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Trial Transcript, Vol. 49, Morning Session

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case * 4993

File # 156

1	IN THE DISTRICT COURT FOR THE FIFTH JUDICIAL DISTRICT
2	WASHAKIE COUNTY, STATE OF WYOMING
3	•
4	IN RE:
5	THE GENERAL ADJUDICATION)
6	OF RIGHTS TO USE WATER) IN THE BIG HORN RIVER) Civil No. 4993 SYSTEM AND ALL OTHER)
7	SIGILM AND ADD OTHER) SOURCES, STATE OF) WYOMING.)
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10	5/20 19.81
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12	EFPUNY
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15	VOLUME 49
16	Morning Session
17	Tuesday, May 5, 1981
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25	ORIGINAL

409 WEST 24TH STREET CHEYENNE, WY 82001 (307) 635 8280

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1	APPEARANCES						
2							
3	FOR THE STATE	HALL & EVANS					
4	OF WYOMING:	2900 Energy Center One Building 717 17th Street					
5		Denver, CO 80202 BY: MR. MICHAEL D. WHITE, Special					
6		Assistant Attorney General and					
7		MR. SCOTT KROB					
8	FOR THE UNITED STATES OF AMERICA:	MR. JAMES CLEAR and MR. JOSEPH MEMBRINO					
9	OF AMBRICA:	Attorneys at Law Land and Natural Resources Division Department of Justice					
10		P.O. Box 7415 Benjamin Franklin Station					
11		Washington, DC 20044					
12		and					
13		MR. THOMAS ECHOHAWK Attorney at Law					
14		Land and Natural Resources Division Department of Justice					
15		1961 Stout Street Denver, CO 80294					
16		Deliver, Co adzou					
17	FOR THE SHOSHONE TRIBE:	SONOSKY, CHAMBERS & SACHSE 200 M. Street					
18		Washington, DC 20006 BY: MR. HARRY SACHSE					
19							
20	CLERK TO THE SPECIAL MASTER:	MR. LEO SALAZAR Attorney at Law					
21		701 Rocky Mountain Plaza Cheyenne, WY 82001					
22							
23							
24							

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Q Morning, Dr. Mesghinna. Dr. Mesghinna, would you please refer to U.S. Exhibit WRIR C-245, mesghinna-cross-white

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1)	specifically Page 42, which contains your	
2		table 24.	
3		MR. WHITE: While you're looking, can	
4		everybody hear me?	
5		MR. ECHOHAWK: Yes.	
6		MR. CLEAR: Yes.	
7		THE SPECIAL MASTER: . If they should have	
8		trouble you can hook it up.	
9		MR. WHITE: Off the record.	
10		(Off-the-record discussion.	
11		THE WITNESS: Did you say Page 42?	
12	Q	(By Mr. White) Yes, sir. Table 24.	
13	A	Yes.	
14	Q	Down at the bottom of that page you list	
15		diversion requirements for each of the five	
16		. projects?	
17	A	Yes.	
18	Q	You don't include in those projects Owl Creek;	
19		is that correct?	
20	A	Yes, they are not included in Owl Creek.	
21	Q	Why is that?	
22	A	We'll come to it later on with the historic	
23		lands.	
24	Q	I don't understand your answer. Does it mean	
25	mesghinna-cross-white		

The state of the second of the

1		that your previous project design called
2		Owl Creek is now included in the historic
3		lands?
4	A .	We essentially have divided the overall work
5		into three items. The first item are the five
6		units; North Crowheart, South Crowheart, Big
7		Horn Flats, Arapahoe and Riverton East, which
8		are all included in this report. Our second
9		part we include the historic lands, all but the
10		Type VIII lands and the Arapahoe Ranch area.
11		So all the Type VIII lands which are newly
12		classified lands and the Arapahoe Ranch area,
13	i 	which is about 245 acres of land will be pre-
14		sented later on.
15	Q.	What do you mean by Type VIII?
16	A	Type VIII are lands which are newly classified
17		within the boundaries of the Federal Indian
18		Project lands.
19	Q	Are those lands which have never been irrigated
20		before, never developed before?
21	A	Yes, they have never been developed before.
22	Q	Okay. On Page 42 for the North Crowheart Project
23		or unit, which do you refer to them as, project
24		or units, your five that are listed on Table 42
25	meso	hinna-cross-white

1		excuse me, table 24 on Page 42?
2	A	North Crowheart is a unit.
3	Q	A unit?
4	A	South Crowheart is a unit, Arapahoe is a unit,
5		Riverton East is a unit, Big Horn Flats is a
6		unit.
7	Q	We'll call those units: and we'll be talking
8		about the same thing?
9	A	Yes, except on the operation and maintenance
10		work.
11	Q	I understand that you divided those into two
12		groups.
13	A	Yes. Let's go to the diversion requirements for the North Crowheart Unit. Okay. You list 147,767 acre-feet; is that correct? Yes, sir.
14	Ω	Let's go to the diversion requirements for the
15		North Crowheart Unit.
16	A	Okay.
17	Q	You list 147,767 acre-feet; is that correct?
18	A	Yes, sir.
19	Q	Does that all come out of the Wind River?
20	A	Yes.
21	Q	How many points of diversion?
22	A	One diversion.
23	Q	One point of diversion?
24	A	Yes.
25	mes	ghinna-cross-white

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1	Q.	What's the first day during the irrigation
2		season the water's diverted at that point of
3		diversion?
4	·A	It will be sometime in May.
5	Q	And the last day?
6	A	Towards the end of September.
7	Q	What's the average diversion c.f.s. which you
8		have designed a system to take which results
9		in 147,767 acre-feet?
10	A	The overall designs c.f.s. at the head is about
11		850 c.f.s.
12	Q	So the design c.f.s. is 800 and what?
13	A	Fifty.
14	Q	But you don't divert 850 c.f.s. each day at
15		that point?
16	A	No, that is the maximum, that is the design
17		capacity.
18	Q	What's the average then?
19	. A	. Well, you have for each month different
20	Q	Okay. Can you give me those monthly values?
21	A	Okay. That will take some time.
22	Q	Well, I'm going to ask you the same question
23		about the other four units as well so we might
24		as well pick out that information at the same
25	mes	ghinna-cross-white

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A.

The irrigation season starts sometime in May.

1		can say really the 1st of May, towards the beginning
2		of May.
3	Q.	So, 405 is essentially the diversion each day of
4		May then?
5	λ.	Yes, on the average it would be during each day of
6		May.
7	Q.	Is the same thing true of September, each day?
8	A.	Yes. Well, in September it would be about probably
9		three weeks of the week, the first three weeks of
10		the week.
11	Q.	First three weeksoof the month?
12		THE SPECIAL MASTER: First three weeks of the
13		month?
14	A.	Of the month, yes.
15	Q.	(By Mr. White) All right. South Crowheart, does
16		all the 20,137 acre-feet listed on Page 42 come from
17		the Wind River?
18		THE SPECIAL MASTER: Does it really make much
19		difference to you where the water comes from?
20		Your system design is based upon a taking from the
21		Wind River?
22		THE WITNESS: Yes. I'm assuming we will get
23		water from the Wind River. But really, as you said,
24		it is this is a design criteria. This does not
25	mes	ghinna - cross - white

to je.

1		mean, for example, 405 c.f.s. is exactly what should
2		go in May. This is for the estimation of seepage
3		and so on.
4		Otherwise, the amount of water that goes in
5		I mean, that is received during the months of May
6		is shown in acre-feet, you know.
7	Q.	(BynMr. White) I understand that. O'my. when
8	A.	Okay, very good.
9	Q.	You designed how many points of diversion off the
10		Wind for this South Crowheart?
11	A.	There is only one point.
12	Q.	The same the first day and the last day of irriga-
13		tion?
14	A.	Yes. We can assume the same thing for the whole
15		Wind River.
16	Q.	And the design maximum diversion?
17	A.	I think I have shown it in the report.
18	Q	Will you refer me to the page?
19	A.	I believe it is 115, but let me check it. Yes, on
20		Page 27, 115 c.f.s.
21	Q.	What is your design diversion for May?
22	A.	For May we have 60 c.f.s.
23	Q	Okay. June?
24	A.	Ninety-two.
25	mes	ghinna - cross - white

1	Q.	July?
2	A.	One hundred.
3	Q.	August?
4	A.	Ninety.
5	Q.	September?
6	A.	Sixty.
7	· Q.	For the 16,728 feet of the Arapahoe Unit, what
8		sources have you designed your system to derive
9		that water?
10	A.	From the North Fork Popo Agie River.
11	Q.	One point of diversion?
12	A.	Yes, sir.
13	Q.	The same the first and last days of diversion?
14	A.	Yes.
15	Q.	The same design maximum diversion as shown in the
16		report?
16 17	A.	Yes.
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22		* * * *
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mesghinna - cross - white

