


A. & F. COAL COMPANY

ARCLAR MINE

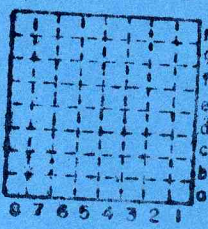
Mine sold to Sugar Camp Coal Co.
in 9/90. Renamed by Sugar
Camp "Eagle Valley Mine".
Sugar Camp employs Coal Mines, Inc.
as contract mines.

GALLATIN COUNTY

Sugar Camp Coal Co.
Eagle Valley Mine

Index # 995


SPRINGFIELD



Sec. 18
T. 10
R. 8
Index No. S E

| | STRATA | Thickness | | Depth | |
|---|---------------|--------------|-----|-------|-----|
| | | Feet | In. | Feet | In. |
| 1984 | A + F Coal Co | ARCLAR MINE | | | |
| 1990 | Sugar Camp CC | EAGLE VALLEY | | | |
| Note: phone communc w Coal Miners Inc 6/24/92 : Sugar Camps CC is a part of Downen Enterprises. The Coal Company address is now P.O. Box _____ Henderson, Ky. The mining is done on contract by Coal Miners Inc Equality, Ill. ph 1-618-275-4342 | | | | | |

A&F Coal Company - Arclar Mine / Sugar Camp, Eagle Valley Mine

| <u>Year</u> | <u>Tonnage</u> | <u>Cum. Tonnage (OHT)</u> |
|-------------|----------------|---------------------------|
| 1984 | 62,691 | |
| 1985 | 210,610 | |
| 1986 | 214,999 | |
| 1987 | 242,490 | |
| 1988 | 376,856 | |
| 1989 | 417,924 | |
| 1990 | 1,874,289 | |
| 1991 | 2,769,224 | |
| 1992 | 1,207,319 | |
| 1993 | 1,199,312 | |
| 1994 | 1,092,620 | |
| 1995 | 1,085,750 | |
| 1996 | 1,322,136 | |
| 1997 | 1,562,594 | |
| 1998 | 1,915,866 | 12,154,821 |



FORM 180 W

ARCLAR MINE

Operator: A&F Coal Company. Mine managers are Charlie Austin & George Flessner.

Owner: TEK-BAR Industries; Thomas W. Franks - President.

Engineering Manager: Dan W. Bailey of Arclar Company.

Mailing address: (for all three companies listed above)
617 E. Church
P.O. Box 444
Harrisburg, IL 62946

Mine type: Drift w/ room-and-pillar development.

Coal seam: Springfield (No.5)

General location: About 5.5 miles south of Equality, in Maher Hill.

Portal location: (belt entry) 2620' NL, 960' WL, Sec. 17, T.10S.-R.8E., Gallatin County.

IL Coord. Syst. - N358,379.29 - E494,728.44

Top-of-coal elevation at portal: 442.8' asl.

Attitude of seam: 3° dip to north.

Coal thickness: 4.5 to 5.0'

Note: Mine sold to Sugar Camp Coal Co. in 7/90

See also Techn. Record file for
correspondence and drill hole records
of CS (confidential)

**New drift
mine set in** *Harris*
4-17-84
Gallatin Co.

SPRINGFIELD, Ill. (UPI) — The State Mining Board approved a bottom layout plan Monday for a new coal mine to be located in Gallatin County, 18 miles southeast of Harrisburg.

X State Mines and Minerals Director Brad Evilsizer said the Indiana-based A&F Coal Company's Arclar mine will be a drift mine and probably employ 20 or fewer people.

Evilsizer said the single-unit mine will tap the No. 5 coal seam in a continuous mining machine operation. In a drift mine, a tunnel is sunk into the side of a hill to mine the coal.

Evilsizer said the mine still must obtain a land reclamation permit.

By *UAD*

Date *9/27/84*

Quadrangle _____

County _____

Sec. *17+18* T. *10S* R. *8E*

| | | | | | | | |
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| | 8 | 7 | 6 | 5 | 4 | 3 | 2 |
| | 1 | | | | | | |



FORM 180 W

A & F Coal Co.
Arclar Mine

6-11-86
Gallatin County

Notes by S. K. Danner. Accompanied by D. K. Lumm.

