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BEFORE THE DIVISION OF OIL, GAS, AND MINING
DEPARTMENT OF NATURAL RESOURCES
STATE OF UTAH

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DEER CREEK MINING AND RECLAMATION PLAN INFORMAL CONFERENCE)
REPORTER'S TRANSCRIPT)

-oOo-

On Thursday, May 31, 1984, commencing at the hour of 9:30 a.m., an informal conference was held before the Division of Oil, Gas, and Mining at 4241 State Office Building, Salt Lake City, Utah; and the conference was taken down in shorthand by Ronald F. Hubbard, notary public and certified shorthand reporter in and for the State of Utah (License No. 32).

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APPEARANCES

Dr. Dianne R. Nielson, Chairman, Director, DOGM
Mary Boucek, Permit Supervisor, DOGM
Herm Olsen, Attorney at Law, representing Ted Crawford
Ralph L. German, Attorney at Law, representing UP&L

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BARON CRASABLE BOND
25% COTTON



Attendance list May 31, 1984

Triennial Conference on the Deer Creek Mine

— M. W. Sheets	AG Office
— Mary Bancek	DOG M, Permit Supervisor
— Tom Munson	DOG M
— Jerry Hernandez	BLM ^{Salt Lake} Planning Branch
— Boyd McKean	"
— Gordon Whitney	"
— Glenn F. Tiedt	USDI Solicitor's Office
— Sylvia F. Manger	OSM - Denver
— [unclear]	Utah Parks & Signs
— C. E. Spangleton	" " "
— Richard V. Smith	DOG M
— John Whitehead	DOG M
— Sam Hotchkiss	US Forest Service
— WALT NOWAK	" "
— Ron Daniels	DOG M
— Wm J. Christman	Geologist
— Dr. Vincent A. Lamanna	Director: Ecosystem Res. Inst
— Anne R. Nielsen	Director, Division Oil, Gas & Mining
— Ted Crawford (Edward Sr.)	Property Owner - East Blm
— Heam Olson	Att'y For Ted Crawford
— Jack Moffitt	BLM

1 SALT LAKE CITY, UTAH, THURSDAY, MAY 31, 1984, 9:30 a.m.

2 -oOo-

3 CHAIRMAN NIELSON: This is the time and place
4 that's been set for an informal conference concerning the
5 Deer Creek Mine. We are taking presentations on the record
6 today, and this is Ron Hubbard. He will be keeping that
7 record for us. If anyone is interested, the record will be
8 available through the Division as soon as we receive it, and
9 additional copies could be obtained, I'm sure, through
10 Mr. Hubbard, if you'd see him after the hearing.

11 At this point I'd like to request that everyone
12 please sign an attendance list which is going to be circulated
13 indicating your name and either your affiliation or your
14 interest relative to the issue.

15 I would also like to request at this time that those
16 individuals who are potentially or definitely planning to
17 make some comment or would like to be recognized during
18 the hearing, if they would just indicate at this time, so
19 we have some sort of idea who are going to want to be involved.

20 MR. OLSEN: I'm Herm Olsen, representing Ted Crawford,
21 and I've indicated to Ron previously that Ted Crawford and
22 Bill Christiansen and Vince LaMarra will be making a
23 presentation on our behalf. I don't know of anyone else.

24 MR. JERMAN: I'm Ralph Jerman representing Utah
25 Power & Light. With me is Chris Shingleton.

CHAIRMAN NIELSON:



definitely
will hand well

1 CHAIRMAN NIELSON: Anyone else. All right. The
2 direction that we'll take today in this informal conference
3 is essentially the same procedure that we followed and that
4 we have followed in previous informal conferences. We are
5 not attempting to make any determinations on the information
6 presented today. The sole purpose of this meeting is to
7 provide a forum to enable this information to be presented
8 to the public, so that it can be considered by the regulatory
9 agencies who are responsible for permitting in this area,
10 as well as other interested parties.

11 The request which the Division originally received
12 on this informal conference was for an on site visit...
13 Because of the weather we were unable to schedule at this
14 time, weather primarily being snow-covered, the access to
15 the area under consideration. For that reason we established
16 the informal conference as a meeting here in Salt Lake City
17 at this point.

18 The Division is still interested and willing, if
19 parties request, to go down to the site to review the situa-
20 tion on the site. However, we would do it with this considera-
21 tion, that if there is information presented in the informal
22 conference today to convince us that we would see anything
23 on site which would influence our decisions relative to this
24 information and relative to the permitting, then we would
25 consider whether this on site conference could be considered



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a continuation of the informal conference in Salt Lake.

If we make a determination--and by we I mean the Division of Oil, Gas and Mining--make a determination that there is not going to be anything else significant that would influence our decision were we to go on site, we will still hold a site visitation, but it will not be held as a continuation of this informal conference.

So I'd like all parties who are interested here today and who will be presenting information to be aware that that is the basis upon which we will make a decision as to whether the site visitation would be strictly by visitation or whether it would be a continuation of an informal conference that we're holding today.

Before we get going, are there any questions or additional comments?

All right. Herm, would you like to begin?

MR. OLSEN: Thank you. We do believe that, following up on this point, we do believe that the information we present today will call for the value of an on site visit, which I think is going to produce information that will be helpful in determining whether or not the mining permit application should be approved. We will address that more completely a little later on.

We also appreciate the courtesy of the Division in setting up the informal conference and accommodating our



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mutual schedules, and that's very helpful.

At the last informal conference we addressed what we perceive to be the inadequacies, the deficiencies, of the Utah Power & Light mine plan application regarding the Wilberg Mine. And today we are going to reference those deficiencies with the Simons Li report, which has been made available to us, and which conclusions we think support the allegation of incompleteness of the mining permit application.

We're going to discuss the impact of the Deer Creek Mine upon Ted Crawford's property and the cumulative impact of both the Deer Creek and Wilberg mining on Ted Crawford's property. We're going to introduce what we perceive to be significant deficiencies in the data being relied upon by Utah Power & Light, and we will introduce evidence of what we also perceive to be immediate and irreparable injury to the perennial springs on Mr. Crawford's property.

I've indicated that witnesses will be Ted Crawford, Bill Christiansen, the geologist, and Dr. Vince Lamarra, who will address the elements I've just referenced.

As a matter of procedure, I will assume, as we did in the last informal conference, that the Utah Regulations regarding operation of the mine and the requirements for a permit application will apply. Is that a fair assumption?

~~erase comment~~
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Lamarra



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MS. BOUCEK: Yes.

MR. OLSEN: To preserve our position and to exhaust our administrative remedies, we then submit hereby a petition for designation of the Crawford property as an area unsuitable for the surface effects of underground coal mining. This differs from the last petition in the sense that the last petition requested that East Mountain be so designated. This restricts that request to the 302 acres owned by Ted Crawford, and I'll submit that to the Division in what I perceive and believe to be a timely fashion pursuant to UMC 764.15(a)(7).

I would like to have those two letters submitted with the petition, those letters being the letters I sent to Allen Cline on April 13 and May 8. I'm not sure who else may need a copy of the petitions. Ralph?

Does anyone else need a copy of the petition?

All right. At this point I'd have Mr. Crawford come up and present some information. I don't recall last time whether we had the witnesses sworn or not. Did we?

CHAIRMAN NIELSON: No, we did not. It's an informal conference.

MR. OLSON: Excuse me. Then we'll just ask Mr. Crawford to identify himself, his interest in the property and in the informal conference today.



Teste cited

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E. S. CRAWFORD

called as a witness, being interrogated, answered as follows:

EXAMINATION BY MR. OLSEN

Q Go ahead, Ted, with what you want to present.

A I am Mr. E. S. Crawford, and I am one of the family owners of the property in question on East Mountain. It is presently being mined by the Utah Power & Light Company. And I might state that we have been in continuous use of this property for over 50 years.

We were initially alerted to what might happen to the property as the EIS was published in 1976, when the Power Company published that EIS on Units 1 and 2 of the Emery Power Plant.

That document cited in several places in the geology section subsidence that would be substantial and disturbance to the water on East Mountain, and we would like to cite those today. We do have the sites, if you would like to have them for the record.

Q Are you talking about the EIS?

A Right.

Q I believe last time we asked that the EIS you're talking about--is this the one?

A Right.

MR. OLSEN: It's entitled the Draft Environmental



1 Statement, Emery. We ask that that be incorporated by
2 reference into the record and would similarly request that it
3 be done so in this case as well.

4 A Now, that being the case, I'd like to give just
5 a little history of the water on East Mountain. I'd first
6 like to say that water is a very scarce commodity there,
7 in the first place. Much of the elevation of the mountain is
8 8,500 to 10,000 or better in the higher elevations, and we
9 depend entirely on those live springs for our livestock,
10 recreation, cabin site development, or whatever, and it's
11 vital. It is not measured in feet per second. It's measured
12 in gallons per minute. So it is minute, and it's not great.
13 But it's very vital to our existence and survival in that
14 particular area.

15 One point that was brought out in our hearing
16 last time on the Wilberg Mine, the mine plan indicates no
17 impact on the hydrology of the area thus far. It seems to
18 be based primarily on a mine that has taken place--I've
19 drawn a map here of our property here. And this is the
20 Pleasant Valley Fault that almost runs parallel to our
21 property line. The majority of the mining that's taken
22 place is on the east side of the Pleasant Valley Fault at
23 the present time.

24 This is all open country. There is no timber, no
25 quaking aspens. It's all open country over there, and most



1 of the subsidence has taken place in these mined out areas,
2 or over in these particular areas.

3 CHAIRMAN NIELSON: For the record could we place--

4 MR. OLSEN: Yes. The top of the map is south.
5 And you're looking south. That's contrary to--

6 A Historically, this is Burnt Tree Spring right here,
7 one of the more prominent springs in the area.

8 We have a pipeline running from here clear to
9 the old Church Mine. This was installed in about 1941 as
10 a water source for the Church Mine, with the understanding
11 that water sources would be left along the line for the various
12 users. And we willingly gave that water at that time without
13 protest for that purpose.

14 But the point I'm trying to make is that water is
15 piped from this side, the west side of the Pleasant Valley
16 Fault, to the east side of the Pleasant Valley Fault, for all
17 types of uses. There is no water in this particular area
18 to speak of. So there could be very little impact--the
19 point I'm trying to make--from the mining and the subsidence
20 in this particular area.

21 In these areas, for reasons I don't know--some of
22 these subsided areas have been fenced. Now, whether that's
23 for safety or experimental purposes, maybe we could clarify
24 that purpose here today.

25 MS. BOUCEK: Are you referring to the area that's



1 immediately above the surface facilities for the Wilberg Mine?

2 THE WITNESS: That would be down in this particular
3 area. There are some areas over here that--

4 MS. BOUCEK: That have been fenced?

5 THE WITNESS: Right.

6 MS. BOUCEK: I don't know anything about fencing
7 up there. Could anybody in the audience help out?

8 MR. SHINGLETON: What's the question?

9 MS. BOUCEK: Mr. Crawford has pointed out to some
10 fencing east of his property.

11 THE WITNESS: Has some of the subsided areas been
12 fenced?

13 MR. SHINGLETON: That's right.

14 MS. BOUCEK: The area that has been fenced is the
15 area of the surface facility for the Wilberg Mine. Correct?
16 That's not the area that he's referring to. Over in that
17 area where he's drawn the first circle, are you aware of any
18 fencing that you have put up for a subsided area there?

19 MR. SHINGLETON: There is none.

20 THE WITNESS: I haven't personally been in the
21 fenced area, but the permittees in the area have told me
22 about fencing.

23 MR. SHINGLETON: That's in the upper right-hand
24 corner.

25 THE WITNESS: Well, what's the purpose of the fence?



*feel there's going to be a heavy disaster
heavy vegetation, the*

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MR. SHINGLETON: To keep cows out of there, and people.

THE WITNESS: For what reason?

MR. SHINGLETON: So they don't get in the areas that are cracked and open.

THE WITNESS: That's all I want to know.

So the point we want to make here is that this is a dry area on this side of the Pleasant Valley Fault. The mining now has switched since about 1982. This is the south end of our property here, and we're maintaining--the perennial stream runs--the left fork of Grimes Wash runs down through here something like this. The Wilberg Mine sits down in here, something in that particular area.

This is heavy timber area in here. There's heavy timber on both sides of this wash, and this draw runs down through here. And there are springs all along down through here.

You apply the same types of subsidence and disturbance that's happened over here down in this area where we've got water in September, and heavy vegetation. We feel there's going to be a heavy disaster.

As yet, we haven't experienced--the long wall panels haven't been in here long enough to experience the same type of situation that we've had over here at the present time, although we have noted, and we will show what we noted in



1 the stress of those particular springs here today.

2 Another particular point that I'd like to call your
3 attention to historically from the standpoint of water on
4 East Mountain--well, I should point out that this is the
5 very reason for my filing a protest with the State Engineer's
6 Office is the stress and the loss of this particular spring,
7 especially in later seasons, having observed that particular
8 spring for a period of 50 years. On my property, my filing,
9 that's my water, that spring disappeared in the latter part
10 of the seasons.

11 MS. BOUCEK: Mr. Crawford, does that spring have
12 a name that you know of?

13 THE WITNESS: Well, it's been named No. 45. A-45.

14 MS. BOUCEK: Thank you.

15 THE WITNESS: But that and the springs up here that
16 have diminished underneath the long wall panels, both parties--
17 and speaking of Utah Power & Light and myself--took joint
18 readings on all this water in about July of 1980. Since that
19 time I have never been able to get readings that equaled
20 those particular readings that we took on a joint basis.

