

STATEMENT UNDER OATH

OF

BILLY D. OWENS

Taken pursuant to Notice by Richard J. Lipuma, CCR, a Court Reporter and Notary Public in and for the Commonwealth of Pennsylvania, at the Southeastern Utah Association of Governments, 375 South Carbon Avenue, Price, Utah, on Friday, September 28, 2007, beginning at 12:41 p.m.

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A P P E A R A N C E S

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19

20 ALSO PRESENT:

21 Kelly C. Kirkwood, Notary Public

22

23

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I N D E X

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P R O C E E D I N G S

MR. GAUNA:

My name is Mike Gauna. I'm a mine engineer, accident investigator with the Mine Safety & Health Administration, MSHA, an agency of the United States Department of Labor. With me is Derek Baxter from the Solicitor's Office, and we'll be conducting the questioning today.

I, together with other government investigators and specialists, have been assigned to investigate the conditions, events and circumstances surrounding the fatalities that occurred at the Crandall Canyon Mine in Utah in August of 2007. The investigation is being conducted by MSHA under

1 Section 103(a) of the Federal
2 Mine Safety & Health Act, and
3 the Utah Commission of Labor.
4 We appreciate your assistance
5 in this investigation.

6 After the investigation
7 is complete, MSHA will issue a
8 public report detailing the
9 nature and causes of the
10 fatalities in the hope that
11 greater awareness about the
12 causes of accidents can reduce
13 their occurrence in the
14 future. Information obtained
15 through witness interviews is
16 frequently included in these
17 reports. Your statement may
18 also be used in other
19 proceedings.

20 You may have a personal
21 representative present during
22 the taking of the statement
23 and may consult whenever
24 necessary. Your statement is
25 completely voluntary. You may

1 refuse to answer any question
2 and you may terminate your
3 interview at any time or
4 request a break at any time.

5 A court reporter will
6 record your interview. Please
7 speak loudly and clearly. If
8 you do not understand a
9 question asked, please ask me
10 to rephrase it. Please answer
11 each question as fully as you
12 can, including any information
13 you have learned from someone
14 else.

15 I would like to thank
16 you in advance for your
17 appearance here today. We
18 appreciate your assistance in
19 this investigation. Your
20 cooperation is critical in
21 making the nation's mines
22 safer.

23 After we have finished
24 asking questions, you will
25 have an opportunity to make a

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statement and provide us with any other information you believe to be important. If at any time after the interview you recall any additional information that you believe might be useful, please contact Richard Gates at the telephone number or e-mail address that's provided on this card.

Ms. Kirkwood, would you swear in the witness?

BILLY D. OWENS, HAVING FIRST BEEN
DULY SWORN, TESTIFIED AS FOLLOWS:

MR. GAUNA:

Ms. Kirkwood, are you empowered as a notary in the State of Utah?

MS. KIRKWOOD:

I am.

MR. GAUNA:

When does your

1 commission expire?

2 MS. KIRKWOOD:

3 August 15th, 2008.

4 MR. GAUNA:

5 Have you sworn in Mr.

6 Owens?

7 MS. KIRKWOOD:

8 I have.

9 BY MR. GAUNA:

10 Q. Is it okay to use --- call you
11 Bill in the process?

12 A. Yes.

13 Q. All right. Okay. Please
14 state your full name and spell your
15 last name for the record.

16 A. My full name is Billy Duane
17 Owens. My last name is spelled
18 O-W-E-N-S.

19 Q. And please state your address
20 and telephone number.

21 A. My business address is Post
22 Office Box 25367, Denver, Colorado,
23 80225. My telephone number is
24 303-231-5590.

25 Q. Are you appearing here today

1 voluntarily?

2 A. Yes, I am.

3 Q. How long have you worked for
4 MSHA?

5 A. I've worked for MSHA for 27
6 plus years.

7 Q. And where is your current duty
8 station?

9 A. I am the roof control
10 supervisor, Coal Mine Safety and
11 Health, District 9, Denver, Colorado.

12 Q. And how long have you worked
13 at that location?

14 A. I've worked at that location
15 the past ten years.

16 Q. Okay. And for how long have
17 you been the roof control supervisor?

18 A. For the past ten years.

19 Q. And who do you report to? Who
20 is your current supervisor?

21 A. My supervisor is William P.
22 Knepp, K-N-E-P-P.

23 Q. Okay. And just give us a
24 background of your mining history and
25 experience.

1 A. I have a Bachelor of
2 Engineering degree with the mining
3 option from the University of
4 Kentucky. At that time, Kentucky did
5 not --- the mining program was part
6 of the civil engineering program. I
7 worked summers as a UMWA employee for
8 Consol at Tacka (phonetic) Creek Mine
9 outside of Middlesborough, Kentucky.
10 After college in 1976, I was employed
11 by Bethel Coal Corporation as a
12 mining engineer. Bethel Coal
13 Corporation is a subsidiary of
14 Bethlehem Steel --- was. Neither are
15 in existence anymore.

16 After that, I went back to
17 graduate school at the University of
18 Kentucky, mining engineer, and
19 obtained 30 hours of post-graduate
20 studies. In 1980, I accepted a
21 position with the Mine Safety and
22 Health Administration, Denver Safety
23 and Health Technology Center as a
24 mining engineer in the Ground Support
25 Division. And there I did multiple

1 investigations. And principally, I
2 was the principal investigator ---
3 engineer for underground coal mining.
4 I also did metal, non-metal, all
5 facets. We covered most of the
6 western United States and part of the
7 southeastern United States.

8 I became the division chief of
9 the Ground Support Division in 1989.
10 In 1991, I became the center chief
11 for the Denver Safety and Health
12 Technology Center in Denver. And
13 then in 1997, MSHA management chose
14 to close the Denver Technology Center
15 and transfer all the functions to
16 West Virginia and Pittsburgh. At
17 that time, for family reasons, I
18 accepted a position as roof control
19 supervisor in Coal Mine Safety and
20 Health District 9. Part of my
21 experience during the time with Tech
22 Support is I was also on the
23 Two-Entry --- excuse me.

24 As I was saying, part of my
25 duties while I was in the Ground

1 Support Division and Tech Support, I
2 was on MSHA's Two-Entry Longwall Task
3 Force that visited numerous mines in
4 Colorado, Utah, Wyoming, New Mexico,
5 Alabama, Kentucky and Virginia
6 looking at coal mining and longwall
7 mining.

8 Q. Okay. Now, in your current
9 position, what is your primary
10 responsibility?

11 A. My primary areas of
12 responsibility are I'm responsible
13 for all the --- the district manager
14 is responsible for all the coal mines
15 west of the Mississippi River.
16 That's from Louisiana to Alaska. And
17 my area of responsibility, I have all
18 of the roof control plans for all the
19 underground mines. I have all the
20 ground control plans for all the
21 surface mines. Approximately, I
22 think it's either 25 or 26
23 underground mines, 89, somewhere in
24 that neighborhood, surface mines. I
25 also have responsibility for all the

1 impoundments, refuse piles. And
2 that's in the 120 or something like
3 that range. I'm responsible for all
4 the structural issues in mines that's
5 dilapidated --- silos that may have a
6 problem, slope stability for portal
7 development or any other issue that
8 may be going on, loadouts that were
9 --- looks like structures were not
10 good. I'm responsible for
11 photography plans, blasting plans.
12 And essentially, if it doesn't fit
13 into ventilation or health, it comes
14 into my area, typically.

15 Q. Okay. Okay. And just
16 basically, can you give me the
17 standard operating procedure for
18 reviewing a submitted plan for --- in
19 roof control phases of your
20 responsibility?

21 A. First, I probably should let
22 you know how many staff members I
23 have.

24 Q. Okay.

25 A. I have a mining engineer

1 that's a P.E. that I typically assign
2 all of the surface stuff to. His
3 name's Ron Gehrke. He gets the ---
4 most surface areas, impoundments,
5 especially impoundments. He does
6 impoundment reviews. I also have a
7 mining engineer that's stationed in
8 Delta, Colorado. She gets
9 responsibility for the Delta, Aztec
10 and Craig Field Offices. I have a
11 new trainee, Pete Del Duca, who is
12 fresh out of the School of Mines as a
13 mechanical engineer. He has
14 absolutely no mining background or
15 knowledge of mining until he came to
16 work for MSHA as an intern.

17 So that essentially is my
18 staff at the present time. If we
19 hire another ventilation engineer, I
20 will get a transfer over from
21 ventilation.

22 So when a plan arrives in the
23 office, it's logged into the --- if
24 it's an official submittal by a
25 company, it's logged into a mine plan

1 approval database. I receive the
2 plan. I either decide to review it
3 myself or I assign it to one of the
4 other specialists. Those other
5 specialists or myself, we have
6 certain criteria that we look at.
7 Those are included in the standard
8 operating procedures that we have.
9 Also, we go on past knowledge.

10 The specialists have the
11 liberty to work out any deficiencies
12 in the plan with the operator that
13 submitted the plan. If there are ---
14 to work out those what they deem to
15 be deficiencies in a manner that they
16 think a plan is approval, if they
17 work out that --- and that could be
18 resubmitting or rechanging pages in
19 the original submittal. Then that
20 --- their review --- they would write
21 up the approval letter. That would
22 come to me for my review. I look at
23 the plan. I go through it. If I
24 think there are things in there that
25 they didn't address, it's kicked back

1 to the specialist.

2 Because we are a limited
3 staff, many times I will go ahead and
4 contact the mine operator and say,
5 you need to change whatever it is.
6 And then I'll make the change and get
7 that into the page. And then once
8 --- if I don't kick it back and it
9 goes on a forward, I submit that
10 approval letter with the plan to the
11 assistant district manager for
12 technical services. He then reviews
13 it. You know, if he has any
14 questions, he again returns to me and
15 I'll get those questions answered.
16 If the assistant district manager for
17 technical services concurs with what
18 has been presented to him, then he
19 forwards the approval letter to the
20 district manager for final approval.

21 Q. Okay.

22 A. If it's a disapproval letter,
23 you know, the specialist again
24 submits that to me. I go through and
25 make sure that the deficiencies noted

1 are deficiencies, that what we are
2 requesting in the letter to the
3 operator conforms to what we can
4 require under 30 CFR, what we ---
5 meets policy. Sometimes you'd like
6 to see something in a plan, but there
7 are no rules or regulations or a way
8 of achieving that. So I go through
9 and make sure our deficiency letter
10 meets accepted practices, and then I
11 sign off on that and it follows the
12 same chain of command to the district
13 manager. The district manager is
14 always the final signature that goes
15 to --- or his representative, that
16 goes to the operator.

17 Q. Okay. Who's the assistant
18 district manager of Technical
19 Services now?

20 A. My supervisor, William P.
21 Knepp, K-N-E-P-P.

22 Q. Okay. Okay. On these plans
23 that are submitted, do most of these
24 operations provide an engineering
25 analysis to support their plans,

1 their proposed mining plans?

2 A. Typically not.

3 Q. Okay. When they do ---.

4 A. Let me rephrase that. When
5 you're saying mining plans, are you
6 speaking --- I'll rephrase that and
7 say that almost all of the plans for
8 impoundments do have engineering
9 calculations in that. If your
10 question is referencing underground
11 mining plans and ground control
12 plans, it would be typically not.

13 Q. Okay. I meant for underground
14 mining operations. Okay. When they
15 do have people that do their work for
16 them, outside groups, do they use
17 consultants or do they have analysis
18 made in-house through professionals?
19 How is that handled?

