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EXECUTIVE SESSION

COMMITTEE ON EDUCATION AND LABOR  
U.S. HOUSE OF REPRESENTATIVES  
WASHINGTON, D.C.

DEPOSITION OF: BILLY DUANE OWENS

Wednesday, February 20, 2008

Washington, D.C.

The deposition in the above matter was held in Room  
B-345A, Rayburn House Office Building, commencing at 10:02  
a.m.

1        Appearances:

2

3

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5                Staff Present for the Education and Labor Committee:

6

7                PATRICK N. FINDLAY, INVESTIGATIVE COUNSEL

8                MICHAEL C. ZOLA, CHIEF INVESTIGATIVE COUNSEL

9                BRIAN V. KENNEDY, GENERAL COUNSEL

10               SARAH DYSON, INVESTIGATIVE ASSOCIATE

11               ROBERT BORDEN, MINORITY GENERAL COUNSEL

12               JAMES A. PARETTI, JR., ESQ., MINORITY WORKFORCE POLICY  
13               COUNSEL

14               LOREN SWEATT, MINORITY PROFESSIONAL STAFF MEMBER

15

16               For BILLY DUANE OWENS:

17

18               THOMAS A. MASCOLINO, LEGAL CONSULTANT

19               Federal Administrative Law

20               5445 Chevy Chase Pkwy NW

21               Washington, D.C. 20015

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1            [Witness sworn.]

2            Mr. Findlay. Okay. This deposition is being conducted  
3 by staff for the Committee on Education and Labor of the  
4 United States House of Representatives at the direction of  
5 the Chairman of the Committee. Specifically, this deposition  
6 is being conducted pursuant to House Resolution 836 of the  
7 110th Congress and under the Committee's deposition rule.  
8 The Committee sought this deposition to further the  
9 Committee's investigation of the deaths that occurred in  
10 August of last year at the Crandall Canyon mine in Utah.  
11 Thank you for being here today.

12           Mr. Owens, please state and spell your full name.

13           The Witness. My name is Billy Duane Owens, B-I-L-L-Y  
14 D-U-A-N-E O-W-E-N-S.

15           Mr. Findlay. Thank you. I will now introduce everyone  
16 in the room, and then I will describe how we will proceed  
17 this morning.

18           As you know, I am Patrick Findlay, and I am  
19 investigative counsel with the Committee on Education and  
20 Labor. With me representing the majority side of the  
21 Committee is Michael Zola, chief investigative counsel, and  
22 Brian Kennedy, general counsel for labor issues. We will be  
23 assisted by Sarah Dyson behind me, our investigative  
24 associate. Also present is the official reporter, or  
25 reporters, who will be transcribing these proceedings.

1           Representing the minority side of our committee are  
2 Robert Borden, their general counsel, and James Paretto,  
3 labor counsel. Also present for the minority is Loren  
4 Sweatt. Mr. Owens -- or I see you have personal counsel here  
5 today.

6           The Witness. Yes.

7           Mr. Findlay. Would you make your appearance.

8           The Witness. Sure. My name is Thomas T-H-O-M-A-S  
9 Mascolino. M, as in Mary, A-S-C-O-L-I-N-O.

10          Mr. Findlay. Thank you. And before we proceed, I'd  
11 just like to note a stipulation between the majority and  
12 minority that, despite the fact that we're not seeking to  
13 introduce any testimony and that this is in the nature of  
14 discovery, we acknowledge that the minority or any of its  
15 members may raise objections to the admissibility of evidence  
16 at the time we seek to admit it into evidence. And there's  
17 no need to make admissibility objections today.

18          Mr. Paretto. Yeah. I think the phraseology we used  
19 last time was, no objection will be waived for failure to  
20 make it in the deposition this morning. I think that's what  
21 we agreed to last time, failure to make an objection in the  
22 deposition will not be deemed a waiver of the objection. Is  
23 that your understanding as well?

24          Mr. Findlay. We agree.

25          Okay. The questioning this morning will go as follows.

1 I will ask you questions for up to an hour or so. We will  
2 probably take a short break at each hour. If you need to  
3 take a break at any other time, please tell me, and we'll  
4 take a break.

5 Will you do that?

6 The Witness. Yes.

7 Mr. Findlay. I would ask that if there's a question  
8 pending, that you answer it before we take a break. When I'm  
9 finished with my questions, minority counsel may ask you some  
10 questions. Other than who's asking the questions, the  
11 procedure will be the same. The reporter will be taking down  
12 everything that is said and will make a written record of the  
13 deposition. To make this written record clear, I ask that  
14 you give verbal answers. For example, a clear "yes" or "no"  
15 rather than a "yeah" when answering affirmatively. Please  
16 remember that nods and gestures do not make it into the  
17 record.

18 Is that clear?

19 The Witness. I understand.

20 Mr. Findlay. Also, in order for the record to be clear,  
21 I will do my best to wait to ask my next question until you  
22 have finished answering the previous question. I ask that  
23 you wait to begin answering any question until I have gotten  
24 it all out.

25 Okay?

1           The Witness. I understand.

2           Mr. Findlay. If you don't hear a question or don't  
3 understand a question, please say so. This is very  
4 important. If you don't speak up or tell us otherwise, we  
5 will assume that you heard the question and understand it.

6           Is that okay.

7           The Witness. I understand.

8           Mr. Findlay. Okay.

9           Because you've been placed under oath, your testimony  
10 here today has the same force and effect as if you were  
11 testifying before the full Committee at a public hearing. If  
12 you knowingly provide false testimony, you could be subject  
13 to a criminal prosecution for perjury, making false  
14 statements or other related offenses.

15           Do you understand that.

16           The Witness. I understand.

17           Mr. Findlay. You have the right to refuse to answer any  
18 question if answering that question would tend to incriminate  
19 you in any criminal wrongdoing.

20           Do you understand that?

21           The Witness. I do.

22           Mr. Findlay. Are you suffering from any condition that  
23 would prevent you from giving me your full attention this  
24 morning?

25           The Witness. No I am not.



1 Q And it's been over the last how many years roughly?

2 A 27 years.

3 Q Okay. How did you prepare for today's deposition?

4 A For today's deposition, I just read through one set  
5 of timeline notes that I have.

6 Q Okay. And I'll ask the court reporter to mark  
7 this.

8 A Sorry, in addition, I met with MSHA staff yesterday  
9 when I arrived in town.

10 Mr. Mascolino. I think his name was Derek Baxter.

11 The Witness. With Derek Baxter yesterday when I arrived  
12 in town.

13 Mr. Mascolino. And he met with me.

14 The Witness. And I met with Mr. Mascolino.

15 Mr. Findlay. Fair enough.

16 I will have the court reporter mark this Exhibit 1  
17 please.

18 [Owens Exhibit No. 1

19 was marked for identification.]

20 Mr. Findlay. And I'd ask that you take a look at it and  
21 let me know when you're ready.

22 Mr. Paretti. Can you remind me, of Bates stamp K, who.  
23 By the way owns this document, produced it?

24 Mr. Findlay. That was produced by the Department of  
25 Labor by e-mail last week. I'm not sure a hard copy's

1       been -- or a CDR hard copy has been produced yet.

2                   BY MR. FINDLAY:

3           Q     Mr. Owens, do you recognize that document or --

4           A     This document appears to be from a notebook that I  
5     kept to jot down phone calls with personnel that I had so I  
6     could go back and refresh my memory on who I talked to and  
7     when and briefly the subject of the phone conversation. This  
8     document starts with 8/16/2007.

9           Q     Was it your normal practice to note calls as they  
10    came in?

11          A     If I have a chance, and at times, sometimes you're  
12    multitasking rather vigorously and one does not have time to  
13    write down all of the phone calls and information. But I  
14    made an effort to do that.

15          Q     Now if you flip through this -- and we'll go into  
16    the substance of this document in greater detail later. If  
17    you flip through it, it seems, for instance, you said it  
18    starts at 8/16/07 on page 1. But then, if you flip to what's  
19    Bates stamped 3, it appears -- and correct me if I'm wrong --  
20    to go to February of '07 and March of '07. Did you keep it  
21    in a chronological order, or was this just copied out of  
22    order or --

23          A     My notebooks were kept in chronological order. And  
24    there were numerous notebooks. Then, when the agency was --  
25    or District 9, whom I worked for, was requested to provide

1 the information, that information was requested in different  
2 phases. It could be requested for Crandall Canyon, and then  
3 the next request could be for any -- Utah American mine or  
4 any mine previous to Utah America ownership that was in the  
5 same company and elects resources and then documents that  
6 were in my possession would be copied and handed to my  
7 secretary. She would -- or someone on the staff I think  
8 tried to put them on a Web page or a document, and so they  
9 were copied. They were not necessarily copied  
10 chronologically in order that they occurred, and that appears  
11 to what occurred -- happened with this document.

12 Q Okay. And then again, we'll go over the substance  
13 in a little bit.

14 Do you recall meeting with Mr. Borden, me, Ryan  
15 Holden -- and I think that was just the three of us -- this  
16 past fall?

17 A Yes.

18 Q How did you prepare for that meeting?

19 A I went through my notes on Crandall Canyon, looked  
20 at timelines. I have reread some reports and different  
21 things that I had in my possession. So that was -- that was  
22 a more extensive preparation because I had those things in my  
23 possession. I no longer have all those items in my  
24 possession anymore.

25 Q Did anyone at the Department help prepare you for

1       that meeting?

2           A     No.

3           Q     Okay. I mean, I know we went over this when we met  
4       with you in the fall, but I'd like for you to run through  
5       your post high school education for us if you would.

6           A     Just -- no one had me prepare my technical things  
7       for that meeting. There were two attorneys present in that  
8       meeting. Tim Williams and Ann from the Solicitor's Office.

9           Q     Is that Ann Noble?

10          A     Ann Noble, yes.

11          Q     Did they give you any instructions?

12          Mr. Paretti. Objection, privilege.

13          Mr. Findlay. They waived attorney/client privilege.

14          Mr. Paretti. Do you have something that shows -- I  
15       mean, the Department of Labor is not in the room. Do you  
16       have something that shows me that they've waived  
17       attorney/client privilege?

18          Mr. Findlay. The letter that you received from me.

19          Mr. Paretti. Okay. Can you show me something here that  
20       shows that --

21          Mr. Findlay. Well, I guess if his counsel is not going  
22       to direct him not to answer it, then --

23          Mr. Paretti. I am free to object as well on the grounds  
24       of -- object and not answer on attorney/client privilege.

25          Mr. Findlay. You are going to instruct the witness not

1 to answer?

2 Mr. Paretti. Yes.

3 [Recess.]

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1 [10:52 a.m.]

2 Mr. Findlay. We'll go back on the record. I'll note  
3 our position was that Mr. Paretti's objection was improper  
4 because he does not have a standing to raise objections on  
5 behalf of the Department of Labor. And the Department of  
6 Labor has waived attorney/client privilege in this matter.

7 I understand that Mr. Paretti will withdraw his  
8 objection. Is that correct?

9 Mr. Paretti. In response to that, one, I do not opine  
10 whether the Department has waived its attorney/client  
11 privilege in this matter. Two, I reject your  
12 characterization I don't have the standing to make the  
13 objection. Three, I withdraw the objection.

14 Mr. Findlay. So the answer to my question is, yes, you  
15 withdraw your question?

16 Mr. Paretti. Would you read back the last answer?

17 [The reporter read the record as requested.]

18 Mr. Paretti. Thank you.

19 Mr. Zola. Are we presently on the record?

20 Ms. [REDACTED] Yes.

21 Mr. Zola. And we've been on the record this entire  
22 time?

23 Ms. [REDACTED] For the last minute.

24 BY MR. FINDLAY:

25 Q Now I think we were talking about your preparation

1 for our meeting back in the fall. What instructions, if any,  
2 did any of the MSHA or Department lawyers give you?

3 A The lawyers told me to answer the questions to the  
4 best of my abilities, to be truthful and honest and that if I  
5 were uncomfortable answering a question or for some reason I  
6 did not want to answer a question, to let them know.

7 Q And that was the extent of it?

8 A Yes.

9 Q Okay. What is your -- and we started to go through  
10 this and then went back. What is your post high school  
11 education?

12 A My post high school education is I have a  
13 bachelor's degree in civil engineering with a mining option  
14 from the University of Kentucky. I have 30 hours of  
15 postgraduate study in mining engineering at the University of  
16 Kentucky. I have several continuing education units to  
17 maintain or contribute to my professional registration in  
18 engineering.

19 Q Okay. What year was your degree from the  
20 University of Kentucky?

21 A My year -- degree was 1977.

22 Q And now, if you would, run through your pre-MSHA  
23 employment history and give us years, that sort of thing?

24 A 1975, I was a summer employee for Consolidation  
25 Coal Company, Tackett Creek, Matthews Mine, Middlesboro,

1 Kentucky.

2 1976, I started as a mining engineer for Bethlehem Steel  
3 and worked there until late 1978. My duties were attributed  
4 to I think it was four underground mines that we had with  
5 Beth-Elkhorn Corporation, which is a subsidiary of Bethlehem  
6 Steel. I did all phases of mining engineering associated  
7 with underground mining. We also had contract surface  
8 mines -- we call them truck mines -- that we sold the service  
9 rights to. We also had some contract underground miners for  
10 small areas of the reserves that wasn't feasible for our  
11 large mines. And I would work with those mines also to make  
12 sure that they were mining in a proper manner.

13 Q And were these all coal mines?

14 A Yes.

15 Q All right. Now if you would run through your  
16 employment history at MSHA.

17 A In August of 1980, I accepted a position with the  
18 Ground Support Division in the Denver Safety and Health  
19 Technology Center in Denver, Colorado; worked in that in  
20 ground support mainly for the western coal mines of the  
21 United States and metal/nonmetal mining, western United  
22 States and southeastern United States. It was called  
23 Southeastern District for Metal/Nonmetal. I was a staff  
24 engineer until I think 1985. And then I became -- was  
25 promoted to the senior engineer in 1985. In 1989, I was

1 promoted to the chief of the Ground Support Division in  
2 Denver Tech Support; 1991, I was promoted to the chief of the  
3 Denver Safety and Health Technology Center. Then responsible  
4 for six divisions: ground support; weight stems;  
5 ventilation; industrial safety, including electrical; toxic  
6 materials, physical agents; and the -- at that time it was  
7 called the HSAC, which is the Health and Safety Analysis  
8 Center, for reporting accident and injuries part 50 and doing  
9 an analysis of trends of accidents and things like that. In  
10 19 -- let's see, 1991 to '97, I was chief of the center.

11 In 1997, the agency decided to close the center and  
12 transfer all the functions to Pittsburgh, Pennsylvania, due  
13 to -- and my job would have been transferred to Arlington,  
14 Virginia. My position, not my job. Because of personal  
15 reasons and family situation, I requested that it, if there  
16 was an opportunity to find a position for me to stay in  
17 Denver, that I would appreciate it if that could be done.  
18 The agency made me an offer that gave me about a half-hour to  
19 decide on one afternoon, and I decided to stay in Denver.  
20 And I became the supervisor of the Roof Control Group in  
21 District 9 Coal Mine Safety and Health. So I moved from  
22 director of tech support to Administration of Coal Mine  
23 Safety and Health in 1997. And until I retired on January 3,  
24 2008, I was the supervisor of the Roof Control Group in  
25 District 9 Coal Mine Safety and Health.

1 Q You said you retired on January 3 of this year?

2 A Yes, sir.

3 Q And what were your responsibilities of roof control  
4 supervisor of District 9?

5 A As supervisor in District 9, District 9 covers the  
6 western United States from Louisiana to Alaska. We have  
7 responsibility for all the coal mines in that area. As roof  
8 control supervisor, I had all the underground coal mines in  
9 District 9, and they included Arkansas, Oklahoma, New Mexico,  
10 Utah, Wyoming, Colorado, Montana. Had underground mines. We  
11 also had all the surface mines in that area. I think about  
12 189 -- 89 excuse me. The correct number is about 80 surface  
13 mines. Also, I had impoundments. There's about 189  
14 impoundments throughout the mines in western -- in the  
15 western United States. So ground control plans, roof control  
16 plans and impoundment plans, at one time mine emergency  
17 evacuation plans, construction; essentially anything that  
18 wasn't electrical, ventilation or a health issue.

19 Q Now were your responsibilities the same for that  
20 whole period?

21 A The only thing that changed was the mine emergency  
22 evacuation, when -- after the -- Jim Walters accident and new  
23 regulations were promulgated, my responsibility for that, due  
24 to staffing was -- for that function, was transferred over to  
25 the ventilation group.

1 Q Do you remember when that was?

2 A I don't recall.

3 Q Ballpark.

4 A It's probably 5 or 6 years ago.

5 Mr. Mascolino. Jim Walters occurred about 12 days after  
6 9/11. So it's -- so he's talking about September 2001. I  
7 think the emergency regs would be 2002.

8 The Witness. Five or six, close.

9 BY MR. FINDLAY:

10 Q We'll go with that. Now while you were the  
11 supervisor, who did you supervise?

12 A During that entire period, is that your question?

13 Q Yeah. Walk us through, and if it changed over  
14 time, let us know that, too.

15 A That would be difficult for me to name every person  
16 during that time. Previous employees included Mike Stanton  
17 and Alice Perry, Bob Hendricks, David Elkins. Let's see if I  
18 can -- I don't recall any other previous employees right off.  
19 At the time I retired, I was supervising Ron Gehrke, Kathleen  
20 Kelleher, and Pete Del Duca. In addition, another previous  
21 employee was Gary Jensen.

22 Q And you say they -- you employed them at the time  
23 you retired. How far back did those folks -- were they in  
24 your employ?

25 Mr. Mascolino. You mean supervision?

1           The Witness. Supervision, yes?

2           BY MR. FINDLAY:

3           A     Each one of those, Pete Del  
4     Duca is the youngest one. He is a young mechanical  
5     engineering graduate from the School of Mines. He worked  
6     part time for the agency. Then when he graduated, 2006 I  
7     think, they put him in the roof control group. So that would  
8     be June of 2006. Then -- or maybe seven. I'm not sure; 2006  
9     I think. 2006. 2006 is correct. And then Ron Gehrke,  
10    probably -- I hired Mr. Gehrke probably 3 years prior to  
11    that. Ms. Kelleher, I hired her probably 6 years ago.

12          Q     And what were their -- these most recent employees  
13    of yours -- the most recent folks you supervised, what were  
14    their titles?

15          A     The -- Pete Del Duca, he was put in as -- all three  
16    of those were classified as mining engineers.

17          Q     And what were their responsibilities?

18          A     Kathleen Kelleher was directed by the agency to be  
19    put in the Delta field office. So since she was remotely  
20    located, Delta field office is approximately 4, 4 and a half  
21    hour drive from the Denver office. So I gave her  
22    responsibility for the Delta field office plans, the Aztec  
23    field office plans and the Craig, Colorado plans. Also, she  
24    was responsible for explosives and blasting.

25          Mr. Gehrke, his main experience is surface mining and

1       impoundments, so his responsibility was for the district's  
2       impoundments. He's conducting the reviews. All low-hazard  
3       plan reviews are conducted in the district. Mr. Gehrke is  
4       responsible for all the reviews of the impoundment plans.  
5       Also, his responsibility includes the responsibility for the  
6       ground control plans. The other people help on that, but  
7       Mr. Gehrke is the main responsibility. Also he's the main  
8       person for structures. That would be silos, steel  
9       structures, buildings, any kind of construction like that.  
10      If we needed technical assistance on putting together a  
11      dragline or a big shovel, Mr. Gehrke would be the person.

12             Ms. Kelleher, she is a mining engineer, and again, she  
13      was responsible for those field offices, the roof control  
14      plans, the blasting plans, some of the ground control plans  
15      that were in these field offices. We tried to have  
16      Mr. Gehrke do more of those than she did.

17             Mr. Del Duca, he was a new employee. And since he had  
18      no mining experience, I gave him responsibilities that I  
19      thought would help him learn and bring him up to speed. Most  
20      of the time he was busy doing his CMI training at Beckley,  
21      West Virginia, at the academy. He is also -- when he is back  
22      in the office -- being sent to the field so he can travel  
23      with authorized representatives and go underground or go into  
24      the mines to gain experience, just, you know, find out that  
25      it's dark under ground and you need a light, things like

1 that. Since he was a young engineer, and young people were  
2 extremely computer literate, I assigned him responsibilities  
3 for computer modelling, evaluating plans and looking at  
4 different modelling methods and explaining to him what's  
5 theoretical and what's practical and how the two have to meet  
6 and how to mesh those ideas.

7 Q Okay. Just a couple of housekeeping -- you  
8 mentioned the Delta field office. That's Delta, Colorado?

9 A Delta, Colorado yes.

10 Q Aztec?

11 A Aztec is Aztec, New Mexico. And Craig is Craig,  
12 Colorado.

13 Q You mentioned authorized reps.

14 A Authorized representative. The Secretary of Labor  
15 is responsible for enforcing the Mine Act. However, the act  
16 says that this can be carried out by her authorized  
17 representative, authorized representative is essentially  
18 someone who has the authority to enforce the Mine Act and 30  
19 CFR, the coal mining or metal/nonmetal regulations. So we  
20 refer to them as an AR. You went through training, establish  
21 that you have the experience, knowledge and knowledge, not  
22 only of mining but knowledge of the regulations, laws and  
23 procedures necessary to go in and inspect a coal mine. So  
24 once that has happened, the office where that employee works  
25 applies to the administrator of coals to have that person

1       become an authorized representative. And that person is then  
2       issued a card or identification that allows them to enforce  
3       the act and gives them right of entry into the mining  
4       property and facilities.

5             Q     Okay. And over the last, say, 2 years of your  
6       employment with MSHA, who did you report to?

7             A     I reported to William P. Knepp, the assistant  
8       district manager for technical services.

9             Q     And to your knowledge, he reported to Al Davis?

10            A     Pardon me?

11            Q     Did he report to Al Davis?

12            A     Yes. The structure of the district is, Mr. Al  
13       Davis is the district manager and reporting to Mr. Davis --  
14       two of the individuals report to Mr. Davis are the assistant  
15       district manager for technical services, which is essentially  
16       the plan approval and the technical group, and the other  
17       person who reports to Mr. Davis is the assistant district  
18       manager for enforcement or inspection. And that's all the  
19       field offices and the inspector of that report through the  
20       chain of command.

21            Q     Okay. Now I'd like to focus a little bit on the  
22       Crandall Canyon mine. Are you familiar with Crandall Canyon  
23       mine?

24            A     Yes I am.

25            Q     And when did you first become familiar with the

1 Crandall Canyon mine?

2 A The first time I went to Crandall Canyon area was  
3 some time in the early '80s, and Jack Matkovich, who was a  
4 field office supervisor in Price, Utah, and I were in a  
5 different mine in that same area and then we walked up the  
6 canyon and and Mr. Matkovich told me that there was a mine  
7 going into that area. So where the mine was currently  
8 located, I was there before they even started the portals.  
9 Then throughout the time of the Crandall Canyon existence,  
10 I've had some sort of interaction with it.

11 Q And are you familiar with Andalex Resources?

12 A Yes.

13 Q What are they or it?

14 A Andalex Resources, the name Andalex comes from Alex  
15 and Andy Green, I think. The Green family, but Andalex is a  
16 combination of Alex and Andy. And they had the GENWAL  
17 resources and what's called the Tower Property. They're in  
18 real estate, and they have other resources in Utah. It was  
19 actually owned -- their mother started it, and I think she  
20 passed away a few years ago from cancer.

21 Q And the Tower Property, that was another mine?

22 A Tower Property, they called it the Tower Property.  
23 Actually, the mine -- there were three mines there. There  
24 was the -- I think it might have actually been called the --  
25 no, it was the Apex Mine, Pinnacle Mine and Aberdeen Mine.

1 Q And are you familiar with Utah American?

2 A Yes.

3 Q And what are they?

4 A Utah America in the summer of 2007 purchased the  
5 Andalex properties and took over those properties.

6 Q Do you remember how you were made aware that Utah  
7 American took over the Andalex property?

8 A There was a discussion that the Andalex properties  
9 were up for sale, and we heard of different people coming to  
10 the mines to look at it. And then I think it was July or  
11 August that Andalex had taken them over. And when mines  
12 change property, they have to file a legal identity report.  
13 And we started receiving some documents that had Utah  
14 American on them, but then it didn't -- the legal identity  
15 report didn't have the same personnel or things. And so  
16 there were questions about the way the legal identity report  
17 was filed, the way paperwork was being submitted. And then  
18 that was all straightened out. So it was July or August of  
19 2006 -- let's see, 2007, I guess. 2007.

20 Mr. Mascolino. The action then is August of 2007.

21 Mr. Findlay. Was it the year before the accident?

22 The Witness. I'm trying to think.

23 Mr. Mascolino. Give yourself a moment.

24 The Witness. Yes it was.

25 Mr. Mascolino. You could probably go get the

1 official --

2 The Witness. It was 2006.

3 BY MR. FINDLAY:

4 Q So the issues with the legal identity documents,  
5 all of that, were all resolved about that same time?

6 A Yes.

7 Q This is a basic question. But what are barrier  
8 pillars?

9 A Barrier pillars are part of a mining design that  
10 are left to protect coal reserves or protect other entries.  
11 If there's a gas well on the property, the barrier pillar has  
12 to be left around it. If it's a -- so a barrier pillar is  
13 unmined coal. And if there's -- in some areas, if there's a  
14 ranch house on the surface and you don't want to mine under  
15 it so it will not cause foundations -- cracking problems,  
16 there would be a barrier pillar left underground in the coal  
17 seam of unmined coal that would protect the ranch house. A  
18 barrier pillar can -- if you have the mains or the entries  
19 are typically life of mine entries. And barrier pillars are  
20 left on either side of the mains to keep stresses and forces  
21 coming from other mining areas onto the mains that could  
22 cause stability problems, roof falls, water problems and  
23 other things. So the barrier pillars are large areas of --  
24 typically large areas of unmined coal left to protect an area  
25 of the mine or surface area.

1 Q When you say "left to protect," that's to provide  
2 roof support?

3 A Provide -- yes, provide roof support, stability  
4 from it, or it could be for water or from coming into that  
5 area also.

6 Q And you referred to mains. Mains and end entries  
7 are the same thing?

8 A Mains are a type of entry. There's protection  
9 entries or submains or mains. Mains are typically the  
10 entries in the mine that are life of mine that go from the  
11 mine opening, the portal, the entry to the back of the  
12 property or throughout the property. They're the main air  
13 courses for the mine where typically the main intake air will  
14 go in, the main entries. The main hauling system is there.  
15 The widest belt in the mine will be in the main entries.  
16 Also in those entries are the way of getting supplies into  
17 the mine. Also that's the entries that typically the man  
18 trips follow to take the employees in and out of the mine.

19 Mr. Mascolino. I sometimes tell people that  
20 Constitution Avenue, Independence Avenue are the main entries  
21 and G Street is the --

22 Mr. Findlay. That's actually. I like that.

23 Mr. Mascolino. Got to be able to talk with juries.

24 BY MR. FINDLAY:

25 Q And we talked about barrier pillars. To your

1 knowledge, did the Crandall Canyon mine have barrier pillars?

2 A Pardon me, would you --

3 Q Did Crandall Canyon mine have barrier pillars?

4 A Yes, they did.

5 Q We have a map. It's not the greatest copy in the  
6 world, but would you show us on the map maybe -- and in fact,  
7 I'll ask you to use the highlighter. You can mark right on  
8 the map. It's just -- actually, I'm sorry. Could we have  
9 the court reporter mark that Exhibit 2 please?

10 [Owens Exhibit No. 2  
11 was marked for identification.]

12 BY MR. FINDLAY:

13 Q I guess first I'd ask you, do you recognize that  
14 document?

15 A Yes, I do. This is a ventilation map of the  
16 Crandall Canyon mine. I'm not sure of the date of the map.  
17 I can look. It's dated June 2007.

18 Q And you'd seen this map during the course of your  
19 duties as a --

20 A Yes, yes, I have. The question reference is  
21 barrier pillars. The main portals are shown on the map  
22 starting from the outcrop. The outcrop is where the coal  
23 seam actually surfaces. From there. So that -- and you can  
24 find the coal, and sometimes you can just walk by and see the  
25 coal. Other times, it's been eroded away, the soil, or

1       whatever's covering the outcrop, erodes away or some other  
2       way of showing it. But it's the surface area. The portals  
3       are located on the map in the lower righthand corner of the  
4       map. And so the main entries would go in from the portals.  
5       And then as the property goes in, the main that's heading  
6       north if this is -- yes, the main entries are going, heading  
7       north. And then --

8               Q       Can I ask you to just mark the main entry A, let's  
9       say?

10              Mr. Mascolino. Is that black on black going to come  
11       out?

12              The Witness. I'm having difficulty seeing the stoppage.  
13       But I'll just mark the entries?

14              Mr. Findlay. General area is fine.

15              The Witness. The main entries are marked in  
16       highlight -- highlighted in yellow, and then they turn to the  
17       west or to the left. And I'm going to write with black pen  
18       that these are the mains. And then where the -- where it's  
19       shown as the entries are going north, there is a set of  
20       entries that are six entries with pillars in between them,  
21       and in between those entries, there are white areas on the  
22       map that are shown; they're not mined with coal. They are  
23       solid areas. All those are barrier pillars. So that would  
24       be a barrier pillar. I put a B in front of a mine, that long  
25       wall. Another B locating barrier pillars.

1           And then where the mine turns left, there's also a  
2 barrier pillar there. And these mains continue all the way  
3 from the -- to the west to what's called the Joe's Valley  
4 Fault Line. And along beside that, those mains, which I  
5 highlighted in yellow, are the -- are barrier pillars. Some  
6 of them are numbered room and pillar barriers. And I'll mark  
7 another one, it's a barrier. That's not marked. In the  
8 Crandall Canyon mine, it shows some areas that are mined at  
9 the far left edge of the map along the yellow, and these were  
10 two barrier pillars that were mined. In addition, the south  
11 mains -- also I'm going to put Bs on these -- are barrier  
12 pillars that were partially mined.

13           Q     I think you refer to that as the south main?

14           A     South mains, yes.

15           Q     Would any of these be known as the west main?

16           A     The west mains are -- I think where the mine --  
17 where I say it turned left or west, that whole area's called  
18 the west mains. And that's highlighted in yellow.

19           Q     The long yellow line. Okay.

20           A     Off the north mains.

21           Q     Did anyone at Andalex or GENWAL representing the  
22 mine ever indicate to you that they intended to mine them in  
23 the west mains?

24           A     In, I think it was May of 2006, there was a  
25 meeting, I believe it was in the district office, with

1 Andalex Resources people concerning -- it was either the West  
2 Ridge or Aberdeen mine. At the conclusion of that meeting,  
3 Mr. Laine Adair, who was head of engineering for Andalex  
4 Resources, said that they were proposing to mine in the west  
5 mains. And actually, what he said was that they would like  
6 to look at mining the barriers adjacent to the west mains  
7 that were sealed. The west mains in that area were sealed.  
8 And we, in the district, myself and assistant district  
9 manager for technical services, said that they would need to  
10 provide us an adequate justification to show that it was  
11 feasible to mine those barrier pillars.

12 Q Okay. Now I'll ask you to look at what I think has  
13 been marked as Exhibit 1, but your notes. Maybe if they're  
14 handy. I'll ask you to flip to what's Bates stamped 6. I  
15 guess the sixth page of the document.

16 And now it looks like there's an entry labeled 9/8/2006.  
17 Can you fill us in a little bit on what that entry is about?

18 A In September, again, we had a meeting concerning  
19 the Aberdeen mine, and at the conclusion of that meeting,  
20 Laine Adair presented two documents that he had that Agapito  
21 Associates had prepared for Andalex Resources. And those  
22 documents were engineering studies modelling and looking at  
23 the past history. And essentially what the documents did  
24 were said that it would be feasible to go in and mine the  
25 barriers along the sealed areas of the west mains and that it

1       could be done safely and that it was engineeringly feasible,  
2       technically feasible to do that.

3           Q     Was this meeting in September the next time you  
4       heard about it since -- okay so between the two meetings,  
5       between the spring meeting and the September meeting, had you  
6       heard anything else about it?

7           A     No. No discussions of it.

8           Q     Okay. And I'll ask the court reporter to mark  
9       Exhibit 3 and 4.

10                               [Findlay Exhibit Nos. 3 and 4  
11                               were marked for identification.]

12                   BY MR. FINDLAY:

13           Q     Okay. And if you would take a look at these for  
14       me. Once you've had a chance to look at them, let me know if  
15       you recognize them. And while you're looking, I'll just note  
16       for the record, both of these were produced by the Department  
17       un-Bates stamped, unfortunately. I believe, in the 10/19 --  
18       oh, I take that back. Just the Exhibit 3 is produced by the  
19       Department 10/19. The other one, Exhibit 4, does have a  
20       Bates stamp, and I don't remember what it is.

21           A     These two documents are what Mr. Adair from GENWAL  
22       resources presented to the agency on September 9. The  
23       documents were prepared by Agapito Associates in Grand  
24       Junction, Colorado.

25           Q     Now did he give you any other documents, or was

1 this the extent of what he gave you at that time, Mr. Adair?

2 A This was the extent of what he provided at that  
3 time.

4 Q Did he walk you through them at all? Or what was  
5 the nature and the discussion about these documents?

6 A Mr. Adair stated that they were still interested in  
7 doing the mining and the barrier pillars and that Agapito,  
8 they'd commissioned Agapito to do the study. He said that  
9 Agapito said it was feasible, could be done in a safe manner,  
10 and Agapito had been working on their property for a long  
11 time, and they were a very reliable company and knowledgeable  
12 of their conditions and that he -- since we had requested  
13 technical documentation, this was the technical  
14 documentation.

15 Q So when you said they needed -- in the spring  
16 meeting, you told them they needed to provide justification;  
17 this was that justification?

18 A Yes, sir.

19 Q Or intended to be at least. Okay. Now I'd like  
20 you to look at number 4 and turn to the second page, if you  
21 would. And now I'm looking at the third full paragraph, the  
22 second paragraph under "LAMODEL modelling" and the sentence  
23 that reads, "the model predicts relatively high convergence  
24 during pillaring east of the existing Main West seals," and  
25 then it goes on. What is high convergence? Do you know what

1 they were referring to there?

2 A Convergence is roof to floor, the initial mining,  
3 typically 8 to 10 feet. And that's the size of the opening.  
4 Then convergence would be where the floor and roof are coming  
5 together. So if it's saying that the high convergence is  
6 meaning that the roof and floor will be coming together, and  
7 that could be movement on either side or movement on both.  
8 Typically with pillar mining, one would tend to think that  
9 that would be a roof convergence or roof coming down.

10 Q Okay. And then we'll flip over to exhibit --

11 A Quick, which sentence was that for sure?

12 Q It was the first sentence of the third paragraph on  
13 the page.

14 A Okay. Just to clarify if it says -- pillar mining  
15 east of the seals, that is back in the submains or the Main  
16 West submains. And again, I'm looking at the map. And I'm  
17 pointing to an area where the barrier pillars were mined.

18 Q Could you maybe mark that on the map?

19 A And I'm putting a line on the map, a black line on  
20 the map, and that's where the seals are. In this convergence  
21 that we're talking about being east of that would be to the  
22 right of those seals, back in the mains.

23 Q So is that a different area of the mine than  
24 Exhibit 3 is referencing? Are these two documents  
25 referencing different spots?

1           A     What the initial proposal for Crandall Canyon was,  
2     to go in, and again I'm pointing at the map and I'm looking  
3     -- my finger's at the left side of the map on the north side  
4     of the west submains. And that's called the north barrier.  
5     The initial proposal was to mine the north barrier out to  
6     where I have the black line; then go mine the south barrier,  
7     and I'm pointing below the yellow line; and retreat mine the  
8     south barrier out to where I've drawn the black line; and  
9     then go into the west submains and retreat the west submains  
10    out of the mine.

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1        RPTS [REDACTED]

2        DCMN [REDACTED]

3        [11:33 a.m.]

4                    BY MR. FINDLAY:

5            Q        And so everything to the left of the black line is  
6        reflected in Document 3 and the right of the line is in  
7        Document 4?

8            A        No, no. Both documents deal with it. It is just  
9        that this one sentence says that when they get out into the  
10       area of the sub-mains that is to the right of the black line,  
11       that area you wouldn't expect high convergence.

12           Now, they're talking about high convergence and they're  
13       talking about -- we are talking about an 8- to 10-foot high  
14       area and we are talking about 2 inches. But depending on the  
15       roof, some roofs can converge quite a bit, they can converge  
16       6 or 7 inches and that's not bad. Other roofs are stiff or  
17       brittle. If they converge, if they start breaking a couple  
18       inches, they're brittle. That 2 inches of movement in that  
19       roof may break the roof and get roof loss.

20           Also in retreat mining, you want the roof to break as  
21       the pillars are mined out. If the roof doesn't break, that  
22       generates additional problems.

23           Q        Okay. So flipping back over to 3, Exhibit 3, the  
24       first paragraph, it's the second sentence. It says, "current  
25       plans include developing four entries in the barriers north

1 and south of the existing mains in the area west of the first  
2 right second north sub-mains. Undercover ranging from about  
3 1,300 feet to 2,200 feet."

4 That is referring to everything on the left of the line?

5 A Yes.

6 Q Okay. As you look north.

7 And the next sentence reflects everything on the other  
8 side of the line to the east of the line?

9 A Yes.

10 Q And so at that time at least, that was the entire  
11 plan that they had proposed?

12 A Correct. They were going to mine the barrier  
13 pillars, then come back into the mine and mine the rest of  
14 the way out of those west mains. That's typically the way  
15 mining is conducted at the end of the reserve properties is  
16 when the reserves are all mined out, you go to the farthest  
17 extent of the mine that the equipment can get, and then you  
18 start mining out lots before, what were critical support  
19 structures, barrier pillars, mains pillars. And as you mine  
20 out all of that, we call it "inby," that's become a gob,  
21 that's become an area inby in the mine, that is a space that  
22 is an area in the mine no longer accessible, no longer  
23 needed.

24 As you come out, you are pulling out all these belts all  
25 of the equipment, all of the stuff that was needed to keep

1 the mine running for the life of the mine. That's all  
2 retreated out until you get back near the portals. And then  
3 all of the equipment is out of the mine and then the mine is  
4 sealed and is completed.

5 Mr. Paretti. I have one question about Exhibit 3, just  
6 looking at the document we were given, it has attached to the  
7 back of it is 3, 4 Bates-stamped pages.

8 Mr. Findlay. I think that's your copy.

9 Mr. Paretti. These three Bates-stamped pages, the back  
10 of what was originally marked. Those are not part --

11 Mr. Findlay. I don't think it has anything to do with  
12 the original exhibit. If you wouldn't mind just tearing  
13 those off.

14 Q Now, we are talking about the September 8, 2006  
15 meeting. Who all attended that meeting?

16 A I was in the meeting. William Knepp was in the  
17 meeting. I think initially in the meeting Al Davis may have  
18 been, Laine Adair from the company. I think there was a  
19 ventilation person in the meeting for the company. So  
20 therefore Bill Reitze may have been in the initial part of  
21 the meeting.

22 Since these documents that, 3 and 4, the exhibits that  
23 you have shown me, were handed to us since after the meeting  
24 was adjourned, I'm not sure that Mr. Davis, Mr. Reitze or the  
25 ventilation person for the company was there.

1           Mr. Findlay. We will take a break and turn it over to  
2 the Republicans for this round.

3           Mr. Paretti. Off the record.

4           [Recess.]

5           Mr. Findlay. Back on the record.

6           BY MR. FINDLAY:

7           Q     Now looking at Exhibits 3 and 4, and I think you  
8 mentioned before these were produced by Agapito Associates,  
9 had you had any experience with Agapito Associates before you  
10 received these reports?

11          A     Yes. We worked, reviewed and looked at many  
12 proposals from Agapito Associates regarding mining designs  
13 from underground mines to surface mining where they use  
14 continuous miners to go in from the service called highwall  
15 mining maintenance.

16          Q     And did you ever have any interactions with Leo  
17 Gilbride?

18          A     I don't remember having any interactions with Mr.  
19 Gilbride.

20          Q     Michael Hardy?

21          A     I have had a few meetings with Mr. Hardy.

22          Q     And who is he?

23          A     He's a principal with Agapito Associates. He  
24 worked with Andalex Resources, and he appears to be probably  
25 the main person doing the design work for Agapito. Mr. Hardy

1 is a professional engineer, Ph.D. Very respected in the  
2 industry.

3 Q And when you had met with him before, what was the  
4 context of those meetings?

5 A I met with him concerning design for the Aberdeen  
6 mine.

7 Q Is the Aberdeen mine the same as the Tower mine?

8 A The Aberdeen mine is the Tower property. The Tower  
9 property, again, was Apex, Pinnacle and Aberdeen mines.

10 As further clarification, since Apex and Pinnacle mines  
11 were mined out, when they refer to the Tower, the only mines  
12 operating under those properties is the Aberdeen mine. So  
13 Tower and Aberdeen are synonymous.

14 Q Now, you received these documents in September.  
15 What happened next?

16 A Since Pete Del Duca was a young engineer and had no  
17 mining experience, I gave him the assignment to look through  
18 what they were proposing and to evaluate the modeling that  
19 Agapito had conducted and then get back with me to report to  
20 me what his findings were and what he found in looking at the  
21 modeling.

22 Q And did he do that?

23 A He did. And he came up with, I think it was five  
24 issues concerning the modeling that had been conducted. And  
25 in the interim, we had approved them to develop in the north

1 barrier and then we sent GENWAL property a letter asking them  
2 to address the five issues Mr. Del Duca had arrived at.

3 Q When you say "develop in the north barrier," what  
4 do you mean by "develop"?

5 A While we were reviewing this, in the interim they  
6 had submitted a plan to retreat mine the north barrier. We  
7 told them we were still looking at them, but we would approve  
8 development. And by "development," it would be to construct  
9 four entries with three pillars that separated those four  
10 entries through the barrier pillar in the north.

11 Q And why did you allow them or require them to  
12 proceed that way?

13 A We saw no problems with development. We knew the  
14 problems would be in -- if there were any -- would be in  
15 retreat mining. And they had run out of areas essentially in  
16 the other mine, to mine in the Crandall Canyon Mine and their  
17 south Crandall Canyon Mine wasn't feasible.

18 So we approved the plan to mine there while we were  
19 continuing to evaluate pillar mining, which is retreat mining  
20 involving the pillars.

21 Mr. Findlay. I'll have the reporter mark this as the  
22 next exhibit.

23 [Owens Exhibit No. 5

24 was marked for identification.]

25

1 BY MR. FINDLAY:

2 Q I ask you to take a look at this document. And I  
3 will just note we pulled this off the MSHA Web site. It  
4 looks like it has some redactions, but I don't think any of  
5 them will be material.

6 I'll ask you to tell me, first of all, if you recognize  
7 this document.

8 A Yes. This is a document that approves development  
9 in the north -- in the main west north barrier.

10 Q And if we flip to the second page of the document,  
11 is this -- the second, third and fourth pages of the document  
12 -- is this how they formally, "they" being the mine folks,  
13 formally proposed to do the developments?

14 A Yes. What the mine does is they send this document  
15 that -- it is in Exhibit 5. The last three pages are the  
16 company's submittal that consists of a cover letter, a mine  
17 layout and a narrative on what there will be to do that, to  
18 conduct the development. And this document states that they  
19 will do four entries with three pillars.

20 Q So the second, third and fourth pages, would this  
21 part of the document have gone to you first or to Mr. Davis  
22 first?

23 A The way the procedure works is the document comes  
24 into the district office. More than likely, Mr. Davis never  
25 saw it when it comes in. But the only person in the district

1 that can approve plans is Mr. Davis or his representative.  
2 And so what we've instructed the mine operator to do is to  
3 address all communications to Mr. Davis so that the letter  
4 will come in, it's logged in by staff and is received;  
5 "November 13th, 2006" stamp on there is stamped on there, and  
6 it's given a log-in number. The Crandall Canyon Mine for  
7 roof control purposes is mine number 8646, and it's given a  
8 number. The Crandall Canyon Mine is under the fourth base  
9 plan. That's not necessarily the fourth plan. One plan  
10 could have been disapproved. Base plan three could have been  
11 disapproved and base plan four was remitted. And this was  
12 the 15th amendment to that base plan.

13 Q These numbers you are talking about are numbers  
14 above the Bates stamp?

15 A Yes. And that is handed to me, and either I give  
16 it to someone to review or I review it myself. More than  
17 likely, I assigned this to Gary Jensen to review, and he was  
18 in the field office.

19 Q This is the Gary Jensen that died in the rescue  
20 efforts at Crandall last year?

21 A Yes.

22 Q Now, before this came in, had you already had  
23 Mr. Del Duca run the computer models, or was this done after  
24 this came in?

25 A The computer models were run prior to this coming

1 in.

2 Q So when you got this on November 13th or  
3 thereabouts and gave it to Mr. Jensen, what did he then do  
4 with it?

5 A He would have reviewed it. He would look to see if  
6 he saw any problems with it. He would call me and discuss it  
7 with me if he had any problems. I'm not sure that if he did  
8 the review -- if he didn't see any problems with it, then I  
9 would do my supervisory review and then write a letter for  
10 the decision.

11 Q And when you saw this, did you have any problems  
12 with it?

13 A No.

14 Q And Mr. Jensen didn't relay any problems with it to  
15 you?

16 A No.

17 Q So as far as you can remember, the next thing you  
18 did was draft up the letter that's page 1 of this packet?

19 A Yes. That's correct.

20 Q Now, do you know when they actually started  
21 implementing the plan in this letter?

22 A I do not.

23 Mr. Findlay. I will ask the court reporter to mark this  
24 exhibit please.

25

1 [Owens Exhibit No. 6  
2 was marked for identification.]

3 BY MR. FINDLAY:

4 Q I'll ask you to take a look at this document and  
5 tell me if you recognize it. This was also pulled off the  
6 Web site looking at similar redactions, it seems.

7 A This appears to be the letter that they sent in, an  
8 amendment to retreat mine the north barrier pillar of the  
9 mains west.

10 Q Do you remember coming across this in December of  
11 2006?

12 A I'm sure I saw it in December of 2006.

13 Q Do you remember having any discussions with anyone  
14 at MSHA about this proposal, the proposed amendment?

15 A I don't remember actual discussions with Mr. Davis  
16 or Bill -- William Nelfia, the ADM for technical services.  
17 But I did contact the mine and make plans to go visit the  
18 mine. Mr. Del Duca accompanied me to the mine to conduct  
19 part of this to check the actual conditions in the mine in  
20 order to do a review of this proposal.

21 I don't recall why, but Mr. Jensen wasn't available.

22 Our specialists that had AR cards had been assigned to  
23 other duties also to conduct inspections and things.

24 Q And so do you remember when you went --

25 A I think it was the first week of January.

1           Mr. Findlay. Ask the court reporter to mark this  
2 exhibit.

3                                   [Owens Exhibit No. 7

4                                   was marked for identification.]

5           BY MR. FINDLAY:

6           Q     Take a look at it and tell me if you remember  
7 receiving this e-mail.

8           A     Yes. This, Exhibit 7, is what the company  
9 submitted to follow recommendations that I made while I was  
10 on site. I went there, and a couple -- Laine Adair, Gary  
11 Peacock, and I'm not sure who else, accompanied Mr. Del Duca  
12 and I underground. We made underground observations, and one  
13 of the things, that they didn't have adequate support to  
14 maintain the integrity of the bleeder entry for what I  
15 consider to be the life for the retreat mining. The bleeder  
16 entry, as they retreat out, they had to be able to travel the  
17 bleeder entry to the back of the panel to evaluate that they  
18 were getting rid of gasses, oxygen, methane, if there were  
19 any things like that. So I had put them put in additional  
20 support in their mining plan, and they did that.

21           It took a couple submittals for them to get that right.

22           Q     And you came up with this recommendation based on  
23 what you saw as the conditions in the mine when you were  
24 there?

25           A     Excuse me. While we were there, they were not

1 leaving top coal, and the miner was mining in the face, and  
2 as the miner was backing out, actual coal rock was breaking  
3 up and falling on the miner. And the roof rock made an  
4 irregular roof and also would allow fracturing and other  
5 problems.

6 So we had a discussion regarding the roof rock and  
7 decided to let them to leave the top coal. The Agapito  
8 report stated they should not leave top coal. They felt that  
9 that contributed to bad conditions in another area of the  
10 mine, because if you get balances or high stresses, sometimes  
11 the coal will break up.

12 But they were putting in wire mesh in this area of the  
13 mine that they weren't doing in other -- they hadn't done in  
14 the previous areas of the mine. Hadn't implemented that. So  
15 this amendment, Exhibit 7, allows them to leave top coal to  
16 protect the weak rock.

17 If they had tinstone roof, they wouldn't need to leave  
18 top coal. But in other areas without tinstone, they need top  
19 coal.

20 Q When you say the coal that's falling on the miner,  
21 you mean the continuous miner?

22 A Yes. Not the coal, the roof rock was -- before it  
23 would even back -- could back out. And then when the miner  
24 backs out, the roof bolter comes in and bolts it up. So this  
25 material is falling down on the continuous miner before even

1 the roof bolter can get in there.

2 Q I think you mentioned one of the folks with whom  
3 you were discussing this was Gary Peacock?

4 A Yes.

5 Q Who is he?

6 A I think he was the mine superintendent at the  
7 Crandall Canyon Mine.

8 Q And the e-mail, the cover e-mail for Exhibit No.  
9 7, looks like it has been sent by Tom Hurst. Who is he?

10 A Tom Hurst was -- at that time was an engineer for  
11 Andalex Resources or UtahAmerican. And he would work in the  
12 plan submittal or the engineering office. He worked for  
13 Laine Adair, and he would submit plans both for Crandall  
14 Canyon, for Aberdeen or for West Ridge Mine.

15 Q It looks like this e-mail was carbon copied to  
16 David Hibbs and Jim Poulson and Bodee Allred, as well as  
17 Mr. Adair and Mr. Peacock. Who were those three gentlemen?

18 A Laine Adair, he may be manager of production. So  
19 I'm not sure what his name is. And Mr. Hibbs actually was  
20 brought in by UtahAmerican to be the chief engineer or head  
21 of engineering.

22 Jim Poulson was safety director for Crandall Canyon.  
23 Bodee Allred is another safety person. And, you know, Jim  
24 Poulson may be Aberdeen, and Bodee could be Crandall Canyon.  
25 And Gary Peacock was superintendent at Crandall Canyon.

1 Q Did you have interactions on a regular basis with  
2 Mr. Hibbs?

3 A Yes. I talked to him since he's been there. He's  
4 from Kentucky originally. We understand each other.

5 Q Fair enough.

6 And so your interactions with him were for all of the  
7 mines?

8 A Yes. All of the UtahAmerican mines.

9 Mr. Mascolino. When you describe the title, that's the  
10 best of your recollection, their titles.

11 Mr. Findlay. Okay.

12 BY MR. FINDLAY:

13 Q Did you have interactions on a regular basis with  
14 Mr. Poulson?

15 A Yes. Dealing with plans, safety issues, different  
16 people from Andalex would submit plans; and it could be Tom  
17 Hurst, Laine Adair or Mr. Poulson or different individuals  
18 may call me to ask what the status is of a plan that they've  
19 submitted. And then these -- as I visit the mines, I travel  
20 with these different individuals.

21 Q Now, the trip in early January when you went to  
22 actually visit the mine, had they started development by that  
23 point?

24 A Yes. They were halfway through the panel. And it  
25 was during that visit while we were in there, that I actually

1 saw the effect of not having top coal, the debris, the roof  
2 debris, falling on the continuous miner. And we also saw  
3 out-by pillars sloughing and relieving themselves in a good  
4 manner. And then it was during that visit also we had them  
5 put in additional support.

6 Q When you say they were "sloughing" and relieving  
7 themselves in a good manner, what do you mean by that?

8 A About 200, maybe 250 feet out by the face -- and  
9 the face is where the continuous miners actually extracting  
10 the coal. It's cutting the coal forming the entries across.  
11 That's the face area. And then out by that, which is --  
12 pillars had already been developed, approximately 250 or  
13 300 feet, we were out there and the pillars were -- the coal  
14 that's along the rib of the pillar, and the rib is the  
15 vertical wall, the vertical edge of the pillar, would, on one  
16 pillar, the whole rib would just slough down and it fell  
17 straight down. It just slid from the -- about 6 inches thick  
18 slid from almost, I want to say almost half the height of the  
19 pillar slid onto the floor. And that's good in that it is  
20 not being thrown out into the entry where people walk. It  
21 didn't fall out, straight out vertically, where it could fall  
22 out and crush somebody.

23 So it was relieving itself in a safe manner. It wasn't  
24 posing a hazard to anyone that was in the area.

25 Q Now at that meeting or thereafter, based on that

1 meeting, did you make any other recommendations to the mine?

2 A At the mine I made the two recommendations to leave  
3 the top coal and to put additional support in the bleeder  
4 entry, which I told them to put additional support initially,  
5 and they submitted a plan that said that they would put a row  
6 of timbers, and we e-mailed back and forth. And at minimum,  
7 I told them that MSHA itself would be two rows of timbers, a  
8 minimum of four timbers per row. And they agreed to put that  
9 support in.

10 Q And then looking just -- I'm turning back to  
11 Exhibit 6, the second page. Is that stamp down there, the  
12 February 2nd, 2007 stamp, is that the "approved" stamp? Can  
13 you tell?

14 A Yes. I think that's the "approved" stamp.

15 Q That's generally what the "approved" stamp looked  
16 like?

17 A Yes. If you look on page 3, it's the same stamp  
18 down there on the lower left corner of the map you will see  
19 the -- it shows "approved" on that.

20 Q So were you waiting to approve this until your  
21 visit; is that how that transpired?

22 A Yes. And before this was approved, it includes the  
23 statement that roof force form will be -- if you look on page  
24 2 of this Exhibit 6, paragraph 4 states the roof-to-floor  
25 support.

1 Q And that was done at your request?

2 A Yes.

3 Q Now, do you remember when -- and now I'm turning  
4 back to Exhibit 7 -- when, if ever, this amendment was  
5 approved?

6 A This Exhibit 7 to leave the top coal?

7 Q Right.

8 A That was probably around January 20th, would be my  
9 guess. In that time frame.

10 Mr. Findlay. I will ask the court reporter to mark this  
11 document, please.

12 [Owens Exhibit No. 8  
13 was marked for identification.]

14 BY MR. FINDLAY:

15 Q I'll ask you to flip through this, and this was  
16 produced by UtahAmerican.

17 My question is if you recognize any or all of this?

18 A It's very difficult to look at the map. So I  
19 don't -- the map is not very recognizable, but it appears  
20 that the map of Exhibit 8 was what was submitted. It is just  
21 that you didn't get a good copy to develop the south barrier  
22 Main West.

23 Q So now turning to the second page that ends in  
24 Bates stamp 17, and the third and fourth pages?

25 A Pardon me?

1 Q Turning to the second, third and fourth pages of  
2 this exhibit, you do recognize this letter attachment?

3 A Yes.

4 Q Now turning to the first page of this, it doesn't  
5 appear that you are listed as a recipient of this document,  
6 at least in the first instance.

7 Do you have any idea why?

8 Mr. Paretti. Objection. You are asking him to  
9 speculate why.

10 Mr. Findlay. I'm asking if he has any idea.

11 Mr. Paretti. Well, objection. I mean, objection. He's  
12 not competent to testify to why someone else did something.  
13 But go ahead.

14 BY MR. FINDLAY:

15 Q Do you have any idea why you wouldn't have been  
16 listed on here?

17 A The document's submitted by Mr. Hibbs, and  
18 Mr. Hibbs submitted it straight to Mr. Davis, apparently.  
19 And he wasn't -- this may be when he started taking over  
20 submitting the plans.

21 Q But then it would have been some time shortly  
22 thereafter you got a copy of it?

23 A More than likely, this was printed off by  
24 Mr. Davis' secretary and, again, Mr. Davis may not even have  
25 seen it. It would have been printed off, the Secretary would

1 have logged it into the plan approval system and routed it  
2 straight to me.

3 Mr. Paretti. Can I ask you to clarify a question? I  
4 think rather than waiting until a second round, you asked  
5 Mr. Owens if he recognized this document, three pages.

6 Were you asking -- do you mind if I ask him if he  
7 recognizes and can he identify what this document is, or did  
8 you ask if he recalled seeing this document?

9 Do you understand when I'm getting at?

10 Mr. Findlay. Not really.

11 Mr. Paretti. Do you remember receiving this document?

12 The Witness. The document, Exhibit 8, is the plan to  
13 develop the south barrier. It doesn't have any of the  
14 documentation, but I'm almost positive this is the document  
15 that came in. And we reviewed -- like I mentioned earlier,  
16 the map with this document is not recognizable.