The Arclar Mine is a drift mine located on the south side of Maher Hill, overlooking Eagle Valley. It opened in May, 1984 in the Springfield (No. 5) Coal seam. The location of the portal is as follows:

2700' SL, 960' WL, Sec. 17, T.10S., R.8E.

The mine is managed by Charles Austin and George Flessner, both former employees at Floyd Lee's Calefy and Oakwood Mines in Vermilion County. This mine uses the room and pillar system of mining, with development being handled by only one unit, with a single Joy continuous miner. Belt haulage is used to carry the coal to the portal. Transportation is handled by rubber-tired vehicles.

The No. 5 Coal at the Arclar Mine averages between 4.5 and 5 feet thick. It dips to the north at about 1 to 2 degrees. The coal is overlain by 3 to 4 feet of dark shale which is capped by a thin limestone. The limestone is only intermittently persistent. The thickness of the overburden probably varies from 30 ft. to 120 ft.

The mine is yet rather small, so there was not a whole lot to see. The few panels that were completed had already been sealed off. Currently they are developing a set of north mains. We collected two channel samples near the faces of No. 2 and No. 7 entries, about 11 crosscuts by the Main North.

In the east rib of Entry No. 2 we encountered an unusual feature, an igneous dike. The mine manager reports that this dike parallels the north mains for over



FORM 180 W

Arclar Mine

Page 2

1000 feet. Its strike averages about due north. The dike is about 0.75 ft. thick and extends up into the roof in a near vertical to vertical plane. The dike consists of a medium to dark gray, finely crystalline carbonatite that resembles quartzite. It is mildly effervescent under 10% HCl. The dike is bordered by a 3 to 4 inch rind of hard, black coke with a finely crystalline appearance. It contains an abundance of thin, white, wavy stringers that resemble stylonitic partings. This severely coked rind is bordered by an outer rind of mildly coked coal. At one corner of an intersection where the dike enters the roof, both it and the roof rock are dissected by veins of a coarsely crystalline material that resembles pink calcite; however it does not react to HCl. It may be a dolomite.

The next two pages contain sketches of the dike on both sides of the 11th crosscut just east of the 2nd Entry of Main North.

The mine manager reports that they do have some water problems in the mine. Water tends to collect at the faces, so that they have to dig a sump at each face after every two cross-cuts in order to pump out the water that has accumulated. If they don't, the under-clay becomes saturated and the face equipment sinks in.

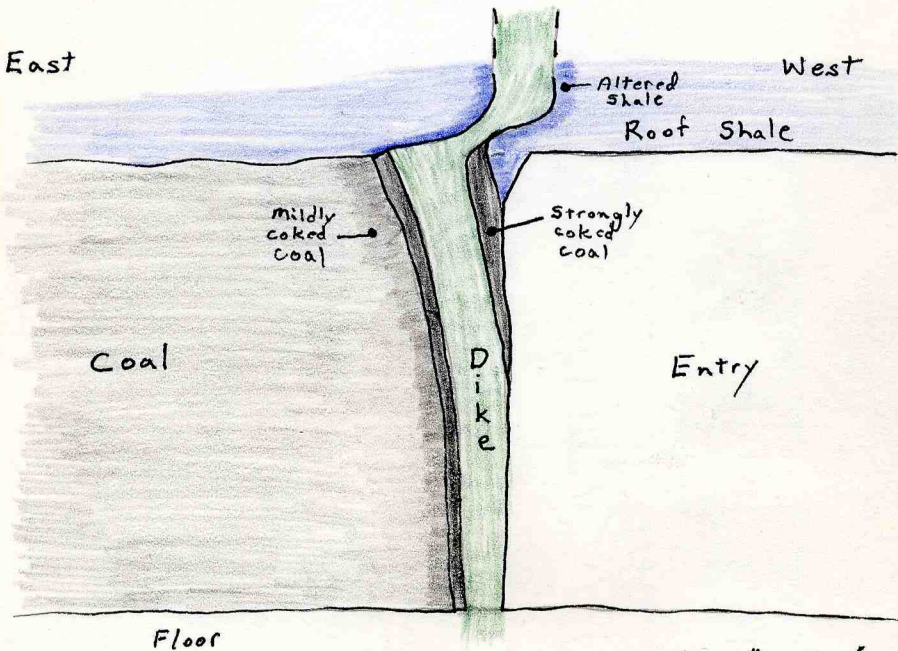
The manager also reports that the dike described earlier coincides with a linear on the lineament map of their property. The map was made by M.S.H.A. from satellite imagery. It may be that the dike penetrates all the way to the surface.