20 A. Typically if they do have some
21 sort of analysis that they use, it
22 would be done by --- it would be
23 submitted by a document that is
24 submitted to the company. And then
25 that's submitted as background

1 material, and that background
2 material is by a consultant.

3 Q. Okay. And which consultants
4 can you recall were most frequently
5 used in District 9 for underground?

6 A. Agapito Associates out of
7 Grand Junction, Colorado and Denver,
8 Colorado.

9 Q. Okay. Are there any others
10 that do that type of work?

11 A. We have received additional
12 information from other geotechnical
13 firms, but right now I can't recall
14 their names. I think maybe Bowrey
15 (phonetic) Resources is somebody
16 else.

17 Q. And what is the circumstance,
18 can you describe, that typically
19 requires them to go to an outside
20 consultant? What type of level does
21 that require? Why would they use
22 consultant type of plans?

23 A. Most of our plans are routine.
24 If there is something that is outside
25 of the normal lines of submittals as

1 required by 75.220, then when those
2 items come in, we may require --- we
3 call it a justification. And how
4 they provide that justification ---
5 we don't tell them to go procure an
6 outside consultant. We will go back
7 and say, you haven't adequately
8 justified your proposal. You need to
9 have some sort of documentation that
10 will provide the --- the
11 justification will enable us to
12 conduct a better review.

13 Essentially, what we're telling them
14 is right now we don't have
15 information to approve this plan or
16 actually to conduct an adequate
17 review of their proposal. And they
18 have to come in with a justification
19 which includes documentation.

20 Q. Okay. And what types of
21 design work do those type --- does
22 that usually involve? What are they
23 specifically trying to assess,
24 analyze or design in those
25 circumstances?

1 A. In many of the circumstances,
2 they are trying to either --- it
3 deals with a layout of longwall and
4 gateroads, barrier pillars. It could
5 be mining --- over or under mining,
6 mining near bodies of water, pillar
7 retreat mining, mining into barrier
8 pillars, those kind of things.

9 Q. Okay. What type of analysis
10 do they do when they make these type
11 of assessments? What type of design
12 tools do they use, or what type of
13 methods? Give me some examples of
14 methods you've seen or approaches
15 taken.

16 A. One of the other engineering
17 firms, I think it's called Norwood.
18 I think they're a Canadian group that
19 has also entered information.
20 Typically, they go in and they will
21 do onsite evaluation of the actual
22 conditions at the mine. And then
23 they will look at the strata
24 composition, depth, overburden. And
25 most likely, that will include some

1 sort of computer modeling that they
2 will employ. We have moved into the
3 21st century, so it's ---. And also,
4 they'll do instrumentation in some
5 places. You know, some of them have
6 been put in sag stations, convergence
7 stations. Other types of ways of
8 modeling ground movement.

9 Q. Let's move into something more
10 specific. Disregarding the events
11 now of August 6th, regarding this
12 Crandall Canyon Mine, how would you
13 characterize the ground conditions at
14 the mine compared to others in
15 District 9?

16 A. Very similar.

17 Q. Okay.

18 A. For the --- let me phrase this
19 --- District 9 goes from Louisiana to
20 Alaska.

21 Q. Okay.

22 A. So Crandall Canyon is in the
23 Wasatch Coalfields, which is very
24 similar to the same mines that are in
25 the Wasatch. It's not exactly like

1 what's in the Book Cliffs, which is
2 the other side of the valley.

3 Q. Okay. So it's similar to
4 other Wasatch --- sometimes I heard
5 it called Wasatch Plateau --- is that
6 what you --- mines?

7 A. Yes.

8 Q. Okay. Early in the mine's
9 history, they did pillar recovery
10 work. Did you ever have an
11 opportunity to evaluate the
12 conditions in the early continuous
13 haulage pillar recovery areas?

14 A. I don't recall being on any of
15 the continuous haulage pillar
16 sections.

17 Q. Later, I believe in 1995, the
18 operator began longwall operations.
19 Did you ever have an opportunity to
20 evaluate any longwall conditions?

21 A. I have been underground on the
22 longwall, but I can't --- I saw
23 nothing abnormal.

24 Q. Then after about just ten
25 years of longwall production, it

1 appears that they introduced pillar
2 recovery operations again. And were
3 you involved in any of the planned
4 process for them going back to pillar
5 recovery?

6 A. The mine was laid out to
7 continue longwall mining. And then
8 by the time they changed to pillar
9 recovery, they were underbid on coal
10 reserves by Energy West. That threw
11 all their mine planning into an
12 abysmal mess. So therefore, they had
13 to back up from their intended
14 projections and start over because
15 they didn't get the other --- and in
16 the west, the reserves are federal
17 reserves and they are released
18 typically in blocks. And sometimes
19 the way the federal reserves --- you
20 have to demonstrate that you can get
21 a certain percent of recovery to go
22 to the next reserve. Other times,
23 that next adjoining block of reserve
24 is bid out.

25 Q. Okay.

1 A. And I guess it's --- and I'm
2 not exactly sure. I assume it's ---
3 the mining company bids on a per-ton
4 royalty for the coal in the reserves.
5 Anyway, Genwal Resources lost that
6 bid and they had to change their
7 mining plan. As part of that, they
8 decided to open up the South Crandall
9 Canyon Mine, which they were going to
10 go to and start doing longwall mining
11 there. I don't think they had enough
12 adequate core holes to properly
13 evaluate that reserve. That didn't
14 work out.

15 They then --- they did pull
16 --- while they were up in here trying
17 to determine where to go mine, they
18 did mine from the short panels in
19 Crandall that appeared to be taken
20 --- for the amount of time it took
21 them to put the longwall in to take
22 it out, it was about equal to the
23 amount of time they mined, the way it
24 would appear on paper.

25 Q. Okay.

1 A. So then they came in and then
2 they started really pillar mining.
3 Essentially, what is typical when a
4 mine has reached its limits of
5 reserves is to retreat out of the
6 mine, any remaining recoverable
7 reserves that previously were
8 functioning as mains, submains,
9 barrier pillars, and retreat from the
10 back of the mine back to the portals,
11 and the facility is sealed.

12 Q. Okay. That appears to be what
13 they did. I guess what they call
14 their --- in the east or their south
15 mains, and that's where they first
16 started pillaring. What was involved
17 in the plan approval process to
18 extract --- pillar extract underneath
19 the stream valleys east of the south
20 mains? Can you recall?

21 A. They submitted an addendum or,
22 you know, a revised roof control
23 plan. I'm not sure. But anyway, we
24 approved a pillaring plan and it ---
25 I think it was with MRSSs. We didn't

1 do it site specific. It was just
2 included into their roof control
3 plan, so --- and then where the
4 streams were, they had to leave that
5 because of --- the environmental
6 issues required them not to damage
7 stream flows. And this area abuts
8 onto, you know, the floor surface.
9 And even their surface problems,
10 there were a lot of environmental
11 issues when they were developing the
12 loadouts and how they had to protect
13 the stream and wildlife and cover
14 over the stream, even to provide
15 outside facilities.

16 Q. Okay. Did you or any of your
17 staff visit the pillaring operations
18 down east of the south mains, look at
19 the conditions?

20 A. No.

21 Q. And as you recall, that was
22 done with MRSs?

23 A. Yes.

24 Q. Okay. After they pulled back
25 and extracted the area to the east of

1 the south mains, they began to
2 extract the --- I guess the pillars
3 in the south mains, and worked their
4 way northward. Do you recall what
5 plan modifications required for that
6 or ---?

7 A. I don't think there were any
8 plan modifications for that. I don't
9 recall that. We typically --- if
10 we're not onsite or if I'm not
11 onsite, we get reports from the field
12 office. The field office, each
13 quarterly inspection will send a form
14 in telling us if they have a problem
15 with that. We also watch the
16 accident injury rate. I get a
17 regular printout, and it lets me know
18 which mines in the district are, I
19 think it's 50 percent above the
20 national average. And I think
21 there's some other things, like they
22 have more than four reportable
23 accidents, that I receive as bullets.
24 And I received no flags on Crandall
25 Canyon.

1 Q. Okay. Did you have an
2 opportunity to how their pillaring
3 sequence worked in the south mains,
4 how they extracted the south mains or
5 how they worked their pillar system
6 in, the design in?

7 A. No. No, I did not.

8 Q. Did you recall of anybody from
9 the field office describing any of
10 the conditions that were encountered
11 while they extracted that mine, in
12 the field office reports?

13 A. All the reports from the field
14 office said conditions were good.
15 Things were going very well.

16 Q. I believe --- correct me if my
17 sequence is wrong here. After
18 recovering the pillars in the south
19 mains, the operator requested
20 approval to mine the barriers
21 adjacent to the main west. Is that
22 what happened in the next sequence of
23 plans?

24 A. That's correct. I think it
25 was in the spring of 2006. Laine

1 Adair from Genwal Resources
2 approached us with a proposal to mine
3 the barriers adjacent to develop, not
4 just to --- to develop entries into
5 the barriers and then retreat the
6 barriers out. And these were the
7 west mains --- mains west, I think
8 they called it.

9 Q. Yeah, main west.

10 A. Mains west were adjacent to
11 the barriers. The barriers were
12 north and south of main west. And
13 those --- main west was separated ---
14 those barriers separated main west
15 from retreated longwall panels on ---
16 to the north of main west and to the
17 south of main west. Mr. Adair
18 approached the --- or mentioned to
19 the District that he --- they were
20 entertaining that thought. That's
21 when we told him that we needed a
22 justification if he intended to
23 develop into the barriers and then
24 retreat mine those.

25 Q. Okay.

1 A. He was in the office to meet
2 on the Aberdeen Mine, and it wasn't a
3 Crandall Canyon meeting. It was an
4 Aberdeen Mine meeting. And this was
5 --- Aberdeen and West Ridge, and then
6 this was kind of an add-on to that
7 meeting.

8 Q. Okay. Could you just give me
9 just a review of the process that
10 went in and the steps that went
11 through in order to get that plan
12 approved to mine in the north barrier
13 pillar area?

14 A. I don't have a document in
15 front of me, but I'll go through it.
16 I can go through it, but I mean, I
17 won't get the dates exactly.

18 Q. Okay.

19 A. It was a Monday in October, so
20 it's probably like October --- I
21 mean, September, September 8th or so.
22 Again, we were meeting with Mr. Adair
23 and his staff regarding Aberdeen.
24 And at the conclusion of that
25 meeting, Mr. Adair said that he had

1 --- they had contracted to Agapito
2 Associates to do a feasibility study
3 of mining into the barriers, and from
4 --- based on --- in Crandall Canyon,
5 and that he had the reports with him
6 and he would leave them with me for
7 our review. I gave the reports to
8 Pete Del Duca of my staff. He's the
9 young mine engineer, and he's in CMI
10 school most of the time, but he was
11 in the office. I told him to look
12 through it and see what the reports
13 had to do.

14 He tried to run the same
15 analysis that Agapito had run.
16 Essentially, what the Agapito reports
17 did is they stated that the barrier
18 pillars could be mined and retreat
19 mined by developing four entries with
20 three pillars and then retreat mining
21 them. They modeled doing the north
22 barrier first, then the south barrier
23 and then coming out and doing the
24 remainder of the mains west out that
25 would come on out between what had

1 been the one south and all the area.

2 During that review, since that
3 was showed to be feasible for
4 development, and when Mr. Del Duca
5 came up with some issues in the
6 review, that he differed with Agapito
7 and said that there seemed to be some
8 conflicts with doing the south
9 barrier, doing the retreat mining
10 there, so we decided to draft a
11 letter and send the letter to Genwal
12 Resources requesting additional
13 information and discussing the
14 discrepancies and the differences.

