

STATEMENT UNDER OATH

OF

JAMES F. KOHLER

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, November 2, 2007 beginning at 8:23 a.m.

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23      ALSO PRESENT:

24      Kelly C. Kirkwood, Notary Public

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## P R O C E E D I N G S

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MR. SMITH:

My name is Gary Smith. I am an 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. We will 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 2007. The investigation is being conducted by MSHA under 103(a) of the Federal Mine Safety &

1 Health Act and the Utah  
2 Commission of Labor. We  
3 appreciate your assistance in  
4 this investigation.

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

19 You may have a personal  
20 representative present during  
21 the taking of this statement  
22 and may consult with the  
23 representative at any time.  
24 Your statement is completely  
25 voluntary. You may refuse to

1 answer any question and may  
2 terminate your interview at  
3 any time or request a break at  
4 any time. Since this is not  
5 an adversarial proceeding,  
6 formal cross-examination will  
7 not be permitted; however,  
8 your personal representative  
9 may ask clarifying questions  
10 as appropriate.

11 A court reporter will  
12 record your interview. Please  
13 speak loudly and clearly. If  
14 you do not understand a  
15 question asked, please ask me  
16 to rephrase it. Please answer  
17 each question as fully as you  
18 can, including any information  
19 you have learned from someone  
20 else.

21 I would like to thank  
22 you in advance for your  
23 appearance here today. We  
24 appreciate your assistance in  
25 this investigation. Your

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cooperation is critical in making the nation's mines safer.

After we have finished asking questions, you will have an opportunity to make a statement and provide us with any other information that you believe is important. If at any time after the interview you recall any additional information you believe might be useful, please contact Richard Gates at the telephone number or email provided to you.

Ms. Kirkwood, would you swear in the witness?

MS. KIRKWOOD:

Yes. Please raise your right hand.

-----  
JAMES KOHLER, HAVING FIRST BEEN DULY  
SWORN, TESTIFIED AS FOLLOWS:  
-----

1                   MR. SMITH:

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

5                   MS. KIRKWOOD:

6                   I am.

7                   MR. SMITH:

8                   When does your  
9                   commission expire?

10                  MS. KIRKWOOD:

11                  August 15th, 2008.

12                  MR. SMITH:

13                  Have you sworn in Mr.  
14                  Kohler?

15                  MS. KIRKWOOD:

16                  I have.

17                  BY MR. SMITH:

18                  Q.           Please state your full name  
19                  and address for the record.

20                  A.           My name is James F. Kohler.  
21                  Address is (b) (7)(C)

22                  (b) (7)(C)

23                  Q.           Mr. Kohler, do you have any  
24                  questions about the interview process  
25                  as I've described it?

1 A. No.

2 Q. Okay. And Mr. Kohler, do you  
3 have a personal representative with  
4 you here today?

5 A. No, I don't.

6 MR. SMITH:

7 Okay. You're not his  
8 personal representative?

9 ATTORNEY STEIGER:

10 No. My name is John  
11 Steiger. I'm the Deputy  
12 Regional Solicitor for the  
13 intermountain region from the  
14 Department of the Interior.  
15 I'm here representing the  
16 Bureau of Land Management and  
17 the Department of the  
18 Interior. And to the extent  
19 that Mr. Kohler gives  
20 testimony in his official  
21 capacity, I'm representing him  
22 in that capacity.

23 BY MR. SMITH:

24 Q. Okay. Can I call you Jim?

25 A. You may.

1 Q. You can call me Gary. Jim,  
2 are you appearing here today  
3 voluntarily?

4 A. Yes, I am.

5 Q. How long have you worked for  
6 the BLM?

7 A. In total or in the last run,  
8 because I had some time with BLM  
9 prior to my --- I've been with the  
10 Bureau of Land Management in this  
11 last run since 1988.

12 Q. You worked before that with  
13 BLM?

14 A. I worked three years with BLM  
15 and two years with U.S. Geological  
16 Survey.

17 Q. Okay. And where is your  
18 current duty station?

19 A. It's in Salt Lake City, Utah,  
20 in the Utah State Office ---

21 Q. Okay.

22 A. --- of Bureau of Land  
23 Management.

24 Q. How long have you worked at  
25 that location?

1 A. Since 1988.

2 Q. Okay. What is your present  
3 position here?

4 A. I am the chief branch of solid  
5 minerals.

6 Q. Okay. How long have you been  
7 in that position?

8 A. Since 2001.

9 Q. Okay. And who is your current  
10 supervisor?

11 A. Our supervisor is Kent  
12 Hoffman, who is the Deputy State  
13 Director for Lands and Minerals.

14 Q. And what's your educational  
15 background, Jim?

16 A. I have a Bachelor's and a  
17 Master's degree in geology from Utah  
18 State University.

19 Q. Can you tell us a little bit  
20 about your mining history and  
21 experience?

22 A. As I mentioned, I have worked  
23 with the Bureau of Land Management a  
24 number of years. I was with the  
25 United States Geological Survey, in

1 the Conservation Division. I worked  
2 in the Resource Evaluation Office,  
3 where we provided geologic support to  
4 the mining supervisor, who was the  
5 USGS at that time. That's basically  
6 the position I occupy now in the  
7 Bureau of Land Management.

8 I worked between 1981 and 1987  
9 for ARCO Coal Company, where I was  
10 the manager of coal development,  
11 mining geology. And my duties there  
12 were to provide geologic support for  
13 the operating mines of ARCO Coal  
14 Company. So I became very involved  
15 with their operations, which included  
16 some mines in Utah. Since 1988, with  
17 the Bureau of Land Management in the  
18 Utah State Office, I've either been  
19 the senior geologist or in my present  
20 position with the responsibility for  
21 providing geologic support for BLM's  
22 mission and overseeing the operations  
23 that we oversee in the solids branch.  
24 Q. Okay. When did you graduate  
25 from college?

1 A. I received my Bachelor's in  
2 1970 and my Master's in 1980.

3 Q. Okay. So during the time ---  
4 you worked for ARCO Coal Company, a  
5 little bit after you received your  
6 Bachelor's degree then?

7 A. No. I received my Bachelor's  
8 in 1970. Actually, I worked in a  
9 number of different areas. I started  
10 work with the Bureau of Land  
11 Management in 1973 and went to the  
12 Geological Survey in 1977, and  
13 finished my Master's degree while I  
14 was working for the Geological  
15 Survey. And then it was after my  
16 Master's degree that I went to work  
17 for ARCO.

18 Q. Okay. And what are your  
19 primary areas of responsibility in  
20 the job you have now?

21 A. As the branch chief for solid  
22 minerals, my group oversees all of  
23 the solid mineral activities that BLM  
24 administers. That includes the  
25 Mining Law program, under the Mining

1 Law of 1872, the mineral leasing  
2 programs, which include coal. In  
3 Utah, we have operations for, in  
4 addition to our coal operations,  
5 gilsonite and potash active mines  
6 that out of our office we inspect and  
7 do the inspection, enforcement,  
8 production verification and functions  
9 of the Bureau. With respect to the  
10 coal program, I am the authorized  
11 officer for approving the Resource  
12 Recovery and Protection Plan  
13 modifications and so forth on our  
14 coal mining operations.

15 Q. Okay. The area that you cover  
16 is basically all of Utah?

17 A. The State of Utah, yes.

18 Q. Okay. How many offices,  
19 branch offices are there in the State  
20 of Utah?

21 A. The field offices --- do you  
22 want to know in total? I would have  
23 to add those up. We only have one  
24 that we deal with that has the coal  
25 operations.

1 Q. And that's the main one?

2 A. And we have --- there's the  
3 Salt Lake field office, the Vernal  
4 field office, Richfield. And in the  
5 Salt Lake field office is where the  
6 potash operations are. The Vernal  
7 field office has the gilsonite. But  
8 all of our coal mine activities  
9 presently are in Price.