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	1	Q	(By Mr. White) What's the design diversion
	2		for May?
	3	A	Forty-four c.f.s.
•	4	Q	June?
	5	A	Seventy-two.
	6	Q	July?
	7	A	Eighty.
	8	Q	August?
	9	A	Seventy-three.
	10	Q	September?
	11	A	Forty-eight
			•
	12	Q	Okay. For Riverton East what is the source of
	13		supply or sources of supply for the 17,536
	14		acre-feet?
	15	A	Riverton East would be different from the rest
	16		and there are three diversions.
	17	Q	Okay. Would you describe those, please.
	18	A	The first diversion is on a pump station from
	19		Little Wind Unit I mean from Little Wind
	20		River, sorry. That serves about 150 acres.
	21	Ω	How much of the seventeen and one half thousand
	22		acre-feet is derived from that pump station on
	23		the Little Wind?
	24	A	Let me check.
	25	mes	sghinna-cross-white
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1		THE SPECIAL MASTER: I think he corrected
2		himself, the Little Wind River.
3		MR. WHITE: I thought he changed it from
4		the Little Wind River to the Little Wind Unit.
5	Q	(By Mr. White) Is that pump station Big Wind
6		River or Little Wind River?
7	A	Little Wind River, the first pump station is
8		from Little Wind River.
9		Yeah, it is from Little Wind River and
10	 	there are 157 acres there.
11	Q	What acre-foot diversion do you show?
12	A	Four hundred ninety-six acre-feet.
13	Q	Where is the second point of diversion?
14	A	It is from Wind River itself. And
15	Q	Where?
16	A	Wind River.
17	Q	Thank you.
18	A	And that's a pump station also. And there are
19		272 acres there.
20	Q	And the amount of diversion?
21	A	And the amount of diversion is 861 acre-feet.
22	Q	In the third diversion?
23	A	The point of diversion is the canal in which
24		there are 3385 acres.
25	mes	ghinna-cross-white

1	Q	From what source does that divert?
		From the Wind River.
		Could you give me the acre-foot amount again?
4	A	Yes, sir, 16,179.
5	Q	Have you developed schedules of diversion,
6		monthly schedules of instantaneous diversion
7	i	for each of those three points?
8	A	Yes. Could you give those to me, please.
9	Q	Could you give those to me, please.
10	A	You mean in acre-feet? C.f.s. Okay. I can give you for the canal; but for the
11	Q	C.f.s.
12	A	Okay. I can give you for the canal; but for the
13		pump stations they were designed for there
14		is no conveyance efficiency there so they were
15		designed for the distribution efficiency and
16		application efficiency so I can't give you the
17		maximum flow, but for the canal I can.
18	Q	What's the maximum for the two pump stations?
19		THE SPECIAL MASTER: Why don't you give the
20		canal. Now, you've been asked to, why doesn't
21		he answer your first question.
22		MR. WHITE: Thank you.
23		THE WITNESS: Okay. For the canal in May
24		it would be about 50 c.f.s., in June it would
25	mesg	hinna-cross-white
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i		
1		be about 72 c.f.s., in July it would be about
2		78 c.f.s.
3	Q	Seven zero?
4	A	Seventy-eight.
5	Q	Oh, I'm sorry.
6	A	In August, 72, and in September, 50.
7		For the pump stations, the maximum flow
8		will be 2.78 c.f.s.
9	Q	Which pump station is that?
10-	A	The first one.
11	Q	That would be the one on the Little Wind?
12	A	Yes, sir. And I'm sorry, could you give me the figure again? 2.78. And for the second one on the Big Wind? 4.58. Turning to Big Horn Flats, you have 7,212
13	Q	And I'm sorry, could you give me the figure
14		again?
15	A	2.78.
16	Q	And for the second one on the Big Wind?
17	A	4.58.
18	Q	Turning to Big Horn Flats, you have 7,212
19		acre-feet. From what source did you design
20		your system to derive that supply?
21	A	There are several sources on Big Horn Flats.
22		Shall I go ahead?
23	Q	Please tell me.
24	A	Nine hundred and sixty-eight acres will be served
25	mes	ghinna-cross-white

1		from Little Wind.
2	Q	. How many acre-feet?
3	A	Nine hundred and sixty-eight acres, and the
4		acre-feet will be 2,464. And those two pump
5		stations in would you please excuse me, I
6		will change the battery for the calculator.
7		(Brief pause.
8		MR. WHITE: Off the record.
9		(Off the record.
10		THE WITNESS: Okay. From the two pump
11		stations located in Wind River, the total
12		acreage is 1,702 acres.
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18		. ?.
19		* * * *
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1	Q Ās	All right.
2	ā. A.	And the total diversion in that area is 4,748
3		acre-feet.
4	Q.	I see. The pump stations, do you again have only
5		a maximum diversion rather than a schedule by month?
6	A.	Yes.
7	Ů	Of instantaneous diversion?
8	A.	Yes.
9	σ	What is the maximum at the pump stations?
10	A.	Okay. There are two pump stations in the Upper Wind
11		Unit. The first one has 16.97 c.f.s. and the second
12		one, 11.69 c.f.s.
13	Q.	Do you have a schedule of monthly instantaneous
14		diversions for the Little Wind Diversion?
15	A.	We have the maximum diversion.
16	Ω	And what is that?
17	A.	For one of the pumps it is 13.11 c.f.s. and for the
18		other pump station it is 2.93 c.f.s. The pump
19		station is at the Little Wind. There are 968 acres
20		on the Little Wind.
21	Q	From which you divert 2464 feet?
22	A.	Two thousand four hundred sixty-four feet.
23	}	THE SPECIAL MASTER: You've already stated
24		that.
25	mes	ghinna - cross - white

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1		THE WITNESS: Did I?
2	Q.	(By Mr. White) Isn't it true, DratMesghinna, that
3		the instantaneous diversions out of, for example,
4		the Big Wind during July, which you've just described,
5		could accumulate to around 885 c.f.s.?
6	A.	Which area are you talking about?
7	Q.	For all units, taking either the design c.f.s.
8		diversion for the pumps or the July diversion for
9		the canals for North Crowheart, South Crowheart,
10		Riverton East, and Big Horn Flats, out of the Wind
11		River, doesn't that give you a maximum of around
12		885 c.f.s.?
13		That amount of water released from the Big Wind?
14	Ł	Yes.
15	A.	That's about right.
16	Q	In your design work, what investigation did you
17		make to determine whether 885 c.f.s. of water is
18		actually available each day during July from the
19		Big Wind?
20	A.	That part of the study is not up to me; it is up
21		to HKM.
22	Q	Has someone told you there are 885 c.f.s. available
23		for diversion from the Big Wind in July?
24	A.	My work is on the side of the demand, the amount of
25	mes	ghinna - cross - white

1		water necessary for the crops.
2	Q.	I see. So, you've made no determination that the
3		amount of water necessary for crops
4		MR. CLEAR: He has answered the question, Your
5		Honor, I think.
6	<u> </u> 	THE SPECIAL MASTER: You may answer.
7	Q.	(By Mr. White) Do you want me to try the question
8		again?
9		So, you've made no determination that the
10		amount of water required for crops is actually
11		available from the river?
12	A.	Yes, that kind of water is not up to me; it is up
13		to HKM.
14	Q.	Has HKM advised you that amount of water is avail-
15		able
16		MR. CLEAR: Objection, Your Honor. It is
17		outside the scope of the direct examination.
18		THE SPECIAL MASTER: 'I'll sustain the objec-
19		tion. You can ask HKM if there is. You can bring
20		it out from them. That would be your best evidence.
21		He has answered that it simply is not a part of his
22		work.
23	Q	(By Mr. White) Aside from the Big Wind River, have
24		you made any determination with respect to water
25	mes	ghinna - cross - white

1	availability to meet the irrigation demands or
2	diversion requirements you've established?
3	MR. CLEAR: Same objection, Your Honor. I
4	think he has gone through that.
5	MR. WHITE: I asked him about the Big Wind
6	before.
7	THE SPECIAL MASTER: He may answer.
8	A As I've stated it earlier, my part of the work is
9	on the demand side really. I don't have to go
10	through the analysis of the determination of flows
11	in the different streams and rivers.
12	THE SPECIAL MASTER: So when you answered it
13	on the North Fork of the Popo Agie, that is also
14	true?
15	THE WITNESS: That is also true.
16	MR. WHITE: Your Honor, at this time I move
17	to strike the testimony of Dr. Mesghinna, as well
18	as the exhibits that were introduced through him,
19	as being entirely speculative.
20	THE SPECIAL MASTER: As being entirely what?
21	MR. WHITE: Speculative.
22	THE SPECIAL MASTER: Speculative?
23	MR. WHITE: Yes, sir. And it is replete with
24	conjecture, since there is no evidence in the record
25	mesghinna - cross - white

THE SPECIAL MASTER: That motion is overruled. Q 10 of a computer? 11 12 13 14 A. 15 design computer program. THE SPECIAL MASTER: Computer program? 16 A. 17 18 19 20 21 22 23 24 25 mesghinna - cross - white

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to indicate that the amount of water required in the diversion requirements set forth in the bottom of Page 42, Table 24, is actually available.