15 In the interim, Genwal
16 Resources had submitted a plan to
17 develop the north barrier. And we
18 essentially told Genwal Resources
19 that we would look at the plan
20 approving process. We wouldn't give
21 them a carte blanche to do all the
22 mining that was showed in the Agapito
23 report, but we would approve
24 development in the north barrier and
25 then conduct onsite evaluations, get

1 results and see what happened before
2 we approved an additional phase.

3 So they submitted that plan.
4 I think it was in November we sent
5 our approval to conduct developmental
6 mining in the north barrier. In
7 December, I looked at what Mr. Del
8 Duca had done, the analysis he
9 conducted, further analysis of that,
10 and he ---. Then I called Genwal
11 Resources, Laine Adair. We discussed
12 some of the information there. We
13 discussed how Agapito done it --- had
14 done their analysis, then looked at
15 Del Duca's. And we made some wrong
16 assumptions. And then we looked at
17 what Agapito had done and went more
18 into Agapito's study and decided that
19 it was feasible for --- what Agapito
20 did was okay.

21 We put into our model --- we
22 put in that the --- we went to the
23 default on LAMODEL, which is 900 PSI.
24 We also conducted LAMODEL as the
25 entries being --- the south entries

1 being three pillars. And then from
2 that point on, the south mains and
3 everything would be in the gob all
4 the way over to the --- essentially
5 to the longwall gob, which was an
6 incorrect model on our part.

7 Under ARMPS --- and all we did
8 was ARMPS. Under ARMPS, what should
9 be done is the entry should be
10 developed. If it was going to be
11 developed and retreated, it should be
12 a retreated entry. And then even
13 though there's pillars there, with
14 the development in there, if they're
15 considered to be stable pillars, that
16 should be treated as an infinite
17 barrier or a widened barrier of that
18 width.

19 Q. Okay.

20 A. And so we had mistakes in our
21 model, too. So we concurred with ---
22 we were satisfied with the
23 information we got back regarding the
24 values that Agapito would use.

25 Then the 1st of January, I

1 traveled to the south --- or the
2 north barrier development, went
3 underground. I took Mr. Del Duca
4 with me. We traveled underground
5 with Laine Adair and I think Gary
6 Peacock, I believe, was the person.
7 We traveled into the mine. They're
8 essentially in about the deepest
9 cover there, 2,000 feet to 2,200
10 feet. The mine was putting
11 additional support in and --- most of
12 their other areas they had six posts
13 across, one-inch diameter wire mesh,
14 I think six-foot long bolts. The
15 roof looked excellent underground.
16 Wire mesh was doing a great job.

17 The mine had got into an area
18 where before, Agapito suggested they
19 not leave top coal. The top coal was
20 rattling on the miner and coming out.
21 The mine wanted to leave top coal to
22 prevent that rattling. And I guess
23 it was probably contaminating their
24 product. But that would hold the
25 roof --- the top coal would hold the

1 roof so --- until the bolting machine
2 got in. We discussed that issue.

3 While we were underground,
4 about 200 to 300 feet out from the
5 mining face, the --- one of the
6 pillars sloughed, and I mean, it was
7 almost a whole crosscut, probably 6
8 to 12 inches thick, the rib just set
9 down. But it didn't throw coal out
10 into the walkway. It didn't expel
11 any particles that would strike
12 anyone. It just laid down --- sloped
13 down and laid down against the rib.
14 I considered that to be the pillar
15 yielding in the controlled manner
16 that it should.

17 There was some popping and
18 cracking outby the face. In the
19 face, the mining looked good. The
20 coal was standing pretty good. We
21 continued through the section, and we
22 came --- we walked back out the
23 number four entry, which would be the
24 bleeder entry. And they didn't have
25 any support in the crosscut for the

1 bleeder entry. I told them that I
2 didn't think that was adequate, that
3 they needed to put additional support
4 in the bleeder entry to ensure that
5 when they started retreat mining,
6 that the cave wouldn't ride through
7 the crosscut and block off the
8 bleeder, that they had to ensure that
9 a person could travel all the way
10 back the --- the bleeder entry has to
11 be traveled for its entirety to the
12 back of the panel.

13 So they said they'd change
14 their submittal and put in additional
15 support in the bleeder entry. They
16 then submitted a report with a
17 revision to what they had submitted
18 at the office, and that revision
19 wasn't adequate. I sent them --- I
20 can't remember if I sent them an
21 e-mail or I called them on the phone
22 and said they had to have a minimum
23 of two rows of timbers and four rows
24 of timbers --- or four timbers per
25 row. So essentially, that they had

1 to have a breaker row established
2 across each crosscut consisting of
3 eight timbers.

4 And they said that they would
5 do that. And they then resubmitted
6 again the new drawing or new plan
7 showing that feature, and then I
8 think in early February we approved
9 that plan.

10 Q. Okay. Let me back up a little
11 bit to make sure I got some of this
12 information right. When you were
13 there, were they just in development
14 mode? That investigation you said
15 was December 2006?

16 A. It was January 2007.

17 Q. January of 2006 --- 2007.
18 Okay.

19 A. I talked to him in December of
20 2006 to iron out differences with the
21 Agapito report and our report. We
22 did that. That was resolved in
23 December 2006.

24 Q. And they were just doing
25 develop mining at the time?

1 A. Correct.

2 Q. Okay. And the rib sloughage
3 you saw, was that accompanied with
4 any vibration or was it just
5 something that just slid?

6 A. No. It just --- there was
7 popping and cracking, you know, a
8 little thump, but you didn't feel the
9 thump in your feet. You could hear
10 it in the roof. It wouldn't be
11 considered a bounce that's shaking
12 the area or anything like that.

13 Q. Let me go back and get some
14 more information. You said that you
15 had the new engineer run an ARMPS
16 analysis, in other words, do ARMPS in
17 order to confirm or check the Agapito
18 reports?

19 A. Correct. Like I say, he's a
20 young engineer. He's straight out of
21 the School of Mines. I think he's
22 been out about a year now. And he
23 will graduate from CMI school ---
24 yesterday. And he has no mining
25 knowledge. So any time that I can

1 provide something that tries to show
2 him what other people have done or
3 that he can --- you know, he's in up
4 to his ankles. I got to get him in
5 and up to his knees and then, you
6 know, kind of like boa restrictor. I
7 got to feed him a little bit at a
8 time.

9 Q. Right. I know what you mean.

10 A. And so I'm trying to develop
11 the young man. He's intelligent.
12 He'll do the agency an excellent job
13 in the future, but he's not there
14 now. So I had him go through the
15 Agapito report and look at it and do
16 the --- really sharp on the computer
17 and stuff like that.

18 Q. Okay. Do you recall how the
19 stability factors that he came up
20 with or even Agapito came up with
21 compare with other deep cover
22 operations here in the western areas?

23 A. No. No, I don't. I can't
24 compare the ---.

25 Q. All right. Do you recall ---?

1 A. I can tell you that looking
2 through some of the stuff that Chris
3 Mark has done that some are more
4 favorable, but, you know, they're in
5 the same ballpark.

6 Q. Okay. The stability factors
7 were similar to favorable conditions
8 that you seen published through ---
9 did I understand that correctly?

10 A. Correct. That, you know,
11 there's some --- and some of the
12 publications, there's stability
13 factors that are favorable that go
14 all the way down to .18. And
15 conversely, there are stability
16 factors at three that fail. So you
17 know, at the state that --- are they
18 --- how do you compare them? I mean,
19 you can pick out whatever you want
20 to. There are ones that are
21 favorable on both sides of the line.

22 Q. Did you have an opportunity to
23 also look at the barrier stability
24 factors on this analysis on the
25 barrier joining the development that

1 was being proposed?

2 A. I don't recall getting into
3 the barrier analysis.

4 Q. And since they'd already done
5 quite a bit of pillaring in the
6 south, would any of that experience
7 influence the acceptance of the
8 Agapito analysis?

9 A. It did. Well, Agapito used
10 mostly the north for their analysis
11 where they'd pillar mined. And also,
12 in the north, they use a continuous
13 haulage method. Agapito's analysis
14 based the --- the entry widths all
15 being 20 feet wide. In the north,
16 the center haulage for the continuous
17 haulage is 23 feet. So you have a
18 little bit of conservatism built into
19 Agapito's analysis coming at their
20 stability factor they arrived there.

21 In the barrier pillar designs,
22 Agapito again conducted the analysis
23 using 20-foot wide entries. And also
24 in ARMPS, if you put 20 feet wide for
25 the entry, you get 20 feet for the

1 crosscut. That's the default in the
2 program, so --- and then in the
3 barrier pillars --- in the barrier
4 pillar design, the entries were being
5 developed 18 feet wide --- 17 to 18
6 feet wide with the crosscuts. So
7 again, you have a conservatism built
8 in to Agapito's analyses.

9 Q. Okay. Did anybody in your
10 group run LAMODEL or any other
11 programs other than ARMPS?

12 A. No, we didn't. We don't have
13 --- my group does not have an AutoCAD
14 program. The one person in our group
15 has --- and one person in the
16 District has AutoCAD, and that's on
17 the IT person's computer. And
18 sometimes we get AutoCAD programs
19 sent in to us and we can send them to
20 him. Then he can download the
21 AutoCAD or download the files for us
22 --- not download. He prints it out.
23 So we discussed that, the need to do
24 AutoCAD so that we can do the
25 modeling. And we sent a request in

1 in March for AutoCAD.

2 And that's one of the things
3 that we did in there, saying we need
4 a lot of AutoCADs to run these other
5 models, because we have mining in the
6 barriers. We have people going as
7 close as they can get to adjacent or
8 old mined out mines. We have mining
9 under bodies of water. We have
10 multiple seam mining. So we need ---
11 we have the expertise to run the
12 models. We need the software to be
13 able to model it.

14 But Pete came to me and said,
15 I can't do --- I want to change even
16 --- he wanted to change some of the
17 things that were in there that he was
18 measuring off the official map that
19 was submitted, that he wanted to put
20 into a program to try to do like
21 LAMODEL, but we didn't have the
22 AutoCAD.

23 Q. You were looking through the
24 files, and I noticed that November
25 --- and I guess this part when you

1 first were talking about
2 discrepancies between --- you did
3 mention in that letter the five
4 questions you had about discrepancies
5 between Agapito's runs and what your
6 group had noticed on analysis. And
7 were those responses ---
8 discrepancies solved through you
9 contacting the operator or Agapito?

10 A. No, through contacting the
11 operator.

12 Q. Did you consult with anyone
13 else on that, on what those
14 discrepancies might be, other than
15 your group or an outside individual
16 about other things that they might
17 want to consider?

18 A. No, I did not. Just as a
19 reference, I have attended the
20 numerous workshops on the ARMPS and
21 ALPS and these programs. I was
22 called back --- when I was director
23 --- or the chief of the Denver Safety
24 Technology Center, I was called back
25 to Washington, D.C. for a meeting to

1 discuss some of the programs that
2 they were putting out, and
3 specifically the ALPS program that
4 was put out by NIOSH where there was
5 --- I guess when it initially came
6 out, there was a statement that this
7 can be used to safely design
8 gateroads.

9 Some of the individuals
10 outside the agency that were not
11 happy with the approval of some of
12 the mining systems in the west,
13 specifically the two-entry system,
14 said that you can take the ALPS
15 program and you can design any number
16 of entries you want. It guarantees
17 that you can do that. And so
18 therefore, there should never be a
19 petition of modification again for a
20 two-entry system.