10 Q. Okay. As far as the coal  
11 operations, what is your  
12 responsibility with them? I mean,  
13 you said you dealt with the coal  
14 leases?

15 A. Yes. We are the office that  
16 issues the leases and administers the  
17 leases for the Department of the  
18 Interior, so we take care of the  
19 adjudication and adjustment of lease  
20 terms. We issue the exploration  
21 licenses and approve exploration  
22 plans to explore for federal coal.  
23 On federal leases, the operators are  
24 required, under the terms of their  
25 lease, to submit a Resource Recovery

1 and Protection Plan, often referred  
2 to as an R2P2. Our job is to review  
3 those plans and approve those plans  
4 for economic recovery, to ensure that  
5 we do not waste federal coal and that  
6 we achieve maximum economic recovery  
7 of those reserves. And in that  
8 capacity we also then have the  
9 responsibility for inspecting the  
10 mines on a regular basis, at least  
11 quarterly. And the engineers on my  
12 staff work with and provide support  
13 for the inspectors who are located  
14 here in the Price field office.

15 Q. Okay. You mentioned maximum  
16 economic recovery is put into those  
17 plans, I guess.

18 A. Yes.

19 Q. Is there a way of determining  
20 that?

21 A. Yes. It's determined  
22 basically following standard industry  
23 operating practices to ensure that  
24 the coal that is economic is  
25 recovered. And by economic means

1       that the cost of mining it cannot  
2       exceed the incremental cost of  
3       selling the coal.

4       Q.       I guess you look at it then to  
5       determine how much coal can be  
6       recovered from a certain reserve?

7       A.       That would be part of the  
8       function.  And under the regulations  
9       if a company --- if they come across  
10      part of the reserve that they don't  
11      think can be mined, we have to  
12      approve the action to leave that coal  
13      in the ground.

14      Q.       Okay.  Are mining plans ever  
15      submitted with those type of permits  
16      that you --- the lease permits?

17      A.       Yes, that's what --- the R2P2,  
18      the Resource Recovery and Protection  
19      Plan, is a mining plan.

20      Q.       Okay.  Do they ever submit any  
21      type of analysis to show you the  
22      amount of coal can be recovered  
23      safely?

24      A.       Yes, they do.

25      Q.       Okay.

1       A.       And then we review and  
2       obviously we look at safety. We  
3       don't approve safety plans, but we  
4       would look at safety in the context  
5       that obviously we would not approve a  
6       mining plan that was not safe.

7       Q.       Okay. What type of analysis  
8       do these --- are these plans  
9       submitted by mainly the companies or  
10      do consultants submit parts of these  
11      plans?

12      A.       The plan themselves are  
13      submitted by the companies.  
14      Occasionally there would be backup  
15      information if they're showing  
16      justification for not mining a  
17      certain area. If there's a potential  
18      reserve there that couldn't be mined,  
19      they may supplement that with a  
20      consultant's report to provide the  
21      basis for what they're asking to do.  
22      An example of this would be at some  
23      of the deep mines in the Book Cliffs  
24      where they've gone to a program of  
25      leaving a barrier between every

1 panel. Obviously, there's a lot of  
2 coal in that barrier, and we have to  
3 be able to have an assurance and a  
4 justification to understand the  
5 purpose of leaving those barriers  
6 before we can approve and allow that  
7 to be left in place.

8 Q. So a lot of times a consultant  
9 will give you some information or  
10 analysis, showing that these barriers  
11 are needed in those places?

12 A. Yes. We would ask for and  
13 review the reports that led to the  
14 conclusion that the barrier and the  
15 size of the barrier is appropriate  
16 and needed.

17 Q. Okay. What consultants have  
18 you seen submit ---? Is there a  
19 certain consultant or is there  
20 different consultants that ---?

21 A. There are different ones. The  
22 primary ones we see on those type of  
23 issues would be Hamid Maleki, a  
24 number of reports we'd see from him,  
25 and Agapito, who seem to be --- in

1 terms of the rock mechanics reports,  
2 Agapito Associates and Maleki seem to  
3 be the ones who do most of the work  
4 that comes across our desk.

5 Q. Okay. In general, what type  
6 of software analysis do you know that  
7 they would use for analyzing those  
8 barriers? I mean ---.

9 A. I'm generally familiar with it  
10 by name, but I rely on the mining  
11 engineers on my staff to do that  
12 evaluation. They are much more  
13 conversant with the methods that are  
14 used and the models that are used.

15 Q. Do you know if they use ARMPs  
16 or the model ---?

17 A. I have seen reports that have  
18 used those, yes. I'm not personally  
19 familiar with the models.

20 Q. Okay. But they --- that's  
21 normal to see something like that, in  
22 the lease R2P2 reports that you get,  
23 that they do give you an analysis  
24 with ARMPS or something for ---?

25 A. If they are asking for us to

1       approve leaving coal in place for  
2       geotechnical reasons, we would ask  
3       for reports that they have to support  
4       why they need to do that. Many  
5       times, because our emphasis is on  
6       recovery, if it is pretty  
7       straightforward that they're going to  
8       mine it, we would not receive nor we  
9       would we ask for this type of  
10      geotechnical report. We rely on MSHA  
11      ventilation and roof control plans to  
12      get down into those details. So  
13      unless it was an issue involving  
14      putting --- saying they're not going  
15      to mine coal that they want to  
16      justify, that would be the only time  
17      that we would ask for that type of  
18      report.

19      Q.       Okay. Now, you mentioned  
20      barriers. I mean, would they also  
21      submit some reports if they wanted to  
22      do any pillar mining? Have you ever  
23      seen reports if they ---?

24      A.       Yes. Yes.

25      Q.       Okay.

1       A.       And we would look at those  
2       reports and we would look at the  
3       submittal that they put before us in  
4       the context of recovery. So we would  
5       want to see their pillaring plan so  
6       that we understand how they were  
7       going about it. But we would be  
8       looking at it from the resource  
9       recovery perspective and looking at  
10      the percentage of recovery that they  
11      were getting, again, relying on other  
12      agencies to deal with the safety  
13      aspects of that plan.

14      Q.       Does your people ever, you  
15      know, run the ARMPS or LAMODEL or  
16      anything to verify what they have  
17      submitted to you is proper and  
18      correct?

19      A.       I know that they do  
20      calculations on pillar strength and  
21      so forth. Whether they run LAMODELS  
22      or not, I don't believe my people run  
23      LAMODELS, per se.

24      Q.       Do you ever have any  
25      interaction with MSHA to see --- to

1       communicate with them what they have  
2       been reviewing as far as --- and tell  
3       them what you've reviewed on the  
4       plans that you've ---?

5       A.       We've talked about the need to  
6       be able to do that.  Primarily in our  
7       role of resource recovery, sometimes  
8       we find ourselves faced with, MSHA is  
9       making us do this and we --- just  
10      talk about the need to have a point  
11      of contact where we could discuss  
12      these things with MSHA.  In the past,  
13      when there was the tech center in  
14      Denver, my engineers would work  
15      closely with them when we would have  
16      issues.

17             We had one particular issue  
18      where the barrier that was proposed  
19      we felt looked like it was a little  
20      bit too large, so we went to the tech  
21      center in Denver and asked them to  
22      basically give us their opinion on  
23      whether the barrier needed to be as  
24      big as the company was proposing.  
25      And they provided us with input and

1 we got the barrier properly sized.

2 Q. Okay.

3 A. So we have had those  
4 interactions with MSHA in the past  
5 with the tech center not there and  
6 having --- we have been more arm's  
7 length from the inspectors and the  
8 inspection office here, so we  
9 probably haven't had the type of  
10 communication with them certainly  
11 that I would like to see.

12 Q. Okay. You said after the tech  
13 center left that you really haven't  
14 --- have you communicated with the  
15 enforcement office in Denver, I mean,  
16 their technical people that they have  
17 in their District Nine field  
18 office --- district office?