Arclar Mine

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South Rib of 11th X-cut
in North Mains

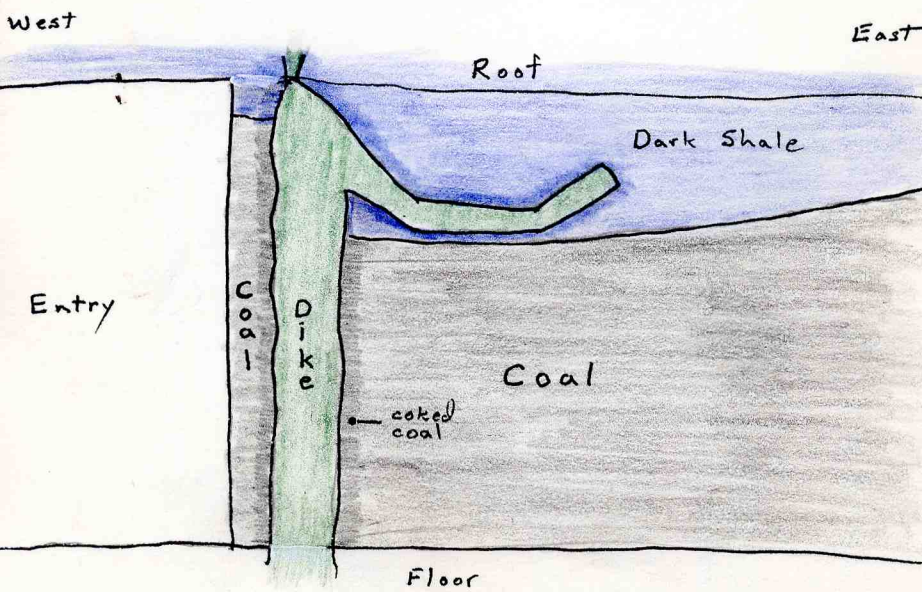




Arclar Mine

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North Rib of 11th X-cut
in North mains



Scale: 1" = 2.5'



Arclar Mine

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Channel Sample Site No. 1: Springfield (No. 5) Coal

Location: SW $\frac{1}{4}$, NW $\frac{1}{4}$, NE $\frac{1}{4}$ Sec. 18, 10S-8E;

In-Mine Location: North rib of 11th cross-cut between
Entries 7 and 8 of North Mains

ISGS Sample No. C-25017

Roof - Shale: dark gray; moderate hardness; smooth texture; well-bedded; slightly fissile; contains many thin, discontinuous calcite-filled fractures; some oval-shaped patches of pyrite; sharp contact with:

1.31' - Coal: normally bright banded; black; hard; predominantly clarain, with bands up to .06' thick; vitrain bands show maximum thickness of .015'; only two thin fusain bands visible; coal shows hackly fracture and poorly developed cleat; contains one large calcite-filled fracture up to .04' thick and 1.1' long; it is nearly vertical and slightly curved; there are several other calcite-filled fractures in vicinity.

0.01' - Pyrite: fairly continuous lamina.

0.04' - Coal: normally bright banded; similar to above.

0.01' - Pyrite: discontinuous lamina.

0.48' - Coal: normally bright banded; similar to above; one patch of pyrite

0.03' - Pyrite: variable thickness; discontinuous.