21 Of course, the long wall panels moved in shortly
22 after that.

23 There is a large body of water that sits back
24 here. It's the largest body of water on the East Mountain.
25 It's called Snow Lake. It does accumulate several acre feet



1 of water. In 1972, long before the Power Company became
2 involved--Peabody's Mine was inactive at that point in time--
3 I filed on the water in Snow Lake for the purpose of future
4 development on my property. I could see that water was a
5 scarce item up there. So I made a filing here on this parti-
6 cular lake.

7 The Forest Service made an extensive study of this
8 particular area and the geology of that lake, filed a protest,
9 a vigorous protest with the State Engineer's Office, and I
10 thought their findings was quite significant. And I do have
11 the report that they filed as part of their protest showing
12 this area to be very sensitive and the water essential to
13 East Mountain and the environment and the uses that did
14 exist at that particular time and still do exist today.
15 And I would like to make that a part of the record here today.

16 MR. JERMAN: Can I have a copy, Ted?

17 THE WITNESS: I have got an extra copy. I'll do
18 that.

19 CHAIRMAN NIELSON: Shall we just give this, say,
20 Exhibit A?

21 MR. OLSEN: Yes.

22 (Exhibit A was marked for
23 identification.)

24 THE WITNESS: Then in 1975 and 1976 Peabody Coal
25 Company became active again with their operations down here
in the Wilberg Mine. They at that time owned both the Deer



1 Creek and the Wilberg Mine. They activated the mine, which
2 had been inactive, and started mining again; and they exper-
3 ienced quite a bit of water in the mine, and so as a result
4 of the water they attempted to file on the water that came
5 out of the mine so they would have a right to it.

6 And I assume that had they been able to establish
7 that right, it would have given them the right to divert that
8 water off the top of the mountain. However, we had a public
9 hearing in Castle Dale on that particular appropriation with the
10 State Engineer's Office.

11 After the hearing and a review of the entire situa-
12 tion, with Peabody being present, their geologists, attorney,
13 and everyone involved, myself protesting on the basis that
14 it would have an effect on the springs up here and diminish
15 my right, that application was denied.

16 And I'd like to make that, the decision of the
17 State Engineer's Office, a part of this record when denial
18 was made in 1976.

19 CHAIRMAN NIELSON: We'll make that Exhibit B.

20 (Exhibit B was marked for
21 identification.)

22 Q (By Mr. Olsen) Ted, are you saying, is the
23 significance of that denial the conclusion by the State
24 Engineer that the water being filed upon by Peabody had already
25 been appropriated?

A Right. And also that it was illegal to divert water



~~vegetationwise~~

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↓ cite
↓ source "as an experience that as"
↓ cite that as

1 off the top of the mountain. Another significant factor
2 that did take place in 1962 regarding water on top of East
3 Mountain, the Forest Service decided that the mountain was
4 in pretty bad shape --vegetationwise, overgrazed. They
5 undertook an extensive program at great expense to reseed the
6 whole mountain. They sprayed the sagebrush. Everybody took
7 three years nonuse. Some of the--they divided the whole
8 mountain up into four different pastures, so they could
9 rotate and give one pasture a rest each season, which allowed
10 the vegetation to come back.

11 But some of the higher pastures that they were
12 rotating into did not have any water for distribution. So
13 they installed some guzzlers, the same type guzzlers that
14 is being proposed in this particular mine plan as a water
15 replacement to try and get better distribution to the live-
16 stock on those higher elevations.

17 They were installed on these springs--or, on the
18 elevations, on the higher elevations, quite large, even
19 plastic lined deflates, with pipes running out. Tanks
20 were attached to the pipes. Float valves were put into these
21 pipes, so that the water could drain into the tank and live-
22 stock could use this as a source of water for the livestock.

23 However, in a matter of two years, the whole project
24 was abandoned. They were taken out. They didn't work. So
25 I would just like to cite that as



1 an experience that has happened up there in connection with
2 guzzlers as an alternative use rather than live water.

3 And I believe that's pretty much all I have. I
4 might say that the Forest Service has been aggressive in
5 filings in the area and seems to be concerned about the water
6 on top of East Mountain.

7 MS. BOUCEK: I'd like to ask a question. Unfortunately
8 ly, there is no representative here from the State Engineer's
9 Office. But perhaps somebody else could answer this. What
10 is the difference between water filing and adjudicated water
11 claims?

12 THE WITNESS: Well, water that's been adjudicated
13 I guess is already yours.

14 MS. BOUCEK: So that's a water right?

15 THE WITNESS: Right.

16 MS. BOUCEK: A filing, is it up to any individual
17 to be able to--

18 THE WITNESS: Well, they had water coming out of
19 the mine that they wanted to use. So they filed on the
20 water.

21 MS. BOUCEK: I see. And their application was
22 denied?

23 THE WITNESS: Their application was denied. The
24 State Engineer said it was already adjudicated.

25 MS. BOUCEK: All right. Thank you.



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THE WITNESS: That's all I have, Herm.

MR. OLSEN: Thank you. Are there any questions by the Division or OSM, or Ralph, of Mr. Crawford?

EXAMINATION BY MR. JERMAN:

Q I have a couple of questions. Ted, when were you last on your property on East Mountain?

A I wasn't up there personally, but my son-in-law was up there ten days ago.

Q Ten days ago.

MR. OLSEN: When were you last up there?

A I was up there last fall.

Q (By Mr. Jerman) About how many days a year during the past seven or eight years have you been on the property?

A Well, I used to try and go up there at least every weekend.

Q Are you saying that--

A If I could make it. I'm not saying I could go up there every weekend, but I try and go up there every weekend.

Q Do you raise any cattle or sheep on the property?

A No, I don't.

Q Any animals at all?

A Some horses.

Q You mentioned that water was extremely vital to the property. In what sense is it vital?



Some

things street

1 A For future development, for what we intend it to
2 be used for.

3 Q That being what?

4 A Cabin site development.

5 Q It is also said you have noted some stress on
6 previous visits to the property. What type of stress are
7 you talking about?

8 A On the springs.

9 Q Would you describe the stress?

10 A Loss of water.

11 Q Where did that occur?

12 A These two big springs up here.

13 Q That seems to be off the property?

14 A That is off the property. However, we have a
15 filing on those springs for the overflow.

16 Q Do you have an adjudicated water right--

17 A On the overflow. Not the springs themselves, but
18 the overflow.

19 Q Do you have a copy with you of the--

20 A No, I don't. But I do have it. I don't have it
21 with me.

22 Q Do you have any reference numberwise or anything
23 that we could--

24 A I could give you a copy of the adjudication.

25 Q All right.



1 MR. OLSEN: Ted, I think you also stated there
2 was stress--

3 THE WITNESS: On this one down here.

4 MR. OLSEN: On 80-45?

5 THE WITNESS: Right.

6 MR. OLSEN: And this is on your property?

7 THE WITNESS: That is on the property.

8 Q (By Mr. Jerman) You mentioned that you noticed
9 recently, the springs, both you and the Power Company have
10 monitored the springs?

11 A Yes.

12 Q When did you last monitor them?

13 A Last fall. We were in there monitoring ten days
14 ago.

15 Q Ten days ago?

16 (Witness nods head.)

17 Q Do you have the results of that monitoring?

18 A Uh huh.

19 Q Is that going to be presented here today?

20 MR. OLSEN: Yes.

21 THE WITNESS: Somewhat.

22 Q (By Mr. Jerman) Was Peabody, when you talked about
23 the filing for water right, having it turned back down--
24 when was that?

25 A '76.



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Q Were they mining at that time?

A Yes.

MR. JERMAN: That's all I have.

MR. SHINGLETON: I have one question. You mentioned Burnt Tree Springs and the subsequent pipe to feed water to the mine. You kind of indicated to everybody here that you allowed them to put that pipeline in.

THE WITNESS: We did.

MR. SHINGLETON: And use your water. Does Utah Power & Light have a water right there?

THE WITNESS: Yes. I suppose you bought it from the Church?

MR. SHINGLETON: We did. I just want to go on the record, Ted.

THE WITNESS: All right. However, we have a right on that spring, too.

MR. SHINGLETON: We didn't deny that. We're saying that we have our own water right on that water.

THE WITNESS: Okay. Right.

MR. SHINGLETON: That's all.

MR. TIEDT: You said that Spring 80-45 had disappeared. What did you mean by that?

THE WITNESS: Well, in the middle of the season-- it has run perennial as long as I can remember. Now, in the middle of the season it's usually gone. Let me cite you an example. Utah Power & Light measured it on the 14th of July



1 last year and measured--for what reason I don't know--12
2 gallons per minute. I got there some 15 to 30 days later,
3 and it was dry. Now, for what reason, that discrepancy, I'm
4 not in a position to say.

5 MR. TIEDT: How long a period of time do you have
6 records on that spring as to when the--

7 THE WITNESS: Five years.

8 MR. OLSEN: Although you have personally observed
9 the spring--

10 THE WITNESS: I have personally it observed it over
11 fifty years. When Danielson came down and started the
12 studies in 1979, that's when we started to measure the spring.

13 CHAIRMAN NIELSON: I'm sorry. Are those records
14 available?

15 MR. OLSEN: They will be presented. It was part
16 of the original protest, and Dr. Lamarra will address those
17 same figures.

18 CHAIRMAN NIELSON: Additional questions?

19 MR. JERMAN: I would like to reserve the right to
20 ask him further questions after I have seen the exhibits.
21 I may or not want to.

22 CHAIRMAN NIELSON: Why don't we circulate these
23 two, and we can get you copies.

24 MR. OLSEN: At this point, Bill Christiansen, the
25 geologist, is going to make a presentation. I might indicate



1 that he has got to be to Vernal this afternoon; and as soon
2 as he has completed his testimony and responded to any
3 questions, we would ask that he be excused so he can get to
4 his appointment at Vernal. What do you have there?

5 MR. JERMAN: I have the memorandum.

6 WILLIAM CHRISTIANSEN

7 called as a witness, being interrogated, answered as
8 follows:

9 EXAMINATION BY MR. OLSEN

10 Q Bill, for the record, why don't you indicate who
11 you are, your professional background, your familiarity with
12 the property involved, and then go ahead with your presenta-
13 tion.

14 A My name is William Christiansen. I'm a geologist.
15 I began working with coal back in 1974 when I was hired by
16 the Utah International Regional Office here in Salt Lake City,
17 Utah. And at that time my job was as a coal explorationist.
18 And that was--I also got my first taste of East Mountain and
19 North Horn Trail Mountain at that time by helping another
20 geologist down there do some mapping and work on some
21 requirements that he had to do for his master's degree. In
22 that project I helped him measure sections. We measured--
23 we mapped parts of the area that we're looking at right now.

24 I spent a couple of years at Utah International.
25 Then I worked for Gunlock Corporation. And I moved back into



1 West Virginia, worked on some coal mines there. Became
2 familiar with some of the water problems that they have back East.

3 I spent just about two years back there, and I came
4 back out West here and started working for U.V. Industries
5 that was taken over by Sharon Steel. Sharon Steel has the
6 King Coal Mines down on the Wasatch plateau there. And
7 because of my background in coal, I was able to help them
8 with some programs down there. And I became a little more
9 familiar with the Wasatch Plateau and coal down there.

10 After my employment there, I started consulting,
11 and I was a subconsultant for Norwest Resources as they
12 drilled out the West Appa property that is on East Mountain;
13 and in that project, I can't remember if we drilled four
14 holes or fives holes, but it was my job to log the core as it
15 was taken out and sample the coal and prepare it so that it
16 could be assayed. And after that was over, we took the
17 electric logs from that area, and we did some correlation
18 between the units and figured out tonnage and grade.

19 So I am somewhat familiar with the area, although
20 my familiarity with this particular project began about five
21 days ago, when my neighbor, Ted came and asked me to review
22 a report. He gave me a briefcase full of things, and I
23 determined that I--in the length of time that I had, I
24 couldn't look at all of them.

25 And so I've emphasized in particular the final



addresses a
conclusion

1 report that was prepared by Simons and Li and Associates.
2 It was prepared for the Office of Surface Mining, Western
3 Technical Center, 1020 15th Street, Denver Colorado.

4 And I guess I have a couple of conclusions that
5 I'd like to draw from this, or point out, if all of us
6 haven't had the opportunity of looking at this report, and
7 tell you what my conclusions are.

8 Q If you'd prefer to sit down--

9 MS. BOUCEK: Mr. Christiansen, is that the cumulative
10 hydrologic impact analysis final report?

11 THE WITNESS: Final report, cumulative hydrologic
12 impact assessment, Cottonwood Creek Basin, Emery County, Utah.

13 MS. BOUCEK: Thank you.

14 THE WITNESS: In the time that I had to go over this,
15 I've found out that the--or, in my estimation, the report
16 is accurate. It was done quite carefully, and they have
17 accumulated a lot of data and incorporated that into the
18 report. And in general I think that the conclusions that
19 they draw from the report are valid and says something that
20 we can rely upon.