17 Mr. Mascolino. This isn't an MSHA document. It's from  
18 GENWAL.

19 The Witness. Correct. This is a submittal by GENWAL  
20 Resources or UtahAmerican.

21 Mr. Findlay. I think this next exhibit might help clear  
22 things up a bit.

23 [Owens Exhibit No. 9

24 was marked for identification.]

25 The Witness. Exhibit 9 is the document that we -- it

1 shows it being logged in and appears to be the approval  
2 document that would have went through my office.

3 BY MR. FINDLAY:

4 Q Okay. And after you received this, and by "this" I  
5 mean the second, third and fourth pages of this exhibit, what  
6 process would you have implemented?

7 A In March of 2007, when I would have received this,  
8 I would have had my secretary assign it to Gary Jensen. She  
9 would either send him a hard copy of it by the main office  
10 since he was in Price, Utah, or if we would have been cc'd by  
11 Hal Davis's secretary, we would e-mail Gary Jensen and assign  
12 him to review this.

13 Q And do you recall him ever relaying his thoughts  
14 about this to you?

15 A I do not recall. And, again, Mr. Jensen, in  
16 addition to working for me, he was also a special  
17 investigator -- collateral duty. That's what I was trying to  
18 think of, that term. Collateral duty special investigator.  
19 And, again, they were having the specialist do inspection  
20 work. And since March is the end of a quarter, he could very  
21 well have been pulled to do the inspection work and he may  
22 never have even had a chance to look at this.

23 In addition to that, he's also a mine rescue person,  
24 helped develop part of the contest -- portion of the contest.

25 Q So he may have never actually looked at this one?

1           A     He may not have, and I would have conducted a  
2     review.

3           Q     Do you remember recommending this be approved to  
4     Mr. Davis?

5           A     Yes. I'm the person that wrote the approval  
6     letter, and it goes through me and then it goes on to  
7     Mr. Davis's office.

8           Q     And do you recall this document, the proposed  
9     amendment, raising any red flags or anything in your mind?

10          A     No. I don't recall it. At this time when this was  
11     approved, the mining in the north barrier was going very  
12     well. They hadn't -- they did not get to the end of the  
13     panel because of water conditions, and cut the panel in the  
14     north barrier short and started retreat mining. But my  
15     reports from the mine and reports from field offices were  
16     that conditions were doing well in the north barrier.

17          Q     When you say "the reports," let's start from the  
18     field office. Who would have reported back from the field  
19     office?

20          A     Gary or the inspectors or the field office  
21     supervisor.

22          Q     And other than Mr. Jensen, who were those other two  
23     folks?

24          A     Bill Taylor would be the supervisor, or any of the  
25     other inspectors that went to the property.

1           Q     And was it regular practice for them to report back  
2 to you?

3           A     Just -- not regular. Just occasional.

4           Q     And then you mentioned reports from the company?

5           A     Right. When, as part of approval of this, we had  
6 had discussions with a company and told them that anytime  
7 that they ran into a stability or difficulty, they should  
8 abandon that and back up. And that was also in the Agapito  
9 report that they should do that.

10           We had discussions. We didn't put in the approval  
11 letter that they would do that, because that was kind of a  
12 judgment call. Something that you can't do.

13           But I would have telephone calls with Mr. Adair mainly  
14 to say how's it going and what is the conditions, and he  
15 would report in on how the mining was going.

16           Q     And these calls occurred between or during February  
17 and then the first week of March or so?

18           A     Probably from January on. Ever since they've been  
19 developing the area. Once we approved the plan and they  
20 started developing, I had fairly regular telephone  
21 conversations with Mr. Adair.

22           Q     How regular, about?

23           A     Sometimes -- you know, it would depend on his  
24 schedule and mine, but probably didn't go more than 2 weeks  
25 without talking to him.

[Recess.]

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1        RPTS [REDACTED]

2        DCMN [REDACTED]

3        [1:23 p.m.]

4                    BY MR. FINDLAY:

5            Q        I think the last exhibit we looked at was Exhibit  
6            9, and that takes us through about March 8 of last year. Now  
7            a few days after that, around March 12, a few days before or  
8            a few days after maybe, did you learn of any bumps or bounces  
9            that may have occurred at the Crandall Canyon mine?

10          A        I think it was on that Monday of that week that you  
11          are referring to. Mr. Adair called me and stated that the  
12          mine was -- had experienced difficulty with the -- excuse  
13          me -- with the roof where they came back from the top coal to  
14          the area that they did not leave top coal. The roof was  
15          bagging, and it was causing difficulty. And they use MRSs,  
16          which are mobile retreat mining system, and the MRSs have  
17          lower -- then move forward and raise the canopy to put it  
18          back up against the roof. So the roof's bagging down. That  
19          could cause problems with that. Also to hold that good, they  
20          have to have enough force. If the roof's all broken up, it  
21          may not let the ATRS put the force against the roof that it  
22          needs. So the mine skipped a couple rows of pillars to move  
23          out by -- to establish better environment for retreat mining.  
24          And Mr. Adair stated that the mine was experiencing bumps and  
25          bounces as the miner was mining the coal and that the mining

1 crew decided to back out of the north barrier. And he said  
2 that the bleeder entry and by that area was pretty well  
3 beaten up.

4 Q Do you remember what time on that Monday the call  
5 was?

6 A I think it was mid-morning like 10:00 or --

7 Q And he actually got you, not voicemail or  
8 something?

9 A Yes.

10 Q And was that the only call you had with him that  
11 day?

12 A That I recall, yes.

13 Q When you say it was "bagging off the roof," what do  
14 you mean by that exactly?

15 A The roof is a flat plane that is parallel to the  
16 floor, and just like a ceiling in a room. And when we say  
17 "it's bagging" -- they had wire mesh in there. The bolts are  
18 put in -- there were six bolts across in a row. And those  
19 rows are separated by approximately 5 feet. So in that 5  
20 foot distance with the wire mesh, meaning the roof was broken  
21 up so bad that the -- that it was actually forcing the wire  
22 mesh down toward the floor. So it would be -- like there  
23 would be a row of boats, and then it would be -- across the  
24 entry would be like a wire bag of broken rock hanging,  
25 hanging down. So it would be -- there would be different

1 elevations in the roof crawl through there, and it's broken  
2 material in the wire mesh. It's roof rock that was broken  
3 up.

4 Q Did he tell you why he was calling you? I mean,  
5 was it just to tell you this, or what did he say?

6 A As I have spoken earlier, Mr. Adair would regularly  
7 call and let me know what's going on and so that was part of  
8 that sequence of him contacting me to let me know what the  
9 conditions were in the mine and if they had hit a bad area  
10 and was backing out of there.

11 Q When you say backing out of there, what did he tell  
12 you about what they planned to do?

13 A He mentioned that -- during that conversation, it  
14 sounded like that they would back out to another area of the  
15 north and then try to establish and finish retreating that  
16 area later on, and I understood they backed out entirely.  
17 And they said the crew -- the crew was an experienced mining  
18 crew, and he said the crew had decided to back away. And as  
19 we talked about earlier, that was part of our discussions, if  
20 you had a problem area, go away from it. And that was in the  
21 Agapito report. It's okay to skip pillars to get to a better  
22 mining environment. And so I assumed that's what they were  
23 doing.

24 Q Did he mention anything about walking the bleeders?

25 A He said it was pretty well beaten up back to the

1 bleeders. And then I talked with Bill Reitze from the  
2 ventilation group, and they'd asked Mr. Reitze for a bleeder  
3 evaluation point. And I assumed they wanted to move the  
4 point out by to an area that would be safe for them to walk  
5 into. And again, that indicated that initially they intended  
6 to mine more in the north barrier since they were going to  
7 move the evaluation form.

8 Q So did he say anything else about the severity of  
9 the bump or bumps?

10 A No. He said that -- but it didn't sound bad  
11 because he said they moved the equipment out, and the  
12 equipment consists of four MRSs which are track mounted. So,  
13 you know, the track mounted MRSs were able to move out of  
14 there. So that means that there wasn't debris blocking them.  
15 The continuous mounter was in there, again track mounted,  
16 probably two shuttle cars, scoop. So -- and they were moving  
17 the belt tail drive. So it sounded to me like it was a  
18 normal mining sequence of moving the people -- the thing out  
19 there, that it wasn't so bad that they couldn't get to the  
20 equipment or anything. They were moving it out or had moved  
21 it out.

22 Q So he let you believe there was nothing exceptional  
23 about what was going on at that time?

24 A Yes.

25 Q Now did you have -- I think you mentioned he then

1 called Mr. Reitze. Did you have conversations with  
2 Mr. Reitze about this?

3 A That they wanted to re-establish the bleeder  
4 evaluation point. And essentially the district policy is you  
5 can't have a big gob area that you don't know how it's being  
6 ventilated and retreat mined, and they couldn't move the  
7 evaluation point out by the -- where the water as was. They  
8 had to travel to the edge of the water.

9 Q And is the general course you don't deal with  
10 ventilation plans or bleeders?

11 A I do deal with bleeders. If -- if we were to allow  
12 them to re-establish an evaluation point based on ground  
13 control, then typically I am the person that goes in and has  
14 to crawl through the area they say is too bad to travel to  
15 see if it's too bad to travel. So if we can say "don't move  
16 the evaluation point" without me having to go crawl through  
17 that area, I would prefer to do that.

18 Q Is the evaluation point the same thing as an MPL?

19 A It is an MPL. If you move it, it becomes an  
20 evaluation point.

21 Q Okay.

22 A MPL is measurement point location.

23 Q Now in the days and weeks after that Monday morning  
24 call with Mr. Adair, did you have any follow-up discussions  
25 with him or anyone else at the mine about the bumping that

1 occurred in March?

2 A No.

3 Q And that carried through August of last year  
4 through the -- you didn't have any conversations through the  
5 incidents in August?

6 A There was some conversation when we looked at the  
7 Agapito report. And the Agapito report stated that the -- I  
8 think there were two cross cuts that were affected by the  
9 bump, the Agapito report that was received in May of 2007.

10 Q I will ask the reporter to mark this I believe  
11 Exhibit 10.

12 [Owens Exhibit No. 10  
13 was marked for identification.]

14 Mr. Findlay. I will just note everybody got --  
15 everybody but the exhibit copier, black and white. I think  
16 that was a scanned copy, and there looks to be a post-it note  
17 that was scanned in.

18 Mr. Mascolino. So what you are saying to me is it was  
19 supposed to be taken off. It was to kind of identify for the  
20 copier --

21 Mr. Paretti. Just for the record, can you tell us who  
22 produced this document?

23 Mr. Findlay. The Department of Labor, I believe, in the  
24 1019 production. It was one of the non-Bates stamped docs.

25 BY MR. FINDLAY:

1 Q Do you recognize this document?

2 A Yes. This is the Agapito report that I received in  
3 May that I just referenced in my previous conversation.

4 Q And when you received it in May, who sent it to  
5 you?

6 A I believe this was submitted to me by Mr. Adair.

7 Q Did he tell you anything -- did he tell you why he  
8 was submitting it to you?

9 A They were going to -- wanted to request pillar  
10 mining in the south barrier. I think the development had  
11 already been approved for the south barrier, and they were  
12 developing that, and they submitted this report to show that  
13 Agapito had looked at the north barrier, had recalibrated  
14 their model and was making additional recommendations for  
15 mining in the south barrier -- for retreat mining in the  
16 south barrier, excuse me.

17 Q Now I guess perhaps leading up to this, did you  
18 ever discuss with Bill Reitze any requests to seal the north  
19 section?

20 A There was some discussion in that when they --  
21 Mr. Adair requested for the evaluation point and essentially  
22 the district said, "No, you can't move the evaluation point."  
23 Then Mr. Adair said, even though he had traveled the bleeder  
24 entry in compliance with the regulations, that he believed it  
25 was hazardous to travel that. So if he couldn't move the

1 MPL, then he wanted to seal the north barrier. And I said,  
2 "good."

3 Q Did Mr. Reitze tell you that or did Laine Adair  
4 tell you that directly?

5 A Mr. Reitze told me that.

6 Q Now when you -- when you received this in May, was  
7 it just a stand-alone document, or was it submitted along  
8 with any other documents? Do you remember?

9 A I believe this was a stand-alone document.

10 Q And what did you view this as changing?

11 A This essentially -- it made two major changes. And  
12 one was that the -- excuse me. There were three changes. It  
13 changed the pillar length. It increased the pillar length.  
14 The Agapito report also stated that they should not leave any  
15 pillars behind, that they could cause pressure points out by  
16 area, and it also stated that by slabbing the barrier as they  
17 retreated would cause a bigger cave area inby and put the  
18 stresses inby and take them away from the outby area.

19 Q I will ask you to go back to Exhibit -- I believe  
20 Exhibit 1, which are your handwritten notes. And I'm looking  
21 at the third page, and there appears to be an entry on March  
22 12, at 12:00 noon. Is this entry reflecting the conversation  
23 you had with Laine Adair that you described just a few  
24 minutes ago?

25 A Yes. This is -- well, I said it was 10:00 a.m. It

1 was 12:00 noon. Missed it by 2 hours. And again, it says  
2 that 2 feet of roof coming -- bagging down. This is a  
3 conversation that reiterates what I stated earlier.

4 Q Would it have been your practice or has it --  
5 before you retired, was it your practice, if they had  
6 indicated that it was a severe bounce, you would have noted  
7 it here?

8 A Yes.

9 Q All right. Now I will turn back to the last  
10 exhibit, the February 18 Agapito report. And the last two  
11 sentences of the second paragraph on the first page, I'll  
12 read it: "A large bump occurred at this point resulting in  
13 heavy damage to the entries located between XCs 133 and 139.  
14 The remaining north panel was abandoned in favor of mining  
15 the south barrier." Do you remember reading that back in May  
16 of last year when you got it?

17 A I read it. I don't necessarily remember anything  
18 about reading it.

19 Q Is this -- so it's fair to say that these two  
20 sentences didn't raise any alarms in your head?

21 A They didn't raise alarms. They're different than  
22 what Laine Adair, you know, reported to me.

23 Q And did you follow up with Laine Adair about --

24 A No. I don't recall doing that. They mentioned the  
25 bouncing, and then later on in this report, Agapito states

1       that they made recommendations to implement that, to address  
2       the condition, and that what they're doing should take it  
3       away from being at the face or by the face to pushing it back  
4       into the gob by taking a barrier and, you know, sloughing,  
5       you know, slabbing the barrier as they retreat and increasing  
6       the length of the pillar.

7           Q     And in your opinion, that addressed the concerns  
8       that may have been raised?

9           A     Yes.

10          Q     I will ask the court reporter to mark this Exhibit  
11       11.

12                               [Owens Exhibit No. 11

13                               was marked for identification.]

14           BY MR. FINDLAY:

15          Q     Again, you want to look it over. Have you ever  
16       seen this photo before?

17          A     I may have. The internal review investigation team  
18       briefly showed me some photographs of the north barrier  
19       bounce.

20           Mr. Paretti. I'm going to object. And consistent with  
21       the -- I'm going to caution the witness to not disclose or  
22       discuss anything related to the investigation with the  
23       Department of Labor, and that's consistent with the privilege  
24       the Department has exerted previously. So --

25           Mr. Findlay. Are you directing the witness, or are you

1 -- you say you are suggesting --

2 Mr. Paretti. He's answered this question. So --

3 Mr. Findlay. So is there an objection or no?

4 Mr. Paretti. I mean, the question's been asked and  
5 answered. Yeah. That's my objection. The question's  
6 answered. So --

7 Mr. Findlay. So is your objection to admissibility or  
8 to form?

9 Mr. Paretti. Well, I'm not objecting to the  
10 admissibility of the document, which has been marked as  
11 Exhibit 11.

12 Mr. Findlay. Okay. Then I'll ask, regardless of how  
13 you came to the understanding, is it your understanding that  
14 this photo reflects the entry across cut 132 and the bumping  
15 that occurred on March 10?

16 A I have no way of telling what crosscut.

17 [Discussion off the record].

18 BY MR. FINDLAY:

19 Q Okay, Mr. Owens, looking at this exhibit, I'll  
20 represent to you that the Department of Labor represented to  
21 us that this photo reflects, quote, the March 10, 2007,  
22 pillar bounce number 3 entry crosscut 132. Just assuming  
23 that's true, I guess what, if any, significance does that  
24 hold for you?

25 A This looks like a significant bounce. It's showing

1 the initial forefront of the pillar is showing about half the  
2 entry. There's six bolts across, and you can see three bolts  
3 across the roof there. So, in the initial forefront, that  
4 means it's half in the entry.

5 The roof is very well in tact. The pillar has blown out  
6 into the entry. You can't really tell much about -- quite  
7 how high the convergence or anything. There's no scale there  
8 to be able to tell. After the bounce occurred, the area  
9 appears to have been well rock dusted.

10 Q What do you mean by "well rock dusted"?

11 A The white dust on top of the coal. It would be  
12 black and shiny, as it's shown up there on the roof where  
13 that reflector's hanging down. The reflector even has rock  
14 dust on it. That reflector would either typically be green,  
15 red or some color indicating an airway. And then some coal's  
16 falling out from the roof over there after it was probably  
17 rock dusted.

18 Q By the reflection, you mean that sort of long  
19 narrow thing in the top maybe -- top left quadrant of the --

20 A Top left. That would normally be a reflector.

21 Q Now if this is what I've represented it to be, is  
22 that consistent with what Mr. Adair told you about any  
23 bumping in March?

24 A This looks liked it'd be more extensive than what  
25 Mr. Adair said. And I don't know if this is before the

1 equipment was pulled out or after the equipment was pulled  
2 out. If this occurred before the equipment was pulled out,  
3 all this coal on the floor would have to be scooped out of  
4 there and cleaned up either by a scoop or a continuous miner.  
5 If this occurred after the equipment was pulled out of the  
6 section, then it may not have an effect on what Mr. Adair  
7 told me.

8 Mr. Findlay. I will ask the court reporter to mark this  
9 number 12.

10 [Owens Exhibit No. 12

11 was marked for identification.]

12 BY MR. FINDLAY:

13 Q I'll ask you to take a look at that and tell me if  
14 you remember I guess sending this e-mail?

15 A Yes, I sent this.

16 Q Why did you send it to Mr. Adair?

17 A There was questions about whether the event was  
18 reportable or not reportable, about what actually happened in  
19 the event. And again, at that time, I don't think I'd seen  
20 these photographs or had any knowledge of it. And so we were  
21 trying to get -- and myself mainly was trying to get  
22 clarification, exactly what happened, what were the events  
23 that occurred there, what was the process, what was the  
24 extent of the damage and additional clarification. We  
25 felt -- there's three or four different things going around.

1       And I wanted to try to tie it down. I am a professional, and  
2       I have a lot of integrity. I've tried to conduct my business  
3       as best I can. And I'll go use what resources are available  
4       to me to ensure that what I'm reporting, especially to the  
5       Arlington headquarters staff, is correct.

6             Q       And did you at this time have a reason to believe  
7       that he was other than truthful to you back in March when he  
8       described the bumping that occurred then?

9             A       I had reason to believe, you know, from -- that six  
10       cross cuts were affected, that things may not -- you know,  
11       that it was just bumping, and they just, you know, decided to  
12       do a prudent -- my impression, in fact, that he may not have  
13       given me a full story.

14            Q       And did he respond to this e-mail?

15            A       I don't recall receiving another e-mail, but I  
16       talked to him. And he stated that he had been in Salt Lake  
17       City that weekend for a family reunion or church function or  
18       something. Anyway, he was in Salt Lake City. He came back  
19       and went into the mine. I don't recall if it was Sunday  
20       night or that Monday morning. And he called me at noon on  
21       that day. And he said that when he went in there, the mining  
22       crew had told him that, you know, they had had the bounce and  
23       they already had all the equipment and everything moved out  
24       of there; that they said it was bouncing while they were  
25       sumping the miner head into the pillar. They felt it was too

1 dangerous, that they were getting bouncing. So when he  
2 actually went in there on that Monday morning, all the  
3 equipment was back out of there.

4 Q You mean, he was in Salt Lake City in March?

5 Mr. Mascolino. Yeah. I was going to say, this is a  
6 March conversation.

7 The Witness. Right. This is -- he's telling me what  
8 happened in March. But again, in that conversation he didn't  
9 say, you know, that the whole area was bounced out. Again he  
10 said the equipment was out of there, the belt was out, and  
11 they decided to go to a different area. And so it still  
12 didn't really clarify that it was damaged enough, that the  
13 bounce stopped the mining or -- again, he alluded that they  
14 decided to stop it; that they didn't stop and have to clean  
15 things up; that it was bouncing, and so they backed the  
16 equipment, everything out of there?

17 Q Did he indicate -- did he tell you who made the  
18 decision to move the equipment out of there before he got  
19 back?

20 A Yes, he said the crew, so that would be the section  
21 foreman on that crew and the miner. I mean, if the miner's  
22 in there and it's bouncing, it's throwing coal out, and he's  
23 a -- he doesn't think it's safe, he says, "you know, I'm not  
24 going to go operate the miner," and if the other guys are  
25 worried about it, then they'll back out of there. And that's

1 a regular practice, that the crew a lot of times gets to make  
2 the call.

3 Q So still at that time in I guess early September,  
4 your conversation with him continued to lead to you believe  
5 that it wasn't a huge event there at the mine in March?

6 A Right, that it still wasn't something that  
7 destroyed everything, that pillars were affected. And  
8 pillars can be affected. Like on a long wall, sometimes you  
9 have a bounce that affects three pillars out by the face, but  
10 it blows coal out into the wire mesh that's along the ribs  
11 protecting it. It doesn't shut down mining or anything. So  
12 I'm under the impression this is a similar event.

13 Q Did you press him on it and ask him -- you know, in  
14 light of what you knew at that time, I guess any follow up  
15 or --

16 A No. No. I didn't, no. A gentleman tells you a  
17 thing, I don't say, "I don't think you're telling me the  
18 truth," and go on.

19 Q And did he give you any indication that he may have  
20 been wrong in March, that his crew had told them something  
21 inaccurate or anything like that?

22 A No. His statement was, they're an experienced  
23 crew; they make good decisions. And typically the mine lets  
24 the crew make the decision.

25 In good management, they have to stick -- they have to

1 do that.

2 Q And on the same exhibit, 12.

3 A Twelve?

4 Q Yeah. Flipping to the second page, it's really the  
5 second to last paragraph I guess: If the mine had been  
6 allowed to move the MPL out by -- to crosscut or XC 133, they  
7 would have continued to retreat mine the northwest barrier.  
8 You wrote that because Mr. Adair had led to you believe that?

9 A Yes.

10 Q And based on your review of the photo, Exhibit 11,  
11 do you believe that statement to be true?

12 A Again, which crosscut is Exhibit 11?

13 Q 132. And I don't know that. But that's what has  
14 been presented to us.

15 A From Exhibit 11, it looks like there's still good  
16 mining height in there, so I think they could probably still  
17 mine in that area.

18 Mr. Mascolino. That's based on that photograph, not by  
19 a personal evaluation by you, correct?

20 The Witness. Correct. The photograph shows that it  
21 appears to be a good mining height and the roof supports --  
22 does not appear to be any damage to the roof support.

23 Mr. Findlay. Just looking at this photo, the mesh on  
24 the ceiling, is that consistent with bagging.

25 The Witness. No. There is no bagging shown in that

1 photograph.

2 Mr. Mascolino. But that's where the bagging would occur  
3 that he's talking about. It would -- the coal would come  
4 down, and you would like see a -- it's like a -- for lack of  
5 a better word, think of a paper bag; it would sag.

6 Mr. Findlay. Okay. So I'll ask you, that's the area  
7 that the bagging would have --

8 Mr. Mascolino. Correct me if I'm -- don't let me be the  
9 witness.

10 The Witness. The rows go across the entry. The bagging  
11 would occur between the rows. And it would -- essentially  
12 what it would look like is a burlap bag of potatoes, hanging  
13 down -- you know, 50 to 100 bound bags of potatoes hanging  
14 down from the bolts -- from the roof, and it would push the  
15 mesh down, and it would probably be anywhere from possibly 6  
16 inches to a foot down off the roof. And the additional  
17 problem is, you wouldn't know what's above that because it  
18 hides any fractures or anything else that are occurring in a  
19 roof above the bagging and roping up slacking in the roof.

20 Mr. Findlay. So it is fair to say that this photo  
21 doesn't exhibit bagging.

22 The Witness. True.

23 Mr. Findlay. Okay. Okay. Maybe now we'll take a  
24 break, and we'll go off the record.

25 [Recess.]

1           Mr. Findlay. All right.

2                   BY MR. FINDLAY:

3           Q     Mr. Owens I just want to ask you a few sort of  
4 cleanup follow-up questions about the March bump, and then  
5 we'll move on. Looking at Exhibit 11, the photo, is this  
6 photo consistent with the bagging of top coal being the main  
7 problem at the mine at the time this photo was taken?

8           A     No.

9           Q     And can you tell from this photo what sorts of  
10 issues or problems might be going on at the mine in this time  
11 period?

12          A     From this photo, that there are no problems with  
13 the top. From this photo, it appears that the ribs, the  
14 vertical ribs of the pillars have fallen out into the entry.  
15 The entry is typically mined about 18 feet wide. The pillars  
16 should be fairly solid with hourglass or sloughing. And this  
17 pillar rib is shown to be at the angle of repose. The coal's  
18 piled up on the rib at the angle of repose. The boat on the  
19 far left side of the photograph that's next to the black  
20 area, that should be very close to the pillar rib, and it  
21 looks like there's another possibly 4 to 5 feet that the rib  
22 there is missing -- it's back from it. So the pillar has  
23 bounced out into the area, and there's some debris on the  
24 mine floor.

25          Q     And these issues and problems that you've

1 identified, are they consistent with what Laine Adair told  
2 you back in March of last year as being the problem?

3 A You can't see. This looks like a pillar that  
4 wasn't being mined. What Laine Adair told me was the pillar  
5 being mined is bouncing. And this appears not to be in an  
6 area where mining was being conducted.

7 Q Did anything Laine Adair told you in March of last  
8 year lead you to believe that the bounce or bumps that  
9 occurred in March were reportable events?

10 A No. There was no indication there was a reportable  
11 accident.

12 Q And has anything since that time led to you believe  
13 otherwise?

14 A That was why I sent that e-mail, trying to gain  
15 clarification from the information that we received that it  
16 may have knocked out ventilation stoppings; they may have had  
17 to shut down mining to get the equipment out. If that had  
18 stopped mining for an hour, then it was a reportable  
19 accident.

20 Q And in follow-up conversations with Mr. Adair, I  
21 guess in September, did anything he say then lead you to  
22 believe it was a reportable incident?

23 A No. Again, he stated then that when he was at the  
24 property, all the equipment and everything was out. So he  
25 didn't reference that they were forced to pull it out. He

1 did not reference that they were shut down. Essentially  
2 reiterated that they had decide to pull out of the area.

3 Q And has anything -- does this photo lead to you  
4 believe that the March bump or bumps should have been  
5 reported?

6 A I don't see anything in this photograph in and of  
7 itself that would make it a reportable accident.

8 Q You just can't tell one way or the other?

9 A I cannot tell one way or the other.

10 Q Okay. And I'll ask you to look at Exhibit 1, your  
11 handwritten notes again, and turn to the fourth page.

12 A I have them all mixed up here. Okay. Four. Okay.  
13 I'm on page four.

14 Q And towards the bottom, there appears to be an  
15 entry at 3:45 p.m., at 8/13/07. Do you recall making that  
16 entry?

17 A Yes. Marcus Smith of the Arlington staff called  
18 and wanted to know why the bounce in the north barrier wasn't  
19 reported. And I made notes that they traveled the bleeder  
20 entry to comply with the regulations. I had no information  
21 that the mining was disrupted for an hour.

22 Q And do you still believe that today? Or do you  
23 believe otherwise?

24 A I still don't have any information. I don't --

25 Q That's fine.

1           A     I don't have the information to make a decision.

2           Q     Regarding the March bump or bumps, did you ever  
3 speak to anybody at the Bureau of Land Management, BLM,  
4 regarding the incidents?

5           A     I'm trying to put a time frame in the reference.  
6 It is either October or November of 2007, I was at a tailgate  
7 entry bounce at Sufco mine in Salina, Utah. And I ran into  
8 two people from BLM. And we briefly discussed the issue  
9 there, and the person that wrote reports on that said some of  
10 his reports were misintended, that misrepresented what he  
11 intended, and he thought that part of it was taken out of  
12 context.

13          Q     Do you remember who that was at BLM?

14          A     Who was that? It was Steve Rigby and the person  
15 that wrote the reports. Oh, I can't think of his name right  
16 now.

17          Q     Could it have been Falk?

18          A     Yes, it was Mr. Falk.

19          Q     And when you say he told you that his reports were  
20 misrepresented, how so, if he told you?

21          A     He said, you know, he wrote for reports, and he  
22 didn't mean to make reference that BLM should be reviewing  
23 plans or improving plans. His intention is to go in and look  
24 at the reserves. And if a company wants to stop mining in an  
25 area, then he has to write a report if he thinks that their

1 justification not to mine an area is adequate. And he was  
2 essentially writing history reports to say that, oh, they are  
3 leaving this area and it's okay to do it, that they've had  
4 the bounces, and they've had conditions, and company's making  
5 a prudent decision.

6 Q Did anything he told you about what he knew of the  
7 March bounce call into question anything you thought you knew  
8 at the time?

9 A Not -- not really. Well, he stated he didn't go  
10 look at all the area. You know, they said they had danger  
11 tape up, and he didn't go past the danger tape.

12 Mr. Findlay. I will ask the court reporter to mark the  
13 next exhibit, 13.

14 [Owens Exhibit No. 13  
15 was marked for identification.]

16 BY MR. FINDLAY:

17 Q And Mr. Owens, I'll ask you to look at this  
18 document and tell me if you recognize it, if you've seen it  
19 before.

20 A Exhibit 13 is the -- a copy of the approval letter  
21 that allows Crandall Canyon to conduct retreat mining in the  
22 south barrier of the Main West.

23 Q And you saw this back in May and June when it was  
24 submitted?

25 A Yes.

1           Q     And it looks like it was received initially by MSHA  
2     May 17, and then the approval came on June 15.  If you know,  
3     what was the state of play with this in that month or so?

4           Mr. Paretti.  Objection.  Objection.  Form.  Can you be  
5     a little more specific?  I don't understand what you're  
6     asking.  I don't know if the witness does.

7           BY MR. FINDLAY:

8           Q     Well, from the time MSHA apparently received it on  
9     May 17, what happened with this document?

10          A     This document was submitted -- we received it on  
11     May 17, and again, being due diligence and ensuring that a  
12     good review of the plans are conducted in a prudent manner, I  
13     scheduled a visit to visit the Crandall Canyon mine to  
14     observe actual conditions in the south barrier.  And Gary  
15     Jensen and myself went to the mine.  I think it was on May  
16     22.  We looked at the mine.  The initial May 16 submittal had  
17     different pillar sizes than is in the approved amendment, and  
18     also the initial amendment showed them leaving only five  
19     pillars around the sump and the retreat development, and also  
20     I think it showed them extracting a barrier pillar in that  
21     area also.  The -- Mr. Jensen and I went to the mine.  The  
22     company is leaving longer pillars for the Agapito report,  
23     approximately 129 feet in length.  We went underground.  The  
24     reserve conditions in all the entries in the face, talked to  
25     the miners, talk to the bolder, asked them how the conditions

1        were. People were saying they were pretty good. The mine  
2        was experiencing some stress in the development area. As the  
3        miner went back out, the coal face area was already  
4        hourglassing. And there was some red dust along the rib roof  
5        interface that shows that there was high stress. So it was  
6        relieving or it was stressed as they were developing.  
7        However, the outby pillars looked like they were already  
8        relieved some. They were hourglassed, and they did not  
9        appear to be storing large amounts of energy. We completed  
10       the underground investigation. And then we had a discussion  
11       in the mine office. I think that was Mr. Gibbs, Mr. Adair,  
12       and Mr. Peacock, Mr. Jensen and myself. And that mine office  
13       is actually underground at the south Crandall mine there.  
14       And we led mine out in the -- I had them change their mining  
15       plan to leave in the area from crosscut. I think it's 139 to  
16       142, that they would not mine the barrier pillar there, and  
17       it would leave all eight of those pillars.

18            Q        Is that marked on the map on Bates stamp 378, that  
19        -- the interrupted line, I guess, there?

20            A        It's shown on the final page of the exhibit, the  
21        map, as eight pillars with a XM.

22            Q        Could you highlight those on your exhibit there?

23            A        Yes, I can. I am now highlighting the pillar one,  
24        two and three at crosscut 139, going inby, there's two  
25        pillars adjacent to the sump that would be in by crosscut

1 140. And now I'm doing the three pillars and by crosscut 141  
2 for a total of eight pillars. They all have an x in them.

3 The Agapito report stated they shouldn't leave pillars.  
4 But if they had taken the bottom three pillars, which are  
5 between crosscuts one and two, that would leave the pillar on  
6 this map. It shows a pillar number 14 to be the pillar  
7 directly out by that. That would be essentially surrounded  
8 by gob on two sides. And I felt like that that would be too  
9 much pressure on that. It would be sticking out into the  
10 gob. I told them that I felt that that pillar had a very  
11 high potential to bounce. And if that pillar bounced, it  
12 would probably lead to bouncing at other adjacent pillars.  
13 And then the worst thing in the world would be to have  
14 somebody in by that area and trapped them. I didn't know if  
15 we could get them, effect a rescue if somebody was in by  
16 there and trapped due to pillars out by bouncing. So that --  
17 they were required to provide for the people travelling to  
18 the back of that panel equal protection to those that --  
19 people had to travel that as outby. So, therefore, they  
20 needed to leave that additional row. And Utah America and  
21 GENWAL people, they agreed to do that.

22 Q You've mentioned a few times the Agapito report.  
23 You are talking about the April 18 Agapito report, which is  
24 Exhibit 10, I believe?

25 A Exhibit 10, yes.

1 Q Now the -- on May 22, when you and Mr. Jensen went  
2 to the mine, was that the first time you or anyone else from  
3 MSHA had been in the mine since you were there in January?

4 Mr. Paretti. Objection. Are you asking if he knows if  
5 anybody else from MSHA? You can ask him whether it is his,  
6 but with respect to anyone else from MSHA, I guess you're  
7 asking as if he knows.

8 Mr. Findlay. I will re-ask the question.

9 BY MR. FINDLAY:

10 Q Since you were in the mine -- was May 22 the first  
11 time you were in the mine since January of that year, of last  
12 year?

13 A Yes.

14 Q Okay. And so far as you know, had anyone else at  
15 MSHA been in the mine between January and May 22?

16 A Yes. People had -- MSHA personnel had been in the  
17 mine.

18 Q And do you know who they were?

19 A I think Mr. Jensen had been under ground.

20 Mr. Gunderson. The mine was still required to be inspected  
21 regularly. So regular inspections were still being conducted  
22 at Crandall Canyon mine.

23 Q And you know Mr. Jensen had been in the mine  
24 because he told you?

25 A He had been at the mine conducting a -- I'm trying

1 to think -- his collateral duties. He was working on a case  
2 with his collateral duties. He had been at the mine working  
3 on that.

4 Q And now --

5 A Special investigator. That's what it's called.

6 Q You said you had the meeting in their office. That  
7 was also the same day, May 22?

8 A Yes.

9 Q Did you -- I think you've said Agapito  
10 recommendations -- the April 18 Agapito recommendations were  
11 part of the proposal. Was there any discussion of the  
12 Agapito report, exhibit 10, at that meeting on May 22?

13 Q The discussions were on leaving the -- the  
14 development long pillars, which the mine had completed and  
15 had developed the longer pillars. And then part of it was to  
16 minimize the number of pillars left, and there was discussion  
17 that this was going against the Agapito report, and -- but I  
18 didn't -- Agapito was just looking at ground control issues.  
19 I also have to look at the safety, ventilation of people  
20 travelling from ventilation entries and things. Probably  
21 Agapito was not as much interested in what goes on and by the  
22 pillar line as I was as an enforcement official.

23

24

25

1        RPTS ██████████

2        DCMN ██████████

3        [2:40 p.m.]

4                    BY MR. FINDLAY:

5            Q        Was there any discussion about the sentences in the  
6        Agapito report discussing the March bump?

7            A        No. Mainly the discussions were all regarding  
8        recommendations.

9            Q        And then what happened with this May 16th proposal,  
10       received on May 17th, between May 22nd, once you got back and  
11       the time it was approved, apparently, on June 15th?

12           A        The company and I communicated, and then they  
13       submitted additional drawings. And instead of going through  
14       all of the logs and each drawing in, I just pulled out the  
15       pages that are unacceptable; put the new acceptable pages  
16       into the plan; and leave it with the same cover letter; and  
17       then we reviewed the plan and approved the plan.

18                    Things that are done in that manner. It's a  
19       conservation of resources.

20            Q        So what we have here in Exhibit 13 is the final,  
21       after your back and forth with them, this is the final  
22       version?

23            A        Yes. This was the -- the plan was approved on June  
24       15th.

25            Q        Do you know why Bill Denning signed this instead of

1 Al Davis?

2 A Yes. I signed the letter for the review and roof  
3 control supervisor. I think I signed the letter for Bill  
4 Knepp as acting assistant DM for technical service, and  
5 Mr. Denning was the acting district manager that day. And I  
6 went to Mr. Denning and told him that I had reviewed the  
7 plan; I had been on site, looked at it; I discussed it with a  
8 company that incorporated all of my recommendations; and that  
9 I wanted to go ahead and get the plan out in case they ran  
10 into problems so they could start retreat mining if they  
11 needed to as they did in the north.

12 Mr. Findlay. I'll ask the court reporter to mark this  
13 as 14.

14 [Owens Exhibit No. 14  
15 was marked for identification.]

16 BY MR. FINDLAY:

17 Q Ask you to take a look at this e-mail chain, and  
18 when you have had a chance, let me know whether you remember  
19 receiving and sending the various parts of this chain.

20 A I remember.

21 Q So is this the communications you were talking  
22 about going back and forth between you and the company?

23 A No. This is just the last communication when they  
24 were asking things, communications before where they actually  
25 sent in a revised map, AutoCAD map, that's approved. And so

1       this is just one of them. This day it happened to be an  
2       ass-kicking contest that I was in. Sometimes it's a  
3       one-armed paper hanger in a wind storm. And I typically  
4       communicate with many of the mine operators. We have  
5       numerous mines, surface and underground plans, and I'm  
6       responsible for setting the priorities for when those plans  
7       are reviewed. And with the limited resources I have, I have  
8       to try to do them in a manner that's most efficient, and  
9       sometimes things get delayed. And then the mine operators,  
10      they will try to keep asking about it. I received e-mails  
11      from lots of operators.

12           Q     So there was nothing unusual about this?

13           A     No.

14           Q     And there was nothing unusual about the delay? It  
15      was just the staffing issue?

16           A     Well, actually it was -- we did it pretty quickly.  
17      We were there May 22nd. They had to make changes in it.  
18      There was a holiday in there somewhere, I'm not sure what  
19      day, for Memorial Day. And so we did a reasonable review.

20           Q     So there really wasn't a delay at all?

21           A     Not much.

22           Q     Okay. I think you mentioned you received the maps  
23      in AutoCAD?

24           A     AutoCAD or PDF. I'm not sure.

25           Q     I think you mentioned Jensen had been in the mine

1 between January and May in his collateral duty as special  
2 investigator. Do you know what he was doing in that role?

3 A I'm not privy to that information.

4 Q Once you've had a chance to take a look at this,  
5 let me know if you recall receiving and reviewing this back  
6 in July of last year.

7 A I don't recall. I mean, it's sent to me so I must  
8 have received it, but I don't remember much about it.

9 Q So as far as you know, this plan was never  
10 approved?

11 A I don't recall reviewing this plan.

12 Q Just a couple more quick issues.

13 Now, moving forward in time to the rescue after the  
14 events on August 6th, do you recall any discussions or  
15 conversations you had with anybody about members of the media  
16 for photographers going into the mine during the rescue  
17 phase?

18 A The only discussion I had was there was a question  
19 regarding a photography plan. And on site, the people there  
20 had stated that Crandall Canyon mine had a photographer plan.  
21 And I'm also responsible for photography plans. And I was  
22 asked if I could locate that, and I could not locate a  
23 photography plan for the Crandall Canyon mine.

24 Q Can you remember when that conversation was? How  
25 far into it?

1 A No. I can't recall the exact date.

2 Q And that's the extent of any conversations you had  
3 about photographers down in the mine during the rescue?

4 A That is correct.

5 Mr. Findlay. Okay. Ask the reporter to mark  
6 Exhibit 16.

7 [Owens Exhibit No. 16  
8 was marked for identification.]

9 BY MR. FINDLAY:

10 Q And once you have had a chance to look at it, let  
11 me know whether you remember writing and sending this e-mail.

12 A Yes. This is to George Karabin, who retired from  
13 tech support.

14 Q Do you remember when he retired?

15 A It was January 2006, I believe. January 3rd.

16 Q Now you say, "I may be retiring sooner than I  
17 thought." What exactly did you mean by that?

18 A I started planning my retirement in February of  
19 2007. And initially, my plan was to work until March 3rd of  
20 2008, at which time I would be 59 and a half, essentially.  
21 My birthday is September 4th, so I would be 59 and a half,  
22 and I would have access to IRAs, TSP, all of that stuff, at  
23 the same time I would have access to my retirement.

24 So but then, looking at when you get your COLA in  
25 retirement, the longer you stay for the next COLA, you lose

1 1/12th of your COLA for each month. So then by retiring  
2 earlier, in January, I get 11/12ths, instead of 8/12ths of my  
3 retirement. So that's what I meant by I may be retiring  
4 sooner.

5 Mr. Mascolino. Is that an annual leave issue?

6 The Witness. At that time, when this was written,  
7 annual leave wasn't necessarily an issue because I planned on  
8 using my annual leave because September, October is a  
9 beautiful time to be on leave in Colorado. So I was going to  
10 get to take my annual leave. It didn't work out that way.

11 Mr. Mascolino. And the reason I ask the question -- I  
12 shouldn't have interrupted. But I'm retired myself, and you  
13 use or lose leave. But if you get past January 6th, the  
14 first pay period of the year, you are going to lose it. If  
15 you retire before that, they will pay you.

16 The Witness. And then the other thing is, because of  
17 the circumstances like these, where I'm being called out of  
18 retirement to come in and give depositions or whatever, the  
19 thought was well, maybe I should stay and be on the payroll  
20 if I have to respond to Crandall Canyon things.

21 And then the third sentence is, regardless of what I do,  
22 99 percent of the people in MSHA will say that I was forced  
23 into retirement because of Crandall Canyon.

24 BY MR. FINDLAY:

25 Q And did anyone at MSHA encourage you or encourage

1 you to retire?

2 A No. Just the opposite. I received encouragement  
3 to stay to assist in answering questions and also because  
4 District 9 is -- the staffing is low. They don't have an  
5 assistant ADM. The roof control group doesn't really have an  
6 experienced engineer in Denver at the present time. So we  
7 offset it. I was encouraged to postpone my retirement.

8 Q And who encouraged you?

9 A Allyn Davis, the district manager.

10 Mr. Findlay. Let's take a quick 5-minute break. Nobody  
11 go too far this time. Off the record.

12 [Recess.]

13 Mr. Findlay. Back on the record.

14 BY MR. FINDLAY:

15 Q I have just got a few odds and ends to go over, and  
16 then we will turn you over to the Republicans.

17 Now, you mentioned Gary Jensen played a collateral duty  
18 or had a collateral duty being a special investigator for  
19 MSHA. Did he ever tell you what he was doing in his special  
20 investigatory role? Was he precluded from telling you?

21 A Yes.

22 Mr. Mascolino. He had answered that question yes. I  
23 trained him well. That information is under lock and key.  
24 He is a special investigator. He should not be discussing  
25 that work with anybody.

1 BY MR. FINDLAY:

2 Q Even though he was your subordinate in that role,  
3 he didn't discuss anything with you?

4 A He could not discuss his special investigative  
5 duties with me. There was a senior investigator for special  
6 investigators, and that person assigns his special  
7 investigation duties. That person also is the person that  
8 Gary reported to regarding those cases.

9 Later on, in June, I think, Gary applied to become a  
10 full-time special investigator, and in June, he was  
11 transferred from roof control group to special  
12 investigations.

13 Q So it was after June of last year he was no longer  
14 your subordinate?

15 A Correct. In June of 2007, he became a special  
16 investigator.

17 Q And now going back to your mine visit on May 22nd  
18 of last year, were you able to, you and Mr. Jensen, were you  
19 able to go up to the north barrier pillars of West Main and  
20 take a look up there?

21 A No. I think it was sealed at that time.

22 Q Now, I think you mentioned in -- I don't remember  
23 the month -- some time in the fall of last year, you spoke  
24 with Mr. Falk, a BLM employee, about the report he wrote  
25 about the north barrier and West Main.

1           Was there any discussion at all between you and him  
2 about the severity of the March bump?

3           A     Just that he went in there to look at it and part  
4 of the area had dangered off, and he went to the danger tape,  
5 and he didn't go by the danger tape. We didn't discuss the  
6 extent or what he thought of the conditions.

7           Q     Did he tell you why he didn't go past the danger  
8 tape?

9           A     No one's allowed to go past the danger tape, when a  
10 company puts up the danger tape, that as a visitor to the  
11 mine or my employees. We, as an MSHA official, I would be  
12 able to go in by the danger tape to investigate conditions if  
13 I thought it was safe enough for me to go.

14           Company people, many times, may not accompany when I do  
15 that.

16           Q     Now, since you left MSHA, I guess on January 3rd --  
17 is that right?

18           A     Correct.

19           Q     What sorts of interactions, if any, have you had  
20 with MSHA folks?

21           Mr. Paretti. I'm going to ask the witness not to answer  
22 with respect to any interaction with the ongoing  
23 investigation team.

24           Mr. Findlay. What would the basis of that be? He's not  
25 certainly a part of the investigation team.

1           Mr. Paretti. But as we heard the other day, the  
2 deliberative process encompasses what the investigation has  
3 done. I know the Department is concerned about that. We  
4 don't want to compromise the investigation. So to preserve  
5 that privilege, I would instruct the witness not to answer  
6 with respect to information he shared with or received from  
7 MSHA during the length of the investigation.

8           Mr. Findlay. Ok, well, then, reserving the right to  
9 speak with, that objection being overruled, feel free to  
10 answer best you can.

11           The Witness. My only correspondence with MSHA has been  
12 regarding this deposition. And on Friday of this week, I  
13 will be providing information to a Senate committee, and I  
14 have made arrangements that that would be conducted over the  
15 phone at the MSHA facilities rather than my house. And I  
16 have talked about having MSHA DOL representation from the  
17 Solicitor's Office in that meeting as well.

18           BY MR. FINDLAY:

19           Q     And what did you discuss and with whom regarding  
20 this deposition?

21           A     I discussed this with Derrick Baxter from DOL  
22 Solicitor's Office. I exchanged and talked to Mr. Clair from  
23 the DOL district -- DOL MSHA Solicitor's Office.

24           Q     What did they tell you?

25           A     Mr. Clair said that, you know, did I want to come

1 to the deposition? They wanted to know how it was. Was it a  
2 subpoena or not? And I told them what the letters that you  
3 sent me stated. And Mr. Clair stated that I could have my  
4 personnel attorney and gave me that advice.

5 And Mr. Baxter stated, again, what is typically stated  
6 by MSHA Solicitor's Office: Tell the truth. Answer the  
7 questions best to your ability. If you are uncomfortable  
8 answering a question, then you have the right not to answer  
9 it for some reason. And he also stated that persons from the  
10 MSHA Solicitor's Office may not be able to accompany;  
11 although when I told you that Mr. Baxter would be with me,  
12 you said that would be fine.

13 And he advised me to get my own personnel attorney, too.  
14 And he talked to Mr. Mascolino, and I talked to  
15 Mr. Mascolino, and he agreed to come with me.

16 Mr. Findlay. Okay. We will turn him over to  
17 Mr. Paretti.

18 Mr. Paretti. No questions.

19 Mr. Findlay. That will conclude the deposition.

20 [Whereupon, at 3:10 p.m., the deposition was concluded.]  
21  
22  
23  
24  
25

## Certificate of Deponent/Interviewee

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I have read the foregoing 96 pages, which contain the  
BDO 3/14/08  
~~correct~~ transcript of the answers made by me to the questions  
therein recorded. My corrections to the transcript  
are included on the following two pages, 98 + 98(a).

Billy D. Owens  
BILLY D. OWENS

Witness Name

DATED: MARCH 14, 2008

## EDUCATION AND LABOR COMMITTEE

## DEPOSITION ERRATA SHEET

	Page	Line	Change <u>From</u> <u>To</u>	Reason
1				
2				
3				
4	<u>16</u>	<u>4</u>	<u>weight stems/waste dams</u>	<u>correct name of function</u>
5	<u>16</u>	<u>22</u>	<u>director/Directorate</u>	<u>correct title</u>
6	<u>35</u>	<u>11</u>	<u>wouldn't/ would</u>	<u>correct verb</u>
7	<u>38</u>	<u>14</u>	<u>service/ surface</u>	<u>correct noun</u>
8	<u>38</u>	<u>15</u>	<u>maintenance/ system</u>	<u>correct description of mining</u>
9	<u>44</u>	<u>16</u>	<u>Nelfia/ Knepp</u>	<u>correct name of person</u>
10	<u>46</u>	<u>17+18</u>	<u>tinstone/ sandstone</u>	<u>correct name of rock</u>
11	<u>49</u>	<u>10</u>	<u>across/and crosscuts</u>	<u>correct description</u>
12	<u>50</u>	<u>7</u>	<u>itself/ acceptance</u>	<u>correct verbiage</u>
13	<u>BDC 50</u>	<u>23</u>	<u>force form/ to floor</u>	<u>correct description</u>
14	<u>54</u>	<u>9</u>	<u>by / from</u>	<u>correct direction</u>
15	<u>54</u>	<u>11</u>	<u>Hal / Al</u>	<u>correct name of person</u>
16	<u>56</u>	<u>14</u>	<u>say / see</u>	<u>correct verb</u>
17	<u>59</u>	<u>2</u>	<u>and by / inby</u>	<u>correct word</u>
18	<u>59</u>	<u>23</u>	<u>boats / bolts</u>	<u>correct noun</u>
19	<u>60</u>	<u>1</u>	<u>crawl / brow</u>	<u>correct noun</u>
20	<u>67</u>	<u>4</u>	<u>slaughting / slabbing</u>	<u>correct word</u>
21	<u>75</u>	<u>19</u>	<u>roping / holding</u>	<u>correct word</u>
22	<u>76</u>	<u>18</u>	<u>boat / bolt</u>	<u>correct noun</u>
23	<u>81</u>	<u>23</u>	<u>The / To</u>	<u>correct preposition</u>
24	<u>81</u>	<u>24</u>	<u>reserve / observe</u>	<u>correct verb</u>
25	<u>82</u>	<u>11</u>	<u>Gibbs / Hibbs</u>	<u>correct name of person</u>

## EDUCATION AND LABOR COMMITTEE

## DEPOSITION ERRATA SHEET

	Page	Line	Change	Reason
4	<u>82</u>	<u>14</u>	<u>led / met in</u>	<u>location correction</u>
5	<u>82</u>	<u>21</u>	<u>X.M. / X in them</u>	<u>correct description</u>
6	<u>83</u>	<u>5</u>	<u>crosscuts / entries</u>	<u><sup>B2C</sup> correct map description</u>
7	<u>86</u>	<u>14</u>	<u>logs and / logging</u>	<u>correct description</u>
8	---	---	---	---
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CERTIFICATE OF COURT REPORTER

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UNITED STATES OF AMERICA)  
DISTRICT OF COLUMBIA)

I, [REDACTED], Official Reporter, U.S. House of Representatives and Notary Public in the District of Columbia, certify that the witness appeared before me; that the witness was duly sworn; that I was authorized to and did stenographically report the proceedings in the above transcript; and that the transcript is a true and complete record of my stenographic notes.

I further certify that I am not a relative, employee, attorney or counsel of any of the parties, nor am I a relative or employee of any of the parties' attorneys or counsel connected with the action to my knowledge, nor am I financially interested in the action.

[REDACTED SIGNATURE]

Notary Public in and for the District of Columbia

My commission expires: [REDACTED]

3:55 pm - AL DAVIS - timeline + ventilation

8/16/07 - Conf call Kevin Strickland AL DAVIS  
11:30 am Bill Crocco

- A letter to company on recommendations

- A letter to Tech Support

- A memo to Administrator asking for  
guidance on Aberdeen ground control

BILL CROCCO -

8/17/07 ~~CONF~~ JANE TARR - HQs

PAULINE point for EAP CONTACT

EAP - DANIELLE 39866

Today or Tomorrow

ALTERNATE SIGHT NEAR HUNTINGTON  
CHECK ENERGY WEST

MONICA

8/27/2007 KNEED 10:30 AM  
INFORMATION FOR ALL HDQs REQUESTS

CONF. CALL - KENNEDY, MILLER + IG REQUEST

1:00 pm

MILLER IS EARLIEST TO RESPOND TO  
ITEMS 1 + 5 first, 2-4 second

Creating an w/ SPEC PROS / OVERSIGHT  
INFO ON HOW TO NAME FILES

EXHIBIT

1

K1-8 000001

Pressure - up to 400 psi typically lower for ANFO  
which is in the 100 psi range  
usually not an issue

Bigger problem is heat built up in  
system from dry pumping, may cause  
explosion of material. } Serious issue

01/04/07

[REDACTED]

LAINÉ ADAIR - CRANDALL CANYON will  
visit mine @ 8:00 on 01/09

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

4

[REDACTED]

[REDACTED]

3/5/07

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

3/12/07

CANDALL CANYON - LAINE ADAIR

(2:00 approx)

@ 2000' feet pillar started bouncing  
2' of rock coming down - triggered  
single entry look ed good back

Sunday morning more bouncing and  
single to back pretty well  
beaten up.

Crew decided too much bouncing  
during mining of pillar

08/07/2007 - 1:45 pm

$$6 \times 300 = 1800'$$

$$2400'$$

$$2.5 \times 300$$

$$750$$

$$750$$

$$1650$$

Ready to start at XC 120

Clear No 4 entry - set a row of square sets along side the new opening

Melinda Pon - See Questions on yellow sheet + correction on Preliminary accident form  
5:15 pm

8/8/2007 Melinda Pon - Questions regarding retreat mining. How many Bob Murray mines are pillar mining.

Question on LID - FAVED LID TO MELINDA

8/13/07 AL DAVIS - Develop time-line on plan approval process for Crowder Canyon.

2:45 pm AL DAVIS - 40' mining cut in barrier check on distances and size of barriers on both sides of the retreat panel

3:45 pm MARCUS SMITH - Was the bounce in the North Barrier a reportable accident? If so why did we not cite them for not reporting? Disruption of mining only thing is that mine stated could not travel bleeder entry.

Responded to MARCUS @ 5:15 PM

Mine travel bleeder entry to comply

8/6/07 LAURE ADAIR - 120 XC FAB  
Need to go 2600 feet to XC 139  
MINE Rescue teams go as far as  
passable

- 8/6/07 MSHA HDOS - Strickland, Strickler, Friend, Bentley
- Need to check on Breathable air [status]
  - Need to check on 2 SCPS per person
  - BACKGROUND on who was in mine  
and what they were doing
  - Battle samples of fan
  - SCAN vent + root control plans to Hags
  - Keep update Hags hourly

10:10 AM  
TAYLOR } Barry Grosley - Gary Christensen - Randy Gundersen  
to XC 126 16-172 O<sub>2</sub>  
42 ppm CO  
Balt entry water line broken compressed  
air

Dear Creek - 48 hrs to drill on mountain  
REI may do horizontal drilling  
HAPPE

ELECTRICIAN Tim ~~HAPP~~ @ XC 35 3<sup>RD</sup> NORTH talked to section  
C. MINER was MINER was mining into barrier @  
XC # 139 2:00 AM

JAMISON WARD was on section → @ 2:50 AM @  
@ XC 107

11:10 AM Bill TAYLOR - BEACH 2 seals MAIN WEST + Explore  
with Mine Rescue Teams

SENDING PERS

7:15

9/2/2006 Meeting with Laine Adair in District 9 offices

Laine proposed pillar mining in the barriers of Main West ~~mining~~. Laine presented a report to of the preliminary analyses to the District. The analysis was conducted by Agapita Associates, INC.