1.11' - Coal: normally bright banded; similar to above; poor cleat development; 80% clarain; vitrain very thin bedded.



Arclar Mine
Sample Site No. 1 Continued

0.01' - Pyrite:

0.65' - Coal: N.13.13.; similar to above; one prominent calcite-filled fracture, .015' wide and .58' long; numerous small ones up to .07' in length; all are vertical.

0.02' - Pyrite: hard; discontinuous

1.18' - Coal: normally bright banded; poor cleat development; some calcite and kaolinite cleat faces; mostly clarain; one small patch of finely crystalline pyrite; sharp contact with:

Floor - Claystone: medium gray; firm; small slickensides; slightly silty; some carbonaceous debris and stigmara.

Total coal thickness: 4.85'

Channel Sample Site No. 2

Location: SE $\frac{1}{4}$, NE $\frac{1}{4}$, NW $\frac{1}{4}$, Sec. 18, 10S-8E

In-mine Location: East rib of 2nd Entry of Main North, about 30' inby 11th x-cut.

ISGS Sample No. C-25018

Roof - Shale: dark gray; finely laminated; slightly fissile; smooth texture; moderate hardness contains both pyrite laminae and finely disseminated pyrite; very little carbonaceous debris; bedding undulates gently at this site; sharp contact with:

0.95' - Coal: normally bright banded; black, poorly developed cleat; some calcite and kaolinite cleat faces; predominantly clarain (80%) with individual bands up to .03' thick; vitrain bands all less than .01' thick.



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Arclar Mine
Sample Site No. 2 Continued

0.02' - Pyrite: appears continuous

0.72' - Coal: normally bright banded, similar to above; numerous thin, vertical calcite fractures throughout.

0.01' - Pyrite: locally thickens to nodules up to .04' thick.

1.96' - Coal: normally bright banded; similar to above; contains some very thin, calcite- and kaolinite-filled vertical fractures; poor cleat development; some small patches of pyrite.

0.22' - Shale: pyritized; hard, indurated; contains numerous, fine coal stringers and some wavy pyrite laminae.

1.03' - Coal: normally bright banded; hackly fracture; vitrain bands up to .02' thick; mostly clarain; some thin vertical and calcite veinlets near top of unit; some pyrite laminae in lower .55' of unit; sharp contact with:

Floor - Claystone: medium dark gray; very firm; slickensided; very little carbonaceous debris.

Total coal thickness: 4.92'

Additional Notes:

Since our 6/86 visit to the Arclar Mine, I have had access to a detailed map of that mine. The following information was obtained from that map.



FORM 180 W

Arclar Mine

Additional Notes (Cont)

Channel Smpl. Site No. 1

Location: 805'NL, 2360'EL, 18-10S-8E
Top-coal elevation: 343±' a.s.l.
Depth from surface: 207±'

Channel Smpl. Site No. 2

Location: 785'NL, 2675'EL, 18-10S-8E
Top-coal elevation: 343±' a.s.l.
Depth from surface: 167±'

Carbonatite Dike

Location of southernmost exposure in mine: Approx
1795'NL, 2670'EL, 18-10S-8E

Dike strikes almost due north from that point,
staying in the east rib of the No. 2 entry of the
North Mains.



FORM 180 W

A & F Coal Co.

Arclar Mine, Gallatin Co.

Portal loc.

Sec. 18, T.10S., R.8E.

Underground drift mine - Springfield (No. 5) Coal

Notes by D. K. Lumm

June 11, 1986

Mine opened May 1, 1984 and is located on the south side of Maher Hill about 6 miles south of Equality, Illinois. Mr. Charles AUSTIN, Superintendent, and Mr. George Fleisher, Mine Manager, told Steve Danner and I that the mine operates 1 unit; entries are oriented N-S and E-W, with a continuous miner. The coal is up to 5' thick and contains "hard vertical rock" and "vertical faults". The roof consists of 3'-4' of black fissile shale which is in turn overlain by about 1' of St. David Limestone and then a gray silty shale.