21 However, as we read the report, there are some
22 problems that I can see. First of all, the report addresses a
23 205 mile square area, which is the Cottonwood Creek Basin.
24 And if you read the conclusion at the end of the report, it's
25 a somewhat benign conclusion, in that it says:



Mancos shale of the base flow of the Star Point sandstone

1 "Total availability downstream from the cumulative
2 impact area will probably not be decreased significantly due
3 to the hydrogeologic control exerted by the Mancos
4 shale on the base flow of the Star Point sandstone."
5

6 That's the last sentence there. And that leads
7 you to believe that there are perhaps, you know, the overall
8 picture, there is no major impact that is going to be
9 presented here.

10 But what we would like to do is take the parts of
11 the report that refer to the area right around--is it Grimes
12 Wash?--and see what the report has to say about that and see
13 if we can focus in on that just a little bit.

14 So the report, although the overall is quite favorable,
15 it says that there is not going to be much impact of the
16 area. It does say that in certain specific instances that
17 there are potential problems.

18 I guess to preface the conclusions that I have
19 drawn from what they've drawn, I would like to just sort of
20 give a general idea or theory as to how subsidence occurs
21 in this area. Maybe I could best do that by drawing a diagram
22 here on the board.

23 I don't know if I should disturb your artwork or
24 not, Ted.

25 MR. CRAWFORD: Go ahead.



1 THE WITNESS: Okay. I guess I'll destroy that.
2 It looks pretty good to me.

3 If we have a mountain right here, and we have a
4 coal seam down on the bottom. Let's assume that this coal
5 seam is, oh, anywhere from five to twelve feet thick. If
6 we take a rock, we can measure its volume. If we crush that
7 rock and then measure that volume that it takes up, we know
8 that it takes up about 30 percent more space. So what we
9 see, if we're going to mine this coal out, this area, let's
10 say that's ten feet, and we've mined it out all the way
11 across here.

12 This is a void space now, and we collapse the roof
13 on top of it. In order to fill up that ten feet of space,
14 we really only need 40 feet of roof to do that, don't we,
15 because it will increase this volume as it breaks.

16 So the immediate impact that we see is that this
17 next 40 feet will be impacted, because all of this rock
18 will break--will fall down to fill up the coal that's been
19 mined. There will probably be some large boulders, and
20 usually as we get up it will be smaller and smaller, pebbles
21 and cobbles that will break loose, and it will be fractured.

22 And up and beyond this there will probably be some
23 cracking that's due. But the immediate impact when you drop
24 a long wall is that you just affect the first 40 to 50 feet
25 right above there. Nothing happens to the surface.



1 The surface will start to subside slowly, just like
2 if you dig a hole and you take all of the dirt out and then
3 try to put all of the dirt in, you have a mound, and that
4 mound takes several weeks for that to settle back down.

5 The same thing is going to happen here. And the
6 reports that are given, they have documented the subsidence
7 and probably if we take ten feet out within the first year,
8 the surface will probably settle just about two feet, maybe
9 within the next year another two feet, and it will get up
10 to about 50 to 60 percent of what this area was that was
11 mined out.

12 Well, what does this do to the overlying rocks?
13 And I guess that depends upon the character of the rocks.
14 We note that immediately overlying this in the North Horn
15 you have a number of sandstones, and they have lenses, len-
16 ticular sandstones, and they are surrounded by and large by
17 shales and clays. And I think what happens is you will get
18 cracks in the sandstone, but if you hit a real thick shale
19 layer, shale or clay under a long term duress does not break,
20 but it bends or it flows. Under short time stress, the shale
21 will break as will sandstone. Sandstones usually store their
22 energy; and then when the pressure gets too great, they break
23 suddenly.

24 What this all means--and I guess maybe we ought to
25 talk maybe a little bit more about how rocks break--but if

↓ or top
↓ the/a
↓ real thick



1 they mine into here, the effect to the surface or the subsi-
2 dence would not occur immediately above; but there is a
3 coning effect that will go out here, and there would be a
4 little bit of subsidence out here, and it would increase.
5 This is exaggerated here.

6 It would increase as you get down here. Something
7 like that. Out to the surface of the mine.

8 Well, what I'm saying here is that if we do have
9 some shale beds here, probably they will not break due to
10 the subsidence, but they will bend, given enough time, and
11 they will conform to that underlying surface.

12 And what we are saying is that if you go way up
13 on top of the mountain or above the shale beds, that there
14 shouldn't be immediate significant damage to those springs.
15 I wouldn't think that there would be. But it's a function
16 of distance. And that's the first conclusion that I thought
17 was significant in the Simons and Li report. And they have
18 identified an area which they consider to be a high risk area
19 and an area that they consider to be a low risk area. And
20 they've made a map, and this is what that map looks like.

21 I know you can't see this too well, but this is
22 the mountain. It identifies some of the springs. It identi-
23 fies the outline of the property here in question. And this
24 dark area. It shows the outcrop, and the dark area right
25 above it shows that you're, you know, real close to where
they are mining.



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As you move back here, the mining effects are not so great up here. You wouldn't see the surface effects.

But what we see is--

MR. JERMAN: Excuse me. Are you tying that in with a particular place on the map?

THE WITNESS: Not yet.

MR. JERMAN: All right.

THE WITNESS: Not yet. What we're saying is that they've identified what they believe is a critical area, or they call it a high risk area. And this area--they say anywhere down around--this is in a cross-section. If you look at it in plain view, then you have a coal outcropping along here.

They have taken the strip. But it's an elevation strip. They've--that's not very good--they've taken the strip around here, and they say that within this area, this area right in here is a high risk area for streams and perennial streams.

And one of the areas that we're talking about is the Grimes Wash. They mentioned, they mentioned five springs and four perennial springs that may be adversely impacted because they lie within the area. Three of these springs and the one stream is on Mr. Crawford's property that lies within that area. So that's the first conclusion that I've drawn that I think is significant and has an effect when

55% COTTON



1 we talk about his 320 acres that he has as compared to the
2 report, when it's talking about 205 square miles.

3 Okay. The second point that they make--and they
4 make it in several different places in the text, is that
5 there appear to be existing conduits from the Blackhawk
6 Formation to the surface. And this impacts some of the other
7 things that I have already said.

8 And it's referenced in several places here, but
9 the Utah Power & Light in the 1983 monitoring study report
10 has a little graph here that better illustrates what I'd
11 like to talk about. And I'll just show you what it looks
12 like, and I'll draw a picture.

13 There are two significant things that we should
14 look at here. What this plots is it's times versus thousands
15 of gallons per day that is being discharged from the mine.

16 CHAIRMAN NIELSON: I'm sorry. Could you indicate
17 what that is? Is it a publication or monitoring?

18 MR. JERMAN: Do you have an extra copy?

19 MR. OLSEN: It's in the Utah Power Monitoring
20 Study.

21 THE WITNESS: Graph goes something like this in
22 gross form. This is time. This is time in this direction
23 and this is--what have we got?--gallons per day.

24 So what we see here, if we look at this, is that
25 the flow from the mine is increasing with time, and also



1 there are peaks when the flow is greater than others. If
2 we take a mean average, we could say that it's, you know,
3 something like this that it's going through here, that would
4 indicate that it's increasing its flow rate (drawing), and
5 it's increasing at certain times. And if we look at this,
6 we find out that each peak here is in June or close to June.
7 That's a J.

8 And what that means is that that's the peak runoff
9 time during the year, and that's when you expect most of
10 the water to be melting and coming off the mountain; but it's
11 not just coming off the mountain, it's increasing in the
12 mine and coming out in front of the mine.

13 So what that indicates to me at least--and we see
14 that it's increasing in time--is that as Utah Power & Light,
15 as they mine back here they're increasing the surface area
16 where they have contact with the Blackhawk Formation here.
17 The Blackhawk Formation. And water is coming from the Blackhawk
18 down into the mine.

19 I guess this is no great surprise to anybody that's
20 been in the mine, because some of those mines are fairly wet.
21 But what it does indicate is that this particular conduit,
22 if we say that there is a conduit here, probably goes right
23 up to the surface here, because it peaks in June. The water
24 is coming in, and it's moving down fairly rapidly through
25 the mountain into the mine.



1 CHAIRMAN NIELSON: Excuse me, Mr. Christiansen.
2 What sort of a distance are we talking roughly, from the
3 surface of the mine area? And are there other formations
4 besides the Blackhawk?

5 THE WITNESS: Right. There is the Blackhawk.
6 And if we get up here, there will be the Castle Gate, and
7 the North Horn. And right on top there will be the Flagstaff.

8 But what this indicates to me is that as they
9 go back here, there is a conduit here. They intercept that,
10 and you get some water out of that. They mine back a little
11 further, and they hit another one that increases the volume
12 there. And you have these peaks every June. And this would--
13 this may not substantiate the point, but it does indicate
14 that perhaps there are conduits that go right from the mine
15 up to the surface.

16 Whether it's back--well, there could be several
17 thousand feet of strata, but the water is moving down through
18 the strata quite rapidly, and I would assume that these
19 would be on joint planes or joint sets and joint systems
20 that are there. And these joint systems or faults,
21 fissures, have gone through these shale beds that aren't
22 going to break, as we have talked about before, but they
23 do go through them. And the shale hasn't healed itself, or
24 hasn't swollen and stopped the water, impounded the water
25 from flowing down through there.

reverse "and systems"



1 So I guess what I'm saying there, the conclusion
2 that I draw from there, is that the water flows--I learned
3 this when I was a plumber--water flows downhill; and if
4 it doesn't flow downhill, it flows the easiest route that it
5 can find.

6 Now, it may be that you will have a little surface
7 aquifer up here, a little spring right here. And Utah Power
8 & Light hasn't mined to here yet. And the water is coming,
9 and it flows downhill, and it's probably filled this crack
10 up, and there is a little bit of water coming out, but there
11 is still some water coming in here. And if they mine back
12 here, it may intercept this, and your water will go from here
13 and go straight down there, because it's easier for it to
14 flow there. That is a possibility.

15 Also, if there is slumping or--not slumping, but
16 subsidence, and there is going to be here, it may be that
17 some of these shales are going to crack or break just enough
18 so that there is a small little fissure that goes over and
19 connects here, and you would lose your water there also.

20 Those are the two points that I'm in total agreement
21 with the Simons and Li report, and I think that they have
22 some sort of effect of Mr. Crawford's water and the things
23 that he's worried about right there. So the first point is
24 that, again, to just recapitulate, is that there is a band
25 here that they say is a high risk area, where there could

erase the shadow

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1 be potential damage if we go in there and mine it. The
2 second one is that over the long term, based upon these peaks
3 and that, there probably are some conduits that come from
4 the surface all the way down through and that these may have
5 impact on some of these springs that are higher up, that are
6 not within this high risk area.

7 In one sense, I kind of feel embarrassed going over
8 this, because I know many of you in the room have thought
9 about this problem for several years and probably have better
10 solutions to what you see to the data; but with what I've
11 read in the report and with what I've seen in the past, I
12 think this is--these are probable consequences.

13 Are there any questions?

14 MR. SHINGLETON: The high risk area of the Simons
15 and Li identified in that report I believe were escarpment
16 areas, were they not?

17 THE WITNESS: No.

18 MR. SHINGLETON: I believe they are.

19 THE WITNESS: Well, I don't think--

20 MR. SHINGLETON: Area of low overburden.

21 THE WITNESS: That's right. That's what I'm saying
22 here, that that's precisely it. An area of low overburden,
23 and they have identified that, and they have colored it in.
24 And if we look at this, we see that the Grimes Wash perennial
25 stream is in that area, and also there is two little--or,



1 three springs that lie in there.

2 MR. SHINGLETON: How much cover do they identify
3 as Mr. Crawford's property?

4 THE WITNESS: I haven't plotted that, so I don't
5 know how many acres that would be.

6 MR. SHINGLETON: In distance.

7 MS. BOUCEK: Feet of overburden.

8 MR. SHINGLETON: Feet of overburden.

9 THE WITNESS: They took it from--

10 MR. CRAWFORD: Eight hundred to 1,000.

11 THE WITNESS: Well, I believe that what they did
12 is they listed a--they listed a formation. I think it was
13 the Blackhawk, except from here around the Basin. The top
14 of the Blackhawk. They didn't come out and specifically say
15 it would be 500 feet that I found, or they don't say it
16 will be 40 feet or 500 feet or 1,000. So there is no specific
17 number of feet there.

18 But I think the point is that the closer you are
19 there, the greater impact. The farther you are away, the
20 less impact. And it's funny that we would have to go through
21 this whole report to come up with that conclusion, because
22 that seems to be common sense.

23 MR. SHINGLETON: The point I'm trying to make is,
24 by your own admission, the distance is critical.

25 THE WITNESS: That's right.



1 MR. SHINGLETON: I'm asking you, what did you find
2 that distance to be over Mr. Crawford's property?

3 THE WITNESS: I'm agreeing with what the Simons and
4 Li said.

5 Q (By Mr. Olsen) I have a question, Bill. Would
6 leaving pillars, permanent pillars, underneath Mr. Crawford's
7 property, would that help preserve the perennial stream and
8 perennial streams that do exist there, or would that not be--

9 A Is your question, is that forever and ever?

10 Q Well, say for the next 500 years.

11 A Probably. If you leave a--you have a mine here
12 (drawing) and you leave a pillar in there. The coal does
13 oxidize, and there is a lot of pressure; and, you know, you'll
14 have these coal bursts, and eventually the pillars are
15 destroyed. And you see that taking place in some of the
16 mines back East that are, you know, very, very old. I don't
17 know what it is out here, but when we looked at this back
18 in Beckley, West Virginia, the area, the neighborhoods I
19 lived in, it was slowly subsiding, and they had mined that
20 I guess it was about eighty years ago.

