerous falls. Another observation is that all the rock units in this mine are highly variable in thickness and all are absent in one place or another.

NOTE ON COAL IN SLOPE AT FREEMAN CROWN II

The first persistent coal seam below the Herrin (No. 6) at Crown II lies 15-20' below the No. 6 Coal and is 2-3' thick in most places, overlain by a thick black shale. This coal was penetrated by several drill cores and is exposed in the wall of the production slope, where it was sampled on June 2, 1976 (Stop 6). This sample was submitted to Russ Peppers at the I.S. G.S., and he examined it for spores. This is his report of spore analysis dated October 18, 1976:

"The coal . . . . . contains 43 percent Lycospora granulata, 22 percent Laevigatosporites globosus, 21 percent L. minutus, and 6 percent Punctatisporites minutus. Specimens of Schopfites are rather common. This coal is most likely equivalent to the Lowell or Shawneetown Coal. The only other possibility is the Colchester Coal."

We initially correlated this coal as the Summum (No. 4) and this is how the seam is designated in various core descriptions. These correlations should now be changed to Lowell or Shawneetown Coal on the basis of the spore analysis.

Crown II

PJD. 1/81

Notes taken from Dec. 77 onward are filed in separate notebooks:

Book 1 - Dec '77 to June 30, 1979
Book 2 - July 1, 1979 to Dec 31, 1990
Book 3 - Jan 1, 1991 to 205 '84 PJD
(Currently held in Rm. ~~32~~)

John C. Moore Corporation, Rochester, N.Y. 14604
MOORE'S MODERN METHODS
FORM 180 W

SAMPLE HISTORY

Plant sampled: Crown II Prep Plant Date: Oct. 28, 1992

Company: Freeman United Coal Mining Co. Sample ID: CROWN2 C32773

Company representative: Neal H. Merrifield, vp, undergnd operations
P.O.Box 100, West Frankfort, IL 62896
Dave Webb, Gen Supt, Crown 2, 217-965-5461
also Mr. Tom Kell
Gary Ronald - Forman & Service Manager
Jim Yancik, 618-932-2164, West Frankfort

Mine (source of sample): Crown II

Collected by: WTF & I Demir

Seam identification: Herrin No. 6 Time of closure:

Mining period represented (dates): 10/25-26/92

Panel(s) & location(s) in mine:

Mine locations (descriptive):

¼ or footage section twp rge

Type of Preparation Plant: Built by Roberts and Schaefer in 1976. plant rated at 1500 tons per hour. Normally plant operates at 1200 tons of raw coal per hour with 70 to 82 percent recovery. During visit the plant was running at 600 to 800 raw tons per hour.

Sampling point: # increments:

Belt (describe position in plant) Loading belt

Train 64 - 100 ton cars are owned by Freeman United. Steam coal is delivered by train to CILCO.

Truck Coal is trucked to ADM and Staley

Company's sampling device (yes)

Type: Jeffery two stage sampler, Primary sampler every 3 min. secondary sampler every 1.5 min.

Other (describe)

Half of sample was taken on 10/27/92 (mined on 10/25/92)
second half of sample was taken on 10/28/92 (mined on 10/26/92)

Procedures (describe other aspects): Steam coal (1 1/2' x 0") was sampled during two consecutive night shifts. During the first night shift they produced stoker as well as steam coal. As a result the BTU value between the first and second nights sample will vary. The BTU of the first sample will be lower than the second sample.

Hours of operation during sampling:

10 PM - 8:50 AM on 10/27/92
9077 tons of raw coal, 6887 tons of clean coal.
10 Pm - 6 AM on 10/28/92
6064 tons of raw coal, 4900 tons of clean coal.

Additional Data: A stoker coal sample (1 1/2" x 3/8") was collected at the stock pile.

Freeman, UMWA reach accord; miners set to return to work

A 98-day strike by the United Mine Workers of America against Freeman United Coal Corp. ended Dec. 17 when miners ratified a new four-year labor agreement marked by a departure from the way coal companies traditionally have funded retiree health benefits.

Following the 202 to 154 vote in favor of the accord negotiated personally by UMWA President Cecil Roberts, miners prepared to return to work at 12:01 a.m. on December 21, at Freeman's Industry surface mine at Industry IL and the Crown II and Crown III underground mines near Farmersville IL. The three mines either were idled or in limited production during the lengthy work stoppage. Earlier in the week, Roberts explained terms of the agreement to the rank-and file, telling them he thought the deal was the best he could bring them.