21 At that time, I was called to
22 Arlington to discuss with Dr. Chris
23 Mark and the staff --- I can't recall
24 --- I think it was still Trail Mines
25 at that time, how they phrased their

1 literature and they put it out. And
2 it was agreed from that meeting that
3 Dr. Mark would put out that ALPS
4 doesn't guarantee anything. It's a
5 tool to be used to help in design.
6 And if I am correct in my reading,
7 the way he does ARMPS now, that that
8 is still the way that NIOSH phrases
9 the ARMPS. ARMPS doesn't guarantee
10 any kind of stability. It will not
11 make any mine safe. It is a tool to
12 use to start your design. If you do
13 not have any background history, then
14 you should use the default programs
15 that Dr. Mark had established in the
16 program.

17 If the mine has a history, Dr.
18 Mark states that those portions
19 should --- you take the mine where
20 they can establish a stability
21 factor, take that stability factor
22 and use that for their stability
23 factor for their mine based on their
24 rock mass classification, geology,
25 mining method, cover and other

1 conditions that are specific to that
2 mine.

3 Q. Okay. Maybe you can recall.
4 I do have the five items that were in
5 that letter. We have a copy. Would
6 that help if you were to go over each
7 of those points and use as an
8 exhibit, if you can recall how you
9 were --- explained to you how this
10 --- why the Agapito report could
11 justify those values from the
12 original?

13 A. Okay.

14 MR. GAUNA:

15 This is Owens Exhibit

16 One.

17 (Owens Exhibit One

18 marked for

19 identification.)

20 BY MR. GAUNA:

21 Q. I guess starting with the
22 first item, the 1,640 PSI coal
23 strength that you thought was high,
24 what was the explanation as to its
25 validity?

1 A. The 1,640 PSI, we said typical
2 coal strength was much lower. The
3 default in the ARMPS program was 900
4 PSI. That's mainly based on --- the
5 program's looking at coal strengths
6 for less than 750 feet of cover. The
7 Hiawatha Seam has a coal strength
8 that actually ranges from 1,800 PSI
9 to 4,000. The 1,640 is conservative
10 for the Hiawatha Seam. Again, it's a
11 measure of building conservatism in
12 the program there. And it's not only
13 --- Agapito has done --- had
14 previously did several studies within
15 the Crandall Canyon Mine, probably
16 three or four.

17 But in addition to that, they
18 have done --- and they have conducted
19 numerous studies within the Wasatch
20 Plateau, Star Point Mines in the
21 Hiawatha Coal Seam. I think the
22 Wilberg Mine was in the Hiawatha Coal
23 Seam. SUFCO Mine was in the Hiawatha
24 Coal Seam. So there's numerous other
25 mines in the area that are in the same

1 seam. Agapito has been there.

2 Chris Mark and one of his ---
3 Dr. Chris Mark from NIOSH in one of
4 his publications has a value for the
5 Hiawatha Seam that I think is
6 somewhere between 1,800 and 2,000
7 PSI, if I remember correctly. Hamid
8 Maleki has a publication for Hiawatha
9 Seam stating that the value's over
10 3,600 PSI. I'm pretty sure it's in
11 that range.

12 But so based on this, you
13 know, Agapito has an extensive
14 history to justify the 1,640 PSI. We
15 used the 900 default. Everything we
16 did in our program was the default
17 value.

18 Q. Okay. Can you recall what the
19 explanation was on the 500 PSI that
20 was in question for the elastic
21 modulus?

22 A. Again, it was explained that
23 Agapito had an extensive history with
24 the coal seam. And they've done
25 over-quarrying in the coal seam.

1 They've instrumented the coal seam in
2 different areas out of their
3 extensive database of working within
4 the physical properties of the coal
5 seam.

6 ATTORNEY BAXTER:

7 Could I just clarify?
8 Are you asking what was told
9 to you regarding these things,
10 or what Mr. Owens knows about
11 it?

12 BY MR. GAUNA:

13 Q. What they told you as to why
14 it was reconciled.

15 ATTORNEY BAXTER:

16 Okay.

17 BY MR. GAUNA:

18 Q. Am I understanding that you
19 were answering what was told to you
20 by the operator?

21 A. Correct.

22 Q. Because Agapito did not
23 consult --- you were dealing directly
24 with the operator, from my
25 understanding.

1 A. Right, right. That the mine
2 operator had a high level of
3 confidence with Agapito and
4 Associates. And so they use them for
5 the Genwal Resources, Tower
6 Resources. There are other mines in
7 the area. Mr. Adair is also familiar
8 with them when he was at Price River
9 Coal, so he has a --- and that's who
10 I talked to, was Laine Adair. And he
11 has a history with the Agapito
12 people.

13 Q. How about item three, the mine
14 geometry different from the physical
15 mine map --- employed on the computer
16 model different from physical mine
17 map?

18 A. That was on some of the areas
19 on the widths. And like I said, the
20 Agapito went --- was in the values
21 that --- you can plug in some of the
22 default values. Like if you would
23 plug in 20 for the entry width,
24 that's what you get all the way
25 across. Even though it was 23, they

1 used 20 in the crosscuts. So again,
2 that went back to the defaults in the
3 program --- or the constraints within
4 the ARMPS. The ARMPS, if you want to
5 look at crosscut one and then
6 crosscut four and then crosscut ---
7 it's a different run each time.

8 Q. Okay.

9 A. It's not a progressive model
10 like it'd be like on some of the old
11 models where one area might fail,
12 then it will give you a readout and
13 show you what goes on in the other
14 areas. You have rerun ARMPS to get a
15 different look.

16 Q. Okay. Item four, the LAMODEL
17 analysis showed that the pillars
18 surrounding the exhibit --- the
19 yielding zones, that you had a
20 concern about them causing a burst.
21 How was that explained? What was the
22 reason for them to not consider that
23 to be a problem?

24 A. And you know, we considered
25 the LAMODEL, that it looked like that

1 it was getting too high, but the core
2 value of the pillar was still good.
3 So they considered that that would be
4 the rib sloughage.

5 Q. Okay.

6 A. As long as the core wasn't
7 overstressed, then there wasn't a
8 bounce potential.

9 Q. Okay. And item five, the
10 stability factor of 0.37 for the
11 first north. Like it states here in
12 your letter ---.

13 A. Well, on this, the --- Agapito
14 did use the higher ground. They used
15 41, so they increased the ground
16 failure --- you know, the LAMODEL
17 went over the 37.

18 Q. Okay.

19 A. The 37 was the minimum, so
20 they went higher than 37. The 37 was
21 for the ground failure occurring. I
22 think it was like --- what was
23 actually used is a 30-percent
24 increase over that.

25 Q. Okay. Were these the only

1 questions that came up --- well, that
2 you had pertaining to their analysis,
3 or were there others?

4 A. No. These were ---.

5 Q. When you made your inspection
6 on the development in the north
7 barrier, was there any evidence of
8 any structural, you know, like
9 joints, faults, things like that that
10 were evident in your tour?

11 A. No. No --- nothing I'd
12 consider to be an anomalous condition
13 that would elicit concern.

14 Q. Is that your last time that
15 you --- or is that the only time you
16 visited the north barrier section was
17 on that assessment in ---?

18 A. Yes.

19 Q. Okay. You need a break or
20 anything?

21 A. No. No, I'm fine.

22 Q. Okay.

23 A. I'm an endurance person.

24 Q. All right. Let me get a drink
25 of water here for a minute. Okay.

1 Did the company report any bounces
2 while pillaring in the north?

3 A. I should back up. Typically,
4 Mr. Adair and I communicated
5 regularly regarding the conditions on
6 development and on retreat. Most of
7 those reports were very favorable. I
8 also would, you know, ask if anybody
9 had been to the mine, if they had
10 seen anything, and all I received was
11 favorable reports. I think it was on
12 March 12th, if that's a Monday, Mr.
13 Adair called me to state that the ---
14 they had 2,000 feet of cover. They
15 were getting about two feet of
16 material in the mesh. And so they
17 backed up --- they were leaving
18 pillars and backing up to start
19 mining again. And I think that might
20 be where they started leaving top
21 coal, and that might be part of the
22 top coal problem. So it was starting
23 to back up to get out of the top
24 coal, back to where the top product
25 was.

1 Then he said that --- you
2 know, when they backed up and started
3 mining again, when the miner starting
4 mining the pillar, the pillar was
5 bumping and that the single entry was
6 pretty well beaten up. I'm pretty
7 sure of the phrase he used. And the
8 single entry he's referring to is the
9 bleeder entry that goes inby from the
10 face. And for your people on the
11 recording, the bleeder entry's also
12 the number four entry.

13 Q. Okay.

14 A. The entries are numbered from
15 left to right, one, two, three, four.
16 So the bleeder entry is the number
17 four entry. He said it was pretty
18 well beaten up. They had lost some
19 stoppings inby, and it was hazardous
20 to travel. He said that the mining
21 crew was going to pull out of that
22 area. I took that to mean that they
23 were going to back out further out
24 and continue mining.

25 They also contacted the

1 ventilation people about establishing
2 an MPL outby where this bounce had
3 occurred. And the ventilation people
4 correctly told them that they could
5 not establish --- that they had to
6 travel to the back of bleeder. And
7 the back of the bleeder was moving
8 outby because of water. If water to
9 the roof or they couldn't get inby,
10 the water --- that was where it was
11 established, in the bleeder. Water
12 actually in the seal also.

13 So the ventilation people
14 correctly told them that they had to
15 travel to the back of the bleeder.
16 Mr. Adair requested that --- they
17 wanted to know if they could put
18 curtains up. I told him, no, that
19 was unacceptable. They couldn't put
20 --- they couldn't use curtains. They
21 had to have substantial stoppings to
22 control the air flow through the gob
23 to the back of the bleeder and then
24 return it out the bleeder entry.

25 So then since Mr. Adair said

1 they considered it too hazardous to
2 travel to the back of the bleeder ---
3 although they did do the
4 examinations, the required
5 examinations. So therefore, they
6 pulled out of the section.

7 Q. Okay. You used the term beat
8 up. Was there any mention made of a
9 bounce?

10 A. No. Well, he said it was
11 bouncing when the miner was cutting
12 the pillar.

13 Q. Okay. And just for
14 clarification for the record, how
15 would you describe --- how would you,
16 I guess, describe a bounce? Because,
17 you know, different people use
18 different terms for it, have
19 different ways of referring to it.
20 Just clarify, what's a bounce?

21 A. Okay. Bouncing --- we call it
22 bumping or bouncing. That's anytime
23 you hear a noise. And a bump or a
24 bounce can go from the roof bumps or
25 the pillar bounces, and all you can

1 get is coal dust off. You can see
2 the coal dust will be in the air.
3 You can feel that it's thumping.
4 Another bounce can bounce a --- it
5 can fill the entry with coal. It can
6 bounce the miner out of the section.
7 As soon as the miner head cuts into
8 the coal face, it can actually bounce
9 it back. It can damage stoppings.
10 It can --- so we use --- essentially
11 use the same terminology from an
12 event that can be occurring every ten
13 minutes on a section to something
14 that shuts a section down.

15 Q. Okay. And as far as you
16 recall, the reason for stopping
17 mining in the north barrier, could
18 you repeat what your understanding
19 was, the reason they pulled out and
20 stopped mining?

21 A. Because it was too hazardous
22 to travel the bleeder entry to the
23 extent of the bleeder. We would not
24 allow them to get an MPL to travel
25 there. So therefore, they said they

1 would seal it.

2 Q. Okay. And on your regular
3 communications with the mine operator
4 on the conditions and so forth, that
5 was done by e-mail, telephone? What
6 was that mode of communication?