19 A. We do on occasion. We don't  
20 have regular communication with them.  
21 The latest one was a couple of years  
22 ago where we were dealing with the  
23 sealing of a mine shaft. We had a  
24 number of meetings with the MSHA  
25 folks in Denver and coming in --- we

1 felt rather than the cap on the top,  
2 we plugged top to bottom, and we had  
3 a number of discussions.

4 Q. Okay. You mentioned that one  
5 mine that you had dealings with in  
6 the past on the barrier pillar. Do  
7 you remember which mine that was?

8 A. That was the Deer Creek Mine.

9 Q. Deer Creek. Okay. Do you  
10 remember about what year that was in?

11 A. No, I don't. I'd have to go  
12 back and check it. It's been a  
13 number of years.

14 Q. Yeah. I think Tech Support  
15 --- they haven't been out here since  
16 the mid '90s, somewhere in there.

17 Okay. In the past have you had the  
18 opportunity to investigate or assess  
19 the geologic conditions at the  
20 Crandall Canyon Mine?

21 A. Yes, I have.

22 Q. When is the last time you were  
23 in the Crandall Canyon Mine?

24 A. The last time I was in it  
25 would have been --- we were looking

1 at a lease modification which was up  
2 in the northeast part of the Crandall  
3 Canyon Mine. And I was in there ---  
4 it's probably been two years ago.

5 Q. Okay.

6 A. It was kind of up there to the  
7 northeast.

8 Q. Okay.

9 A. At some potential local  
10 reserves up in the northeast.

11 Q. Okay. Have you looked at the  
12 geology characteristics in the  
13 past ---

14 A. Yes.

15 Q. --- at the Crandall Canyon  
16 Mine?

17 A. Yes, I have.

18 Q. I've got some questions on  
19 that here.

20 A. Okay.

21 Q. How does the coal seam  
22 characteristics, such as cleat  
23 intensity or cleat orientations  
24 compare to other mining reserves or  
25 mining operations in the vicinity?

1       A.       I would say it's very similar  
2       in terms of the strength and the ---  
3       I saw no differences there compared  
4       to Deer Creek, which is the closest  
5       mine to the south.

6       Q.       Okay. And one thing, I guess,  
7       how many mines are in the Hiawatha  
8       seam that you've been involved with  
9       in Utah here?

10      A.       Well, Trail Mountain Mine,  
11      which is now closed down, was in the  
12      Hiawatha, of course this mine, the  
13      --- under East Mountain, the Pacific  
14      Corp., the Wilberg was in the  
15      Hiawatha, if I remember correctly, on  
16      the south end up to the northern part  
17      of Deer Creek Mine. They drop down  
18      into the Hiawatha in the later stages  
19      of the mine. They were originally in  
20      the Blind Canyon.

21      Q.       Okay.

22      A.       When I was with ARCO, there  
23      was the Huntington Canyon Number Four  
24      Mine, which is south of the south  
25      Crandall Mine, Mill Fork canyon, and

1       it had one section that went down  
2       into the Hiawatha. It was primarily  
3       in the Blind Canyon seam. So we've  
4       been involved with four or five mines  
5       in the general vicinity of the mining  
6       in the Hiawatha.

7       Q.       So you've been in these mines  
8       and have observed the different  
9       conditions and geologic  
10       characteristics of those mines there?

11      A.       Yes.

12      Q.       Okay. Does the coal seam  
13      appear to be any different from the  
14      material strength perspective  
15      compared to other mining operations  
16      in the vicinity?

17      A.       Well, as a geologist, I will  
18      confess to not getting as involved in  
19      the rock mechanic side of things. As  
20      a casual observation, I saw no  
21      difference there. It seemed to ---  
22      the only things that I would observe  
23      related not necessarily to  
24      characteristics of a seam. You could  
25      definitely tell what the cover over



1        were going in the mine you could  
2        tell, okay. And part of the reason  
3        why I would be looking at that,  
4        because that was also how I could  
5        tell when we were coming off of the  
6        state lease on to the federal, the  
7        overburden was going up.

8        BY MR. SMITH:

9        Q.        How about the floor and the  
10       roof characteristics at Crandall  
11       Canyon, how does that compare with  
12       other Hiawatha seams in the area?

13       A.        The Hiawatha seam --- because  
14       Hiawatha generally sits on the  
15       Starpoint sandstone, it usually has a  
16       very competent sandstone floor.  
17       There are areas where there's a shale  
18       sitting in between the coal or a seat  
19       earth, a fire clay that it can get  
20       soft, but generally it's a pretty  
21       good solid competent floor. And  
22       that's the same everywhere that you  
23       have the Hiawatha.

24                Roof conditions varied and  
25       generally were pretty good. However,

1 when you're having good sandstone  
2 roof, it's also you've got channels  
3 and you lose coal height a lot of  
4 times with scours and so forth.

5 Q. Okay.

6 A. So characteristically, I don't  
7 see a lot of differences among the  
8 mines of the conditions that I saw  
9 from a geologic perspective of the  
10 roof or the floor. Roof, there would  
11 be some areas where, particularly on  
12 channel margins and so forth, where  
13 you would have bad roof. But it was  
14 no worse at one mine than at another.

15 Q. Okay. Have you been involved  
16 with any bumps anywhere else?

17 A. What do you mean by involved?

18 Q. Well, have you observed the  
19 outcomes of bumps or heard what the  
20 outcomes of bumps were?

21 A. I've been in a mine when a  
22 bump happened, and so in that sense  
23 I've observed it. I have not  
24 personally been called upon to go in  
25 and investigate or to look at the

1 conditions after bumps. Our  
2 engineers, our inspectors do that. I  
3 haven't had an occasion to do that.

4 Q. Okay. So you never really  
5 observed what the outcomes of a  
6 bounce or a bump ---?

7 A. No, other than one that  
8 happened while I was there.

9 Q. You did see the outcomes of  
10 one bump then?

11 A. Yes.

12 Q. Where was that at?

13 A. That was in the Aberdeen Mine.  
14 We were just going --- actually, what  
15 we were doing was a --- going in on a  
16 visit. We were working with the  
17 University of Utah and the company to  
18 initiate some studies on mining the  
19 deep coal. Basically we were  
20 providing some financial support to  
21 the company and to the university to  
22 put some borehole pressure cells in  
23 the barriers that were being left  
24 between the panels. And we were in  
25 there looking at the proposal that we

1 had to drill the holes that would put  
2 the pressure cells in place. And as  
3 we approached the face, there was a  
4 small bump, and the main result of  
5 that was a release of gas at the  
6 face, and the longwall had to shut  
7 down. It wasn't a very significant  
8 event.

9 Q. A release of what type of gas?

10 A. Methane out of the gob.

11 Q. Okay. Did they have low  
12 oxygen or anything?

13 A. The methane detectors went  
14 off. Everybody's detectors were  
15 beeping for a short time, shut down  
16 the face, and then they cleared very  
17 quickly. So it was a very, very  
18 short-term event.

19 Q. Okay. And in your mind, I  
20 guess, what is your definition of a  
21 bump or a bounce?

22 A. Well, in my mind, it's when  
23 pressure builds up to a point where  
24 you can get a sudden relief, whether  
25 it's floor heave or a burst out of

1 the seam, out of the pillar or out of  
2 the face.

3 Q. Okay. So would there always  
4 be an outburst of coal whenever they  
5 had a bump or can you just have a  
6 noise with a bump or ---?

7 A. Well, again, my experience is  
8 limited, so I really don't think I  
9 can answer that.

10 Q. Whenever you were in that  
11 bump, did you hear a loud noise?

12 A. Yes, and felt it.

13 Q. A large release of coal from  
14 the ribs?

15 A. In that case there wasn't  
16 necessarily a release of coal from  
17 the ribs. There had been a floor  
18 heave and it basically pushed the  
19 methane out of the gob, is what I  
20 understood.