Documents Email from Leo Gilbride to <sup>Agapita Associates</sup> Laine Adair 08/2/2006

The plan affords the contingency to leave occasional pillar for protection during retreat mining if conditions warrant, thus providing additional control of the geotechnical risks.

Back calculated the stability factor from 1st North left block to be acceptable at 0.37. The stability factor for Main West barrier under 2000 feet of overburden was calculated to be 0.53. This provides a safety factor of 1.43 times the acceptable stability factor.

for the Ground Control Mine

DRIFT REPORT July 20, 2006 Main West Barrier Mining by AGAPITA ASSOCIATES, INC.

Barrier panels - stress conditions controlled by death and not by side abutment loads (see notes)  
6 bolts per row - entries 18 feet wide - systematic bolting - end mining to roof rock expected to improve stability

Coal in situ strength estimated to be 1640 psi this is conservative for hammer beam

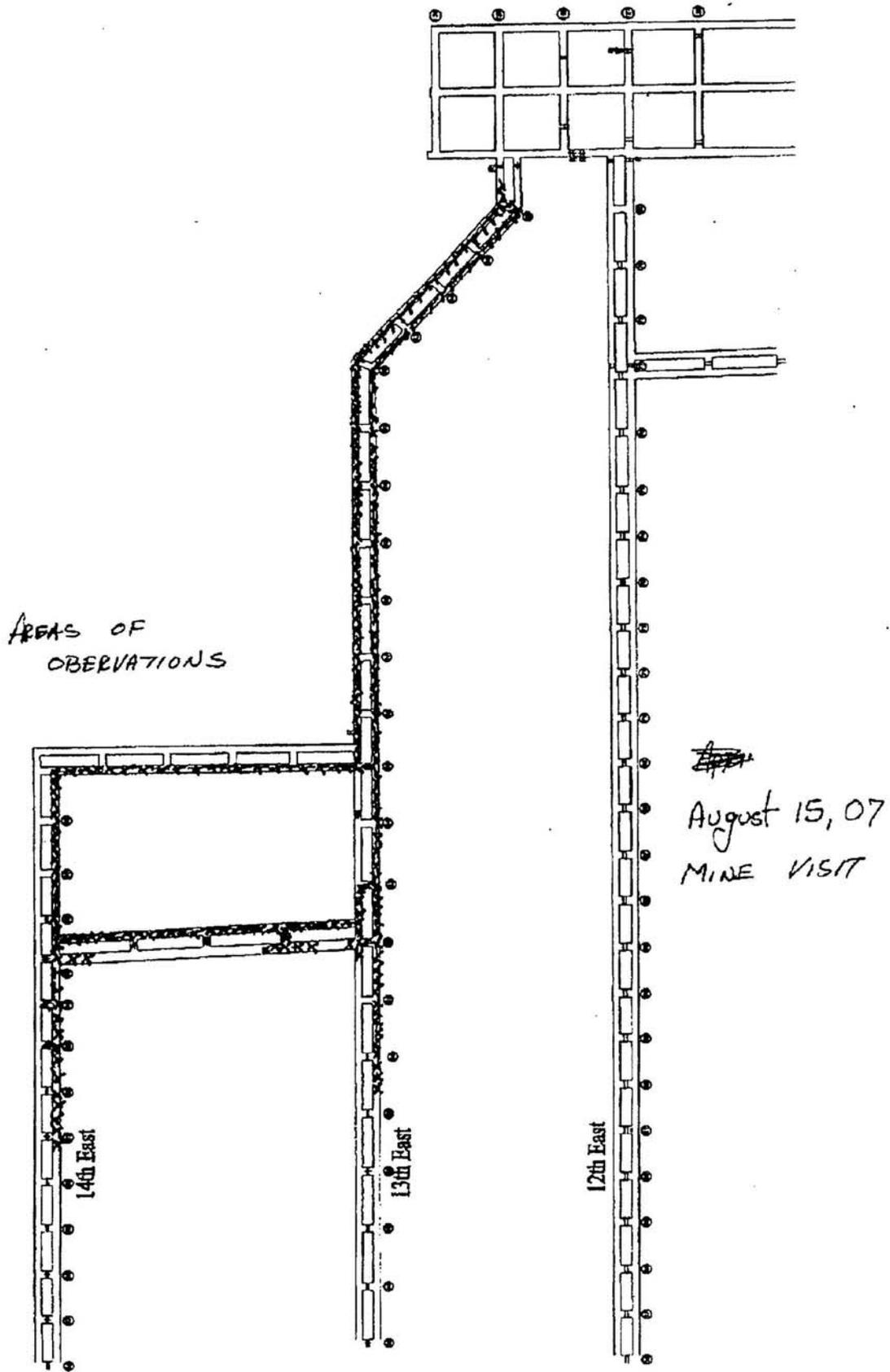
CONT.

9<sup>th</sup> Left panel off 1<sup>st</sup> North employed  
 to adjust model to CRAWDAW conditions  
 Panel employed center entry 22 to 23 wide  
 for continuous haulage system  
 5-foot long bolts with 5 bolts per row  
 The leaving of top coal may have contributed  
 to having to leave pillars during retreat  
 mining

9<sup>th</sup> <sup>left</sup> model shows remnant pillar between two  
 gobs yield with considerable vertical displacement  
 Remnant pillars in gob next to barrier do not  
 yield to fill

7<sup>th</sup> left  
 + 6<sup>th</sup> left

Now west model employed 20-foot wide rooms  
 instead of 16-foot wide as mined  
 9th pillar 60 x 70 instead of 62 x 72  
 This is conservative approach because of 5-foot  
 element size in ~~the~~ model.



AREAS OF  
OBSERVATIONS

~~APR~~  
August 15, 07  
MINE VISIT

14th East

13th East

12th East

4/10/07 LAINE ADAIR Jim POOLSON Aberdeen Maine

Date 8/15/07

Stoppings are  
built 4 feet from  
belt and 24 feet  
from intake. where  
power center is  
located stopping is  
built out into belt  
entire  
measurement @ 63' x

Inspector's Initials BDO  
Supervisor's Initials and Date \_\_\_\_\_ Page No. \_\_\_\_\_

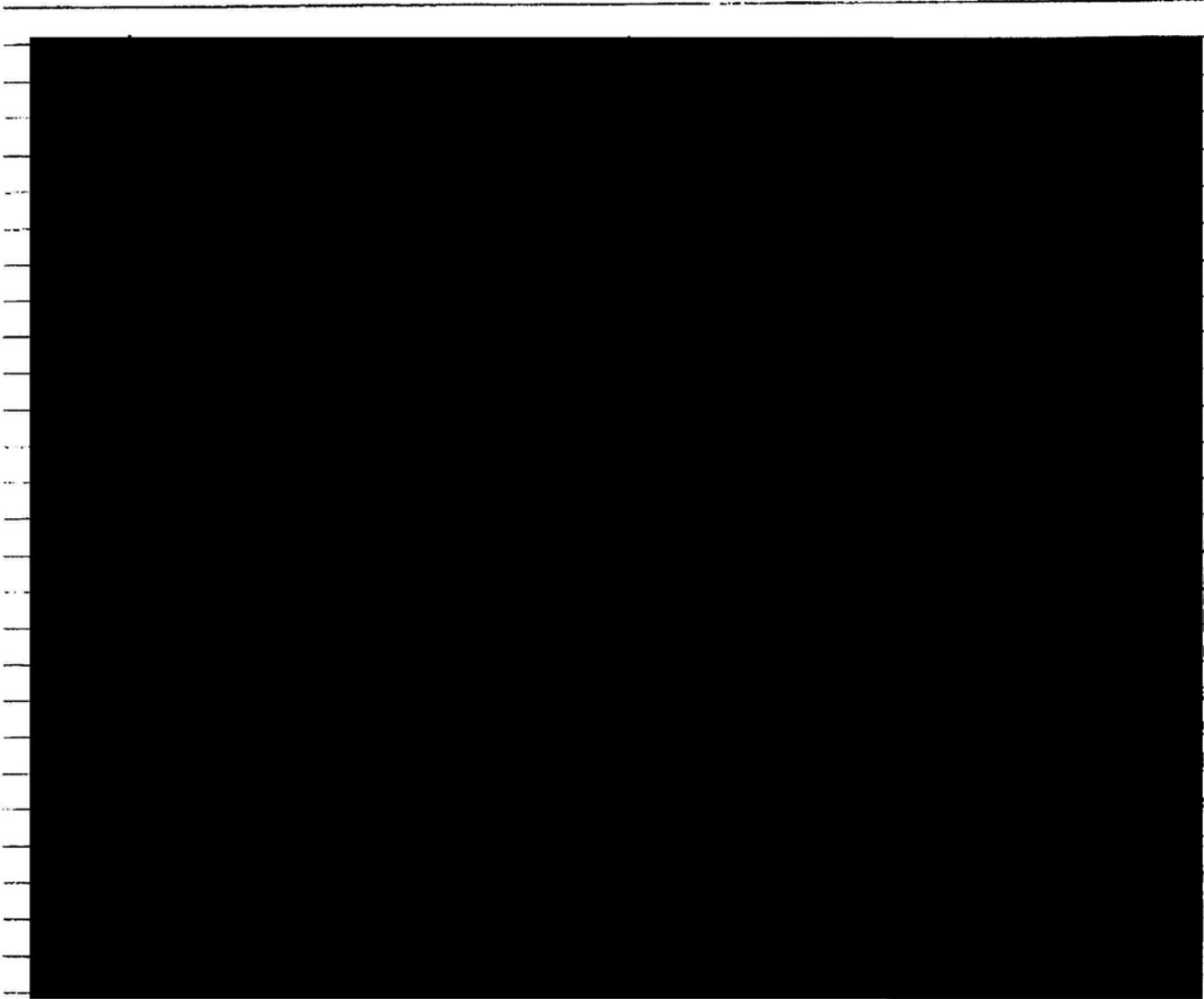
Date 8/15/07

EZO 4474445  
Shield 107 -  
Bounce guard - 3 balls  
on each side in top  
one ball in bottom  
very end-rigid.

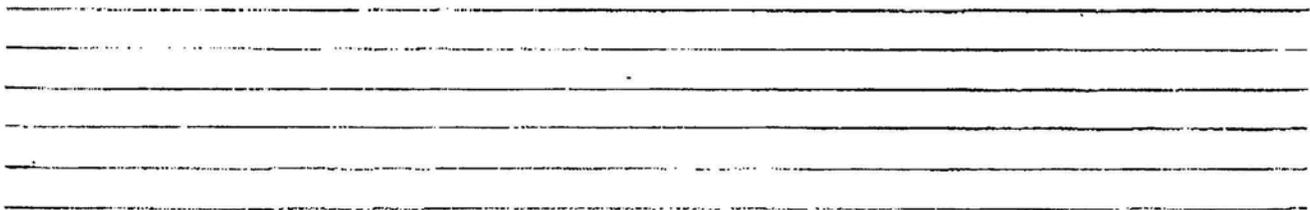
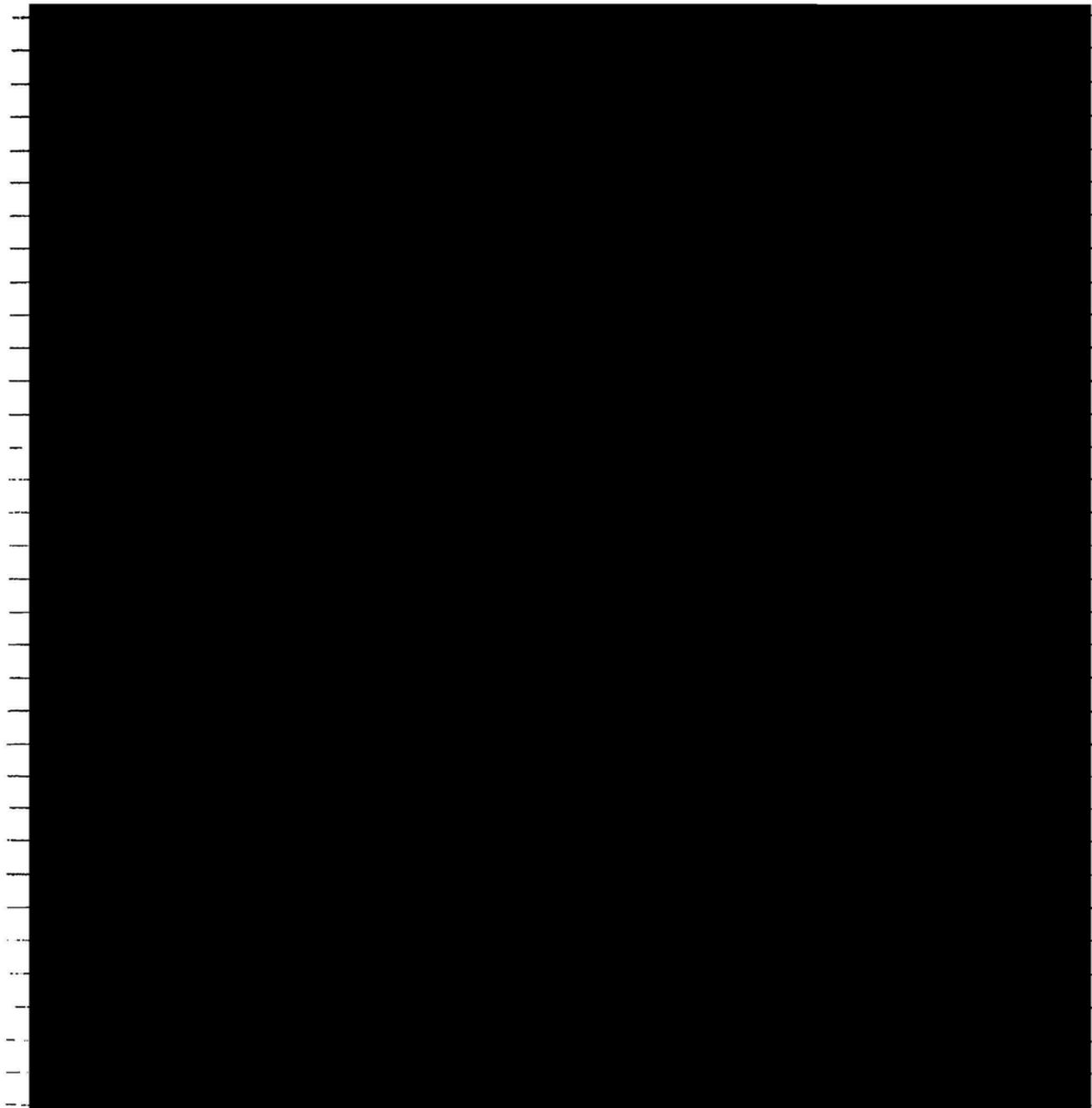
Belt hangers being  
installed on each  
shield

Controller unit is  
≈ 170 out by the  
coal face. This  
increases the travel  
way on width  
coming off low face.

Inspector's Initials BDO  
Supervisor's Initials and Date \_\_\_\_\_ Page No. \_\_\_\_\_



Below the redaction, the page contains several horizontal lines, suggesting a list or a table structure. The lines are evenly spaced and extend across the width of the page. There are approximately 12 lines visible, but they are currently empty.



(USGS PROJECTED)

JOE'S VALLEY FAULT



USGS-10

FEDERAL LEASE U-11-68982

DH-6

Burn (Doeling)

EM-179

**VENTILATION MAP**

**Legend**

- OVERCAST
- OVERCAST w/ WINDROCK
- FLUKE/CONCRETE EXTRACTED
- REINFORCED CONCRETE
- CO SENSOR
- CH4 SENSOR
- PROJECTED OVERCAST
- POSTED W/ WINDROCK
- VENTILATION FAN
- RESPONSE SEAL
- ROCK STOPPAGE
- CONCRETE TRANSFER POINT
- RETURN/EXHAUST AIR
- PRIMAR ESCAPEWAY
- PROBABLE COLLAR
- STOPPAGE/CROSS-CUT NUMBER
- OVERCAST
- OVERCAST w/ WINDROCK
- FLUKE/CONCRETE EXTRACTED
- REINFORCED CONCRETE
- CO SENSOR
- CH4 SENSOR
- PROJECTED OVERCAST
- POSTED W/ WINDROCK
- VENTILATION FAN
- RESPONSE SEAL
- ROCK STOPPAGE
- CONCRETE TRANSFER POINT
- RETURN/EXHAUST AIR
- PRIMAR ESCAPEWAY
- PROBABLE COLLAR
- STOPPAGE/CROSS-CUT NUMBER

**SEAL INFORMATION:**

**FAN INFORMATION:**

**NOTES:**

**EVALUATION POINT LOCATIONS:**

**SEAL INSTALLATION:**

**USGS-10**

**UtahAmerican Energy, Inc.**

**Candell Canyon Mines**

**Homelife Seam**

**PROJECT U-11-68982**

**MSHA ID #42-0175**

**JUNE 2007**

**PLATE #1 of 1**



715 HORIZON DRIVE  
SUITE 340  
GRAND JUNCTION, CO 81506  
USA  
VOICE 970 242.4220  
www.agapito.com

2006  
7/20/06

July 20, 2006

226-20

Mr. Laine Adair  
Andalex Resources, Inc.  
195 North 100 West  
Huntington, UT 84520

Re: **DRAFT—GENWAL Crandall Canyon Mine Main West Barrier Mining Evaluation**

Dear Laine,

Agapito Associates, Inc. (AAI), has completed the geotechnical analysis of GENWAL Resources, Inc.'s (GENWAL) plan for room-and-pillar mining in the Main West barriers at the Crandall Canyon Mine (Figure 1). Current plans include developing four entries in the barriers north and south of the existing mains in the area west of the 1<sup>st</sup> Right/2<sup>nd</sup> North submains under cover ranging from about 1,300 ft to 2,200 ft. Barrier mining is also planned to the east between the 1<sup>st</sup> Right/2<sup>nd</sup> North and 1<sup>st</sup> North submains under generally shallower cover. Figure 1 shows the existing mine in green and planned mining in black. The objective of the analysis was to evaluate the potential for high-stress conditions caused by a combination of deep cover and side-abutment loads from the adjacent longwall gobs, and any load transferred onto the barriers from the existing pillars in Main West. Findings of the analysis and implications for pillar design and ground control are discussed.

## CONCLUSIONS

Conclusions are that the proposed Main West 4-entry layout with 60-ft by 72-ft (rib-to-rib) pillars should function adequately for short-term mining in the barriers (i.e., less than 1 year duty). Model results indicate that planned mining in the barriers will avoid the majority of the side-abutment stress transferred from the adjacent longwall panel gobs. Stress conditions are expected to be controlled by the depth of cover and not by abutment loads.

The proposed 60-ft by 72-ft pillars are not intended for long-term performance and, therefore, can accept a reduced design safety margin compared to typical life-of-mine mains pillars. Analytical results indicate that the proposed pillars result in only incrementally more geotechnical risk than associated with the historical pillars in Main West. The historical 70-ft by 72-ft pillars in Main West have performed adequately for many years longer than will be required for mining the barriers. Because rib yielding and roof sag are time-dependent effects, it is probable that mining will be completed in the barriers before rib and roof conditions show

EXHIBIT

3

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advanced deterioration. The modern mining practices of GENWAL, including systematic bolting rapidly after excavation, bolting with 6 bolts per row, tight geometric control, mining with narrow entries (18 ft wide), and mining to rock instead of leaving top coal, should make this a workable design and limit geotechnical risk to an acceptable level. Increasing crosscut spacing is not expected to significantly improve ground control.

## ANALYSIS

Ground conditions were simulated using the NIOSH displacement discontinuity code, LAMODEL.<sup>1</sup> The approach involved two stages of modeling, first, simulation of historical mining in the 1<sup>st</sup> North Left block of room-and-pillar panels and, second, simulation of future conditions in Main West. The historical and future mining areas modeled are highlighted in Figure 1. The models were used to calculate three parameters: (1) in-seam vertical stress, (2) roof-to-floor convergence, and (3) pillar (coal) yielding. These parameters provide the principal quantitative basis for comparing historical and future conditions.

Both models (historical and future mining areas) incorporated the mining geometry, sequence of mining, and variable depth of cover. To provide realistic pillar behavior, a high-resolution model was created using 5-ft-square elements. Coal strength was specified for eight levels of increasing confinement based upon depth into the rib, ranging from 2.5 to 37.5 ft.

In LAMODEL, the "method of slices" is applied to approximate the load bearing capacity of the pillars. This method assumes that the strength of any pillar element is a function of its distance from the nearest pillar rib and element size by:

$$\sigma_v = S_i[0.71 + 1.74(x/h)] \quad (\text{Eqn. 1})$$

where  $\sigma_v$  = Confined coal strength  
 $S_i$  = In situ rock mass unconfined strength  
 $x$  = Distance from the nearest pillar rib  
 $h$  = Pillar height

Peak strain in each element is calculated by:

$$\varepsilon_v = \sigma_v / E \quad (\text{Eqn. 2})$$

where  $\varepsilon_v$  = Peak strain  
 $E$  = Coal elastic modulus

Upon yielding, the residual stress and residual strain within a pillar element are calculated by:

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<sup>1</sup> Heasley, K.A. (1998). *Numerical Modeling of Coal Mines with a Laminated Displacement-Discontinuity Code*. Ph.D. Thesis, Colorado School of Mines, 187 p.

$$\sigma_r = 0.2254 \times \ln(x) \times \sigma_v \quad (\text{Eqn. 3})$$

and

$$\varepsilon_r = 4 \times \varepsilon_v \quad (\text{Eqn. 4})$$

where  $\sigma_r$  = Residual stress  
 $\varepsilon_r$  = Residual strain

The in situ unconfined coal strength and elastic modulus are estimated to be 1,640 psi, and  $0.5 \times 10^6$  psi, respectively, for a 5-square-ft element. An average 8-ft pillar height, representative of actual and planned mining, was used in all models. The eight levels of confined coal strength and corresponding strain for a typical pillar, using Equations 1 through 4, are listed in Table 1.

**Table 1. LAMODEL Confined Coal Strength**

Confined Coal Distance into Rib (ft)	Confined Strength (psi)	Peak Strain	Residual Strength (psi)	Residual Strain
2.5	2,059	0.004	425	0.017
7.5	3,845	0.008	1,746	0.032
12.5	5,631	0.012	3,206	0.047
17.5	7,417	0.016	4,785	0.062
22.5	9,203	0.019	6,459	0.077
27.5	10,989	0.023	8,209	0.092
32.5	12,775	0.027	10,025	0.107
37.5	14,562	0.031	11,896	0.122

Other model properties are summarized in Table 2 and are based principally on previous modeling studies for the Crandall Canyon Mine.<sup>2,3,4,5</sup>

### 1<sup>st</sup> North Left Panels Back-Analysis

The historical mining area is relevant for calibrating the model for predicting future conditions in Main West because of (1) similar geologic conditions to that in Main West,

<sup>2</sup> Agapito Associates, Inc. (1995), "Technical Review of Longwall Feasibility," prepared for GENWAL Resources, Inc., November.

<sup>3</sup> Agapito Associates, Inc. (2000), "Barrier Pillar to Protect Bleeder for Panel 15, South of West Mains," prepared for GENWAL Resources, Inc., May 5.

<sup>4</sup> Agapito Associates, Inc. (1997), "Panel 6th Right Experiment Back Analysis and Model Calibration," prepared for GENWAL Resources, Inc., November 20.

<sup>5</sup> Agapito Associates, Inc. (2004), "GENWAL South Crandall Canyon Mine Gateroad Alternatives Geotechnical Study," prepared for GENWAL Resources, Inc., December 17.

**Table 2. Input Parameters for LAMODEL**

<b>Overburden</b>	
Deformation Modulus of Roof Rock (psi)	2,000,000
Poisson's Ratio of Overburden	0.25
Lamination Thickness of Overburden (ft)	25
Unit Weight of Overburden (pcf)	158
<b>Coal</b>	
Elastic Modulus of Coal (psi)	470,000
Poisson's Ratio of Coal	0.34
<b>Strain Hardening Gob</b>	
Initial Modulus (psi)	100
Final Modulus (psi)	76,000
Final Stress (psi)	4,000
Gob Height Factor	1
Poisson's Ratio of Gob	0.25

(2) significant depth of cover (up to 1,800 ft), and (3) similar mine geometry. The historical model area includes a barrier separating the mains from gob in the 9<sup>th</sup> Left panel at depths reaching 1,800 ft, which represents the same type of high-stress, side-abutment load transfer onto a barrier mechanism anticipated in Main West.

The 1<sup>st</sup> North Left model describes an area where room-and-pillar panels were retreated under relatively deep cover during the late 1990s. Ground conditions are reported to have been good during primary mining even with side-abutment loading from adjacent gob. Occasional pillars were left behind during retreat because of locally difficult ground conditions, mainly related to peeling top coal. This was compounded by large center-entry roof spans (reaching 22 to 23 ft) mined to accommodate the continuous haulage system in use at that time. Also, short 5-ft bolts and only 5 bolts per row were used in the panels, which is considered substandard for retreat mining compared to the mine's current practice. Conclusions are that, while retreat mining was overall successful, ground conditions could have been improved by mining the top coal. It is believed that this would have eliminated the need for leaving pillars in some locations.

Main West was recently mined northward into the barrier separating the mains from Panel 9<sup>th</sup> Left—1<sup>st</sup> North, leaving a 145-ft to 170-ft-wide barrier at a depth of about 1,600 to 1,800 ft. Ground conditions in the new entries are reported to be very good with no obvious effects of side-abutment load override across the barrier. Good conditions are also attributed to better mining practices than used in the historical panels to the north, including mining the top coal (rock roof), narrower entries (nominally 18-ft wide), and better roof bolting (6 bolts per row).

Modeling results presented in Figures 2 through 10 show vertical stress, coal yielding, and convergence for three stages of mining in Panel 9<sup>th</sup> Left, (1) when the panel was fully mined on the advance, and after the panel was (2) partly and then (3) fully retreated.

Figures 2, 3, and 4 show vertical stress, yielding, and seam convergence, respectively, during the first stage. Almost all remnant pillars in the north panels are shown to be fully yielded. The stresses in the centers of these pillars exceeded 10,000 psi, resulting in convergence greater than 2.0 inches. Pillars in Panel 9<sup>th</sup> Left show limited rib yielding. Seam convergence in the panel is computed by the model to be less than 1.6 inches and average vertical stresses within the pillars around 3,000 psi, reflecting an increase of about 800 psi above in situ stress levels.

At the second mining stage, pillars next to the gob at the retreat line are shown to be yielded (Figure 6) and converged more than 2.0 inches (Figure 7) in response to abutment stresses. Based on the experience in the panel with peeling top coal, 2.0 inches of convergence is considered an indicator of potential roof and rib instability in the model.

The third stage of mining in Figures 8, 9, and 10 shows 9<sup>th</sup> Left fully retreated and Main West mined into the barrier per the current geometry. The results show no significant side-abutment stress override across the barrier on to the mains pillars, consistent with actual conditions. Pillar rib yielding is shown to be minimal and roof convergence less than 1.0 inch in the vicinity of the barrier. This behavior is considered an indicator in the model of good ground conditions.

### **Main West Barrier Mining Predictive Model**

Future mining in the north barrier of Main West was simulated using the same model properties from the back-analysis model. The Main West model was adjusted to include the actual depth of cover which ranges from about 1,600 to 2,200 ft. The area encompassed by the model is considered representative of the range of conditions expected throughout Main West, including planned mining in the barrier south of the mains.

Results of the model are shown in Figures 11 through 19. Mining was simulated in three stages: (1) current conditions before any new mining (Figures 11 through 13), (2) early during planned mining with development part way into the barrier (Figures 14 through 16), and (3) after the barrier is fully mined (Figures 17 through 19). Planned mining includes 18-ft-wide rooms with 60 ft by 72 ft (rib-to-rib) pillars. These dimensions were rounded to 20 ft and 60 ft by 70 ft, respectively, in the model because of the 5-ft element size. Notably, the models show mining into the existing Main West entries. This may or may not be the final design. This is a conservative assumption useful for analyzing the highest pillar loading.

For the current geometry, the model shows side-abutment stresses reaching as high as 30,000 psi in the northern interior of the existing 450-ft-wide barrier. Figure 20 shows two stress profiles (A-A') through the barrier, one for the current geometry (magenta) and a second with planned mining in the barrier (blue). The location of Profile A-A' is shown in Figure 14. For the current geometry, stress levels taper to near pre-mining (in situ) stress levels approximately 100 ft into the barrier, indicating that the proposed 130-ft-wide barrier will limit exposure of the

planned entries and pillars to most of the abutment. Mining conditions are expected to reflect stress levels normally associated with development mining away from abutment stresses. Stress levels are expected to be controlled by the depth of cover, and not side-abutment stresses. This is consistent with the recent experience mining across the barrier from Panel 9<sup>th</sup> Left.

The proposed 60-ft by 72-ft (rib-to-rib) mains pillars are predicted to be about 7% weaker on average than the existing 70-ft by 72-ft pillars in Main West. This is based on five widely recognized empirical pillar strength formulas which show anywhere from a 1% to 12% drop in pillar strength with the 10 ft narrower pillar. Pillar strengths predicted by the various methods are summarized in Table 3.

**Table 3. Reduction in Pillar Strength Based on Empirical Design Formulas**

Empirical Formula	Pillar Design Strength		Existing to Planned Pillar Strength Change	
	Existing 70-ft × 72 ft Pillars	Planned 60-ft × 72-ft Pillars		
<b>1,600 ft Deep</b>				
Wilson Method	4,960 psi	4,800 psi	-160 psi	-3%
Abel Method	5,740 psi	5,690 psi	-50 psi	-1%
Bieniawski Method	3,910 psi	3,450 psi	-460 psi	-12%
ALPS-Bieniawski Method	3,410 psi	3,010 psi	-400 psi	-12%
Holland Method	3,060 psi	2,830 psi	-230 psi	-8%
			<b>Average</b>	<b>-7%</b>
<b>2,200 ft Deep</b>				
Wilson Method	6,730 psi	6,510 psi	-220 psi	-3%
Abel Method	7,370 psi	7,290 psi	-80 psi	-1%
Bieniawski Method	3,910 psi	3,450 psi	-460 psi	-12%
ALPS-Bieniawski Method	3,410 psi	3,010 psi	-400 psi	-12%
Holland Method	3,060 psi	2,830 psi	-230 psi	-8%
			<b>Average</b>	<b>-7%</b>

This reduced strength translates to slightly increased rib yielding (sloughage) and increased roof convergence. Figure 18 shows rib yielding predicted by the model. In the figure, rib yielding is limited to the corners of the existing 70-ft by 72-ft pillars (bottom two rows of pillars). In the proposed smaller pillars (top four rows of pillars), yielding occurs in the skin all the way around the pillar. However, the pillar cores are shown to remain competent in all locations, indicating acceptable pillar performance.

Figure 19 shows predicted roof convergence. Figure 21 compares centerline convergence along an entry in the existing mains (Profile B-B') with an entry central to the new mining (Profile C-C'). Profile locations are shown in Figure 19. The figures show that the proposed smaller pillars result in up to a 0.15 inch increase in roof convergence in the intersections, or about a 15% increase, compared to historical conditions in Main West. This reflects the increased rib yielding around the smaller pillars.

Mr. Laine Adair  
July 20, 2006  
Page 7

Based on modeled convergence, ground conditions are expected to be heavier compared to conditions in the mains across from Panel 9<sup>th</sup> Left, and only slightly heavier than conditions in the existing Main West entries. This suggests there will be an increased reliance on roof support, particularly under the deeper cover (>1,800 ft). However, convergence is far below the 2.0-inch level associated with roof and rib instability established by the back-analysis model.

The existing 70-ft by 72-ft pillars in Main West have performed reliably over the long-term (several years) and are considered a successful design, including under the deepest 2,200-ft cover. Some deterioration has occurred locally in Main West. This is attributed to the same historical mining practices responsible for poor roof conditions in the 1<sup>st</sup> North panel, namely, leaving variable top coal, mining extra wide entries to accommodate the continuous haulage system, using short bolts, and only bolting with 5 bolts per row. Also, where angled crosscuts were mined, disintegration of the sharp pillar corners produced spans 10 to 20 ft wider than normal. In spite of some localized time-dependent roof falls, the 70-ft by 72-ft pillar design has demonstrated its success for ensuring long-term stability when properly mined. Given the reliability of the existing mains pillars and the results of modeling, the narrower 60-ft by 72-ft pillars are not expected to substantially increase geotechnical risk for short-term mining.

Model results indicate that increasing crosscut spacing does not significantly improve conditions. Figures 22 through 24 show stress, yielding, and convergence for a 60-ft by 80-ft pillar, representing about a 20-ft increase in pillar length (between crosscuts) over the proposed design. The increased length only incrementally reduces rib yielding, corresponding to a modest decrease in entry convergence of about 2% to 4%, as shown by comparison of convergence profiles in Figure 21.

Please contact me to discuss these results, at your convenience, or if you have any questions.

Sincerely,

  
Leo Gilbride  
Principal  


LG/smvf  
Attachments(24): Figures 1-24

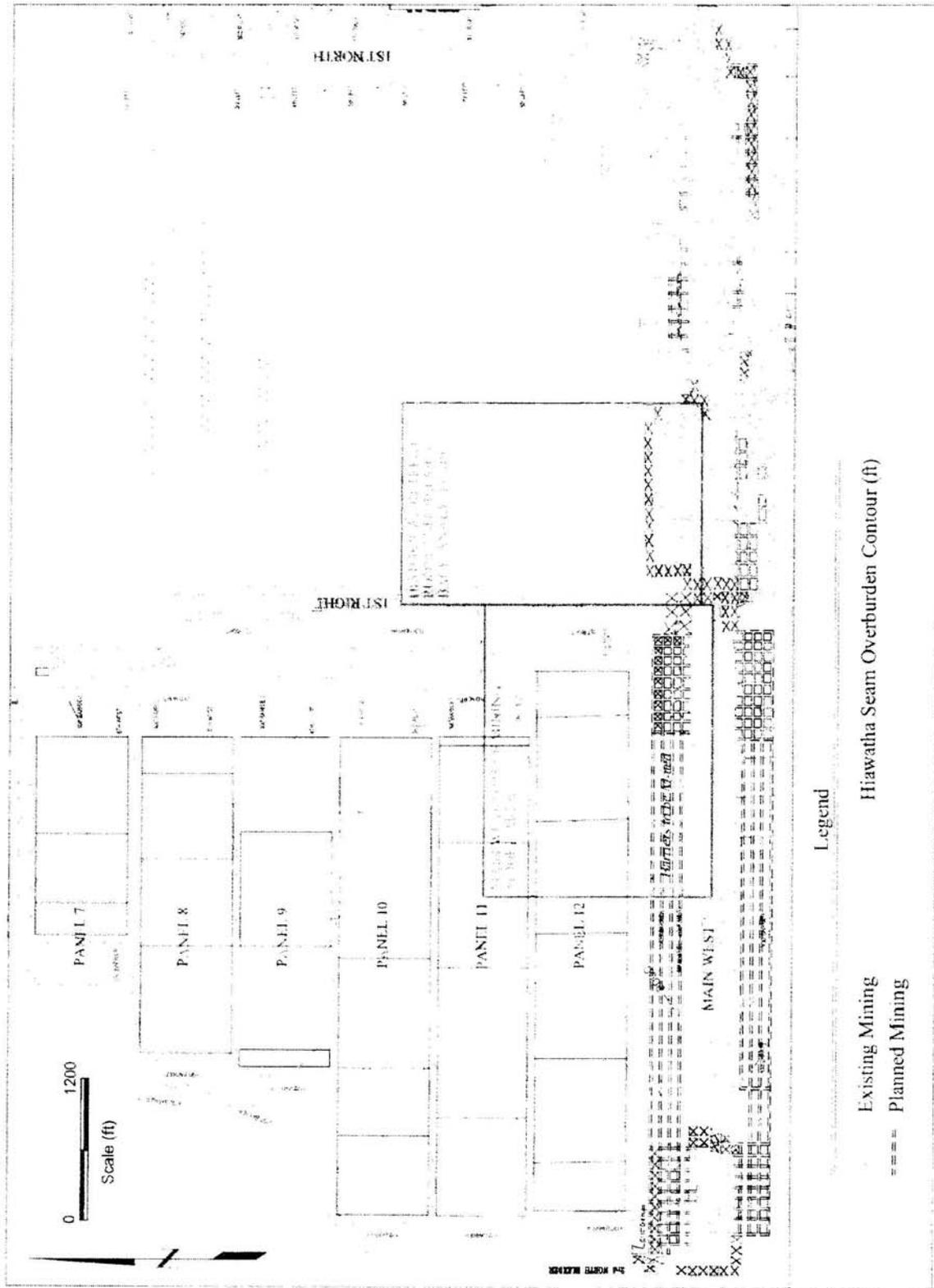


Figure 1. Main West Location Map Showing Existing and Future Mining and Modeled Areas

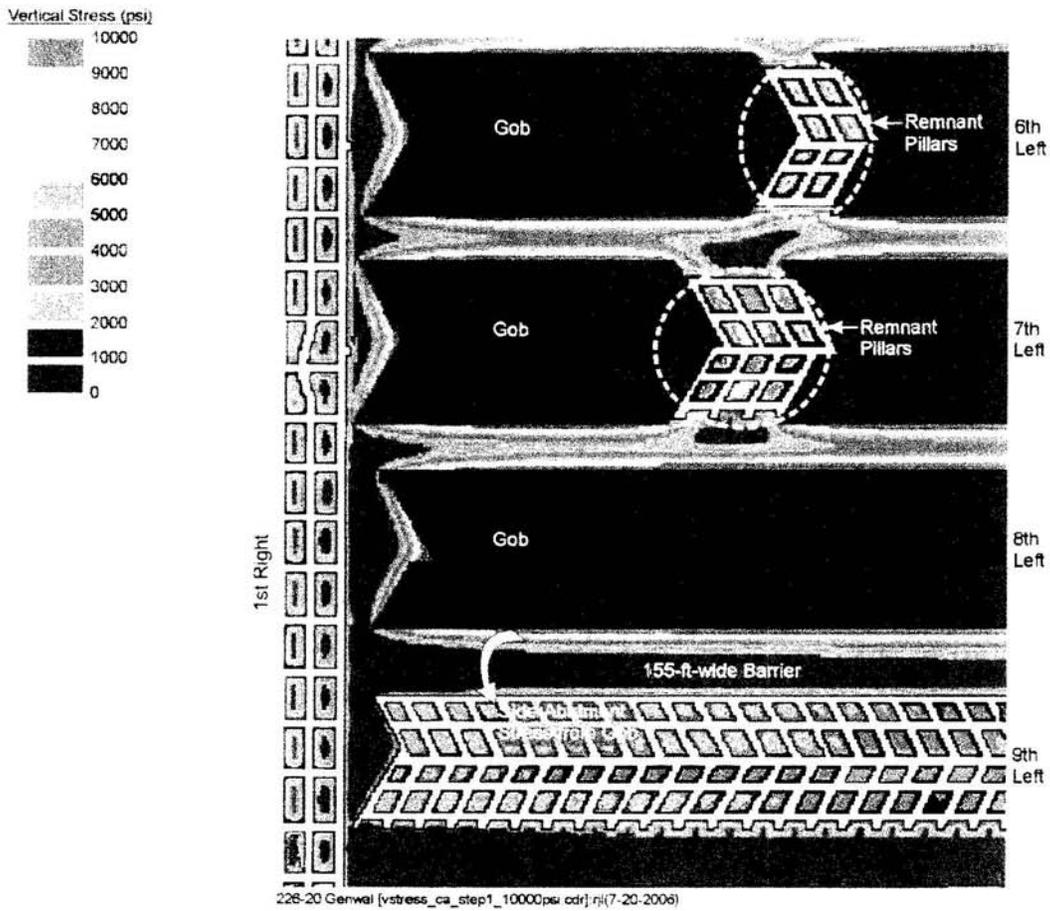


Figure 2. Modeled Vertical Stress—Primary Mining Completed in Panel 9<sup>th</sup> Left—1<sup>st</sup> North

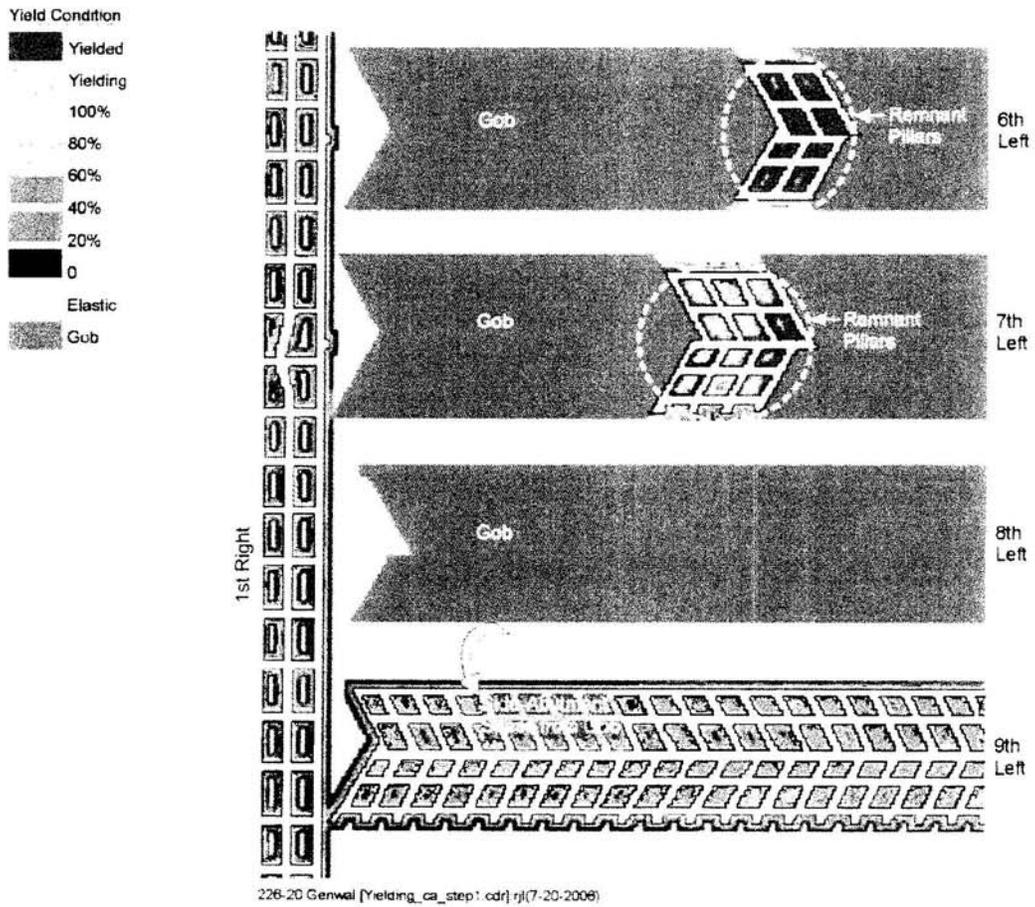


Figure 3. Modeled Coal Yielding—Primary Mining Completed in Panel 9<sup>th</sup> Left—1<sup>st</sup> North

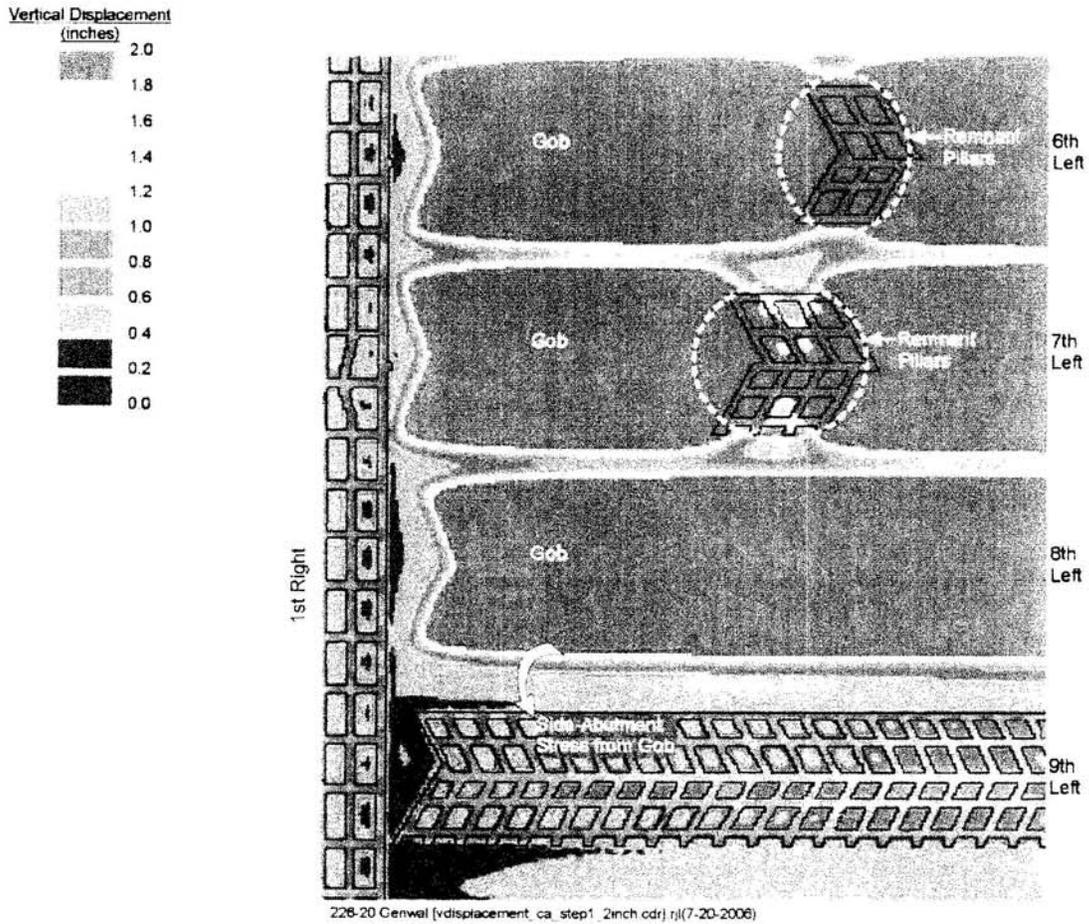


Figure 4. Modeled Roof-to-Floor Convergence—Primary Mining Completed in Panel 9<sup>th</sup> Left—1<sup>st</sup> North

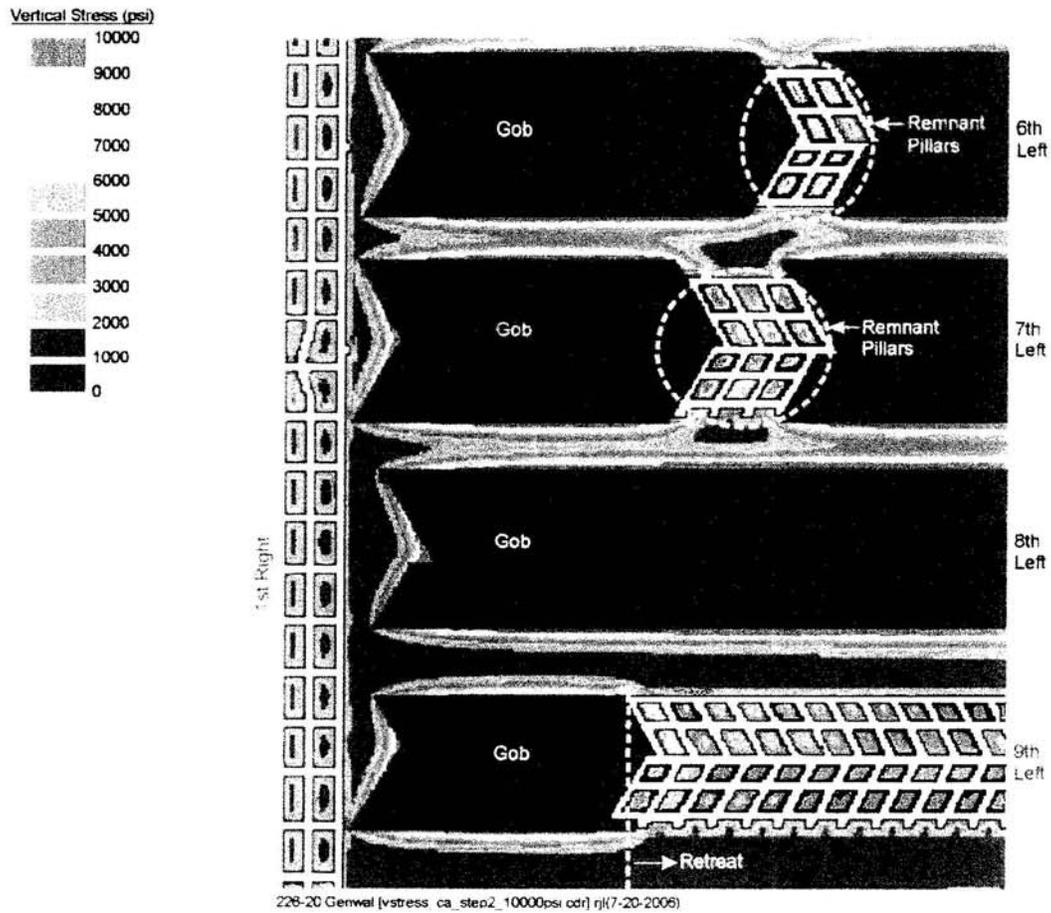


Figure 5. Modeled Vertical Stress—Partial Retreat in Panel 9<sup>th</sup> Left—1<sup>st</sup> North

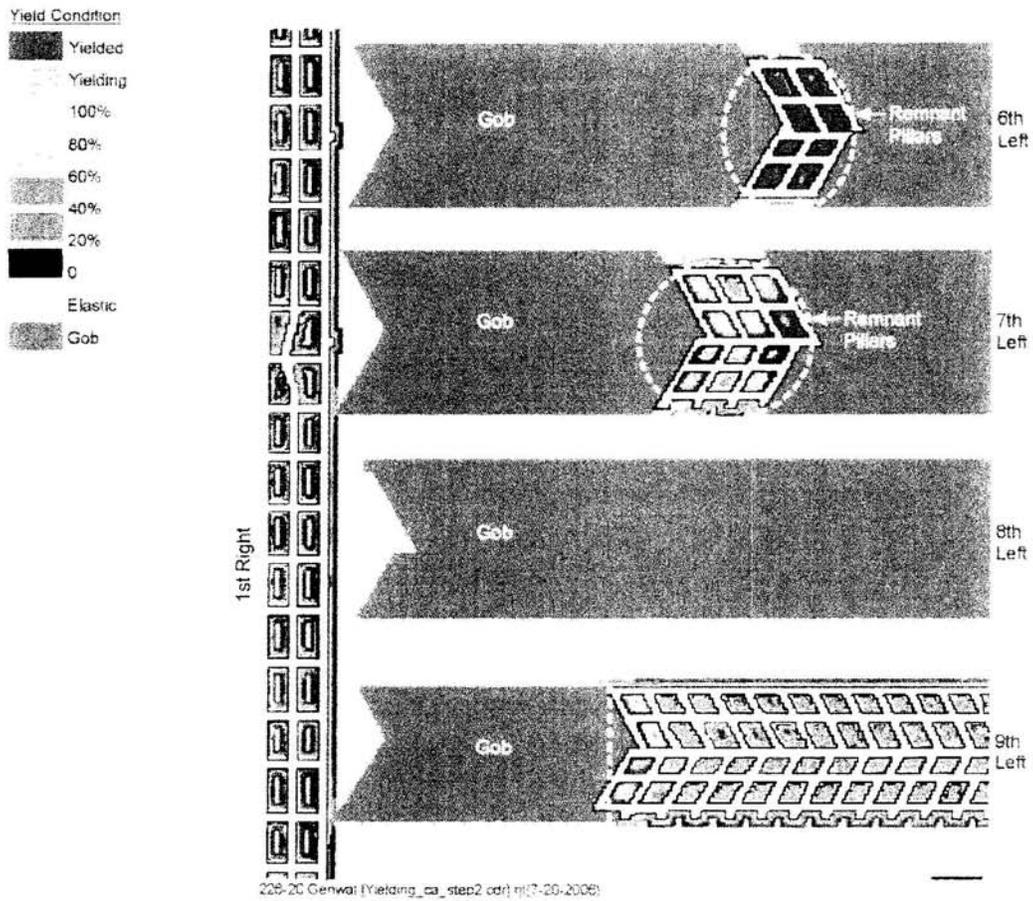


Figure 6. Modeled Coal Yielding—Partial Retreat in Panel 9<sup>th</sup> Left—1<sup>st</sup> North

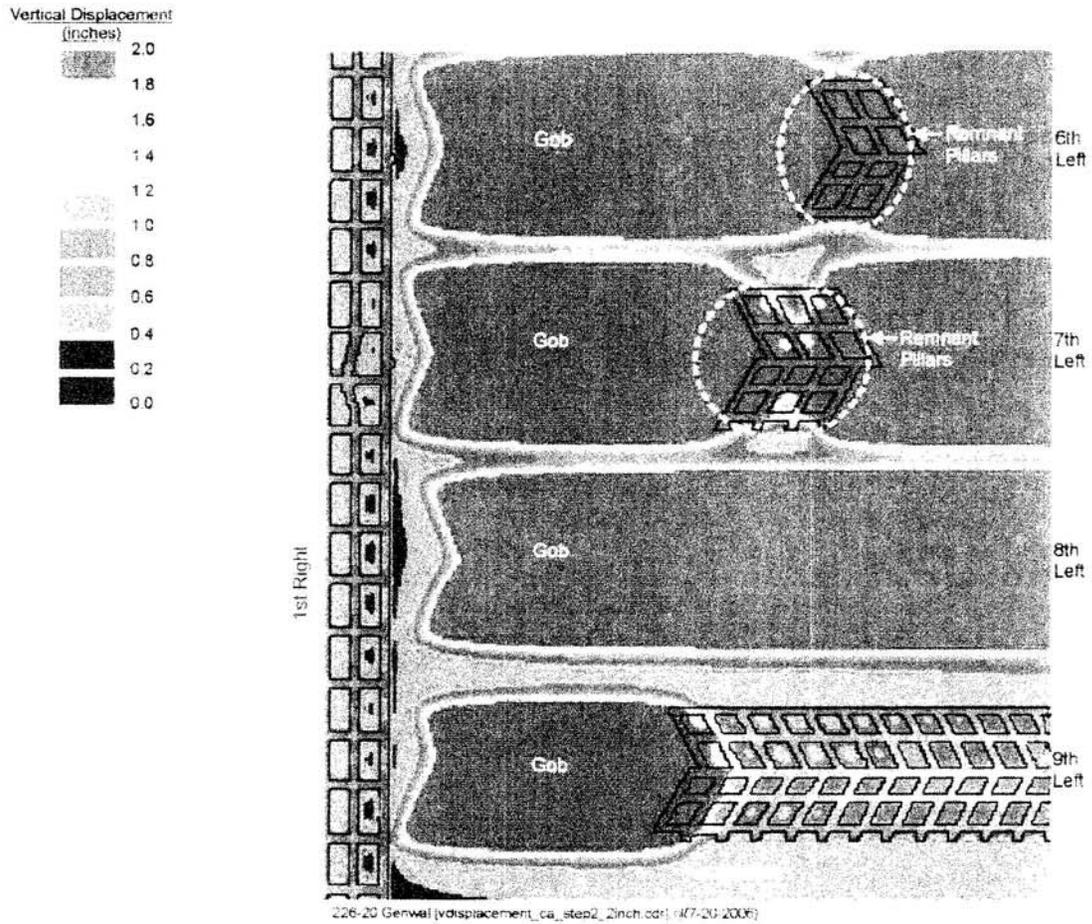


Figure 7. Modeled Roof-to-Floor Convergence—Partial Retreat in Panel 9<sup>th</sup> Left—1<sup>st</sup> North