(By Mr. White) Dr. Mesghinna, during your direct examination you made several references to computers, which you have used to assist you in your work. Would you please describe those specific systems in your work to which you employed the assistance

And let me amend the question to limit your answer only to those for which, those steps, for which a specific program was created.

The engineers have what we call the on-farm system

On-farm. An on-farm system design program is a program that puts the evapotranspiration, which is the water use of the crops, the soil characteristics, and what you call the farm layout into a design of laterals, efficiencies, gross water requirements, due to irrigation, rate of application, and so on.

In a sense, what the program does, by entering the proper requirements, the soil characteristics,

it really comes up with the amount of laterals required, meaning the number of laterals required, efficiencies, gross water requirements, and the others that I've mentioned, and also an approximate 4 cost of those laterals. After the output of this program is received, then we have to go one by one, meaning there the farm plot by farm plot, and adjust costs and numbers of laterals required. 9 That is one of our programs. 10 11 12 13 14 15 16 17 18 19 21 22 23

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1	Q	(By Mr. White) You adjust the output field
2		manually?
3	A	Yes, manually.
4	Q	Who developed the program?
5	A	Excuse me?
6	Q	Who developed that program?
7	A	Myself.
8	Q	Any other programs?
9	A	Well, we have other several programs, but some
10		of them, we haven't used them in this study.
11	Q	I'm only interested in programs used for this
12		study.
13	A	Well, one of them is the Jensen-Haise evapo-
14		transpiration.
15	Q	Were you also the programmer on that?
16	A	Yes.
17	Q	Any other programs you used?
18	A	The other programs we used in this study was
19		the drainage design. What it does by inputting
20		the soil characteristics necessary and drainage
21		coefficient minimal amount of evaporation and
22		soil characteristics that I referred are the
23		hydraulic conductivity and depth to barrier,
24		the program determines the spacing of the drains.
25	mes	sghinna-cross-white
	<u> </u>	·

THE SPECIAL MASTER: Both of those have applicability to this study, to this Reservation?

mesghinna-cross-white

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1	A	The first one we haven't used it, we have used
2		it on our initial studies, I mean the For-
3		tran-IV, but since it was easier to convert it
4		in this calculator we used this one in the final
5		analysis.
6	Q	(By Mr. White) And with respect to those three
7		programs, the results derived therefrom was
8		either the basis
9	A	I'm sorry, there is another program.
10	Q	Okay.
11	A	And that is the seepage analysis program.
12		We call it really conveyance efficiency program.
13		THE SPECIAL MASTER: Conveyance efficiency?
14		THE WITNESS: Program.
15	Q	(By Mr. White) What does it do?
16	A	Oh, what does it do? Well, what it does is it
17		does several things. It calculates the seepage
18		in a canal and also in a sense it designs the
19		canal by the final flow that it derives there.
20	Q	Anything else?
21	A	Well, in the final analysis really what it gives
22		you, the final word for that is efficiency of
23		the canal, conveyance efficiency of the canal.
24	Q	Were you the programmer for that?
25	mes	ghinna-cross-white

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A Yes.

Now, did the use of those four programs and the results which you derived from their use form a basis of or contribute to the professional opinion which you've expressed during your direct examination?

A Yes, sir.

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THE SPECIAL MASTER: I would ask -- I would convey to you, Mr. White, the fact that any information you wish to know about each of the four programs you should ask now and ellucidate it on cross-examination because it is my feeling that the petition to demand production of the programming information is going to be denied on what law I've researched so far, so it might be time --

- Q (By Mr. White) Okay. Dr. Mesghinna, what is a program listing? I'll start again as soon as you get fixed up.
- 20 A The question is, what is a program listing?
- 21 Q Yes.

A program listing is nothing but a listing of
what the program does. Really, if someone gets
the program listings can be punched into a card

1		and then programmed. You have everything there.
2		In a sense it is a program itself, more or less.
3	Q	What does it look like?
4	A	Well, do you want me to show you one listing?
5		It's just a computer listing.
6		THE SPECIAL MASTER: Computer printout?
7		THE WITNESS: Yeah, computer printout,
8		but not but not the output. This is the
9		skeleton of the of the
10		THE SPECIAL MASTER: Soft ware?
11		THE WITNESS: Of the program. This is
12		really the brain of it. What it is is there
13		are all the formulas and all the directions
14		on how to solve the problem is there. By
15		reading that one can understand exactly what
16		you are doing and one can input any kind of
17		data he wants and get an output from it. In a
18		sense it is the program.
19	Q	(By Mr. White) It describes what happens in the
20		program once you feed the raw data in and before
21		you get the results out; is that correct?
22	A	Yeah, really. I mean it gives you in a
23		sense it has, if I have to go in detail, it has
24		three main sections. The first section is an
25	mes	ghinna -cross-white

1		input, meaning the reading, it says read this,
2		read that and so on. The second part is the
3		body, which is the compilation where it
4		compiles it and you have all the formulas and
5		all the necessary things. And the third part,
6		the final part is the output part where it
7		prints out, you know, the process of directing
8		the program to print out what you want. For
9 .		example, we said efficiency before, conveyance
10] 	efficiency. Then I say in the final end, write
11		the efficiency of what you have determined,
12		then it writes out the efficiency.
13	Q	Is it true that program listings exist for each
14		of the four programs that you've described?
15	A	Oh, yeah, there has to be. I mean in the form
16		of cards and in the form of computer listings.
17	Q	Are you able to describe from memory those
18		listings?
19	A	You mean how to do it? Sure I know.
20		THE SPECIAL MASTER: With what specific
21		program are you talking about?
22		MR. WHITE: I was asking about all of them
23		generally and I'll get to the specifics, Your
24		Honor.
25	mes	ghinna-cross-white

1		THE WITNESS: Yeah, I know, it's no .
2		problem.
3	Q	(By Mr. White) Okay. Then we'll get to them
4		when we get to their use.
5		THE SPECIAL MASTER: Well, get to them when
6		we come to their use, Mr. White, but I want to
7		again let you know that it is not the intention
8	} - - - -	of this Court that we will take one month to
9	<u> </u> 	cross-examine this witness. If you can, later
10	 	today, set a time-frame that in which your
11		case can be completed on cross-examination, we
12		will allot so many days for each subject
13		matter you want, and the reason I'm saying this
14		now is because I intend to limit your time in
15		cross-examination that will require you to be
16		the judge of how much depth you're to give each
17		subject matter because I will limit your
18		examination. I believe the law sustains me on
19		this. But to say that we're going to give you
20		a month or two months to go through this
21		program material is would not be proper.
22		MR. WHITE: May I ask at this time how much
23		time you're going to give me for cross-
24		examination?
25	mes	ghinna-cross-white

THE SPECIAL MASTER: I don't know yet. I want to discuss that with you and try to come to what is a fair and a proper ruling. My reason for mentioning it now is that in the 4 interest of -- and the physical necessities, the interest of terminating this complex, 6 unprecedented difficult litigation, it is necessary to put a time restriction upon that --8 upon your cross-examination. It cannot be 9 done in direct relation to time consummed on 10 cross because that ignores substance, and 11 therefore this is the reason why I want to 12 discuss this with you a little later on. Maybe 13 you can give me the benefit of some of your 14 thoughts on how this can be done cooperatively. 15 We can confer with the United States! attorneys 16 sometime later on this. 17 MR. WHITE: Find out right away, Your 18 Honor. 19 (By Mr. White) Dr. Mesghinna, do you have those Q 20 program listings with you? 21 I have the drain spacing with me. 22 Where are the others? Q 23 The office. 24

mesghinna-cross-white

Q May I see the drain spacing program? MR. CLEAR: Your Honor, I think Dr. Mesghinna should be instructed that it's my belief that he does not have to turn those 4 over if he feels those are his trade secrets. Dr. Mesghinna is not -- he is not the United 6 States Government, he is a witness and it is his work product. He developed these, and I don't think -- although I may misspeak it -that he developed these programs specifically 10 for this project. I think a motion to 11 produce is an improper to a witness. He can 12 serve a motion to produce on the Government; 13 the Government has turned over the computer 14 programs that the Government has, but I think 15 Dr. Mesghinna should be instructed that it is 16 not incumbent on him to turn over his trade 17 secrets to the State of Wyoming in this case. 18 19 20 21 22 23 24