After we sampled the coal we examined the "hard vertical rock" and it was an igneous dike consisting of what appeared to be carbonate and some perpendicular (horizontal) veinlets of dolomite. A zone of coke also occurs adjacent to the dike. Samples taken for analysis.

See Danner's notes for seam description.

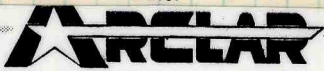


TOWNSHIP

Map No.

No.

R.



March 24, 1992

Mr. Heinz H. Damberger
Secretary-Treasurer
IL State Geological Survey
615 E. Peabody Drive
Champaign, Illinois 61820

Dear Mr. Damberger:

Here is the write-up on the history of our company:

THE ARCLAR STORY

The Franks family obtained substantial land and coal reserves in 1983 and began development of the Arclar Mine in January of 1984 in the Eagle Valley of Gallatin County, Illinois.

The Arclar Mine produced approximately 400,000 tons per year of high sulfur Illinois No. 5 Seam coal and in 1989 the company was awarded the prestigious "Sentinals of Safety Award", for being the safest underground coal mine in the United States.

At the same time the Arclar Company acquired significant coal reserves of a lower sulfur content to begin development of the Big Ridge Mine. This property is located three miles east of Harrisburg, Illinois. In July of 1990 the Arclar Company sold the Arclar Mine to focus on producing lower sulfur coal at Big Ridge consistent with compliance strategies dictated by the "Clean Air Act".

The Big Ridge Mine Produced approximately 1,100,000 tons of clean coal in 1991 and intends to increase that figure in 1992. The Arclar Company and the Franks family mine coal with excellent production and the utmost emphasis on safety.

If you need any additional information please feel free to contact me at the address listed.

Sincerely
Calvin D. Quertermous
Calvin D. Quertermous
General Superintendent
Big Ridge Mine

*see Saline Cnty
Big Ridge Mine*

617 E. CHURCH - P. O. BOX 444 / HARRISBURG, ILLINOIS 62946 / 618-252-0490 FAX 618-253-4300

RECORD

INDEX NO.



FORM 180 W

SAMPLE HISTORY

Plant sampled: Coal Processors, Inc. Date: 11/10/92

Company: Sugar Camp Mining Co. (partner or div. of Jader Fuel) Sample ID: Sugar C32781
POB 455, Henderson, KY 42420

Company representative: Larry Finley, Gen Mgr
Ed Downen, Operations, Shawneetown, IL

Mine (source of sample): Eagle Valley Collected by: RRR & RDH

Seam identification: Springfield Time of closure: 12:00

Mining period represented (dates): 11-9-92

Panel(s) & location(s) in mine:
Mine locations (descriptive):

3-4 mi south, 1 mi west of Equality

1/2 or footage section twp rge
S 1/2 6 10S - 8E
N 1/2 7 10S - 8E

Gallatin

Type of Preparation Plant:

Baum jigs with cyclones for the fine circuit

Sampling point: Belt (describe position in plant) # increments: 16 shovel fulls

Train Truck

Company's sampling device (yes / no) None available
Type:

Other (describe)

Procedures (describe other aspects):

Manual sampling of stock pile.

Coal Miners, Inc. / Sugar Camp

Information obtained during pt.
call to Al Rice on 8/29/96:

in Eagle Valley Mine

In 6/95 company made presentation
to Coal Mining Board about plan to
dig slope from Springfield Coal
level 200 ft down (vertically) to
Davis Coal about 840 ft. long.
This will develop about 20 million tons
of reserves of 38" - 48" Davis Coal,
claimed to be a "lower sulfur coal"
giving 15-16 yrs. life to mine.

Coal Miners, Inc. is conts. miner,
contracted by Sugar Camp Coal

According to mine inspector for
area they started producing from
Davis Coal in July 1996!



FORM 180 W

Visit to Sugar Camp Coal Company Eagle Valley Mine
June 8, 1999

Colin Treworgy, Dan North, ISGS
accompanied by Dennis Oliver, Sugar Camp Coal Co.