7 A. Typically with a phone call.
8 And then sometimes it would be a
9 phone message could be left by Mr.
10 Adair or, you know, I'd call. A lot
11 of times we didn't get to talk in
12 person. I called him, leave him a
13 message and then he'd call back and
14 leave me a message to say I was down
15 there yesterday. Typically, he went
16 to the mine about once a week.

17 Q. Okay.

18 A. And some weeks he didn't make
19 it depending if he had a crisis at
20 one of the other mines.

21 Q. Okay. You also made mention
22 that the --- along with this
23 communication with him, were the
24 people from the field office that
25 would report anything, or were they

1 --- did you ask the field office
2 people were there any conditions that
3 were --- could be reported?

4 A. I didn't ask if there was
5 conditions that could be reported. I
6 just said, is there anything going
7 on. At that time, Gary Jensen, the
8 person that was fatally injured in
9 the rescue effort, was one of my
10 staff. And so Gary was in the area,
11 too.

12 Q. Okay. All right. After ---.
13 No break? Keep going? You fine?

14 A. Yeah.

15 Q. All right. After I guess they
16 moved the section, the operator
17 submitted a plan to develop the south
18 barriers. And what was the process
19 for reviewing that plan?

20 A. I think the plan was before
21 that. I think the plan to develop
22 the south barrier was approved in
23 February.

24 Q. Okay.

25 A. February --- the first week of

1 February. I believe around February
2 5th. And that was based on, you
3 know, the --- I had been to the north
4 barrier. Things looked good. The
5 miners were reporting it was good.
6 They told me Agapito had been onsite
7 and had looked at things and said
8 that the conditions in the north
9 barrier were following what, you
10 know, as was predicted in the model.
11 And essentially, we would call that
12 groundproofing. And so that
13 everything was going along with plan,
14 so we approved the mining out of the
15 south barrier development.

16 Q. Okay.

17 A. And again, we had discussed
18 with the company initially from the
19 getgo that it would probably be
20 approved in phases. So essentially,
21 there were four phases. Approval of
22 the development of the south barrier
23 was the third phase.

24 Q. Okay. So it was just
25 development as one phase, but the

1 pillaring had not been approved?

2 A. That is correct.

3 Q. Okay. And had any other
4 pillaring beyond that phase been
5 approved for areas farther outby of
6 that, like the old west --- main
7 west, or was it just everything being
8 done in phases?

9 A. No. We told them the barriers
10 were size specific. They would
11 require size specific. In the
12 interim, all this time, they had a
13 pillaring plan. The pillaring was
14 approved in their base roof control
15 plan.

16 Q. So they did have an
17 opportunity to continue pillaring
18 over the last --- like they did in
19 the south main, they could have done
20 in the main west in a similar manner?

21 A. Not in the main west.

22 Q. Not in the main west?

23 A. Okay. The main west was
24 sealed.

25 Q. I meant outby the seals in the

1 main west.

2 A. Oh, yes. Yes, yes. If they
3 wanted to come out of the mine from
4 that point, they could have.

5 Q. Okay. Okay. Was there any
6 other analysis done on the pillaring
7 --- or the development plan for the
8 south barrier, or did you review any
9 other reports submitted by Agapito?

10 A. We did in --- following the
11 bounce, discontinuance of mining in
12 the north barrier, Agapito did go
13 onsite and look at that condition and
14 then changed the original submittal
15 for pillar mining in the south
16 barrier. The development of the
17 south barrier was approved with the
18 same dimensions of the pillars in the
19 north barrier. And the --- Agapito
20 went into the mine, did their
21 evaluation after the discontinuance
22 of mining and recommended that the
23 mine increase the length of the
24 pillars from essentially 100-foot
25 centers to 130-foot centers.

1 Q. This was done based on an
2 analysis that they made?

3 A. Correct. They did a new
4 analysis using LAMODEL. And two
5 things, I guess, in that analysis.
6 They did the analysis and they
7 recommended that they increase the
8 length of the pillar. In addition,
9 they recommended based on LAMODEL
10 that they take a slab cut out of the
11 southern --- out of the barrier
12 pillar off the number one entry. And
13 under LAMODEL, it shows that the
14 stresses are transferred more to the
15 gob. Along the pillar line, there is
16 a slight stress right at that
17 crosscut intersection. The core of
18 that pillar is very competent, and
19 then outby, there is not very much
20 stress at all, so --- and hardly any
21 conversions.

22 And then the LAMODEL program
23 shows that as they take the barrier,
24 it goes over into the gob area and
25 puts more of the weight on the gob.

1 And so there's a higher level of
2 confidence in LAMODEL doing that than
3 what was previously done with ARMPS
4 and anything. And that's what Keith
5 Neesley (phonetic) came up with in
6 his development of the model. He
7 said that ARMPS didn't identify the
8 angle of the way the --- it was too
9 radical for --- ARMPS was too radical
10 --- way too conservative at deep
11 cover for that. And essentially,
12 Chris Mark has concurred that that
13 needs to be studied, deeper and
14 deeper cover.

15 And it's shown that when you
16 take what LAMODEL says and then plug
17 that into ARMPS, then the stability
18 factor increases. So if you base the
19 data off of LAMODEL, then say at .37,
20 the stability would increase.

21 Q. Okay. Was this based on your
22 analysis or was this stuff that was
23 repeated or shared with you by the
24 mine operator, by Agapito directly?

25 A. Which one's that?

1 Q. The assessment in the south
2 barrier and then how you looked at
3 the pillar slab and that ---.

4 A. That was submitted to the mine
5 --- I think it was in late May I
6 received Agapito's report, that the
7 mine operator submitted it to us.

8 Q. Okay. And ---.

9 A. And then based on that, we
10 approved the pillaring plan in the
11 south barrier with a longer --- well,
12 we didn't approve it then. Excuse
13 me. Let me back up. We received
14 Agapito's model in late May. We
15 received it. We saw the stuff. And
16 again, I visited the mine May 22nd.

17 Q. Okay.

18 A. I think it was May 22nd. I
19 visited the mine. Gary Jensen and I
20 went to the mine on May 22nd. We
21 went into the south barrier
22 development. We walked in, went
23 around through the section, went
24 through the development section. And
25 as opposed to the north barrier, the

1 north barrier when we were in there
2 had the outby popping and pillar
3 sloughage, there was --- with the
4 bigger pillars, that wasn't
5 happening. They were holding very
6 well. However, when the miner backed
7 out of the cut, the solid, which is
8 --- you really don't see this too
9 much. But the solid was already
10 hourglassing. And the pillar that
11 was being created was also
12 hourglassing as the miner backed out.
13 And I mean, you can't go up real
14 close because it's in a bolted area.

15 But in addition, along the rib
16 --- or the top, the rib interface was
17 already the orange dusting, showing
18 that this was a stressed area. And
19 my evaluation was that as the miner
20 was backing out, that area was
21 relieving. It was showing --- it was
22 having mini seismic activity going in
23 --- you know, while the miner's
24 cutting the coal and then as he's
25 backing out even before the roof

1 bolter got in there. And that's more
2 than likely why there wasn't outby
3 activity, was the activity that was
4 taking place during development.

5 Q. Okay. So you based, I guess,
6 the --- I'm trying to get a sense.
7 Was that mine visit used to, I guess,
8 give confidence in the new plan they
9 submitted in May, or did you also do
10 other calculations related to that
11 plan?

12 A. No, no. I used --- based on
13 that then, we went out and had ---
14 after we got out of there, the plan
15 was to retreat mine, and then there
16 was a sump. When they got to the
17 sump, they were going to leave five
18 pillars to protect the sump. But the
19 bigger entry would go down, entry
20 number four, until they got to where
21 the sump was being protected. And
22 then they would go down a crosscut to
23 entry number three, go inby the sump
24 and then back up to a crosscut to
25 entry number four and then to the

1 back of the entry.

2 It was my considered opinion
3 that the pillar --- while mining the
4 pillar between number one and number
5 two entries, we put the pillar that
6 was protecting the sump out into the
7 two sides that would have gob in it.
8 And I told the company that I didn't
9 feel that that was an adequate
10 design, that the worst thing in the
11 world would be to have people inby in
12 the bleeder entry, whether it was
13 their examiner or our staff, and I
14 felt that the pillar that had gob on
15 two sides of it wouldn't be able to
16 withstand the stresses and could have
17 a potential to bounce. And if we
18 trapped anybody inby there from the
19 result of bounce, it would be very
20 difficult to rescue them.

21 So I told them to leave an
22 additional three pillars. That would
23 create --- at crosscut 142 I think it
24 is, that would create a clean cave
25 line. That way it would be better.

1 It would be less stress on the outby
2 pillars.

3 They agreed to do that, to be
4 in conflict with the Agapito report,
5 which stated that leaving --- when
6 they backed out of the two feet of
7 bagging in the roof and the roof
8 problem in the north barrier, that
9 leaving those pillars and backing out
10 may have been conducive to that
11 bounce. So therefore, Agapito
12 recommended that they not leave any
13 pillars in the south barrier.

14 Q. Okay. Were any other
15 calculations done for the mining in
16 the south barrier with the new
17 submittal? Would you actually do any
18 follow-up calculations like you'd
19 done previously with ARMPS or any
20 other software, LAMODEL or anything?

21 A. No, I did not.

22 Q. Okay. Did anybody on your
23 staff do any follow-up calculations?

24 A. No.

25 Q. Did you actually consult with

1 Agapito on what they did or just ---
2 or any other consultant group or just
3 work with the mine operator?

4 A. I just worked with the mine
5 operator.

6 Q. And like you mentioned before,
7 the primary --- there was a change in
8 pillar dimension, and that was based
9 on experience from the north? Is
10 that your understanding?

11 A. Yes. Agapito reran a land
12 model and stated that this would put
13 --- give more stability to the outby
14 pillars and give --- put more of the
15 stress toward the gob. And also by
16 taking the slab cut out of the
17 barrier, it would put more over into
18 the previously mined gobs.

19 Q. You mentioned that there were
20 eight pillars --- or there was no
21 pillaring to be done between any of
22 the entries one through four in the
23 sump area of the south development.
24 What about in the barrier?

25 A. No, no, no. Excuse me. In

1 the --- oh, in the area of the
2 barrier. The eight pillars there?

3 Q. Yeah, the eight pillars in the
4 vicinity of the sump, what was the
5 recommendation to be done in that
6 area on the barrier pillar?

7 A. No mining there, either. It
8 was through --- from one --- from
9 crosscut, I think, 142 to crosscut
10 139, there were to leave that area.

11 Q. Okay. Were you aware that
12 there's a difference in the sketch as
13 shown on the roof control plan and
14 the ventilation plan on the area
15 that's to be mined in the vicinity of
16 that sump?

17 A. Yes, I am. And I signed off
18 on the ventilation plan, too, and
19 that was before --- see, I'm not
20 sure. It was right about the time I
21 went to the mine. But after going to
22 the mine and looking at the area, and
23 just, like I said, based on --- I've
24 got 27 years of experience here in
25 the western coalfields. And based on

1 that experience, and I felt like that
2 it was not conducive to safe mining
3 to leave that one pillar setting out
4 there.

5 Yet, as I explained to the
6 company, I'm responsible to ensure
7 the safety of that one miner that has
8 to go all the way back to the bleeder
9 as I am for the six people on the
10 outby crew. So the one miner that
11 has to go to the back has to have an
12 equal level of protection. So they
13 have to adopt a plan that would
14 ensure that that examiner have the
15 same level of protection.