21 Q. Okay. There was not a rock  
22 burst at the face at that time.

23 Q. Has any of your people or you  
24 ever looked into what the gas  
25 contents of the Hiawatha seam is, gas

1 characteristics of what's actually in  
2 the coal seam?

3 A. I've been involved with drill  
4 holes where they ran canister tests  
5 on them, yes, ---

6 Q. Okay.

7 A. --- during exploration.

8 Q. Okay. What did those ---?

9 A. I can't remember the specifics  
10 of them. Generally, in the East  
11 Mountain area, where Genwal and the  
12 Pacific Corp operations are, there's  
13 not a significant amount of gas  
14 associated in the Hiawatha seam.

15 Q. And what type of tests did you  
16 say those were?

17 A. Basically a desorbtion test, a  
18 canister test on a core dropped in a  
19 canister. And as the gas desorbs out  
20 of the core it's measured.

21 Q. Okay. I was maybe more  
22 interested in if there was any type  
23 of carbon dioxide or other type gases  
24 that was in the coal?

25 A. I've never been involved with

1 any test that would look at that.

2 Q. Okay. But they have taken  
3 some --- they have made some  
4 tests ---?

5 A. You asked me if I had been  
6 involved with them, yes. I had been  
7 involved whether --- none at the  
8 Crandall Canyon Mine. There was an  
9 exploration on the area south of  
10 there actually for the Huntington  
11 Number Four Mine with ARCO Coal  
12 Company.

13 Q. Okay.

14 A. And we did do --- in addition  
15 to the geotechnical testing, we were  
16 doing a check for gas in the coal, a  
17 segment of the core was put in a  
18 canister to measure the methane is  
19 what these were.

20 Q. Whenever we were --- we seen  
21 some areas of red dust in the bump  
22 area. Is there any --- has any of  
23 your people ever told you about any  
24 red dust that they've seen in areas  
25 that the coal has bumped?

1 A. I've heard about it. I've not  
2 personally witnessed it. I've had  
3 some discussions as I've heard about  
4 it. Speculation of what it might be.  
5 I have not been able to afford an  
6 opinion. I know some of my people  
7 have observed it.

8 Q. You've never did any analysis  
9 on that dust or anything?

10 A. No.

11 Q. Okay. You said you were in  
12 the eastern --- northeastern part of  
13 the mine a couple years ago. Have  
14 you ever been in any other pillaring  
15 operations at Crandall Canyon Mine?

16 A. Not while they were pillaring.  
17 I've been in the areas where they  
18 pillared, but not while they were  
19 actually doing --- pulling pillars,  
20 with the exception --- I guess I was  
21 because on the state lease, the panel  
22 up there to the north, before they  
23 were longwalling, had the continuous  
24 haulage operation. I was in that  
25 area while they were pillaring.

1 Q. Okay. What were the  
2 conditions of the pillars and roof  
3 --- ground conditions up in that  
4 area?

5 A. I don't recall there being  
6 anything out of the ordinary from  
7 other operations that I've been in  
8 where they were pulling pillars.  
9 There was a good cave going behind  
10 the pillar. A noncoal miner would be  
11 very nervous because the ground is  
12 talking to you, as one would expect  
13 during a pillaring operation. But it  
14 was --- for the most part, when I was  
15 in there, it was a very good cave and  
16 a very smooth operation on that  
17 particular one.

18 Q. You don't know which panel you  
19 were in?

20 A. I cannot recall it exactly.  
21 It would be up in that central part  
22 up in that area, probably about  
23 halfway up.

24 Q. Okay. Had any of the people  
25 at the mine ever mentioned to you

1 anything about bounces or bad  
2 conditions, where they had to skip  
3 some pillars?

4 A. No. No. At the time that  
5 they were doing that, I wasn't in my  
6 present position, so I --- and  
7 actually, at that time, the Resource,  
8 Recovery & Protection plan approvals  
9 was --- besides that, this was on  
10 state lease. So, no, we wouldn't  
11 have had any. And that feedback  
12 comes back to us.

13 Q. How about out in the Main West  
14 area, were you ever out in there?

15 A. Yes. Yes. I went in there  
16 when they were initially on  
17 development. And the west mains were  
18 developed prior to the longwall  
19 techniques being employed there. I  
20 went in there after they had  
21 completed the west mains and then  
22 started driving north because they  
23 had intercepted the Joe's Valley  
24 Fault with that --- those entries to  
25 the north. And we went in to inspect

1 the --- inspect the fault and get  
2 some information on the water flow  
3 and volume of water coming out of the  
4 fault. So at that time I did go back  
5 through those west mains shortly  
6 after they were actually first  
7 developed.

8 Q. Okay. What did the ground  
9 conditions look like whenever you're  
10 going out through there?

11 A. Well, as I mentioned, as you  
12 went under the heavier cover, the  
13 1,800 to 2,000 feet, under the rib  
14 there, even in those early days,  
15 there was a marked difference in the  
16 --- it was a good solid clean rib  
17 until you got to a certain depth.  
18 And then you would be able to visibly  
19 see the sloughage as you went back in  
20 there.

21 Q. Were you ever in there after  
22 the longwall panels mined up adjacent  
23 to ---?

24 A. No, not there.

25 Q. Okay.

1       A.       I know we approved that area.  
2       It was basically serving as a bleeder  
3       for the mining in the south. And I  
4       don't make it a habit of going back  
5       into bleeders.

6       Q.       Okay. You get reports from  
7       some of your inspectors then, I  
8       guess, on what's --- how the  
9       conditions look like in the mine?

10      A.       Yes, we do. We've set up a  
11      system of trying to do our job in a  
12      better way. We put a database system  
13      together that they have them put the  
14      reports in so I can access the  
15      reports. Those reports we use as our  
16      basis for determining whether we  
17      approve a modification or not when  
18      it's requested.

19      Q.       Did you get any reports from  
20      your inspectors on what the  
21      conditions looked like in the west  
22      mains over time, I guess, more  
23      particularly whenever the longwalls  
24      mined up adjacent to ---?

25      A.       I was not aware that any

1 issues were made. I didn't see any  
2 reports that commented one way or the  
3 other on conditions. Typically, our  
4 inspectors, when they go into an  
5 operation, go into the working faces  
6 and the reports concentrate on the  
7 working faces. When we go into  
8 another area it's usually to support,  
9 for example, whether it would be  
10 appropriate for our inspector to go  
11 into the west mains and do an  
12 inspection when the company was  
13 coming in asking us to approve a  
14 modification to the R2P2 in place to  
15 put the seals in place in the west  
16 mains. And show that, yeah, there's  
17 no recoverable coal there, so it's  
18 appropriate to seal that area off.

19 Q. Okay. Did you get any types  
20 of reports from your inspector then  
21 to seal that area off?

22 A. Yes. There was a report which  
23 would have his observations of the  
24 conditions in that area and his  
25 thoughts about whether there was

1 recoverable coal or not and his  
2 determination that there was  
3 basically no recoverable coal  
4 supporting my decision that I sign,  
5 our decision, the Bureau's decision  
6 to allow those seals to be put in  
7 place. Because we're basically  
8 saying there's no need to achieve ---  
9 to achieve MER, there would be no  
10 need to mine inby the seals.

11 Q. And do you remember what his  
12 observations or reasons were for ---?

13 A. Well, I've reviewed his report  
14 recently as a result of what's  
15 happened since August, yes, so I'm  
16 familiar with his observations, yes.

17 Q. And what were ---?

18 A. Well, his observations that  
19 the pillars in that west mains were  
20 showing evidence of carrying a lot of  
21 weight. And that, in his opinion,  
22 that attempting to recover those  
23 pillars would be problematic, and,  
24 therefore, we could safely approve a  
25 plan that would not mine the pillars

1 in the west mains.

