depth 273'
Thk. 5'3" "Scow

Abandoned 10/68

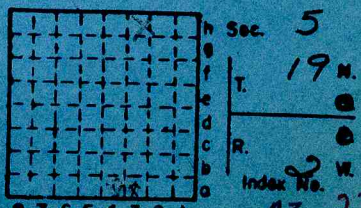
EI-B Coal Co. EI Ben #2
~~Logan County COAL Mine, Inc. #1~~

~~Lincoln Coal Mine, Mine #1~~

~~Deer Creek C.C.~~
~~Lincoln Mng. Co., 1~~

Mine Index # 639

LOGAN County



3/11/86

Abandoned mines in Logan, Macoupin to be cleaned up

SPFLD JR 3-11

Two abandoned mines in Logan and Macoupin counties will be cleaned up with part of $10.2 million in federal money awarded to the state for mine reclamation.

The Virden Mining Co. mine in Virden and the El-Ben Coal Company No. 2 mine southeast of Lincoln are among 27 abandoned mines in the state to be cleaned up this year. Both are considered relatively small-scale reclamation projects.

The estimated cost of cleaning the Virden site is about $75,000. Work is expected to start this spring on clearing about 3 acres of scattered refuse. Abandoned buildings on about 2½ acres of the site will be razed.

In addition to the buildings and refuse on the site itself, the Virden mine is considered hazardous because acidic run-off has contaminated about 5 acres of surrounding land.

The Logan site will cost about $100,000 to clean up, including elimination of a 15-foot-high gob pile and a slurry area. The 7½ acre site includes a filled shaft that will have to be refilled because of settling.

A total of 27 abandoned mine sites in 18 counties, totaling nearly 870 acres of land, will be reclaimed with the $10.2 million grant. In most cases, reclaimed mine sites are useless for little more than wildlife habitat.

Money for the reclamation comes from the federal Office of Surface Mining from a production fee on mined coal. Half of the money is returned to the states for reclamation efforts.

Mines covered by the program are those that ceased production before August 1977. After that date, coal companies were required to have their own reclamation plans.

Since 1980, the state has reclaimed about 11,000 acres of abandoned mine property. Another 9,000 acres is targeted for reclamation.

Logan 19N 2W 5

EL-BEN

12471

MOORE'S MODERN METHODS

Mine originally operated by: (1)

Date

1936 Steve Bennis

Original name or number: Deer Creek Mine

Illinois Coal Report p. operator's report 1948

LATER OPERATORS

	Date	Operator	Name or No.
	1937-1939	Deer Creek Coal Co.	
2	1941	Deer Creek Coal Company Lincoln, Illinois	
3	1949	Steve Bennis-"Deer Creek Mine"	
4	1954	Deer Creek C. C.	
5	1956	Deer Creek C. C. / Lincoln C. Mng. Co.	#1
6			
7	1960	Lincoln Coal Mine	Mine # 1 49528 tons
8	1963	Logan County Coal Mine # 1	
9	1964	Logan County Coal Mine # 1 (Inc.)	
sept 10	1965	El-B Coal Co. #	El-Ben # 2
Nov 11	1968	closed	
12			
13			
14	NE 1/2 NE 1/4	(1948)	

*Also owners #See ownership sheet

Railroad, Wagon, Strip, Idle, Abandoned 10/68

268' (1948) To coal

Shaft

IDENTIFICATION

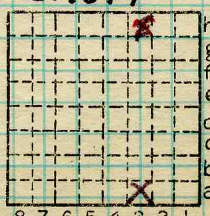
County No. _____ Coal No.

Coal Report No. L-1 □ 5

(1948) 5'2"

Quad. Lincoln

County Logan



Sec. 8 5

T. 17 N.

R. 2 E. W.

Index No. 1008 A3 5

COAL MINE OPERATOR

MOORE'S MODERN METHODS

Deer Creek Mine

(Sheets) COAL PRODUCTION (Sheet)

Period Mo.	Day	Year	Mo.	Day	Year	Tons	
1940						11	400
1941						28	177
1942						48	240
1943						43	721
1944						51	594
1945						58	489
1946						50	510
1947						52	778
1948						49	528
49						51	074
50						49	920
51						48	256
52						34	308
1953						33	710
1954						32	597
1955						27	536
1956		Deer Crk.				3	277
1956		Lincoln				10	325
1957						30	235
1958						30	079
1959						24	611
1960						7	730
1961						25	876
1962						20	552

SUMMARIES

No.	to	No.		
1939 -	1939		45	977

Railroad, Wagon, Strip, Idle, Abandoned 10/68 Shaft

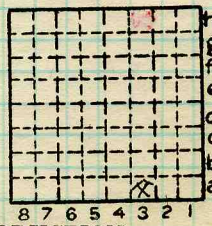
IDENTIFICATION

County No. _____ Coal No. □5

Coal Report No. L-1

Quad. Lincoln

County Logan



Sec. 35

T. 19 N.

R. 2 W.

Index No. 100 X A3 5

COAL MINE—PRODUCTION

ILLINOIS GEOLOGICAL SURVEY, URBANA

(2732—2M—7-41)

(Sheets) COAL PRODUCTION (Sheet)

Period Mo.	Day	Year	Mo.	Day	Year	Tons		
		1963				19	826	
		1964				21	899	
Logan Co. C. M. #1		1965				11	631	15,882
E I - B Coal Co. E I - B on #2		1965				4,	251	
		1966				19,	477	
		1967				18	880	
		1968				22	929	

SUMMARIES

No. to No.

Railroad, Wagon, Strip, Idle, Abandoned 10/69 Shaft

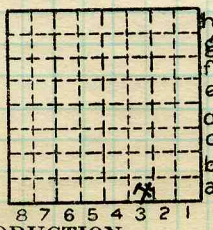
IDENTIFICATION

County No. Coal No. 5

Coal Report No. L-1

Quad. Lincoln

County Logan



COAL MINE—PRODUCTION

ILLINOIS GEOLOGICAL SURVEY, URBANA

(2732—2M—7-41)

EL-B COAL CO. EL-BEN MINE NO. 2 LOGAN COUNTY

Heinz Damberger of the I.S.G.S. visited this mine several times in the latter part of 1968 in the course of a study of clay dikes or "horsebacks" in Illinois coal seams. He was accompanied on at least some of these trips by Ken E. Clegg of the Survey, and by Ronald Kern, at the time a graduate student in Geology at the U. of I. According to both Kern and Clegg, Damberger made numerous notes on his visits to El-Ben. These notes apparently are lost. Damberger was notoriously sloppy about filing his mine notes.

→ Some, at least, are found and included here.

The following are photographs made by Damberger on several of his visits to El-Ben. These notes were found by Bob Ringler on 6/17/76, in a filing cabinet in Damberger's former office after Damberger had left the Survey. Also found in that cabinet was a ring binder containing more photos with captions, and notes and text relating to this and other visits This notebook is now stored in the Coal Section Confidential Room (as of June 1976.) It is labelled "HHD, Clastic Dikes Ms."

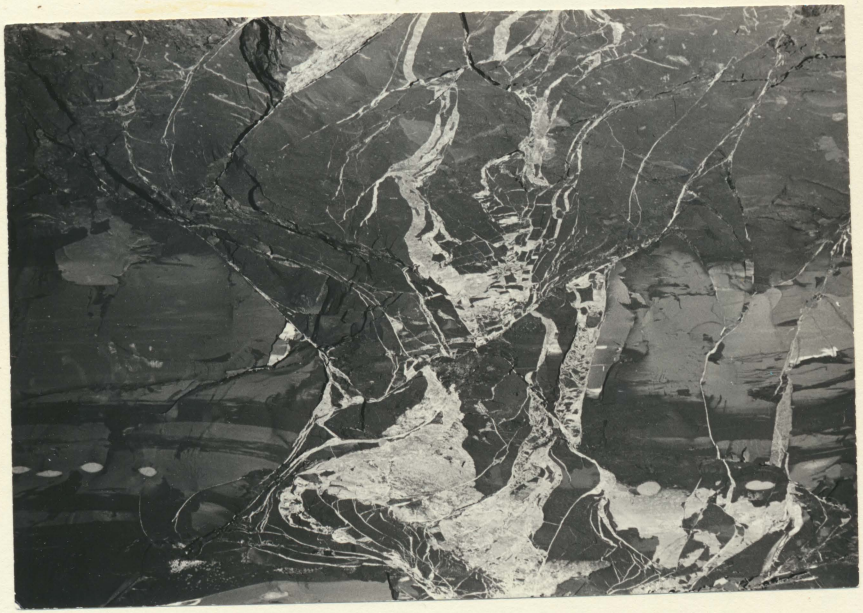
John Nelson 6/23/76

(Photo on next page) A large clay dike in the Springfield (No. 5) Coal and roof at the El-Ben Mine. The dike runs approximately vertical through the coal seam and about 2 ft. into the black shale roof. At this point the dike splits and diverges into many thin veinlets, forming a pattern much like the branches of a tree. Several of these branches converge higher up in the roof sequence, at the St. David Limestone Member (top center of photo.)