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1	THE SPECIAL MASTER: I would concur with that,
2	if they are trade secrets.
3	MR. CLEAR: I think it should be
4	THE SPECIAL MASTER: But if they contain informa-
5	tion dealing with the efficiency of the programs and
6	the work he did on the Reservation, then I think they
7	may be properly inquired into.
8	MR. CLEAR: I think he can inquire, but he is
9	asking him to turn the program over.
10	THE SPECIAL MASTER: He is asking him if he
. 11	got the material in them.
12	MR. CLEAR: No, Your Honor, he'just asked if
13	he would give him the program.
14	MR. WHITE: I asked if I could see the program,
15	Your Honor, just to clarify it.
16	THE SPECIAL MASTER: The program we are talking
17	about deals with drainage spacing on these different
18	units which go into your report, 245; is that correct?
19	THE WITNESS: Yes.
20	THE SPECIAL MASTER: Now, will you tell me
. 21	again what kind of a trade secret that is, if it
22	isn't a property of a client, the Wind River Indian
23	Reservation?
24	MR. CLEAR: It is not the property of the Wind
25	River Indian Reservation; it is not a property of

the Tribe and not the property of the United States. It is the property of Dr. Mesghinna, and there are trade secrets involved. And maybe he would be willing to turn it over voluntarily, but he does not have his lawyer here.

But what I'm saying, Your Honor, is these are useful for other clients. That is, if someone wants to come to Stetson Engineering and say, "Design a drainage system for me," they may come because of Stetson and because Stetson does have this program and can do it cheaper. Let's say Stetson charges by the hour. They have the program and it may take them three hours to do it; but if someone doesn't have the program —

THE SPECIAL MASTER: I have sustained what you are saying. My point is that if these computer listings contain information about the drainage spacing that is projected in his report on the Reservation, the Wind River Indian Reservation, that is not already in evidence, I believe Mr. White has a right to inquire about it.

MR. CLEAR: I think you are right, Your Honor.

THE SPECIAL MASTER: That is what I want to
sustain and what I am willing to allow. So, I
think the answer is perhaps a question of Dr.

Mesghinna. Does your computer listing on the drainage spacing contain any information that is not already in the record in this case, dealing with your report 4 5 and these projects to which you have testified? THE WITNESS: Let's take the drainage spacing. 6 I have explained it here really fully, I mean, what it does, what the input is. And I have in a sense discussed it, the necessary data that you have to 9 input. 10 THE SPECIAL MASTER: Have you discussed all 11 of its applicability in 245 with regard toothe Wind 12 River Indian Reservation? 13 THE WITNESS: Yes. I have discussed -- You 14 can't go into the details of how to design a pipe 15 and so on, you know. It is very hard in a report. 16 THE SPECIAL MASTER: Yes. 17 THE WITNESS: But I have given the overall, 18 what you call, criterias and methodology of design. 19 THE SPECIAL MASTER: In here? 20 THE WITNESS: In here. And someone by reading 21 this can really design a system in the Wind River 22 Indian Reservation. 23 I will sustain the objec-THE SPECIAL MASTER: 24 tion to producing the listing, Mr. White. 25

1	Q.	(By Mr. White) Dr. Mesghinna, without having a copy
2		of the listing, program listing, is it possible for
3		anyone to determine that your program is accurately
4		represented or accurately represents the methodology
5		set forth in your report?
6	A.	It has béen checked manually.
7	Q.	I'm asking you whether anyone besides yourself, with-
8		out having the program listing, or anyone outside of
9		Stetson, without having the program listed, can de-
10		termine whether the program is accurately reflected
11		by the methodology set forth in your report?
12		MR. CLEAR: Your Honor, I'll object to that
13		question.
14		THE SPECIAL MASTER: I'll sustain the objec-
15		tion. I can't even understand the question. And
16		I'm not very bright, but I suppose I'm an ordinary
17		citizen.
18		MR. WHITE: Let me try it a different way then,
19		Your Honor.
20	Q	(By Mr. White) How would someone not privvy to your
21		program, not seeing the program listed, determine
22		whether or not the methodologies that you've des-
23		cribed in your report are actually accomplished or
24		carried out by your program?
25	mes	ghinna - cross - white

MR. CLEAR: Your Honor, I'll object to that.

I think what we have done is he has described the program, he has described the input, he has described the output, and he has said he checked it manually. And I think it's just like someone's thought processes, or an expert. You are saying, well, you bring a psychiatrist in court and we are all laymen here, and we say how do we check your thought processes; we are just laymen?

And we don't understand the psychiatric business. And you tell us you did this and you came to this conclusion. So, give us your thought process. How do we check into the process?

THE SPECIAL MASTER: I'm going to sustain the objection, Mr. White. If you have experts who can prove that the methodology Dr. Mesghinna used in coming to the figures he has in Exhibit 245 are unscientific, inaccurate, agriculturally unsound, economically unsound, or physically impossible, welcome to it. But I think inquiring into the program, the computer listing or the computer program specifically, does tread on the proprietary or professional expertise of the Stetson company, I suppose, which they could claim is their right.

He stands by what he has come up with, and I

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believe you have a right to prove him wrong by his own work. And I'm giving you every latitude in that regard, short of sustaining these objections.

MR. WHITE: Your Honor, I believe this may be the most important single evidentiary ruling in the case.

THE SPECIAL MASTER: I was waiting for it, and I didn't find much law on it either way. We are cutting an unprecedented chart again, and I've done some research on whether to sustain the scope of cross-examination and what discretion should be allowed in the area of computer program. So, let's move ahead as best we can on it and make the rulings we can.

MR. WHITE: I would like to make an offer of proof with respect to this area of inquiry, Your Honor.

THE SPECIAL MASTER: Very well.

MR. WHITE: If allowed to testify or answer my questions in this line of questioning, Dr. Mesghinna would indicate that without a copy of the program listing it would be impossible for anyone besides him or anyone who actually had a copy of the listing to determine whether the listing or the program actually carries out the methodologies described in

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his report, and that without a copy of the program or the program listing, third persons are essentially required to take it on faith that the program actually carries out or effectuates the methodologies set forth in his report.

THE SPECIAL MASTER: Does your offer of proof also go to the fact that this will also pertain to the motion for production of computer programs?

MR. WHITE: No, I think the motion to compel deals with Mr. Toedter's program and not Dr. Mes-ghinna's program.

THE SPECIAL MASTER: I made the basic distinction in the fact we are dealing with it in the material before us, in those cases cited in this brief, particularly the fact that there is a danger inherent in the introduction of computer generated evidence that simply does not exist for other types of evidence.

And I agree with that, except in one thing.

Nothing is more basic to mankind than the burden of preparing some ground to grow a crop on which mankind can exist. That is about as old as anything I know of.

And in planning and designing a system for irrigation in an agricultural field, I simply don't

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It believe the computer adds that much differenc. gets back to the basic designs and plans for moving water and analysis of soil and those factors that are time-honored so far as salinity, drainage and matters we have discussed.

Now, what expertise has been used to come up with the totals, Dr. Mesghinna has used, you may knock them down, and you may do it, but I don't believe I can permit, in fairness, further inquiries into the Stetson programming used to come to the conclusions we have so far.

MR. CLEAR: Your Honor, I kind of object to the offer of proof that "in a sense we have to take it on faith". They have their experts and they have the design system and they can say, "This won't work." And I think that is what we are involved with here.

THE SPECIAL MASTER: If they do that, do you think you have a right to inquire into their computer systems and what it shows?

MR. CLEAR: Well, if it is developed by a state expert, we will demand it from the State, like they got our computer programs from the United States. But I am talking about witnesses.

THE SPECIAL MASTER: All right. As long as I keep it fair, that is my realm, and I have ruled.

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MR. WHITE: Your Honor, so I have a complete record, I believe my inquiry when I previously asked him for the production of a program was limited toothe drainage design program. With the Court's indulgence, I would like to ask Dr. Mesghinna the following questions, to include the other three programs. is he doesn't have them here, but go ahead.