2 Q. Okay. I guess Mike Gauna met  
3 with you ---

4 A. Yes.

5 Q. --- a while back here and he  
6 asked you for the closest core hole  
7 data that you had to the west mains  
8 there.

9 A. Right. The exploration holes  
10 that we had up on there were not core  
11 holes, but I did provide him with the  
12 geophysical log and the log from the  
13 closest drill hole to that area.

14 MR. SMITH:

15 Again, Mike looked at a  
16 map here, and maybe I can give  
17 this --- make this an exhibit,  
18 Exhibit One.

19 (Kohler Exhibit One  
20 marked for  
21 identification.)

22 BY MR. SMITH:

23 Q. And there's an indication that  
24 there is some sort of a hole --- I  
25 don't know if it's a core hole or a

1 geophysical hole. And he was just  
2 wondering if you had information.  
3 All of the other holes ---.

4 A. We're talking about this right  
5 here?

6 Q. Yes.

7 A. Okay. There was not any  
8 exploration drilling in that area.  
9 There was, out in the west mains, a  
10 monitoring well that was put in  
11 place, drilled in the mine, down into  
12 the Starpoint to monitor the water  
13 table in the Starpoint. I thought  
14 that was a little further in by than  
15 this point here, but that would be  
16 the only drilling that I'd be aware  
17 of out in that part of the west  
18 mains.

19 Q. And that wasn't a core hole or  
20 anything?

21 A. No, no. That was an in mine  
22 drill hole.

23 --- basically completed as a water  
24 well to be able to monitor the water  
25 level in the Starpoint sandstone,

1       which lies under the Hiawatha seam.

2       Q.       And you didn't have  
3       geophysical logs or anything ---

4       A.       No.

5       Q.       --- to use with it?

6       A.       No. It was drilled at a short  
7       distance in and a monitor put in  
8       place so we could monitor the water  
9       level.

10      Q.       Okay. I guess this was  
11      received from information from  
12      Agapito? He said if you did have any  
13      information on it, he would be  
14      interested in you giving him  
15      information on that.

16      A.       Yeah, that --- I can check and  
17      find out. I have --- I really don't  
18      recall there being a drill hole in  
19      there out on the surface. As you  
20      know, that area was pretty much a  
21      roadless area up on top of the ridge  
22      up above there. So until the holes  
23      were drilled as part of the rescue  
24      operations, there really wasn't any  
25      drilling down in that area that I'm

1       aware of, other than that monitoring  
2       well in the Starpoint. But I'd be  
3       more than willing to find out if I  
4       can get more information on that.

5       Q.       He said it could have been a  
6       channel sample also that they had  
7       taken there. If it was a ---.

8       A.       Well, it appears that they're  
9       showing this as a --- for the --- to  
10      meet our data adequacy for reserves  
11      would suggest they used a coal  
12      thickness. And, again, the drill  
13      hole that I'm thinking of I thought  
14      was further inby. So that, in all  
15      likelihood, would just be a  
16      measurement of the thickness of the  
17      seam at that point if they had driven  
18      those mains out when this map was put  
19      together.

20             What's the date on this? '95.  
21      Yeah, yeah. See, and that's what  
22      most of these points in here would  
23      be. They're not drill holes. They  
24      would be measurements that were taken  
25      in mine works.

1 Q. Okay. If you could look into  
2 that, we would appreciate it.

3 A. I'd be happy to.

4 Q. And I guess as far as the  
5 barrier, mining of the barrier  
6 pillars, you had a revision to the  
7 lease or an R2P2 report to justify  
8 them taking the barrier pillars?

9 A. Actually, we did not.

10 Q. Okay.

11 A. And when they first started  
12 mining in the north barrier, we did  
13 not --- the R2P2 that we had approved  
14 is when the seals were placed in  
15 those west mains that showed mining  
16 outby the seals. And so we did not  
17 approve the --- we did not have a  
18 plan before us to approve the initial  
19 mining in the north barrier. The  
20 first approval that came on my desk  
21 was when they had asked to stop  
22 mining in the north barrier due to  
23 the conditions that they encountered  
24 when they went in depth and the bump  
25 that they had there at that time.

1 Q. Okay. So you didn't get  
2 anything --- any request from the  
3 company to mine the north barrier?

4 A. No, we did not.

5 Q. How about the south barrier?

6 A. The request to mine in the  
7 south barrier came in at the time  
8 they asked to stop in the north  
9 barrier. And we did give a verbal  
10 approval to move forward, recognizing  
11 that in the south barrier the plan  
12 that they provided us only had one  
13 entry. The Number Four entry was the  
14 only entry on the federal, so we were  
15 really only capable of approving that  
16 Number Four entry.

17 Q. Did they submit any analysis  
18 on the barrier strats or any mining  
19 plans, any engineering analysis to  
20 --- for stability factors in that  
21 area?

22 A. No, they did not. I might  
23 note that our approval --- our  
24 written approval, which was after the  
25 event, we did ask the company to

1 provide us with both their roof  
2 control plan and the geotechnical  
3 reports that were submitted in  
4 support of that. So we requested  
5 that from the company. We have not  
6 received it yet.

7 Q. Okay. Let's see. Does your  
8 BLM district monitor mining-induced  
9 seismic activity that's on the  
10 University of Utah's website?

11 A. It is not a primary function  
12 that we're --- that we have.  
13 However, we have in the past and  
14 continue to, when there's an issue  
15 raised about seismicity, go to the  
16 university data and utilize that.  
17 And we've put together a number of  
18 small studies that we use internally  
19 to get a sense on the frequency and  
20 size and so forth of the events. So  
21 we have, on occasion, when an issue  
22 is raised, we will go to that  
23 database and use that information.  
24 Q. How often do you see seismic  
25 events related to mining?

1       A.       Well, I'm not sure what you  
2       mean by how often do we see them. We  
3       will do an investigation and go in  
4       and look at the frequency of events  
5       in a certain area when an issue is  
6       raised in a mine. For example, at  
7       the Trail Mountain Mine, when the  
8       company came in and said because of  
9       the bounces that they were having at  
10      the face, they wanted to stop on the  
11      panel they were mining on and leave  
12      it as a barrier and move up and move  
13      into the next panel. In order for us  
14      to have a better sense of that, we  
15      came in and looked at the  
16      information, looked at the frequency  
17      of the seismic events, tried to look  
18      where they were occurring relative to  
19      where the face was at a certain time  
20      to see if that would support our  
21      justification to approve them to stop  
22      that mining.

23      Q.       Okay. Was that type of data  
24      ever looked at, at Crandall Canyon?

25      A.       No.

1 Q. Okay.

2 A. If you say ever, if you mean  
3 prior to the event, no, we never had  
4 occasion to look at anything at  
5 Crandall. Seismicity was not an  
6 issue.

7 Q. Okay.

8 A. Obviously, we did come in and  
9 we have plotted up and looked at the  
10 events that were occurring at the  
11 time of the --- of one on August the  
12 6th, and we continued to go to the  
13 website and see what was going on  
14 while the rescue operations were  
15 proceeding.

16 MR. SMITH:

17 Can we take about a  
18 five or ten-minute break?

19 SHORT BREAK TAKEN

20 MR. SMITH:

21 Okay. I guess we can  
22 go back on the record here.

23 BY MR. SMITH:

24 Q. I got some follow-up questions  
25 from my compadres back there. One of

1 the question is, I guess you said  
2 that your R2P2 plans are also  
3 reviewed for safety aspects?

4 A. No, we do not review them for  
5 safety. Safety isn't our --- that's  
6 not what we do. We're not  
7 responsible for that. As a matter of  
8 fact, our regulations very clearly  
9 show --- as it spells out the various  
10 roles, OSM has the role for the  
11 surface environment. MSHA has the  
12 role for mine safety. And we have,  
13 on federal leases, the role for the  
14 resource recovery and protection.