Photo by Heinz Damberger, 10/23/68, film # 4/16

MA_16_001.tif

Ronald Kern pointing to same clay dike. Although Ron did a considerable amount of work on the study of clastic dikes, Damberger never mentioned his name in any of his publications on the subject. Similar controversies erupted in the Herrin (No.6) Coal Roof Study in 1975 when Damberger refused to acknowledge the work of co-workers Nelson and Ledvina in publications.



Closeup of upper part of same clay dike, showing branching divergence of clay material, and fractures in the roof. Note also the slight downward bending of the roof shale adjacent to the fractures in the left-hand side of the photo.

Photo Damberger 10/23/68 film # 4/6

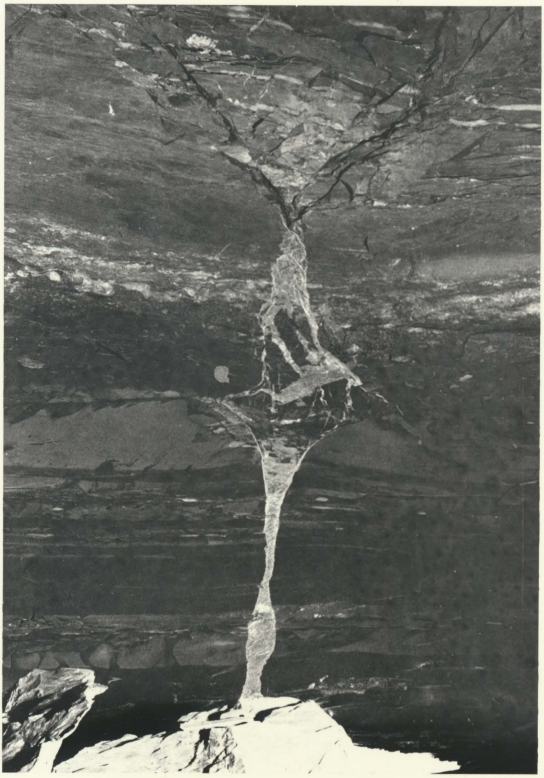
Upper right-hand portion of same clay dike, showing branching veinlets and fractures in roof.

MA_18_004.tif

Same clay dike, opposite side of entry. Top of roof is the St. David Limestone. Effect of clay dike on stratification of roof rock is small; most pronounced near top of coal seam.

MN_16_005.tif

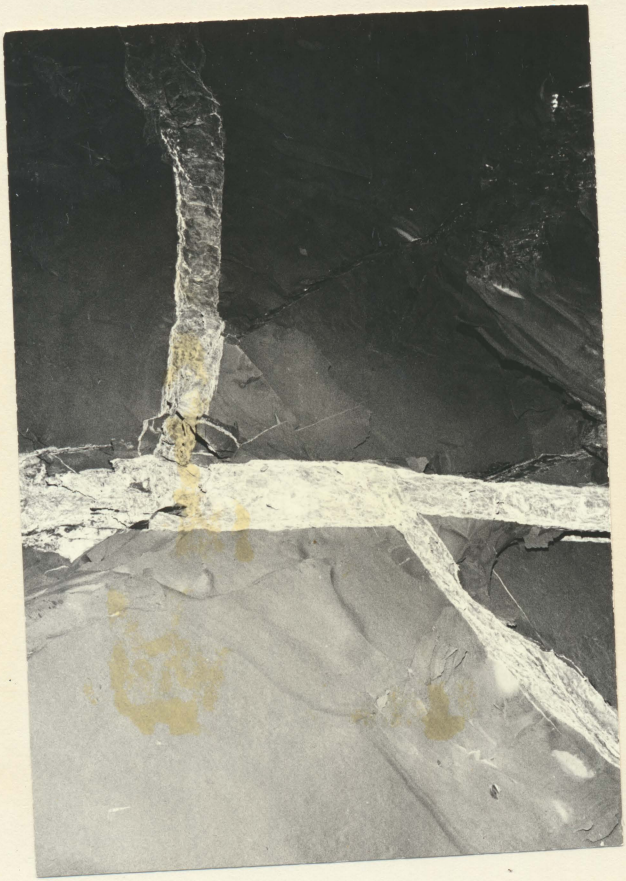
Small clay dike about 20 ft. north of location of previous photos. Displacement is a few inches just above coal top; displacement dies out both above and below. Hardly any clay filling is found along much of this fracture.



This clay dike is located in the 5th N Entry of the El-Ben Mine. A roof fall occured here shortly before the picture was taken (note broken rock at bottom of photo.) Upward from the coal the dike splits, then converges, and then splits again in a funnel-shaped system of fractures 1 to 2 ft. below the St. David Limestone (top of photo.) These fracture systems weaken the roof considerably.

Photo Damberger 10/15/68, film # 1/1a.

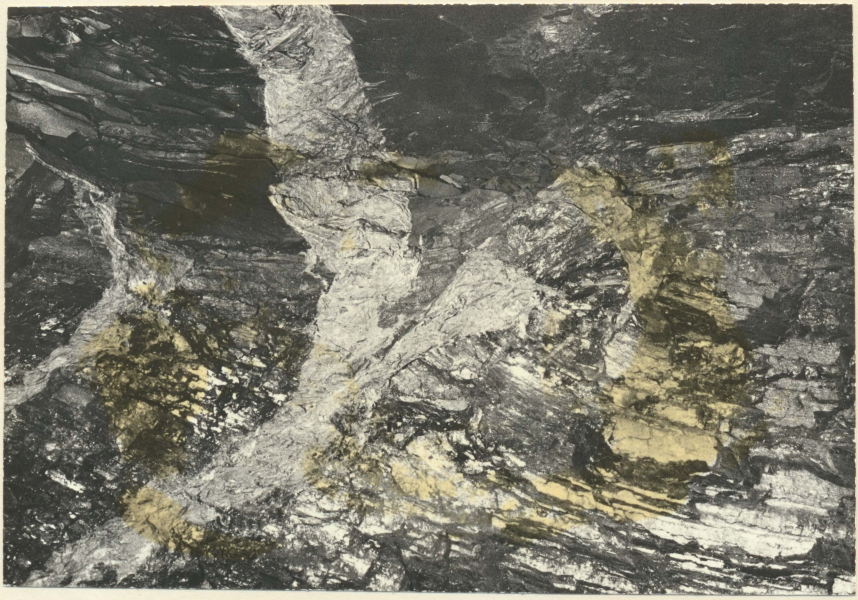
Same clay dike eight days later (10/23/68) Clay dike is less prominent due to dust, but slip fractures in the roof are plainly visible.



Intersecting clay dikes in the roof. Apparent offset of one of the dikes by about $1\frac{1}{2}$ ft.

Photo by Heinz Damberger, 10/15/68, film 1/7

mn_16_009.tif



Same clay dike, viewed at coal-roof contact.

Mn-16-010.tif

View in 6th North Entry of El-Ben Mine. Roof fall in connection with clay dike. First fall occured in Sept. 1968 up to 6 ft. above the coal top. This fall was rebolted, but a second fall occured just to the north about a month later (10/7/68).

The entry trends 155°, and the clay dike runs about 050°. A large slip-fracture at the top of the clay dike is plainly visible in the upper left of this photo. More small slip planes are present higher up, further weakening the roof. All of these run parallel to the clay dike. The dike itself is only 1-2" wide in the roof, thinning upward, and extending about one foot above the St. David Limestone (Thin white layer) as thin clay streaks. The limestone thins from about 6" at this location to less than 2" at the north.

Photo by Heinz Damberger, 10/15/68, film # 1/6

Mn-16-011-KY

View of main slip-fracture in same roof fall as in previous photo. Clay dike runs along lower edge of the slip surface. The thin white band near the lower edge of the photo is the St. David Limestone.

Another view of same. Note small thin clay dike to lower left, just below St. David Limestone.

mn-1603.tif

View of clay dike a few hundred feet south of the north end of the 5th North Entry approximately opposite the roof fall in the 7th North (sic) of previous three photos. Dike trends 035/55-75 NW, with about one foot of displacement to the NW at the top of the coal seam. As shown, the clay dike splits into several branches above the coal top. The southernmost branch (left) dips about 55°, becoming shallower upward. Much slickensiding weakens the roof. Stringers of calcite demonstrate shearing toward NW.