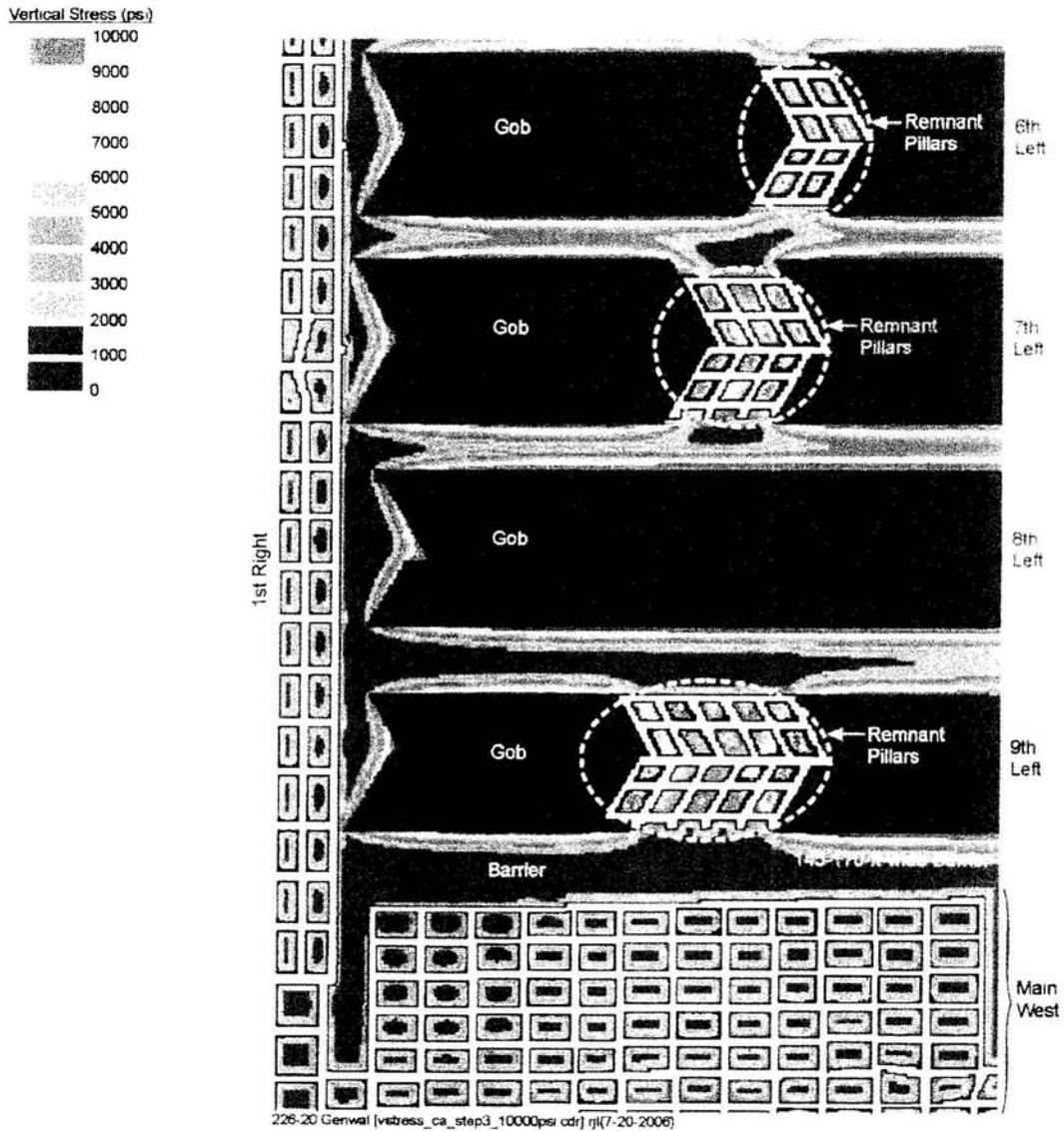


Figure 8. Modeled Vertical Stress—Retreat Completed in Panel 9<sup>th</sup> Left—1<sup>st</sup> North

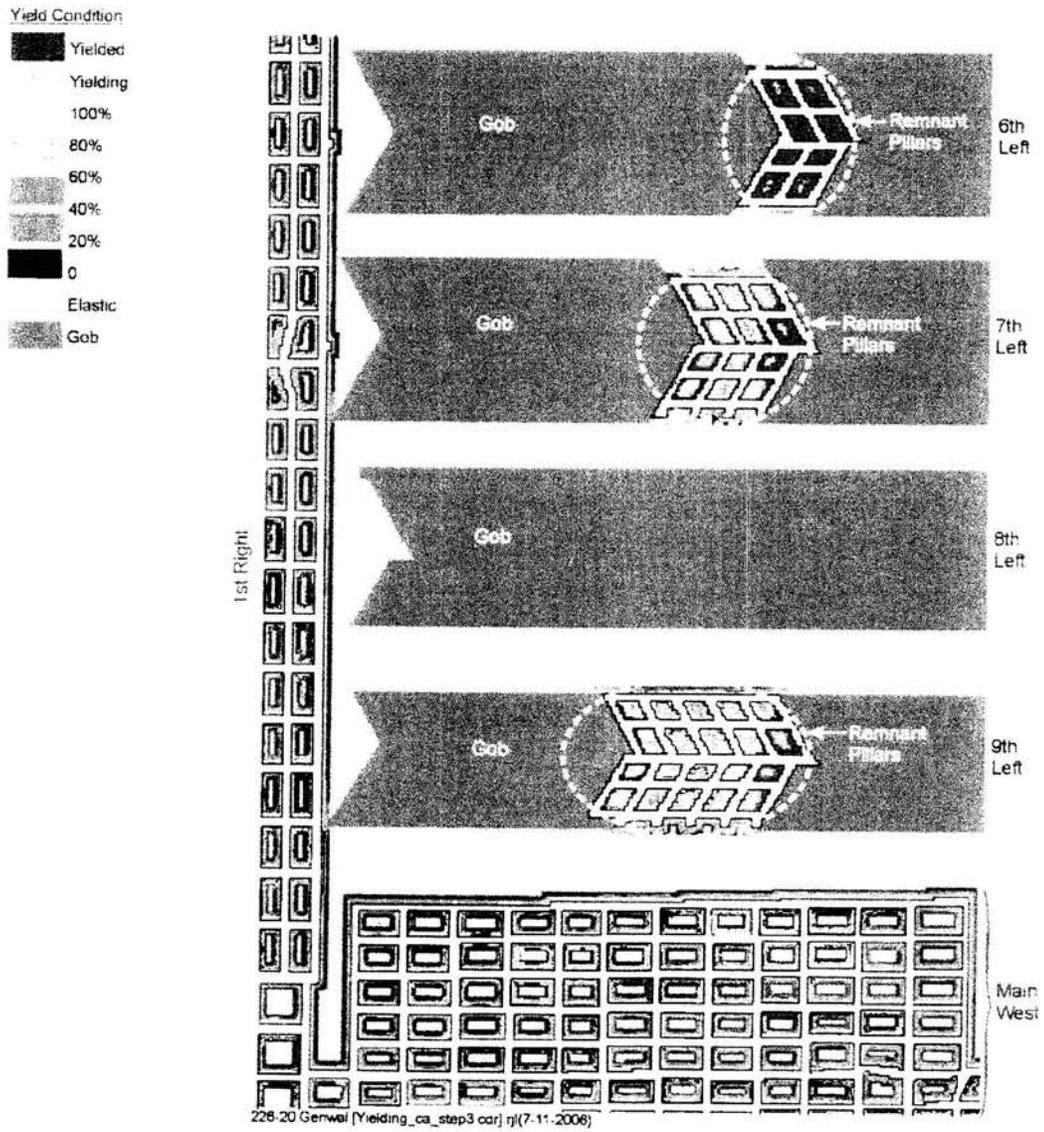


Figure 9. Modeled Coal Yielding—Retreat Completed in Panel 9<sup>th</sup> Left—1<sup>st</sup> North

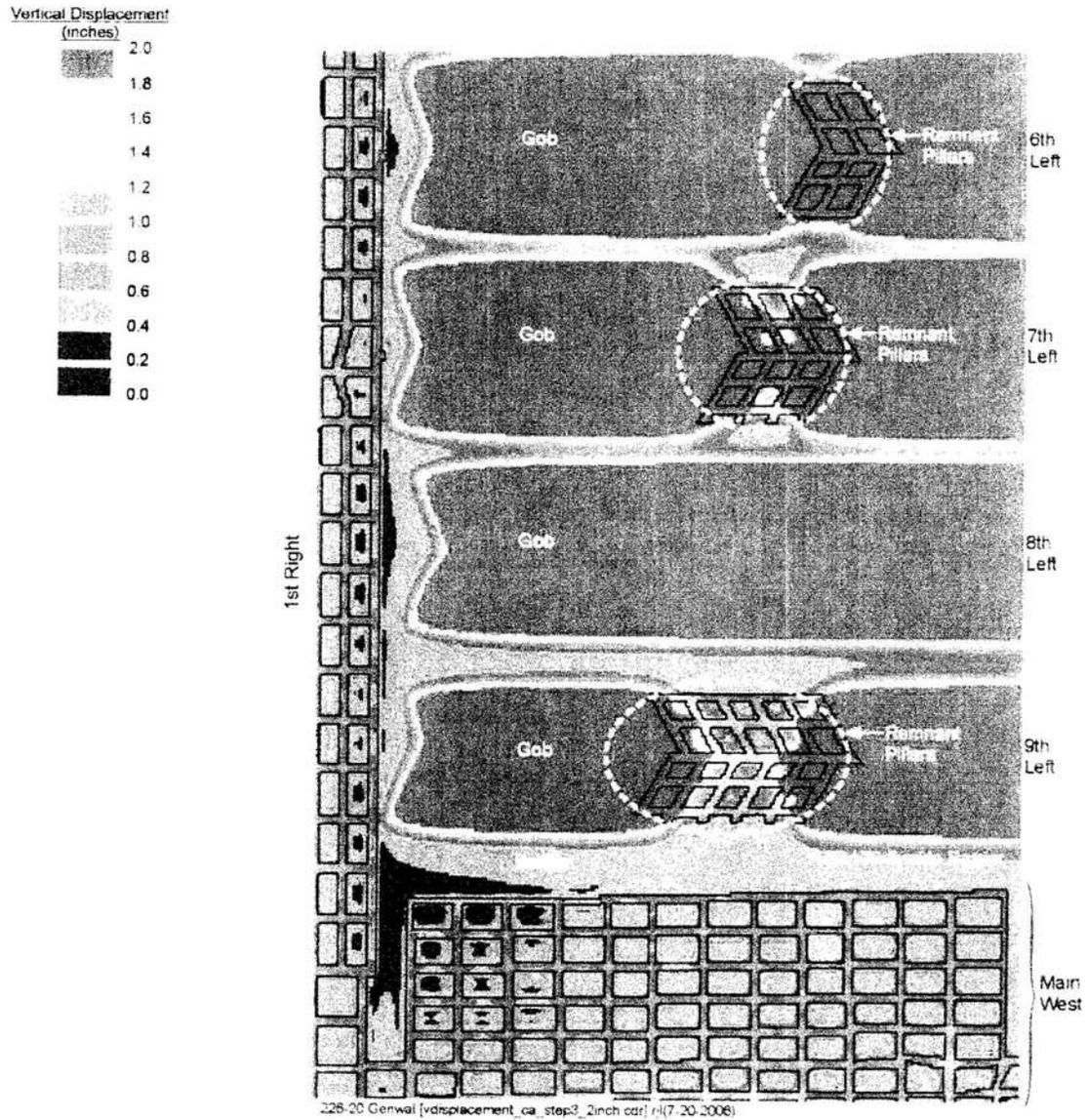


Figure 10. Modeled Roof-to-Floor Convergence—Retreat Completed in Panel 9<sup>th</sup> Left—1<sup>st</sup> North

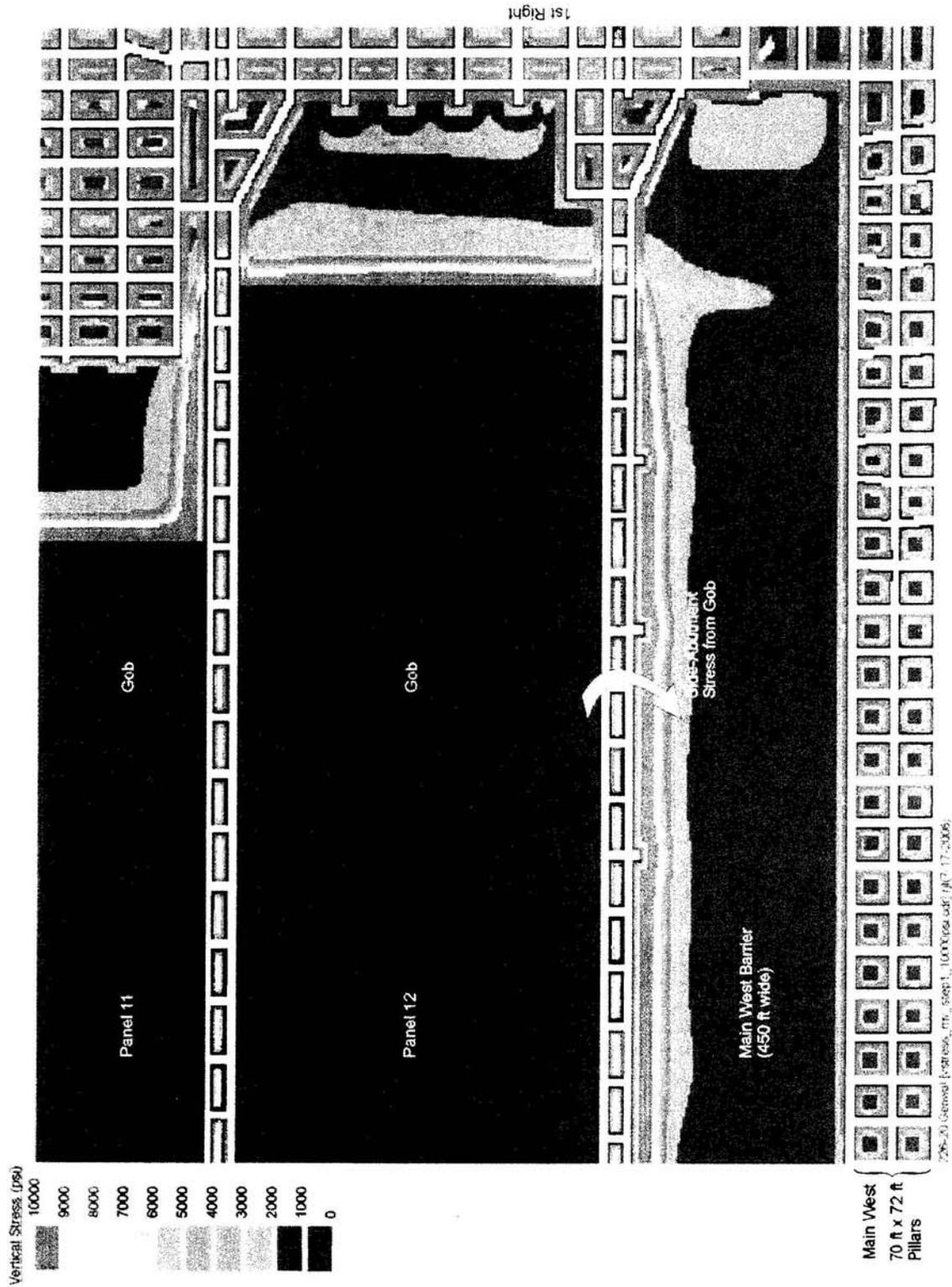


Figure 11. Modeled Vertical Stress—Current Conditions in Main West Barrier

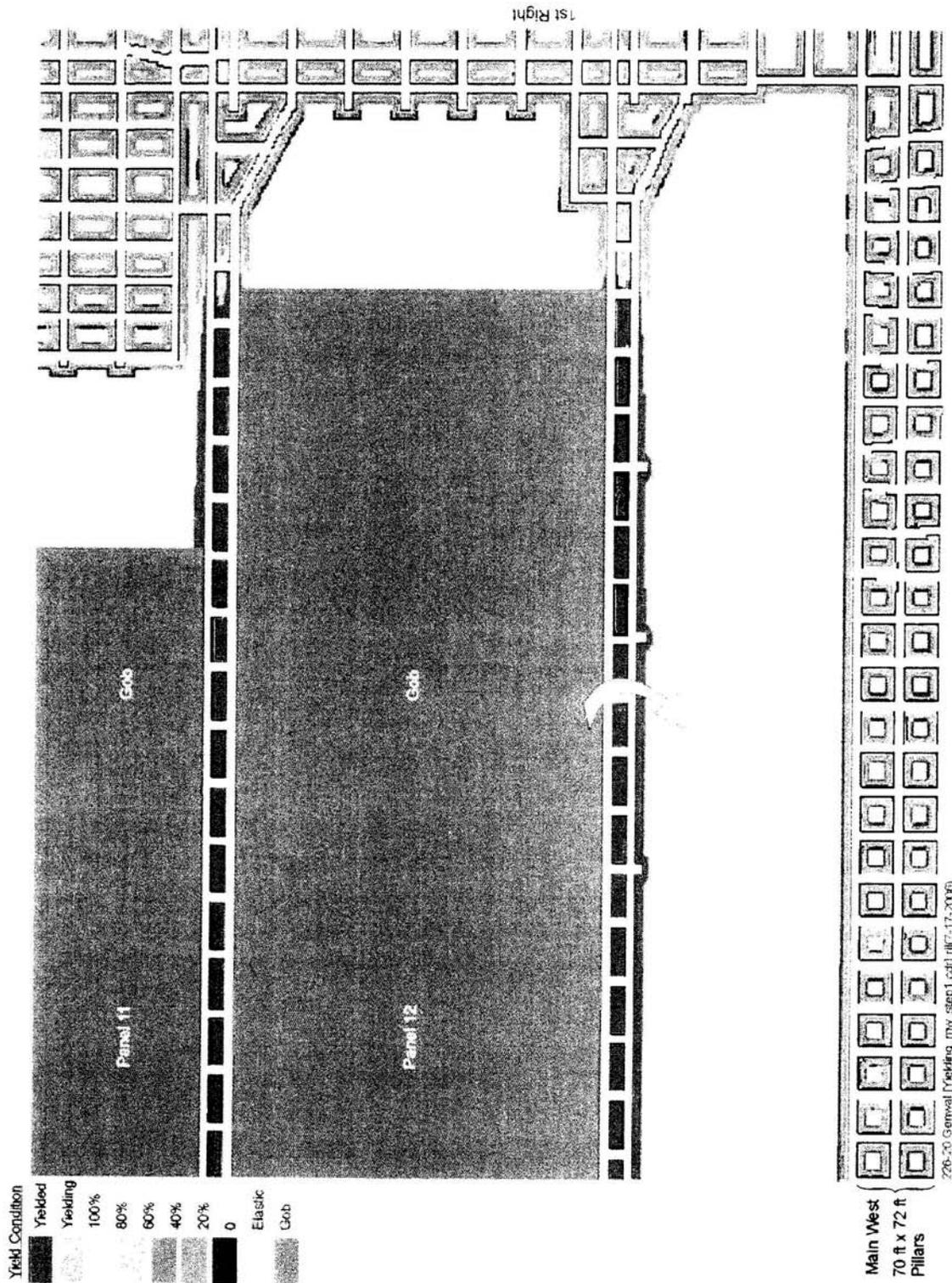


Figure 12. Modeled Coal Yielding—Current Conditions in Main West Barrier

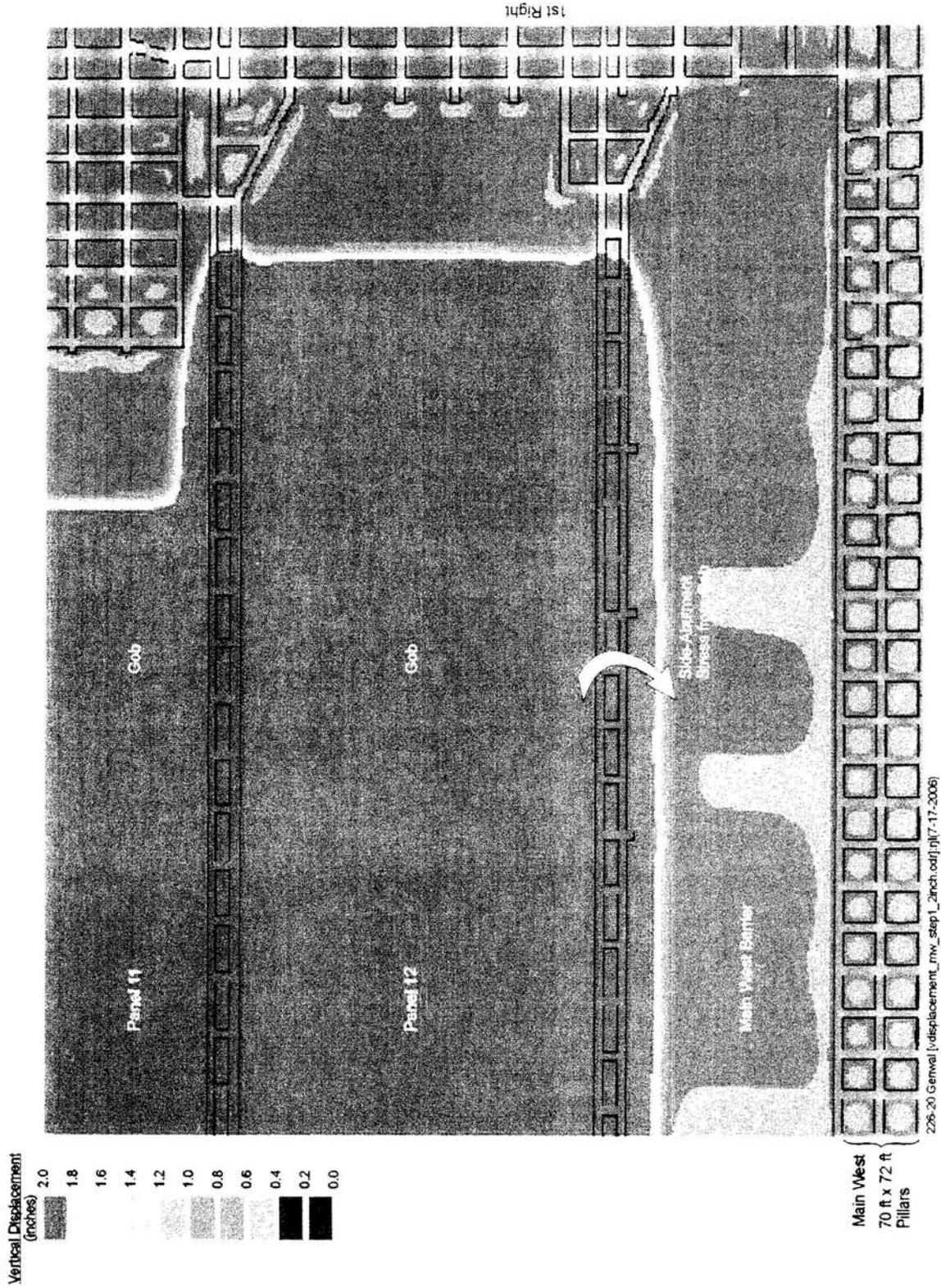


Figure 13. Modeled Roof-to-Floor Convergence—Current Conditions in Main West Barrier

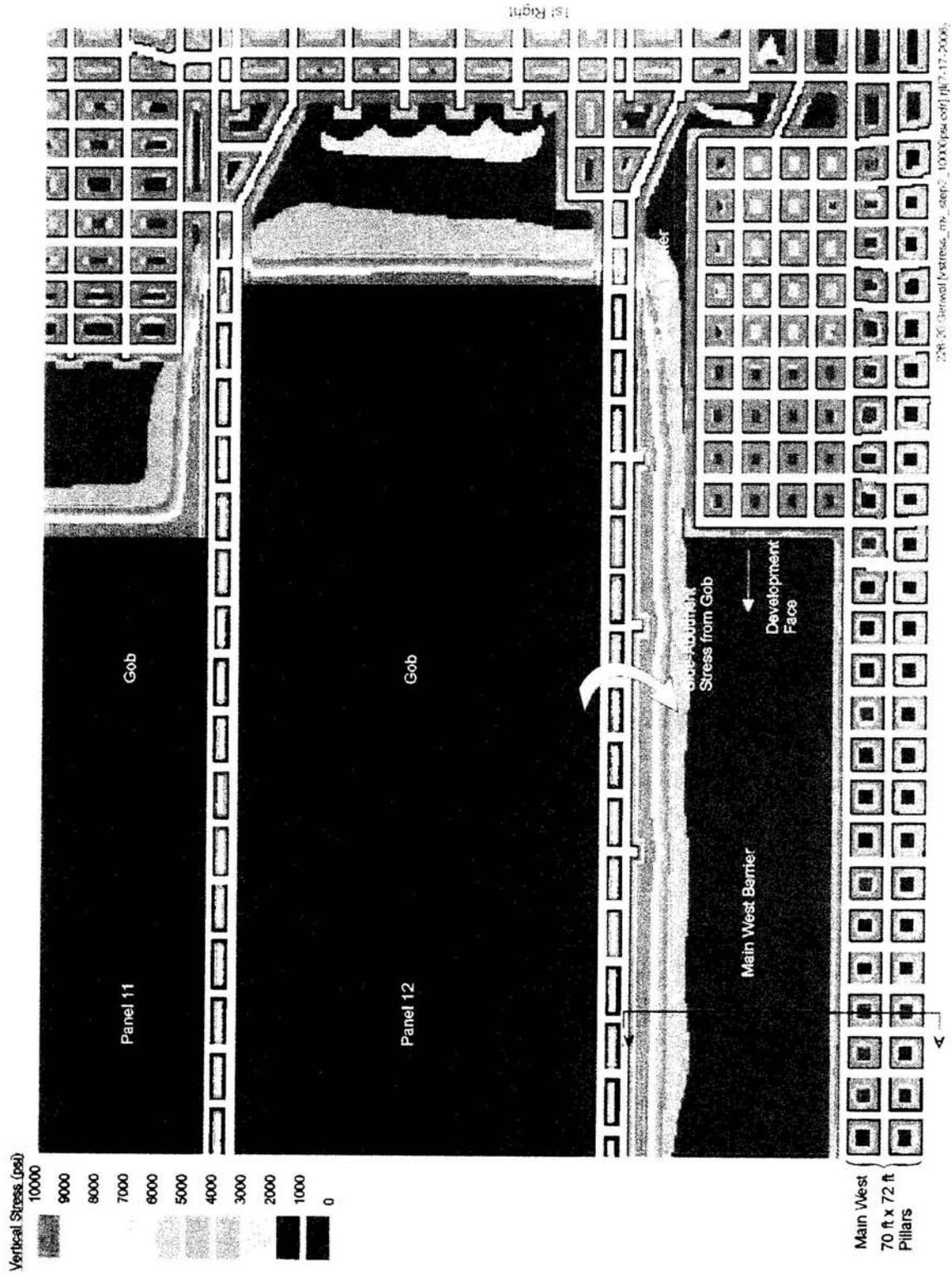


Figure 14. Modeled Vertical Stress—Partial Mining in Main West Barrier

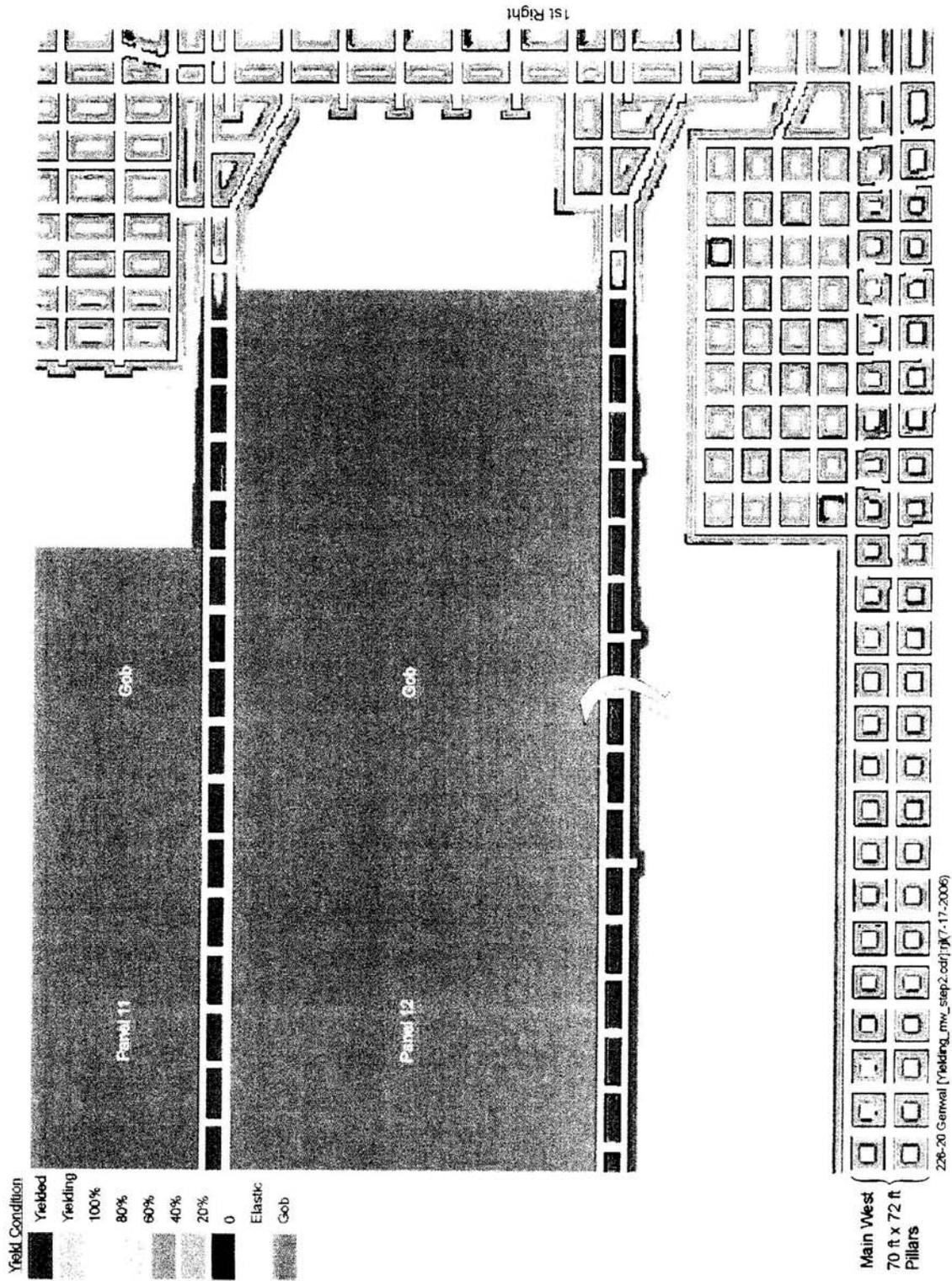


Figure 15. Modeled Coal Yielding—Partial Mining in Main West Barrier

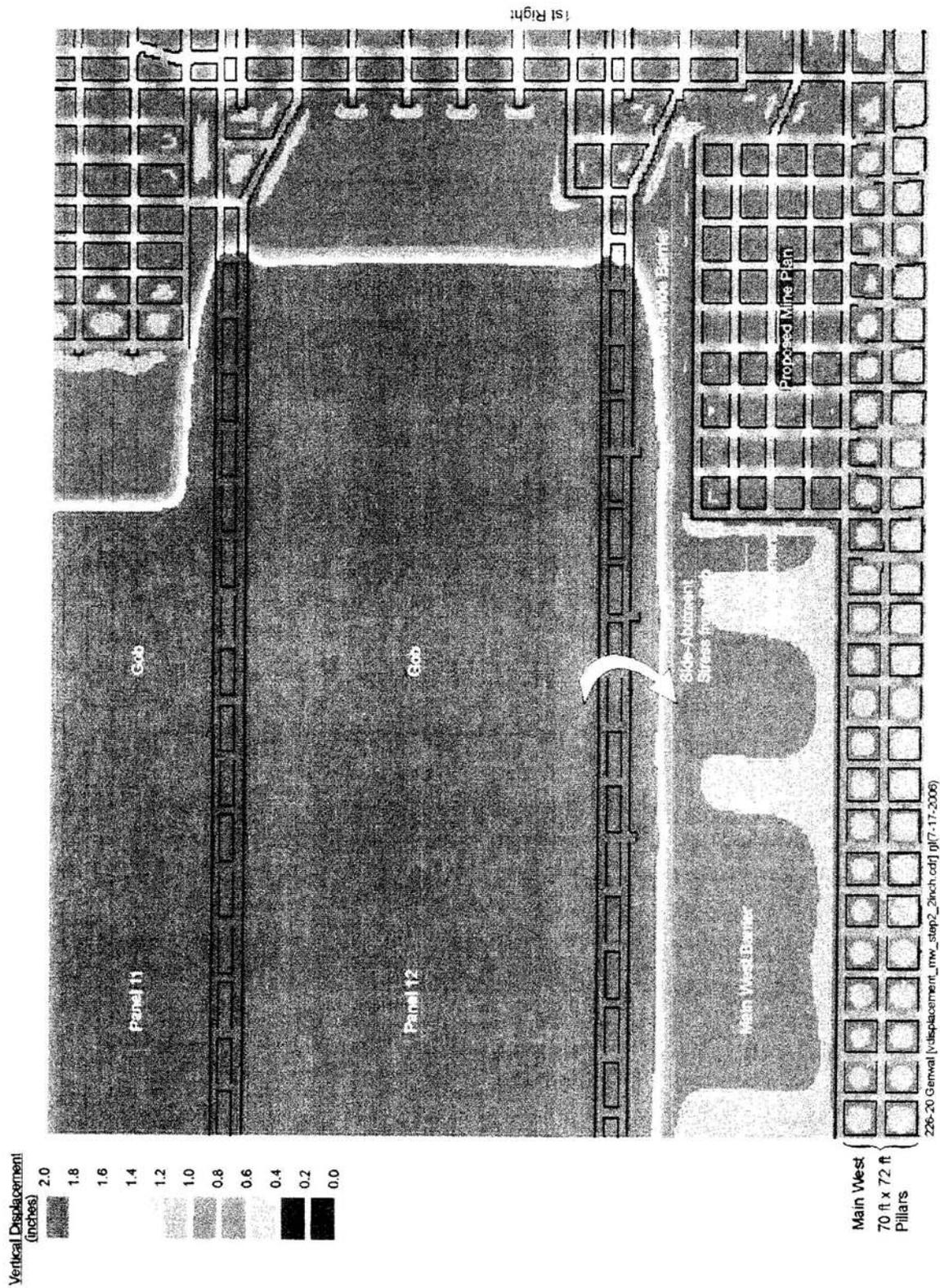


Figure 16. Modeled Roof-to-Floor Convergence—Partial Mining in Main West Barrier

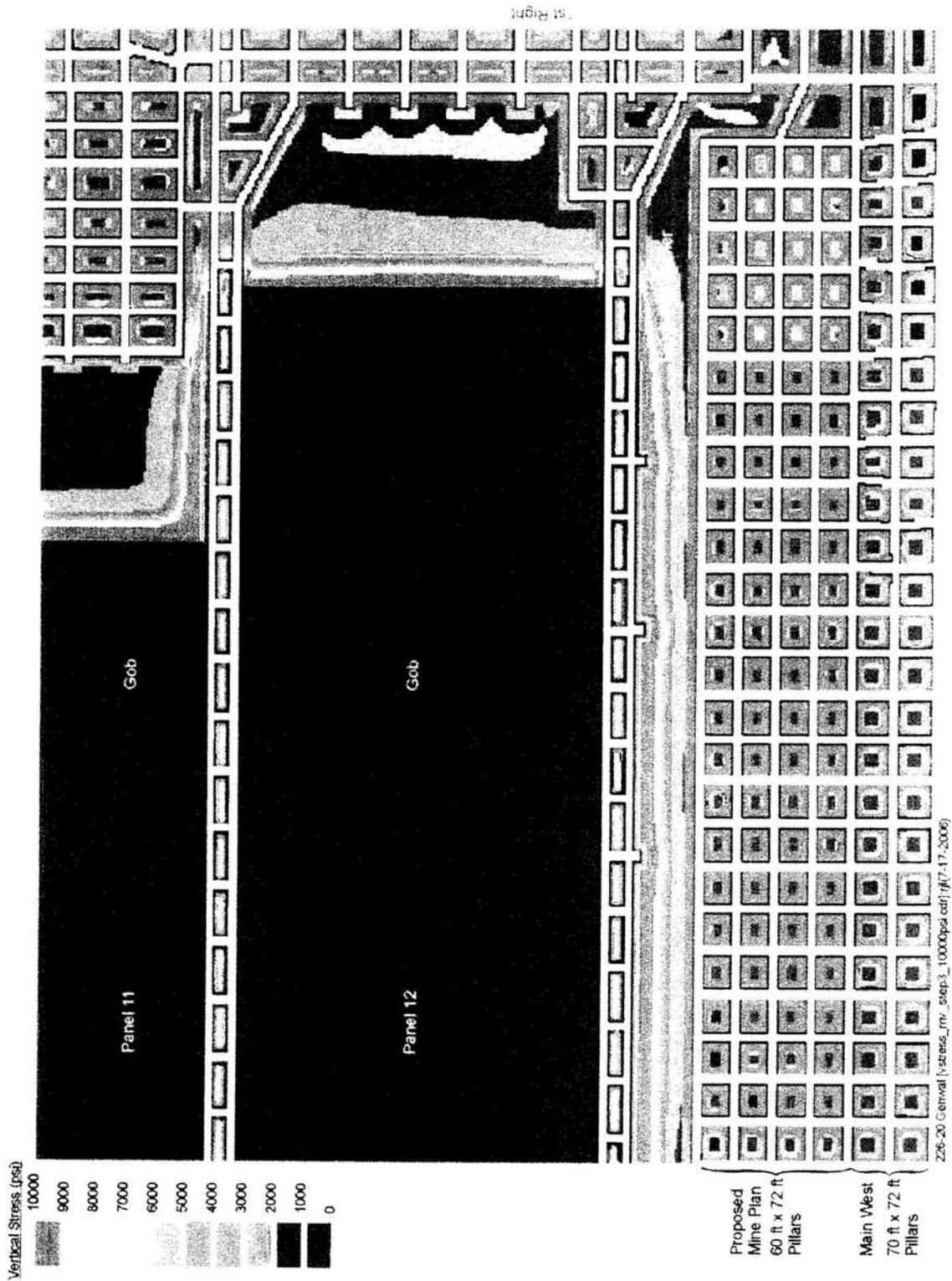


Figure 17. Modeled Vertical Stress—Mining Completed in Main West Barrier

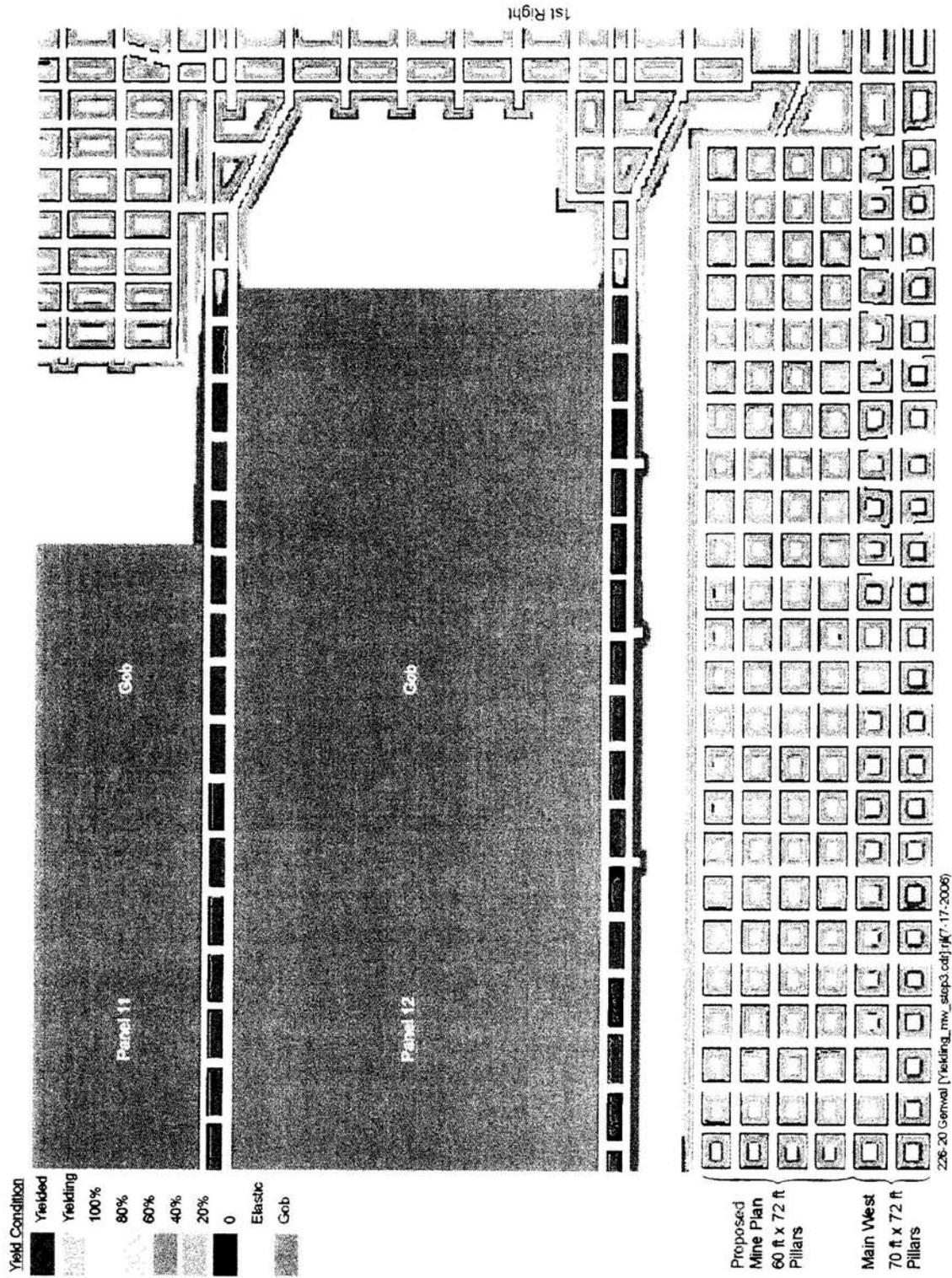


Figure 18. Modeled Coal Yielding—Mining Completed in Main West Barrier

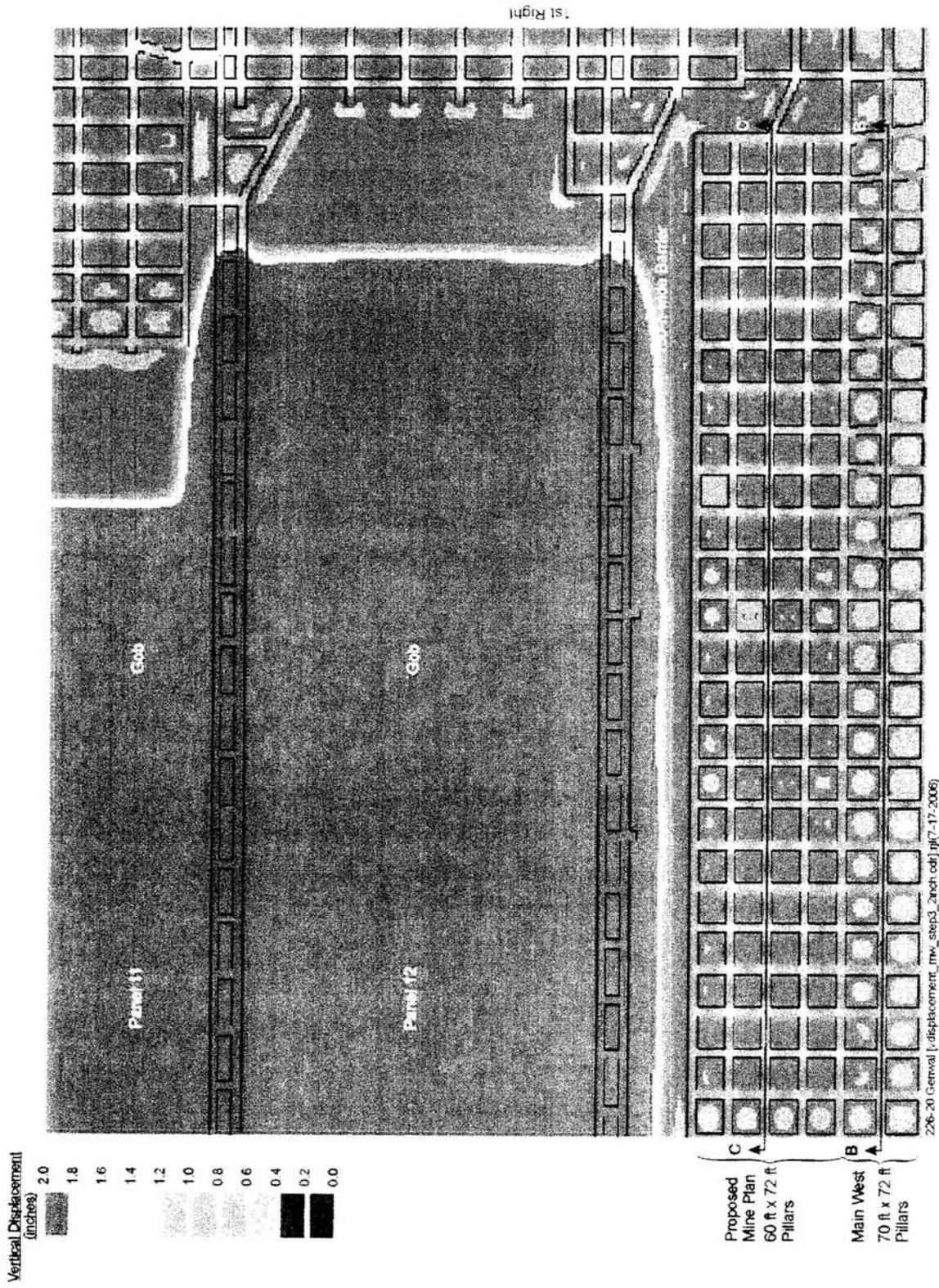


Figure 19. Modeled Roof-to-Floor Convergence—Mining Completed in Main West Barrier

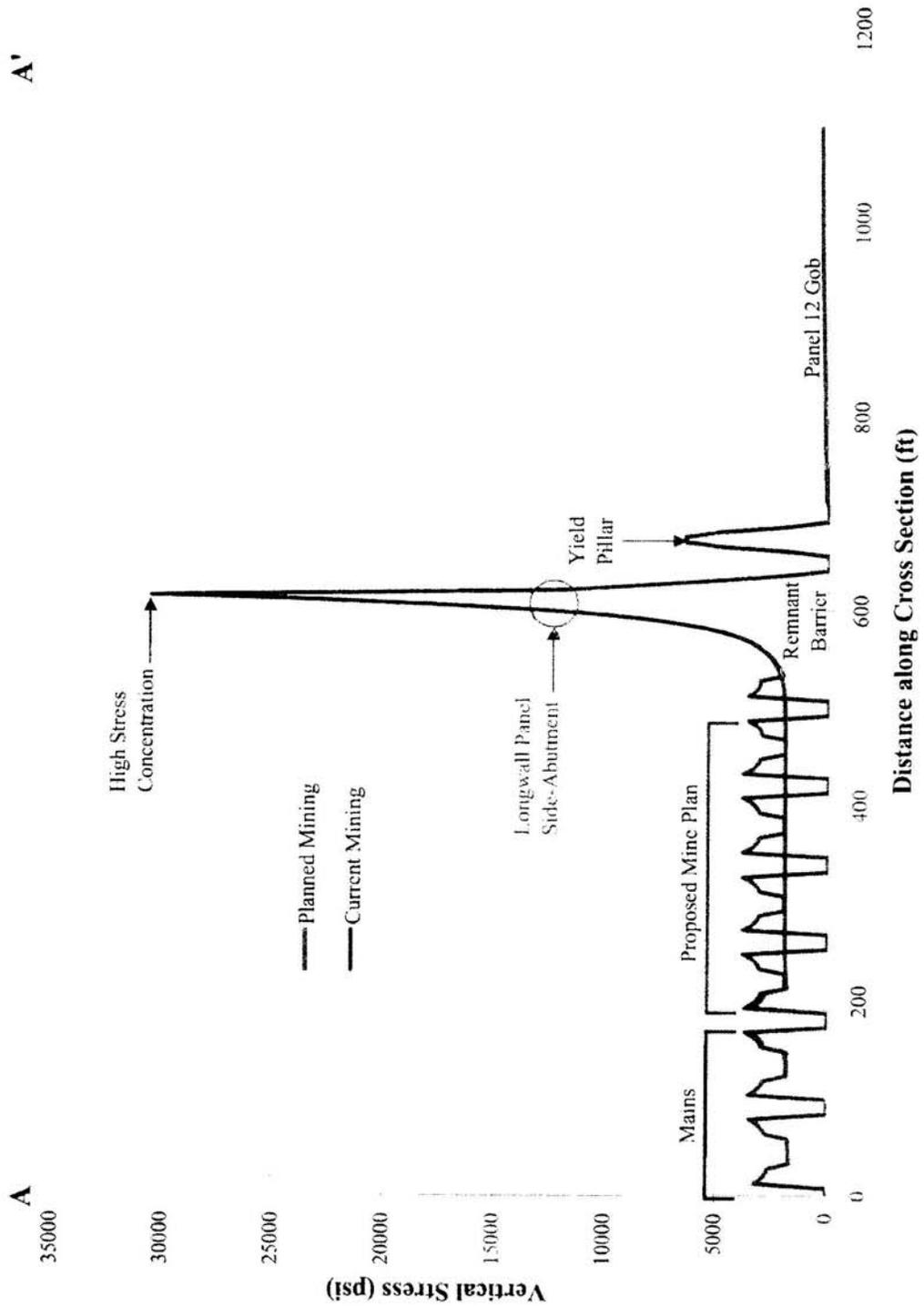


Figure 20. Modeled Vertical Stress Profiles Across Main West Barrier—Profile A-A' (profile location shown in Figure 14)

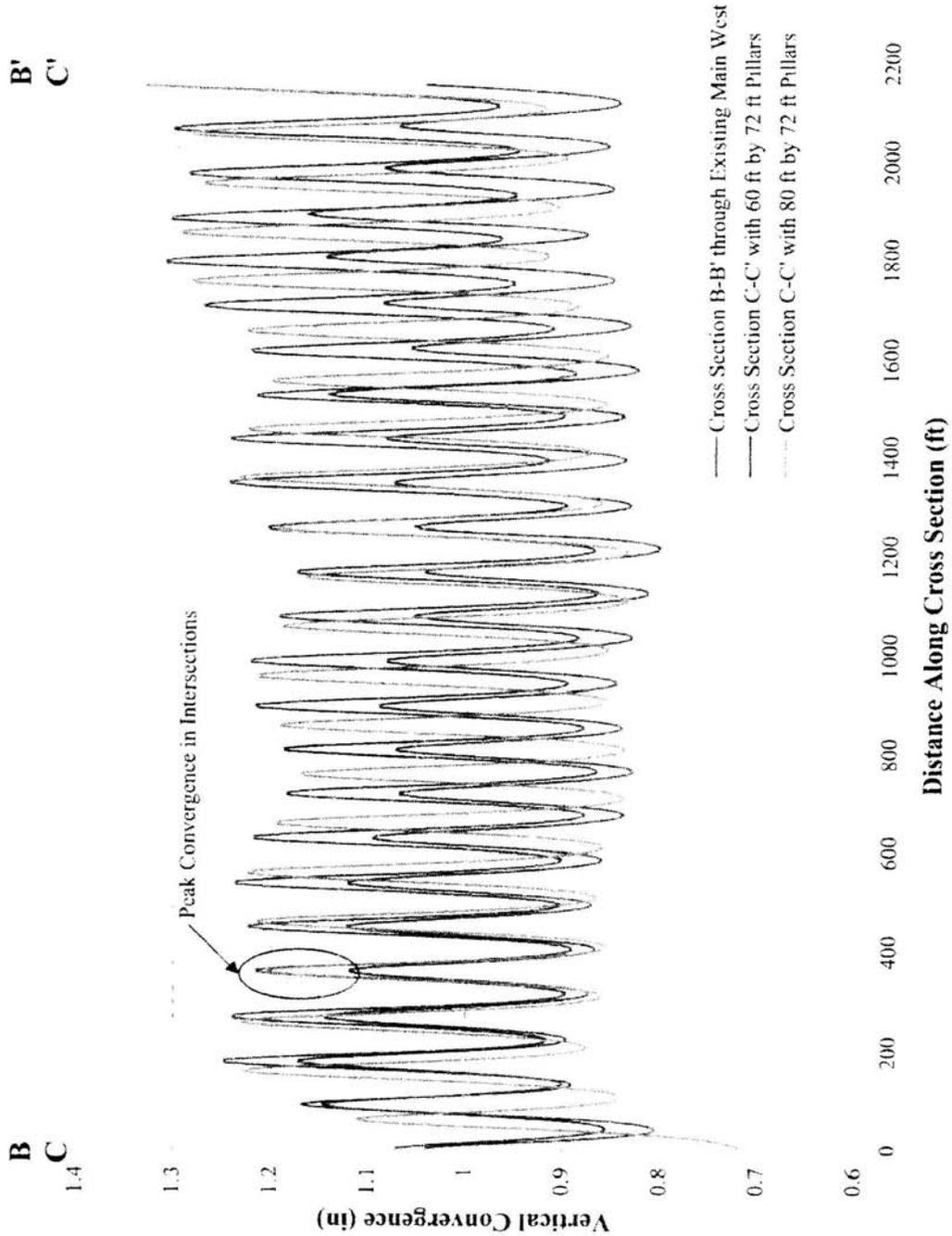


Figure 21. Modeled Roof-to-Floor Convergence Profiles Along Main West Entries—Profiles B-B' and C-C' (profile locations shown in Figure 19)

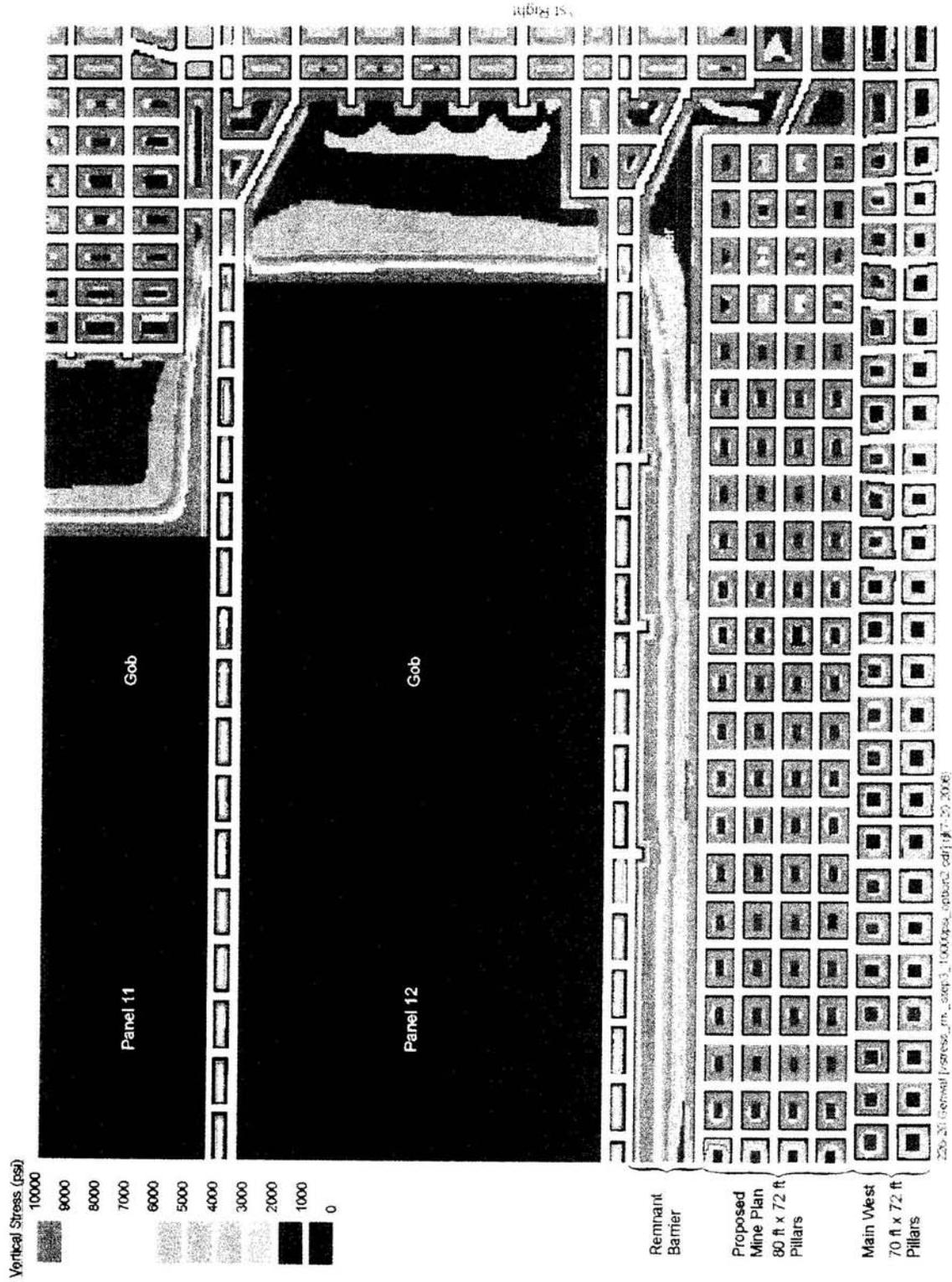


Figure 22. Modeled Vertical Stress—Main West Barrier Mining with 60-ft by 80-ft Pillars