21 So, you know, the change occurs so slowly, I would
22 think it would be safe for his lifetime and for his kids'
23 lifetime.

24 Q If pillars were left?

25 A I think so.

CHAIRMAN NIELSON: I have a question for you



1 relative to the study of ore and the impact of these fractures
2 you've drawn. If that were the operation in terms of surface
3 waters which were percolating down through, coming out of
4 the mine, would you also expect that if you were conducting
5 surface monitoring over that entire area that this would be
6 substantiated in changes in the surface flow? Would we have
7 to necessarily see changes in surface flow to believe that
8 that was the problem?

9 THE WITNESS: I think that probably what could be
10 done is right above the--above and below the Castle Gate
11 there appears to be a lot of springs. And maybe not just
12 springs, but seeps, where the water just comes out and it
13 kind of keeps the ground wet and damp and there is probably
14 a lot of vegetation and that. And I suppose that if you
15 could put some of those little--it's a little monitoring
16 device there on some of these and see where they haven't
17 mined it and see where they have mined, to see if--you know,
18 once they mine underneath it, if the water does go directly
19 down. Is that--

20 CHAIRMAN NIELSON: I'm wondering if there is another
21 source as opposed to percolation through fractures on the
22 surface that could be accounting for that increased flow.
23 In other words, is that the only place where we could see
24 increased water coming in on a yearly basis? Are there other
25 recharge areas for those aquifers other than surface cracks



1 on the top of the mine on this property?

2 THE WITNESS: I don't know. The property, you know,
3 in the large sense, it's divided by some faulting and things
4 like that that Simons and Li, they say that this area is
5 205 square miles. And I don't know there is some recharge
6 outside of that 205 square miles.

7 CHAIRMAN NIELSON: I'm not familiar with their
8 report. Do they propose additional recharge areas, or do
9 they propose what recharge areas are for those--

10 THE WITNESS: Not specifically.

11 DR. LAMARRA: Can I address that question?

12 CHAIRMAN NIELSON: Anybody who has an answer.

13 DR. LAMARRA: The Simons and Li report that is
14 essentially a mass balance on the mountain--they say that
15 about 1.7 inches of precipitation is direct recharge to
16 ground water, and the difference between that and 18.8 inches
17 is surface runoff. And they go through a mass balance in
18 there and suggest that .2 of an acre foot is discharged from
19 the ground water for every acre mined. And the figures are
20 in their report.

21 MR. OLSEN: So is there a conclusion from that?
22 What does that mean?

23 DR. LAMARRA: It means that through the year 2,000
24 there's going to be 3,000 acre feet per year discharged from
25 the mine at the maximum.



DR. LAMARRA
DR. LAMARRA

1 MR. OLSEN: And is there--

2 CHAIRMAN NIELSON: My question is, is that surface
3 recharge, and if so, what percentage? Or is that ground
4 water?

5 DR. LAMARRA: You mean the discharge from the
6 ground water storage?

7 CHAIRMAN NIELSON: Yes.

8 DR. LAMARRA: Their report talks about the only
9 source of water for the Cottonwood basin is precipitation.

10 MR. JERMAN: So that increased discharge could be
11 accounted for by precipitation?

12 DR. LAMARRA: It recharges every year. That's
13 why we have the peak. That's I guess why we're saying we're
14 having the peaks in June is because that surface water is
15 some way getting down into the mine at various places. That's
16 a conclusion that we've drawn.

17 MR. JERMAN: If we have a higher snowpack, for
18 example, in each of those years, as covered by that graph,
19 that would also tend to account for increased discharge?

20 DR. LAMARRA: That's right. You bet. There are
21 several factors. You've got your geologic factors. You've
22 got your climate factors. And you've got your lithologies.
23 But what this does suggest is that every June since they've
24 monitored this--they started in 1979 through '83--they've
25 had a peak in June. And we know that there is an increase in



1 the water, and we've also noted that there has been more
2 surface area. They've mined more.

3 CHAIRMAN NIELSON: Just for reference to the record
4 on this, is there any sort of a figure or number of a title
5 on either of those graphs that we could read into the record?

6 MR. OLSEN: I was going to do that and forgot.
7 I think we ought to try and identify that.

8 DR. LAMARRA: It came from this report right here
9 (handing).

10 MR. OLSEN: We can mark that as an exhibit.

11 THE WITNESS (Mr. Christiansen): The Simons and Li
12 report, they have the same data, but it's not presented in
13 a graph like this.

14 CHAIRMAN NIELSON: The Utah Power & Light monitoring
15 report, I'm wondering if it has any sort of title or figure
16 number.

17 MR. JERMAN: He's trying to. It will just take
18 a second.

19 MS. BOUCEK: Page 50 and 51. Really no figure
20 number, but it's page 50 and 51.

21 MR. OLSEN: Of what?

22 MS. BOUCEK: Of the 1983 hydrologic report.

23 MR. JERMAN: The one you're talking about is the
24 Wilberg, and we're here today to talk about the Deer Creek.
25 That's a different page.



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CHAIRMAN NIELSON: That's why I was concerned.
Both of these tables right here say, "1983 Wilberg Coal Mine
Water Discharge." These are not the ones that are in that--

MS. BOUCEK: They are in here, because this is a
cumulative report. There is a particular figure here.

THE WITNESS: Fifty-seven and 58.

MS. BOUCEK: On page 57 and 58, which refers
specifically to Deer Creek Mine.

CHAIRMAN NIELSON: All right. Thank you very much.

THE WITNESS: Any other questions?

MR. OLSEN: If there is no objection, I'd like to
have Mr. Christiansen excused.

MR. JERMAN: I have some questions.

CHAIRMAN NIELSON: Go ahead.

EXAMINATION BY MR. JERMAN

Q When were you last at the site, Mr. Christiansen?

A It's when I did that drilling for West Appa. And
I believe that was--that was the--I think it was October of
1982.

Q So you didn't go on the site in connection with
your testimony here today?

A No, I haven't.

Q When were you retained by Mr. Crawford to testify?

A Mr. Crawford contacted me, oh, five days ago, I
suppose, and gave me a stack of stuff, and I went through it

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↓



1 and found out yesterday that some of the Simons and Li report
2 that he gave me was incomplete, and he got those portions
3 of it to me yesterday, and I reviewed those yesterday.

4 Q You mentioned about your working experience, but
5 I don't believe you indicated where you're employed now.
6 Will you tell me?

7 A Yes, I'm a geologist. I'm working with CFS Finan-
8 cial Corp.

9 Q For CFS Financial Corp. as a geologist?

10 A Yes.

11 Q Were you employed by West Appa?

12 A No. I was employed by Norwest Resources. They
13 had the job. They are a consulting outfit, and I was
14 consulting at the same time. And they had more work than
15 they could handle, and they retained me. I worked there,
16 I guess, about, oh gosh, a total of two or three months for
17 them.

18 Q Do you know what type of mining methods that
19 West Appa plant are using at their mine?

20 A No, I have no idea.

21 Q In connection with the exhibit, and the waves
22 on the board showing the alleged increasing discharge of
23 water from the Wilberg Mine, did you also review the graphs
24 and figures within Deer Creek Mine?

25 A The only graph that I looked at was this one



1 that I have in my hand. Also, as I mentioned, this informa-
2 tion was in the Simons and Li report, only it wasn't
3 presented graphically.

4 Q I see. But that all related to the Wilberg Mine,
5 did it not?

6 A I believe it related to both the mines. I believe
7 it talked about each mine separately.

8 Q You've indicated each year that the maximum dis-
9 charge occurs in June; is that correct?

10 A That's what the Utah Power & Light report indicates.
11 Now, I haven't followed each one of these down, but it's--
12 right where you would expect it to be, in June or July. You
13 know, it's not always right in June. It's in the spring.
14 It's in the spring. It's when you would expect that increase.

15 Q In some instances, isn't the peak discharge in
16 April?

17 A It looks like--let's see--in '82 it looks like it
18 was May. In '83 it looks like it was June or July there.

19 Q Have you made any studies as to the weather condi-
20 tions occurring during those years?

21 A No. No, I haven't.

22 Q You have no idea what the snowfall or--

23 A Well, we know the last couple of years we've had
24 a lot. Before then we didn't have quite as much. I think
25 it--it starts in 1979, and I'm sure that in '83 that there is



1 an effect there that you can't attribute to the weather.
2 I'm sure that in '84 that there will be an increase also.
3 But if there is, that would, I would think, tend to substan-
4 tiate the idea that there is a conduit that goes from the
5 surface down in. That's what we're saying, that the runoff
6 would reflect the--or, the discharge from the mine does
7 reflect the climatic conditions. That's precisely what
8 we are saying.

9 Q You are drawing to the right where you depict a
10 subsidence effect. Are you talking about any particular
11 type of mining methods there?

12 A Subsidence occurs where you have a room and pillar
13 or a long wall. Generally speaking, the subsidence with
14 the room and pillar takes place over a lot longer period
15 because of this spalling effect and the length of time that
16 it takes for these pillars to oxidize and for the coal to
17 slough off.

18 And so that occurs, but the subsidence takes a
19 lot longer there. Where you have the long wall mining, you
20 want this immediate fall. Just as soon as you--I don't know
21 what it is there at Utah Power & Light. But you take a couple
22 of cuts with that. They move their blocks, their jacks in,
23 and they want to fall immediately.

24 And, like I said, subsidence, or the initial impact,
25 is probably to just that first 30 or 40 feet. And then as



1 the--you know, there is earth tides that move--earth that
2 moves the rock up and down. And all of the attendant move-
3 ments in the earth that tends to settle everything in these
4 rocks above. They're subject to gravity just like everything
5 else is, and they all settle.

6 Q Both SMCRA and the State equivalent uses language
7 that: "Where the mining technology used requires planned
8 subsidence in a predictable and controlled manner." Would
9 you consider that to be a long wall mining? What would that
10 mean to you?

11 A Read it again. Let's see what it means.

12 Q Well, it's talking about adopting measures to
13 prevent subsidence. And then it says: "Except in those
14 instances where the mining technology used requires planned
15 subsidence in a predictable and controlled manner." I'm
16 wondering how you would interpret that.

17 A I guess once you have taken that out, you really
18 can't control the subsidence any. You can predict maybe what
19 it will do, but I don't know if you can ever really control
20 subsidence. I think--that would be one of your force majeure
21 clauses there.

22 Q You would have no opinion, then, as to whether that
23 was referring to long wall, room and pillar, or what?

24 A I would like it would refer to long wall, but I
25 know that there is subsidence with room and pillar also.



1 But they didn't plan for it. You know, it's just something
2 they did, and they found out later. Like back in Beckley
3 where I live, when they built that little subdivision over
4 there and it started to subside a little bit, and there were
5 some foundations that cracked a few things like that. When
6 they built the subdivision--or, when they mined it fifty years
7 prior to that, they hadn't planned that.

8 MR. JERMAN: That's all.

9 CHAIRMAN NIELSON: Mr. Christiansen, does the
10 CFS Financial Corp. have any interest in the Crawford property
11 or other property on East Mountain?

12 THE WITNESS: No, they don't. Not that I'm aware
13 of, anyway.

14 CHAIRMAN NIELSON: Are you aware of any interest
15 that they would have with Utah Power & Light?

16 THE WITNESS: I believe the chairman of the board
17 there at CFS, Gary Sheets, he's a bishop, and I think one
18 of first counselors is a--

19 CHAIRMAN NIELSON: I'm sorry. I meant the business.
20 I appologize.

21 THE WITNESS: He's a lawyer or something. I don't
22 know. I don't think so. That's the only connection I can
23 draw. But I might be wrong.

24 CHAIRMAN NIELSON: And you are appearing independent
25 of any responsibilities you have--

THE WITNESS: Yes, I am.



1 MR. OLSEN: Thank you very much. I hope you get to
2 Vernal on time. We appreciate it.

3 CHAIRMAN NIELSON: Do you have additional indivi-
4 duals that you'd like to present?

5 MR. OLSEN: Vince Lamarra, and I suspect that he will
6 be somewhat lengthy.

7 (Discussion off the record.) Recess.)

8 CHAIRMAN NIELSON: Let's go back on the record now.

9 VINCENT LAMARRA

10 called as a witness, being interrogated, answered as
11 follows:

12 EXAMINATION BY MR. OLSEN

13 Q For the purposes of the record, would you identify
14 yourself, your background, and--

15 A My name is Dr. Vince Lamarra. As Ted Crawford
16 mentioned, I'm his son-in-law. I am also a director of
17 Ecosystems Research Institute, an environmental consulting
18 firm in Logan, Utah. I have worked on a number of coal mines
19 in coal-related projects, both surface and subsurface types
20 of impact. And I got involved on East Mountain in--just before
21 1981 through marriage. And subsequent to that, I did an
22 initial benthological survey. At that time I was an assistant
23 professor at Utah State University.

24 The benthic survey indicated that the stream below
25 Spring 80-44 noted here on Ted's property known as the left-
hand fork of Grime's Wash was perennial based on the fact



at/ed
→

1 that it had six species of macroinvertebrates.

2 I at that time provided a report to Mr. Crawford,
3 at which time he submitted it to OSM.

4 As I stated before, I am an environmental consultant.
5 Ted has essentially asked me to look at the Wilberg and the
6 Deer Creek Mine application and discuss their relevancy to
7 potential subsidence and impacts on the aquatic systems on
8 his property. I've done that already for the Wilberg Mine
9 and part of the record of the previous informal conference.