Photo by Heinz Damberger, 10/23/68.

mn-16.014.tif

Ron Kern, geology grad student, examines same clay dike as shown in previous photo. He is holding the ruler parallel to top of coal seam on downthrown side of fault.

View looking directly upward at clay dike in roof; near same location.

Clay dike in Springfield (No. 5) Coal. Dike branches and thins near the St. David Limestone (top of rod). The right branch appears to extend above the limestone as very fine fissures. The left branch of the dike (upper left in photo) consists of small veins connected with an irregular fault plane, the surface of which is still coated with a film of light gray clay. No influence of sedimentation can be seen.

Photo by Kenny Clegg, 5/31/68, film # 1/1.

MA-16-OD.KC

Same clay dike as in previous photo, opposite side of roof fall. Dike divides into thin fissures about 15" above the top of the coal bed, and bedding planes near the top of the coal are bent downward slightly.

Base of same clay dike as in previous photo. The dike ends a few millimeters to a centimeter above the bottom of the coal seam. The coal directly below the clay dike is pulverized, but nothing abnormal was noted in the underclay to suggest penetration of the clay vein into the floor.

Mr, 16-019.4.P

Same clay dike again, here viewed in the roof. Large associated slip runs from upper left to lower right, and the roof rock appears highly fractured.

Trace of another clay dike (white) across the black shale of the roof.

mn_16-021.tif

Side view of same clay vein in the roof. Rock in lower half of photo is white from rock dust.

MM_18-022.tif

View of same clay dike in the coal. Dike does not enter the floor, but stops a few mm. to 1 cm. above, with pulverized coal beneath.

MN-16-023.tif

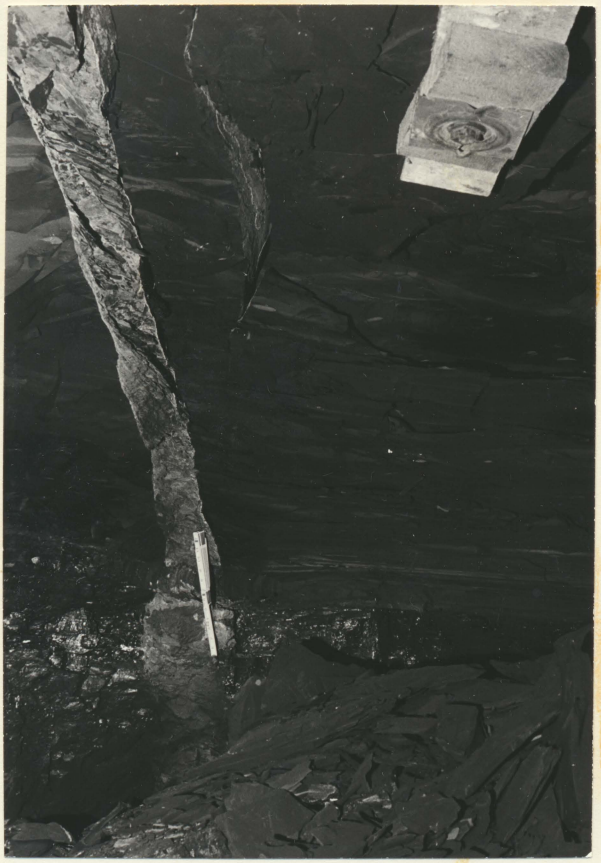
Closeup view of part of same clay dike.

MA-16-024.tif

Clay dike in coal at north end of 5th North Entry. Roof fall occured here, starting at this clay dike, which does not penetrate the floor. The clay filling usually is much harder through the coal than through the roof, probably due to differing secondary mineralization, mainly of calcite and pyrite.

Photo by Heinz Damberger, 10/23/68.

MN-16-025.tif



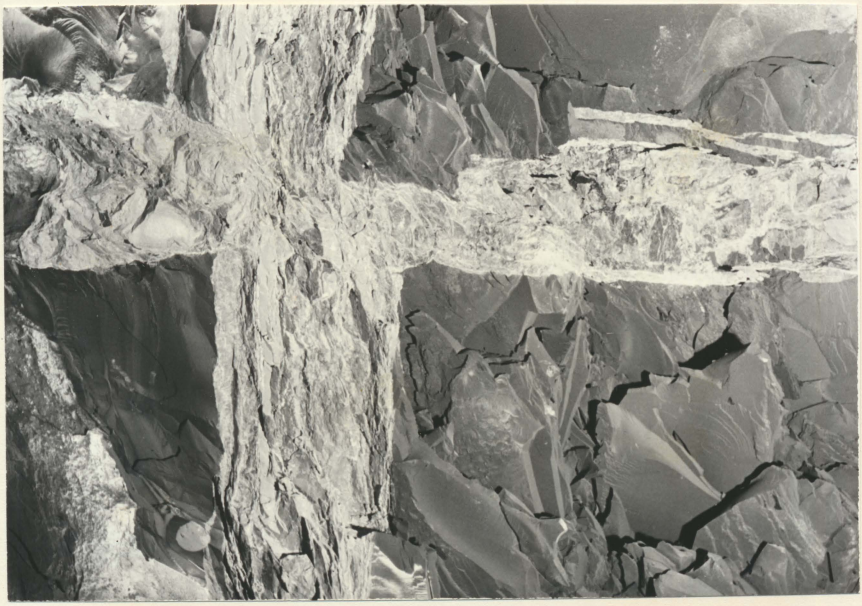
Same clay dike as in last photo, here shown in roof and upper part of coal seam.

Mn-16.026.tif

Clay dike in roof at north end of 5th North Entry. Dike filling was squeezed into the roof shale along bedding planes, very often in thin stringers. The pieces of roof shale seem to float in the clay more or less in the original position, indicating a more laminar rather than turbulent flow movement of the dike filling. The boundaries between the roof shale and dike filling always are very distinct; no intermixing took place. This strongly suggests that the roof shale had reached a certain degree of consolidation when the intrusion occured.

Photo Damberger 10/23/68 film 2/11.

MA-16-027.HP



Near same location, two clay dikes intersect at right angles in the roof. Dikes are much softer in the roof than in the coal. The roof here is much disrupted by slickensided planes, which make it very treacherous.

Photo by Heinz Damberger, 10/23/68.

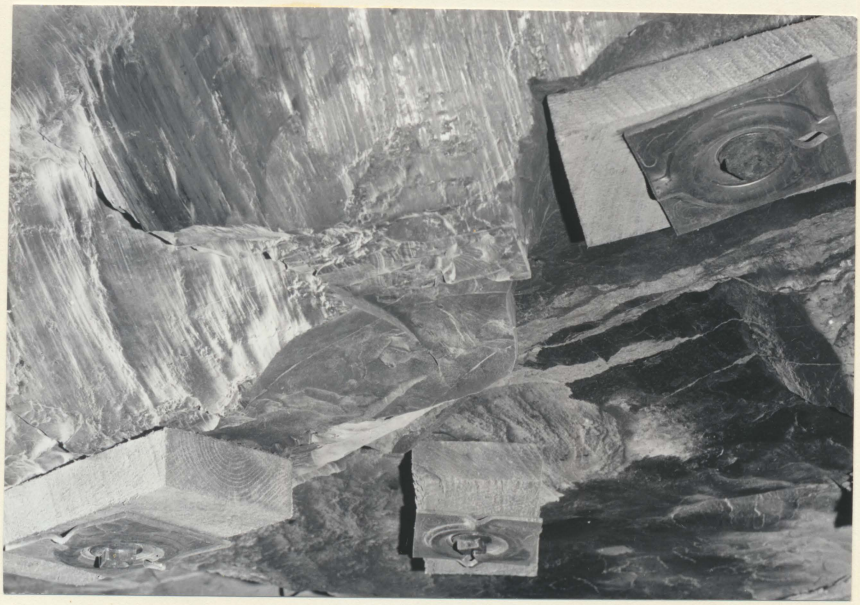
View looking southward from north end of 5th North Entry. Just left of center, a clay dike with slip fracture can be seen. This feature runs parallel to the entry and caused large and small falls along a distance of 60 feet.

Photo by Heinz Damberger, 10/15/68.

Different view of slip fracture along clay dike.
This slip caused a roof fall here.

mx-18-030.tif

Closeup showing highly polished and slickensided surface of same slip fracture.