The purpose of our visit was to pick up two cores of the interval between the Springfield Coal and the Davis Coal and to view mining conditions in the Davis Coal.

The Eagle Valley Mine is room and pillar mining the Springfield and the Davis Coal. The Springfield Coal is accessed through an old highwall. We did not examine the Springfield Coal on this visit. A slope within the underground works of the Springfield has been cut down to the Davis Coal. The slope is cut downward to the south so that it intersects the Davis Coal, which is dipping to the north.

The mine operates continuous miners and ram cars in the Springfield seam. In the Davis they use continuous miners with a continuous haulage system. To maneuver the conveyer train, rooms in the Davis are driven off the entries at about a 30 degree angle.

The Davis lies about 200 feet below the Springfield and averages 43 inches thick. Dennis Oliver said that the mines washed product has about 4 pounds of sulfur per million Btu and about 13,200 Btu per pound.

The immediate roof in most of the mine is a black, slaty

shale, reported by Dennis to be commonly 6 to 12 inches thick. The contact between the coal and the roof is difficult to see because both units appear to be almost equally black and hard. According to Dennis, this is overlain by 8 to 12 feet of gray shale overlain by sandstone. The one core we picked up illustrated this sequence (county no. 25162). The units graded into one another with no notably sharp contacts. The roof appeared to be stable in the areas of the mine we visited and traveled through. The largest roof falls we observed were less than 3 feet high. The cause of the falls was not apparent. Dennis reported that in isolated spots, the roof has fallen to the overlying Dekoven Coal. This has occurred in areas where the Dekoven is within 20 feet of the Davis. Commonly, the interval to the Dekoven is thought to be 30 feet or more.

Dennis described one area of the mine where the sandstone cut down through the shale and rested directly on the coal. About 4 inches of the top of the coal were thought to be eroded. The coal in this area was 38 inches thick. The sandstone made a solid roof. The problem was that the sandstone was difficult to drill for roof bolts and the miner had to cut some of the sandstone in order to get enough clearance to advance. Their geologists used drill holes to trace this sandstone channel and project that it extends in a generally southward direction. This area of the mine was sealed when we visited, but they expect to mine near the sandstone channel in the future. One of the cores we picked up had the sandstone directly on the Davis Coal (county no. 25161).

The floor of the mine is a very hard claystone. They have no problems with it, even when it becomes wet.

The Davis Coal is hard. We did not observe any partings in the coal and had difficulty chipping pieces off the face with a rock hammer. Pyrite bands were observed in some areas. The bands were noted in all parts of the seam, but most commonly were present near the top of the seam. These bands were a maximum of 2 inches thick, extended for several inches or feet, and pinched out at their margins.

The seam was relatively level in the areas we visited. The mine is in a syncline, so there is a regional dip, but no local abrupt changes in elevation.

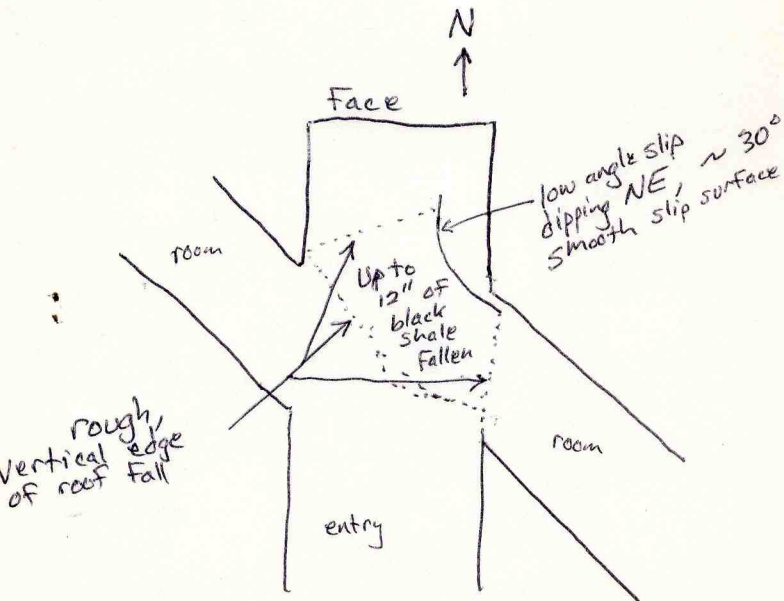
Dennis reported that they encountered a intrusion, similar to a dike, in the Davis Coal. The intrusion was 3 to 12 inches wide and ran in a northerly direction. The intrusion was not encountered where they mined the overlying Springfield Coal. The intrusion was very hard when they mined it, but softened when it became wet.