10 What I would like to do is to not go over the same
11 in as much detail on the Wilberg application--or, the Deer
12 Creek application. As you know, the mining applications are
13 almost identical except for the location of the mine in a
14 few graphical details.

15 What I would like to do first of all is essentially
16 talk in fairly general terms about the deficiencies as we
17 perceived them in the application and, again, not in as
18 much detail as we went through before.

19 Our concerns still exist for this particular
20 application. And then I would like to talk a little bit
21 about the Simons and Li report and what that essentially tells
22 us relative to the conclusions that we drew last time, and
23 then project what the potential impacts relative to the Deer
24 Creek might be.

25 Finally, I--as was mentioned previously, I went up



1 onto East Mountain ten or twelve days ago, and it's probably
2 a good thing we didn't hold a hearing up there. It was a
3 long walk to the top. And we went up and monitored the springs
4 on the property, and I have a few--although we will not
5 present that data at this time, I would like to in a qualita-
6 tive sense tell you what I found and essentially talk about
7 how it relates in reference to the '83 program, monitoring
8 program, which Utah Power & Light has just made available.

9 Okay. Just very quickly, then, I would like to
10 essentially state that in the last hearing on the Wilberg
11 Mine application, we addressed several concerns and defi-
12 ciencies. Again, these concerns, we feel, are in common with
13 the Deer Creek application, specifically Section 784.2, the
14 subsidence control plan, 784.14, the reclamation plan,
15 primarily the protection of the hydrologic balance.

16 We feel that there is a definite deficiency that
17 exists primarily because they do not address the total
18 hydrologic balance as defined. They in essence address the
19 surface discharge--or, the surface manifestation of the
20 ground water system. They do address that and talk about
21 it, but they don't address the ground water and the potential
22 impact on the ground water.

23 One of the things that we have noted and is not
24 addressed in Utah Power & Light's Deer Creek application is
25 the fact that the lower portion of Grime's Wash from Spring



1 80-44 down to its confluence with Cottonwood Creek is defined
2 as a perennial stream. Nowhere in the application is that
3 distinction made, nor is there any hydrologic balance, the
4 reclamation plan, or the subsidence control plan any mention
5 made of a potential stream buffer zone relative to that.

6 And I would refer to 817.57(c), 1 through 4.

7 And then we perceive that as a deficiency at this
8 time.

9 It should be pointed out also that Simons and Li
10 also designated that stream as a perennial from 80-44 down
11 to the confluence.

12 In addition, there is data that exists now from
13 Utah Power & Light's monitoring of a flume that they have put
14 in right here that indicates also that the stream is perennial,
15 at least for the two years that they have data. And I refer
16 you again to their 1983 monitoring plan. And, if you would
17 like, I can--just a second here. I can provide the graphical
18 representation of that data, but I don't think it's pertinent.
19 It's in their tabular data.

20 All right. And also in reference to that, on page
21 4-34 of the Deer Creek application, they do state that possible
22 damage can occur relative to the aquatic resources in and
23 around the system. In particular, they mention ground water.
24 However, nowhere do they talk about a potential reclamation
25 plan for that damage of the ground water.



1 They do state that there might be a potential
2 protection based on control subsidence, which was previously
3 mentioned, and, too, the ability of the potential fractures
4 within the strata to spontaneously seal by swelling clays.

5 As Bill Christiansen pointed out, these clays exist
6 above the Price River Formation in great abundance. However,
7 there are existing conduits that can provide a mechanism of
8 water movement.

9 So in conclusion, then, the control subsidence and
10 the ability of the potential fractures are merely hypotheses
11 in series and haven't been shown to be accurate or proven to
12 this point.

13 The other location, 817.97, the protection of fish
14 and wildlife, again, if the hydrologic balance is damaged by
15 the deflection or movement of ground water, especially as it
16 discharges in a very diffused fashion through the North Horn
17 Formation and the Price River Formation, as well as the spring,
18 we feel that there will be tremendous impact on the riparian
19 community, as well as some wetlands and marshes, meadows, that
20 exist on Ted's property.

21 Nowhere are the potential mitigations or reclama-
22 tion or mechanisms for the prevention of damage mentioned
23 in the mining applications.

24 We talked in this same section, 817.97, protection
25 of fish and wildlife, the applicant does make comment about



1 how they can potentially replace water primarily through
2 guzzlers. As Ted pointed out, that's an inadequate form of
3 mitigation. It hasn't worked up there, and there is no
4 reason to suspect that it will in the future.

5 In 784.2, the applicant notes that they did conduct
6 a survey and that there are renewable resources on the property
7 in question. However, nowhere did they provide protection for
8 those renewable resources.

9 For aquatic resources, furthermore, nowhere does
10 it indicate that there are critical or sensitive areas near
11 the Left Fork of Grimes Wash associated with less overburden
12 than in their controlled area, as Ted pointed out, over east
13 of his property, where there are some 2,500 feet of overburden.

14 Areas in the Grimes Wash area that I've delineated
15 here have 1,000 to 1,200 feet, in some cases even less than
16 that, overburden, none of which are the North Horn Formation
17 that contained the interbedded clays and the plastics that
18 are so very important for potential healing of the aquifers
19 that might be damaged.

20 Their conclusion on page 4-47 of the application is
21 that hydrological monitoring indicates that, "Mining under
22 the seeps and springs at the depths of cover of Deer Creek
23 Mine up to 2,400 feet does not dry up the seeps or springs."

24 We agree. Where they are presently involved in
25 that form of mining at that depth of overburden, there are



1 no springs or seeps to dry up. However, adjacent and on our
2 property in question, we feel that there are potential for
3 damage. Primarily as Mr. Christiansen pointed out, there is
4 much less overburden.

5 Q The fence, is that the point that Ted made earlier,
6 that Utah Power's application on the Deer Creek indicated
7 that there were no springs damaged due to their mining, but
8 that's because it was on the east side of the Pleasant
9 Valley Fault?

10 A That's right. There are two springs. Maybe Ted
11 can clarify where they're at. But they're way to the east.
12 They're not even close to us.

13 MR. CRAWFORD: One was clear out on the rim. I
14 think that's since dried up as I recall. I don't know where
15 the other one is.

16 THE WITNESS: But the point here is that we have
17 noted our concern about this area during the Wilberg hearing.
18 And we pointed this out that, first of all, that we felt
19 that the approach of swelling clays was not adequate in the
20 potential for subsidence to heal itself was not an adequate
21 approach, and, secondly, that the fact that there are less
22 overburden in the area of question is of tremendous concern
23 to us.

24 At that time it was inferred by the applicant that
25 we were misrepresenting the facts. I maintain at this point



1 in time that the Simons and Li Report substantiates what we
2 said in the Wilberg application, and it substantiates what
3 we're saying here, that there is a high degree of potential
4 impact in the area of question, primarily in and adjacent to
5 the perennial stream below 80-44 and including Spring 80-45,
6 down through the confluence with Cottonwood Creek; and it's
7 primarily because of the lack of overburden, the fact that
8 these springs are adjacent to and in the Price River and
9 Castle Gate sandstones, which do not have the--the high degree
10 of interbedded clays to potentially seal the springs.

11 Since that time, as I pointed out, the Simons and
12 Li technical assessment has been completed on the Wilberg.
13 It's a cumulative impact. However, it should be noted that
14 the analysis that they conducted here on the drainage and
15 the movement of water down off of the Cottonwood drainage into
16 the Deer Creek Mine, or--the Wilberg Mine--and out does not
17 include the watering done by the Deer Creek Mine.

18 In other words, at the present time Deer Creek is
19 mining in the Cottonwood drainage, and they are dewatering
20 portions of the Cottonwood drainage. So the flows and the
21 analysis conducted on the Simons and Li Report did not take
22 into account the fact that water from that drainage is being
23 moved into the Huntington Canyon site.

24 Furthermore, Simon and Li's Report indicated that
25 this area that I've drawn--this is the point that was made



1 once before--that they delineated a band around the--close to
2 the direct cliff-forming members of the Castle Gate. It
3 should be pointed out that the Castle Gate is down in here
4 and does form cliffs.

5 However, the formation immediately above that,
6 the upper member of the Price River Formation, does in fact
7 exist up through 80-44. And in their report they state that
8 it is a fact that there is no overburden above the Price
9 River Formation up to the elevation of 80-44, and, therefore,
10 this whole area has a high degree of potential impact.

11 So, granted, there are cliff-forming members down
12 here. The Castle Gate. But we're talking about the Price
13 River Formation that outcrops above that, and, again, those
14 are the sources of the spring.

15 In the Simons and Li Report, they indicate that one
16 perennial stream--they actually indicate four perennial
17 streams--one of which is one our property. That the Left
18 Fork of Grimes Wash. They said it has a high degree of--
19 as they put it, they denote it as a property that has a
20 subsidence-related high risk zone.

21 Also, three springs are delineated in that report
22 as also being in that zone. And I should point out that
23 although only 85-44 is monitored, there is another spring
24 just above 80-44 that's also within this zone.

25 So in their report they talk about--they have the



1 nomenclature used by the USGS for springs. There is S-1 and
2 S-2, which are essentially in common here. And then there
3 is the other one down here, which is 80-45.

4 The other thing I'd like to point out is that
5 essentially--I don't know about--what? One-third to one-half
6 of your property lies in this high risk zone. And, again,
7 based on the Wilberg hearing--and we want to reiterate here
8 that we stated that that was the area of concern that we had
9 was the perennial stream in the areas adjacent to the perennial
10 stream in the spring. And it wasn't necessarily the 2,500
11 foot areas that have Flagstaff Caps on top of them. They
12 are of concern to us, but not as immediate concern as this
13 area adjacent to the stream and the potential for protecting
14 that area.

15 Simons and Li further states that they did a mass
16 balance, as I pointed out, on the Cottonwood Creek area and
17 the drainage to the Wilberg Mine. I'd like to point out again
18 that there is water from that area also being drained through
19 Deer Creek.

20 They note that through the Year 2,000, the mine will
21 generate two-tenths of an acre foot of water per year for
22 each acre mined. And essentially they concur--or, Mr.
23 Christiansen concurs--with their analysis that as the mine
24 workings move through the mine, they will generate more and
25 water on an annual basis.



1 Right now the mines are generating 300--the Wilberg
2 is generating 300 some odd acre feet. They project it to go
3 to 3,000 acre feet by the Year 2,000, at which time the
4 recession phase of the mining operation will essentially
5 start to decrease the amount of water as they move away from
6 the farthest parts of the mine.

7 Now, if you did a calculation based on what they've
8 got, they're talking about around Ted's property about six
9 acre feet per year being diverted from subsurface aquifers.
10 When you consider that the discharge of the springs on there
11 on the average may be 20 acre feet, you're talking potentially
12 maybe a third of his water could be diverted once the mining
13 operation occurs; and there is a lot of assumptions, one
14 of which is that Deer Creek and Wilberg are separate entities,
15 which may not be a valid assumption. I don't particularly
16 agree with that at this point.

17 In conclusion, then, if we reiterate what Simons
18 and Li has stated concerning their cumulative impact study,
19 and quoting from their report that has been previously entered
20 into the record, page 3.9, second paragraph, the end of the
21 second paragraph, it essentially states that:

22 "Risk of damage to the hydrologic system decreases
23 in a direction of increasing overburden thickness."

24 Well, the antithesis of that is that it increases
25 with decreasing thickness, which is what we're saying.



to occur along selective

1 The aerial distribution of subsidence-related high
2 risk zones is shown in Figure 2.4, which includes everything
3 down below Spring 80-44 and the whole area of the perennial
4 stream.

5 It says: "And includes all formations beneath and
6 including the Price River Formation down to the Starpoint-
7 Blackhawk contact. Based on this qualitative analysis, it
8 appears that the potential exists for hydrologic damage to
9 occur along selective reaches of four perennial streams, one of
10 which is on the property, and five springs within a cumulative
11 impact area due to mining induced subsidence. While it is
12 impossible at this time to predict to what extent, if at all,
13 hydrologic damage will be occurred in these resources, this
14 document recognizes that a risk of unknown degree does exist."

15 And then it lists the hydrologic resources which
16 I have previously mentioned.

17 Q (By Mr. Olsen) Vince, could you sketch on there
18 the outline of this high risk area that they identify?

19 A It moves this direction.

20 Q Do it in red. Have you got red?

21 A No. It doesn't work. It's this whole area right
22 here. It moves underneath here.

23 So it includes a band where the--and includes above
24 the top of the Price River Formation along the whole rim
25 essentially.



1 Now, as you will remember, in the mining--in the
2 Danielson Report--he mentions that it is almost impossible
3 due to annual precipitational changes. And as nicely pointed
4 out by Utah Power & Light, how the springs fluctuate with
5 annual precipitation. The higher the precipitation, the higher
6 the spring flow.

7 So it is difficult, if not impossible, to detect an
8 impact taking a single data point year to year. However,
9 Danielson points out that the best way to detect an impact
10 is to look at what he calls discharge recession curves. And
11 basically all that amounts to is taking times zero, which
12 would be early in the spring, to sometime during the fall
13 and plot on a long scale--this would be one, ten--let's say
14 a hundred gallons per minute--plot the discharge of the springs.

15 And what he says is that the shape of the **curve is**
16 characteristic of the aquifer--or, the first aquifer being
17 drained. So that, you know, year to year they're going to
18 fill up to different levels, but they will drain at essentially
19 the same rate.