15 Q. Okay.

16 A. Safety could enter into it and  
17 we're --- obviously, safety is a  
18 consideration for everybody. That's  
19 something that I think we all  
20 recognize. But where a safety issue  
21 might be raised in plan approval for  
22 us, if the company is coming in and  
23 saying they have reasons which could  
24 include safety reasons for not going  
25 after a certain block of coal, at

1 that point in time they have not  
2 submitted a plan to MSHA to recover  
3 that, so we don't have a roof control  
4 plan that says, no, we're not going  
5 to let you do that, that's not safe.  
6 They may raise a safety issue which  
7 we would have to look at in terms of  
8 do we agree that it's probably a good  
9 idea not to mine that. If they've  
10 raised a safety consideration to that  
11 degree, we could look at safety. And  
12 an example of that would be looking  
13 at putting the seals in the west  
14 mains at Crandall Canyon.

15           There certainly was safety  
16 consideration raised. And we don't  
17 think we can come back in there and  
18 pillar that because the condition of  
19 those pillars is such it would be not  
20 --- it wouldn't warrant doing that.  
21 So indirectly we would make a safety  
22 call when we say, yes, we agree to  
23 put the seals outby and we're not  
24 approving any --- we're not being  
25 asked to approve that. We're being

1 asked to approve not mining that  
2 area, which we do. So that degree of  
3 safety could enter into it, but ---.  
4 And I guess, you know, to cut to the  
5 chase, we would never approve a mine  
6 plan for MER purposes that wasn't  
7 safe or that created an unnecessary  
8 environmental problem, so ---.

9 Q. How would you know it's not  
10 safe?

11 A. Well, that's why we have  
12 experienced mining engineers. I rely  
13 on their opinion and their  
14 observation to come in and help  
15 support that decision.

16 Q. Okay. So on the initial  
17 plans, would you ever review them for  
18 safety, or is it always on a parcel  
19 that the company doesn't want to  
20 mine?

21 A. We would not review it. We  
22 may --- obviously we would have  
23 safety in our mines when we're  
24 looking at them, but we would rely on  
25 the fact that in order to mine,

1 they're going to have to have a roof  
2 control ventilation plan approved by  
3 MSHA, and that's going to rule the  
4 day anyway. So we would not look on  
5 an initial plan of the safety aspect.

6 Q. Okay. And then you said if  
7 they came in with a safety aspect  
8 later for some coal that they didn't  
9 want to mine because of safety  
10 reasons, you would get your engineers  
11 involved with that then?

12 A. Yes.

13 Q. And what type of analysis  
14 would they do there to make sure it  
15 is safe?

16 A. Well, I don't think we would  
17 ever make a determination that it is  
18 safe. We would make a determination  
19 that, yeah, safety is a concern and  
20 we would say that we don't believe  
21 that it's safe, therefore we're not  
22 going --- we would approve abandoning  
23 the area. We would never make a  
24 determination that, no, that's safe.  
25 So the only way we would get involved

1 in safety would be from the context  
2 that, yes, we agree that there are  
3 safety concerns with trying to mine  
4 that coal, and, therefore, we justify  
5 leaving it in the ground.

6 Q. And do your engineers do any  
7 type of analysis?

8 A. They could look at pillar  
9 strength calculations, that sort of  
10 thing. That would be primarily ---  
11 however, I would surmise, based on  
12 observation and experience and seeing  
13 the conditions and such that it  
14 wouldn't appear prudent to try to  
15 mine that.

16 Q. Okay. You said you're ---  
17 before you said you're not sure if  
18 they use ARMPS or ALPS or LAMODEL?

19 A. I know that they're familiar  
20 with the software. To the degree  
21 that they use it, I am not familiar.

22 Q. Okay. Let's see. You said  
23 you requested the roof control plans.  
24 Before we go there, do you ever use  
25 any other consultants to analyze

1       whether pulling out of an area is  
2       justified or not?

3       A.       No.

4       Q.       Okay.

5       A.       No.    We rely on the  
6       observations of the inspectors, the  
7       information provided by the company.  
8       And typically when we're being asked  
9       to make that decision, it's not a  
10      decision that we have time to  
11      languish over for a period long  
12      enough to come in and do some  
13      studies.  It has to be a fairly quick  
14      decision.  We reached a point where  
15      they're saying we want to abandon  
16      this panel or we're going to stop  
17      doing this, we going to change  
18      direction.  The mine can't afford to  
19      sit around and not be mining coal, so  
20      we have to make a fairly quick  
21      determination, yes, we do agree that  
22      it is appropriate to leave that coal  
23      behind or to not go after the end of  
24      that panel.

25                   Typically, safety doesn't

1 enter into the equation. More often  
2 than not, when we're asked to make  
3 those kind of calls, it's based on  
4 the encountered geologic conditions  
5 that affect, say the coal quality or  
6 coal height has gone down, therefore  
7 they really can't mine it. We  
8 thought it was eight-feet thick and  
9 it's four-feet thick and with their  
10 equipment they can no longer mine and  
11 maintain a suitable product. And  
12 then we would allow them to stop that  
13 development at that point and abandon  
14 the remainder of that panel.

15 So most of the time, I would  
16 say a very high percentage of the  
17 time, approaching 90-plus percent of  
18 the time, the determinations we make  
19 relate to the conditions of the coal  
20 and mining conditions as it relates  
21 to economics rather than to get into  
22 the safety issues. Only rarely would  
23 a safety issue come up, as it did in  
24 --- you know, we really don't want to  
25 do any pillar recovery in these west

1       mains for these reasons. And we  
2       would have had a tangential safety  
3       issue that we would have looked at.

4       Q.       Okay. So you'd say five or  
5       ten percent of the time there might  
6       be a safety issue?

7       A.       There could be. And it might  
8       even be less than that. There are  
9       very few that I can think back on  
10      where it's been a safety concern.

11     Q.       Okay. Has there ever been a  
12     safety concern any other time at  
13     Crandall Canyon when they asked to  
14     pull out of the section ---

15     A.       No.

16     Q.       --- and not mine coal?

17     A.       No, not that I'm aware of.

18     Q.       Okay. You mentioned the R2P2  
19     reports that need to be approved ---

20     A.       Yes.

21     Q.       --- before a mine can start  
22     mining?

23     A.       Uh-huh (yes).

24     Q.       Who approves those?

25     A.       The initial R2P2 on a federal

1 lease, the first time out of the box,  
2 so to speak. The process that's  
3 followed because of the role that OSM  
4 has with the Surface Mining Control  
5 and Reclamation Act, SMCRA, there is  
6 a requirement for a permit under  
7 SMCRA as well. And so that initial  
8 R2P2 is included as part of the  
9 permit application package. It is  
10 not approved as part of the permit.  
11 On the first mining on a federal  
12 lease, that R2P2 goes back to the  
13 Assistant Secretary of the Department  
14 of the Interior for approval, through  
15 the OSM, based on findings and  
16 recommendations provided by the  
17 Bureau of Land Management.

18 So at the first go, we provide  
19 our analysis and recommendations, but  
20 the actual approval takes place at  
21 the departmental level. Following  
22 the initial R2P2, any modification to  
23 that R2P2 we approve directly.

24 Q. Okay. So the initial one is  
25 approved by the Secretary?

1       A.       Yes.   Well, the Assistant  
2       Secretary for Lands and Minerals,  
3       yes.

4       Q.       And any modifications, who are  
5       they approved by?

6       A.       They're approved by the Bureau  
7       of Land Management.  The authorized  
8       officer is myself in Utah.

9       Q.       Okay.  You said you requested  
10      the roof control plan, I guess, for  
11      Crandall Canyon ---

12     A.       Yes.

13     Q.       --- and they haven't given it  
14     to you yet?

15     A.       No.

16     Q.       Why did you request a roof  
17     control plan?

18     A.       As a result of the events that  
19     happened, my engineers wanted to  
20     understand what was going on  
21     potentially to prepare us to things  
22     that we should be looking on future  
23     plan approvals and so forth.  And we  
24     have the authority to request the  
25     operators to provide us with

1 information, so we did, indeed,  
2 request that from the company.