Another view of the same.

mn_lc_032.tif

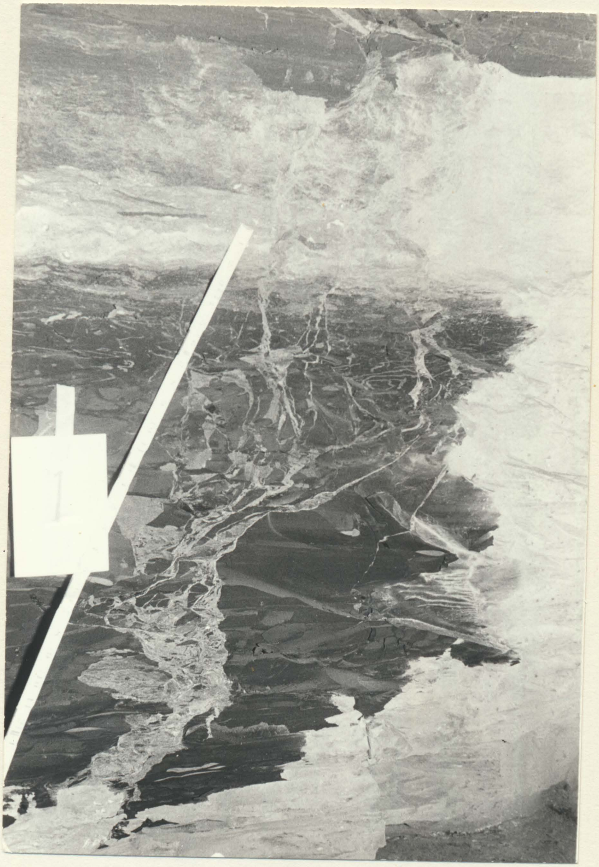
Near same location, two slip fractures associated with clay dikes meet at right angles in the roof.

Photo by Heinz Damberger, 10/15/68.

Same area, showing a clay dike splitting into two branches just left of hammer. Slickensided slip-fractures are associated with both clay dikes.

Same feature seen from a different angle.

This photo and the one following appear to be from El-Ben but cannot be matched to specific captioned photos in Damberger's notes.



mr_16_037.tif

EL-B Coal Company (Lincoln), SW SE, Sec. 5, T. 19 N., R. 2 W., Logan County, No. 5 Coal, sampled by H. H. Damberger and K. E. Clegg, working face of 2nd North about 180' N of sample #1, May 22, 1968, Sample #3

Black fissile shale roof, pyritized fossils in base

	Cm		Thickness [inches]
Coal - normally bright banded, with normal amount of thin dull coal and very thin pyrite lenses. Calcite and pyrite on cleat surfaces.	0-48	0"-19"	19
Dull banded coal - abundance of very thin lenses of pyritized fusain	-56	19"-22"	3
Coal - normally bright banded	-71	22"-28"	6
Pyrite		1/16"	1/16
Coal - normally bright banded, some thin pyritized fusain	-127	28"-50"	21 15/16
Coal - normally bright banded, has a pyrite lense 1½" thick and at least 12" long (not in sample)	-147	50"-58"	8
Hard pyritized fusain	-149	½"	½
Coal - normally bright banded, (Note: at this face the coal beneath the ½" pyritized fusain band was not mined, ac 58½"-60")	-152	58½"-60"	1½

Bottom of seam

clay like ("horseback") near by see drawing ↑

thickness: 60" = 5' = 152 cm = 1.52 m

EL-B Coal Company (Lincoln), SW SE, Sec. 5, T. 19 N., R. 2 W., Logan County, No. 5 Coal, sampled by H. H. Damberger and K. E. Clegg, working face off 1st North about 300' N of sample #1, May 22, 1968, Sample #2

Roof of black fissile shale containing pyritized fossils and thin discontinuous lenses of brown, calcareous, material

	cm	
Coal - normally bright banded, with calcite and some pyrite on cleat surfaces	-25	0"-10"
Dull banded coal with pyrite lenses up to ¼" thick. Lenses are of pyritized fusain	-41	10"-16"
Coal - normally bright banded	-87	16"-34"
Pyritized fusain	-89.16	1/16"
Coal - normally bright banded, with more than normal amount of pyritized fusain in very thin bands	-124	34"-49"
Dull banded coal - considerable fusain in thin discontinuous lenses	-135	49"-53"
Coal - normally bright banded	-154	53"-60½"

Bottom of seam

thickness: 60.5" = 6' ½" = 1.54 m = 154 cm

EL-B Coal Company (Lincoln), SW SE, Sec. 5, T. 19 N., R. 2 W., Logan County, No. 5 Coal, sampled by H. H. Damberger and K. E. Clegg, working face of 5 North, May 22 1968, Sample #1

Roof of black fissile shale with pyritized fossils

	cm	
Pyritized fusain	0 - .16	1/16"
Coal - normally bright banded, with normal fusain. Some fusain concentration at 29" from top. Pyrite and calcite on cleat surfaces	- 96.5	1/16"-38"
Pyritized fusain (removed from sample)	- 97.1	38"-38¼"
Coal - normally bright banded, fusain in lower 1/3 of section, usually pyritized and in lenses up to 3/8", larger lenses not included in sample	-145	38¼"-57"
Coal - somewhat bony	-150	57"-59"

Bottom of seam

thickness: 59" = 4'11" = 1.50 m = 150 cm

Illinois State Geological Survey

Location ⑥ in sketch

Observed in roof exposed by a fall adjacent to a horseback, in ascending order above No. 5 Coal :—

* 0' 4" Hd, gy, limestone containing flattened brownish nodules looking like small concretions up to 1" thick. A few crinoid fragments noted

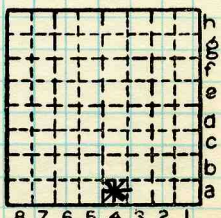
0' 3" Hd, grayish black to black, very crbncs limestone that sparkled in the light of the miners light as if it were full of vy fnly dsmntd fusinite. Fossil shell fragments were very abundant

0' 4" Hd, grayish black, crbncs limestone lacking the "sparkle" of the lower limestone, and having a few fossil fragments, limited mostly to the bottom 1".

The above is essentially a single 11" limestone but the three layers are sharply defined.

The location was hazardous - under a roof fall. I did not tarry very long.

* about 3' above top of #5 Coal



By K. E. Clegg Date May 30, 1968

Quadrangle Lincoln

County Logan Sec. 5 T 19N. R 2W.

E1 Ben Mine #2, Lincoln, Sec. 5-19N-2W, Logan County, taken by H. H. Damberger and L. J. Mutti, 10/15/68, orientation of horseback fillings

compare sketch!

(2) Room off 7th N. entry

1) 178° dip 60°-70° W, samples and pictures taken
2) 150° dip 50°-60° NE, cuts another filling (3) which is offset by about 6" (picture)
3) 30° dip 30° N of #2, changing to 10° on S side of #2, changing to 140° after 1½' S of offset (picture)
4) 15° dip 50° W ± 5°, Nos. 4 and 3 intersect

(3) Roof fall in 6th N entry

Original roof fall Sept. 68, 3' above limestone which is 3' above coal (from 6" thins to less than 2" to N), altogether fall is about 6' in height, fall bolted and rebolted, 2nd fall north half of original fall (10-7-68) where horseback runs across entry, orientation of horseback 50° (N 50° E), entry entry trends 155°, angle between horseback and cuts 105° or 75°,* dipping 45° NW at about right angles to horseback which dips 50° SE, minor slickensided planes, higher up more or less parallel to horseback, probably weakened roof considerably together with other polished and slickensided planes, clay-dike filling in roof only 1"-2" wise, thinning towards limestone, but continuing at least a foot above limestone in thin streaks

*above 4th. big surface strongly polished & slickensided ...