20 I mentioned this during the Wilberg hearing that
21 that is probably the most adequate way of monitoring the
22 springs on East Mountain to detect an impact.

23 Simons and Li also makes that recommendation that
24 rate recession curves are the best way to detect impact.

25 What we have done is to go back to Danielson's

curve earth
↓
aquifer
(traces)



1 report for the springs 80-44, 80-45, 80-46, Burnt Tree, and
2 what we call Clay C Springs, which is 79-2 and to plot the
3 rate recession curves. And I would like to introduce that
4 data at this time.

5 MR. OLSEN: They would be what?

6 CHAIRMAN NIELSON: Exhibits C and D. Oh, I'm sorry.
7 Just C.

8 (Exhibit C was marked for
9 identification.)

10 Q (By Mr. Olsen) How do you describe this, Vince?

11 A Okay, it is the discharge data on five springs
12 on East Mountain, so numbered, and so described in the graph.
13 It is defined as the discharge recession curves for selected
14 springs on East Mountain.

15 May 1978 and '79 data are from Danielson, et al--
16 it should be 1981. I'm sorry. While the '83 data are from
17 Utah Power & Light.

18 The second values in 1983 for Springs 80-44 and 80-45
19 were collected by Mr. Ted Crawford.

20 Now, remember that these two areas, Burnt Tree and
21 79-2 called Clay C discharge at the base of the Flagstaff
22 formation just above the North Horn. And so they recharge
23 annually. And if you look at the top two graphs, you will
24 notice that the rate recession curves for '79 and '78, which
25 are Danielson's data, and '83, which are Utah Power & Light's
data, are fairly similar in shape. They don't change very



1 much. These springs in essence have not been impacted. They
2 are essentially doing exactly what they have done before.

3 Now, if you go down the left hand and look at
4 Spring 80-44, that's this spring up here, it is the main
5 source of the perennial Left Hand Fork of Grimes Wash Stream.
6 There are actually two here, but they can't be measured in
7 common, which is what is usually done.

8 Now, you look at '78-'79 data and then you compare
9 the '83 data, the first data point in '83 was Utah Power &
10 Light's data, I think it's 728-83, their 10-25 data did not
11 collect a sample at that location.

12 However, that data point was collected by Mr.
13 Ted Crawford and myself 20 days later, 15 to 20 days later.
14 But you can see that in essence, the rate discharge curve
15 looks like it's following the same pattern.

16 Now, if we move to Spring 80-46, which is over here,
17 it is not in the high risk area. However, it is--it is an
18 area that is presently being mined under, and it is equivalent
19 in formation and source to these two springs right here.

20 Now, if you look now--now, this is all--

21 Q When you say these two springs, would you identify
22 those for the record? The record wouldn't show which two
23 springs.

24 A Excuse me. 80-46 drains the Flagstaff-North Horn
25 interface, and it is similar to 79-2 and Burnt Tree.



1 Now, if you look at the data point, '79 and '80
2 are from Danielson's report. The '83 data, both data points
3 are from Utah Power & Light. And you will notice that there
4 has been a substantial change in the rate discharge curve
5 for those two data points and for that spring, again, adja-
6 cent to an area that is presently being mined.

7 MR. JERMAN: Which one are you talking about now?

8 THE WITNESS: 80-46. Now, the important point to
9 remember is that when we're talking about a log-log scale
10 here. So we're looking at a change from 60 gallons a minute
11 down to about 7.5 gallons a minute over about an 80-day
12 period.

13 But again, it intersects the lines and changes the
14 slope of that curve. And that's fairly important to remember.

15 Now, let's go down to 80-45, the spring that Mr.
16 Crawford mentioned as being dry. It was analyzed in 1982
17 by Utah Power & Light, and the data is presented.

18 In 1983 it should be interesting to note that we
19 have a value of 12 gallons per minute on 7-12 or 7-28-83.
20 During the 10-25 sample run, that data was not taken by Utah
21 Power & Light, and the reason is that we were up 20 days
22 later, in 1983, and it was dry.

23 MS. BOUCEK: By 20 days later, do you mean 20 days
24 after July 28?

25 THE WITNESS: Yes. Whatever date they took their
data.



1 MR. CRAWFORD: I thought it was the 14th, July 28.

2 MS. BOUCEK: The 28th.

3 THE WITNESS: And the problem here is when you look
4 at this graph, you know, common knowledge is you can't plot
5 zero on a log-log scale. So I put it down to .1. But I
6 mentioned it was dry. But you can see here that the rate
7 discharge curve has drastically changed. Again, based on
8 Danielson, Simons and Li, and our contention is that when
9 you get changes in the rate discharge curve, you're impacting,
10 potentially impacting the drainage area of these aquifers.
11 And that's in essence what we're saying.

12 We feel that mining over these two areas, both
13 springs are showing changes in their rate recession curves,
14 whereas the control area, if you will, which would be Burnt
15 Tree, and 79-2, and even 80-44, have not shown impact at
16 this time.

17 So we maintain in essence that we feel that we
18 are experiencing impacts right now, based on the monitoring
19 data available.

20 Q (By Mr. Olsen) And the conclusion for the impact
21 on 80-46 and 80-45 is the proximity of the long wall mining;
22 is that it?

23 A Yes, it is. That is a possibility, and one that
24 the data appears to point to at this time.

25 Now, I should point out by the way, it was men-
tioned that we have seasonal fluctuations. 1982 was not as



1 wet a year as 1983. Yet Spring 80-45 was dry in '83, and not
2 in '82.

3 The other point I'd like to make, since I walked
4 up to the top of East Mountain, I'm going to mention something
5 about it. The Spring 80-45 is sort of strange, in that it
6 exists in a fairly large seepish area that sort of funnels
7 down adjacent to the stream course. And whenever we've had
8 to measure, we've had to berm it up and collect the water
9 and then measure it.

10 The last time that I was up there, ten days ago,
11 there is a discrete location to the side of the spring
12 where water is not emanating from.

13 In my opinion, there has been a movement in the
14 spring face where it exits. And I don't know the reasons
15 for that. But there is a distinct opening where now the
16 spring is discharging, and we measured it at ten gallons a
17 minute.

18 So I feel that just based on the five or four years
19 that I've been up there, that spring has changed locations.

20 MR. TIEDT: What's your method of measurement?

21 THE WITNESS: We essentially berm it up, take a
22 pipe and a one-gallon container so measured, and we time the
23 water. We take three replica times to fill, and then take
24 the average of those readings.

25 MS. BOUCEK: I have a question, too. You mentioned



1 that Spring 80-45 was dry in '83, even though 1983 was a
2 wetter water year than 1982.

3 THE WITNESS: Right.

4 MS. BOUCEK: What formation is that Spring 80-45
5 in? Is it in one of the upper formations, or does it emanate
6 from a lower geological formation.

7 THE WITNESS: Price River. It's in the Price River.
8 And Simons and Li makes that comment in here, too. It's in
9 the Price River formation.

10 Now, what its proximity to the lower member of the
11 Price River, which would be the Castle Gate, I really don't
12 know. There's a lot of alluvial material on the sides, and
13 it is extremely difficult to find.

14 MS. BOUCEK: I was just wondering about lag time
15 in recharging.

16 THE WITNESS: Yes. But that's the thing that sort
17 of interests me, too, is that one of the possibilities would
18 be that there might be lags from year to year. '80-81 was
19 dry. Maybe '82 would be dry. '83 would start to come back.
20 And that's a distinct possibility, again.

21 The thing that concerns me is that we've--we went
22 down, and we only got ten gallons a minute, you know, in May
23 of this year, and, interestingly enough, there was not that
24 much snow or surface runoff. The peak runoff had occurred,
25 whereas when Utah Power & Light went down, checking their



1 hydrograph, they were down at peaks runoff last year in '83,
2 when they got 12 gallons a minute.

3 So we're looking at--I perceive that this spring
4 is not following the wet year-dry year cycle at all. In
5 fact, the rate recession curve indicates that even though
6 there is some recharge, it's quickly depleted.

7 That's all I have.

8 CHAIRMAN NIELSON: Other questions?

9 EXAMINATION BY MR. JERMAN

10 Q I have a couple. Since we've been talking about
11 the rate recession curve, who prepared this exhibit?

12 A I did. From Danielson's data, from Utah Power &
13 Light's data, and from Ted's data.

14 Q I'm having a little trouble understanding it. The
15 bottom lines you're starting 0, 15, and 3. What does that
16 refer to?

17 A That refers to the time of the initial sample
18 taken. It can vary. It's usually taken in May--June or July.
19 It depends on the year. Utah Power & Light's data varies
20 from 7-2-81 up to 7-28. They're usually up there about that
21 time, June or July.

22 Q So let's take 80-46. And it starts at Day One,
23 I guess. And that's the initial--

24 A Let me find it. Will you hold it? Okay.

25 Q That would be the discharge measure at the initial



1 monitoring point--or, the initial date?

2 A Which year are you talking about?

3 Q Any year.

4 A Well, it's the first date sampled in the spring,
5 and can change from year to year.

6 Q So you take 1983, then. It looks like it's about
7 the 75th day or something. Is that 75 days later the dis-
8 charge dropped from--

9 A Sixty down to 7.5.

10 Q Is there any reason why it skips from 1979 to '83?

11 A Yes. There was no data taken more than once a
12 year.

13 Q On any of the springs?

14 A On any of the springs, except the ones that--that's
15 a good question. In fact, that was one of the comments that
16 I made in the Wilberg hearing was that I felt that we ought
17 to have three or four readings a year up there to accurately
18 tell what's going on.

19 Q Do you know whether during that period of time any
20 monitoring was performed by Mr. Crawford or anyone on his
21 behalf?

22 A We took data in '82. I think there's some '81
23 data that Ted has collected. And--

24 MR. CRAWFORD: Yes. It's on that--

25 THE WITNESS: It's a matter of record, I believe.



1 It will be filed.

2 MR. CRAWFORD: I think it's going to be filed here
3 later.

4 THE WITNESS: In fact, interestingly enough, if
5 you look at the '83 data that Mr. Crawford collected for
6 Spring 80-46, he has the spring at 21.5 gallons, 15 or 18
7 days later, which fits right on that line, by the way.

8 MR. CRAWFORD: There are two springs, and that's
9 both springs.

10 THE WITNESS: Yes. And that substantiates the
11 recession curve for 80-46. The reason that we used Mr. Craw-
12 ford's data on some of the other graphs, for example, Spring
13 80-44 and Spring 80-45, is because there was no second data
14 point available for 1983.

15 In other words, Utah Power & Light collected some
16 data--some springs twice in '83, but some springs only once.
17 And one of the springs that was collected only once was the
18 one that went dry. So in August or September, when they
19 were up there, obviously there is no value, because there
20 was no spring. But we were up there 15 days later, after the
21 initial 12 gallons a minute measurement on Spring 80-45, and
22 it was dry.

23 MR. CRAWFORD: I'm sure you people have more data
24 on those springs, because you measure the springs the same
25 place as I do. When I go there and measure, I can see somebody



1 has been there and dammed it up and measured.

2 Q (By Mr. Jerman) Doctor, would you characterize
3 your testimony here today as basically of a hydrological
4 nature almost exclusively?

5 A Not really. I think it's probably more a fairly
6 general summary of a variety of impacts other than hydrological.
7 Obviously, water is of concern here. So out of necessity,
8 that has to be measured.

9 Q I believe you testified at a previous hearing that
10 you were not a hydrologist?

11 A I'm not a hydrologist. Of course not.

12 Q You made several references to perennial streams.
13 Are you inferring that we couldn't legally mine under a perennial
14 stream, by that testimony?

15 A That's correct. Not unless it's so designated by
16 the Division of Oil, Gas & Mining.

17 Q What do you mean, so designated?

18 A I think there's provisions. If I'm not mistaken,
19 they can exempt that stream.

20 Q You indicated you were on the site when? Ten days
21 ago?

22 A Yes.

23 Q What were the conditions at the time you were up
24 there?

25 A Tough.

→ legally mine under

→



1 Q Was there snow there?

2 A There was snow on the lee sides of almost all the
3 cliff-forming members. It was dry and rather dusty, as a
4 matter of fact, throughout most of the basin, except where
5 there were springs discharging down into the bottom.

6 We took a reading at your weir. It was 369 gallons a
7 minute coming down Grimes Wash.

8 That brings up something else. We did not--we did
9 not--we were not able to take a reading at 80-44. As you
10 well know, 80-44, the springs that discharge and the snowmelt
11 comes down and funnels through a waterfall at the base of
12 which 80-44 discharges. Your 1983 data showed in fact that
13 there was a measurement taken at 80-44. At that time there
14 was over 500 gallons per minute coming off of here. And I
15 maintain that there is no way that you could take a reading
16 at the bottom of that waterfall with 500 gallons a minute,
17 because we were up there ten days ago and there was 300 gallons
18 a minute. And there is just no physical way that you can
19 take a reading above and below that and come up with any
20 degree of confidence.

21 Q How much of Ted's property did you cover?

22 A When we were up there?

23 Q Yes.

24 A Oh, let's see. We left Friday night. We walked
25 up to the top, got lost up on top, by the way, because it



1 got dark on us. We bivouacked in the sagebrush. The next
2 morning we came up to the cabin. We walked over to--we
3 measured Burnt Tree Springs. We went over and measured 79-2.
4 Walked down. Tried to take some measurements on these. But
5 the flow was too great. We could not measure that. Walked
6 down here. Measured 80-45. Measured the flue. Walked
7 up. Got 80-46. Walked out and came home. We were up there
8 a total of about, I'd say 36 hours.