THE SPECIAL MASTER: All right. All he said

MR. WHITE: Maybe we can get a stipulation between the State and United States that if Dr. Mesghinna was asked the same questions with respect to the on-farm system design program, Jensen-Haise evapotranspiration program, and seepage analysis for conveyance efficiency program, his answers would be the same, except they are not here. And the United States would make the same objection and the Court would make the same ruling; and I would stand on the same offer of proof. It would save us a lot of time if we can do that, Your Honor,

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1	MR. CLEAR: I think I'm a little confused
2	as to what he would answer.
3	THE SPECIAL MASTER: I think what Mr.
4	White wants is the
5	MR. CLEAR: I will not recede in his
6	stipulation to his offer of proof, but I think
7	basically the testimony is what the computer
8	program is would be the same, but I think maybe
9	the thing to do here is to ask Dr. Mesghinna
10	whether in those areas his answer would be the
11	same.
12	MR. WHITE: I'm willing to do it by the
13	numbers.
14	MR. CLEAR: I don't think we have to do
15	it by numbers. I think you're asking me to
16	stipulate to what a third person would say.
17	Why don't you just ask him if his testimony
18	would be basically the same.
19	Q (By Mr.WWhite) Dr. Mesghinna, with the
20	exception of the location, physical location
21	of the program listings for the on-farm system
22	design program, Jensen-Haise evapotranspiration
23	program and the seepage analysis or conveyance
24	efficiency program, if I ask you the same

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1		questions about those three programs that I
2		did ask you with respect to the drainage design
3		program, would your answers be the same?
4	A	Previously in my deposition you have asked for
5		some of the programs and Mr. Stetson himself
6		has refused to give those programs.
7	Q	But would your answers be the same or do we
8		have to go through all those questions again,
9		or would your answer be the same with respect
10		to the other programs?
11	A	In terms of what? Do you mean
12		THE SPECIAL MASTER: In terms of the
13		answers you just gave as to what they contain,
14		vis-a-vis input, output, printout and so forth.
15		I presume that's what Mr. White's asking.
16		THE WITNESS: You mean I can describe the
17		programs?
18	Q	(By Mr. White) Well, let's go from the
19		beginning. I'm sorry, I asked a very confusing
20		question.
21		THE SPECIAL MASTER: Let me see if I can't
22	<u> </u>	help us out. Would your computer listings on
23		the on-farm design program contain, in form, a
24		similar structure as that in the drainage spacing
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1	listing?
2	THE WITNESS: Yeah, except those programs
3	are on Fortran-IV, they are in that language,
4	on a Fortran-IV language.
5	THE SPECIAL MASTER: I don't understand
6	that. Just say it again and clearer.
7	MR. WHITE: Why don't you spell it?
8	THE WITNESS: Fortran-IV is spelled as
9	THE SPECIAL MASTER: F-o-r-t-r-a-n?
10	THE WITNESS: For
11	THE SPECIAL MASTER: Fore like in music?
12	THE WITNESS: F-o-r-t-r-a-n- Roman Numeral
13	IV.
14	THE SPECIAL MASTER: Fortran-IV. What
15	does that mean?
16	THE WITNESS: That is a language in program.
17	There are several languages in program and one
18	of them is Fortran-IV.
19	THE SPECIAL MASTER: What language is the
20	drainage listing then?
21	THE WITNESS: The drainage listing is in
22	TR-59 program.
23	THE SPECIAL MASTER: What is the difference,
24	in layman's language, between the language of a
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1		Fortran-IV and TR-59?
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2	A	Essentially what what you input data and get
3		the computations, when you approach the
4	 	computer it has a language. For example, if
5		you want to say to the computer if this thing
6		does not happen, go to the next step. There is
7		a special way of saying to it. So there are
8		sets of different languages in computers.
9		There are languages used by business outfits,
10		there are language mostly used by scientists and
11		engineers, which is Fortran-IV.
12		THE SPECIAL MASTER: Okay. Now, with the
13		program listing on the evapotranspiration,
14		which language is it in?
15		THE WITNESS: Fortran-IV.
16		THE SPECIAL MASTER: And the one on the
17		seepage analysis?
18		THE WITNESS: ForTran-IV.
19		THE SPECIAL MASTER: That's the difference
20		between those and the drainage?
21		THE WITNESS: Right.
22		THE SPECIAL MASTER: Let me take a ten
23		minute break. We'll stand in recess for ten
24		minutes.
25	mes	(Thereupon a ten-minute sghinna-cross-white (recess was taken.

1	THE SPECIAL MASTER: All right. May we come
2	to order, please?
3	I believe the arising at this time of the matter
4	of the computer program and computer listing that we
5	are on warrants my ruling, albeit a day or
6	two ahead of time, on the motion to compel production
7	of computer programs. Yes?
8	MR. SACHSE: I wonder if before you make your
9	ruling I could make a statement and make the Tribe's
10	position clear on this, and also to give you a cita-
11	tion that I promised you yesterday, an Act of Congress.
12	THE SPECIAL MASTER: All right. You may.
13	MR. WHITE: Before you start, Your Honor, I had
14	several more questions to ask about the computer
15	program, so I would appreciate being able to ask
16	those questions.
17	THE SPECIAL MASTER: I will wait until you make
18	them, until you are through, Mr. White.
19	MR. SACHSE: First on the question of production
20	of computer programs, as far as the computer programs
21	for all of the work Dr. Mesghinna has done, the
22	Tribes agree that it is unnecessary to produce those
23	programs.
24	Our own experts find from the soil data and the

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other data produced in Dr. Mesghinna's reports
that they are able to duplicate what he has done
and to either agree or disagree with what he has
done. As you know, we disagree with some of his
costs and some of his conclusions about drainage,
but we do not find we need his computer programs
to present evidence either in support or contrary
to what he's done.

I want to make clear, however, this does not mean that in an entirely different situation we may not want to see a computer program.

For instance, I want to be perfectly frank about this, if the State comes out with an impact study based on a computer program that cranks out figures that cannot be duplicated by other people in the field simply looking at soils, and so on and so forth, we may very well want some details on what that program is.

So, to sum up, the Tribe's position is that you're Honor's ruling as to the computer program that have been presented so far in this trial, we agree that they are not necessary for cross examination. We would hold our opinion as to any other computer programs that may be presented

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later on.

Secondly, yesterday we referred to an Act of Congress that allowed producers of power from nonfossil sources to sell that power to the electric grids, to the companies that run the electric grids in the area. I stated that I would give you the citation of that act.

The Act is the Public Utilities Regulatory
Policy Act of 1978, sometimes known for short as
Purpa, P-U-R-P-A. It is found at XVI USC, 2601.
It was ommitted as to renewable energy resources
by the Renewable Resources Act of 1980, Public
Law 96,294, 94 Stat 6-11 at 715.

THE SPECIAL MASTER: Very well. Thank you very much, Mr. Sachse. If my ruling that I'm about to make, dealing with the compelling of production of computer programing, will apply not only to Dr. Mesghinna's testimony, but also to Toedter in the brief heretofore filed, I have a suspicion that it will apply also to what might be used down the road.

As to proof of impact, we have limitations on it and I have already set some guidelines for what I hope will be the benefit of all counsel and mesghinna-cross-white

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1	of ranchers and farmers when that time comes.
2	I believe I will let you now, Mr. White,
3	finish your question on it and I will read my
4	rulings on these motions into the record.
5	MR. WHITE: Thank you, Your Honor.
6	Q (By Mr. White) With respect to the three programs,
7	aside from the drainage, is it possible, without
8	having the program listing for each of those
9	programs, for anyone other than yourself where
10	another employee of Stetson to determine whether
11	the programs accurately carry out or are reflected
12	by the methodologies set forth in your report?
13	MR. CLEAR: Your Honor, I think I objected to
14	this question before on the drainage and you sus-
15	tained it.
16	THE SPECIAL MASTER: Right.
17	MR. WHITE: That's right. I suspected the
18	same thing would happen here, Your Honor. I just
19	have to make a record on it.
20	THE SPECIAL MASTER: Mr. White, I'll sustain
21	the objection again.
22	MR. WHITE: Your Honor, at this time I would
23	make the same offer of proof as I made previously
24	with respect to the drainage program.
25	mesghinna-cross-white