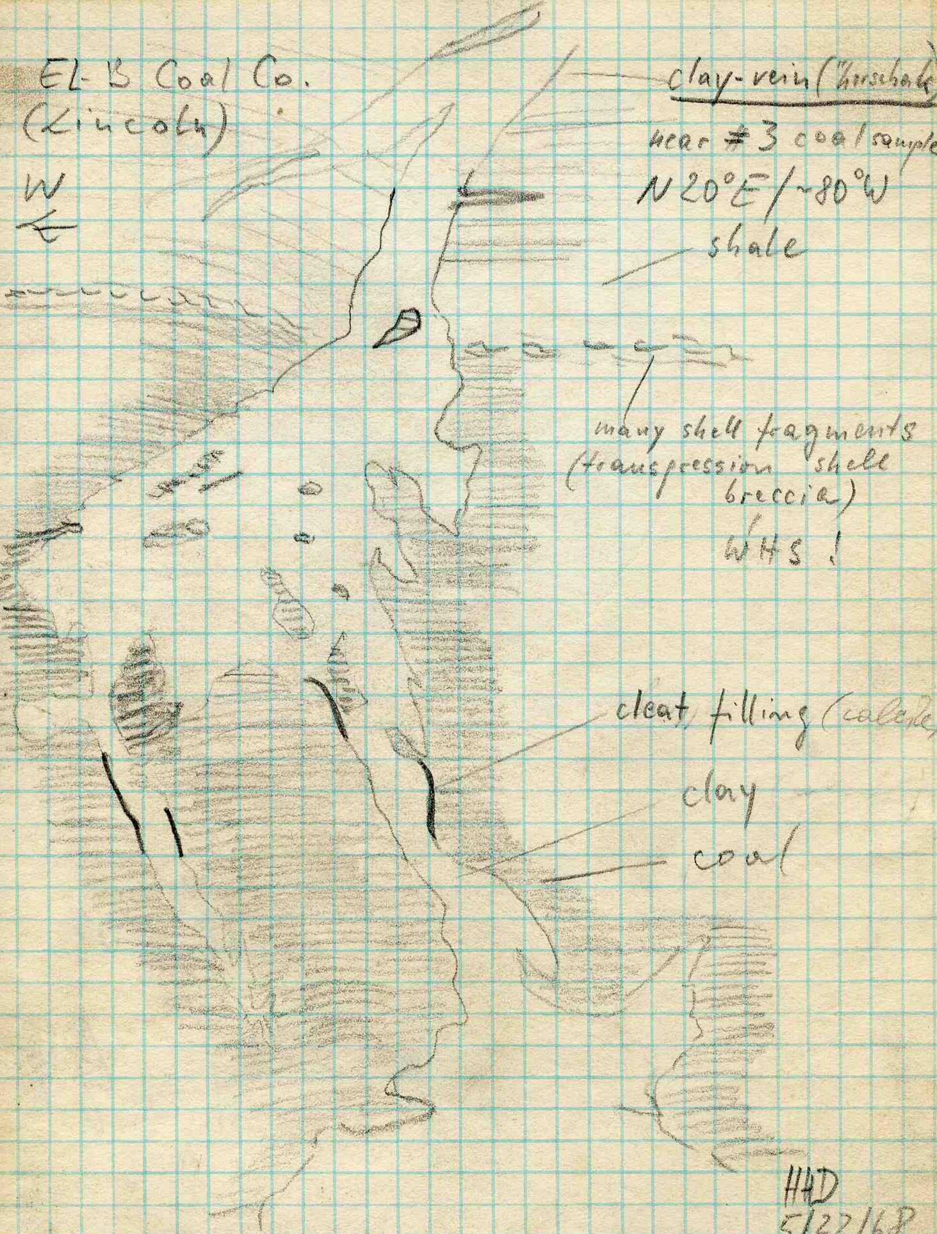
(4) 5th N entry

Roof fall occurred at end of entry where clay dike, about 5" thick in roof, crosses entry, pretty sharp contact against roof shale, from about 10"-15" above top of coal, both clay dike filling and roof shale are composing the filling in about equal amounts, the roof shale still is about its original position, and the clay squeezed into it mainly along bedding planes. Dike filling much softer in roof than a few inches further down in coal seam where it is very tough (sample); horseback dips N 70° ± 10°, roof fall reaches about 2' above top of coal (maximum); another very prominent clay dike

running about parallel to entry causes much trouble in roof control, back about 60' where it enters the W rib of the entry, At N end of entry it apparently disappears in E rib of entry, general trend of horseback 170° (entry 155°); roof above this horseback is very often disrupted by slickensided, polished planes in different directions, but mainly parallel and at more or less right angles (90° ± 30°) to this clay dike, several less prominent clay dikes are also crossing the entry at a trend of 100° ± with slickensided, polished planes more or less parallel to them, roof very difficult to control, many roof falls repeated

(1) about 200' off "bottom" to N
Big roof fall about 30'-40', clay dike, 90° trend, caused roof fall (photos), a few 100' further to NNW a thin one crosses galleries trending 170° , weakened roof, but only smaller pieces of roof fell down

EL-B Coal Co.
(Lincoln)



HHD
5/22/68

bottom of coal
(couldn't be cleaned)

Some General Notes (HHD, 10/15/68)

The clay dikes in this mine are usually only a few inches wide and rarely reach thicknesses of up to 1' and only in the coal seam. Their thickness is very variable, they often split into two and more branches and reunite again, especially in the coal.

The filling is very inhomogeneous in composition. #4 dike (see sketch) for instance was very soft in the roof shale but very tough at the top of the coal, about 1' to 1½', apparently the filling there was more silty to sandy and also pyritized. Further down in the middle and lower part of the coal seam the clay dike filling was softer again, but here some pyritized zones occurred which reached several inches into the adjacent coal and into the "horseback" filling. Around such pyritized zones the coal looses its lustry appearance and looks dull.

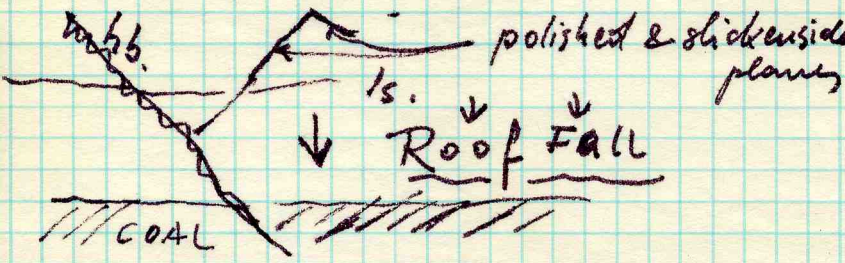
Three times (#2, 3 & 4), as always before, no continuation of the clay dike into the floor was found; under the clay dike normal underclay with the typical rootlets was found (and samples taken). No effect at all on nature of floor could be observed in all three cases. Engineer Anderson reports that pretty often the floor will heave several inches under clay dikes and has then to be cut to level the floor. A tendency of "mushrooming" near the bottom of the coal seam was to be observed in almost all clay dikes.

"Horsebacks" are very frequent in this mine. They occur in almost every old and fresh face. In the entries places of "horsebacks" can usually be localized by at least small roof falls and an uneven roof. The frequency seems to increase towards the NNW of the mine, in places #2 and 4 many "horsebacks" were exposed in the rooms and entries, sometimes intersecting each other. In location #2 one "horseback" seemed to be offset by another one. Several intersections were found in this locality.

The clay dikes, called "dirts" by the miners, are not so much a drawback for the mine because they increase the ash content and are sometimes difficult to mine but mainly because they usually weaken the roof so heavily that roof falls are practically not avoidable. They

always cut through the about 3' thick black roof shale and also through the limestone above. Thin streaks of them reach up into the "soapstone" above. The limestone is normally used for anchoring, the roof bolts reach up into the limestone where they are anchored. Unfortunately the limestone in this area usually runs only a few inches thick, in location #3 we saw the limestone thin out from about 6" to around 2" (and less) within a distance of 20' to 30'. The first roof fall in this place was about 100' long and had the full width of the entry. The second roof fall—after rebolting—occured only in the N half of this first roof fall where the limestone thins out and where a "horseback" crosses the entry at an angle of about 95°. The "horseback" dips at 50° SE, but a heavily polished and slickensided surface of many square feet stands at right angles to the "horseback" and made it impossible to hold to roof up in this entry.

Such polished surfaces above "horsebacks" and at about right angles have been noticed in several other case and add considerably to the weakening of the roof and increase the possibility of roof falls (see sketch).



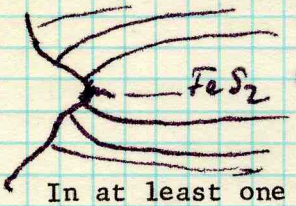
Only very long bolts, resin bolts, should perform best in this case, may be able to hold the rocks up in the vicinity of "horsebacks"; they should reach up into the "soapstone" and the anchoring surface should be much longer than in the usual type of anchors.

Mr. Anderson reported that when Clarence Garret took the mine over as superintendent about a year ago he tried to use shorter anchors which would not reach up to the limestone. They were supposed to "hold the black shale" together. But after only 3 weeks did the roof fall down, because, as Anderson thinks, this black roof shale is not well enough laminated, does not have beds well enough

developed in it, so that there are no beds "to be held together". Looking at this material one has the impressio that it was deposited rather irregularly, bedding is not well developed in it, it is not as hard as "black roof shale" in other areas. It apparently does not have the chesion to support the roof and it will break into small pieces and also it separates very easily from the limeston above it, they are not "baked together".