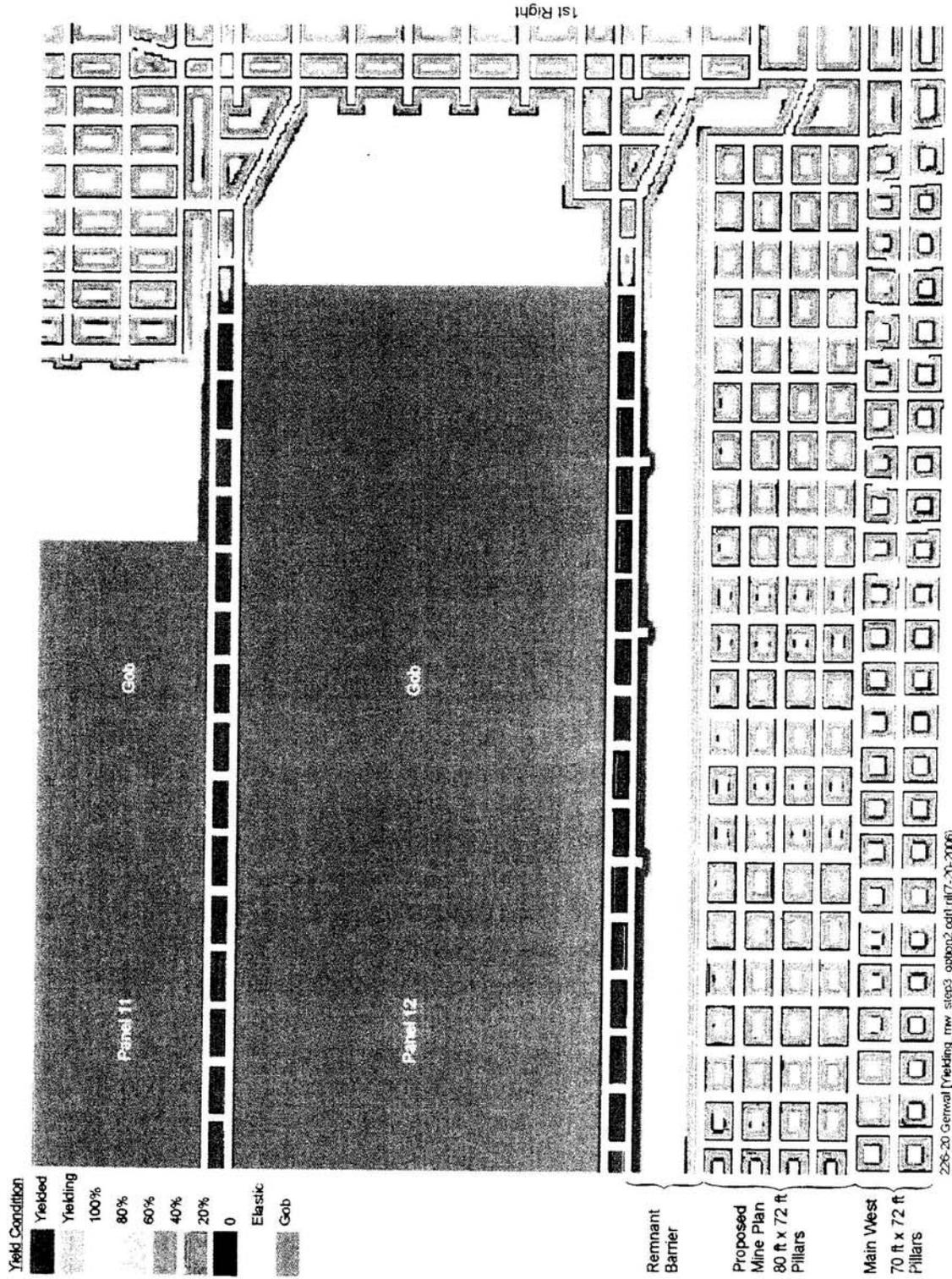


Figure 23. Modeled Coal Yielding—Main West Barrier with 60-ft by 80-ft Pillars

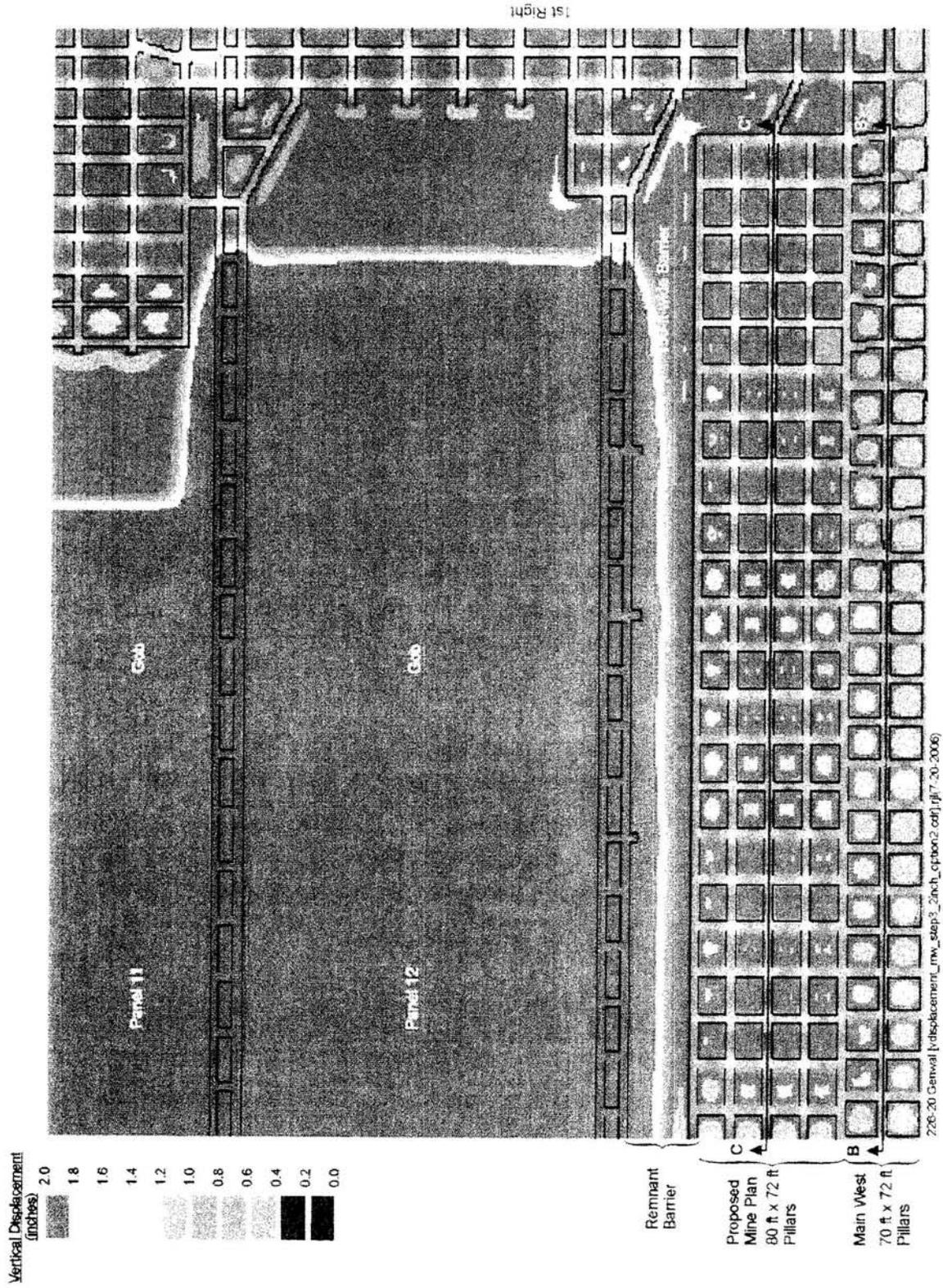
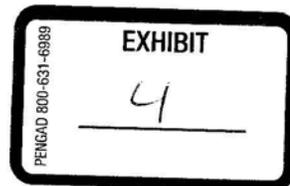


Figure 24. Modeled Roof-to-Floor Convergence—Main West Barrier with 60 ft by 80 ft Pillars

**Laine Adair - (226-30) GENWAL Main West Retreat Analysis--Preliminary Results**

**From:** "Leo Gilbride" <[REDACTED]>  
**To:** "Laine Adair" <[REDACTED]>  
**Date:** 8/9/2006 12:45 PM  
**Subject:** (226-30) GENWAL Main West Retreat Analysis--Preliminary Results  
**CC:** "AAI Archive" <[REDACTED]>



**Laine,**

I have prepared this email to summarize our preliminary analytical results for the proposed retreat mining sequence in the Main West barriers at GENWAL. We analyzed ground conditions using (1) the NIOSH ARMPS empirical design method and (2) the same LAMODEL stress and convergence model used in our Jul-20, 2006 analysis. Figure 1 shows the modeled areas.

#### ARMPS Modeling

The ARMPS method is an empirical design method developed by NIOSH based on 250 pillar retreat case histories. The database contains numerous cases representing ground conditions in the western U.S. and mining depths up to 2,000 ft, which makes the method relevant for conditions at GENWAL. The method computes a Stability Factor (SF) based on the ratio of pillar strength to pillar load averaged over the pillars within the active mining zone (near the edge of the gob). Lower SFs are supposed to indicate lower safety margins. Figure 2 plots the SFs as a function of mining depth for all the ARMPS case histories. The plot distinguishes between "satisfactory" and "unsatisfactory" case histories, where "unsatisfactory" case histories involved the following types of ground failures: excessive squeezing, bumps, and/or roof failure. The historical retreat panels in the 1<sup>st</sup> North Left block at GENWAL are computed to have a SF of 0.37 at a depth of 1,750 ft. Figure 3a shows the ARMPS model geometry used to compute the SF. The ARMPS database shows that industry experience is mixed for mines reporting similar SFs (0.16 to 1.05) at comparable depths (1,500 to 2,000 ft). Of these cases, slightly more than half were successful, while the remainder encountered ground control problems.

A SF of 0.53 is computed for the proposed retreat sequence in the Main West barriers under the deepest cover (Figure 3b). The ARMPS method recommends basing the depth of cover on sustained cover, and not on peak cover if the peak cover occurs over a limited area. Over Main West, 2,000 ft is the maximum sustained cover that is appropriate for the ARMPS calculation. Although a narrow ridge increases cover to 2,200 ft, this is too limited an area to significantly affect abutment loads in the ARMPS calculation. Elsewhere in the barriers and mains, a higher SF is computed. A SF of 0.67 is computed for pillaring east of the existing Main West seals (XC 118-119).

The ARMPS method recommends designing pillars for a 0.90 SF (for intermediate-strength roof) if site-specific data are not otherwise available. The authors of ARMPS suggest that the method is increasingly conservative at depth and that site-specific experience should be used to establish design SFs whenever possible. At GENWAL good success has been achieved at SFs below 0.90. Retreat conditions in the 1<sup>st</sup> North Left block were generally successful with a SF of 0.37, suggesting that a SF of about 0.40 is a reasonable lower limit for retreat mining at GENWAL. This is considered a lower limit because occasional problems with peeling top coal were encountered in the 1<sup>st</sup> North Left block. This required skipping pillars on retreat in some locations. Top coal is currently mined to minimize this

risk and is not expected to be a problem in Main West.

The lowest SF for the proposed retreat sequence in Main West barriers is 0.53 under the deepest cover, which is approximately 43% higher than the "satisfactory" SF of 0.37 for the 1<sup>st</sup> North Left block. Implications are that the proposed retreat sequence in Main West will be successful in terms of ground control, even under the deepest cover (2,200 ft).

#### LAMODEL Modeling

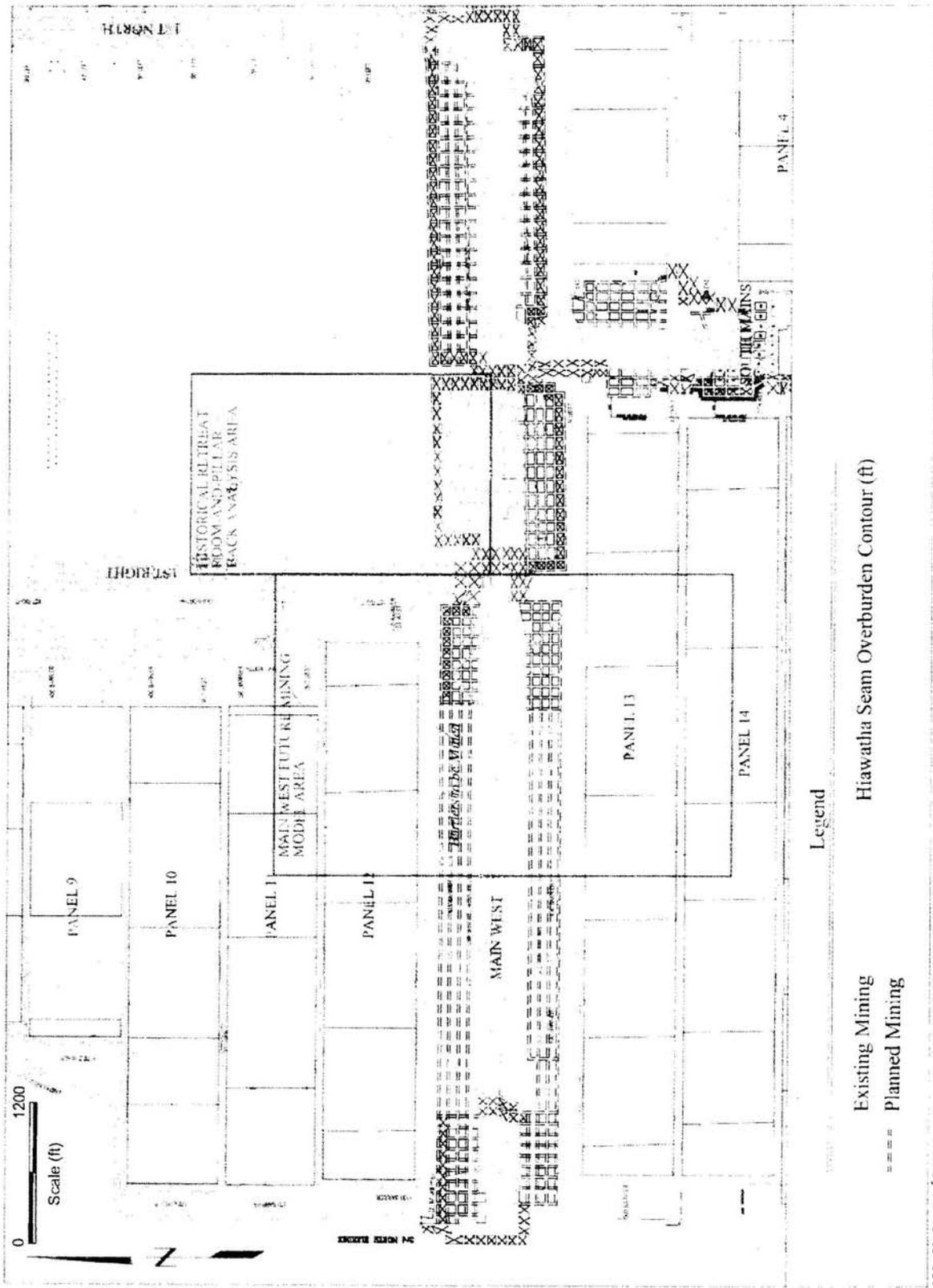
The Main West retreat sequence was modeled in 9 steps, as shown in Figures 4 through 30. The model includes the actual variable depth of cover ranging from 1,200 to 2,200 ft, as shown on the map in Figure 1. The figures present modeled (1) vertical stress, (2) coal yielding, and (3) roof-to-floor convergence. Results show that convergence will be less than 2.0 inches in and around the active pillaring sections in the barriers. Results of the 1<sup>st</sup> North Left back-analysis model, discussed in the Jul-20, 2006 letter, concluded that convergence less than 2.0 inches is indicative of stable roof and pillar conditions in the model. Conclusions from LAMODEL corroborate the ARMPS results, principally that convergence can be adequately controlled with the proposed mine plan and that ground conditions should be generally good on retreat in the barriers, even under the deepest cover (2,200 ft).

The model predicts relatively high convergence during pillaring east of the existing Main West seals (XC 118-119) due to relatively large abutment loads around the wide gob area. This retreat block is approximately 1,400 to 1,600 ft deep. Model results show convergence in excess of 2.0 inches in and around the active pillaring areas, suggesting some risk for accelerated ground deterioration and increased reliance on ground support (i.e., bolts and mesh, and mobile roof support). The amount of convergence and ground squeezing is sensitive to the extraction sequence and the rate of extraction. A constant and relatively rapid rate of pillaring is beneficial for controlling the risk of excessive squeezing and bumping. The overall level of geotechnical risk is not considered excessive given GENWAL's history and favorable ground conditions. The mining plan and pillar layout as proposed are considered viable. The plan affords the contingency to leave occasional pillars for protection during retreat if conditions warrant, thus providing additional control of the geotechnical risk.

We can prepare a letter report to present these results at your discretion. In the meantime, please contact me at any point if you wish to discuss these results and recommendations.

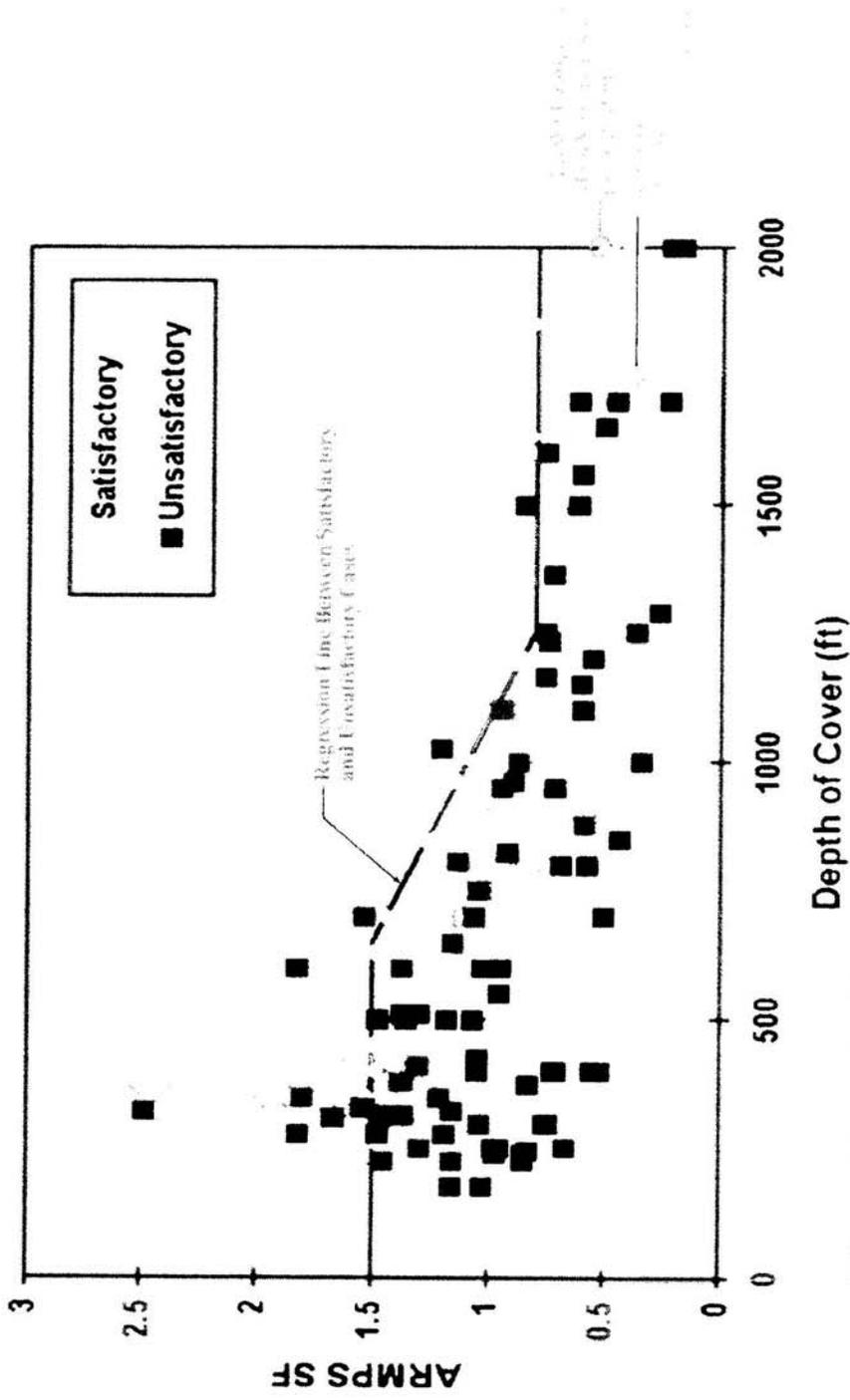
Sincerely,

Leo Gilbride, PE  
Principal



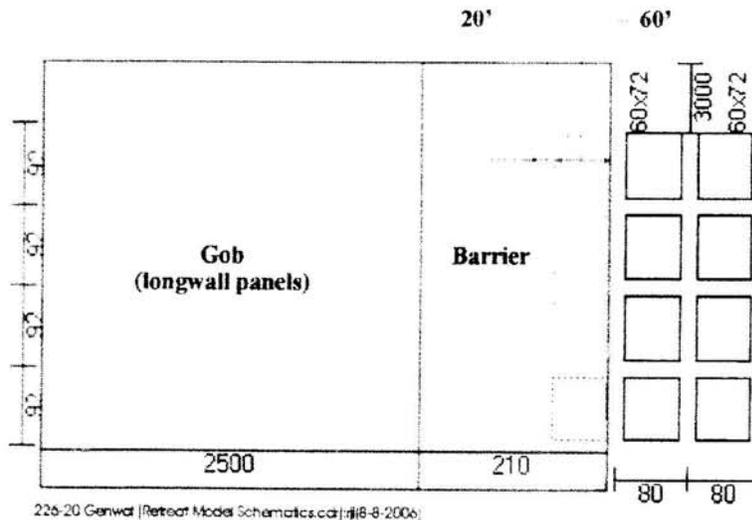
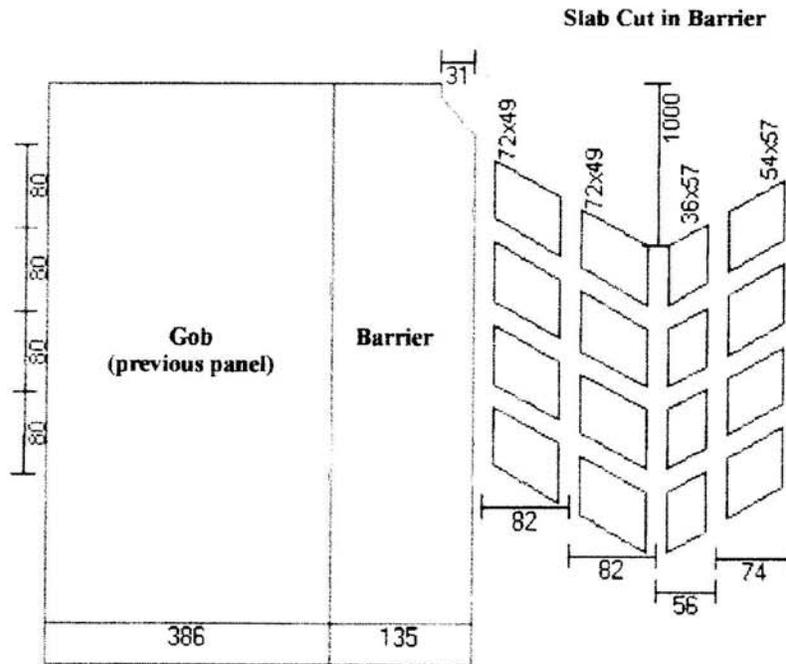
226--20 Genwal [Genwal\_Plan Modeled Area.dwg Layout:AA\_Plan Model Additional] by: rjl(08-08-2006)

Figure 1. Main West Location Map Showing Existing and Future Mining and Modeled Areas



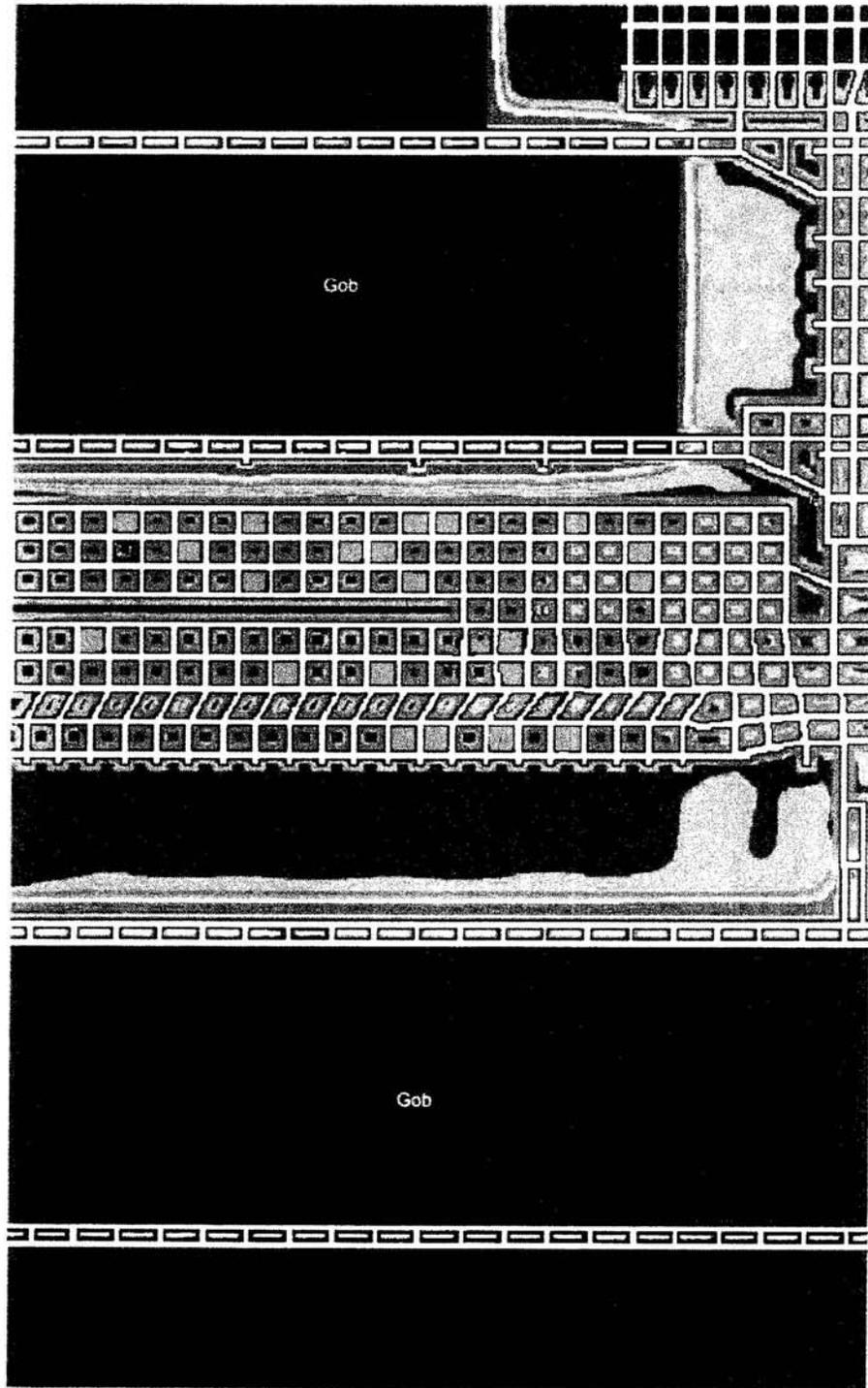
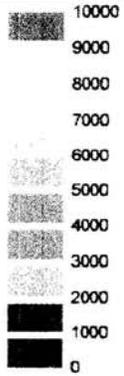
206-20 General Stability Factors (JTB 6-2024)

Figure 3. Comparison of ARMP SF at 2000 ft depth (D) against General Stability Factors with ARMP SF for Highway

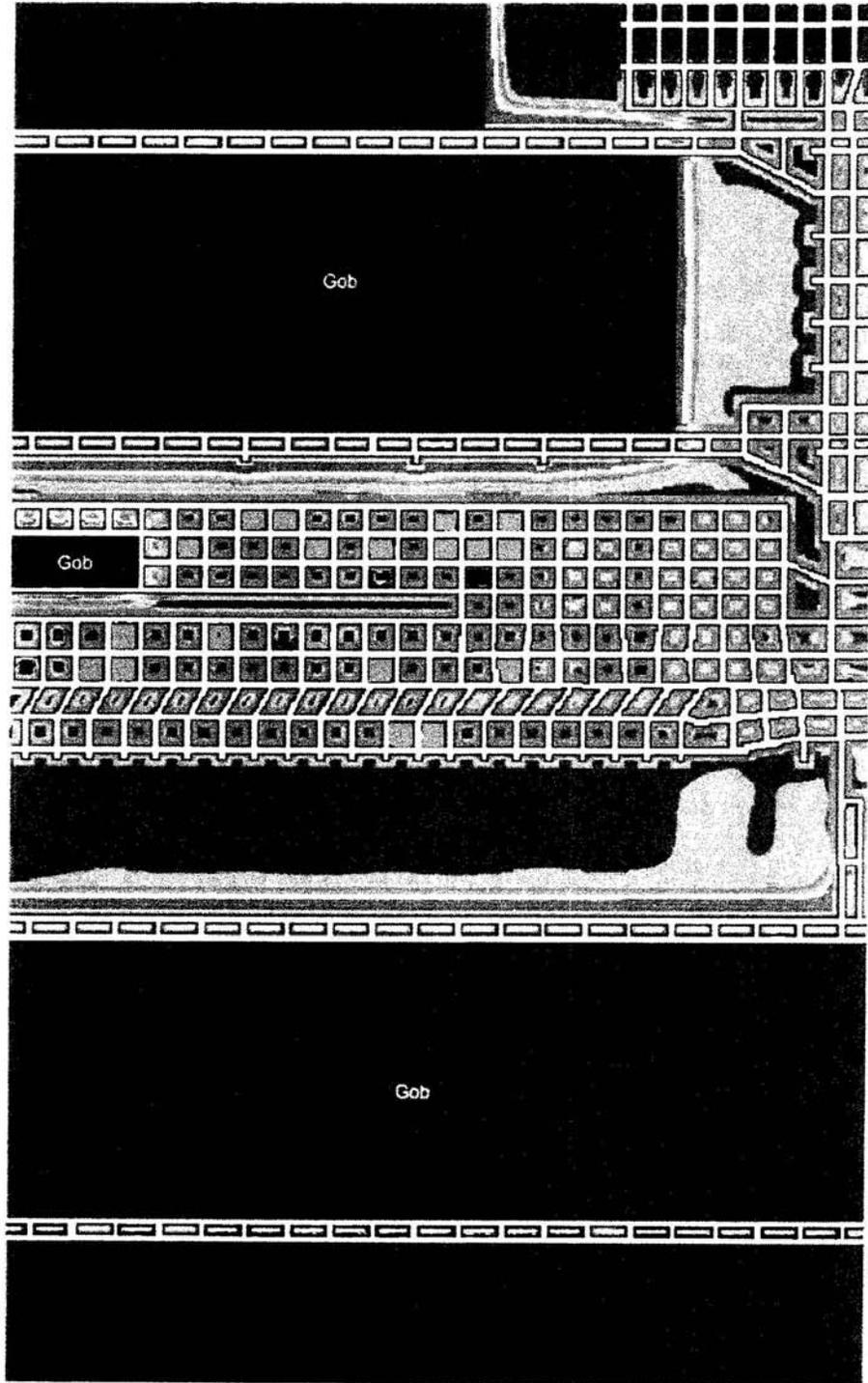
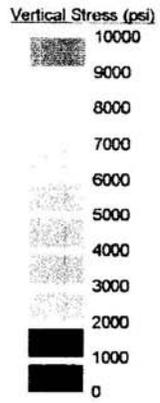


**Figure 3. ARMPS Retreat Model Schematics**

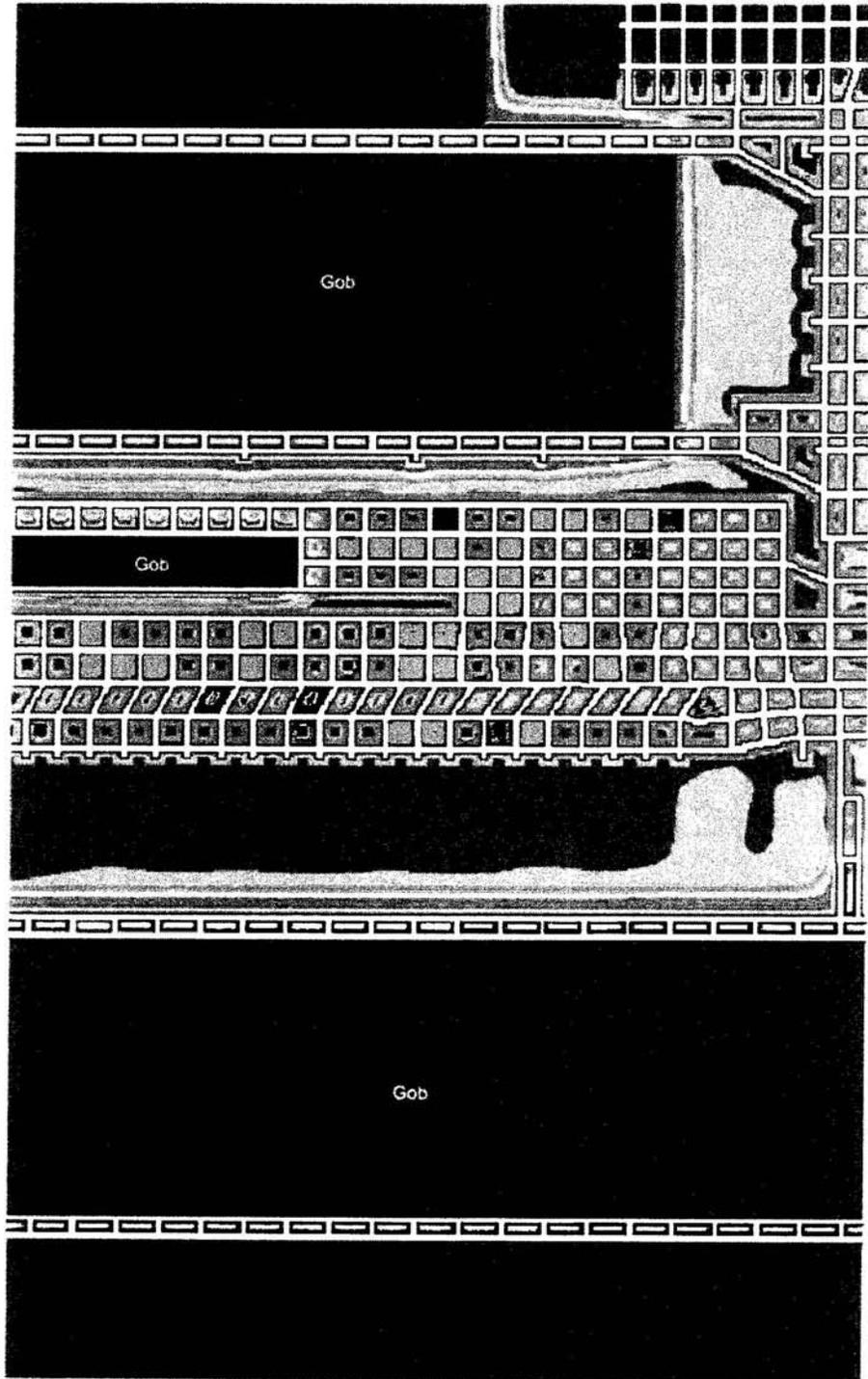
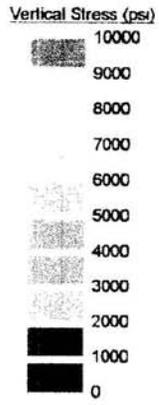
Vertical Stress (psi)



226-20 Genwa! [Phase 2\_vstress\_1.cdr] rj(8-9-2006)

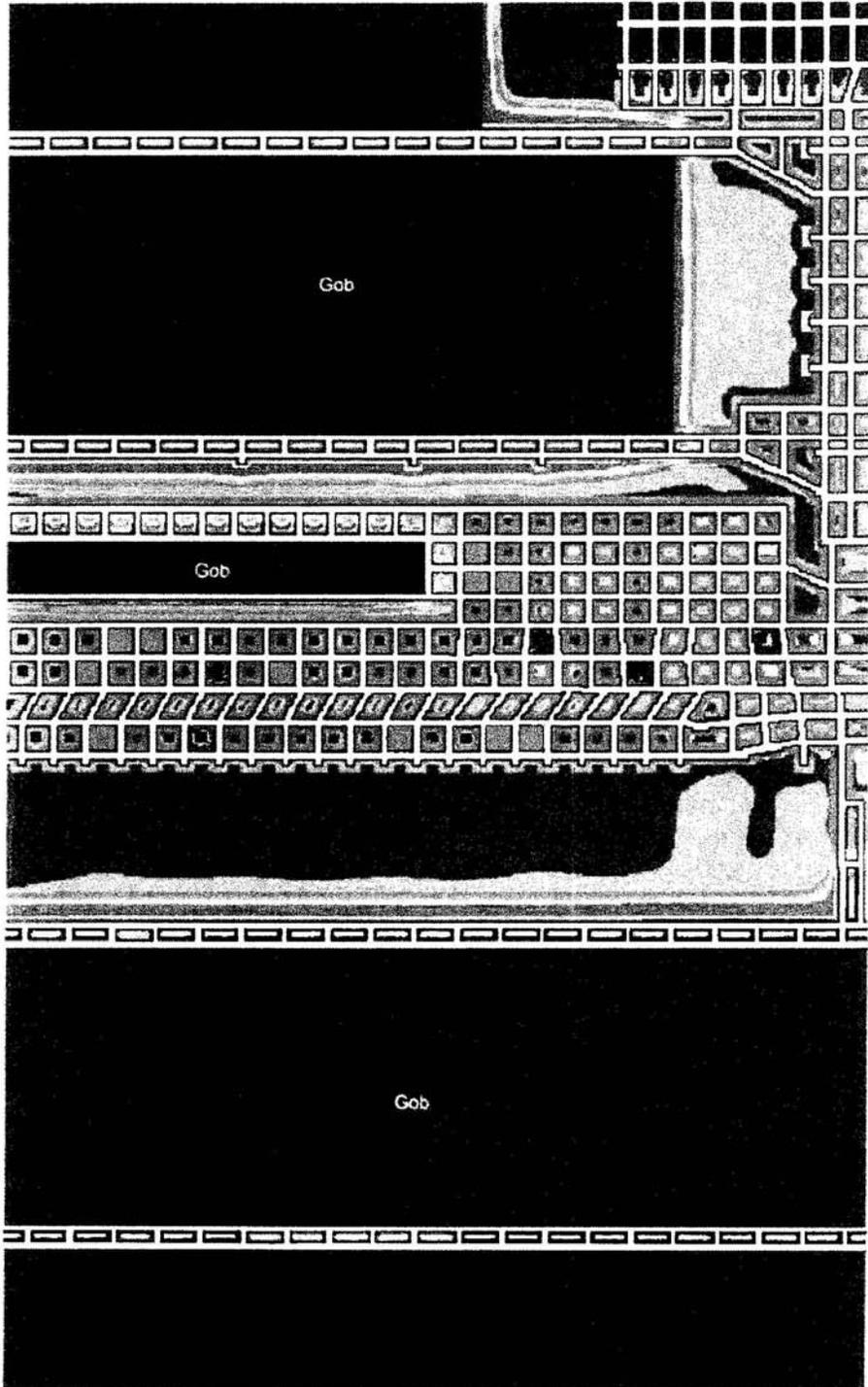
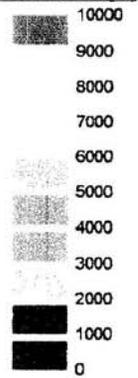


226-20 Genwal [Phase 2\_vstress\_2.odr] r;(8-8-2008)

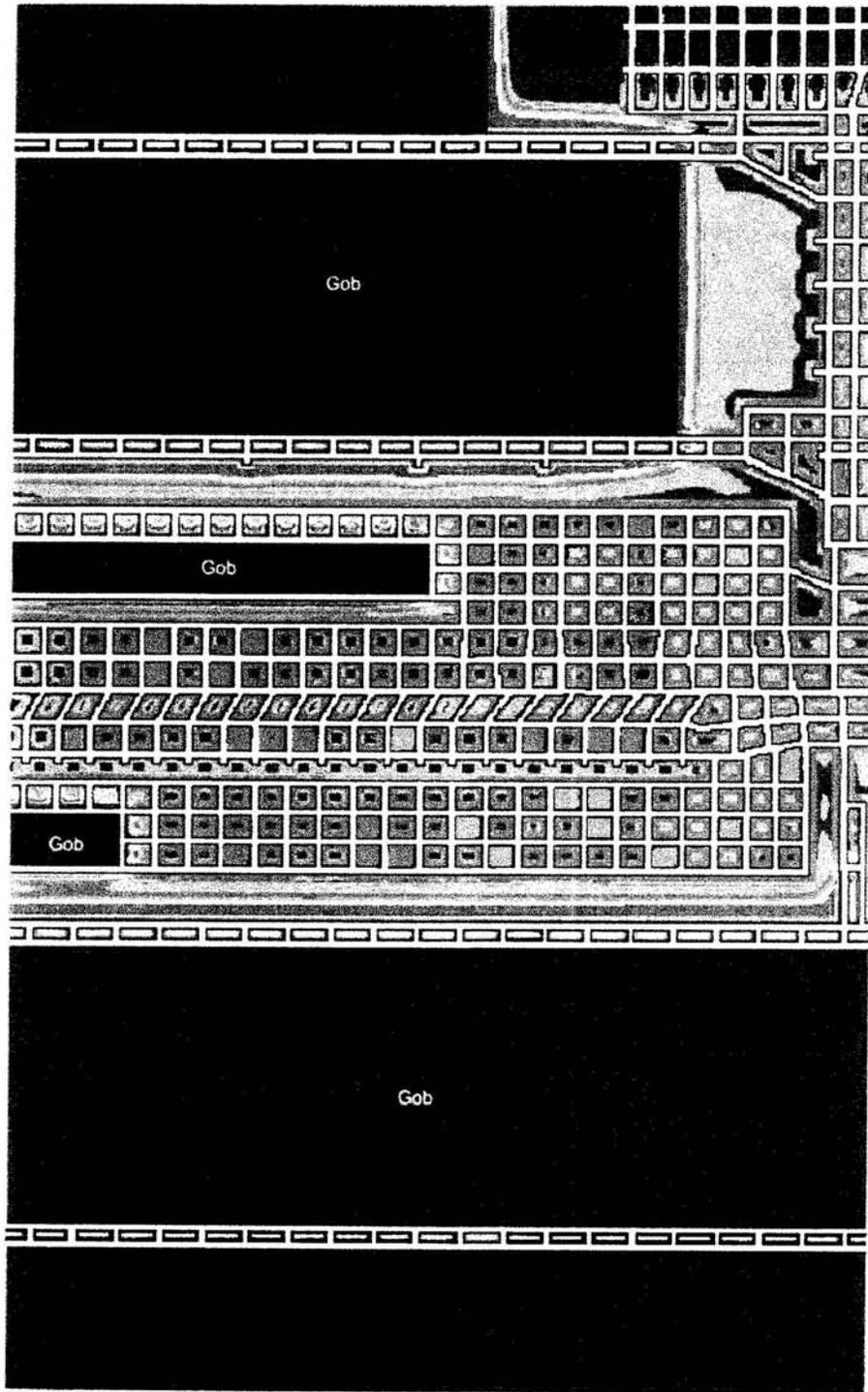
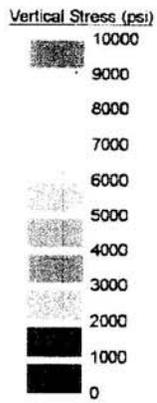


226-20 Genwal [Phase 2\_vstress\_3 odr].rij(8-9-2008)

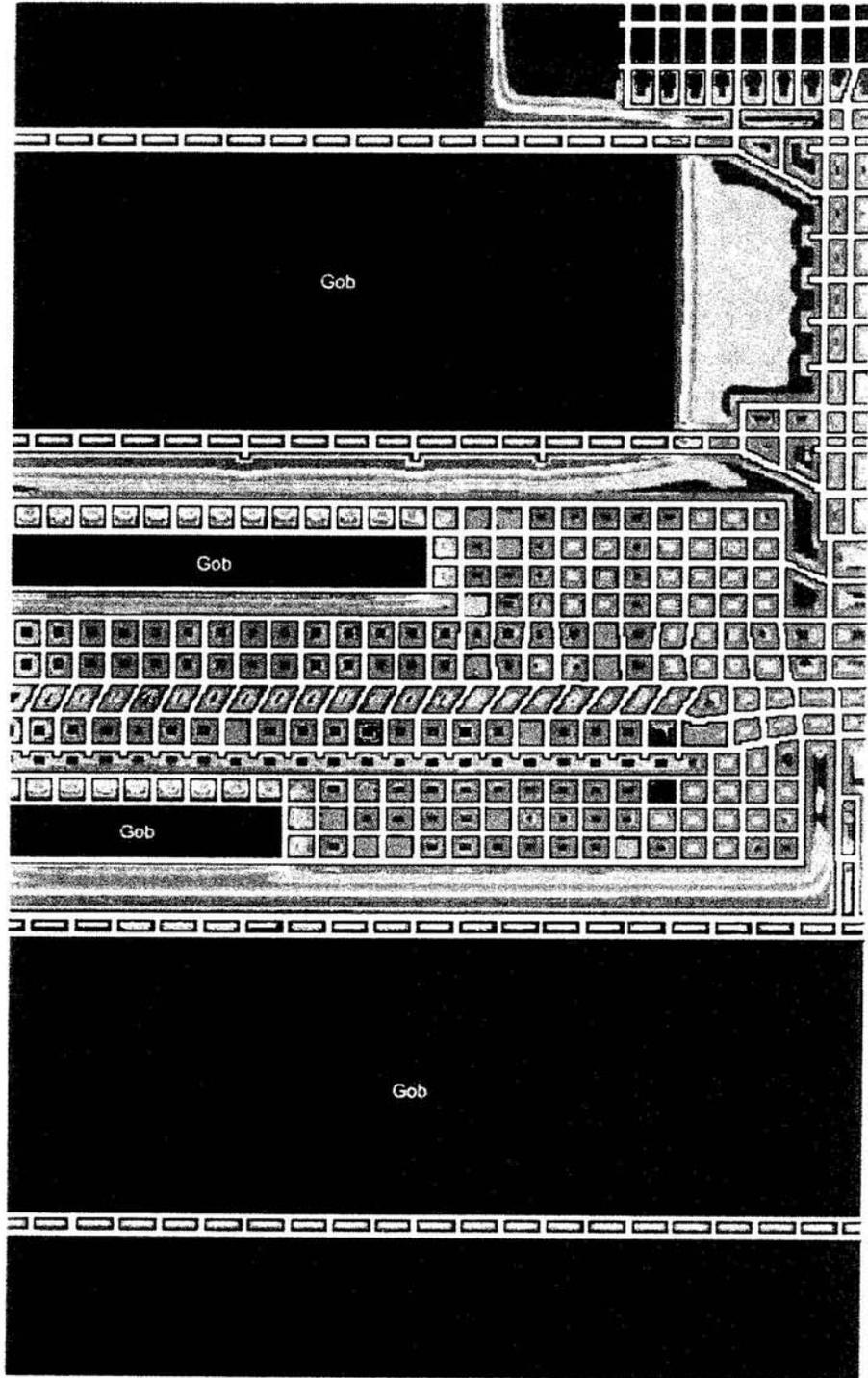
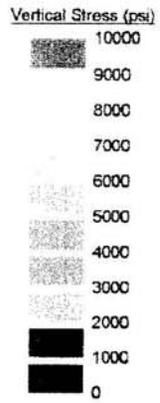
Vertical Stress (psi)



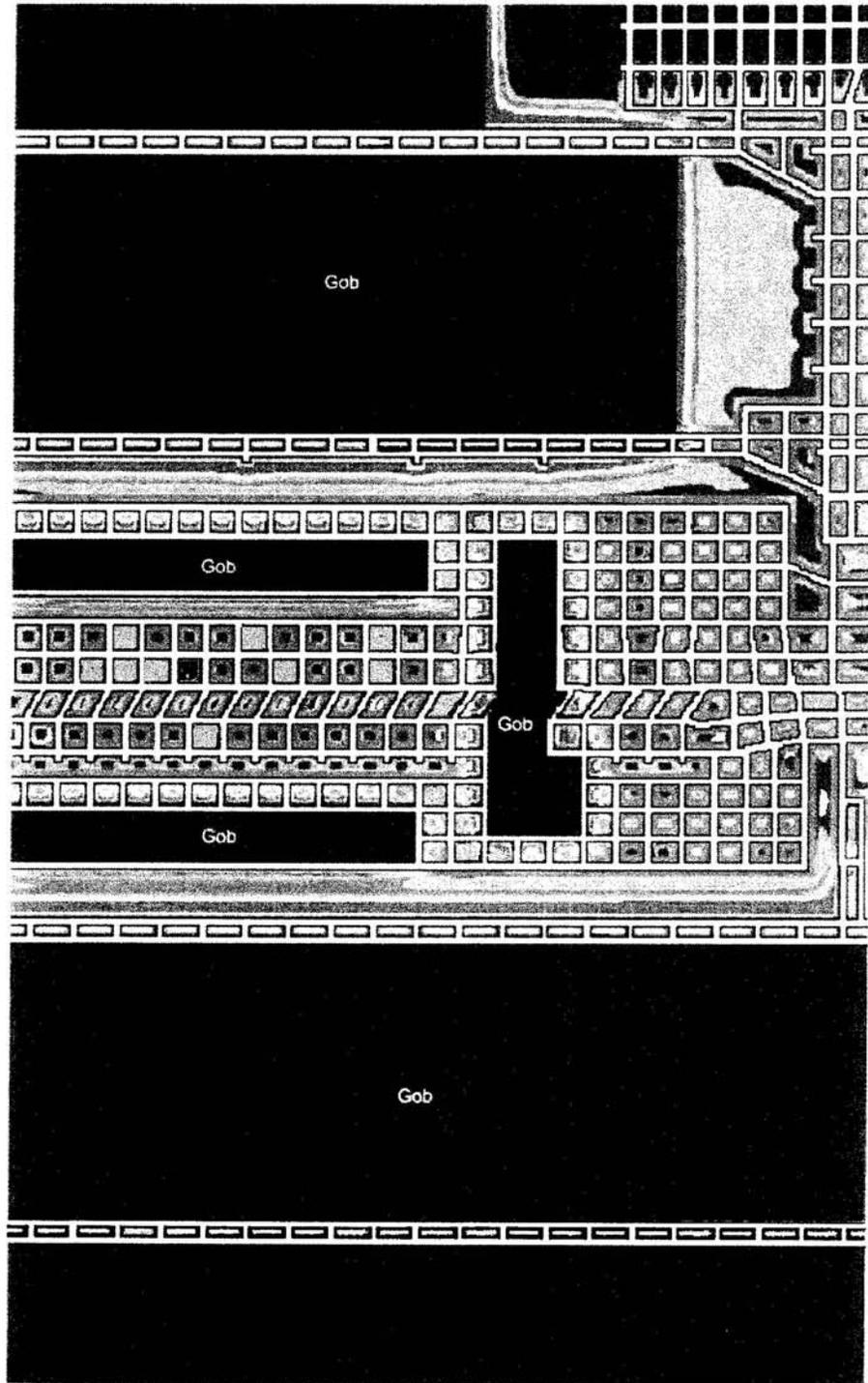
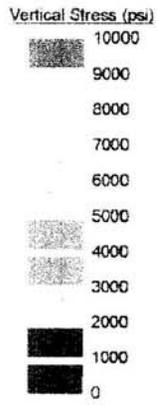
226-20 Genwal [Phase 2\_vstress\_4.odr]:(8-9-2008)



226-20 Gerwal [Phase 2\_vstress 5.cdr] rj(8-9-2006)

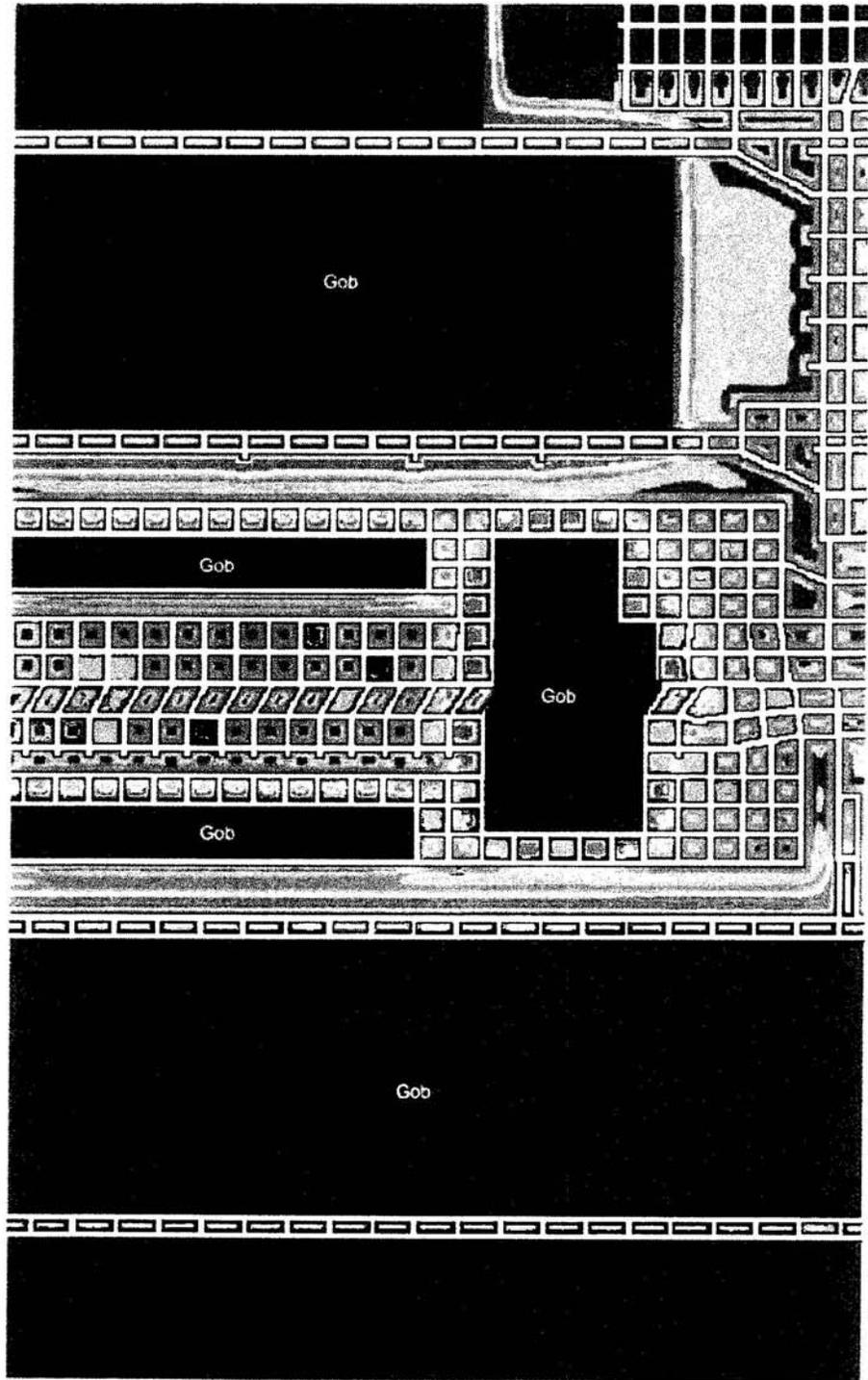
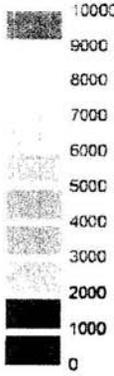