9 Q There seems to be quite a bit of water up there?

10 A Well, it's surface flow. There is a substantial
11 amount. The other thing is that on 80-46 there is some snow-
12 pack up here. We measured the water going into above 80-46.
13 As you know, 80-46 is simply a trench dug that water exits
14 from. We took water above and below that. And we only
15 got ten gallons a minute out of that. Last year at the same
16 time you got 60 gallons a minute.

17 Q While you were up there did you observe any type
18 of subsidence cracks or any damage that you could attribute
19 to--

20 A I'm not a mining engineer, but I can tell you my
21 observations. Along this road along Anderson's property,
22 which is now your property, I understand, there is a series
23 of sloughs and slumps.

24 Q I'm talking about the Crawford property.

25 A I didn't see anything on the Crawford property, no.



1 No visible signs, except for the change in location of that
2 spring.

3 MR. SHINGLETON: These were not mining under the
4 Anderson property. So it wouldn't be subsidence-related.

5 THE WITNESS: Well, mean, I don't know. I have
6 no knowledge of that.

7 MR. JERMAN: That's all I have.

8 CHAIRMAN NIELSON: Any other questions?

9 MR. OLSEN: Let's see. I may have one.

10 EXAMINATION BY MR. OLSEN

11 Q If the 3,000 acre feet per year figure that Simons
12 and Li projects is the ultimate discharge from the mine--now,
13 is that the Deer Creek?

14 A That's Wilberg.

15 Q Wilberg Mine?

16 A Right.

17 Q If that is accomplished, what impact could be fairly
18 concluded on Mr. Crawford's property?

19 MR. JERMAN: Could we have that question back?

20 (Record read.)

21 MR. JERMAN: I would just merely like to object to
22 that question as mischaracterizing the Simons and Li report.
23 I don't think they projected an ultimate--

24 THE WITNESS: Yes, they did.

25 MR. OLSEN: The testimony has been that they did



1 project 3,000 acre feet out of the Wilberg Mine. If we haven't
2 I would move that the Simons and Li report be incorporated
3 by reference into the informal conference record.

4 MR. JERMAN: My objection is noted.

5 THE WITNESS: If we look on page 4.6 and 4.7, there
6 is a graphical representation of the volume of water to be
7 discharged predicted, range of annual mine discharge, volume
8 versus time, and it appears to be approximately 3,000 acre
9 feet per year discharge. I make reference to that.

10 Q (by Mr. Jerman) Could I take a look at that?

11 A Sure (handing). To answer your question, Herm,
12 they attribute the 3,000 acre feet from a discharge of the--
13 of either direct surface contribution--

14 MR. OLSEN: Hang on just a second.

15 (Interruption.)

16 MR. OLSEN: Are you guys done? Go ahead.

17 THE WITNESS: If you want to read that report,
18 I'm sure it will be a very good surprise.

19 It should be pointed out that the 3,000 acre feet,
20 that they talked about three potential sources of that water.
21 One is the direct atmospheric contribution on an annual basis.
22 And two is the potential for dewatering some springs that
23 would normally discharge into the surface. And the third
24 is a reduction in the hydrolic head of the aquifers, which
25 they perceive to be essentially a temporal thing.

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aquifer

1 It might occur instantaneously for a small aquifer.
2 For the Blackhawk it may take years and years or might never
3 be accomplished until after the life of the mine.

4 So they talk about a number of sources. Be aware
5 of that. What they essentially did, they took the base
6 flow from Cottonwood Creek, calculated what that base flow
7 was, and then back-calculated what percentage of the precipi-
8 tation that that represented on the mountain. And then through
9 a series of calculations, they came up with this .2 acre feet
10 per acre mined.

11 They took Utah Power & Light's Mining Plan and
12 projected minimum and maximums over that time period. And
13 that's in essence how they did it. It's a fairly rough
14 calculation.

15 But, again, it's based just on Wilberg discharge.
16 It doesn't talk about from the Cottonwood Basin. It doesn't
17 talk about Deer Creek discharge from that same basin.

18 So in essence their numbers are probably low,
19 because they do it by difference.

20 What we're talking about is if we just projected
21 upward, you know, again, some assumptions, if we projected
22 upwards, we're looking at .2 acre feet per acre mine, that
23 means .2 acre feet per acre of Ted's property, 6 acre feet
24 per year.

25 That's a potential loss. And we're looking at the



1 discharge from the ground water up there by springs on the
2 average of 20. Now, that's a rough calculation. That's
3 back of the envelope. But that's the best we can do at this
4 point in time.

5 CHAIRMAN NIELSON: Could I ask a question? Is
6 this Simons and Li report something that would be available
7 to the public?

8 MS. BOUCEK: Yes. We have it.

9 THE WITNESS: You have it on file.

10 MS. BOUCEK: We have three copies.

11 THE WITNESS: Now, I'm assuming that there is a
12 similar technical assessment being done on the Deer Creek.
13 By Simons and Li or somebody else?

14 MR. TIEDT: There is a similar one done on Hunting-
15 ton Canyon.

16 THE WITNESS: Which would be the Deer Creek site?

17 MR. CRAWFORD: By Simons and Li?

18 MR. TIEDT: By Simons and Li.

19 MR. OLSEN: Do you have a projection as to when
20 that will be completed?

21 MR. TIEDT: It isn't completed, but I don't have
22 a projection, because I just learned about it yesterday by
23 the hydrologist that was leaving as of the close of business
24 yesterday.

25 MR. OLSEN: So there is no projection as to when



1 that might be available? Are you talking a month or a year?

2 MR. TIEDT: I think it is fairly soon, but I don't
3 know.

4 MR. OLSEN: Within three months, maybe?

5 MS. BOUCEK: Within 60 days, probably. A rough
6 estimate.

7 THE WITNESS: Is that all?

8 MR. OLSEN: That's all I have.

9 CHAIRMAN NIELSON: Are there any other additional
10 questions?

11 EXAMINATION BY MR. JERMAN

12 Q Let me just ask you one question about the chart
13 which you say indicates the ultimate discharge of 3,000. As
14 I read that, it shows a high estimate of 3,000 and a low
15 estimate of 1,000. Isn't that correct?

16 A That's correct. I mentioned that in the discussion
17 that there was a minimum and maximum based on the errors.
18 The maximum is three. The minimum is a thousand.

19 Q So the ultimate discharge then is not 3,000?

20 A Potentially.

21 (Witness steps down).

22 MR. OLSEN: I would like to ask, since Utah Power
23 is present, some questions regarding the mine plan. First
24 of all, can someone tell me when the subsidence monitoring
25 data is going to be--



1 MR. SHINGLETON: Very soon. We said 30 days in
2 the last meeting, and it's been 60. We realize that. But it
3 is compiled, it is printed, and it is almost ready for
4 delivery.

5 MR. OLSEN: Does the Division have a time frame
6 for the submission of either water monitoring data or subsi-
7 dence water monitoring data?

8 MS. BOUCEK: Right now we don't. We don't have a
9 firm written policy on that. What we have done **on a case by**
10 **case basis**, within the technical analysis context, we are
11 usually writing **conditions**. If there is nothing in the mine
12 plan that to a submittal of this information by a certain
13 date, we will **condition** it that it must be submitted by a
14 certain date, **subsidence** monitoring report or hydrological
15 monitoring reports. There is no firm date in our regulatory
16 program by which time a company has to supply that information.

17 MR. SHINGLETON: Let me add to that. We are new
18 at it, too, and there is a lot of property up there. Let me
19 just tell you this. Our coal holdings are larger than the
20 area in Salt Lake City; and to measure by aerial photography,
21 plus augment it by instructions of second mined areas, you're
22 talking about a lot of money, a lot of work. And then to
23 compile that after the season, which is in November, and then
24 put it out in a report just for zip to get it there, you're
25 going to have to bear with us.

~~done on a~~
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~~subsidence~~
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1 What we can do in Mr. Crawford's behalf, we can
2 put him high on the priority and slip your information in,
3 if you would like it, early. I see no value in that for
4 us.

5 MR. CRAWFORD: But we'd like to have had it before
6 this for our purposes.

7 MR. SHINGLETON: By your own testimony, there have
8 been no physical problems with your property:

9 DR. LAMARRA: Except the displacement of the spring.

10 MR. SHINGLETON: That we can do in the report.
11 We don't have to go on the ground to see that.

12 MR. OLSEN: Observed.

13 MR. SHINGLETON: Correct. Unmeasured.

14 MR. OLSEN: Can someone tell me what mitigation
15 efforts does Utah Power & Light--what are they making for
16 this year? If in fact Spring 80-45 has been or will be
17 dewatered this year, what's Utah Power going to do about it?

18 MR. JERMAN: We don't have anyone prepared to answer
19 these questions. We came here to listen to your--

20 MR. OLSEN: I'm just wondering if anyone knows.
21 Are you going to put a drill rig in? Are you going to run
22 a pipe from the Springs?

23 MR. JERMAN: What are you talking about? Litigation
24 for water?

25 MR. OLSEN: Reclamation requirements to protect the

Dr. ↓ 1.1/2

↑ from the springs?



1 hydrologic balance requires mitigation of damages done on
2 properties. I'm wondering what mitigation--

3 MR. JERMAN: We don't admit there were any damages.

4 MR. OLSEN: I understand. The premise was if in
5 fact this data is accurate and the spring has been dewatered,
6 or that can be demonstrated to have occurred this year,
7 then does anyone know what Utah Power & Light is proposing to do
8 about it?

9 MR. JERMAN: That's a hypothetical question.

10 DR. NIELSON: I'm sorry, Mr. Olsen. Maybe in
11 light of the way the informal conference is set up, it might be
12 better to consider a question like that where there was no
13 plan to have someone here specifically to answer as a concern
14 that you're raising.

15 MR. OLSEN: I appreciate that they may not--that
16 the people here may not know. I'm wondering if they do. If
17 they don't, that's okay, because someone at UP&L must, but
18 they may not be here. I'm just asking if someone here knows.

19 MR. JERMAN: If you want to raise concerns, I'll
20 see what we can do.

21 MR. OLSEN: I would like Utah Power to address the
22 mitigation efforts they would undertake this year, if in
23 fact that spring has been dewatered or if 80-44 begins to
24 demonstrate an impact, I'd appreciate knowing what Utah Power
25 proposes to do about that.



every the informed to know what Utah

1.2

1 MR. JERMAN: That's a hypothetical question. I
2 don't think we can answer.

3 MR. OLSEN: Well, I'm not sure it's hypothetical
4 at all, based on the evidence that's been presented. Last
5 June the spring was dry. So that's not hypothetical at all.
6 I'm just wondering. Maybe if they can follow up with a
7 response as to what they plan to do to put Mr. Crawford
8 back in the position he was in prior to the dewatering, that's
9 what I'm interested in.

10 CHAIRMAN NIELSON: Is that stream--

11 MR. OLSEN: Spring.

12 CHAIRMAN NIELSON: I'm sorry. Spring--

13 MR. OLSEN: Yes, it is. It is 80-45.

14 MR. JERMAN: Does Mr. Crawford have appropriated
15 water rights in that spring?

16 MR. CRAWFORD: Yes.

17 MR. JERMAN: Are you sure? I'm not talking about
18 filings. I'm talking about appropriated water rights.

19 MR. CRAWFORD: As far as the total appropriation,
20 we have on East Mountain. Diligence rights. Those are
21 appropriated rights.

22 MR. JERMAN: You indicated that you would be willing
23 to provide us with some type of certificate of appropriation?

24 MR. CRAWFORD: Right?

25 MR. JERMAN: Do you have that here?

BARON ERASEABLE BOND
25% COTTON



1 MR. CRAWFORD: No, I don't have it here. We can
2 have it furnished to you, though.

3 MR. OLSEN: One last question--or, maybe it's a
4 comment, I suppose. Isn't it true that the mine plan for
5 both Wilberg and Deer Creek call for the retention of pillars
6 underneath the 345-KV transmission lines owned by Utah Power
7 & Light?

8 MR. SHINGLETON: That's correct.

9 MR. OLSEN: Why was that?

10 MR. SHINGLETON: To protect the power line.

11 MR. OLSEN: And that protection wouldn't otherwise be
12 available if you pulled those pillars?

13 MR. SHINGLETON: I don't understand what you're
14 asking.

15 MR. OLSEN: If you pull those pillars, doesn't it
16 jeopardize the power line?

17 MR. SHINGLETON: Yes, it does.

18 MR. OLSEN: I'm ready, I think, to just conclude,
19 unless someone else has anything else.

20 CHAIRMAN NIELSON: Are there any other comments or
21 questions that anyone would like to make?

22 MR. OLSEN: Thank you. All of the deficiencies
23 that we identified in the Wilberg permit application were
24 present in the Deer Creek Mine application. They mirror
25 each other, because they're virtually identical substantively.



1 The precise concerns we raised at the last informal
2 conference, I think, have been confirmed and substantiated by
3 the Simons and Li report. The Deer Creek Mine is having an
4 immediate, severe, and substantial impact and possibly
5 irreparable impact on at least Spring 80-45. There is some
6 evidence that Spring 80-46 is also being impacted, which is
7 off of Mr. Crawford's property, but which he has overflow
8 rights to. The cumulative impact of both the Deer Creek
9 and Wilberg Mines have not been addressed by the Simons and
10 Li report, inasmuch as they only address the impact of the
11 Wilberg Mine. It's Mr. Crawford's contention that it is
12 not being recognized, that cumulative impact administratively.