"Freeman and the UMWA worked together to create a new contract to secure a good future for hundreds of employees," company spokesman Steve Cindrich said after the vote. "The new contract provides for good jobs and great wages." Cindrich told Coal Week the pact is based on the 1998 National Bituminous Coal Wage Agreement between the union and the Bituminous Coal Operators Association.

However, there are some important differences.

Foremost is the manner in which retiree medical benefits are financed. The Springfield IL-based company, a subsidiary of General Dynamics Corp., no longer will contribute to the UMWA's national health-care fund for future retirees.

Instead, the company will make monetary payments directly to the miners, who can use the money to purchase the health-care plan of their choice. "The concept is totally different," said a UMWA official. "It's a supplementary pension in which you would buy your medical care. People who already have pensions could opt to stay with the old program."

Here's how the plan will work: Freeman will pay $1,000 a month to a married miner, $500 a month to a single miner. In addition, the company will make a lump-sum payment of $1,250 annually to miners. Some miners, therefore, will receive as much as $13,250 a year from Freeman. They can pocket any money they do not spend for medical care.

Another sticking point during the strike was the so-called "in by, out by" issue. The union agreed to Freeman's request for a "skilled enhancement" fund in the contract.

"If everybody says they want to stay where they're at (in a certain job), that's where they stay," explained the union official. "But if they want enhancement, the company will train you in a couple more jobs." Freeman believes the provision will give it more flexibility in the highly competitive high-sulfur coal market.

According to Cindrich, the union "finally agreed that as the only major coal company mining exclusively in the Illinois Basin, Freeman has some unique challenges." Cindrich acknowledged Freeman "lost business opportunities" during the strike, but would not elaborate. "We're going to be in the process of informing all our customers that we're returning all our mines to full operation," he said.

From Coal Week
V. 19, no. 51, 12/21/98

This is a duplicate set of notes and is included here for general reference. (Crown I)

Notes from Crown mine of Freeman Coal Mining Corp., Farmersville, Ill., by K. Clegg, P. Potter, D. Farris, & J. Simon. Apr. 10, 1956

Most of notes are from main 11, 12, 13, & 14 west entries. Prime consideration given to a wash-out in the No. 6 coal. Samples were collected, photos taken, and field observations on orientation of plant debris and slickensides obtained.

Photo 1 = Full picture of west end of 14 main west. Facing west from a point about 60' west of △ 2574 showing coal, coal-sandstone conglomerate & shale roof.

Photo 2 = Closer view of coal, coal-sandstone conglomerate & shale roof near west end of 14 main west.

Photo 3 = Detail of coal-sandstone conglomerate on south wall of main 14 west. About 30' west of △ 2574

Photo 4 = Picture of west end of 14 main west, showing replacement of coal by siltstone.

Photo 5 = North-west corner of west end of 12 main west ' west of △ 2575. Showing angular unconformity of siltstone over eroded coal.

Samples from Crown mine of Freeman Coal Mining Corporation, Farmersville, Ill., by K. Clegg, P. Potter, D. Farris, & J. Simon (April 10, 1956)

(A) Clay conglomerate. 13 main west entry. Below 3' of coal. 83' west of △ 2572.

(B) Sandstone from south side of 14 main west, 10° west of △ 2574. (oriented)

(C) Oriented specimen from near last crosscut of 14 main west. From above crosscut about 55° west of △ 2574.

(D) South wall of 11 main west. About 140° west of △ 2594.

(E) Oriented sample from 90° west of △ 2594, 11 main west entry.

(F) From "pinch-out" on north wall of 14 main west 60° W. of △ 2574. Sample from "junction" of upper & lower shales. (See samples H & I)

(G) Clay conglomerate from below 3° of coal at location 83° W. of △ 2572 in 13 main west.

(H) Top shale from north side of 14 main west near "pinchout" of coal. 60° west of △ 2574.

(I) Bottom shale from north side of 14 main west near "pinchout" of coal. 60° west of △ 2574.

Entry 14 Main West

Description of lithologies shown on previous pages.