226-20 Gerwai [Phase 2\_vstress\_6.cdr] (1/8-6-2006)

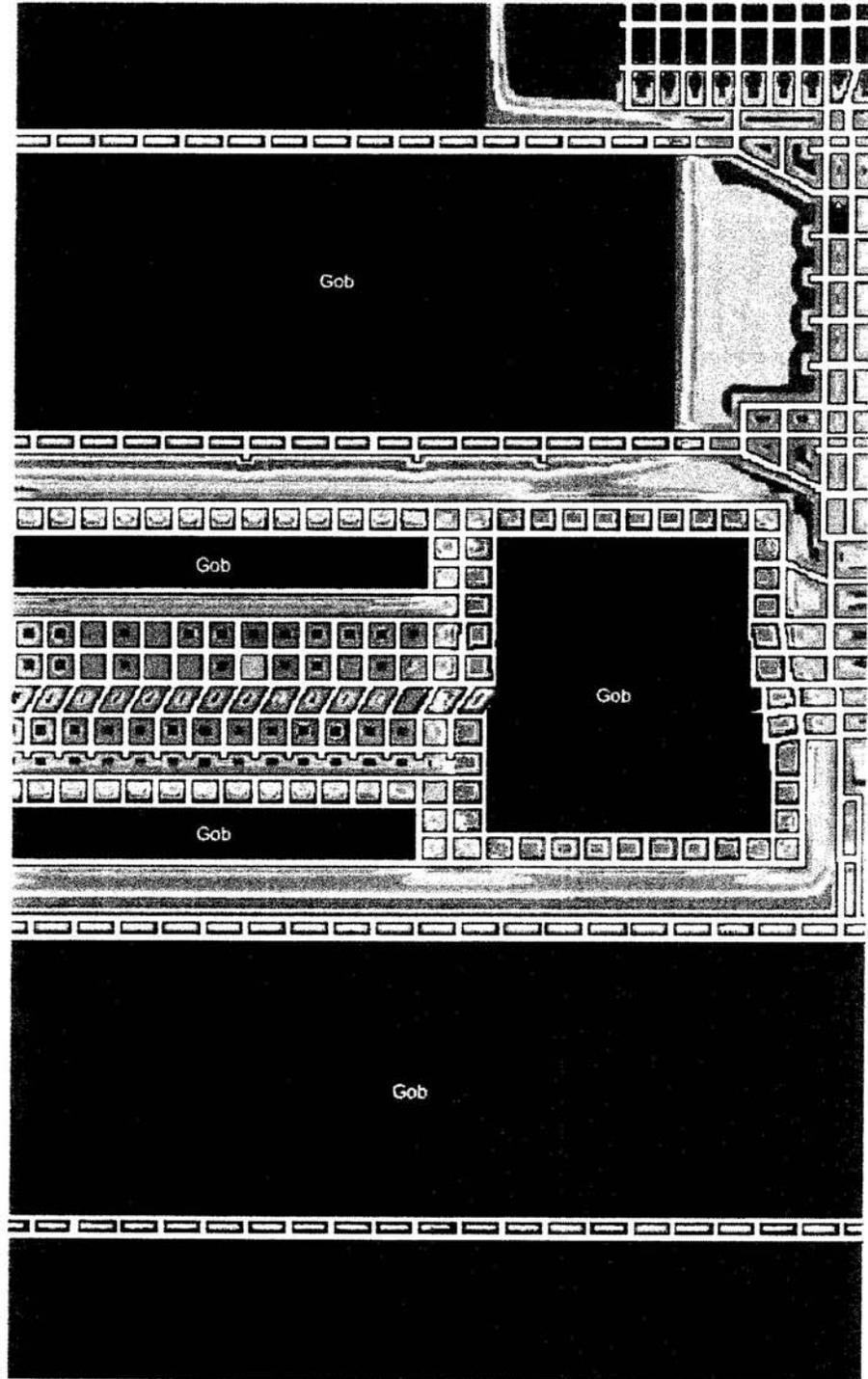
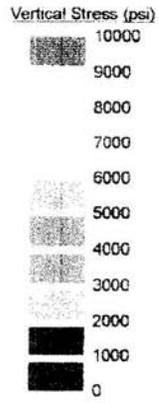


226-20 Genwai [Phase 2\_vstress\_7.cdr].rj(8-9-2006)

Vertical Stress (psi)

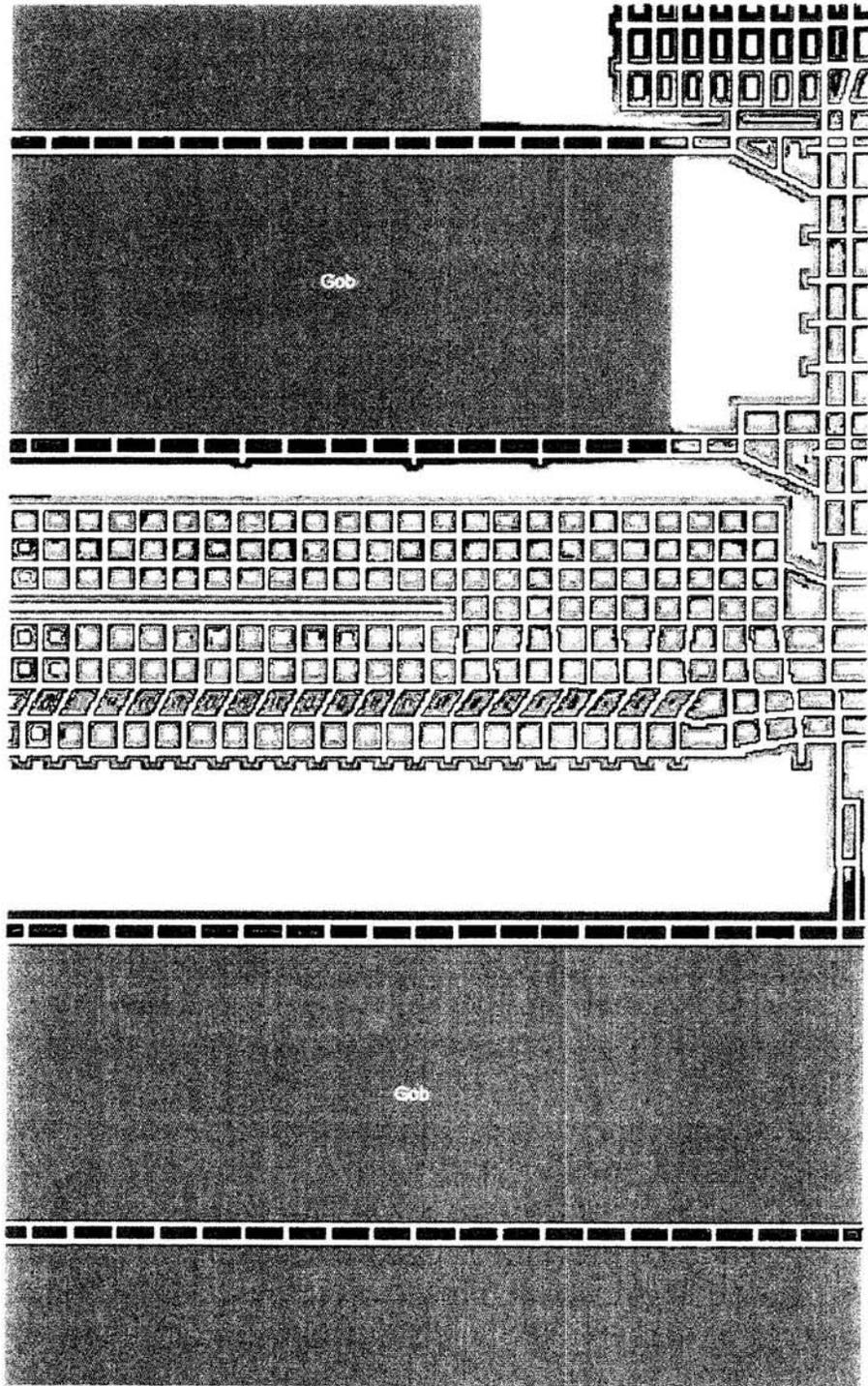


228-20 Genwal [Phase 2\_vstress\_8.cdr] rj(8-9-2008)

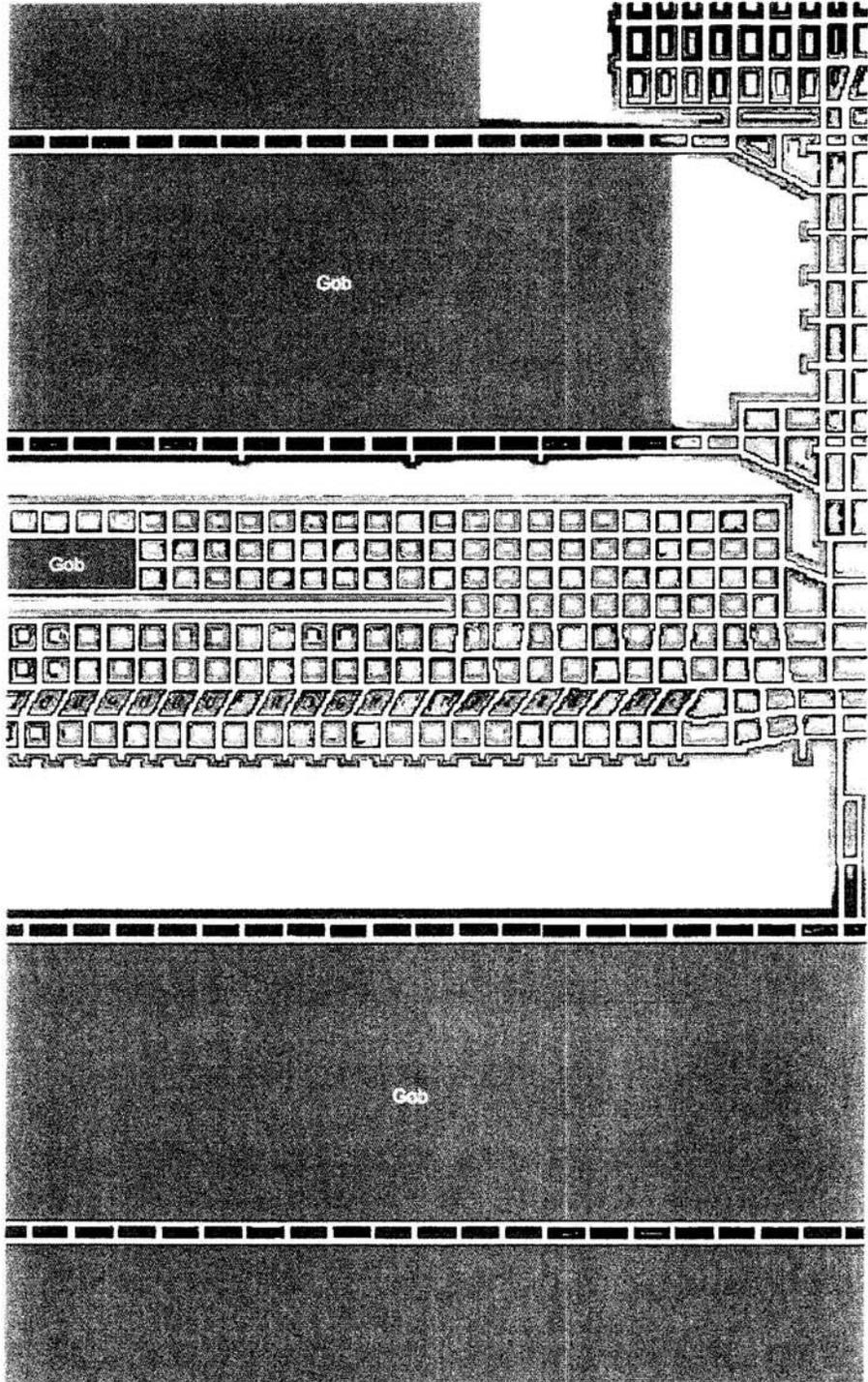
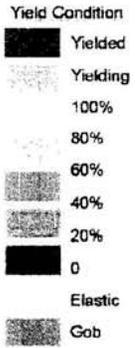


226-20 Gerwal [Phase 2\_vstress\_9.cdr] (8-9-2006)

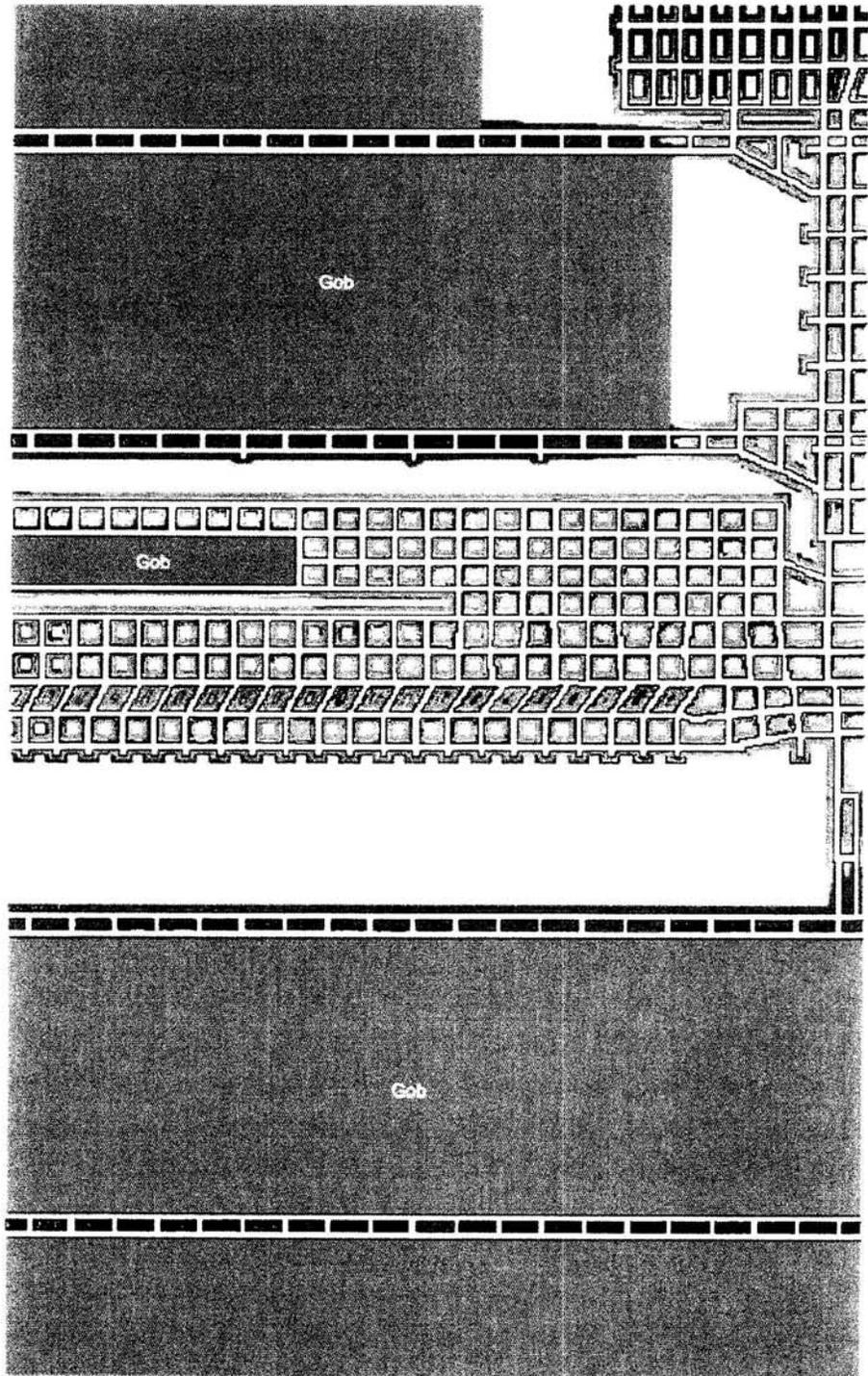
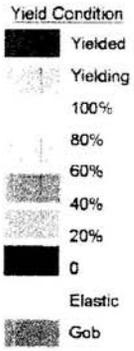
- Yield Condition
- Yielded
  - Yielding
  - 100%
  - 80%
  - 60%
  - 40%
  - 20%
  - 0
  - Elastic
  - Gob



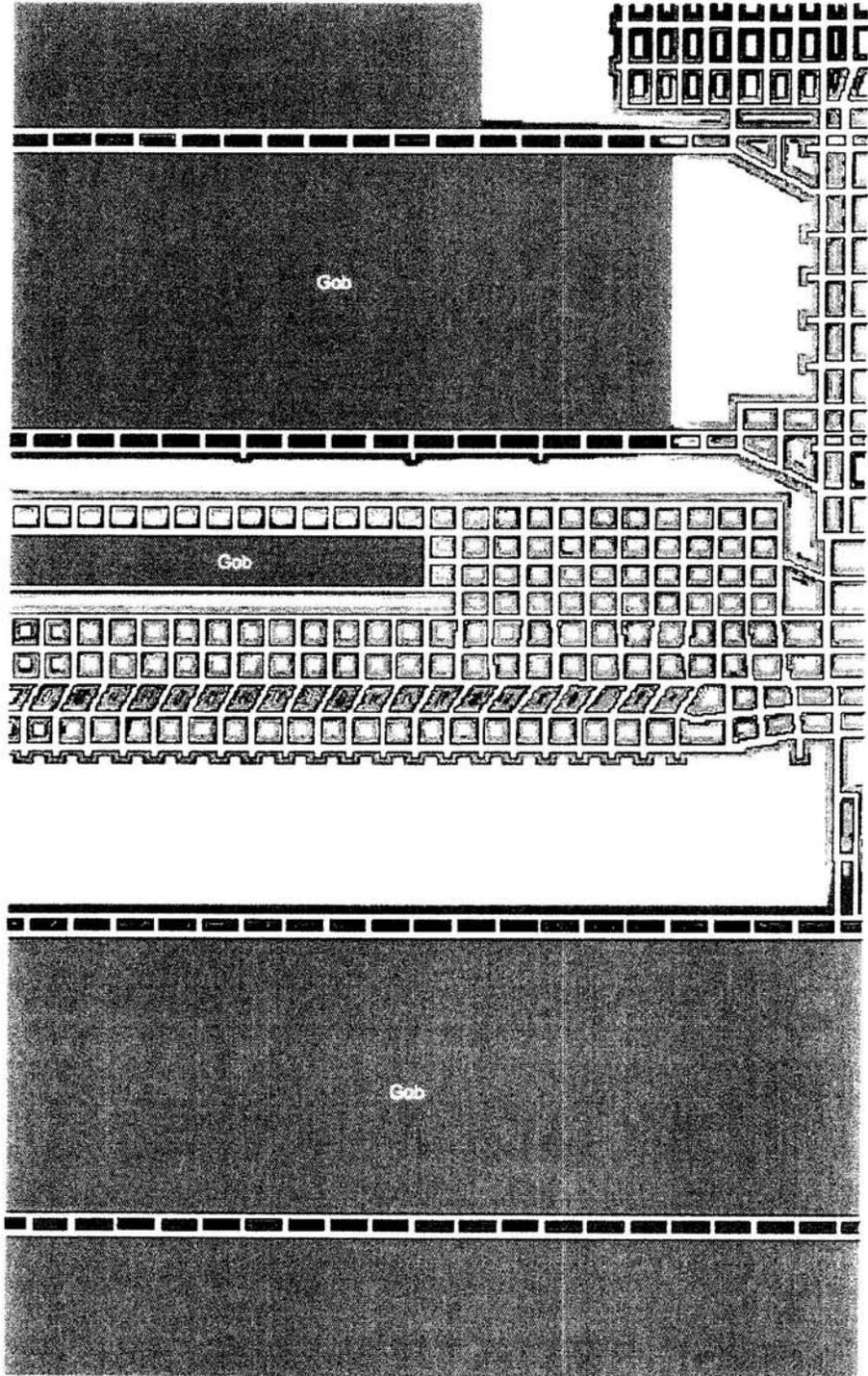
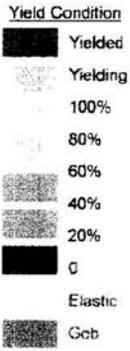
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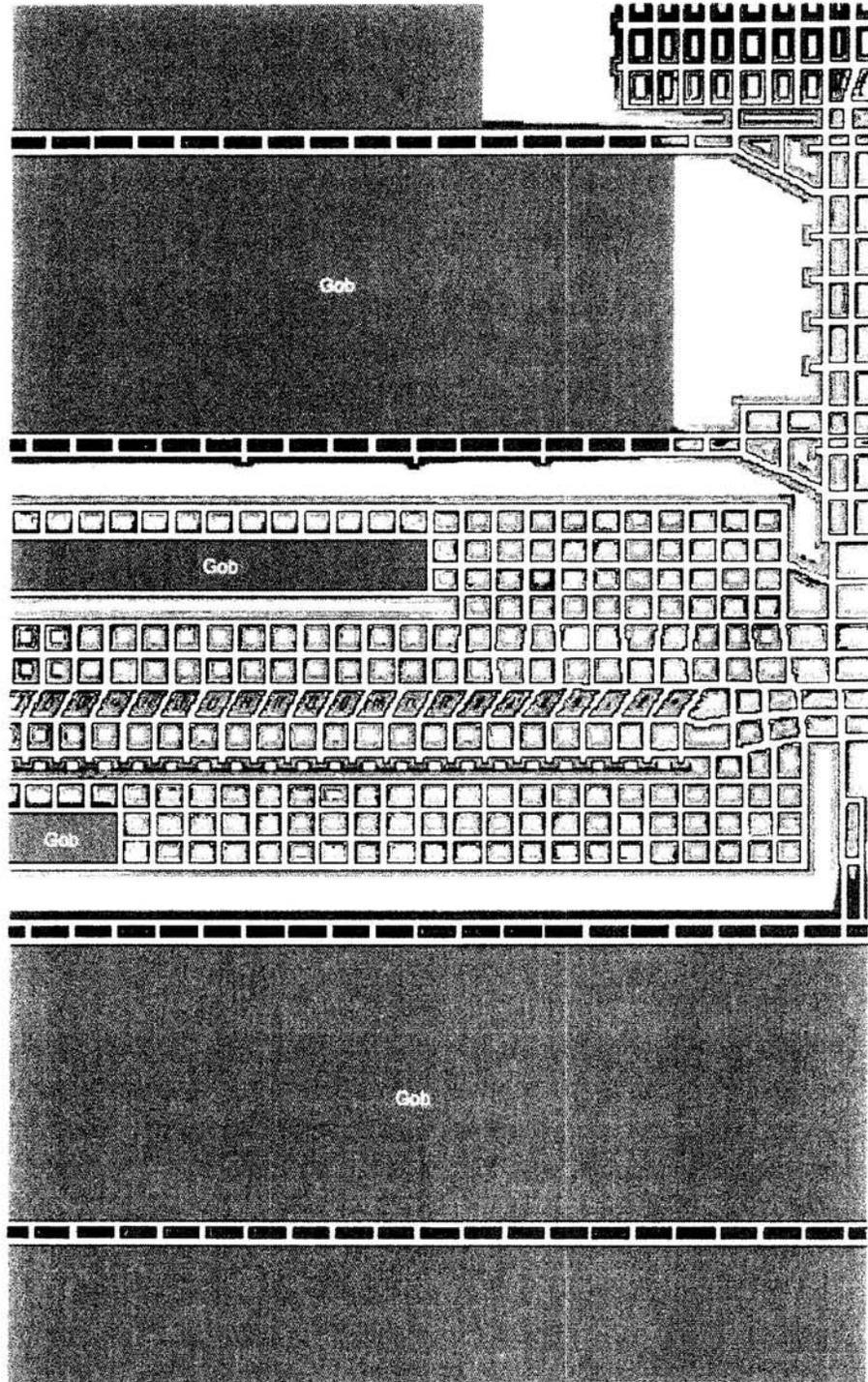
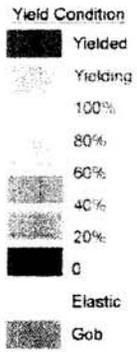
228-20 Genwal (Phase 2\_Yielding\_2.cdr) rj(8-9-2008)



226-20 Genwai [Phase 2\_Yielding\_3.corr] r1(8-9-2006)



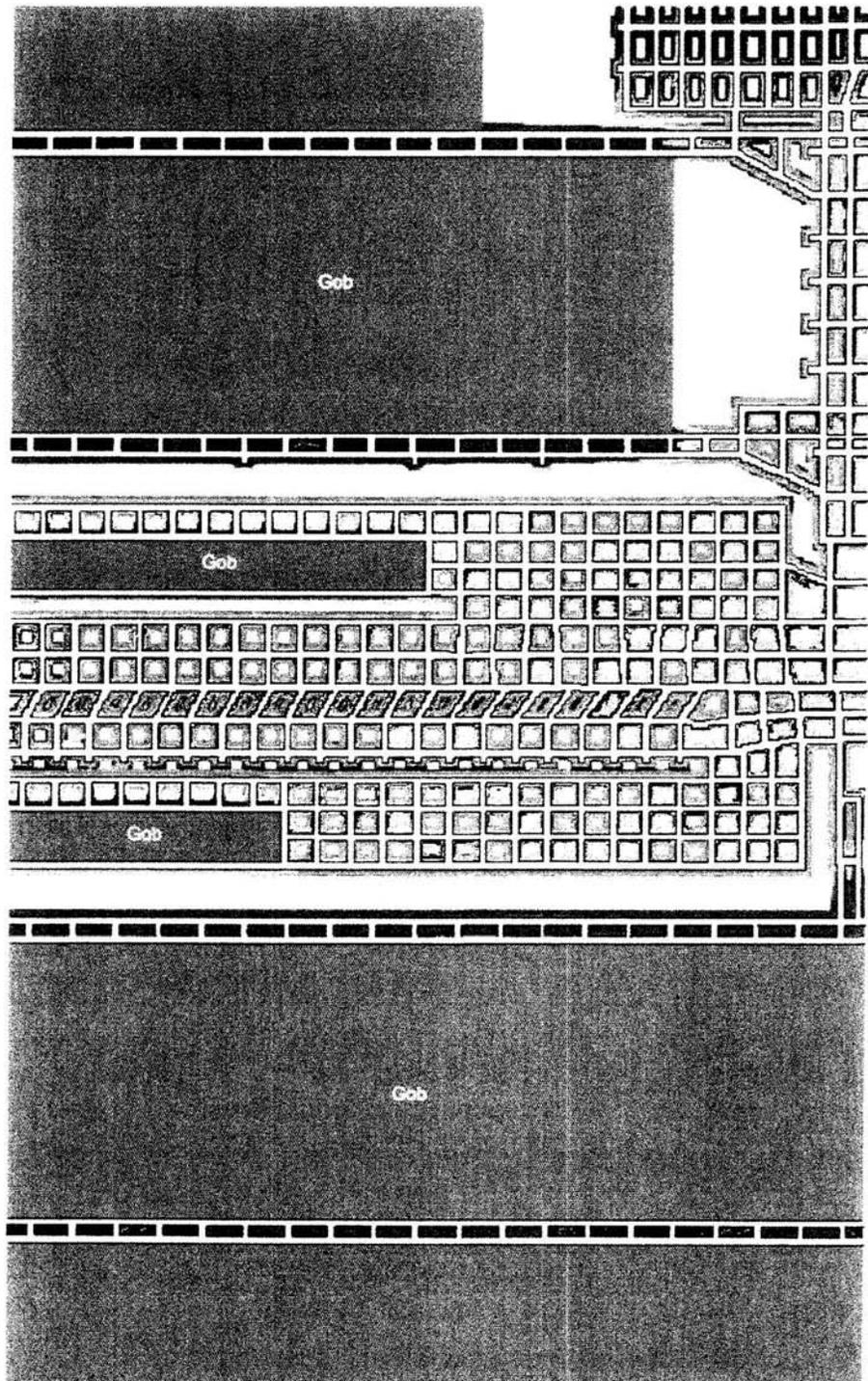
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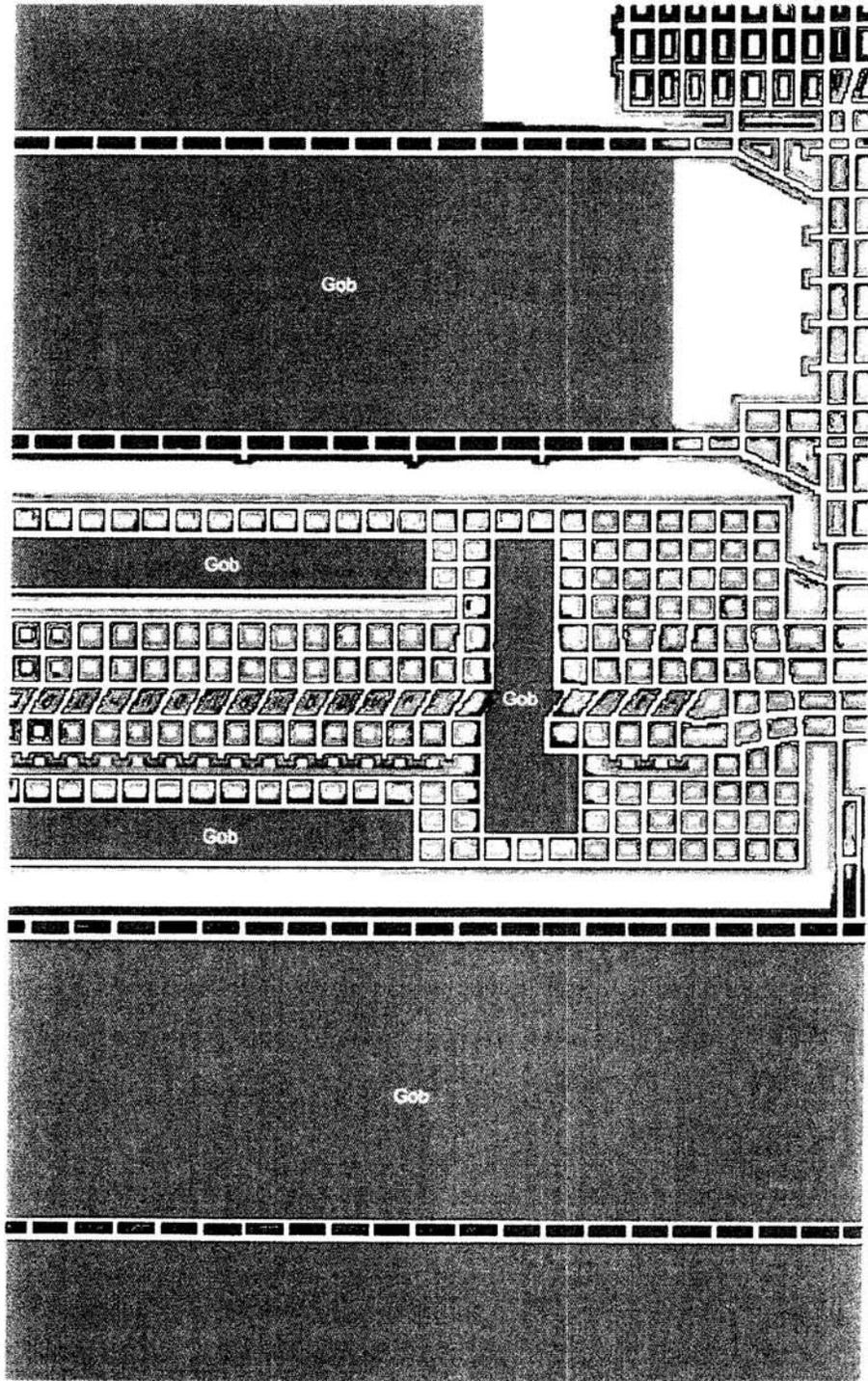
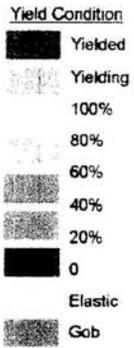
228-20 Genwal [Phase 2\_Yielding\_5.odt] rj(8-9-2008)

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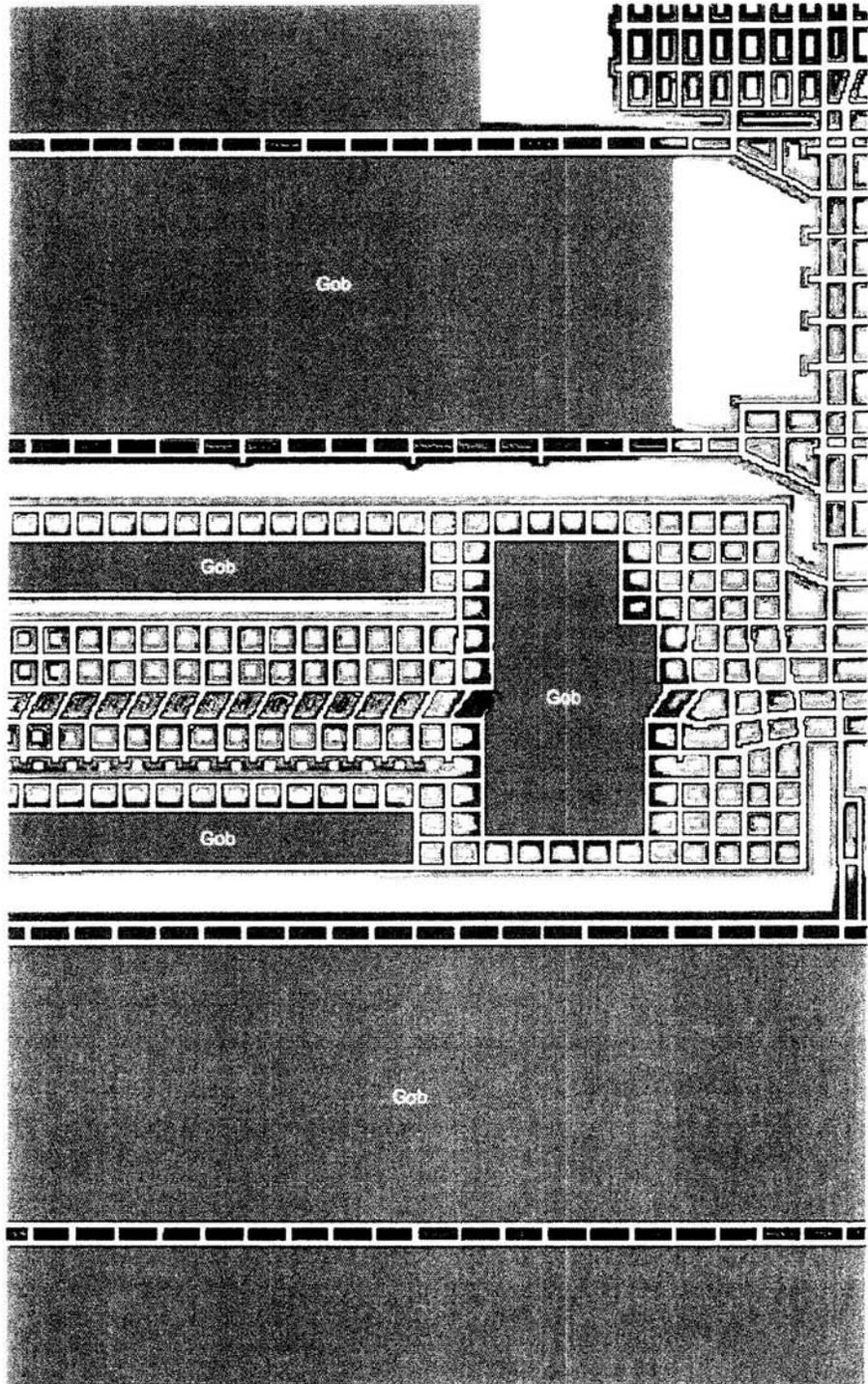
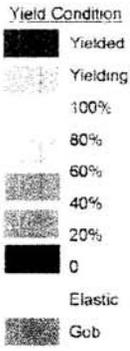
-  Yielded
-  Yielding
-  100%
-  80%
-  60%
-  40%
-  20%
-  0
-  Elastic
-  Gob



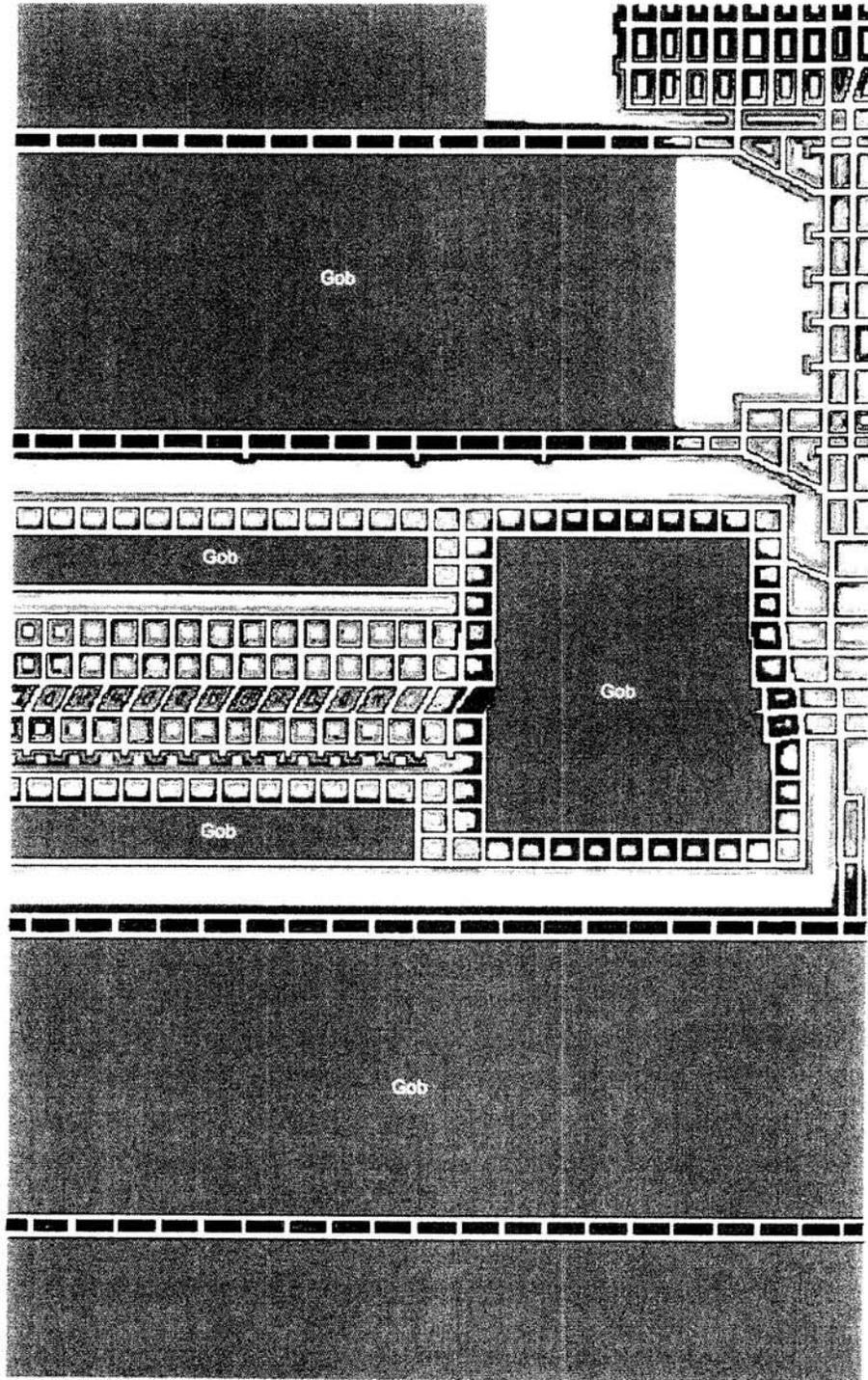
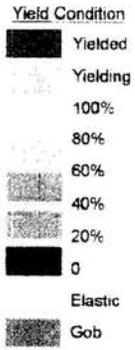
226-20 Genwal (Phase 2\_Yielding\_8.cdr) nj(8-9-2008)



226-20 Genwai (Phase 2 Yielding\_7.cdr) rj(8-9-2006)



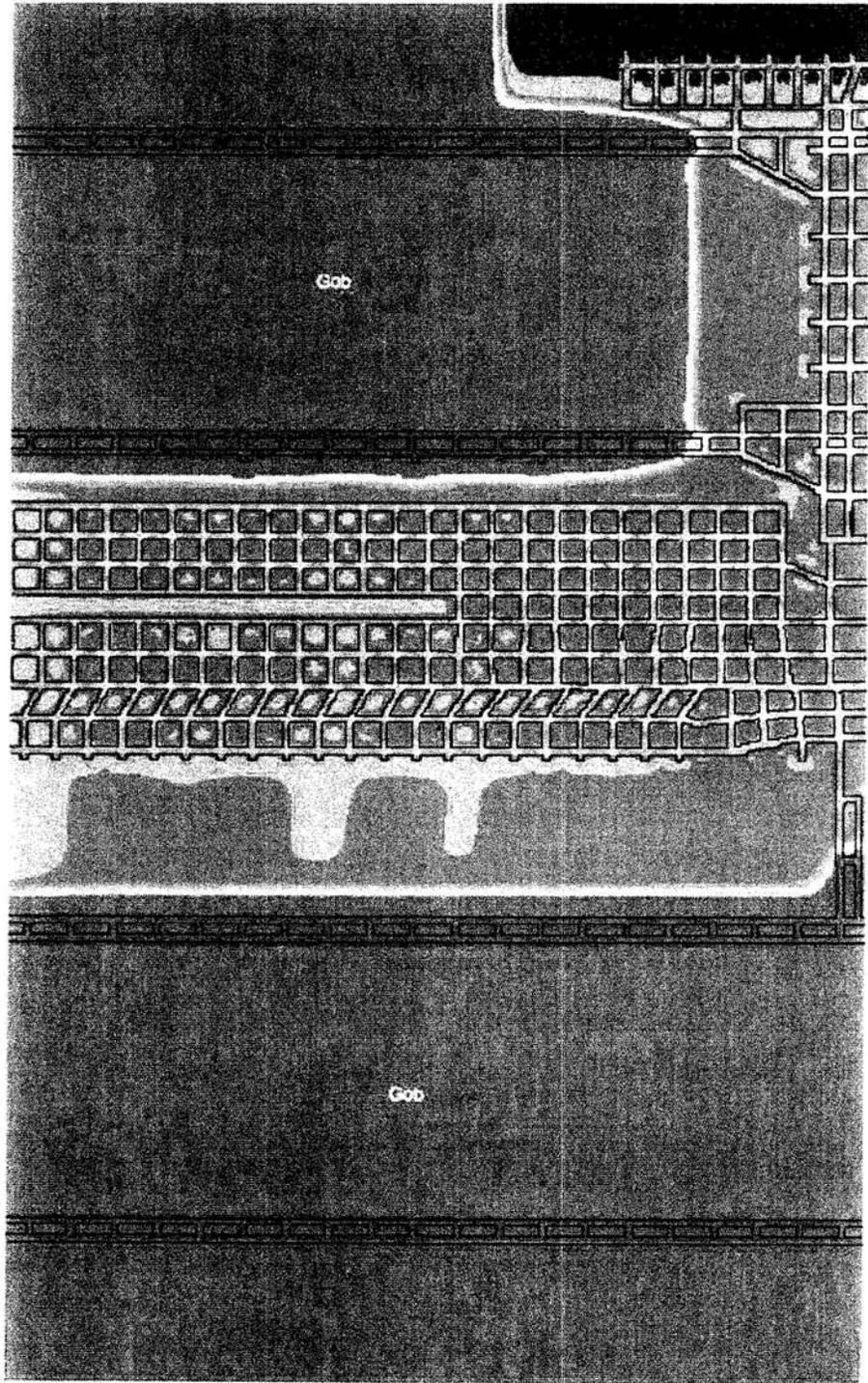
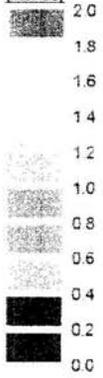
226-20 Genwal (Phase 2\_Yielding\_8.odr) (18-9-2006)



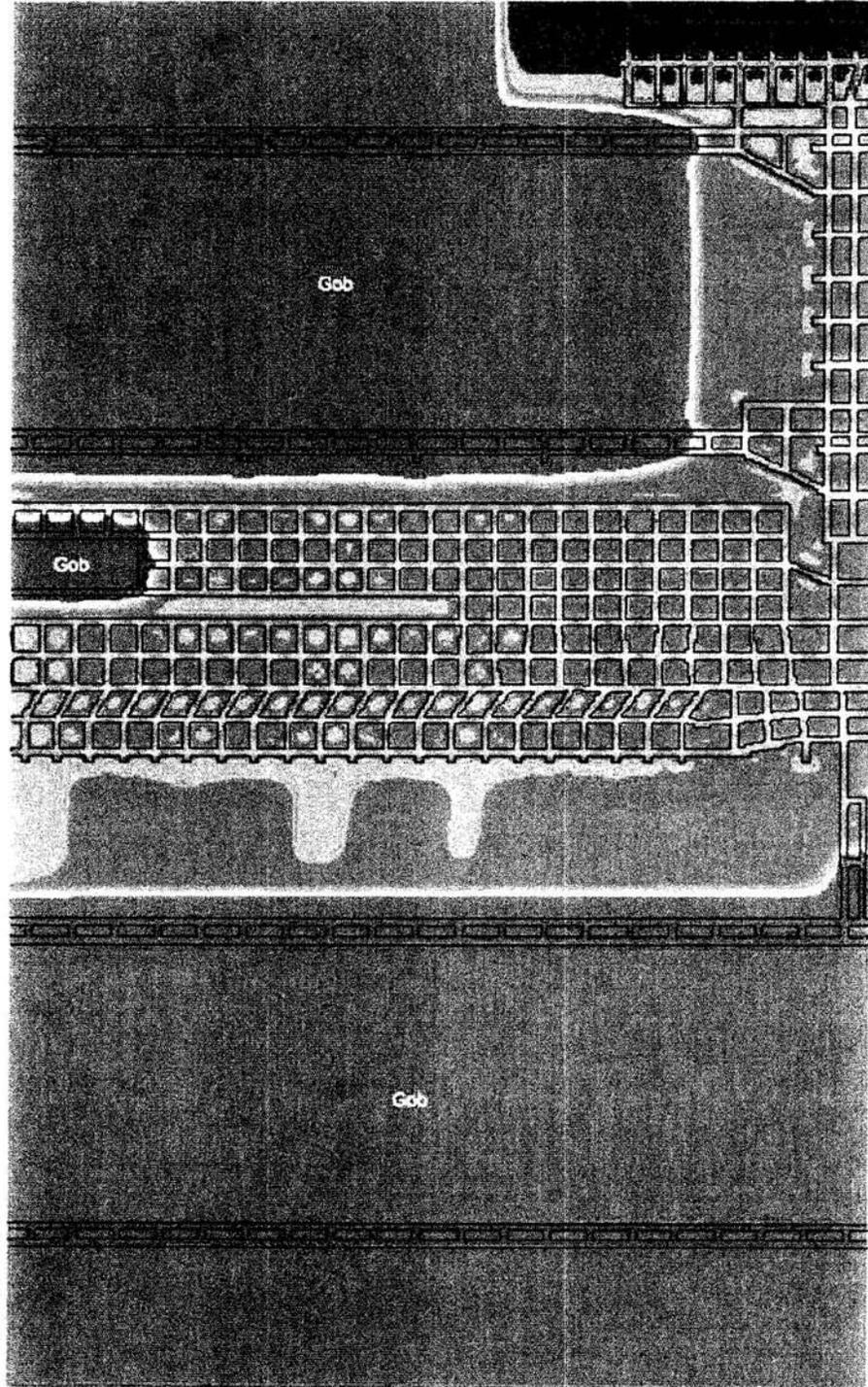
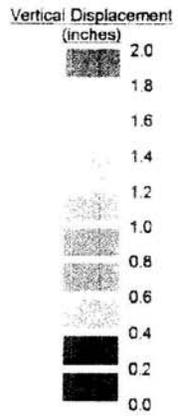
226-20 Genwal (Phase 2\_Yielding\_8.cdr) rj(8-9-2006)

Vertical Displacement

(inches)



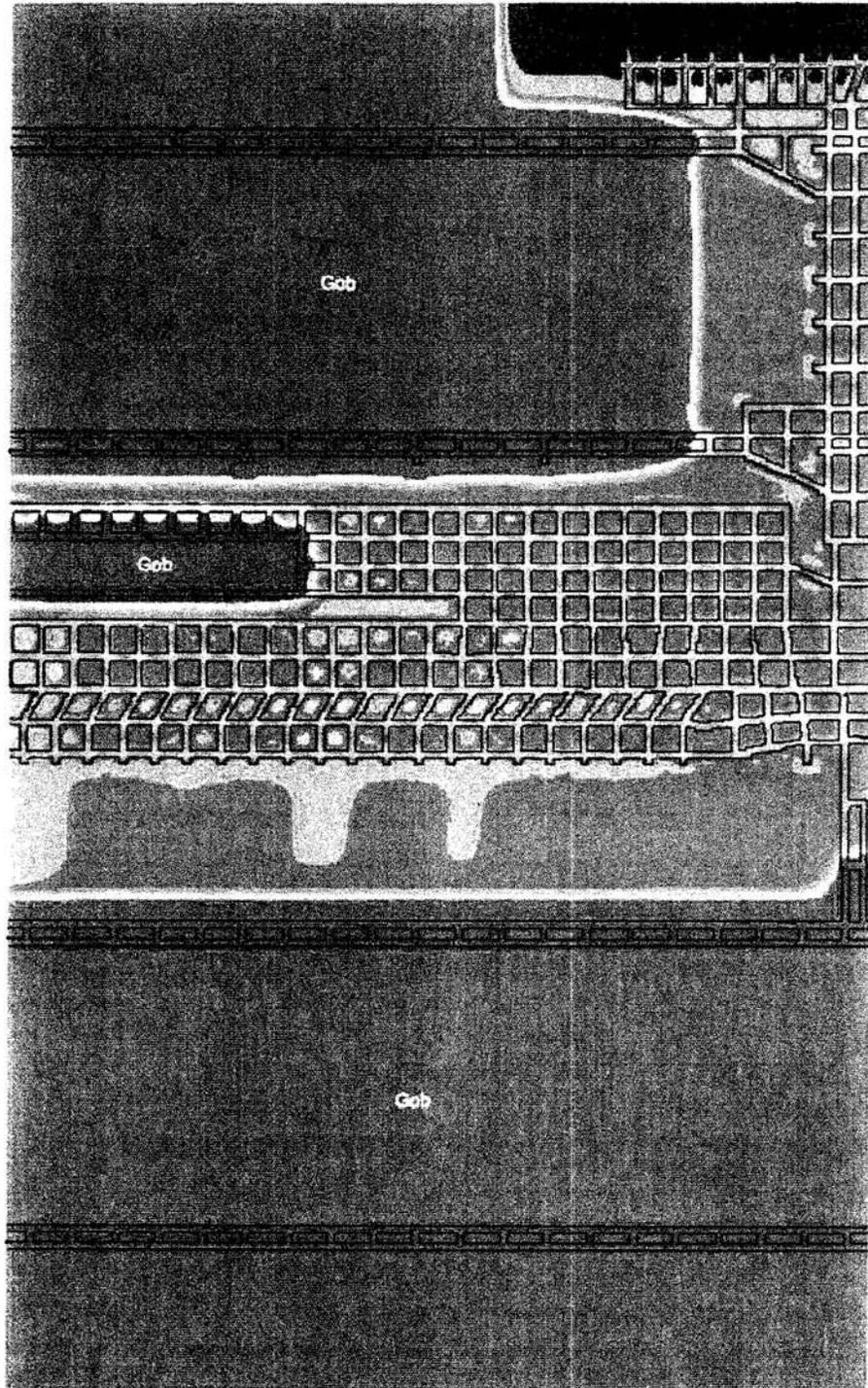
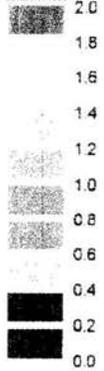
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228-20 Genwal [Phase 2 voispacement\_2.cdr] rj(8-9-2008)

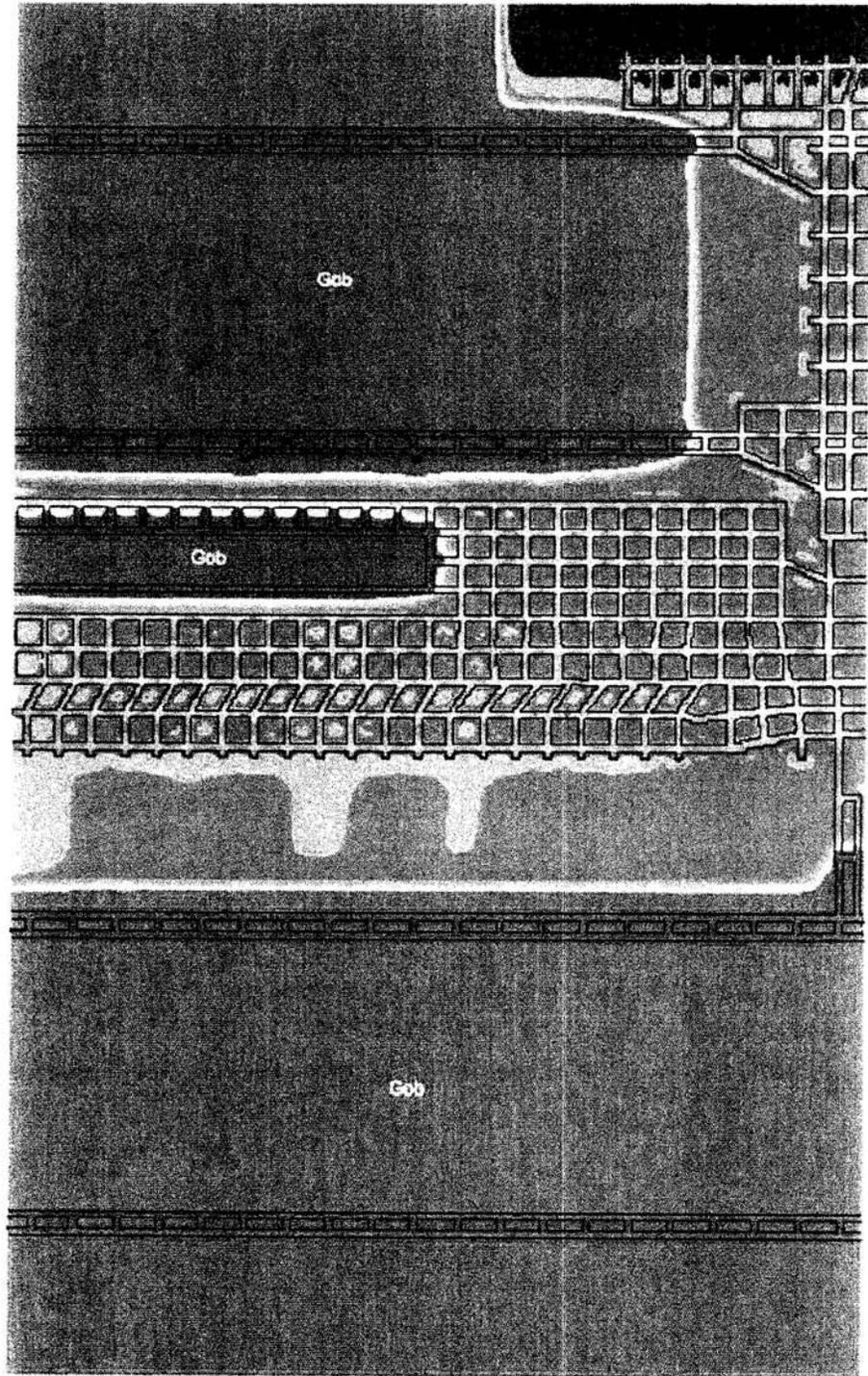
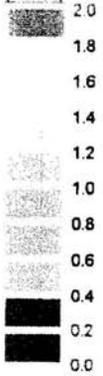
Vertical Displacement

(inches)