13 Utah Power has failed to, I think, to provide
14 adequate and sufficient water monitoring data for the springs
15 in question; namely, a discharge rate recession curve data,
16 which would help us to know when or if the springs are being hurt.
17 We think they are. The only way we can determine that finally,
18 I suspect, is through a discharge rate recession curve monitor-
19 ing plan. That is not called for the mining permit application.
20 We think it's necessary in order for us to know the amount
21 of impact and if in fact there is an impact at all.

22 The Utah Power Deer Creek mining application fails
23 to recognize the existence of the perennial stream and the
24 perennial springs that we have addressed today and that is
25 recognized by Simons and Li. So obviously, their mitigation

↓ know when or if

↓ Li. So

BARON CRASBABLE BOND



1 or their reclamation plan to protect the hydrologic balance
2 is deficient, because it doesn't recognize the existence of
3 the perennial nature of the stream and spring.

4 So it obviously has to be deficient; that is, for
5 both the Deer Creek and the Wilberg mine applications.

6 So far, Utah Power has failed to recognize any
7 impact on Spring 80-45, and they have failed to provide,
8 therefore, any meaningful remedies, in fact they are being
9 damaged.

10 There is no buffer zone, which is required by the
11 regs for the perennial stream that does exist. There is no
12 buffer zone of 300 feet for the cabin that is on site on the
13 property, and that's required by the regs.

14 They have failed so far to submit the 1983 subsi-
15 dence monitoring data, but they indicate that's coming shortly.

16 Because of these concerns, we would like to ask
17 either the Division or OSM to do some things. These are the
18 things that we are asking that the Division do.

19 First, I think it's necessary that the mine plan be
20 declared inadequate and deficient until it does recognize
21 the existence of the perennial stream and the perennial springs.

22 We ask the Division or OSM, whichever--and I believe
23 it's OSM that has ultimate authority--to deny the approval
24 of the permit application for failure to demonstrate adequate
25 reclamation plan to protect the hydrologic balance.



↓ 12/1,200 + close gap

option ↓ ↓ 345 KV

1 We're asking that OSM require realistic remedies
2 to the problems created, if in fact that streams--that stream
3 and those springs--are impacted, and not the guzzler type
4 solutions that the program calls for.

5 We ask that OSM declare that the regs are not being
6 complied with. In conjunction with the effect of mining within
7 100 feet of the perennial stream, that's required by UMC 817.57
8 (a) (2).

9 We ask that OSM require Utah Power & Light to com-
10 pensate Mr. Crawford for the loss of the 12 gallon per
11 minute spring 80-45, if in fact it has been dewatered, which
12 I suspect later this year can be conclusively shown.

13 MR. JERMAN: Which spring?

14 MR. OLSEN: 80-45. We would ask OSM prohibit the
15 effective mining within 300 feet of a dwelling. Mr. Crawford's
16 cabin is required by the regs, specifically UMC 761.11(b) (1).

17 We ask that OSM require Utah Power & Light to leave
18 adequate pillars in place underneath Mr. Crawford's property,
19 so as to protect the perennial stream and perennial springs,
20 just like they do for their own 345 KV transmission lines.

21 That is an option specifically permitted by UMC
22 784.20(b) (2) (ii).

23 MR. JERMAN: Would you repeat that?

24 MR. OLSEN: 784.20(b) (2) (ii).

25 We ask that OSM require Utah Power & Light to



25% COTTON

1 provide the monitoring data necessary to establish a valid
2 discharge rate recession curve, so that the impact can be
3 shown when it does occur.

4 And also, that they require UP&L to submit the
5 data in a timely and systematic fashion, so that the impact
6 can known immediately, if any, so that mitigation efforts
7 can thereby be employed to minimize that damage.

8 I'm assuming that the Division has not required
9 that, because I don't believe that there is anywhere in
10 the plan that calls for those protective barriers, and if
11 that isn't required, we would ask OSM to undertake oversight
12 hearings of the state mining regulatory activities pursuant
13 to Mr. Crawford's complaint based on the adequate proof of
14 imminent danger and the State's failure to take appropriate
15 actions.

16 MS. BOUCEK: This is regarding the pillars underneath--

17 MR. OLSEN: No, it's regarding the establishment
18 of buffer zones for both the perennial stream and the cabin.

19 Finally, in light of the fact that the Division
20 of Water Resources has apparently declined jurisdiction over
21 disputes revolving improper diversion of water by a mining
22 company on federal lands, we ask OSM to assess damages to
23 Mr. Crawford for the diminution and diversion of his water
24 rights and to enforce that assessment; and since we don't know
25 of any other mechanism by which to do it, since the Division

improper for proper
↓
underneath--



1 of Water Rights has declined jurisdiction, we present for
2 OSM and the Division a protest of diversion of water in the
3 Cottonwood Creek Basin, Emery County, Utah, by Utah Power &
4 Light and submit that as a part of the record. That's all
5 I have.

6 CHAIRMAN NIELSON: Does anyone else wish to make
7 a closing statement or make other comments?

8 MR. JERMAN: Just briefly. At the last hearing,
9 we determined that we would see what OSM and the Division has
10 to say about the concerns and the problems raised in the
11 informal hearing, and we will answer any such concerns. I
12 don't think it would be appropriate for us to attempt to
13 answer them at this time. We've had, of course, problems
14 raised in the past, and we will answer them as expeditiously
15 as we can.

16 I would like to say that I think the testimony of
17 Mr. Crawford's witnesses indicated that there would be no
18 particular good accomplished by adjourning this meeting to
19 the site. We're not averse -- there has been no damage
20 observed -- we're not averse to going up there at a later date
21 and going over the property, but I don't think it should
22 be part of this hearing.

23 CHAIRMAN NIELSON: Mr. Olsen, do you have anything
24 to say relative to my original request when we started the
25 conference as to whether we were going to see anything on site



OSM / OSL
in / and / (and)
observed -- averse -- there

1 which would influence our decision relative to this matter,
2 that being the determination of whether we should continue
3 this informal conference on site or simply hold it on site as
4 a site visit?

5 MR. OLSEN: Well, very much so. I think it's criti-
6 cal that we get up on site, and I wish I could predict when;
7 but I think that if we go up there, even in mid-July, we're
8 going to see that Spring 80-45 has been dewatered. And I
9 think that goes to the heart of whether or not there is
10 impact on Mr. Crawford's property in this high risk zone
11 addressed by Simons and Li.

12 They say it's a high risk zone. We agree. We suggest
13 that year's data demonstrates dramatic impact on his springs,
14 and we think that this year it will continue. It's not going
15 to heal itself. It's not going to have gone away in a year.
16 I think that when we go up there, we're going to see that
17 impact and take the measurement data right there and I think
18 demonstrate the impact that is occurring.

19 I don't see how the Division or OSM can finalize any
20 kind of review of this without taking into account whether
21 or not there is the impact that I think the evidence demon-
22 strates there is; and I think the onsite visit will confirm
23 that, and I think it's necessary that we do go up there.

24 CHAIRMAN NIELSON: Is that sampling that could be
25 done and submitted as part of one or more of the monitoring

↓ the impact / our fact
↓ up there.



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25% COTTON

1 programs that are being--

2 MR. OLSEN: Well, precisely one of the things we're
3 asking is that it be sampled regularly, systematically, so
4 that the impact can be demonstrated.

5 MR. JERMAN: Our people have been up there and
6 sampled it in the last couple of days, all of the springs.
7 I think the reports are going to tell us more about any
8 dewatering more than going up there and looking at it. I
9 don't think we're going to observe anything by going up there
10 to see whether that spring has been dewatered or not or if
11 there are subsidence cracks or something like that. Dr.
12 Lamarra has already said there are not. I can't see anything
13 to be accomplished by going up there except delay.

14 MR. OLSEN: Secondly, I think in light of the peti-
15 tion that we have filed for an area designated as unsuitable
16 for the surface effects of underground coal mining, I think
17 that one of the factors to be considered in whether or not
18 that designation is appropriate is particular esthetics of
19 the area, the hydrology, the view. Recreation is one of
20 the valid permissible uses under the regulations, and that
21 recreation usage is diminished by the absence of the water.
22 I think that for the Division or OSM to try and pass on the suit-
23 ability of the surface effects without seeing what the area is
24 like is inappropriate. I don't see how you can do it.

25 MR. JERMAN: The petition for suitability is a

without about ↓ try and pass



ineffective

1 completely different matter.

2 MR. OLSEN: It is, indeed. But it can accomplish
3 both purposes.

4 CHAIRMAN NIELSON: Mr. Crawford?

5 MR. CRAWFORD: There are three things that should
6 be observed on site. If such a meeting is scheduled there,
7 I think it would be well for everyone concerned to take a
8 look firsthand at that guzzler that was installed by the
9 Forest Service and see what has happened to that and how
10 ineffective it has been as an alternate water supply. Of
11 course, that's further on the north end.

12 I think it would be well to observe the subsidence
13 and the cracks that have taken place in the fenced area
14 and anticipate what might happen to us on the other side of
15 the Pleasant Valley Fault and also observe the water in the
16 bottom that we are fearful of.

17 MR. JERMAN: That's not even on Mr. Crawford's
18 property.

19 MR. CRAWFORD: No, no. But we anticipate a similar
20 situation.

21 MR. OLSEN: Additionally, I believe the regulations
22 do provide, not necessarily for on site visit, but for a
23 visit to--if I can find the language--the mine workings
24 themselves; and I think that might be of benefit, as well,
25 so we can actually determine the amount of--of course,



1 monitoring reports will do this, but I think we're entitled
2 as petitioners to have an onsite mine visit to determine
3 what the mine workings are actually like and the water produc-
4 tion.

5 CHAIRMAN NIELSON: Certainly we're not attempting
6 to deny you that right. What we're trying to determine and
7 what the Division is going to make a decision on is whether
8 that site visit should be a continuation of this conference
9 today.

10 Any other comments?

11 What the Division will do is take this under consi-
12 deration. We will notify in writing Mr. Olsen and his client
13 Mr. Crawford and, through you, I assume any additional
14 witnesses. We will provide that notice to UP&L, and also
15 a written notice to OSM in Denver.

16 If there is anyone else who specifically desires
17 written notice as to our decision on whether we are continuing
18 the conference or not specifically, if we did not continue
19 the conference, if they would let me know. If it is continued
20 it will, of course, be publicly noticed. If it is done as
21 a site visit, again, interested parties will be given an
22 opportunity to participate.

23 MS. BOUCEK: We're going to have a site visit
24 regardless of whether or not it's considered to be a continua-
25 tion of this conference. Is it possible that we could

witnesses. We



1 establish a date at this time, since it's far enough in
2 advance of July 2, which is a Monday, at which time we will
3 all go down to the site?

4 CHAIRMAN NIELSON: If someone feels that we can
5 get a reasonable feeling as to the problem--

6 MR. CRAWFORD: That's contingent on the roads and
7 the flags in the area.

8 MS. BOUCEK: Now, that's a problem we're going to
9 face all the way up to July 2, because of the potential of
10 thunderstorms, et cetera.

11 What I would like to do is to avoid a problem of
12 trying to establish a date. It's extremely difficult to get
13 so many people in one place at one time.

14 MR. JERMAN: Generally what's the earliest you can
15 get up to that property?

16 MR. CRAWFORD: Oh, I've been there in the middle
17 of April. Generally, we can go in the first of June.

18 DR. LAMARRA: Not this June.

19 MR. CRAWFORD: We won't be in there this year,
20 probably till--

21 MR. OLSEN: Since you were there most recently, how
22 long do you estimate it's going to take now to get the roads
23 open?

24 DR. LAMARRA: I think it would be adequate to go
25 up sometime the first of July. There are a couple of really

↓ trying to

↓ till -- ↓ DR.

↓ DR.



1 big snow drifts up there that are really marginal.

2 MR. SHINGLETON: We always break it up with a cat.
3 That's because the weather has kept us out so long that they
4 finally say, "Okay, go ahead and knock it out with a cat."

5 DR. LAMARRA: That one big snowdrift.

6 CHAIRMAN NIELSON: The problem I would perceive
7 just in that first week of July would be any conflict which
8 people might have relative to the fourth.

9 MR. OLSEN: The 4th of July.

10 CHAIRMAN NIELSON: The 9th is a Monday of the second
11 week in July. Would that likely be acceptable?

12 MR. OLSEN: I didn't bring my calendar, but I
13 think that would wash with me. I don't remember any conflicts
14 on that date, the 9th. I could put that down.

15 CHAIRMAN NIELSON: Shall we shoot for that as a
16 tentative date?

17 If no one else has any other question or comment,
18 we will disband at this time, with a determination as to
19 whether we will continue this on site to be made by the
20 Division as soon as possible.

21 (At 12:24 p.m. the hearing ended.)

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C E R T I F I C A T E

State of Utah)
) ss
County of Salt Lake)

I, Ronald F. Hubbard, do hereby certify that I am a certified shorthand reporter in and for the State of Utah; that I reported in shorthand the foregoing proceedings; that that this transcript is a full, true, and correct record of said proceedings.

Dated at Salt Lake City, Utah, this 12th day of June, 1984.

Ronald F. Hubbard

Ronald F. Hubbard
Certified Shorthand Reporter
License No. 32