We observed two intersections near the face where small falls had occurred over part of the intersection (#4 entry, #1 Unit, +1948, N 364,218, E 495,755). In both falls, about 12 inches of black slate had fallen. One side of the falls was bounded by smooth, low-angle slip surface. Other sides were bounded by irregular surfaces and in some cases it appeared that additional shale had been cut down by the miner. In both cases the slip surfaces were on the east to northeast side of the fall and dipped to the northeast. The

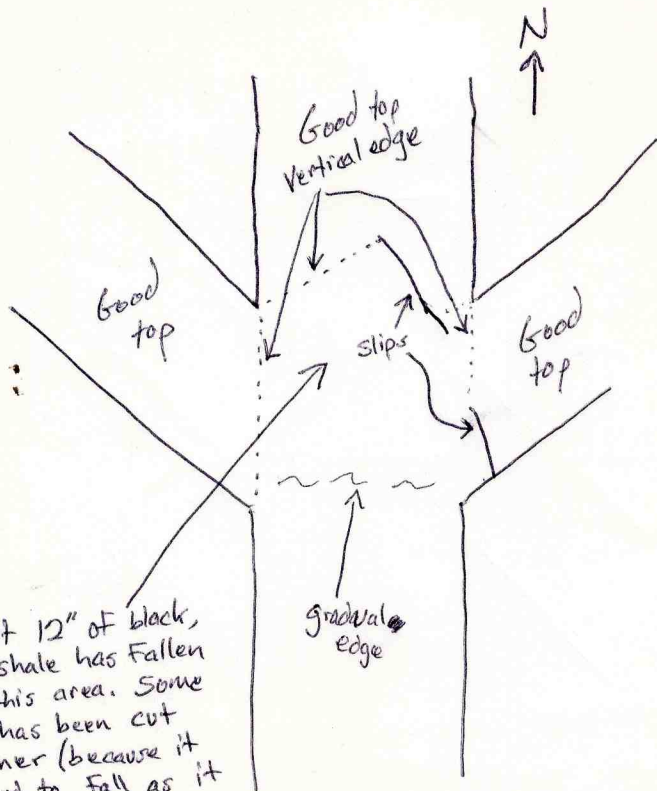


FORM 180 W

slip surfaces appeared to stop at the top of the coal. There was no visible displacement of the coal or the immediate roof. The slips appear to terminate upward in a flat, smooth bedding surface within the black shale, about 12 inches above the top of the coal. The falls occur more or less in the widest part of the intersection and appear to be controlled by the intersection (see sketches).



Map view of
 Small roof Fall near marker +1948,
 #2 entry, #1 unit. Northeast edge of
 Fall is bounded by a low angle slip plane.
 Other edges of fall are rough, nearly vertical.
 As much as 12" of black shale fell.
 The "roof" of the fall is a horizontal, smooth
 bedding plane of black slaty shale.



About 12" of black, slaty shale has fallen from this area. Some shale has been cut by miner (because it started to fall as it was being mined).

The northeast side of the fall is bounded by a low-angle slip dipping toward the NE. Other edges are nearly vertical, some obviously the result of cutting by the miner. The center of the fall area has a smooth, perfectly flat, slaty surface. The slip seems to terminate at this surface and the top of the coal. There was no visible displacement of bedding planes.

Map view of roof fall in #4 entry, #1 unit, near marker +1948.
state plane coordinates: 364,218 N, 495,755 E