1		THE SPECIAL MASTER: Very good.
2		MR. WHITE: But with my reference, and without
3		going through it again, but with respect to the
4		other three programs, the on-farm system designed
5		program, the Jensen-Haise evapotranspiration program
6		and the seepage analysis program. And I have two
7		more questions to ask Dr. Mesghinna about all four
8		programs, or any of them to which the programs may
9		apply.
10	Q	(By Mr. White) Dr. Mesghinna, were any of these
11	\ \	programs used by you on any other design project
12		other than the projects or units about which you
13		have testified in this action?
14	A	Yes. The on-farm system program has been used in
15		the other two projects.
16	Q	Was it used on those other two projects before or
17		after in time its use on this project?
18	A	It is within the span of time when I started the
19		Wind River Water Diversion.
20	Q	You mean roughly at the same time?
21	A	Roughly within the same time.
22	Q	Is it true, then, that the seepage analysis program
23] 	and the Jensen-Haise evapotranspiration program
24		have not been used on other projects?
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1	A	The Jensen-Haise program, we use it almost every
2		day when we are asked for crop consumption use.
3		Not necessarily on a project, but if someone calls
4		and asks, you know, about the crop consumptive use.
5		However, the seepage analysis was not used
6		in other projects.
7	Ω	How about the drainage design program; was it used
8		in other projects?
9	A	We haven't used it in other projects.
10	Ö	From what source was the funding derived which
11		supported you or Stetson Engineering during the
12		development of each of the four programs that
13		you've described?
14	:	THE SPECIAL MASTER: From what source was
15		the funding derived?
16		MR. WHITE: Yes sir. Where did they get
17		the money.
18		THE SPECIAL MASTER: To do the study?
19		MR. WHITE: To develop the programs.
20		MR. CLEAR: I don't think that is relevant,
21		Your Honor. We are still
22		THE SPECIAL MASTER: I don't think it is
23		relevant either.
24		MR. WHITE: You see, if the United States
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paid for it, Your Honor, if the taxpayers paid for it, I think it is pretty significant.

THE SPECIAL MASTER: Funding is a question that is up in the air in the entire litagation. The United States is objecting and reserved the question of having to pay half according to the orders of Judge Joffe. Everyone seems to be looking with pointed fingers towards the vast expenses of the Special Master in this case. I have even heard some criticism of the State of Wyoming Counsel.

I don't know that the funding question has any place in this lawsuit. If you can show where it has a bearing on the subject matter, I would permit it.

MR. WHITE: What I want to find out is whether or not federal monies were used to support Dr. Mesghinna and/or his staff while they developed these particular programs.

THE SPECIAL MASTER: I don't think that is

relevant to the finding. It would impute and re
flect upon their integrity, if it were, and I don't -
I guess you can go ahead and inquire and impeach or

attack their integrity or professionalism, but I

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1	don't think the question is proper.
2	MR. WHITE: I don't mean to attack Dr.
3	Mesghinna's integrity or professionalism.
4	THE SPECIAL MASTER: I think if I allowed
5	the question, it would lead to a reflection of that
6	kind. I sustain the objection.
7	MR. WHITE: Why don't you go ahead and rule,
8	Your Honor. May I make an offer of proof?
9	THE SPECIAL MASTER: I've already ruled; I
10	said I would sustain the objection.
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MR. WHITE: I would offer to prove, if allowed to testify, Dr. Mesghinna would indicate that with respect to the four programs which he has described, that they were developed by himself or in conjunction with others through the auspices of Stetson Engineers based on funding provided by the United States in whole or in part through this litigation.

THE SPECIAL MASTER: I think your offer of proof is in the record and I think it's just as irrelevant as it would be for the record to show that the increased return of mineral royalties from the Federal lands in Wyoming that have benefitted the State of Wyoming these last several years has made possible, for which the State used to pay your fee and mine. I just don't think it has any bearing.

MR. WHITE: That's all the questions I sought to ask about the computer programs. If you have a ruling this would be the time to make it.

THE SPECIAL MASTER: All right, Mr. White.

The motion filed by the State of Wyoming, dated

May 1, 1981 and in caps Motion to Compel

Production of Computer Program, is denied, and

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my denial is based solely upon the briefs
submitted and oral arguments heard on this
issue. I believe the State has already acquired,
through discovery, much data that has been
used by U.S. experts in the presentation of their
material. The State has also received printouts
which analyze that data and I think that
constitutes the purpose of the discovery rules.

It would seem to me that only the State's experts as competitors of the U.S. experts would stand to gain a benefit from a public production of computer programs. It seems to what I, in my limited ability to grasp, that computer program is nothing more than an expert's mental processes and abilities set down in a programable format. These processes and abilities are the very livelihood of the experts and I would imagine they would lose their tremendous value completely if made public.

A computer program can be analygized to a trade secret used in connection with expert's work for other clients, and as such, I would rule that they're confidential and have protection from discovery.

Okay. Mr. White, next subject matter.

1	Q	(By Mr. White) Dr. Mesghinna, we have before
2		you what has been marked for identification
3		as the or Plaintiff's Exhibit FM by the
4	:	way, FM stands for future Mesghinna, FM-1249
5		through 1255, and ask you whether or not those
6		exhibits are accurate copies of what's been
7		previously admitted in this action as U.S.
8		Exhibit C-249 through 255 with the addition
9		of annotations showing the field notes which you
10		have assigned to each field as shown by the
11		maps which you shared with us a week ago last
12		Friday?
13	A	May I ask what the first number refers to?
14	Q	Probably the plate number.
15		Are those not the numbers that you used?
16		MR. WHITE: Maybe we can take about ten
17		minutes and look at it, Your Honor. I thought
18		it was exactly the same.
19		THE SPECIAL MASTER: Let's stay in recess
20		and have him look.
21		(Brief. pause.
22	Q	(By Mr. White) Dr. Mesghinna, on the Exhibits
23		FM-1249 through 1255, the numbers appear often
24		in hyphenated form. Is it true that the number
25	mes	ghinna-cross-white
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1		in front of the hyphen refers to pump number,
2		the number after the hyphen refers to field
3		number, which you have assigned to those fields?
4	. A	Yeah, from what I have seen, roughly, I think
5		they resemble the same field number and pump
6		number.
7		MR. WHITE: Okay. Your Honor, at this time
8		we would offer FM Plaintiff's Exhibit FM-1249
9		through 1255 for solely illustrative purposes,
10		for ease of reference in referring to particular
11		fields by number. And for the purposes of the
12		record, the numbering of these exhibits parallels
13		exactly the numbering by the United States in
14		that the U.S. Exhibit C-249 is the same except
15		for the annotation as the Plaintiff's Exhibit
16		FM
17		THE SPECIAL MASTER: FM means field markers
18		or for Mesghinna?
19		MR. WHITE: That's future Mesghinna.
20		THE SPECIAL MASTER: I wanted to learn the
21		code. They are hereby offered?
22		MR. WHITE: Yes, sir.
23		THE SPECIAL MASTER: Any voir dire?
24		MR. CLEAR: I don't think so, Your Honor.
25	me	sghinna-cross-white

1		No objection.
2		THE SPECIAL MASTER: They are hereby
3		admitted into evidencefor the purposes offered.
4		(Whereupon Plaintiffis (Exhibits FM-1249 through
5		(1255 were hereby admitted
6		(into evidence.
7		MR. WHITE: Just one moment.
8		(Brief pause.
9	Q	(By Mr. White) Dr. Mesghinna, isn't it true
10		that the field which you've laid out as
11		depicted by U.S. Exhibit C-249 through 255 and
12		Plaintiff's Exhibit FM-1249 through 1255 include
13		some lands which were classified as Class 6 or
14	•	nonarable by HKM?
15	A	In squaring off processes, which you cannot
16		escape in any work of this kind, we might have
17		included a very small portion of Class 6 lands,
18		and with the same token, we have omitted large
19		lands which are classified as arable by HKM.
20	Ω	Isn't it true that in the North Crowheart Unit,
21		approximately 51 percent of your fields
22		include some Class 6 lands?
23	A	Fifty-one percent?
24	Q	Um-hum.
25	me	sghinna-cross-white