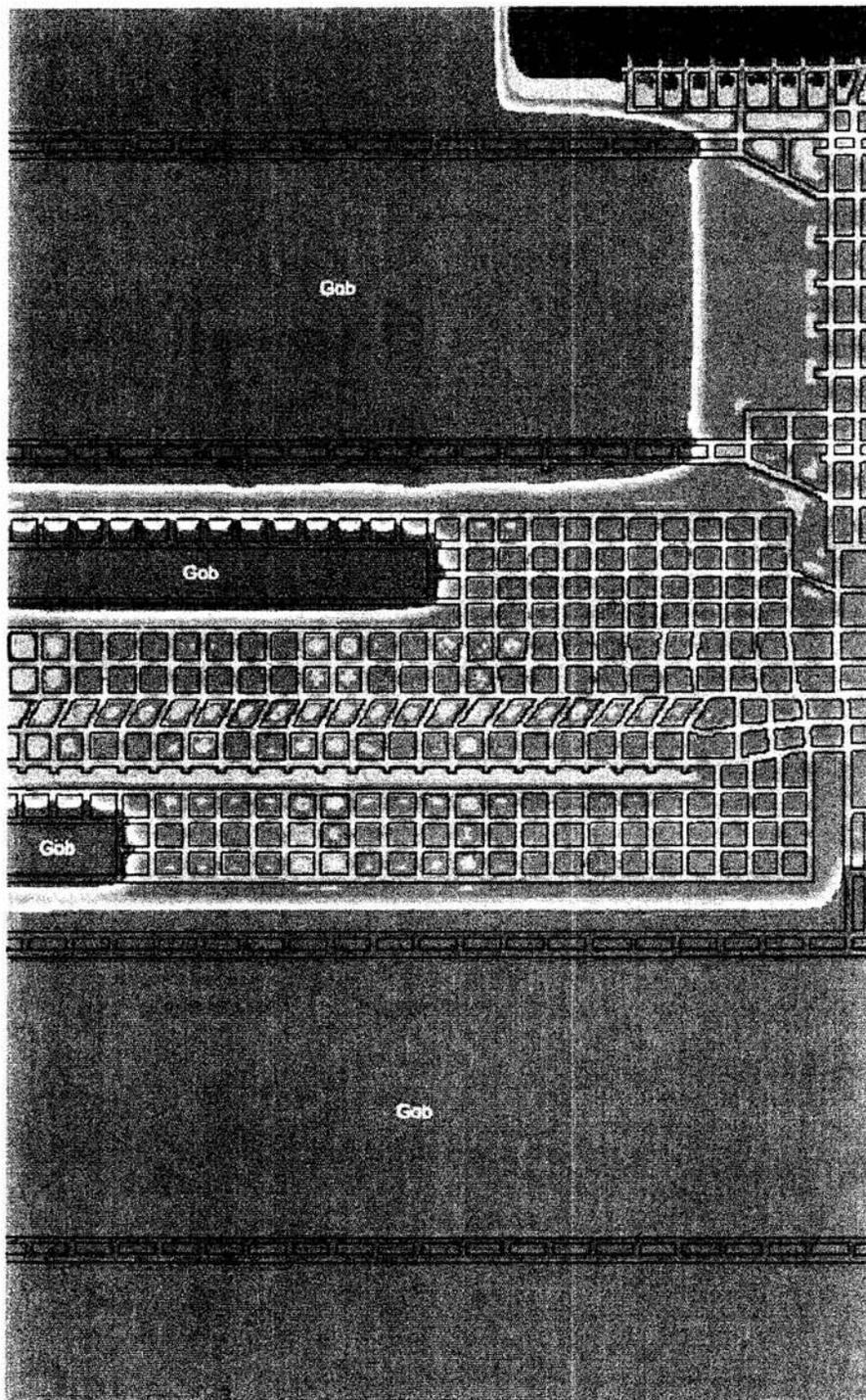
229-20 Genwal [Phase 2\_vdisplacement\_3.cdr] rj(8-9-2006)

Vertical Displacement  
(inches)



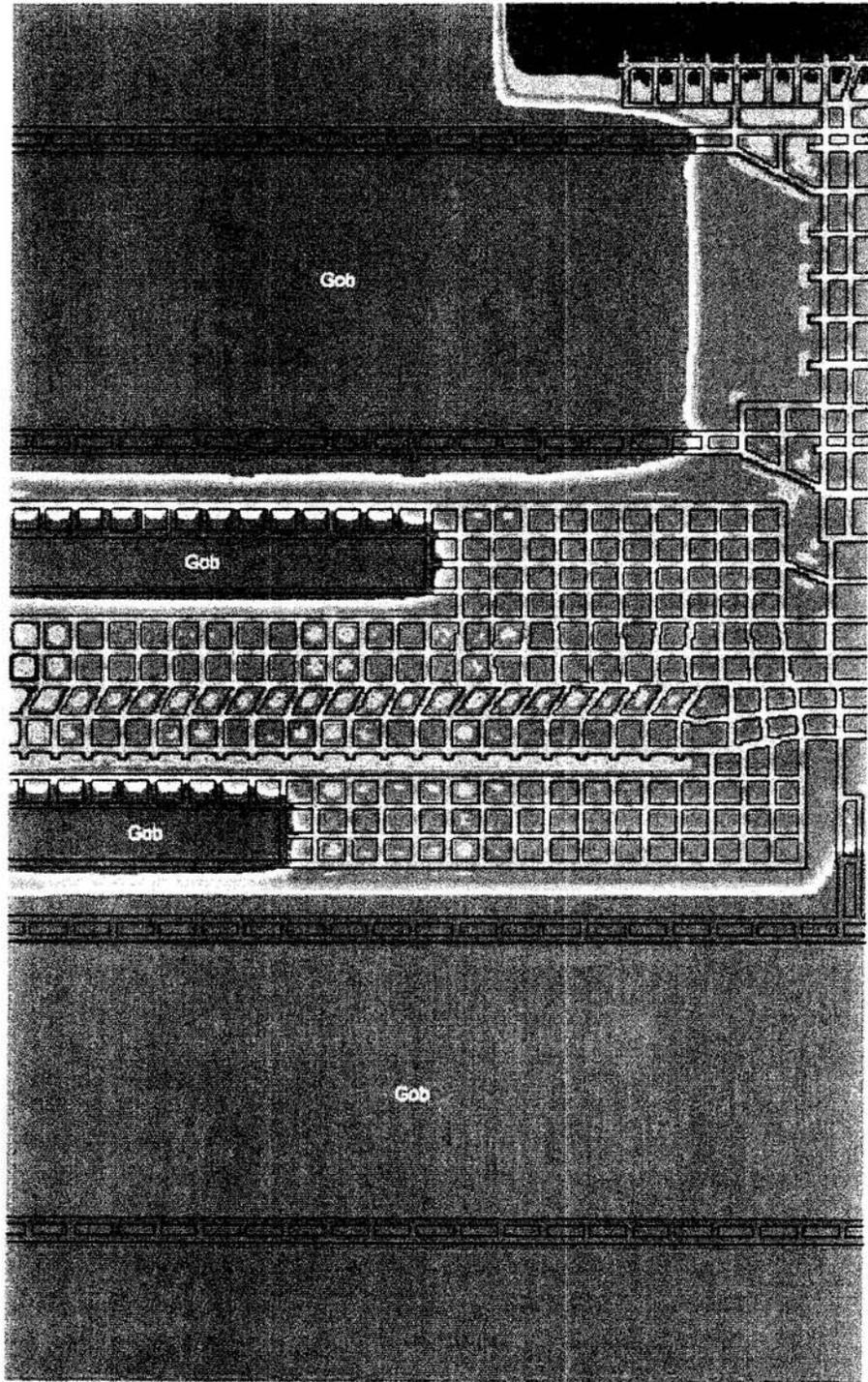
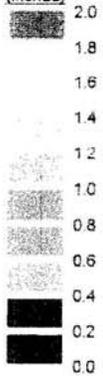
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Vertical Displacement  
(inches)



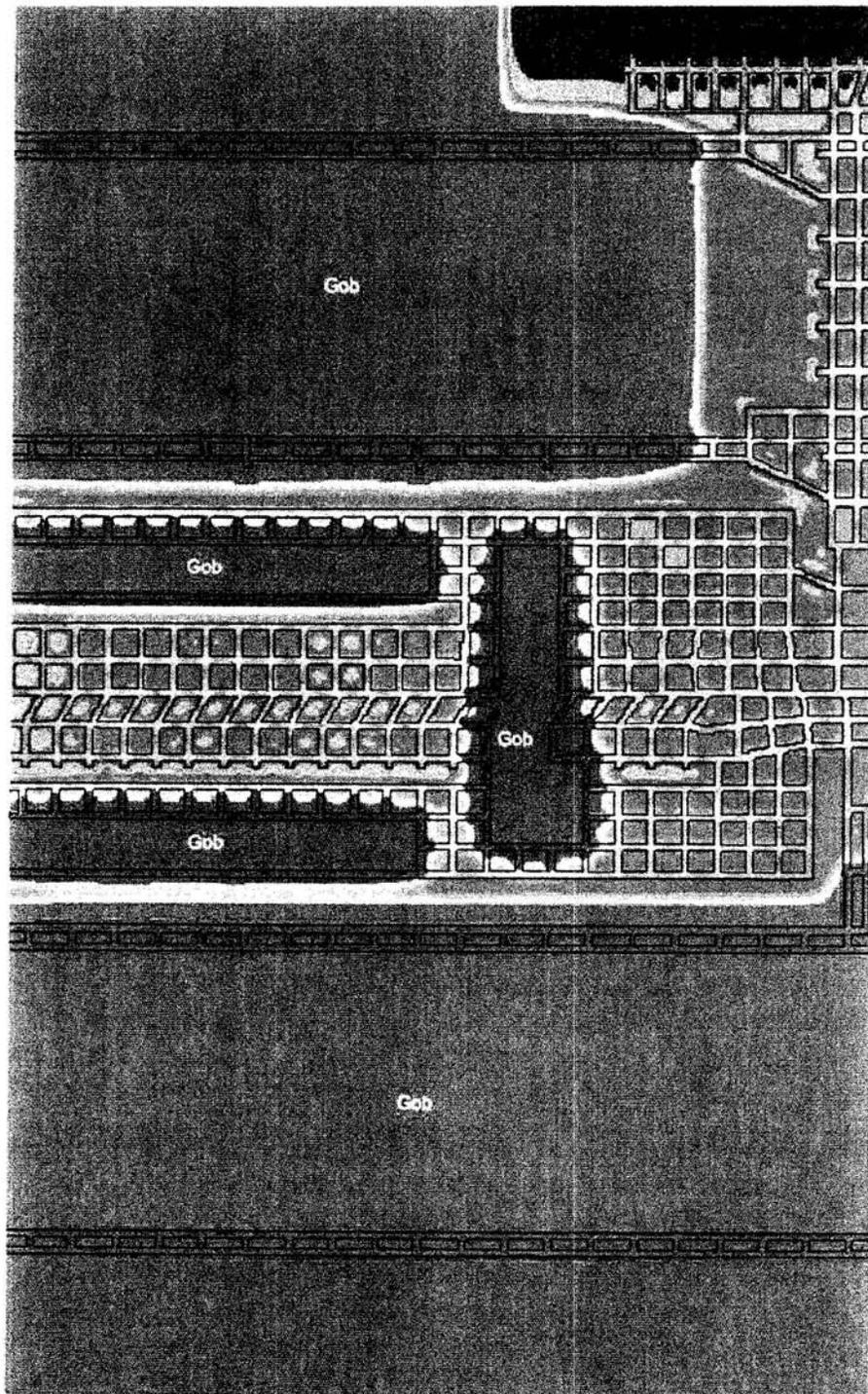
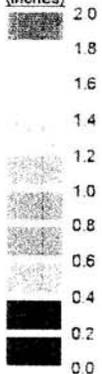
228-20 Genwal (Phase 2\_vdisplacement\_5.cdr) nj(8-9-2006)

Vertical Displacement  
(inches)



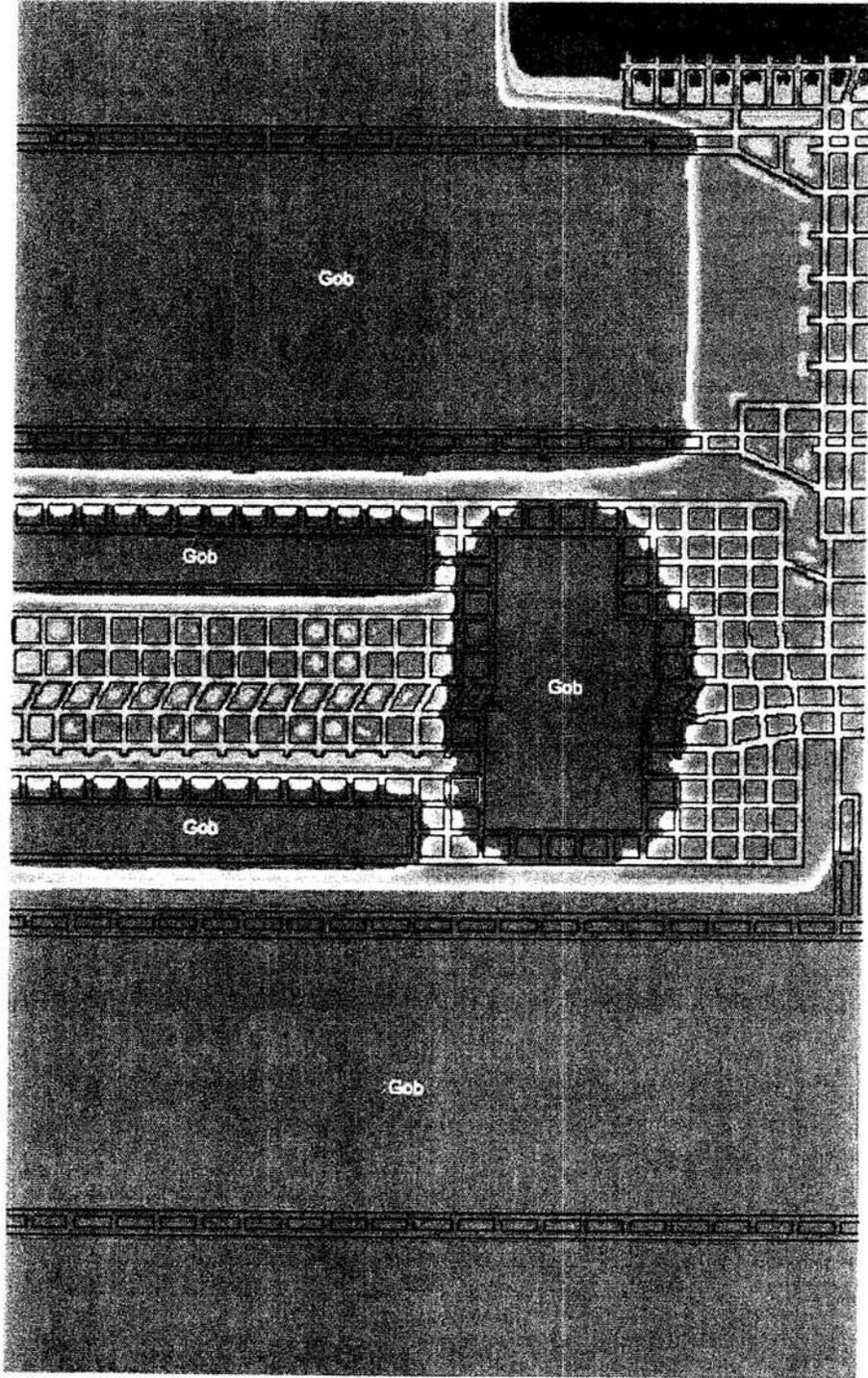
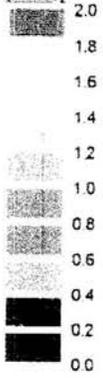
226-20 Genwal [Phase 2\_vdisplacement\_8.cdr] rjt(8-9-2006)

Vertical Displacement  
(inches)



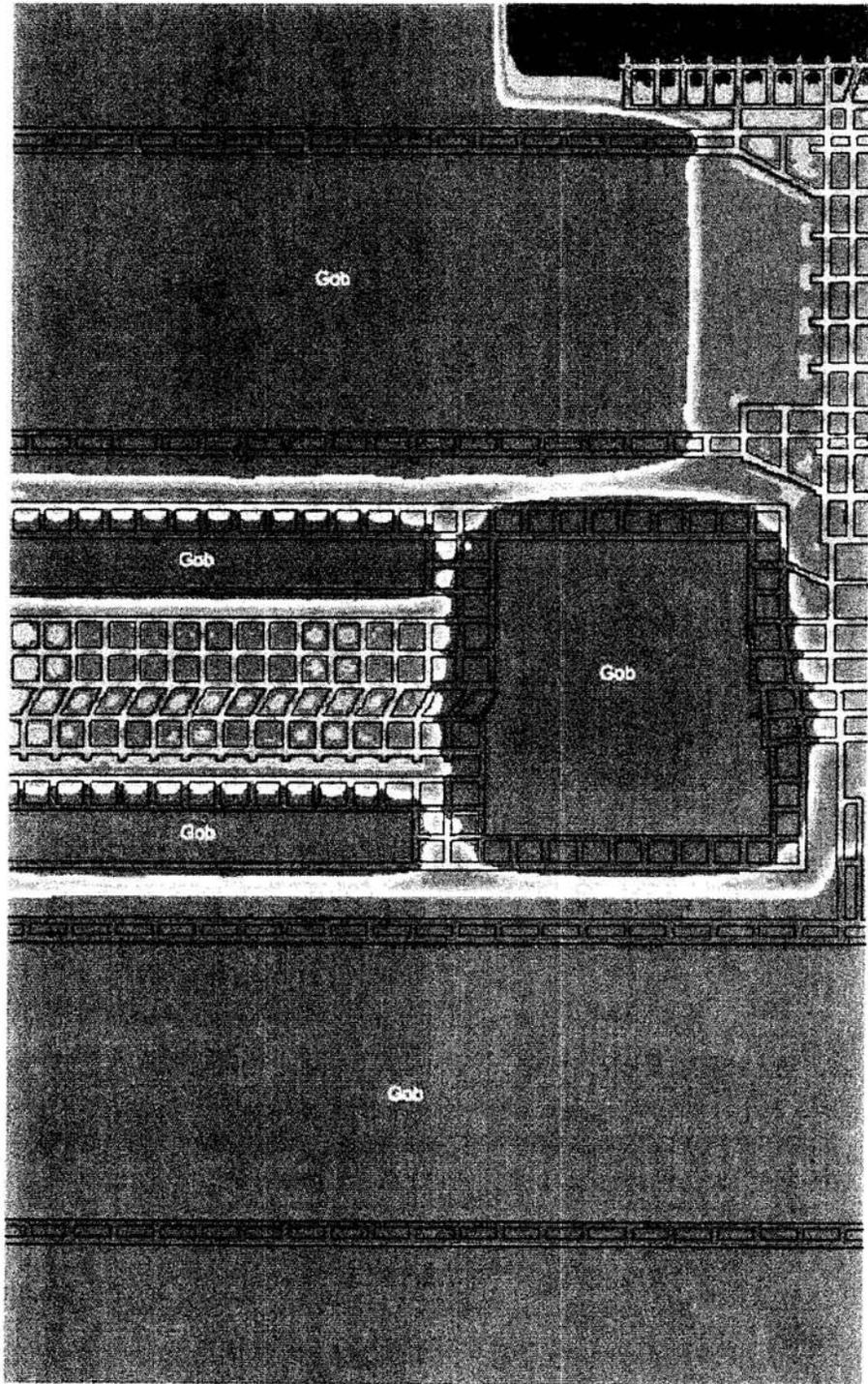
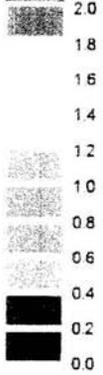
226-20 Gerwal [Phase 2\_vdisplacement\_7.cdr] rj/(8-9-2008)

Vertical Displacement  
(inches)



225-20 Genwa [Phase 2\_vdisplacement\_8 odr] rj(8-8-2008)

Vertical Displacement  
(inches)



226-20 Genwal [Phase 2\_vdisplacement\_S.cdr] rj(8-9-2006)

UNDERGROUND MINE FILE  
DATE FWD. 11-21-06  
INITIALS Am

NOV 21 2006

Coal Mine Safety and Health  
District 9

Gary Peacock  
General Manager  
Genwal Resources, Inc.  
P.O. Box 1077

Price, UT 84501

RE: Crandall Canyon Mine  
ID No. 42-01715  
Roof Control Plan Amendment  
Site-specific Development of North  
Barrier Block of Main West

Dear Mr. Peacock:

The referenced roof control plan amendment is approved in accordance with 30 CFR 75.220(a)(1).

The submittal consisted of a cover letter, dated November 11, 2006, and two pages, addressing the development of the north barrier block of Main West. This amendment will be incorporated into the current plan originally approved on July 3, 2002.

This approval is site-specific for the development of the north barrier of Main West and will terminate upon completion of the project. Since this approval is site-specific, no pages in the roof control plan will be superseded. That is, this amendment will be added to the roof control plan as a separate attachment.

A copy of this approval must be made available to the miners and must be reviewed with all miners affected by this amendment.

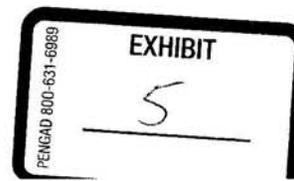
If you have any questions regarding this approval, please contact

Sincerely,

/s/ William P. Knepp

Allyn C. Davis  
District Manager

Enclosure



**UtahAmerican Energy, Inc.**



**Crandall Canyon Mine**  
a subsidiary

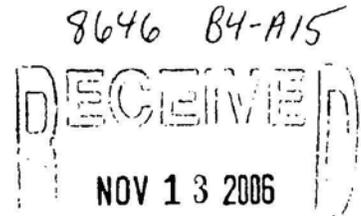
Hwy31 MP 33, Huntington, UT 84528  
PO Box 1077, Price, UT 84501

Phone: (435) 888-4000

Fax: (435) 888-4002

November 11, 2006

Mr. Allyn C. Davis  
District Manager  
Coal Mine Safety and Health  
P.O. Box 25367  
Denver, Colorado 80225



USDOJ - MSHA - CMS&H  
DIST



Re: Crandall Canyon Mine ID# 42-01715 Site Specific Roof Control Plan

Dear Mr. Davis:

Please find attached a site specific roof control plan amendment for development of the north barrier block of Main West in the Crandall Canyon Mine.

Please contact me with any questions at [REDACTED]

Sincerely,

Tom Hurst  
Mining Engineer  
[REDACTED]

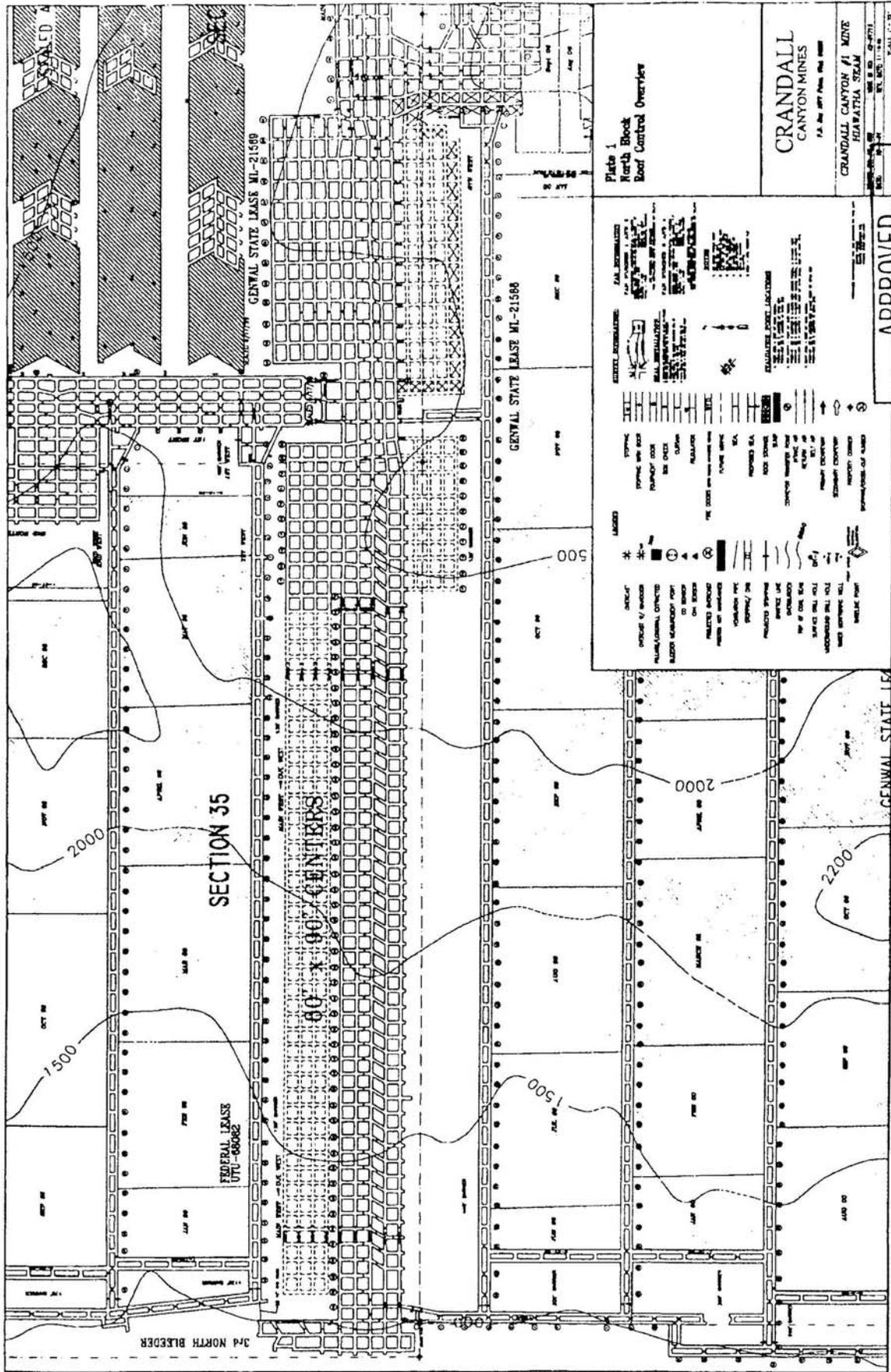


Plate 1  
North Block  
Roof Control Overview

CRANDALL  
CANYON MINES  
F.A. No. 897 Area, 1948  
CRANDALL CANYON #1 MINE  
HARATHA STRAM  
M.S. No. 897-11-1-1  
M.S. No. 897-11-1-2  
M.S. No. 897-11-1-3  
M.S. No. 897-11-1-4  
M.S. No. 897-11-1-5  
M.S. No. 897-11-1-6  
M.S. No. 897-11-1-7  
M.S. No. 897-11-1-8  
M.S. No. 897-11-1-9  
M.S. No. 897-11-1-10  
M.S. No. 897-11-1-11  
M.S. No. 897-11-1-12  
M.S. No. 897-11-1-13  
M.S. No. 897-11-1-14  
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M.S. No. 897-11-1-26  
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M.S. No. 897-11-1-35  
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M.S. No. 897-11-1-48  
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M.S. No. 897-11-1-68  
M.S. No. 897-11-1-69  
M.S. No. 897-11-1-70  
M.S. No. 897-11-1-71  
M.S. No. 897-11-1-72  
M.S. No. 897-11-1-73  
M.S. No. 897-11-1-74  
M.S. No. 897-11-1-75  
M.S. No. 897-11-1-76  
M.S. No. 897-11-1-77  
M.S. No. 897-11-1-78  
M.S. No. 897-11-1-79  
M.S. No. 897-11-1-80  
M.S. No. 897-11-1-81  
M.S. No. 897-11-1-82  
M.S. No. 897-11-1-83  
M.S. No. 897-11-1-84  
M.S. No. 897-11-1-85  
M.S. No. 897-11-1-86  
M.S. No. 897-11-1-87  
M.S. No. 897-11-1-88  
M.S. No. 897-11-1-89  
M.S. No. 897-11-1-90  
M.S. No. 897-11-1-91  
M.S. No. 897-11-1-92  
M.S. No. 897-11-1-93  
M.S. No. 897-11-1-94  
M.S. No. 897-11-1-95  
M.S. No. 897-11-1-96  
M.S. No. 897-11-1-97  
M.S. No. 897-11-1-98  
M.S. No. 897-11-1-99  
M.S. No. 897-11-1-100

APPROVED

NOV 21 2006

CMSH

Small text at the bottom of the page, likely a scale or reference note.

Crandall Canyon Mine MSHA ID# 42-01715  
Main West North Barrier  
Site Specific Roof Control Amendment

The mine is planning to develop entries into the north barrier of the Main West area. This area contains a valuable coal resource for the Crandall Canyon Mine. Consultant reports indicate the planned development will avoid the majority of the side-abutment stress transferred from the adjacent longwall gobs.

The development in the barrier pillar block will be from east to west. Four entries will be driven on a nominal 80 foot center to center spacing. Crosscut spacing will be on a nominal 90 foot center to center spacing, but can vary depending upon conditions encountered. The mining horizon will be the upper portion of the Hiawatha Seam. Roof coal will not be left in place. See Plate 1, North Block Overview. Overburden depth in the area is between 1,000 and 2,200 feet.

Systematic bolting will occur after excavation. The number of roof bolts per row will increase to a 6 bolt per row minimum. Patterned roof support will be 6 bolts per row and 5 feet or less between rows. Additional roof support will be installed whenever entry or crosscut widths exceed 20 feet or other conditions warrant additional support.

Development mining of the barriers is anticipated to last less than one year. This roof control plan is for development only. During development of the north barrier, conditions will be monitored to determine the possibility of pillar extraction. If conditions appear favorable, further discussions and plans will be submitted for approval.



UtahAmerican Energy, Inc.



Crandall Canyon Mine

Hwy31 MP 33, Huntington, UT 84528

PO Box 1077, Price, UT 84501

Phone: (435) 888-4000

Fax: (435) 888-4002

8646

December 20, 2006

Mr. Allyn C. Davis  
District Manager  
Coal Mine Health and Safety  
P.O. Box 25367  
Denver, Colorado 80225

[ ]

RE: Crandall Canyon Mine  
MSHA ID # 42-01715  
Main West  
Pillar Recovery Plan

Dear Mr. Davis:

Please find attached a Roof Control Plan amendment for pillar extraction of the north barrier of the Main West in the Crandall Canyon Mine.

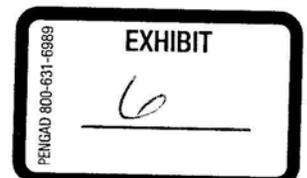
The plan includes one (1) page of text and Plate 3a that shows the sequence of mining and pillars to be left. A Ventilation Control Plan amendment is being submitted under a separate cover letter.

If you require additional information, feel free to call me at [REDACTED] or contact us at the address listed above.

Sincerely,



David W. Hibbs



Crandall Canyon Mine  
MSHA ID # 42-01715  
Main West Pillaring  
Roof Control Plan

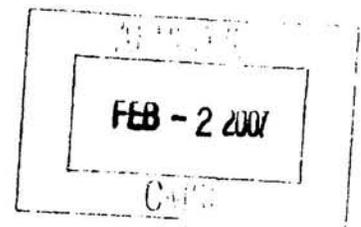
The mine is currently developing entries into the north barrier of the Main West area. This plan proposes to recover coal remaining in the pillars shown on the attached Plate 3a.

Consultant reports indicate the development will avoid the majority of the side-abutment stress transferred from the adjacent longwall panels. These assessments have been validated by conditions experienced in the mine.

Plate 3a, shows the mining sequence and the blocks left in the mining process. This pillar recovery will be done in accordance with the approved Roof Control Plan.

Floor to roof support will be provided in the Bleeder entry. These timbers will be installed at the entrance to the crosscuts in number 4 entry. This support will consist of a double row of timbers (breaker row) installed on four (4) foot centers or closer if deemed necessary by the operator. There will be a minimum of four timbers in each row across the entry.

Also, should conditions warrant pillaring can begin at anytime in the panel. The pillar sequence and bleeder configuration will be same except that pillars will be left in by the beginning of the pillar line.





---

**From:** Hurst, Tom  
**Sent:** Wednesday, January 10, 2007 10:16 PM  
**To:** 'Billy Owens'  
**Cc:** Hibbs, David; Laine, Adair; Poulson, Jim; Allred, Bodee; Peacock, Gary  
**Subject:** Revision to Crandal Canyon Site Specific Roof Control Plan Main West North Bleeder MSHA ID# 42-01715  
**Attachments:** Cr Barrier Roof Control All 01 10 07.pdf

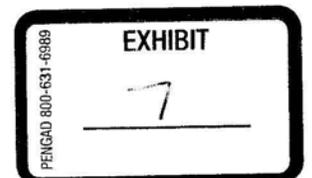
Billy,

Attached is a revised site specific roof control plan for the Main West Barrier of the Crandal Canyon Mine. This revision follows your visit to the mine earlier this week.

Call me if you have any questions or concerns.

Tom Hurst  
Mining Engineer  
UtahAmerican Energy  
[REDACTED]

9/27/2007



UEICONG-K000012913



**Crandall Canyon Mine**  
a subsidiary

Hwy31 MP 33, Huntington, UT 84528  
PO Box 1077, Price, UT 84501

Phone: (435) 888-4000  
Fax: (435) 888-4002

January 10, 2007

Mr. Allyn C. Davis  
District Manager  
Coal Mine Safety and Health  
P.O. Box 25367  
Denver, Colorado 80225

Re: Crandall Canyon Mine ID# 42-01715 Site Specific Roof Control Plan

Dear Mr. Davis:

Please find attached a revised site specific roof control plan amendment for development of the north barrier block of Main West in the Crandall Canyon Mine. The text of the plan has been revised to allow leaving of roof coal where immediate roof conditions will be improved by leaving roof coal.

Please contact me with any questions at [REDACTED]

Sincerely,

A handwritten signature in cursive script that reads "Tom Hurst".

Tom Hurst  
Mining Engineer  
[REDACTED]

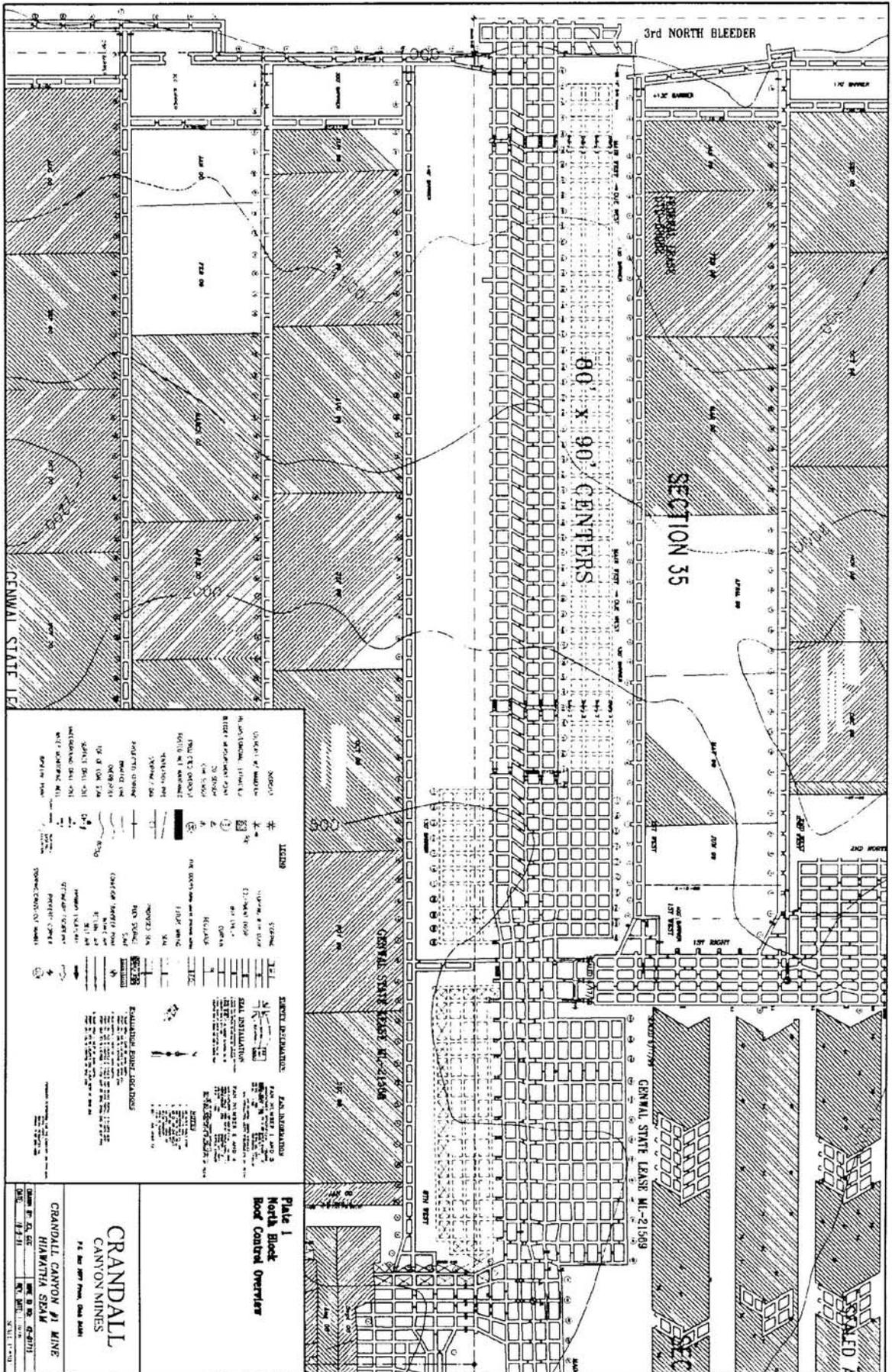
Crandall Canyon Mine MSHA ID# 42-01715  
Main West North Barrier  
Site Specific Roof Control Amendment

The mine is planning to develop entries into the north barrier of the Main West area. This area contains a valuable coal resource for the Crandall Canyon Mine. Consultant reports indicate the planned development will avoid the majority of the side-abutment stress transferred from the adjacent longwall gobs.

The development in the barrier pillar block will be from east to west. Four entries will be driven on a nominal 80 foot center to center spacing. Crosscut spacing will be on a nominal 90 foot center to center spacing, but can vary depending upon conditions encountered. The mining horizon will be the upper portion of the Hiawatha Seam. Roof coal may be left where areas of weak immediate roof exists. See Plate 1, North Block Overview. Overburden depth in the area is between 1,000 and 2,200 feet.

Systematic bolting will occur after excavation. The number of roof bolts per row will increase to a 6 bolt per row minimum. Patterned roof support will be 6 bolts per row and 5 feet or less between rows. Additional roof support will be installed whenever entry or crosscut widths exceed 20 feet or other conditions warrant additional support.

Development mining of the barriers is anticipated to last less than one year. This roof control plan is for development only. During development of the north barrier, conditions will be monitored to determine the possibility of pillar extraction. If conditions appear favorable, further discussions and plans will be submitted for approval.



LEGEND	
	80' X 90' CENTERS
	3rd NORTH BLEEDER
	ROOMS
	WALLS
	DOORS
	STAIRS
	SHAFTS
	PILLARS
	BOUNDARIES
	EQUIPMENT
	VENTILATION
	ELECTRICAL
	WATER
	AIR
	GROUND LEVEL
	ELEVATION
	NORTH ARROW

**Plate 1**  
**North Block**  
**Boof Control Overlay**

**CRANDALL**  
**CANYON MINES**  
 P.O. Box 9877, Prineville, OR 97539

**CRANDALL CANYON #1 MINE**  
**HIAWATHA SEAM**

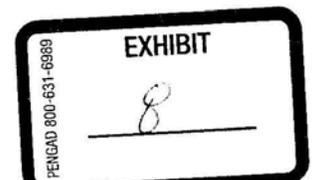
DATE: 11/27/08  
 DRAWN BY: J. S. G. (JSG)  
 CHECKED BY: J. S. G. (JSG)  
 SCALE: AS SHOWN

**From:** Hibbs, David  
**Sent:** Tuesday, February 20, 2007 5:51 PM  
**To:** [REDACTED]  
**Cc:** Poulson, Jim; Laine, Adair; 'Gary Peacock ([REDACTED]); Hurst, Tom  
**Subject:** Crandall Mine South Barrier Roof Control Submittal  
**Attachments:** Crandall South Roof Control Plan Submittal.pdf

Attached is Roof Control submittal for the south barrier block of the Main West for the aforereferenced mine. The mine is currently pillaring the north barrier block of the Main West, it is anticipated the pillaring will be complete in 2-3 weeks. Please review this submittal in the next 2-3 weeks to prevent an interruption in production for the mine.

Thanks,

David W. Hibbs  
UtahAmerican Energy, Inc.  
P.O. Box 1077  
Price, Utah 84501



UEICONG-K000013816

9/27/2007

**UtahAmerican Energy, Inc.**



**Crandall Canyon Mine**

**Hwy31 MP 33, Huntington, UT 84528**

**PO Box 1077, Price, UT 84501**

**Phone: (435) 888-4000**

**Fax: (435) 888-4002**

February 20, 2007

Mr. Allyn C. Davis  
District Manager  
Coal Mine Safety and Health  
District 9  
P.O. Box  
Denver, Colorado 80225

RE: Crandall Canyon Mine  
MSHA ID Number 42-01715  
Site Specific Roof Control Plan  
Main West South Block

Dear Mr. Davis:

Please find enclosed a site specific roof control plan amendment for development of the south barrier of the Main West in the aforereferenced mine. This submittal will include one (1) page of text and one (1) plate.

If you require additional information, feel free to contact me at [REDACTED] or contact us at the address listed above.

Sincerely,

David W. Hibbs

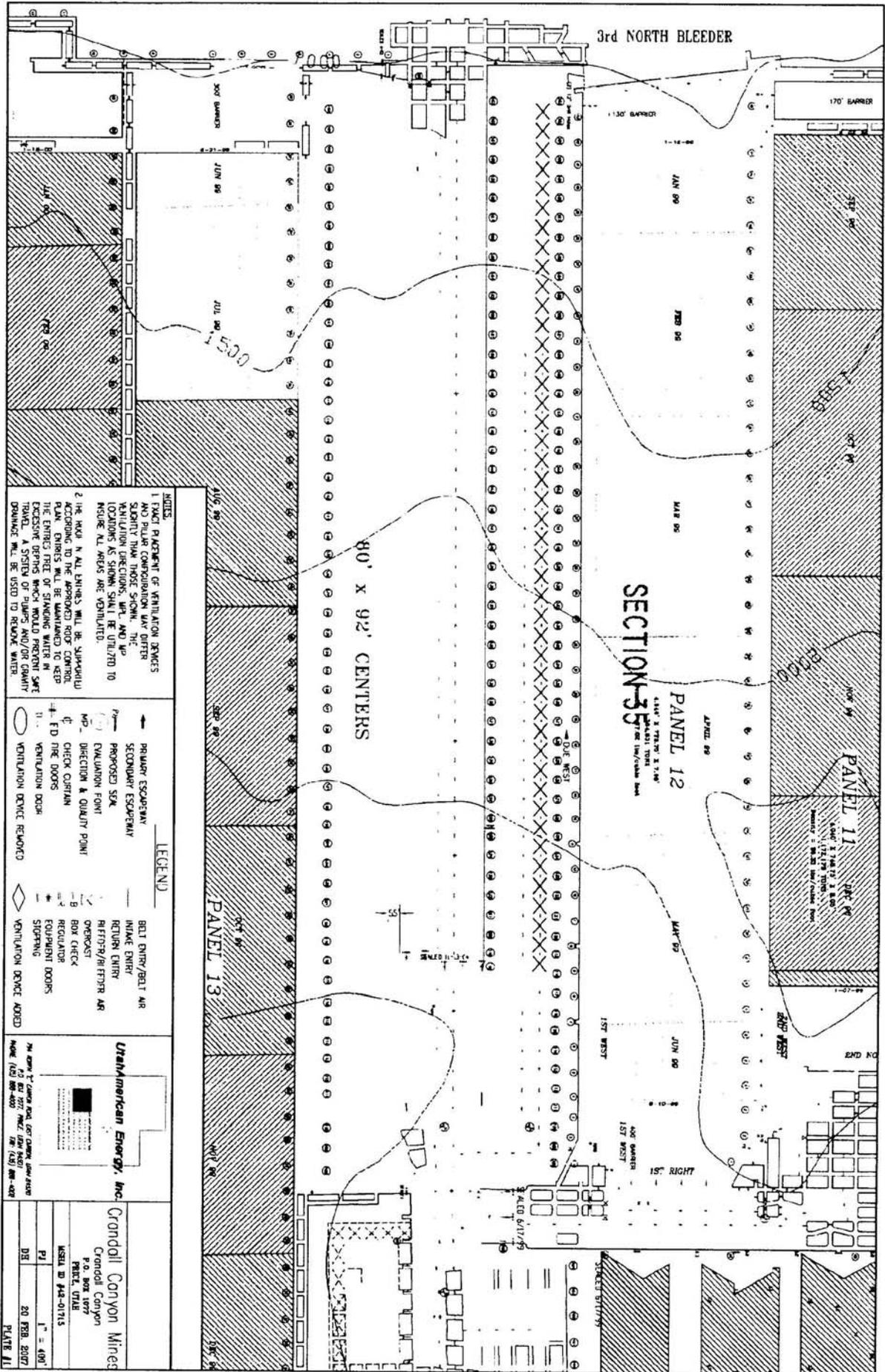
Crandall Canyon Mine  
MSHA ID Number 42-01715  
Main West South Barrier  
Site Specific Roof Control Plan

The mine is planning to develop entries into the south barrier of the Main West area. This area contains a valuable coal resource. Consultant reports indicate the planned development will avoid the majority of the side abutment stress transferred from the adjacent longwall gobs.

The development in the barrier pillar block will be done from east to west. Four (4) entries will be driven on a nominal 80 foot center to center spacing. Crosscut spacing will be on a nominal 90 foot center to center spacing, but can vary depending upon conditions encountered. The mining horizon will be the upper portion of the Hiawatha seam. Roof coal may be left in areas where weak immediate roof is encountered. See Plate 1, South Block Overview. Overburden depth in the area is between 1,000 feet and 2,200 feet.

Systematic bolting will occur after excavation. The number of roof bolts per row will increase to six (6) bolts per row minimum. Patterned roof support will be six (6) bolts per row and five (5) feet or less between rows. Additional roof support will be installed whenever entry or cross cut width exceeds 20 feet or other conditions warrant additional support.

Development mining of the barrier is anticipated to last for less than one (1) year. During development of the south barrier, conditions will be monitored to determine the possibility of pillar extraction. If conditions appear favorable further discussions and plans will be submitted for approval.



NOTES

1. TAKE PLACEMENT OF VENTILATION DEVICES SERIOUSLY. CONSIDERATION MUST BE GIVEN TO THE LOCATION OF DEVICES AND THE LOCATION OF DEVICES MUST BE MAINTAINED TO INSURE ALL AREAS ARE VENTILATED.
2. THE HOLES IN ALL ENTRIES WILL BE SUPPLEMENTED ACCORDING TO THE APPROVED ROOF CONTROL PLAN. ENTRIES WILL BE MAINTAINED TO KEEP THE ENTRIES FREE OF STANDING WATER IN EXCESSIVE DEPTHS WHICH WOULD PREVENT SAFE DRAINAGE. A SYSTEM OF TUBES AND/OR GRANTS DRAINAGE WILL BE USED TO REMOVE WATER.

LEGEND

→	PRIMARY ESCAPEWAY	→	BELT ENTRY/BELT AIR
→	SECONDARY ESCAPEWAY	→	INMINE ENTRY
→	PROPOSED SEAM	→	RETURN ENTRY
→	EVACUATION FRONT	→	REFRESH/FEEDER AIR
→	MDR, DIRECTION & QUALITY POINT	→	OVERCAST
→	CHECK CHARTER	→	BOX CHECK
→	FD LINE DOORS	→	REGULATOR DOORS
→	VENTILATION DOOR	→	SIGHTING
→	VENTILATION DEVICE REMOVED	→	VENTILATION DEVICE ADDED

**UtahAmerican Energy, Inc.**

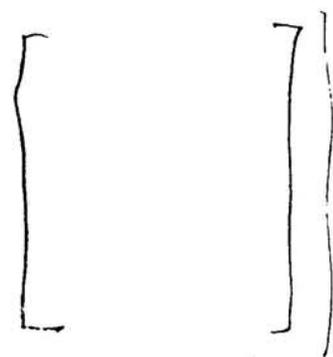
700 East 10th Street, Suite 1000, Salt Lake City, UT 84102  
 Phone: (801) 588-4000

**Crandall Canyon Mines**  
 Crandall Canyon  
 700 East 10th Street, Suite 1000  
 Salt Lake City, UT 84102  
 Phone: (801) 588-4000

PI 20 FEB. 2007  
 DRI 20 FEB. 2007  
 TITLE: CRANDALL CANYON MINE  
 SHEET NO. 448-01713  
 SCALE: 1" = 400'

PLATE 11

UNDERGROUND MINE FILE	
DATE FWD.	3/9/07
INITIALS	Am



MAR - 8 2007

Coal Mine Safety and Health  
District 9

Gary Peacock  
General Manager  
Genwal Resources, Inc.  
P.O. Box 1077  
Price, UT 84501

RE: Crandall Canyon Mine  
ID No. 42-01715  
Roof Control Plan Amendment  
Site-Specific Plan  
Main West South Block Development

Dear Mr. Peacock:

The referenced roof control plan amendment is approved in accordance with 30 CFR 75.220(a)(1).

The submittal consisted of a cover letter, dated February 20, 2007, one page, and one drawing. This amendment addresses development in the Main West South Block barrier pillar.

This approval is site-specific for development of the Main West South Block and will terminate upon completion of the project. Since this approval is site-specific, no pages in the roof control plan will be superseded. That is, this amendment will be added to the roof control plan as a separate attachment.

A copy of this approval must be made available to the miners and must be reviewed with all miners affected by this amendment.

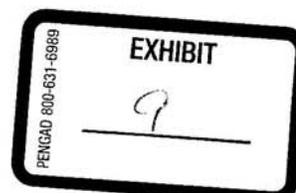
If you have any questions regarding this approval, please contact

Sincerely,

/s/ Allyn C. Davis

Allyn C. Davis  
District Manager

Enclosure



B4-A18

**UtahAmerican Energy, Inc.**



**Crandall Canyon Mine**

**Hwy31 MP 33, Huntington, UT 84528**

**PO Box 1077, Price, UT 84501**

**Phone: (435) 888-4000**

**Fax: (435) 888-4000**

February 20, 2007

Mr. Allyn C. Davis  
District Manager  
Coal Mine Safety and Health  
District 9  
P.O. Box  
Denver, Colorado 80225

#8646  
B4-A18 [ ]  
FEB 23 2007  
U.S. MAIL  
DENVER CO

RE: Crandall Canyon Mine  
MSHA ID Number 42-01715  
Site Specific Roof Control Plan  
Main West South Block

Dear Mr. Davis:

Please find enclosed a site specific roof control plan amendment for development of the south barrier of the Main West in the aforementioned mine. This submittal will include one (1) page of text and one (1) plate.

If you require additional information, feel free to contact me at [REDACTED] or contact us at the address listed above.

Sincerely,

David W. Hibbs

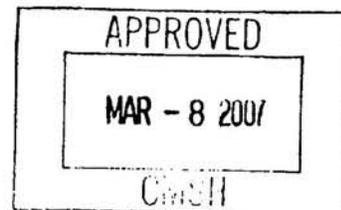
Crandall Canyon Mine  
MSHA ID Number 42-01715  
Main West South Barrier  
Site Specific Roof Control Plan

The mine is planning to develop entries into the south barrier of the Main West area. This area contains a valuable coal resource. Consultant reports indicate the planned development will avoid the majority of the side abutment stress transferred from the adjacent longwall gobs.

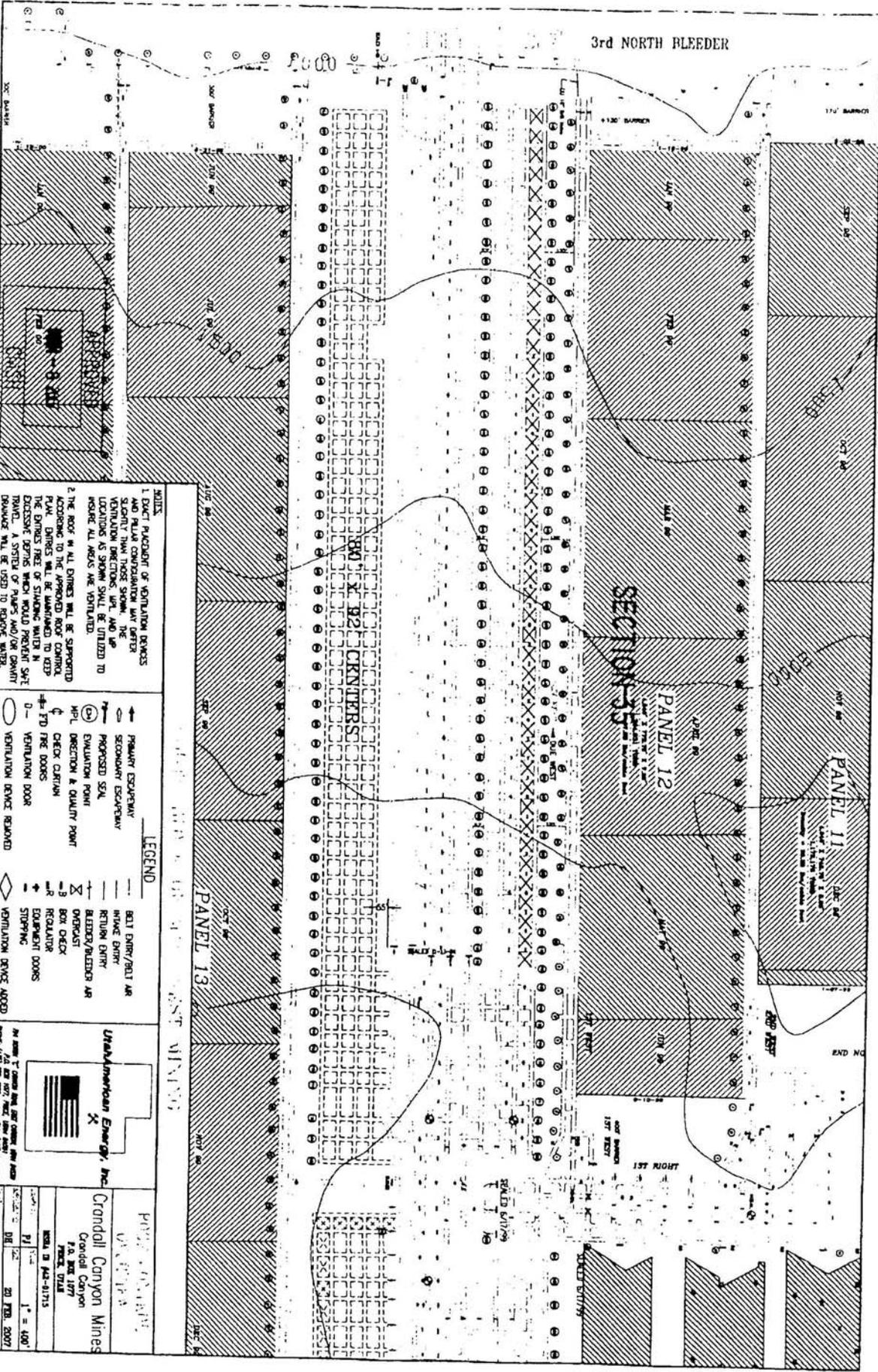
The development in the barrier pillar block will be done from east to west. Four (4) entries will be driven on a nominal 80 foot center to center spacing. Crosscut spacing will be on a nominal 90 foot center to center spacing, but can vary depending upon conditions encountered. The mining horizon will be the upper portion of the Hiawatha seam. Roof coal may be left in areas where weak immediate roof is encountered. See Plate 1, South Block Overview. Overburden depth in the area is between 1,000 feet and 2,200 feet.

Systematic bolting will occur after excavation. The number of roof bolts per row will increase to six (6) bolts per row minimum. Patterned roof support will be six (6) bolts per row and five (5) feet or less between rows. Additional roof support will be installed whenever entry or cross cut width exceeds 20 feet or other conditions warrant additional support.

Development mining of the barrier is anticipated to last for less than one (1) year. During development of the south barrier, conditions will be monitored to determine the possibility of pillar extraction. If conditions appear favorable further discussions and plans will be submitted for approval.