In practically all cases where this observation was possible did the clay dikes become thinner towards the limestone, but always did thin streaks of clay dike fillin sometimes replaced by knife thin slickensided joints, continue at least several inches above the limestone. So even if the limestone is well developed, it is cut by thes thin "ends" of the clay dikes and the chesion is interrupte

As has been observed many times before, the laminae of the coal seam are bent towards intrusions of clayey dike filling into the coal (photo and sketch).



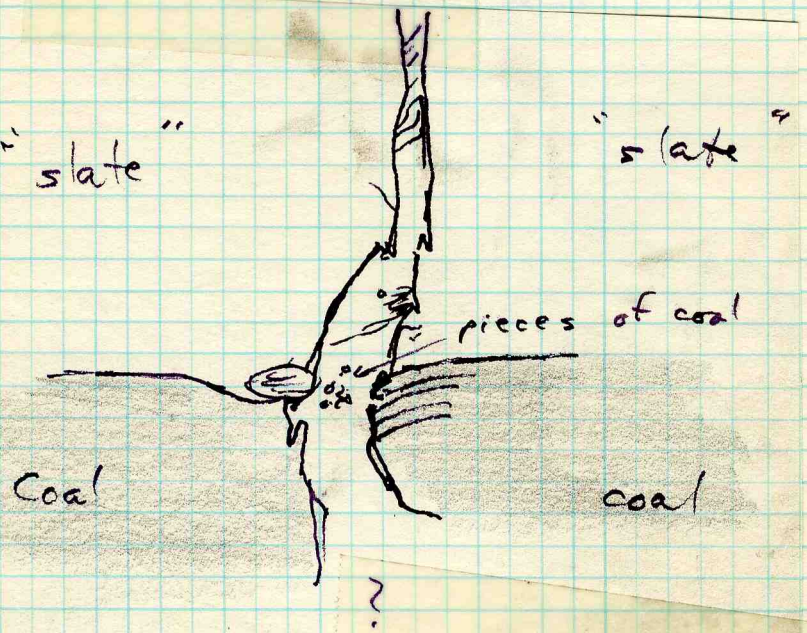
In at least one case was this bending accompanied by a pyritization of the coal. The bending of the laminae indicates either a giving way of the dike filling or/and a leaching away of the coal, so that the coal laminae bend toward such a leached zone both from below and from above. I [illegible] this impression of leaching, decomposing of coal especially in one case where the coal was highly pyritized (sample).

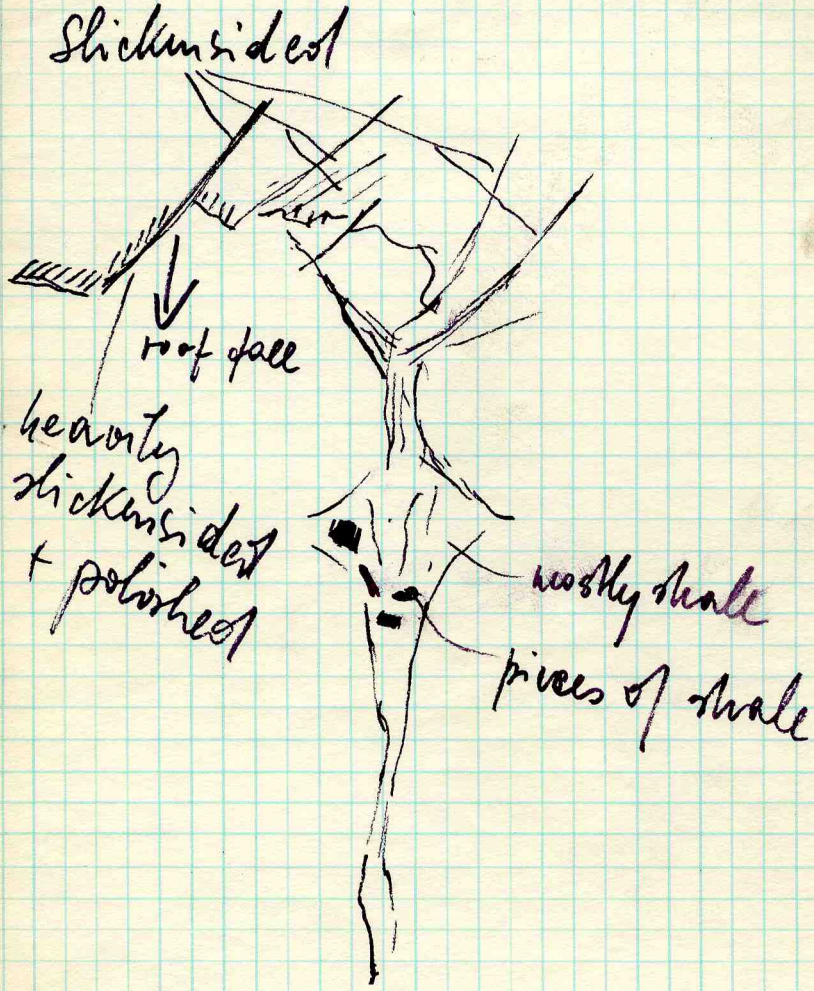
El Ben #2 Mine, Lincoln, H. H. Damberger and Ronald A. Kern, 10/23/68

Photos

1. At location 5a in "bottom"
   #1-2 thick "bb" with displacement of coal and splitting in roof shale
   3-8 thin "bb", very small displacement of coal/roof border, shearing in "bb" very nicely exhibited
   9-14 details of #1-2; thick "bb": 10° vertical to 50° E; thin "bb": 10° vertical with slip to W, drag direction opp. so thick "bb"
   photos on E side on film #1, photos on W side and roof on film #2, 1-3 trend: N 80° E dip 80° N to vertical

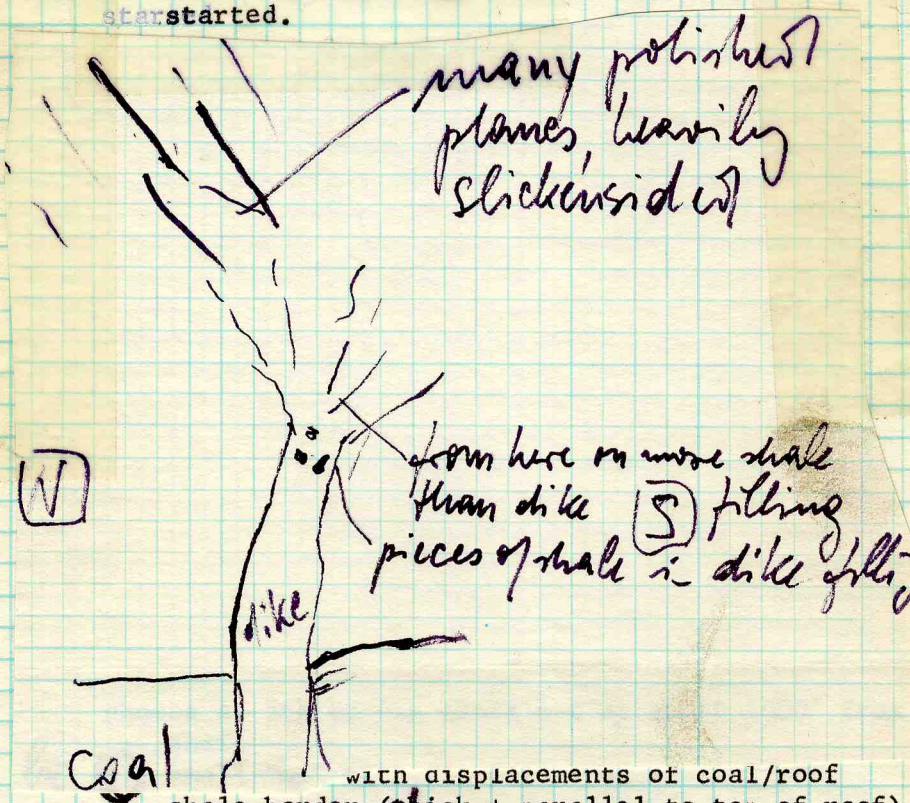
loc. 1





Loc. #1 in field

photos 4 and 5 on film #2, on location (6) (old roof fall), showing slickensided planes above and in connection with "h.b", where this big roof fall started.