1	A	No.
2	Q	Do you know what number of your fields does
3		include Class 6 lands or what percentage do
4		you include Class 6 lands?
5	A	I don't believe we have 51 percent Class 6 lands.
6		THE SPECIAL MASTER: He didn't ask that.
7		He asked 51 percent of your fields include
8		some Class 6 lands. That was his question.
9		THE WITNESS: Okay. That is possible.
10	Q	(By Mr. White)) Isn't it true that approximately
11		50 percent of your fields in the Big Horn Flats
12		Unit include Class 6 lands?
13	A	All that I have gone through, what we have done,
14		that is possible.
15	Q	Isn't it true that approximately 39 percent of
16		your fields in the South Crowheart Unit include
17		Class 6 lands?
18	A	There is a possibility.
19	Q	Isn't it true that 57 percent of your fields
20		in the Arapahoe Unit include Class 6 lands?
21	A	That is also a possibility.
22	Ω	Isn't it true that approximately 69 percent
23		of your fields in the Riverton East Unit
24		include Class 6 lands?
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1	A	All that I can say is tha	t is possible.
2	Q	Okay. Let me hand you, d	irect your attention
3		to what's been marked for	identification as
4		Plaintiff's Exhibit FM-12	49-A and 1250-A,
5		after I've had a chance t	o show them to your
6		counsel.	
7			(Brief pause.
8	Ω	Dr. Mesghinna, let me	I've already referred
9		you to these exhibits, an	d ask you whether or
10		not the areas shown in re	d or orange, sort of
11		a redish-orange, are thos	e areas within your
12		fields which were classif	ied as nonarable or
13		Class 6 by HKM for the No	orth Crowheart Unit
14		only?	
15		MR. SACHSE: Your Ho	nor, I object to this
16		question on the following	grounds: The witness
17		has already testified tha	at he can't state
18		exactly what which fie	elds might have some
19		small portion of Class 6	lands in them and
20		which may not	
21		THE SPECIAL MASTER:	May I have the
22		question reread to me, pl	Lease.
23			(Thereupon the following
24			(question was read back as (follows: "Q Dr.
25	mes	ghinna-cross-white	(Mesghinna, let me I've (already referred you to (these exhibits, and ask

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24

25

(you whether or not the (areas shown in red or (orange, sort of a redish-(orange, are those areas (within your fields which (were classified as non-(arable or Class 6 by (HKM for the North Crow-(heart Unit only?"

THE SPECIAL MASTER: Does the area marked in the red or orange indicate the field or the actual acreage in the field, Mr. White?

MR. WHITE: Well, let me ask the question again, I meant to make it --

THE SPECIAL MASTER: I want an answer to my question.

MR. WHITE: It just represents those portions of the field.

MR. WHITE: Which is Class 6. You may recall that the original exhibit, the original exhibit, the original exhibit C-249 had some shading and then white areas, and what's happened here, we just colored in the white areas since the white areas were Class 6. And I'm asking Dr. Mesghinna whether or not the areas, the land areas, the acreages shown in red or redish-orange on these exhibits are, or represent the nonarable

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or Class 6 lands as established by HKM within its field.

I think it's remarkably important, Your Honor, because it will come up with respect to the question of yields.

THE SPECIAL MASTER: I think it's remarkably important, but the parallel map ought to be in the Court at the same time in case he needs to refer to it.

MR. WHITE: I'll be glad to make it available.

MR. SACHSE: I want to continue my objection to this and I want to make clear the reasons for my objection. I do not object to the State when it puts on its case, presenting these maps and having their experts testify that they have gone over Dr. Mesghinna's work and this is what they find amounts to the Class 6 land in the field. In fact, from the minute amount that these maps show, we might want to introduce them if the State's experts didn't introduce them.

On the other hand, Dr. Mesghinna has already testified that he doesn't know offhand precisely which corners might or might not be Class 6 land..

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identification of the red marks on the State's map is to ask him to testify as to something as to which he's already stated that he's not sure. The only way he could then make himself sure would be to stop the trial for time enough to examine each one of these, piece by piece against each map, and it strikes me, this is improper cross-examination though quite proper testimony in the State's case in chief if the State wants to present it.

THE SPECIAL MASTER: I will sustain the objection in that the Witness' answers stated there is quite possible that these are the lands that could have 6, and I will sustain the objection for the reasons Mr. Sachse has just given.

MR: SACHSE: Your Honor, in connection with my objection, I then ask also that the previous exhibits, FM-1249 through 1255 be withdrawn.

When Mr. White presented these exhibits he said they were the same as the maps already presented by the United States except that he put in the numbers for the fields, but what he's just

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MR. WHITE: I would like to state for the record, Your Honor, the maps we are referring to now that have the Class 6 lands indicated in reddish-orange are new exhibits. They are 1249 through 1255-A series. The previous exhibits carried no such suffix.

And I would also ask the Court to reconsider its determination that this witness could not be questioned about Class 6 lands which he included in his report.

THE SPECIAL MASTER: This witness can be questioned about Class 6 lands and, indeed, I've permitted your questioning of him on them, and he has said it is quite possible. He has answered them.

You want him to come up and specifically identify each jot and tittle within it, and he said that is not his work, that is not a requirement of him. He has answered your questions in Class 6 lands in these areas.

- A. Can I go ahead and say something about this?

 THE SPECIAL MASTER: Yes.
- In my direct testimony I have clearly stated that there areas that will be included in it in this area.

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And, in fact, I am really proud to see we have done this much good really. We have included extremely small amounts of lands.

In other works that I've seen, and it would be probably three or four times more than this, including this squared area. This is something you do in design. You cannot escape it. This is -- You can't fight with nature, you know. I mean, you have land; and when it is cut off, you include something and you leave something out.

For example, in East Crowheart we have left out almost 10,000 acres, you know, just to, what you call, squaring off and so on.

So, there is a possibility, of course, what we see here might be true, you know. It is perfectly the standard of what everyone uses in this profession.

THE SPECIAL MASTER: The witness had made it unnecessary for me to reconsider my ruling. You've got it yourself into the record.

MR. WHITE: Thank you, Your Honor.

THE SPECIAL MASTER: That's all right.

- Q (By Mr. White) Isn't it true, Dr. Mesghinna --
- As to how much it is, you know, I can't say what

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1		we've done there, but for a matter of discussion, we
2		can discuss it.
3	Q	Isn't it true, Dr. Mesghinna, that the inclusion of
4		nonarable land within a particular field may very
5		well affect the yield, crop yield, which one would
6		derive from that field?
7	A.	This question does not pertain to me, although I
8		can get an answer to it.
9	Q	Thank you.
10	A.	As to my feeling about it. If you go out and see
11		lands that are irrigated anywhere in the United
12		States, or anywhere in the world, you can never
13		find lands that are perfectly okay, Class 1 to
14		Class 4, or something like that. There is always
15		something.
16		In fact, if you see from a plane or a car, you
17		will see areas, spots, where you see Class 6 lands.
18		I mean, this is perfectly the case.
19		And when they report they yields, they report
20		the yields based on these kinds. They, indeed,
21		have this Class 6 within Class 1 to Class 4 lands.
22	Q	Dr. Mesghinna, let me direct your attention to what
23		has been marked for identification as FM-1251-A,
24		and specifically Field No. 12, which contains only
24		and specifically Field No. 12, which c

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1	Class 6 lands, as shown by the reddish-orange color
2	on this exhibit.
3	MR. CLEAR: Can you slow up a minute until we
4	get the map out here?
5	MR. WHITE: Yes.
6	MR. CLEAR: What field was it again?
7	MR. WHITE: Twelve. It is almost dead-center.
8	MR. SACHSE: That is 2-12?
9	MR. WHITE: Yes, 2-12.
10	Q (By Mr. White) Isn't it true, Dr. Mesghinna, that
11	if the entirety of that field was Class l lands,
12	the yield from that field would be greater, the crop
13	yield would be greater, than it would be if this
14	field is, as indicated, approximately one quarter
15	Class 6 nonarable land?
16	MR. CLEAR: Your Honor, he has testified that
17	the yields of these lands was not his assignment or
18	expertise in what he has testified.
19	THE SPECIAL MASTER: I sustained that objection
20	and he answered that, yes, there are ground effects
21	inevitable there.
22	MR. WHITE: Your Honor, I need to make reference
23	to a number of these similar exhibits. I expect you
24	to rule the same way, but I need to make the offer.
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1		THE SPECIAL MASTER: Go ahead. Make your re-
2		cord.
3	Q.	(By Mr. White) Dr. Mesghinna, with respect to what
4		has been marked as Plaintiff's Exhibit FM-1251-A,
5		isn't it true that the lands colored in a reddish-
6	,	orange within your field boundaries are lands which
7		HKM classified as Class 6 or nonarable?
8	A.	Yes, that is possible.
9	Q.	Isn't the same true with respect to Plaintiff's
10		Exhibit FM-1253-A?
11	A.	Yes, that is possible.
12	Q.	And that applies to the South Crowheart Unit?
13	A.	Yes.
14	Q.	Is the same thing true with respect to what has
15		been marked for identification as FM-1254-A, appli-
16		cable to the Arapahoe Unit?
17	A.	Yes, that is true.
18	Q.	Is the same thing true with respect to what has
19		been marked for identification as Plaintiff's
20		Exhibit FM-1255-A with respect to the Riverton
21		East Unit?
22	A.	Yes, that is a possibility.
23	Q.	Finally, is the same thing true with respect to
24		FM-1252-A with respect to the remainder of the Big
25	mes	ghinna - cross - white