16 Q. Okay. Let's see. Were there
17 any other visits made by you or your
18 specialists after your visit to that
19 section?

20 A. No. There were not. Mr.
21 Jensen then accepted a position as a
22 special investigator, so he --- I had
23 no more --- had specialist in Utah.
24 So he didn't work for me then. And I
25 didn't make any other visits,

1 although the company did tell me they
2 had no problems getting to the end of
3 that panel --- panel to the end of
4 the projections. Whereas, in the
5 north, they had to stop and pull back
6 because of conditions in the north
7 barrier because of water and other
8 conditions. However, in the south
9 barrier, they mined to the end of
10 projections and everything was
11 looking good and they were retreating
12 back.

13 Q. Do you recall where you ---
14 where the face development was when
15 you visited the south barrier
16 section?

17 A. No, not --- I'm not exactly
18 sure where that was.

19 Q. Okay. And were you still
20 getting your regular communications
21 with the mine operator on the
22 conditions of that section?

23 A. Correct. He's the one that
24 told me that they'd mined to the end
25 and everything was looking good and

1 people were pleased with the way
2 things were going.

3 ATTORNEY BAXTER:

4 Was that Laine Adair?

5 A. Yes, sir, it is.

6 BY MR. GAUNA:

7 Q. And again, field office
8 personnel had made no reports?

9 A. No, no. No reports of any
10 adverse conditions.

11 Q. And you saw --- well, you
12 mentioned the conditions you saw when
13 you visited the south barrier. How
14 did the rib sloughage compare between
15 the south and the north?

16 A. In the north, the rib
17 sloughage appeared to be occurring
18 outby while they were mining in the
19 faces. And in the south, the outby
20 area seemed to be quiet. You didn't
21 hear as much noise. It appeared to
22 be more stable outby with most of the
23 activity being in the faces. So
24 you'd say --- I guess one way to say
25 it is the north was a little looser

1 and the south was tighter.

2 Q. Okay. The rib sides then?

3 A. Right.

4 Q. Okay. Were looser in the
5 north, tighter in the south.

6 A. It's kind of a miner's term.
7 That's the way --- that's how the ---
8 when you're talking to the continuous
9 miner and the roof bolter with any of
10 this, that's how they'll explain it
11 to you.

12 Q. Okay. How about any
13 indications of floor heave in the
14 south?

15 A. I did see floor heaves
16 somewhere, but I can't --- it might
17 have been over in the bleeder entry,
18 but it's only slight, because ---
19 which would be the number four entry,
20 because I was looking at the --- I
21 think that's where the life line was.

22 Q. Okay. And were there any
23 bounces reported on the development
24 or even the pillaring of that south
25 development --- south barrier

1 development and pillaring?

2 A. No. There was no reports of
3 any events.

4 Q. How about any adverse
5 conditions reported? Were there any?

6 A. No reports of adverse
7 conditions.

8 Q. Okay. Did anybody talk about
9 the ground conditions in the old main
10 west prior to sealing the area west
11 of the seals?

12 A. Yes. We discussed that as
13 part of pillaring in that area. And
14 just in a general discussion that it
15 would be too difficult to go back in
16 there for the requirements of MSHA to
17 pillar, because they'd have to,
18 number one, re-establish ventilation.
19 Number two, they'd use the continuous
20 haulage system in there, so again,
21 that causes some of the entries ---
22 the center entry to be wider. Also,
23 it was supported with the five-foot
24 bolts, so you'd have to go back in
25 and essentially resupport much of the

1 roof. I don't recall that they used
2 wire mesh in there, so it would be
3 extensive rehabilitation.

4 In addition, with the
5 continuous haulage, some of the
6 pillars --- or the angles of the
7 crosscuts are not 90 degrees.
8 They're at a skewed angle. And while
9 they were --- before they sealed
10 that, those areas had been --- had
11 difficulty holding up those more
12 angular ribs and had --- they had
13 rolled off and created additionally
14 large intersections. And that's one
15 of the worst things in the world to
16 have on a retreat pillaring section
17 is huge intersections coming back out
18 because they tend to fail and they're
19 very difficult to deal with.

20 Another issue was the amount
21 of water. That was a problem in that
22 area. So the company --- in the
23 right manner, it would take them too
24 long to rehabilitate that or to try
25 to go in there and even attempt to

1 pillar that.

2 Q. Did they talk about any ground
3 deterioration that would --- you
4 know, in the past that resulted from
5 longwall mining?

6 A. Not from the longwall mining.
7 Mostly they talked about
8 deterioration from the angles that
9 they used from the continuous
10 haulage, that the width of the entry,
11 the skewed angles for the crosscuts
12 and in the way the coal was rolling
13 off and causing excessive widths,
14 that the two to three feet at the top
15 was coming down, not above the bolts,
16 but coming down in the crosscuts.
17 And they were losing more of the
18 crosscuts in those areas than they
19 were the entries.

20 Q. Okay. Have you yourself
21 observed the pillar recovery
22 operations at the Crandall Canyon
23 Mine at the pillar line?

24 A. No, I have not.

25 Q. Do you know anything about the

1 process in District 9 for the
2 policies regarding them extracting
3 the bottom coal in the pillar lifts?

4 A. Typically, when bottom coal is
5 extracted, it would cause you then
6 --- a height to width ratio around
7 seven is good. You start getting
8 down around four, five or less, then
9 it's conducive to cascading pillar
10 failures.

11 So what we do in District 9,
12 we retreat --- we treat bottom coal
13 mining as second mining. And
14 typically, if they're going to do
15 that, they have to make a base to
16 change that height to width ratio.
17 So when they take bottom coal, they
18 would leave --- say if the entry's 18
19 feet wide, that bottom coal slice
20 would only be 16 feet wide or less.
21 So you increase the base of the
22 pillar. And then since that's second
23 mining, if they take bottom coal,
24 then that's just like taking a slice
25 out of the pillar. That would have

1 to be timbered off or, you know,
2 radiused before they'd come back out,
3 that slice, and then take the next
4 one. So it's like a second mining
5 cut. When you can't go inby, you
6 can't use that area or anything like
7 that.

8 Q. What if they don't do it in
9 the roadway but only just do it in
10 the actual lift into the pillar? If
11 they mine in and then prior to
12 leaving the lift, go in and take a
13 grade of coal and then move into the
14 next lift?

15 A. They would still have to get
16 approval for that because you got ---
17 your MRSSs are inby there. So now
18 you're going to be moving the MRSSs
19 out.

20 Q. No, I don't mean --- don't
21 touch your roadways. Only do it in
22 the pillar.

23 A. Well, even there, then the MRS
24 is setting on a lip or a ledge, and
25 if the MRS --- you know, if any

1 pressure rises against the roof, if
2 that ledge gives way, how are you
3 going to be able to get the
4 pressurization that's desired to
5 control the cave?

6 Q. Okay. So that's a mining
7 practice that needs to be approved in
8 the roof control plan?

9 A. That would be my opinion, yes.

10 Q. Okay. Thank you. So then
11 it's not an implicit practice allowed
12 in pillaring plans?

13 A. No.

14 Q. Okay. Let's see. Still good?
15 Ready for a break or ---?

16 A. No, I'm good. I'm good.

17 Q. All right. Okay. Let's go
18 more towards more recent events.
19 When and how did you hear about the
20 August 6th accident?

21 A. I was on vacation, and on
22 August 6th --- I had been in
23 Bellamont (phonetic) Mesa that
24 weekend playing in a golf tournament.
25 Came back home. My wife and I were

1 going to kick around. And then 6:00
2 or 6:30 the morning of August 6th, I
3 received a phone call that miners
4 were potentially trapped at an event
5 at a mine in Utah. I initially
6 assumed it was Aberdeen Mine, because
7 that's one of the places we have
8 seismic activity and trouble. And so
9 I canceled my vacation and went to
10 work.

11 I met with William Knepp,
12 Allyn Davis. And they told me
13 there'd been a bounce at Crandall
14 Canyon Mine on the pillaring section,
15 and that at the present time, six
16 miners were unaccounted for. It was
17 probably seven o'clock in the
18 morning.

19 Q. Okay. Have you gone to the
20 mine since the 6th?

21 A. No, I have not.

22 Q. Okay. Were you assigned any
23 duties relative or related to the
24 rescue operations?

25 A. The --- no.

1 Q. Okay. Were you consulted
2 during the rescue, and if so, what
3 kind of information were you
4 provided?

5 A. Even though I'm the roof
6 control, ground control specialist
7 from there, they put together a mine
8 emergency team that consisted of two
9 roof control experts from the
10 Pittsburgh Safety and Health
11 Technology Center. And those people
12 were onsite. So therefore, my
13 services weren't needed onsite.

14 I was in the District Office,
15 not participatory in anything to do
16 with the recovery or the emergency
17 situation. I was answering questions
18 from it seemed to me like a multitude
19 of arenas that were firing questions
20 in to the District regarding Crandall
21 Canyon roof control plans, ground
22 control plans and other items of that
23 nature.

24 Q. As far as interaction with
25 other federal or state agencies, BLM

1 types, whatever, did you have any
2 interaction with these other
3 entities, federal entities, state
4 entities at the mine site?

5 A. Prior to the accident?

6 Q. Yeah, prior to the accident.

7 A. No, I did not.

8 Q. Okay. But were there requests
9 from these other agencies after the
10 accident?

11 A. I have had one request from a
12 person from MPA (phonetic) to go into
13 Crandall Canyon Mine and to recover
14 all the PCBs. And he's telling me
15 how --- that the Crandall Canyon Mine
16 is loaded with PCBs. It's going to
17 get in the groundwater. It's going
18 to go all the way to the ocean. It's
19 going to kill the whales. And I
20 tried to explain to this individual
21 that a disaster had occurred, six
22 entombed miners, other individuals
23 that are hurt and --- but he didn't
24 seem to care about anything but PCBs.

25 Q. Okay. Did you or anyone else

1 in District 9 monitor the
2 mining-induced seismicity that's
3 recorded by the University of Utah
4 where they have their information
5 available on websites?

6 A. No. I don't have the
7 resources to do that.

8 Q. Okay. How many mines
9 currently operate in the Hiawatha
10 Seam? Can you recall?

11 A. Let's see. I'd say just the
12 two right now would be Crandall and
13 SUFCO.

14 Q. Okay.

15 A. I think Deer Creek's in ---
16 I'm not sure which one Deer Creek ---
17 they rammed --- either they rammed up
18 or they rammed down, so they may also
19 be in --- part of that. But they
20 were in the Blind Canyon, which is
21 --- where Wilberg is is above the
22 Hiawatha.

23 Q. Okay.

24 A. The Bear Mines, Co-Op Mines, I
25 think they're in the Tank Seam. One

1 of their mines might be Hiawatha.
2 But the only one's active right now
3 is Bear Number Four, and I think it's
4 in the Tank Seam. I guess just those
5 two mines.

6 Q. How about other mines in the
7 past where there's been other
8 historical ---?

9 A. As I mentioned earlier, Star
10 Point was in there. Wilberg was in
11 the Hiawatha Seam. So Wilberg was in
12 the Hiawatha. Cottonwood may have
13 been also in Hiawatha. Trail
14 Mountain may be Hiawatha.

15 Q. Did any of these mines have
16 pillar recovery plans, or did they do
17 pillar recovery?

18 A. SUFCO was pillar recovery for
19 many years. Trail Mountain at one
20 time --- as matter of fact, I've
21 instrumented pillar recovery at Trail
22 Mountain. Star Point had --- parts
23 of, I think, were pillar recovery.