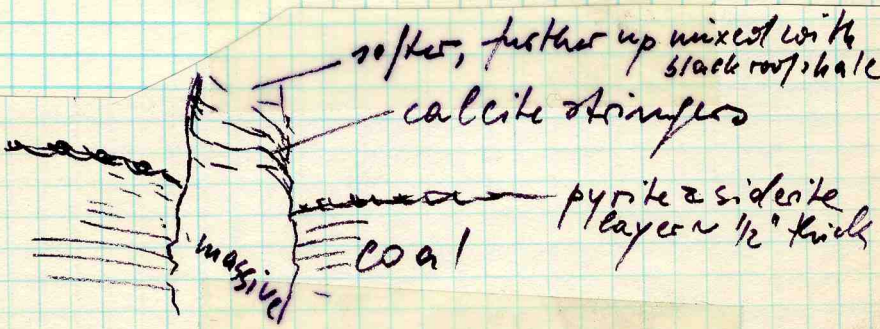


with displacements of coal/roof shale border (slick ± parallel to top of roof)

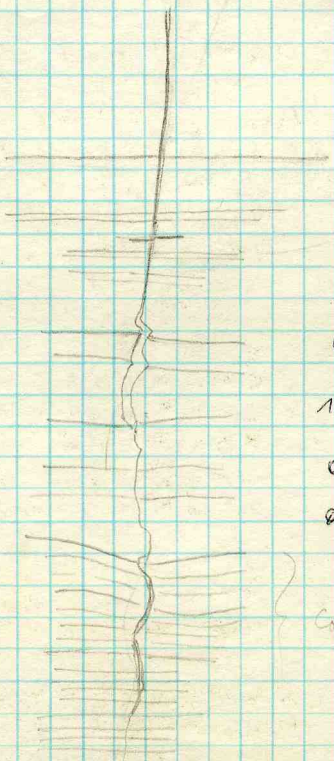
Photos #6-9; 1 the whole; 1 close up; floor not exposed; direction of "h.b": strike N 35° E, dip N 55° to N 75°

Note: horseback splits into several branches directly above the coal seam. The southernmost branch dipping about N 55°, with tendency toward shallower dip in the upper reaches of the "h.b." and with much slickensiding. Results in a weakened roof in this vicinity (slight roof falls) shearing such as in the diagram:

location #4 N end of 5th entry, N side of "b" moved down 3-4"



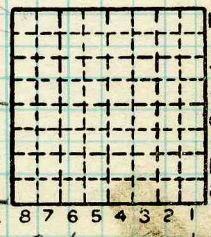
74 956



Clay dike in roof of #1 Coal & #5 Coal

Coal

Area (5a) in location sketch

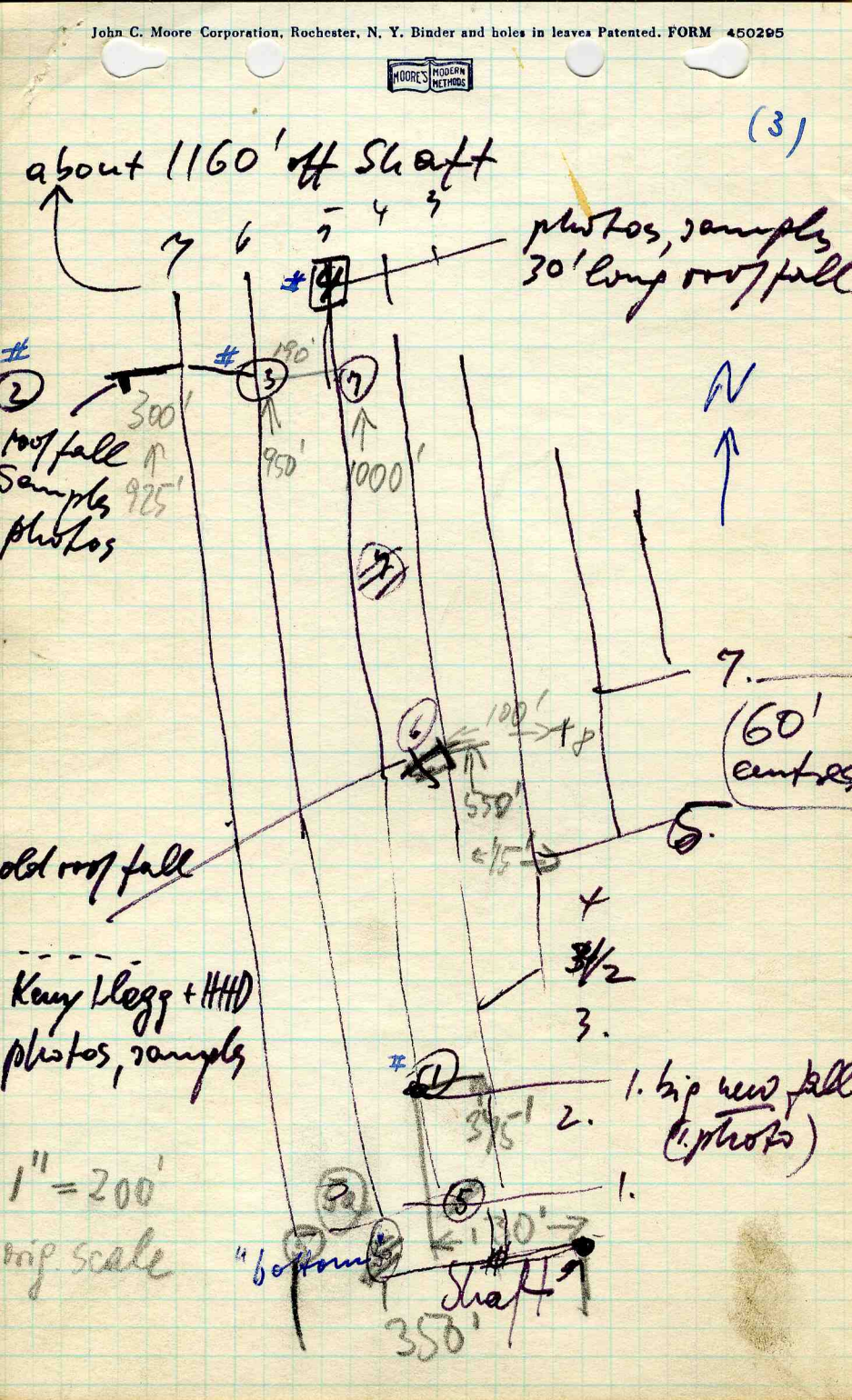


By Larry S. Nuttli Date Nov. 14, 68

Quadrangle

County Logan Sec. 5 T 19N R 2W

(3)



2

1. Entry #5 N, series of samples taken from above St. David Limestone, down into the coal both from adjacent rocks and clay dike which is exposed in a roof fall a few hundred feet N of "bottom"; and pictures taken both with and without samples location

x location ① in sketch

Heinz H. Damberger } 11/26/68
& Larry J. Nutti

EE-Ben Mine #2

2. S end of 5th N entry, between "bottom" and first crosscut, close to first crosscut, thickness of coal 5'

above coal:

.05-.15' - calcareous shell-breccia, very often pyritic

.15-1.13' - roof shale, dark gray with nodular layers of phosphatic concretions, one band .01' thick at .15' above coal is continuous and slickensided, polished bedding plane

Marker 1.13'

1.13-2.6' - roof shale, as above, fewer phosphatic concretions

2.6-3.1' - roof shale, dark gray with many irregular worm-burrow-like "oddities" of medium to light gray color (sample taken); in upper part of it thick 'tubes' of calcareous material, look like extensions from St. David Limestone above

St. David limestone is roof, no exposure further up

MOORE'S MODERN METHODS

Location and Elevation Data

Location: Exact Approximate

(Approximate only if no trace of record of original exists)

Location by J. A. Simon (in field)

Date 2/42 Notebook No. Page

Looseleaf ref.

Map files No. 4103 LL 15, 1-2

Description of Location

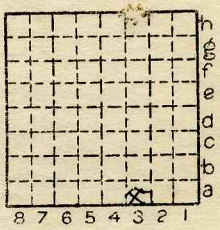
Position in sec., ¼ sec., 40 acres

..... feet from North line

..... feet from East line

..... feet from South line

..... feet from West line



Sec. 8 5

T 14 N. S.

R E. 2 W.

Other description: L-1

W. of R.R.
1500' N. of Hwy bridge
1900' N. of R.R. x-ing
Midway between Hwy + R.R.

Farm

No.

Company Steve Bennis Coal Co. / Coal Co. Deer Creek Mine

No.

County No.

1940 11400

Elevation ft.

By

Method: Level, transit, alidade, hand level

Elevation of

Height of point above ground

Date Notebook P.

Looseleaf ref.

Map files No.