3rd NORTH BLEEDER



**NOTES**

1. LOCATE PLACEMENT OF VENTILATION DEVICES TO BE INSTALLED IN THE APPROVED VENTILATION DIRECTIONS SHOWN AND UP LOCATIONS AS SHOWN SHALL BE UTILIZED TO INSURE ALL AREAS ARE VENTILATED.
2. THE ROOF IN ALL ENTRIES WILL BE SUPPORTED ACCORDING TO THE APPROVED ROOF CONTROL PLAN. ENTRIES WILL BE MAINTAINED TO KEEP DOWN THE TOPS WHICH WOULD PREVENT SAFE TRAVEL UNDER THE ROOF OR DOWN DRAINAGE WILL BE USED TO REMOVE WATER.

**LEGEND**

	PRIMARY ESCAPEWAY		BOLT ENTRY/BOLT AIR
	SECONDARY ESCAPEWAY		RETURN ENTRY
	PROPOSED SEAL		BLEEDER/BLEEDER AIR
	EVALUATION POINT		BOX CHECK
	CHECK STATION		REGULATOR
	FIRE DOORS		EQUIPMENT DOORS
	VENTILATION DOOR		STOPPING
	VENTILATION DEVICE REMOVED		VENTILATION DEVICE ADDED

**UralAmerican Energy, Inc.**

**Crandall Canyon Mines**

CRANDALL CANYON  
P.O. BOX 1077  
PARK, UTAH 84413

PROJECT NO. 1000

DATE: 20 FEB. 2007

SCALE: 1" = 400'

PLATE #1



715 HORIZON DRIVE  
SUITE 340  
GRAND JUNCTION, CO 81506  
USA  
VOICE 970.242.4220  
www.agapito.com

AGAPITO ASSOCIATES, INC.  
715 HORIZON DRIVE  
SUITE 340  
GRAND JUNCTION, CO 81506  
USA

CONSULTANT  
REPORT  
RE: Pillar  
Mining

April 18, 2007

226-20

Mr. Laine Adair  
General Manager  
UtahAmerican Energy, Inc.  
794 North C Canyon Road  
Price, UT 84501

Re: **GENWAL Crandall Canyon Mine Main West South Barrier Mining Evaluation**

Dear Laine,

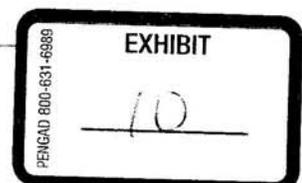
Agapito Associates, Inc. (AAI) has completed the geotechnical analysis of GENWAL Resources, Inc.'s (GENWAL) plan for room-and-pillar mining in the Crandall Canyon Mine Main West south barrier. AAI recommended the use of pillars on 80-ft by 92-ft<sup>1</sup> centers for retreat mining in both the north and south Main West barriers based on an earlier analysis documented in our July 20, 2007, report.<sup>2</sup> The design proved successful on development in the north barrier panel under maximum cover reaching 2,200 ft deep.

The panel was successfully retreated to crosscut (XC) 138 under approximately 2,100 ft of cover when poor roof conditions motivated moving the face outby and skipping pulling pillars between XCs 135 and 138. The retreat was re-initiated by pulling the two pillars between XCs 134 and 135 in early March 2007. A large bump occurred at this point resulting in heavy damage to the entries located between XCs 133 and 139. The remaining north panel was abandoned in favor of mining the south barrier.

AAI engineers Michael Hardy and Leo Gilbride visited the bump location on March 16, 2007, under the escort of Mr. Gary Peacock, GENWAL Mine Manager and Mr. Laine Adair, General Manager, UtahAmerican Energy, Inc. GENWAL commissioned AAI to refine the pillar design for the south barrier based on the response of the north panel pillars. AAI was able to analyze the stress and convergence conditions at the time of the bump and modify the pillar design accordingly to control the potential for similar events in the south barrier. The results of the analysis and recommendations for south barrier mining are summarized in the following letter.

<sup>1</sup> Pillar geometry stated in terms of center dimensions; entries typically mined 17 ft wide.

<sup>2</sup> Agapito Associates, Inc. (2006), "DRAFT—GENWAL Crandall Canyon Mine Main West Barrier Pillar Mining Evaluation," prepared for Andalex Resources, Inc.



## ANALYSIS

Ground conditions were simulated using the calibrated NIOSH LAMODEL<sup>3</sup> displacement discontinuity model used in the preceding study.<sup>2</sup> The complete model area is illustrated in Figure 1. Simulated conditions at the time of the bump are shown in Figures 2, 3, and 4. Figure 2 describes the vertical stress distribution in the pillars leading up to the bump. Figures 3 and 4 show the corresponding degrees of coal yielding and roof-to-floor convergence. The figures incidentally show retreat mining in the south barrier, although this did not exist at the time of the bump. The two retreats were simulated in the same model for convenience, which is possible because the two areas are geomechanically isolated from one another in the model.

At the time of the bump, the cave was reported to be lagging inby XC 138. Also, the new start-up cave was minimally developed above the two pillars pulled between XCs 134 and 135. These lagging caves were simulated in the model by limiting load transfer through the gob, which causes higher abutment loads to be transmitted to surrounding pillars. The lagging caves can be recognized in Figure 1 by the white colored gob areas.

Model results show that high stresses were placed on the pillars from three contributing sources: (1) abutment loads from the main cave (inby XC 138), (2) abutment loads from the start-up cave (between XCs 134 and 135), and, to a lesser extent, (3) abutment loads from longwall Panel 12. Peak stresses were concentrated on the pillars located between the two caves (between XCs 135 and 138). Figure 3 shows significant yielding in these pillars indicative of overloading. Modeling suggests that the start-up cave contributed on the order of 5,000 psi additional stress to some parts of the surrounding pillars. This, coupled with the other abutment loads, is believed to have created a high stress region that allowed a localized bump in the pillars somewhere between XCs 134 and 135 to propagate to pillars over a much wider area.

Figures 2, 3, and 4 show stress, yielding, and convergence levels in the same sized pillars (80-ft by 92-ft<sup>1</sup>) in the south barrier for ordinary retreat conditions, where no pillars are skipped. The figures show that high-stress conditions attenuate quickly away from the face and that protected conditions exist as close as one crosscut outby the face.

Figures 5, 6, and 7 illustrate the benefit of increasing pillar size from 80-ft by 92-ft<sup>1</sup> to 80-ft by 129-ft<sup>1</sup>. The added 37 ft length, approximately equivalent to an extra full cut, increases the size and strength of the pillars' confined cores, which helps to isolate bumps to the face and reduce the risk of larger bumps overrunning crews in outby locations. For conservatism, a lagging cave was also assumed in the south panel. Plans are to slab the south barrier to a depth of about 40 ft. The wider span is expected to improve caving conditions compared to the north panel and reduced concentrated loads at the face.

The south barrier will be mined to about 97 ft wide (rib-to-rib) after slabbing. The slabbed barrier will be subject to side abutment loads from gob on both sides, resulting in elevated stress levels through the core. Model results indicate that the barrier will yield to a

---

<sup>3</sup> Heasley, K.A. (1998), *Numerical Modeling of Coal Mines with a Laminated Displacement-Discontinuity Code*, Ph.D. Thesis, Colorado School of Mines, 187 p.

Mr. Laine Adair  
April 18, 2007  
Page 3

depth of about 20 ft along the ribs, but that the core will remain competent. This is likely to result in some bumping in the gob, but is not considered to pose unusual risk to crews working at the face.

## **RECOMMENDATIONS**

Based on the evidence from the Main West north barrier retreat and results of numerical modeling, we recommend mining with 80-ft by 129-ft<sup>1</sup> pillars, or similar, in the south barrier. This size of pillar is expected to provide a reliable level of protection against problematic bumping for retreat mining under cover reaching 2,200 ft. Pillars should be robbed as completely as is safe to promote good caving. Slabbing the south-side barrier is expected to benefit caving. Skipping pillars should be avoided in the south barrier, particularly under the deepest cover.

Please contact me to discuss these results, at your convenience, or if you have any questions.

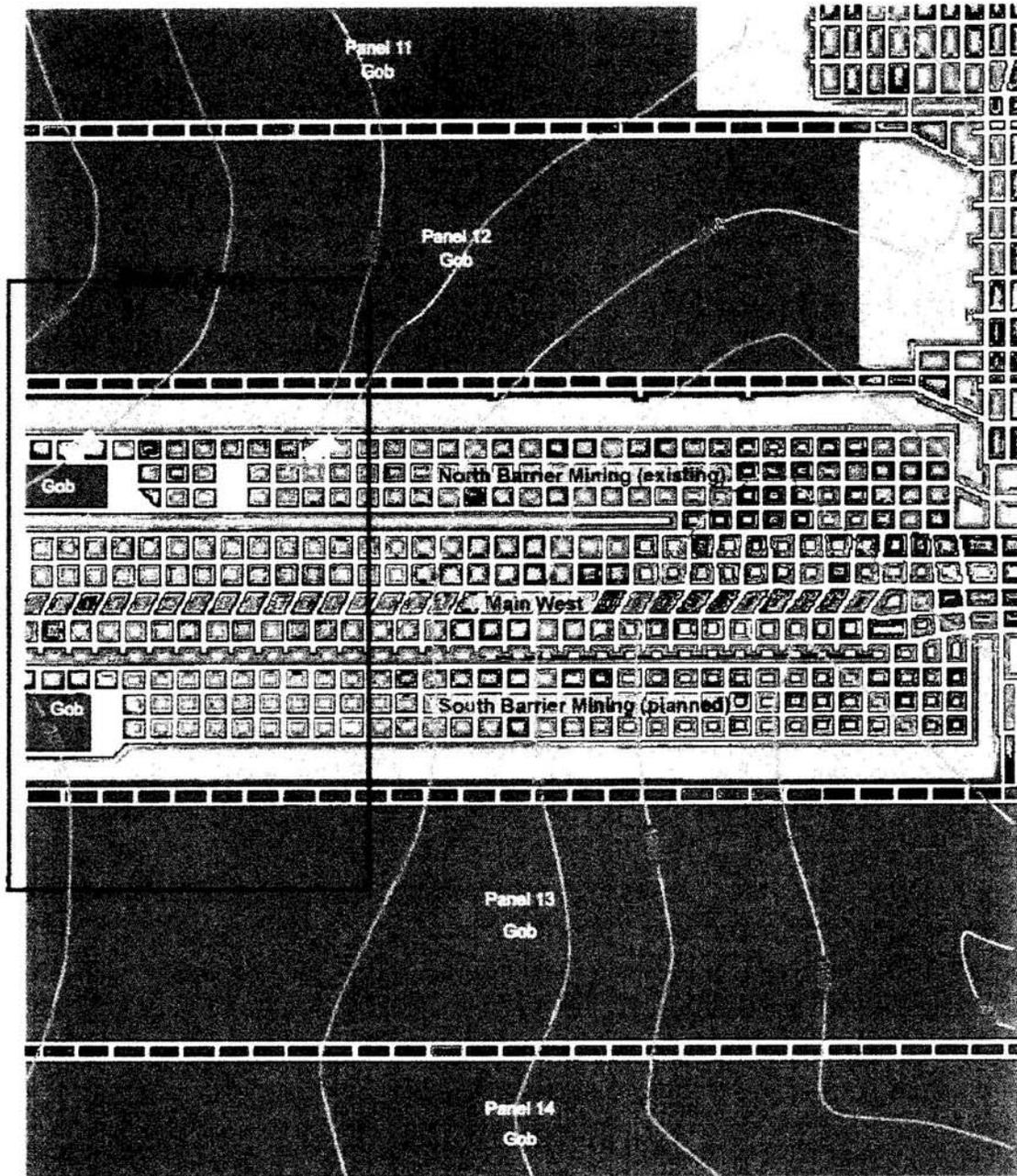
Sincerely,



Leo Gilbride  
Principal



LG/smvf:klg  
Attachments(7): Figures 1-7



--- Depth of Cover Contour (ft)  
Hiawatha Seam

Figure 1. Geometry of LAMODEL Model

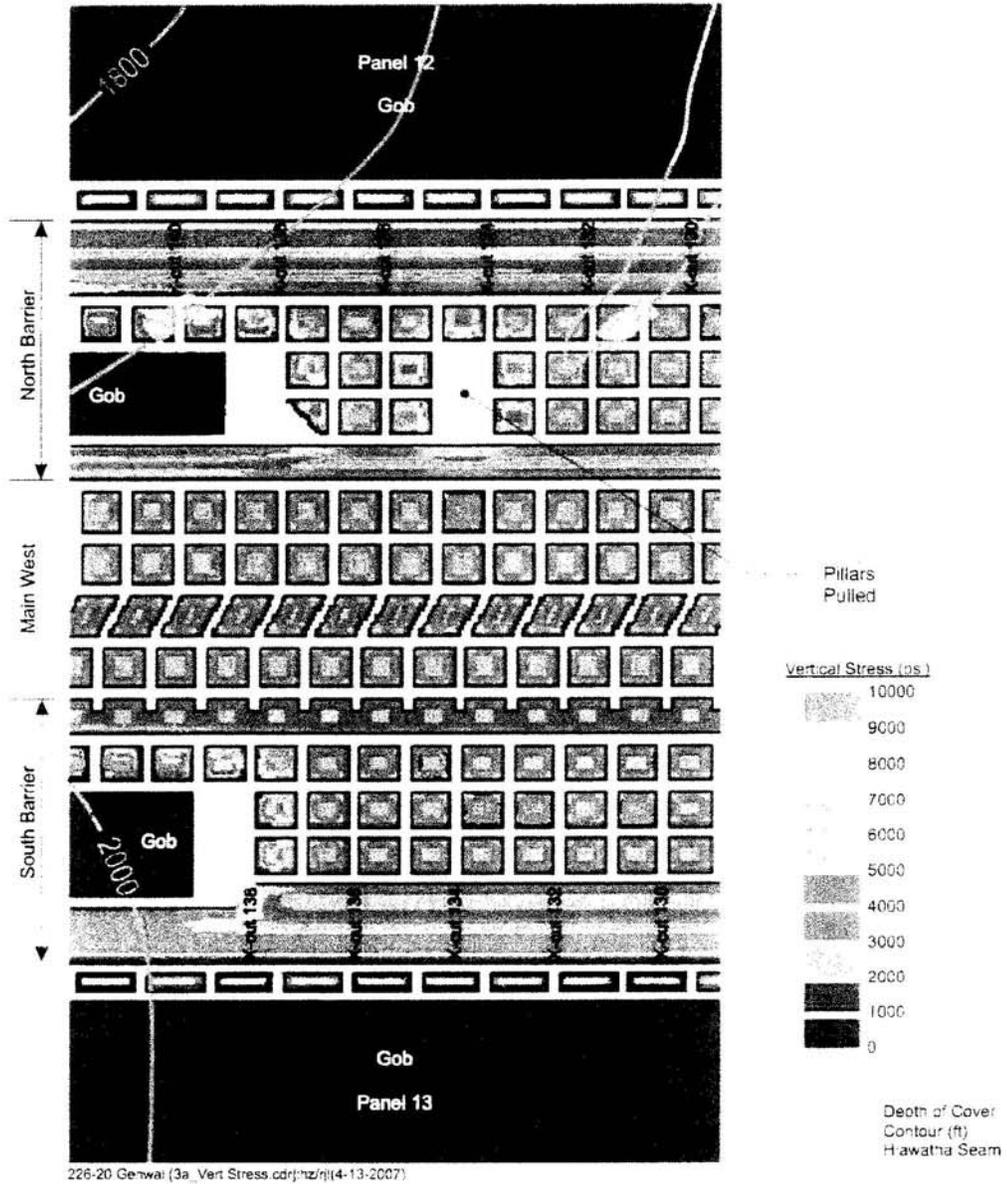


Figure 2. Modeled Vertical Stress—Existing Mining in the North Barrier and Optional Mining with 80-ft by 92-ft Pillars in the South Barrier

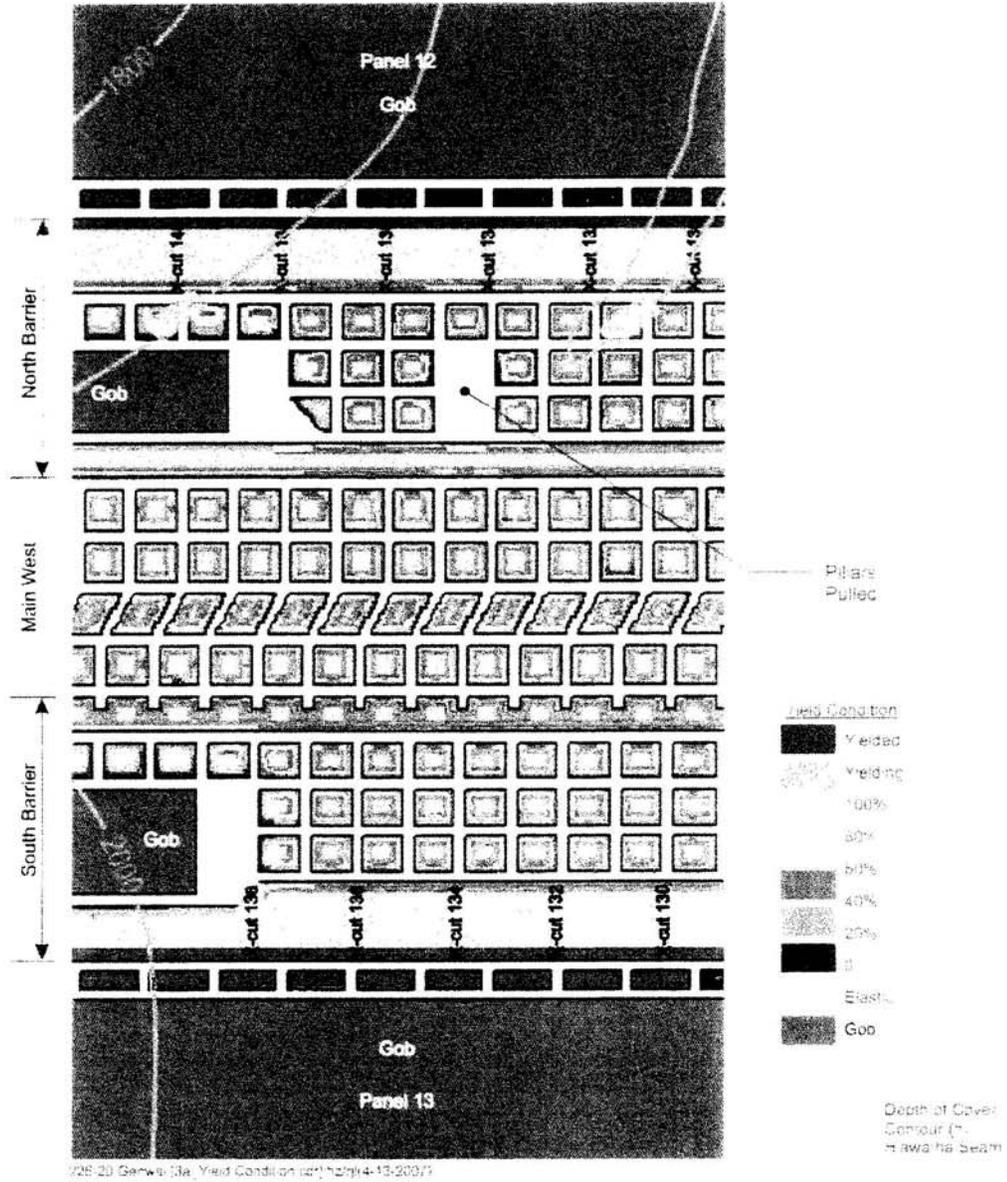
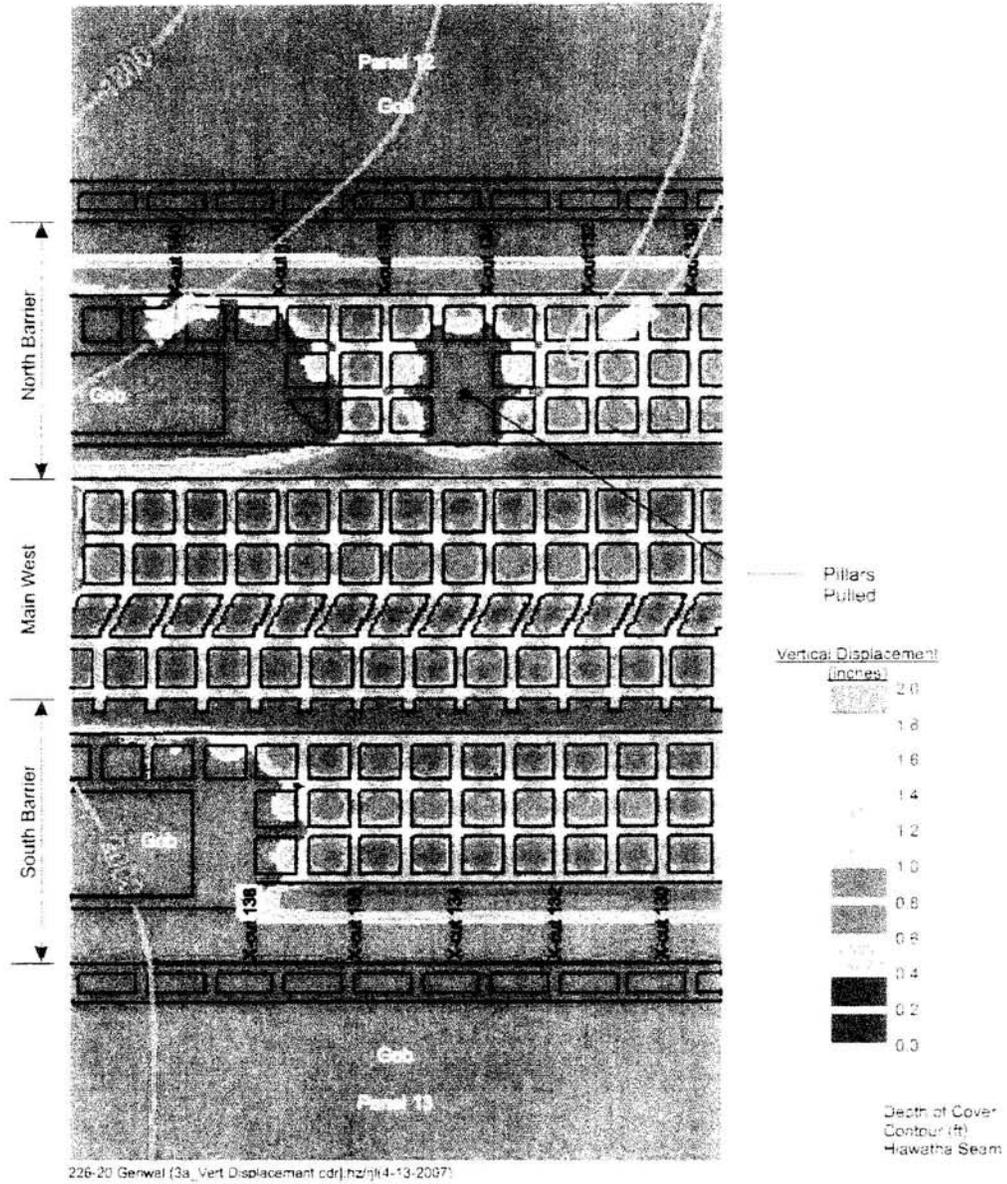


Figure 3. Modeled Coal Yielding—Existing Mining in the North Barrier and Optional Mining with 80-ft by 92-ft Pillars in the South Barrier



**Figure 4. Modeled Roof-to-Floor Convergence—Existing Mining in the North Barrier and Optional Mining with 80-ft by 92-ft Pillars in the South Barrier**

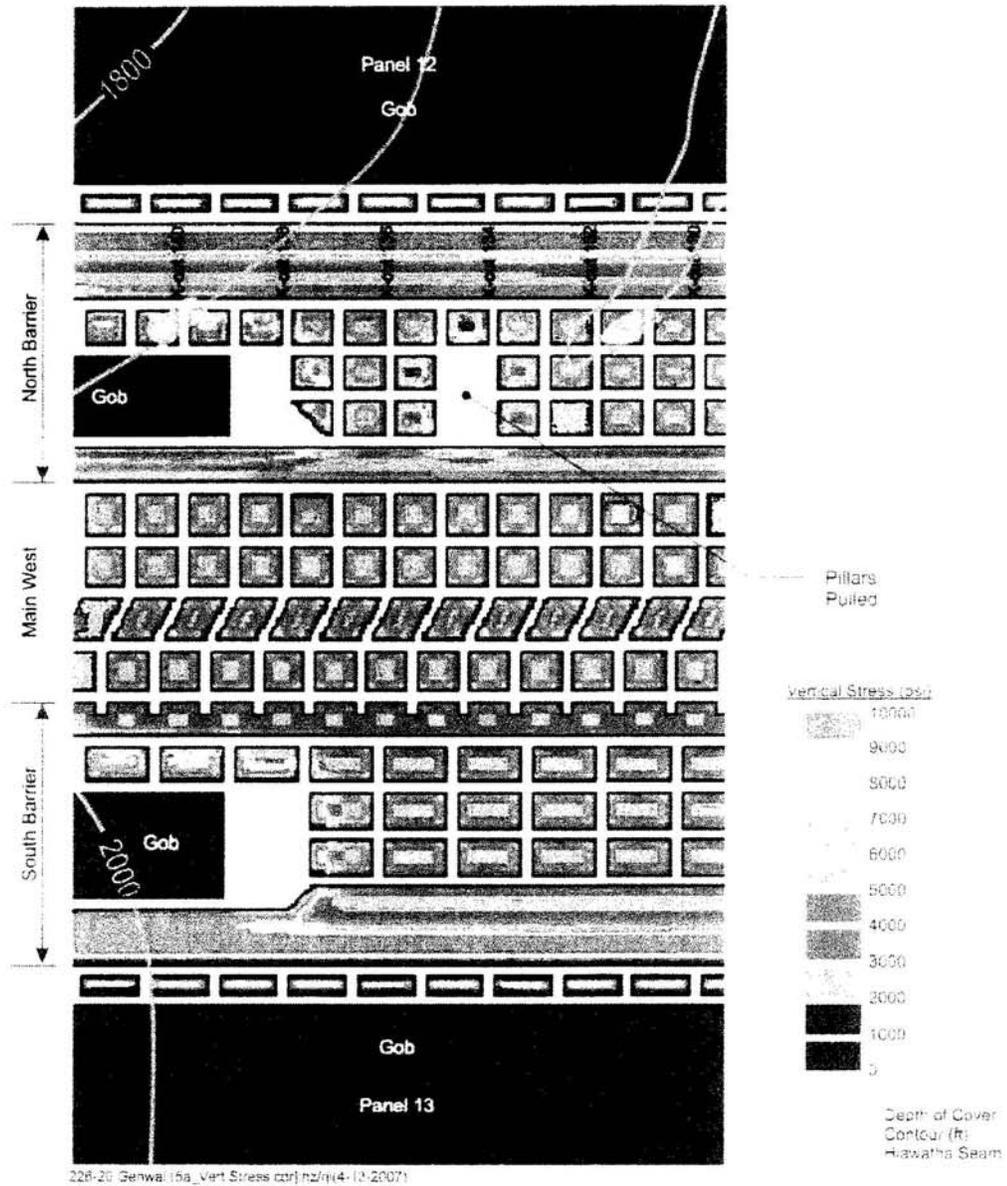


Figure 5. Modeled Vertical Stress—Existing Mining in the North Barrier and Optional Mining with 80-ft by 129-ft Pillars in the South Barrier

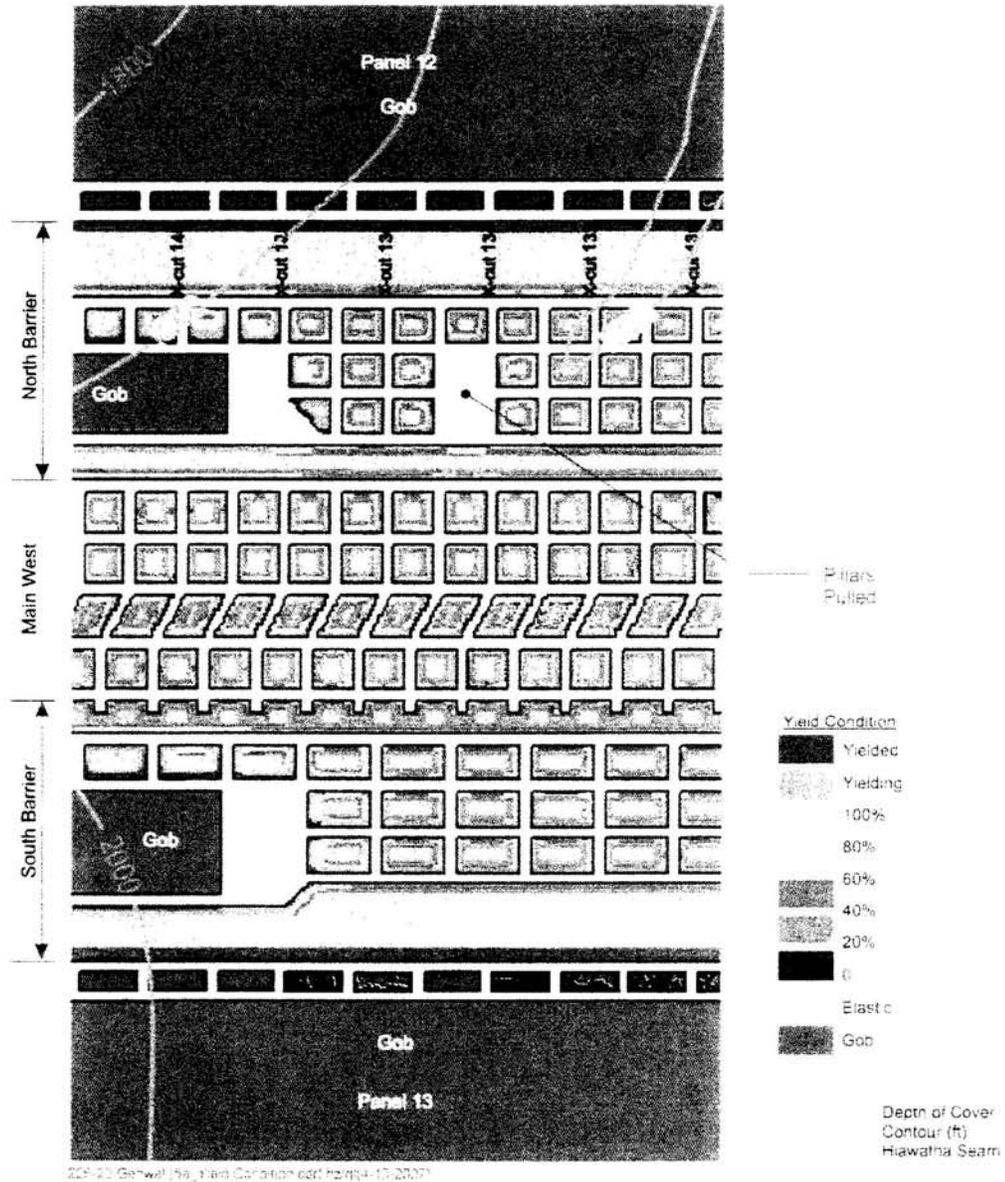
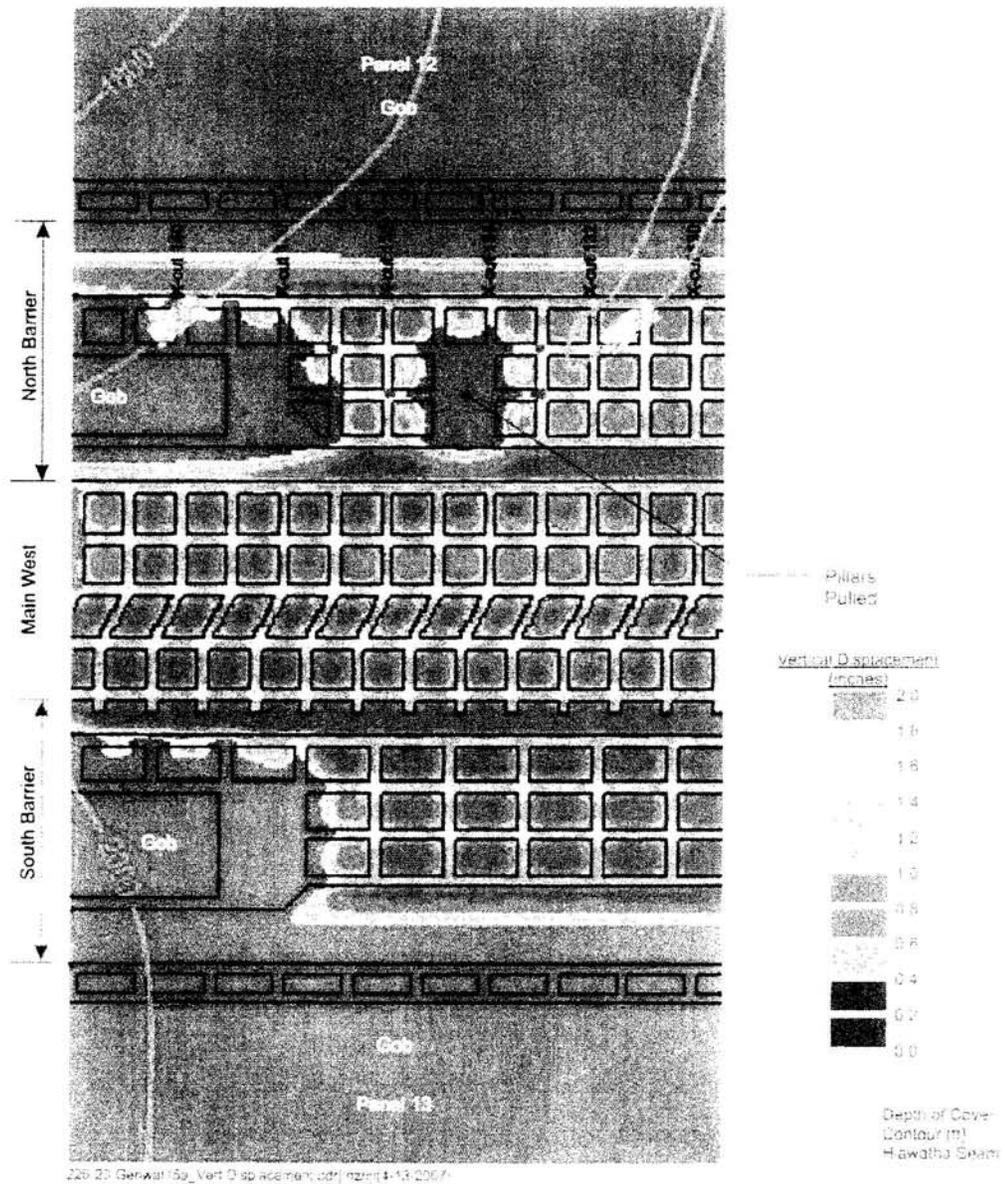


Figure 6. Modeled Coal Yielding—Existing Mining in the North Barrier and Optional Mining with 80-ft by 129-ft Pillars in the South Barrier



**Figure 7. Modeled Roof-to-Floor Convergence—Existing Mining in the North Barrier and Optional Mining with 80-ft by 129-ft Pillars in the South Barrier**



EXHIBIT

11

PENGAD 800-631-6989

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**From:** Owens, Billy D - MSHA [IMCEAEX-\_O=DOL\_OU=MSHA-  
ARL\_CN=RECIPIENTS\_CN= [REDACTED]  
**Sent:** Monday, September 03, 2007 7:29 AM  
**To:** [REDACTED]  
**Cc:** Knepp, William P - MSHA  
**Subject:** North Barrier bounce

Laine,

The April 18, 2007-Agapito report stated that a large bump occurred in the north barrier which resulted in GENWAL abandoning mining in the north barrier in favor of mining in the south barrier. The report stated that there was heavy damage to all the entries between XC's 133 and 139.

The report gives the impression that the area was heavily damaged and mining could not resume. Below is information that I have supplied to our Headquarters staff regarding my knowledge of the bump and discussions with Bill Reitze.

I need to know if the information below is accurate or if mining was stopped due damage on the face and to equipment.

Please respond to this email or give me a call.

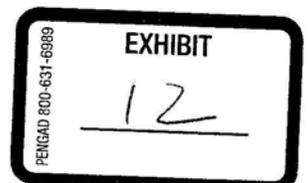
Billy Owens  
[REDACTED]

On March 13, 2007, William Reitze, Ventilation Supervisor, had a discussion with management at Crandall Canyon Mine regarding a request to move the bleeder MPL from approximately XC 148 outby to XC 133. The retreating section face was at XC 133. The mine stated that a bounce had occurred and the bleeder entry inby the face was not safe to travel.

Mr. Reitze correctly informed the mine that they were required the travel the bleeder entry in its entirety. The mine then stated that they would prefer to seal the north Main West barrier entries rather than travel the bleeder.

In an email, Allyn Davis, District Manager, requested that Tech Support expedite the seal approval for Crandall Canyon Mine because a bounce had occurred in the section and sealing the section would be safer than traveling the bleeder.

The mine did comply with the required examinations with regard to the bleeder entry.



The April 18<sup>th</sup>- Agapito report stated the bounce damaged the entries located between XC's 133 and 139. This area was inby the retreating face and the only entry in this area was the number 4 entry, the bleeder entry.

If the mine had been allowed to move the MPL outby to XC 133, they would have continued to retreat mine the north Main West barrier. The reason that the mine stopped mining was their belief that requiring a person to travel in the bleeder entry to back of the bleeder was unsafe. This is consistent with the discussions between myself and mine management.

Please contact me if there are more questions regarding this issue.

Billy D. Owens  
Roof Control Supervisor  
[REDACTED]

U.S. Department of Labor

Mine Safety and Health Administration  
P.O. Box 25367  
Denver, Colorado 80225-0367



JUN 15 2007

Coal Mine Safety and Health  
District 9

Gary Peacock  
General Manager  
Genwal Resources, Inc.  
P.O. Box 1077  
Price, UT 84501

RE: Crandall Canyon Mine  
ID No. 42-01715  
Roof Control Plan Amendment  
Site-specific Pillaring Plan  
Main West South Barrier

Dear Mr. Peacock:

The referenced roof control plan amendment is approved in accordance with 30 CFR 75.220(a)(1).

The submittal consisted of a cover letter, dated May 16, 2007, one page, and one drawing, addressing pillar mining of the Main West South Barrier. This amendment will be incorporated into the current plan originally approved on July 3, 2002.

This approval is site-specific for pillar mining the Main West South Barrier and will terminate upon completion of the project. Since this approval is site-specific, no pages in the roof control plan will be superseded. That is, this amendment will be added to the roof control plan as a separate attachment.

A copy of this approval must be made available to the miners and must be reviewed with all miners affected by this amendment.

If you have any questions regarding this approval, please contact Billy Owens at [REDACTED] or [REDACTED].

Sincerely,

*William B. Denning*

*for*  
Allyn C. Davis  
District Manager

Enclosure

EXHIBIT

13

PENGAD 800-631-6089

UEICONG-K000011375

BDO 5/17/07

UtahAmerican Energy, Inc.



Crandall Canyon Mine  
a subsidiary

Hwy31 MP 33, Huntington, UT 84528  
PO Box 1077, Price, UT 84501  
Phone: (435) 888-4000  
Fax: (435) 888-4002

8646 B4-A19

RECEIVED  
MAY 17 2007

May 16, 2007

Mr. Allyn C. Davis  
District Manager  
Coal Mine Safety and Health  
P.O. Box 25367  
Denver, Colorado 80225

USDOL - MSHA (MSHA)  
DISTRICT 9

Re: Crandall Canyon Mine ID# 42-01715 Roof Control Plan  
Pillaring Main West South Barrier

Dear Mr. Davis:

Please find attached for your review and approval, a site specific roof control plan for pillaring the South Barrier of Main West at our Crandall Canyon Mine. The plan consists of one page of text and 1 Plate.

Please contact me with any questions at [REDACTED].

Sincerely,

Tom Hurst  
Mining Engineer  
[REDACTED]

Crandall Canyon Mine  
MSHA ID # 42-01715  
Main West Pillaring  
South Barrier  
Roof Control Plan

The mine is currently developing entries into the south barrier of the Main West area. This plan proposes to recover coal remaining in the pillars shown on attached Plate 1, Pillar Extraction.

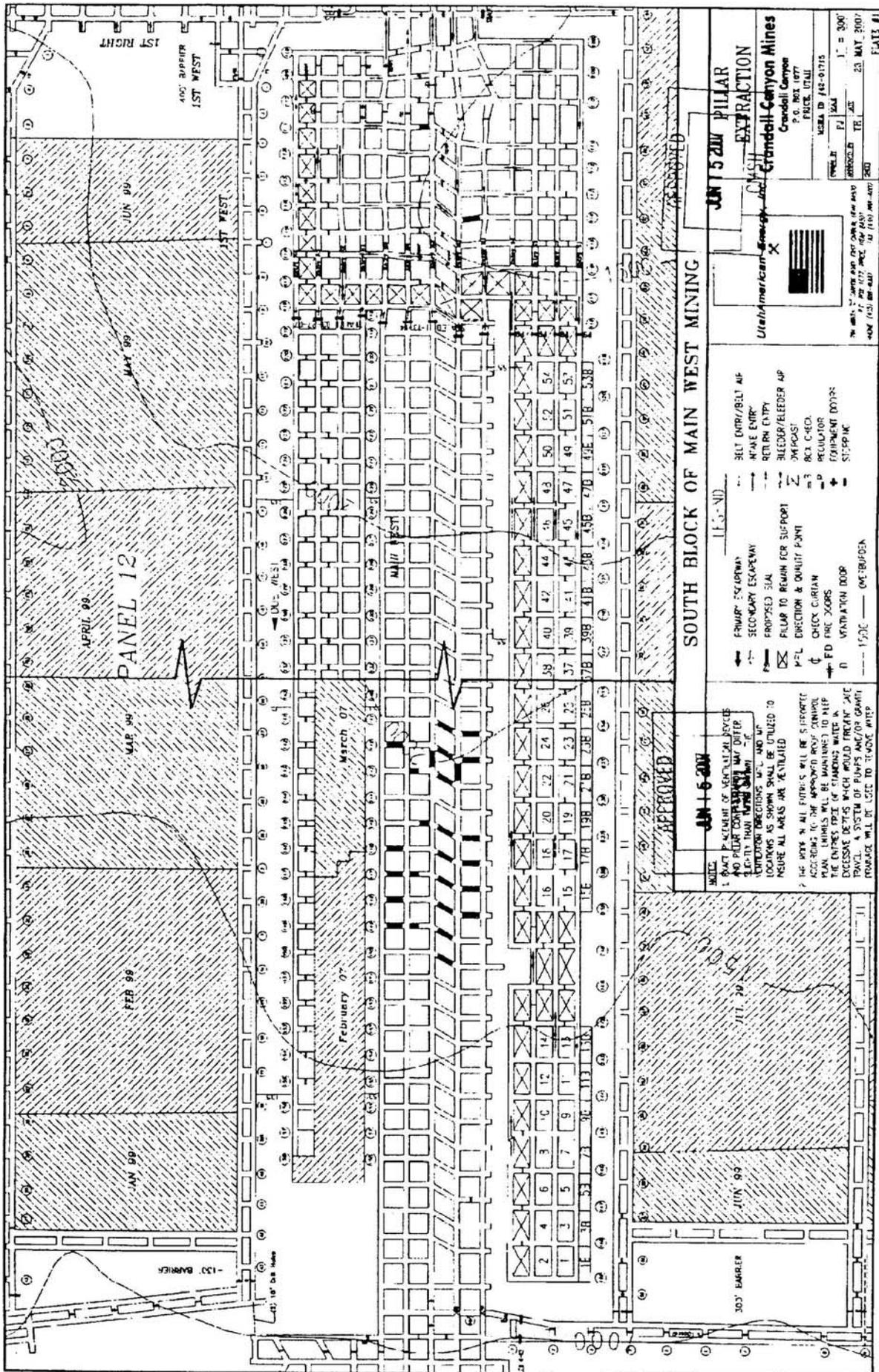
Consultant reports indicate the development will avoid the majority of the side-abutment stress transferred from the adjacent longwall panels. These assessments have been validated by conditions experienced in the mine.

Plate 1, Pillar Extraction, shows the mining sequence and the blocks left in the mining process. This pillar recovery will be done in accordance with the approved Roof Control Plan.

Floor to roof support will be provided in the Bleeder entry. These timbers will be installed at the entrance to the crosscuts in number 4 entry. This support will consist of a double row of timbers (breaker row) installed on four (4) foot centers or closer if deemed necessary by the operator. There will be a minimum of four timbers in each row across the entry.

Also, should conditions warrant pillaring can begin at anytime in the panel. The pillar sequence and bleeder configuration will be same except that pillars will be left in by the beginning of the pillar line.





**JUN 5 2007 PILLAR EXTRACTION**  
 Utah American Energy Services  
 Granddell-Canyon Mines  
 P.O. Box 1077  
 TRICE, UTAH  
 UTAH ID 742-01715  
 OPERATOR PJ SAI  
 APPROVED TR. AS  
 DATE 23 MAY 2007  
 SCALE 1" = 300'

**SOUTH BLOCK OF MAIN WEST MINING**

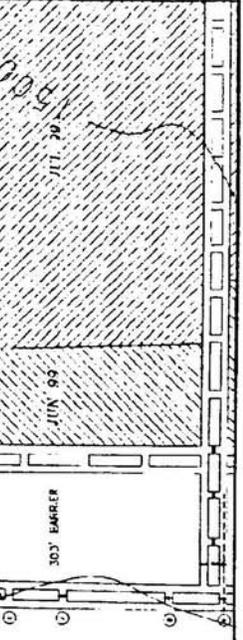
LEGEND

- PRIMARY ESCAPEWAY
- SECONDARY ESCAPEWAY
- PROPOSED 31A
- FLOOR TO RETURN FOR SUPPORT
- P.L. DIRECTION & QUALITY POINT
- CHECK CURTAIN
- FED FIRE XCHGNS
- VENTILATION DOOR
- 150C
- DM-BUPDEN
- BELT DRIVE/BOLT UP
- IN-AGE ENTRY
- RETURN ENTRY
- BLEEDER/VEEDER AP
- 34POST
- ROCK CHECK
- REGULATOR
- EQUIPMENT DOORS
- STOPPAC

**JUN 6 2007**

1. SOFT PLACEMENT OF VENTILATION DOORS AND PILLAR CORNERS SHALL BE DETERMINED BY THE ENGINEER AND APPROVED BY THE MINE SUPERVISOR. LOCATIONS AS SHOWN SHALL BE ADJUSTED TO ENSURE ALL AREAS ARE VENTILATED.

2. THE WORK IN ALL PILLARS WILL BE SUPPORTED ACCORDING TO THE APPROVED ROOF CONTROL PLAN. LINES WILL BE MAINTAINED TO KEEP THE ENTIRE FACE OF STAMPS WATER IN EXCESSIVE DEBITS WHICH WOULD TRAVEL TO PAVL. A SYSTEM OF PUMPS AND/OR GRANTI STORAGE WILL BE USED TO REMOVE WATER.



**From:** Poulson, Jim  
**Sent:** Thursday, June 14, 2007 1:09 PM  
**To:** 'Owens, Billy D - MSHA'  
**Subject:** RE:

How is the ass kicking contest going? Are you making any headway? Is there anything I can do to help you?

I am sure a man of your stature and noble ability will prevail. I will try to keep the wolves at bay over here and pray you are successful in your accomplishments. It is looking like we will need the approval before Monday.

Jim



**James Poulson**  
Safety Manager  
UEI

[REDACTED] work  
[REDACTED] cell

**From:** Owens, Billy D - MSHA [mailto:[REDACTED]]  
**Sent:** Wednesday, June 13, 2007 10:59 AM  
**To:** Poulson, Jim  
**Subject:** RE:

Welcome to the one-legged man ass kicking contest!!

*Billy D. Owens*

[REDACTED]

-----Original Message-----

**From:** Poulson, Jim [mailto:[REDACTED]]  
**Sent:** Wednesday, June 13, 2007 10:25 AM  
**To:** Owens, Billy D - MSHA  
**Subject:**

Bill;

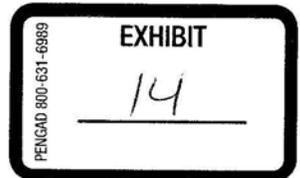
Just a reminder, I am in a staff meeting right now and they are all asking when the plan for the pillaring in Crandall will be approved. They are about 7 days away from needing the plan.

I have a fire under my axxxxx to get this approved. I need your help.



**James Poulson**  
Safety Manager  
UEI

[REDACTED] work  
[REDACTED] cell



9/27/2007

UEICONG-K000001282

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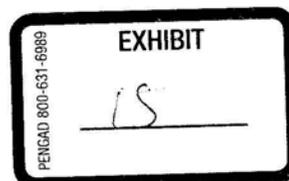
**From:** Hibbs, David  
**Sent:** Monday, July 23, 2007 11:15 PM  
**To:** Davis, Allyn C - MSHA; Owens, Billy D - MSHA  
**Cc:** Peacock, Gary; Adair, Laine; Poulson, Jim; Allred, Bodee  
**Subject:** Crandall Mine Roof Control Site SPecific Submittal Retreat Main West Block A  
**Attachments:** Crandall Main West Block A Submittal.PDF

Attached for your review is a Site Specific Roof Control Plan for the Retreat of the Main West Block A.

David W. Hibbs  
UtahAmerican Energy, Inc.  
P.O. Box 1077  
Price, Utah 84501

Phone [REDACTED]  
Fax [REDACTED]  
Cell [REDACTED]

9/27/2007



UEICONG-K000012097

**Crandall Canyon Mine**

**Hwy31 MP 33, Huntington, UT 84528**

**PO Box 1077, Price, UT 84501**

**Phone: (435) 888-4000**

**Fax: (435) 888-4002**

**UtahAmerican Energy, Inc.**



July 23, 2007

Mr. Allyn C. Davis  
District Manager  
Coal Mine Safety and Health Administration  
P.O. Box 25367  
Denver, Colorado 80225-0367

RE: Crandall Canyon Mine  
ID Number 42-01715  
Roof Control Plan for Retreat Main West

Please find for your review and approval the enclosed Roof Control Plan for Retreat of the Main West Block A. This plan contains one (1) plate detailing the extraction sequence for the aforereferenced area.

If you require additional information, feel free to call me at [REDACTED] or contact us at the address listed above.

Sincerely,

A handwritten signature in black ink that reads "David Hibbs". The signature is written in a cursive, slightly slanted style.

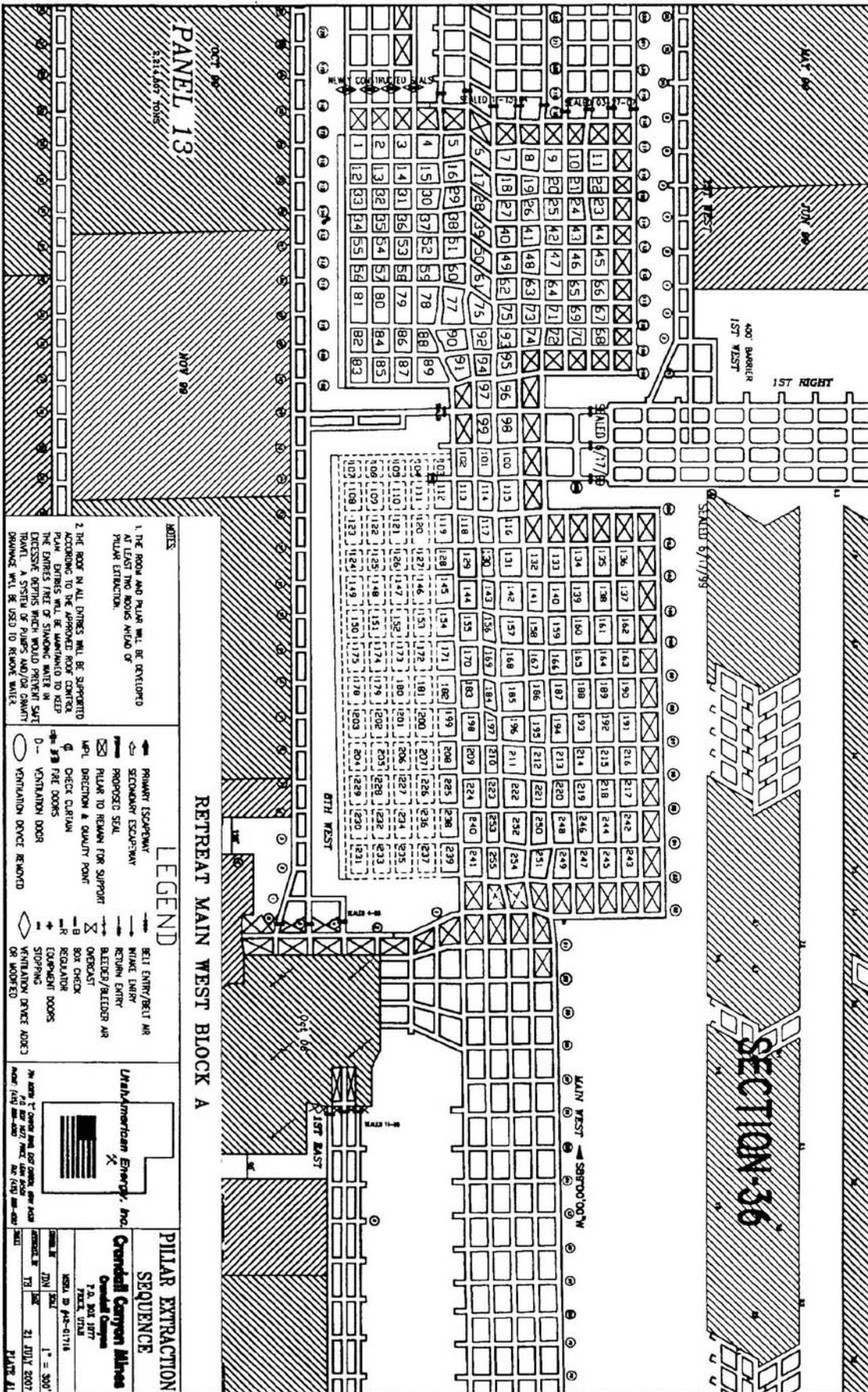
David W. Hibbs  
Director, Engineering

UEICONG-K000012098

Crandall Canyon Mine MSHA ID# 42-01715  
Retreat Main West Block A Site Specific Roof Control Plan

Plate 1 shows the pillar extraction sequence and the blocks left in the mining process. Before the extraction begins crosscut 118 between entries M1 and S4 shall be developed. This pillar recovery will be done in accordance with the approved Roof Control Plan. The development of room and pillar will also take place. At all times the room and pillar mining will be at least two rooms ahead of the pillar extraction until Block A is fully developed.

Floor to roof support will be provided in the Bleeder entry. These timbers will be installed at the entrance to the crosscuts in Entry N4. This support will consist of a double row of timbers (breaker row) installed on four (4) foot centers or closer if deemed necessary by the operator. There will be a minimum of four timbers in each row across the entry.



PANEL 13  
11/16/06

OCT 99  
NOV 99

SECTION-36

RETREAT MAIN WEST BLOCK A

NOTES

1. THE ROOM AND PLUMB WILL BE DEVELOPED AT LEAST TWO ROOMS AHEAD OF FILM EXTRACTION.
2. THE ROOM W/ ALL ENTRIES WILL BE SUPPORTED BY CONCRETE SLABS. THE PROVISIONS TO KEEP THE ENTRIES FREE OF SIMONING WATER IN EXCESSIVE DEPTHS WHICH WOULD PREVENT SAFE TRAVEL. A SYSTEM OF PUMPS AND/OR CANALS DRAWN WILL BE USED TO REMOVE WATER.

LEGEND

- PRIMARY ESCAPWAY
- SECONDARY ESCAPWAY
- PROPOSED SEAL
- PLUMB TO REMAIN FOR SUPPORT
- WFL. DIRECTION & QUANTITY POINT
- CHECK CURTAIN
- D- VENTILATION DOOR
- VENTILATION DOOR REPORTED
- OR MODIFIED
- RETI ENTRY/RETI AIR
- WINDY ENTRY
- RETURN ENTRY
- BLEED/BLEEDER AIR
- OVERCAST
- BOX CHECK
- REGULATOR
- EQUIPMENT DOORS
- STOPPING
- VENTILATION DOOR, ROOM 3 OR MODIFIED

UrbAmerican Energy, Inc.  
Creswell Canyon Mines  
7.2. Box 1177  
TRUCKEE, NV 89418

PILAR EXTRACTION  
SEQUENCE

21 JULY 2007  
1" = 30'  
21 JULY 2007  
PLATE A11

PENGAD 800-631-6989  
EXHIBIT  
16