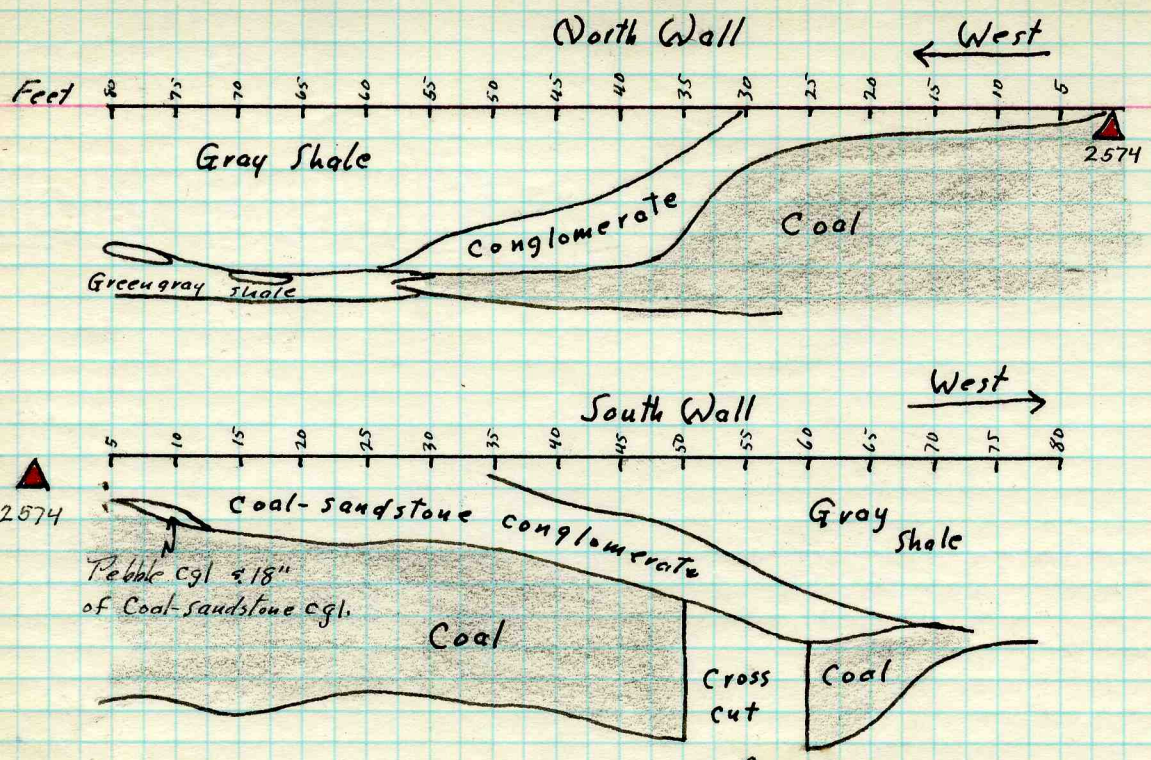
Upper shale: gray, medium grained with irregular silty layers up to 2" thick. Also present are sideritic nodules from 1 to 4" across, and occasional sideritic bands up to 1" thick. Many large plant compressions, mostly stems and trunks

of small trees up to 1". Apparent bedding dips from subhorizontal to as much as 30 degrees. Bedding dips to north on north wall of entry. This shale contains abundant large slickensides west of marker 2574. Their orientation is as follows:

S 39 E	23 S°
N 38 W	23 N
N 36 W	21 N
N 6 W	- N
Due N	- N
N 66 W	12 W
N 73 W	- NW
N 44 W	15 NW
N 42 E	23 NE

Lower shale: gray, greenish gray, dark gray in part and many small slickensides with apparently random orientation. Some carbonaceous and coaly material.

Pictures 1, 2, 3 and 4 were taken. Samples B & C collected.



14 N main west entry

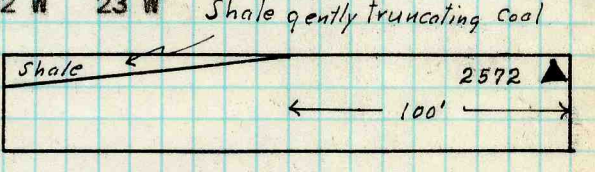
Entry 13 85 feet west of Sta. 2572.

Clay stone conglomerate cutting S 45 W under about 36" of coal. No cutout materials seen on south rib. Hard, gray, clay conglomerate. Unusually hard "flinty" in part. Sixty feet west of Sta. 2572 is a gray, greenish and dark gray, slickensided clay shale under 48" of coal (opposite cross cut). This unit was not seen on the south rib.