24 Q. Okay. Were there any problems
25 associated with these mines in their

1 pillar recovery efforts?

2 A. There's always problems with
3 pillar recovery at some point.
4 Catastrophic failures? No. SUFCO
5 had one area where they were
6 pillaring the pillars at an angle and
7 leaving a bleeder pillar between
8 gobs, and it was bouncing and not
9 able to control their bleeder. So
10 they had change their angle of their
11 cave line. Trail Mountain had
12 trouble with bounces. They
13 eventually went to longwall mining.
14 Bouncing and bumps got too severe
15 there. And I don't remember ---.

16 Q. You say there's nothing
17 catastrophic in their histories?

18 A. Not that I recall, yes.

19 Q. Okay. How about are you aware
20 of any pillar extractions elsewhere
21 in Utah where a barrier adjacent to
22 gob was successfully mined, any
23 historical ---?

24 A. They mined the --- and in the
25 south mains at Crandall, coming out

1 of there, they mined into the
2 barriers. They reduced the sizes of
3 those barriers. Typically, that's
4 not --- at Pinnacle Mine, the
5 barriers were --- with Tower
6 Resources, those barriers were mined.
7 That's typical mining practice. When
8 you retreat away from the --- you
9 know, the extent of your mine
10 property back toward the portal to
11 where the mine would be sealed is to
12 take the barriers in the mains. The
13 main entries are developed to provide
14 transportation, air, pumping and
15 water, whatever is necessary to
16 supply the mining faces with their
17 needs, electrical conduit, whatever
18 may be.

19 When those necessary services
20 to run a mining operation are over,
21 those lanes are no longer needed.
22 But for the life of those mains, they
23 have barrier pillars on either side
24 of them to protect them, same way ---
25 the typical way could be with bleeder

1 entries or whatever it is, the
2 barriers are there to protect them
3 for their useful life. And once that
4 useful life is over, it is ---
5 they're no longer needed. So the
6 barriers --- their protection is not
7 longer needed. And so then it's
8 acceptable to take that coal, to
9 retreat the mine out of there.

10 Q. Okay. You may not need a
11 break, but I think I do.

12 A. Okay.

13 Q. And the other gentlemen might
14 have some other questions. Let's
15 take a ten-minute break or so.

16 SHORT BREAK TAKEN

17 BY MR. GAUNA:

18 Q. Just some follow-up questions
19 from the other individuals. Do you
20 have any input from inspectors in
21 local field office for your plan
22 reviews?

23 A. Yes, we do. Each quarter the
24 field office will send me a document
25 stating if the plan has deficiencies

1 or not. In addition, also, any time
2 that there's a problem that they
3 conceive at a mine, they will contact
4 me.

5 Just recently, as an example,
6 the field office called me and said
7 Horizon Mine is having additional
8 falls outby the section or outby
9 development. We've looked at their
10 plan. We've revised their plan
11 recently to create additional
12 support, but these are in the outby
13 areas. So we go look. Four or five
14 roof falls in this calendar year, so
15 we're preparing --- we did send
16 Horizon Mine a plan deficiency letter
17 stating that they had to put in
18 additional support in the outby
19 travelways to ensure the safety of
20 the people. And we told them to
21 address geological areas where they
22 have water.

23 Horizon Mine said, well, they
24 would not necessarily --- falls were
25 not necessarily associated with

1 geological faults or something. And
2 then I told them that, well, then I
3 want to see something planned in here
4 that would address the outby falls
5 and it be in a manner --- and we told
6 them typically that what we would
7 require now would be roof to floor
8 support in the manner of cribs, cans,
9 square sets or something like that.

10 Q. Okay.

11 A. So the field office has input
12 into the roof control plans at any
13 time that they deem that there's an
14 issue.

15 Q. Okay. And how is the
16 coordination between ventilation
17 plans and roof control plans between
18 the two different groups handled?

19 A. If the specialists working on
20 the plan are in the district office,
21 that's handled very well. If a
22 specialist for --- and I should
23 clarify that. With ventilation, all
24 the specialists are in the district
25 office, so they have --- they do it.

1 I was the only one that had the
2 specialist --- that had Gary Jensen
3 in Price and Kathleen Kelleher. So
4 they do not get to work with the vent
5 staff on coordination of plans. So
6 the coordination of plans between the
7 roof control specialist and the
8 ventilation specialist for those
9 areas are not addressed very well.

10 If it's plans that the
11 ventilation specialist in the office
12 have an issue, like a bleeder entry
13 or something else that may --- that
14 they think may be a problem, then
15 that is addressed. If I'm looking at
16 a roof control plan, especially like
17 a pillaring plan or something like
18 that and I don't see how they can
19 ventilate an area, then I will take
20 it to the ventilation supervisor or
21 one of the specialists and we will go
22 over it to make sure that we're in
23 compliance with it.

24 So essentially, when you're
25 talking about the coordination

1 between the ventilation group and the
2 roof control group, it comes down to
3 me because of the dispersion of my
4 specialists away from the field.

5 Q. Okay. How's the field office
6 notified of the approval or plan
7 disapproval?

8 A. On plan approvals, the
9 district manager signs the letter
10 stating that the plan is approved.
11 It goes to the operator with
12 letterhead --- it has MSHA letterhead
13 on it. And then in addition to that
14 letter, and then that's --- and the
15 operator gets a copy of the plan he
16 submitted back with the letterhead.
17 The letter that is also surnamed ---
18 or signed off on, that's the only
19 person in the District on the
20 letterhead is the district manager's
21 signature. There's a surname letter
22 that the specialists, myself, the
23 Roof Control supervisor and the
24 assistant district manager for
25 Technical Services signs off. That

1 surname letter with the original
2 signatures and the original plans
3 submitted by the mine operator is
4 filed in the --- we call it the EC
5 file. It used to be engineering
6 coordinator. Now it would be
7 Technical Services.

8 A copy then --- there's two
9 copies of that approved plan and
10 surname letter sent to the field
11 office. One of the copies is to go
12 in the uniform mine file. The other
13 copy is --- we call that a working
14 file. Sometimes the miners like to
15 have a plan or something that they
16 can take to the mine with them. And
17 they have the ability to make a
18 regular copy, but they may not have
19 the ability for maps or they may not
20 have color copy ability. So if we
21 have a map, we can color copy the
22 maps also, and they get a copy of
23 that.

24 Q. And that's sent to the field
25 office?

1 A. Yeah. There's two copies go
2 to the field office.

3 Q. Okay.

4 A. If my specialist is in the
5 field, in other words, Mary and
6 Kathleen, they also received --- if
7 they worked on that plan --- well,
8 regardless if they worked on it or
9 not, if it's assigned to their field
10 office area, they also receive a
11 copy.

12 Q. Okay. All right. Let's see.

13 A. If it's a disapproval letter
14 --- I should mention that. You said
15 disapproval.

16 Q. Okay.

17 A. If it's a disapproval letter,
18 they do not get a copy of the
19 disapproval plan. They do get a copy
20 of the disapproval letter in the
21 field office, and it has in
22 parentheses --- it'll say like Price
23 Number Two Field Office or Price
24 Number One Field Office. And in
25 parentheses, it will say, not for

1 UMF. So it's an information letter
2 back to them to let them know that
3 that plan was --- it's a copy of the
4 letter that went back to the
5 operator. And if it was --- listed
6 deficiencies, it would show all the
7 deficiencies that were listed in the
8 plan submitted by the operator.

9 Q. Okay. Did anybody talk about
10 the north barrier? Did anybody ever
11 discuss bounces on development in the
12 north barrier?

13 A. No, they did not.

14 Q. And how about, of course, on
15 the retreat in the north barrier ---
16 when did you find out about a bounce?

17 A. I think Laine Adair said he
18 was at Salt Lake City on a family
19 reunion. On Monday he called me. I
20 think that Monday was May 12th.

21 ATTORNEY BAXTER:

22 Or March?

23 A. March. Excuse me. Yes, sir.
24 March. I think it was March 12th. I
25 can check real quick if you let me

1 look at a calendar. Correct. March
2 12th is a Monday. So on March 12th,
3 Mr. Adair called me, and that's when
4 he said that they --- at 2,000 feet
5 of cover, they were getting two feet
6 of bagging in the mesh. And the crew
7 had decided to back up and start
8 mining again, leaving --- I can't
9 remember if he said one or two rows
10 of pillars. I think it may have been
11 two rows of pillars.

12 And then when they were mining
13 into the pillar, the miner was taking
14 the cuts, they were getting bouncing,
15 and the number four bleeder entry
16 going back to the bleeder was pretty
17 well beaten up, I think was the term
18 that he used.

19 BY MR. GAUNA:

20 Q. Did he indicate it was a
21 severe bounce or bump?

22 A. No.

23 Q. Okay. When did you find out
24 that they actually had a large bump
25 in the north?

1 A. And again, Mr. Reitze, you
2 know, had talked about that they were
3 talking about he couldn't evaluate
4 the bleeder because of the damage.
5 And he wouldn't let them change
6 stoppings, so they were pulling out
7 of the section. When Mr. Adair
8 talked to me, he said they were
9 moving out. And I thought what he
10 meant by moving out was moving
11 farther outby in the north barrier.

12 But I did not find out about
13 the severity of the bounce or an
14 inference to the severity of the
15 bounce until I read the Agapito
16 report in May. And Agapito stated
17 that they were mining at --- and I
18 didn't understand part of the Agapito
19 report, because it said they were
20 mining and two of the crosscuts were
21 damaged and then the --- like, I
22 think they were at 132 crosscut or
23 something like that. And then they
24 said that inby that area, coal was
25 thrown into two or three entries, but

1 you can't get in by that area because
2 that's either in the job, or the only
3 entry available in by that area would
4 be the single entry, which Mr. Adair
5 had said already was pretty well
6 beaten up. So I didn't really follow
7 what Agapito had written in and how
8 they were saying that this damage had
9 occurred. I mean, if it's in by,
10 that's okay.

11 Q. Did you notify the operator
12 that a large bump was reportable once
13 you realized it had occurred, once
14 you were made aware that it happened
15 in the Agapito letter?

16 A. No, I did not. The operator
17 is fully aware of what is reportable
18 in Part 50.

19 Q. Do you know if the ventilation
20 group got a report of a large bump or
21 bounce prior to that letter?

22 A. Mr. Adair contacted me on the
23 12th. I think he may have left a
24 message for Bill Reitze on the phone
25 on the 12th or 13th. And then I

1 think after the 13th, again, it was a
2 conversation about not being able to
3 travel the bleeder entry for its
4 entirety. And then if they couldn't
5 travel the bleeder entry, Mr. Adair
6 deemed that to be too hazardous for
7 people. And Mr. Reitze said, well,
8 they would have to do it. And then
9 Mr. Adair said he wanted to seal the
10 area if he couldn't travel it,
11 although they did travel it to comply
12 with the regulations.

13 The problem was they did not
14 have an approved seal. So Mr. Reitze
15 had to contact Mr. Davis, the
16 district manager, who was in Beckley,
17 West Virginia. Mr. Davis in turn had
18 to contact the seal approval guru,
19 who I think is John Fredland in
20 Pittsburgh Tech Support, since
21 they're responsible for approving
22 seals, and request that Mr. Fredland
23 expedite the approval of the Crandall
24 Canyon seals because they had had a
25 bounce that affected the bleeder

1 entry and they needed to seal the
2 panel.

3 Q. Okay. On the development of
4 the south barrier development or on
5 the pillaring in the south barrier,
6 did anybody report any bounces?