Description of item: (drill hole, mine, etc.) Shaft Mine

County Logan Quadrangle Lincoln Index No. 1008 A3

(A4242—5M—8-39) 2

5

MOORE'S MODERN METHODS

LOCATION AND ELEVATION

Location: side R. R.
side R. R.
side Highway No.
on top. map Location sheet

Elevation: Method, 1. Est. ( ) ft.
2. Inst. (kind) ft.

By Data sheet

DEPTH

7-8-38 - CC B

Authority Steve Bennis 263'0" To coal ft.
Authority Steve Bennis 268'0" Rail to rail ft.
Top of coal above rail. (Est. Rule) ft.
To coal ft.

ALTITUDE OF TOP OF COAL

By estimated data
By instrumental data ft.

Thickness

Max. in. Min. in. Aver. in.

GEOLOGICAL DATA

Mine notes, date

Coop No. Pyr. inv. Coal Ash inv.

CHEMICAL DATA

Analyses Face	U. I.	B. M.	Others
Car	U. I.	B. M.	Others
Org. Sulf	U. I.	B. M.	Others
Ash fusion	U. I.	B. M.	Others
Ash anal.	U. I.	B. M.	Others
	U. I.	B. M.	Others

Classification

Misc. tests: Coking. Cleaning Boiler

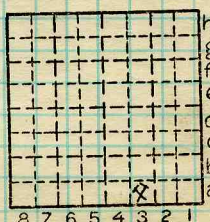
Published descriptions:—

Railroad, Wagon, Idle, Abandoned 10/68

IDENTIFICATION

County No. Coal No. 5 ☐ Part

Quad. 142 Lincoln
County Logan



Sec. 5
T. 19 N. S.
R. 2 E. W.
Index No. 1005. H6 A3

COAL MINE LOCATION AND DATA

(47900)

See Extra Sheet No.

Entrance

Kind of tipple Steel

Motive power for hoist

Source if electrical

Kind of hoist (cage, skip, etc.) Cage

Kind of haulage Motor

Mining equipment Undercutter

Note any features of the equipment that are of special interest

SURFACE DATA.

A. Topography,

B. Surficial materials, (1) Character,

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

C. Outcrops, (1) Character,

(2) Structure,

(3) Fossil horizons,

Collection No.,

(4) Evidences of subsidence,

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

See drill record sheet,

E. Notes on surrounding area,

Coal bed name: Local, No. 5 Survey No.

Collector, Boley, Land, Smith, (7-8-38)

Mine, Deer Creek Coal Co. Co. Logan Index No. 1005 H8 A3

F. Thickness of rock above bed worked,

(1) Important variations,

See

G. Note presence of strata having important effect on mining,

See

(1) Position,
(2) Character,
(3) Persistence,
(4) Other workable coal beds

See

H. Cap rock,
(1) Thickness,
(2) Height above coal,

See

I. Immediate roof, slate
(1) Thickness, (2) Contact with coal,

(3) Horizontal variation,

See

J. Draw slate, (1) Thickness, (2) Contacts

(3) Persistence,

K. Coal bed: Max. 66" Min. 60" Av. 62" inches
(1) Benches,
(a) Position,

(b) Persistence,

See

(2) Bedded impurities, kind, position in benches, persistence, ease of separation,

See

(3) Irregularities in bed (due to deposition, erosion, or movement),

See

(a) Effect on mining,

See

SECTION			
Name	Ft.	In.	Sym.

Collector, Boley, Ford, Spotts (7-8-38) Coal: Survey No.

Mine, Deer Creek Coal Co. Logan Index No. 1005.H8 A3

M.—UNDERGROUND SHEET (Geol.)

K. (5) Physical character of Coal,

(a) Relative hardness, Fairly tough

(b) Lustre,

(c) Fracture,

(d) Texture, See

(6) Impurities in coal, other than bedded, kind, position, persistence, ease of separation, etc.

See

L. Floor: (1) Material, fire clay

(2) Thickness,

(3) Variation,

(4) Note character, condition, tendency to heave, relation to undercutting, commercial value.

See

(5) Clay sample No. Location,

M. Stratigraphy,

(1) Fossiliferous horizons underground,

Collection No. Location,

N. Notes on effect of deep drilling in coal mine areas.

See

Collector, Boley, Land, Spotti (7-8-38) Cola: Survey No.

Mine, Deer Creek Coal C. Co. Logan Index No. 1005.44 A3

N.—UNDERGROUND SHEET (Geol.)

John C. Moore Corporation, Rochester, N. Y. Binder and holes in leaves, each Patented 1906. 349988

MOORE'S MODERN METHODS

Operator, Steve Bennis Date 7-8-38

Mine, Deer Creek Coal Co. Sec. 5 T. 19N R. 2W

Location in mine, Main west, end of entry - 600' from cage (A)

GRAPHIC SECTION			DESCRIPTION OF SECTION (AT POINT SAMPLED)		
In.		No.	No.	(Note character and thickness of roof)	Inches
				(Note character and thickness of floor)	
				Total thickness of coal.	

(1 division=3 in.)

Condition, Time, hr. min.

Wt. Gross, lbs. Net, lbs.

What Nos. shipped by Co.?

Excluded from sample: No.

Sample represents in. tons.

Impurities? How do they occur?

Sample No. Can No. A Lab. No.

Collector, C C Bobby - George Lund - Abe Spitt Coal: Survey No.

Mine, Deer Creek Coal Co Co. Logan Index No. 1005.46 A3

R.—COAL SAMPLE SHEET. (12759—1000—2-29) 7

Operator, Steve Bennis Date 7-8-38

Mine, Deer Creek Coal Co. Sec. 5 T. 19 N R. 2 W

Location in mine, 2nd S ℄ main W, 150' ℄ main W

(B)

GRAPHIC SECTION			DESCRIPTION OF SECTION (AT POINT SAMPLED)		
In.		No.	No.	(Note character and thickness of roof)	Inches
				(Note character and thickness of floor)	
				Total thickness of coal.	

(1 division=3 in.)

Condition, Time, hr. min.

Wt. Gross, lbs. Net, lbs.

What Nos. shipped by Co.?

Excluded from sample: No.

Sample represents in. tons.

Impurities? How do they occur?

Sample No. Can No. B Lab. No.

Collector, C C Boley, George Lund, Alden Spotts Coal: Survey No.

Mine, Deer Creek Coal Co. Co. Logan Index No. 1005 H&

R.—COAL SAMPLE SHEET.

MOORE'S MODERN METHODS

Operator, Steve Bennis Date 7-8-38
Mine, Deer Creek Coal Co. Sec. 5 T. 19N R. 2W
Location in mine, 1st South of main E, 50' of main E
(c)

GRAPHIC SECTION			DESCRIPTION OF SECTION (AT POINT SAMPLED)		
In.		No.	No.	(Note character and thickness of roof)	Inches
				(Note character and thickness of floor)	
				Total thickness of coal.	

(1 division=3 in.)

Condition, Time, hr. min.
Wt. Gross, lbs. Net, lbs.
What Nos. shipped by Co.?

Excluded from sample: No.
Sample represents in. tons.
Impurities? How do they occur?

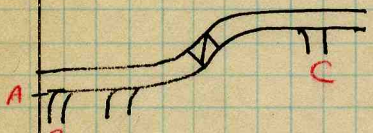
Sample No. Can No. C Lab. No.

Collector, C C Boley, Geo. Land, Adler Spatti Coal: Survey No.
Mine, Deer Creek Coal Co. Co. Loger Index No. 1005.H8A3

R.—COAL SAMPLE SHEET.

INDEX

Deer Creek Coal Co. - on Hwy 121, about a mile S.E. of Lincoln. Managed by Steve Bennis for a local syndicate. Superintendent, Verdemer; operations engineer, Merguard. All steel tipple on concrete abutments; erected and shaft sunk in 1937. Bennis aims for 1000 T/day production, and estimates a mine life of 75 years at that rate. Shaft was sunk (in 93 working days) 268 ft. rail to rail, passing directly through a limestone fault. No. 6 coal encountered at 220 ft.; the top of No. 5 coal was at 263 ft. Coal averages 5'0" or a little more. Excellent slate roof; excellent fire-clay bottom. At the time of sampling, July 8, 1938, the bottom layout was something like this - the main east and west entries having advanced only about 600 ft. each way.



Three face samples were cut, at the locations marked A, B, and C. (A - main west, on the entry, 600' from cape; B - 2nd South off main west, 150' off main west; C - 1st south off main east, 50' off main east).

Log of shaft is in files.

Collector Boley, Land, Spotti (7-8-38) Coal: Survey No.

Mine Deer Creek Coal Co. Logan Index No. 1005.HF A3

X.—EXTRA SHEET No.