3 Q. Okay.

4 A. And as I said, we have not  
5 received it yet.

6 Q. Okay. So you're thinking of  
7 using the roof control plans in the  
8 future for --- this roof control  
9 plan, you've planned on reviewing it  
10 to see what happened?

11 A. Basically as a result of the  
12 events of August 6th and the fact  
13 that we are involved in approving  
14 R2P2s, we wanted to better understand  
15 the type of things --- if there are  
16 other things that we perhaps should  
17 have looked at, we wanted to  
18 understand it and get a picture. And  
19 actually, there are a number of  
20 things that we are considering  
21 internally or additional information  
22 that we think we need to bring into  
23 our approvals ---

24 Q. Okay.

25 A. --- that we've identified.

1 And then, obviously, in cases where  
2 we're going after the marginal  
3 reserves, as I would put them, I  
4 think it's appropriate for us to  
5 understand a roof control plan.

6 Q. Can you tell me what kind of  
7 internal things you're thinking of  
8 changing?

9 A. Another thing we have looked  
10 at --- as a result of this, we  
11 recognize that we need to pay more  
12 attention to the annual subsidence  
13 monitoring that's going on. We had  
14 some anecdotal information from this  
15 mine that indicated to us that we  
16 really need to have a better handle  
17 of how complete the cave is to the  
18 surface over these longwall mine  
19 areas. And so that's another thing  
20 that we're probably, in the future,  
21 going to be paying more attention to.  
22 That's required to be submitted to  
23 the regulatory authority, the  
24 Division of Oil, Gas & Mining, under  
25 the SMCRA permit.

1           We've generally never paid a  
2           lot of attention to those, unless  
3           there's been an issue raised where we  
4           might ask for it. I think from this  
5           point on we're probably going to ---  
6           or likely going to review that  
7           information annually as it comes in.

8           Q.       Who did you say the subsidence  
9           reports are sent to?

10          A.       They're sent in as part of the  
11          annual report under the SMCRA program  
12          to the Division of Oil, Gas & Mining,  
13          which is the regulatory authority in  
14          the way that a SMCRA program is  
15          delegated to the states, State of  
16          Utah.

17          Q.       So once a year they submit a  
18          report ---?

19          A.       They submit a report which has  
20          the observations of their subsidence  
21          monitoring under the plan that they  
22          submitted early on. And we found  
23          that in the case of Crandall Canyon,  
24          that no one had really looked at  
25          these reports. And I think there was

1 information in there which should  
2 have been looked at.

3 Q. Okay. Have you ever rejected  
4 an R2P2 report because of safety  
5 concerns?

6 A. No, I can't think of any.

7 Q. Okay.

8 A. And nor, I believe, would we.  
9 Because as I said, unless we're  
10 approving abandonment mining, if  
11 we're approving the mining, we're  
12 going to be focusing on maximum  
13 economic recovery, relying on MSHA to  
14 make the final call on whether that  
15 mining is safe or not.

16 We do not get involved in  
17 determining whether mining is safe.  
18 Again, only in the context that we  
19 may determine that --- we may agree  
20 that it would not be safe for the  
21 purpose of not mining it, so ---.

22 Q. Okay. I think you mentioned  
23 that you were monitoring seismic  
24 activity for the Trail Mountain Mine,  
25 and as a result of that they were

1        requesting to not mine a certain  
2        amount of coal?

3        A.            No, I don't think I said that  
4        it was a result of our monitoring  
5        seismic activity. We were not paying  
6        any attention to seismic activity at  
7        the Crandall Canyon Mine until August  
8        of this year. But at another mine we  
9        were doing it. That's what you're  
10       referring to?

11       Q.            Yes.

12       A.            Down at Trail Mountain we had  
13       an issue with an unleased tract of  
14       federal coal at Trail Mountain, and  
15       that issue was dealing with the  
16       potential impact of induced  
17       seismicity on Joe's Valley Reservoir,  
18       which is just south of the federal  
19       lease tract. Because of that issue  
20       of seismicity being raised and  
21       potentially affecting resource  
22       recovery because the Bureau of  
23       Reclamation was taking the position  
24       that they wanted a barrier to be  
25       left, that essentially we wouldn't

1 mine within a couple of miles of that  
2 reservoir, in order to get an  
3 understanding of what the seismic  
4 activity in that area was, we started  
5 monitoring to the university database  
6 and pulling it out to see what kind  
7 of events had happened, where they  
8 were happening.

9 And then we got specifically  
10 involved in an R2P2 change at Trail  
11 Mountain when they encountered a  
12 number of bounces where they said we  
13 want to stop mining in the panel or  
14 abandon this panel and move up to the  
15 next panel and mine it out and leave  
16 that panel as a barrier. And so we  
17 did verify the frequency and  
18 magnitude of the seismic events.

19 Again, the final call on that,  
20 from a safety perspective, was made  
21 by MSHA. We actually did not make a  
22 safety call one way or the other on  
23 that, on the abandonment of that  
24 panel. Matter of fact, there were  
25 concerns in our mind that the panel

1 was prematurely abandoned. But that  
2 never --- you know, the coal was left  
3 and they moved into the next panel.

4 Q. So that panel was abandoned?

5 A. Yes.

6 Q. Okay. Do you know of any  
7 other mines in Utah where pillar  
8 mining had taken place between two  
9 gob areas, that a barrier had been  
10 extracted between --- with a gob area  
11 on both sides?

12 A. No, other than --- this mine  
13 is the only one that I'm aware of  
14 where that's happened, where they ---  
15 when they were doing it in the south  
16 mains. That was the first time I was  
17 aware of this mine doing it.

18 Q. Okay.

19 A. I don't recall having seen  
20 that done in other mines. I would  
21 have to talk to my mining engineers  
22 on staff to see if they were aware of  
23 anything. That's not saying there  
24 aren't any. There may well be, I'm  
25 just not aware of them.

1 Q. Okay. One final question  
2 here, I guess. What do you think  
3 happened to cause the accident at  
4 Crandall Canyon?

5 A. Well, I have an opinion, and I  
6 can't give an agency opinion,  
7 obviously. They're dealing with a  
8 situation there where there was a  
9 fairly significant overburden. You  
10 had gob areas to the south and north.  
11 Our observations suggest that the  
12 subsidence was not as complete as one  
13 would have hoped over those gob  
14 areas, particularly to the south.  
15 And so there was a lot of mountain  
16 sitting on top of that barrier.

17 And I don't know exactly why  
18 things went the way they did, but it  
19 certainly had to do with the extreme  
20 amount of weight that was sitting on  
21 that barrier. And as that barrier  
22 was being mined, it built up to the  
23 point where it failed.

24 Now, there are a number of  
25 factors that were contributing there.

1 Stopping mining, leaving some pillars  
2 and starting up again, to what degree  
3 that weighed on it, I could only  
4 speculate. How far they were taking  
5 the roof control plan into the south  
6 remnant of the barrier, you know,  
7 opening up a wider area. I think all  
8 of those contributed. But I really  
9 think the big cause was the big  
10 picture cause that they were --- had  
11 a lot of mountain sitting on a pillar  
12 that got reduced down to the point  
13 where it failed.

14 Q. Okay. Well, the first thing  
15 you mentioned, you said you didn't  
16 think that the soft subsided as much  
17 as you would have expected or ---?

18 A. It was not a complete  
19 subsidence. I think if you look at  
20 the subsidence data, it would suggest  
21 that there was somewhat of a normal  
22 subsidence profile. If you went down  
23 one line on your subsidence  
24 monitoring plan and you really didn't  
25 start subsidizing until you're halfway

1 across the first panel you mined out  
2 in the south longwall. So at a  
3 minimum there is a certain amount of  
4 override there you get. You hadn't  
5 broken and had clean subsidence out  
6 to the surface, so there should have  
7 been some override from that.