A large tree trunk oriented approximately S 45 W occurs 55 west of Sta. 2572 in normal (?) roof. Only bottem few inches of roof seen. Light gray coaly very very carbonaceous, occasionally slip fractured shale. Much plant debris. Bolting to limestone?

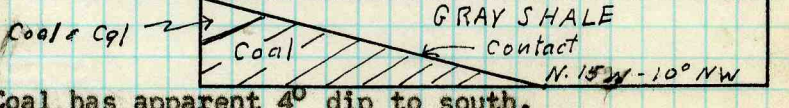
The following slickenside orientations were obtained:

S 32 E	5 S
S 73 E	23 SE
S 35 E	22 SE
S 34 E	12 SE
N 76 E	16 NE
N 3 W	32 N
N 70 E	25 NE
N 45 W	38 NW
N 82 W	23 W



Entry 12

Most of entry shows normal relations except at west end slidkensides are uniformly oriented to northwest.



Coal has apparent 4° dip to south.

Slickensides of entry 12 are dipping as follows (quadrang orientation only):

NW	N
NW	NW
N	NW
E	NW
N	NW
NW	NW
SE	N
NW	NW
N	NW
NW	NW
	N
	N
	NW
	N

Entry 11 90 feet west of Sta. 2594.

Channel appears at west end of entry. Upper 1 foot of coal has a sand and coal conglomerate. This is overlain by a uniform, medium gray, siltstone that is finely laminated. An oriented sample, (Specimen (E)), was obtained from the siltstone and sandstone congl. Only two slickensides observed (because coal forms most of roof), one dipping to the NW, the other to the north.

FREEMAN UNITED COAL MINING CO. CROWN MINE II

Notes of Office Visit December 13, 1977 John Nelson

Met with Frank Padovic, general superintendent of mines, Harold Combs, superintendent of Crown II, and Roger Nance, geologist from Mt. Vernon office, to discuss upcoming mine visit. Crown II has been experiencing severe problems with roof and water and so Freeman has requested the Survey's help in learning the cause of the problem and what, if anything, can be done about it. It appears that we may be mapping the entire mine geologically.

When Chris Ledvina was working at the mine he kept a geologic map, but he has been gone almost a year and no mapping has been done since then. When Chris left the mine only the immediate bottom area had been mined and mapped. There has been considerable development since that time and the water and roof troubles encountered are worse than anything near the slope bottom. Flooding is especially severe in panels south off the Main East.

There are 12 working sections, only 7 of which are operated on a shift. All have Jeffrey continuous miners and shuttle car haulage. The mine has conveyor belt for coal and trackless haulage for men and materials.

Roof control is with 6' resin bolts and/or 3-6' conventional bolts. It is normal practice to anchor bolts at least 18" into the first competent bed, usually limestone. We know that 6 foot bolts are too short in areas where the Brereton Limestone does not exist. Roof trusses and cribs are used for supplemental support in some areas.

The mine has been idle since December 6 because of the U.M.W.A. contract strike, which is expected to run a month or more.

Sample Index (mostly DeMaris samples)

Crown II A-1 to A-8 (inc. CP-2004 & -2040)	Jan. 24-5,'78 notes
L-1832 (Gluskoter)	Feb.7-9, '78, p. 8 in notes
Crown II B-1 to B-10 (inc. CP-2037)	Mar. 28-30,'78 notes
Crown II C-1 to C-3 (inc. CP-2038 & -2039) Other samps. by DiMichele and Mahaffy	May 16-17,'78 notes
Crown II D-1 to D-5	June 13-15,'78 notes
Crown II D-6	June 30, 1978 notes
Crown II E-1 to E-8	Aug. 17-18, '78 notes
Crown II F-1 to F-7 (incl. MAC, 2506 + C-20623 And C-21350)	Nov 7-8, 1978 notes
Crown II - G-1 And compression Flora samples CII - G-2	Feb 27-8, 1979 Mar. 30, 79
Crown II - H-1 to -H-14 And "SP" samples of ss.	April 19-20, 1979
Crown II - I-1 to -I-16 (And P-)	June 27-8, 1979

Dec. 77 to Jan 78

Dec.-Jan'78