7 A. No. I did not receive any
8 report of bounces.

9 Q. Okay. Do you recall anybody
10 hearing about equipment being covered
11 up, even though it may not have been
12 referred to as a bounce, but any
13 equipment being covered up in the
14 north or south barrier on development
15 or retreat?

16 A. No. In the south development,
17 all I heard of was like --- it was
18 great. It was great conditions. The
19 guys were comfortable with it, no
20 problems. And when I say the guys
21 were comfortable, the report is the
22 mining crew were. You have to rely
23 on the people who are actually down
24 there mining the coal. And if you're
25 getting --- even if it's secondhand

1 reports from what they're saying, you
2 know, that's what you have confidence
3 in.

4 Q. Okay. In the area of the sump
5 where the pillar --- I guess retreat
6 mining plan was changed where pillars
7 weren't being recovered, was that to
8 --- designed to prevent bounces or
9 for what purpose?

10 A. Yes. I felt like that the way
11 that one pillar --- if you took the
12 inby crosscut 142, I think it is, if
13 you mined those two pillars, then ---
14 so the pillar that was left down at
15 the bottom there would have gob area
16 on two sides of it. So that would be
17 a pillar point for that pillar. And
18 I felt like that that could be
19 conducive to bouncing.

20 And I mentioned that to the
21 company, that if that pillar were to
22 bounce, typically, it's not --- you
23 don't have one pillar bounce. If you
24 have an outburst --- it's oftentimes
25 referred to as tertiary loading, that

1 this pillar's carrying a load. If it
2 bounces, that load has to go
3 somewhere else. So that load's
4 distributed to the next pillar. It
5 would be probably you'd have two or
6 three of those pillars in that area
7 bounce.

8 Again, I felt like that that
9 had too high a probability of sealing
10 off that bleeder entry. And if
11 someone were inby when that happened,
12 then it would be extremely difficult
13 to rescue them. And that's why I had
14 the company leave those three bottom
15 pillars. Then you had a straight
16 pillar line, a 90-degree line that
17 came --- retreat mine down the number
18 three entry and then a line that came
19 all the way straight over to the
20 number --- to the barrier. And then
21 the cut in the barrier there.

22 Whereas before, if you did it
23 the other way, it would come down ---
24 the pillar line would come down to
25 number three, come over to the number

1 two and then turn again and go out
2 the number two entry. And in my
3 considered opinion and based on my
4 --- like I said, my 27 years of
5 experience in these coalfields, that
6 I felt that was unacceptable.

7 Q. Okay. And initially, the
8 pillars were not being mined for what
9 purpose? Because apparently, you
10 said that the initial plan only had
11 them pull --- only a few of them are
12 being left for protection, but do I
13 understand it right that you
14 suggested all them be left and make
15 that prevention for a bounce? But
16 initially, why were any pillars being
17 designated as no mine?

18 A. Because the sump from main
19 west came down into an area, and by
20 regulations, you had to stay a
21 certain distance away from the old
22 works and water and that. So we were
23 requiring the company not mine into
24 the sump area. They did have to go
25 --- if they mine into the old works,

1 then it's --- you know, they open up
2 a totally different ballgame from
3 regulations, mining into old works,
4 having to drill in, check for water,
5 pump. But there's minimum distances
6 that they have to stay away from the
7 old works.

8 Q. Okay. As far as the pillaring
9 process, were you aware that at
10 Crandall Canyon Mine, that we've had
11 testimony that they were mining their
12 pillar and their pillar lifts, taking
13 the bottom coal out on a second pass
14 in the pillar lift?

15 A. I have heard that they may
16 have been mining bottom coal. That's
17 not approved in our plan. I've also
18 talked to some of the MSHA personnel
19 from the Price Field Office to see if
20 they had observed that, and if so,
21 where in the pillaring process. And
22 the people I've talked to, no one has
23 ever seen them take bottom coal.

24 Q. Okay. And when you first ran
25 the report --- or when you first did

1 your analysis, the Agapito report,
2 when it was first submitted to you
3 for mining the north barrier, you
4 went over the five points that you
5 saw deficiencies, you had concerns
6 over. But what did your results show
7 prior to --- your actual analysis
8 show --- what were the results before
9 you made those adjustments based on
10 responses?

11 A. Our analysis that Mr. Del Duca
12 did essentially showed that they
13 could mine and there was no problems
14 with development. And again, we used
15 the mains as being a mined out gob
16 rather than the west main --- main
17 west as being a mined out gob rather
18 than that. It showed the development
19 was okay and met the stability factor
20 established by Agapito. So we got
21 the gob mined out and we got a 900
22 PSI.

23 Then on retreat mining, it
24 showed that they can mine back, I
25 think it was somewhere about 900

1 feet.

2 Q. And then what happens at 900
3 foot on that analysis?

4 A. The stability factor went too
5 low.

6 Q. Too low. Okay. Did you run
7 any of the ARMPS analysis yourself or
8 did Mr. Deluca do it?

9 A. Mr. Del Duca.

10 Q. Del Duca. Okay. Were you
11 aware that NIOSH did work to include
12 deep cover retreat operations in your
13 database for their ARMPS stability
14 factors?

15 A. And as we discussed earlier,
16 it went up to about 750 feet was what
17 they considered that. Based on some
18 of the criticism for that, Frank
19 Chase again and Chris Mark again went
20 in and revisited and looked at some
21 of the other for deeper cover. And
22 then they put out other versions
23 saying that these areas are more
24 applicable.

25 But again, it's --- you know,

1 the majority of the data is from the
2 low cover. They added deep cover.
3 They're continuing to do that. That
4 was probably in their latest version,
5 although I don't think that many of
6 their defaults occurred. And even
7 with their deep analysis, that's
8 where --- it was part of their deeper
9 cover analysis where they came out
10 and said that if you back calculate
11 and use the LAMODEL, that Neesley ---
12 Keith Neesley is correct and that the
13 stability factor, if you use LAMODEL,
14 will get you --- the stability factor
15 will be increased.

16 That's why I was making the
17 statements about that. That's from
18 their deep cover follow-up. And even
19 there, they conclude that there's
20 still not enough known with the deep
21 cover on --- is it the angles that's
22 used over the gobs? Is the coal
23 getting greater strength as it goes
24 on? Is it because it's more confined
25 and this adds to the strength of the

1 coal? There's a lot of still
2 unknowns in there that need to be
3 further researched and looked at.
4 And that is ---. So to answer your
5 question, yes, we looked at all that.

6 Q. I just wanted --- there's also
7 --- NIOSH has made mention that when
8 you're doing deep cover mining,
9 stability factors got to be looked
10 at, a two-tier process where their
11 values need to be coupled with strong
12 barriers. Did you assess that?

13 A. They also state that --- yeah,
14 they state under --- and they state
15 that the barrier --- looking at the
16 barrier pillar for a value, I think
17 they use --- if it's like 1,200 feet,
18 then the actual barrier can be
19 decreased, but you're still using a
20 number of two, I think it is. They
21 decreased the barrier. They say you
22 will get strong barriers, but the
23 barrier number can decrease as you go
24 under deeper cover from what it is
25 with shallow cover. I think it's a

1 mandatory two over one cover and then
2 it drops --- or it's one and a half
3 --- or two and a half, where somebody
4 can --- there's a table in their
5 diagram that you can look at there.

6 But again, when you're looking
7 at a barrier pillar, barrier pillar
8 --- you're looking at a design,
9 typically, a barrier pillar is to
10 protect something, so --- or protect
11 you from something. What they would
12 look at is if you are retreat mining
13 and you want to leave a barrier
14 pillar to protect the mains, what
15 size barrier pillar do you have to
16 have to do that?

17 Q. Okay. Let's see.

18 A. In this situation, they were
19 not leaving barrier pillars. The
20 Crandall Canyon had --- did not need
21 to leave barrier pillars to protect
22 any other structures.

23 Q. I have no other questions.
24 Let me go off the record, please.

25 SHORT BREAK TAKEN

1 BY MR. GAUNA:

2 Q. At the field office, did they
3 have any input into the north/south
4 barrier plans prior to approval?

5 A. At the field office level,
6 they did not comment on it except
7 that Gary Jensen was who was on my
8 staff at that time and was stationed
9 in the Price Field Office. And he
10 was participatory in the approval
11 process, soliciting comments from the
12 field office. And as I mentioned
13 earlier, Mr. Jensen did accompany me
14 underground into the south barrier
15 development in the last ---.

16 Q. Okay. And after you were made
17 aware of the March bounce and Agapito
18 letter, did you talk to the company
19 about that bounce afterwards?

20 A. No. Not really. No, I didn't
21 talk to the company. We didn't
22 discuss that bounce.

23 Q. Okay. And do you know if a
24 copy of the ARMPS --- a model that
25 you ran --- models of ARMPS you ran

1 are available? Were they saved?

2 A. Yeah. I think they have been
3 provided to the numerous people, the
4 investigation team. To the best of
5 my knowledge, they have, and to I
6 think the Congressional ---.

7 Q. Okay. Are they in the scan
8 packets that we've gotten?

9 A. I would assume that they are.
10 I am the world's least person to ask
11 about what's in those.

12 Q. All right. To finish off, do
13 you have anything you'd like to add
14 that may be relevant to either the
15 August 6th or 16th accident that
16 could help us in this investigation?

17 A. The only thing I want to add
18 is the --- like I said, I have
19 considerable experience in roof
20 control in the western mining. The
21 district management has the utmost
22 confidence in my abilities to make
23 sound judgments, to evaluate plans in
24 the necessary manner. I am the
25 person that reviewed the final review

1 of the mining and retreat mining in
2 the south barrier. I am the person
3 that had the company leave the
4 additional pillars in conflict with
5 the Agapito report.

6 I did the review and signed
7 off on it for Roof Control and the
8 assistant district manager for
9 Technical Services. Bill Denny did
10 sign the approval letter for the
11 district manager. However, I had
12 taken in the letter to him and told
13 him that I'd done a complete and
14 thorough review of it, that they
15 increased the pillar lengths, that
16 the modeling showed that it was a
17 better situation. They were taking
18 the stresses away from the face area
19 and putting them in the gob. I also
20 explained to him that I had them
21 leave additional barriers, but it
22 didn't --- essentially, it would be
23 required for us to do in order for
24 the --- to comply with examinations
25 as required by 30 CFR 50 --- or 30

1 CFR and the examinations. And Mr.
2 Denny essentially signed off on it
3 based on my recommendation and what I
4 told him.

5 MR. GAUNA:

6 On behalf of MSHA, I
7 want to thank you for
8 appearing and answering
9 questions today. Your
10 cooperation is important to
11 the investigation as we work
12 to determine the cause of the
13 accident.

14 We ask that you not
15 discuss your testimony with
16 any persons who may have
17 already been interviewed or
18 may be interviewed in the
19 future. This would ensure
20 that we obtain an independent
21 recollection of events
22 surrounding the accident.

23 After questioning other
24 witnesses, we may call you if
25 we have any follow-up

1 questions that we feel that we
2 may need to ask you. If at
3 any time you have additional
4 information regarding the
5 accident that you would like
6 to provide to us, please
7 contact us at the contact
8 information I gave you earlier
9 previously provided on the
10 card.

11 If you wish, you may
12 now go back over any answer
13 that you have given during the
14 interview and may also make
15 any other statements you would
16 like to make at this time.
17 Any other statement?

18 A. I'm good.

19 MR. GAUNA:

20 Okay. Again, I'd like
21 to thank you for your
22 cooperation in this matter.

23 * * * * *

24 STATEMENT CONCLUDED AT 3:13 P.M.

25 * * * * *