8 And then when you look at the  
9 photogrammetric data, one reaches a  
10 conclusion that there may have been  
11 even less subsidence than that one  
12 profile really shows at the surface.  
13 And there was a good cave behind the  
14 longwall, so that only means that the  
15 sandstones and the overburden had to  
16 be basically bridging off and  
17 carrying some weight. The abutments  
18 to that bridge are the unmined coal  
19 to the south and the barrier up in  
20 the west mains.

21 MR. SMITH:

22 Can we go off the  
23 record for just a second?

24 OFF RECORD DISCUSSION

25 BY MR. SMITH:

1 Q. Those subsidence profiles that  
2 you've seen over top of the barriers  
3 and longwall gobs in the west mains  
4 there, ---

5 A. Yes.

6 Q. --- were those unusual to  
7 other subsidence profiles that you've  
8 seen at other mines?

9 A. Yes, in the sense that  
10 typically you expect the subsidence  
11 to be developing back at an angle of  
12 draw beyond the edge of the panel.  
13 So you would expect to see certainly  
14 subsidence throughout the width of  
15 the panel when you're looking at in  
16 cross-section. And so this --- it  
17 was a typical-looking curve with less  
18 subsidence on the edge and more  
19 subsidence in the center of the  
20 subsided area. But my observations  
21 of other profiles would suggest that  
22 perhaps the subsidence should have  
23 extended further out beyond the panel  
24 rather than start partway into the  
25 panel.

1 Q. And the mines that you have  
2 looked at then, subsidence profiles,  
3 most of them, the subsidence is ---  
4 sort of got closer to the ---?

5 A. Closer to the edge of the  
6 panel. And then the other thing is  
7 that there's --- with the  
8 photogrammetric data, there's always  
9 a certain amount of noise that you  
10 expect to see in a trough developing  
11 --- a bullseye-type trough developing  
12 into the subsided area, with greater  
13 subsidence in the middle. And you  
14 should be able to see on the  
15 subsidence contours something that  
16 resembles the mine layout beneath it  
17 in terms of the orientation. And I  
18 don't know whether it was reflective  
19 of poor data on the photogrammetric  
20 data or reflective of the fact that  
21 there was not as complete a  
22 subsidence of one would have hoped at  
23 the surface over these panels, but  
24 the --- trying to plot the  
25 photogrammetric data did not give a

1        --- the type of contours that one  
2        would expect over an area that had  
3        basically been totally subsided ---  
4        or been totally mined out. That was  
5        that large area to the south.

6        Q.        Okay.

7        A.        And again there is plenty of  
8        indications that the data there is  
9        wrong because basically the  
10       photogrammetric data were all going  
11       back to a one-year measurement, and  
12       then the changes measured from year  
13       to year photogrammetrically. And  
14       they were showing changes of growing  
15       outwards 10, 20 feet. And obviously,  
16       that's a bad call. Given the  
17       terrain, given the timbered nature of  
18       the area above the mine, one would  
19       expect a certain amount of noise in  
20       the data.

21                One of the lessons we learned  
22        from that is that there probably  
23        should be a little bit more quality  
24        assurance in the subsidence  
25        monitoring to make sure that the data

1 remaining --- it could turn out that  
2 the photogrammetric data were not  
3 even meaningful. However, I will  
4 mention that anecdotally over the  
5 years there was always the idea up in  
6 this mine that there was not a lot of  
7 manifestation of subsidence at the  
8 surface. That's why we looked at the  
9 subsidence profiles made from the  
10 information that had been submitted  
11 after the accident.

12 Q. Okay. You said you visited  
13 Aberdeen Mine with personnel from the  
14 University of Utah?

15 A. Yes.

16 Q. Who did you travel with from  
17 the University of Utah?

18 A. I think Doctor Mike Nelson was  
19 there. He was doing the study. He  
20 was involved in the study. I believe  
21 Doctor Kim McCarter was there as well  
22 at that time. I'd have to go back  
23 and check my notes to know for sure.

24 Q. Okay. And the study was  
25 putting pressure cells in the ---?

1       A.       We had funded it --- an  
2 engineer on my staff was kind of  
3 taking the lead on that. We had  
4 worked out an arrangement with the  
5 company, Andalex Resources, at the  
6 time, for access to the mine with the  
7 university to do the study. And we  
8 provided some funding for the  
9 communications and some coaxial ---  
10 not coaxial, actually fiber optic  
11 cable to be able to bring the  
12 information out of the mine. And we  
13 had drilled a couple of horizontal  
14 wells into the barrier to put  
15 pressure cells in and monitor those.

16               And there was also hopes of  
17 obtaining information off of the  
18 longwall as it advanced, measuring  
19 the pressure on the shields and so  
20 forth to be able to get a sense  
21 of ---. Basically what we were  
22 trying to do is to determine --- we  
23 had already bought into the idea that  
24 to mine at those great depths we  
25 needed to leave a barrier to avoid

1 the kind of occurrences that they had  
2 when they didn't have the barrier.  
3 But we wanted that barrier to be  
4 properly sized and minimize the  
5 amount of coal that would be wasted.  
6 And so the study was designed to get  
7 some information to help us size the  
8 barrier.

9 Q. And was that study ever  
10 completed?

11 A. When Andalex Resources was  
12 sold, we didn't get a continuation of  
13 the data gathering. The modeling was  
14 completed. We didn't get all of the  
15 information we had hoped to have to  
16 approve the goodness of the model, as  
17 it were. But the report on the  
18 modeling that incorporated as much of  
19 the information that could be  
20 gathered and has been completed, and  
21 the University of Utah has that  
22 report.

23 Q. Okay. And who was that ---?

24 A. The report that's been  
25 completed was done by Doctor Pariseau

1 of the university. And I know Jeff  
2 McKenzie on my staff, a mining  
3 engineer on my staff, has access to a  
4 copy of that report.

5 Q. Okay. Do you have anything  
6 else that you would like to add that  
7 may be relevant to the August 6th or  
8 the August 16th accidents?

9 A. No, I don't think so.

10 MR. SMITH:

11 On behalf of MSHA, I  
12 want to thank you for  
13 appearing and answering  
14 questions today. Your  
15 cooperation is very important  
16 to the investigation as we  
17 work to determine the cause of  
18 the accident.

19 We ask that you not  
20 discuss your testimony with  
21 any person who may have  
22 already been interviewed or  
23 who may be interviewed in the  
24 future. This will ensure that  
25 we obtain everyone's

1 independent recollection of  
2 the events surrounding the  
3 accident.

4 After questioning other  
5 witnesses, we may call you if  
6 we have any follow-up  
7 questions that we feel that we  
8 need to ask you. If at any  
9 time you have additional  
10 information regarding the  
11 accident that you would like  
12 to provide us, please contact  
13 the information that was  
14 previously provided to you.

15 If you wish, you may  
16 now go back over any questions  
17 you have given during the  
18 interview and you may also  
19 make any statement you would  
20 like to make at this time.

21 A. I don't think I have a  
22 statement to make. When we get off  
23 the record, there's something I'd  
24 like to just share with you. I have  
25 no statement.

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MR. SMITH:

Okay. Thanks, Jim.

ATTORNEY STEIGER:

May I say something before we go off the record? My understanding is that MSHA or the investigation team will make Mr. Kohler's statement available to him and give him an opportunity to correct any misstatements which were relied upon; is that right?

MR. BAXTER:

Yeah, we can discuss later arrangements for him to review the transcript.

ATTORNEY STEIGER:

Thank you.

MR. SMITH:

Okay. Thanks, Jim.

\* \* \* \* \*

STATEMENT CONCLUDED AT 10:01 A.M.

\* \* \* \* \*