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1		Flats Unit?
2	A.	Yes, that's a possibility.
3	Q.	Dr. Mesghinna, on Exhibits C-249 through 255,
4		isn't it correct that you show an HKM irrigable
5		land base, or arable land base, excuse me, by
6		shading, over which some of your fields are lying?
7	A.	Yes, they are shown by shading.
. 8	Q	That is the sprinkler arable land base, isn't it?
9	A.	Not all only sprinkler, you know; all gravity irri-
10		gation. I mean, all gravity irrigable land or
11		sprinkler irrigated. So, we also include gravity
12		irrigation and irrigable land within a sprinkler.
13	Q	When and from whom did you get the arable land base
14		which is shown on your Exhibits 249 through 255?
15	A.	That was about, I believe, 1979 from HKM.
16	Ď.	How did you make the transfer of the arable land
17		base from the information given to you by HKM to
18		these exhibits?
19	A.	We transferred they gave it to us on mylar, I
20		believe, on the same scale as we have used, which
21		is 1 inch equals 2,000, the U.S.G.S. quad maps,
22		and we transferred these onto our scale.
23	Q	Would it surprise you to learn the arable land base
24		over which your fields are lying, as provided to you
25	mes	ghinna - cross - white

1		by HKM in 1979, is not the same arable land base	
2		that was testified to by Mr. Kersich in this action?	
3	A.	It wouldn't surprise me, because probably I know	
4		what you're trying to say on this.	
5	Q.	In other words, the arable land base shown in your	
6		exhibits isn't the same arable land base that was	
7		testified to by Mr. Kersich; isn't that correct?	
8	A.	I don't know that one very well, but the 1979 was	
9		the ones with this.	
10	Q	Yes.	
11	A.	Okay. But there might be, you know, some changes	
12		probably during the last few months, you know.	
13	Q.	Let me direct your attention to what has been	
14		marked as or admitted through Mr. Kersich as	
15		U.S. Exhibit WRIR-C-51, and ask you in general to	
16		compare C-51 in the Riverton East area sprinkler	
17		land classification map, and ask you to compare it	
18		to your field layout on FM-1255-A, and tell me	
19		whether or not Field 56, your Field 56, lays on	
20		land not classified as arable by HKM?	
21	A.	According to this map, yes, I can see that from	
22		here.	
23	Ď.	How many acres are in Field 56?	
24	A.	I have to look at my notes.	
25	mesghinna - cross - white		

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	Q.	You might	keep y	our not	teboo	ok , out	because	I've	got
2		a few more	e right	there	to	run.			
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~		a state colon company arable
	•	A Field No. 56 is 82.6 acres of gross arable
60	2	acres.
\$	3	Q Dr. Mesghinna, I'm going to annotate on Exhibit
50	4	1255-A, field 56 with the symbol NA-51, which
\$-3	5	stands for nonarable on Exhibit U.S. Exhibit
	6	C-51.
المبادي المبادي	7	MR. CLEAR: Your Honor, we object to the
G-B		
G-9	8	annocation in sounding wow months and
	9	reason those lands were excluded was that the
S-3	10	as I understand it, HKM was under the impression
**	11	that those lands had been taken by the Bureau
4-3	12	of Reclamation, and we have checked into that
4-2	13	and found that while the lands have been taken
	14	by the Bureau of Reclamation, the Indians
		THE SPECIAL MASTER: What do you mean they
4-3	15	
	16	had been taken by the Bureau?
	17	MR. CLEAR: They had been taken for the
	18	Boysen Reservoir, condemmed through Act of
	19	Congress, but in the Act of Congress, the
	20	Indians obtained the right of exclusive
	21	possession as long as those lands were not
		actually innundated, and for that reason I
	22	•
	23	think the misunderstanding, that HKM drew a
	24	legal conclusion and excluded those lands, but
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the exclusion was not based on nonarability, it was the basis of nonownership. And we will present evidence of the fact that the Indian retained --

THE SPECIAL MASTER: Were the Tribes paid a consideration when the acreage went into the flood plain, the Boysen Reservoir?

MR. CLEAR: They were paid a consideration, but under the Act of Congress and memorandum of understanding between the, I guess the Bureau of Indian Affairs and Bureau of Reclamation, which is incorporated into the Act. The Indians retained a right, exclusive right to possession of the surface, as I recall, exclusive of non-Indians, as long as lands were not actually flooded by the Reservoir. This came up in the last session. We've checked, in the meantime, with the Bureau of Indian Affairs title plant in the Billings, and they can furnish us a copy of their title records showing the retention of the surface interest by the Indians.

We are also prepared to bring back the appropriate people from HKM to testify that that land was not excluded on the grounds of -- was excluded -- bring them back to testify that

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they excluded the land not on the grounds of nonarability, but on the mishappenings --

THE SPECIAL MASTER: The legal --

MR. CLEAR: Legal title.

MR. WHITE: The United States is entitled to do that, and I don't think they can, and I think I'm entitled to cross-examine based on --

MR. CLEAR: The --

THE SPECIAL MASTER: One at a time, gentlemen.

MR. WHITE: Based on the evidence which the United States itself has submitted. If they want to come back and correct their evidence later on, that may well affect the cross-examination of Dr. Mesghinna. For the time being there is no evidence as to the arability of lands generally in this area, the upper right-hand corner of the Riverton East Unit.

THE SPECIAL MASTER: Was the total sum 60 some acres or --

MR. WHITE: There's a lot more, Your Honor, and I want to keep going and ask him to do that.

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MR. CLEAR: Your Honor, my objection was not to the questioning, my objection was to the classification of those lands as nonarable. THE SPECIAL MASTER: I appreciate that. MR. WHITE: Wait a minute, Your Honor. Down in the legend of Exhibit C-51 shows that anything that's white is Class 6. According to Mr. Kersich, Class 6 is nonarable. THE SPECIAL MASTER: I appreciate that. Obviously there's a mistake and is something 10 to be resolved in this matter. So proceed and 11 show the rest of the acreage that falls in 12 this unique legal category of flood plain for 13 14 Lake -- for Boysen Reservoir that Dr. Mesghinna 15 has obviously used because it was fit land for an arable project. 16 Go ahead, Mr. White. 17 MR. WHITE: My point is, Your Honor, 18 there isn't any evidence to that. 19 THE SPECIAL MASTER: Okay. 20 (By Mr. White) Dr. Mesghinna, isn't it true 21 that Field No. 55 shown on Exhibit FM-1255-A 22 also is not classified as arable on Exhibit 23 C-51? 24

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1	A	Yeah. Without going to all the details, all
2	, 	those from 52 to 56 are within those categories.
3		THE SPECIAL MASTER: All from 52 to 56?
4	•	THE WITNESS: Yeah.
5		THE SPECIAL MASTER: In the category?
6		THE WITNESS: Are in that category.
7	Q	(By Mr. White) What's the acreage for 52?
8	A	Fifty-two is 115.7.
9	Q	Fifty-three?
10	A	33.1.
11	Q	Fifty-four?
12	A	43.5.
13	Q	Fifty-five?
14	A	68.2.
15		THE SPECIAL MASTER: Sixty-eight
16		THE WITNESS:2. So the total is
17		343.1 gross irrigable, this is not net.
18	Q	(By Mr. White) Isn't it true that Field 51 on
19		Exhibit 1255-A is also shown in white as
20		Class 6 on Exhibit C-51?
21		THE SPECIAL MASTER: Gentlemen
22	Q	(By Mr. White) It's in the Northwest corner
23		of 29.
24	A	That one is also part of it.
25	me	sghinna-cross-white

1	Q	Where is the acreage for Field No. 51?	
2	A	It's 18.2.	
3	Q	Isn't it true that Field 50 is likewise	
4		classified as Class 6 or nonarable on C-51,	
5		and that is Field 50 which appears on Exhibit	
6		1255-A FM-1255-A, and it's located roughly	
7		in the North 1/2 of Section 30 in the upper	
8	i i	right-hand corner of Exhibit C-51?	
9	A	Yes, that is also included there.	
10	Q	And what's the acreage for Field 50?	
11	A	Forty-four.	
12	Ω	Isn't it true that Field 49 is also located in	
13		an area which is shown as being Class 6 or non-	
13 14		arable on Exhibit C-51?	
15	A	Yeah, that one is also.	
16	1	What's the acreage for Field 49?	
17	A	18.5.	
18		THE SPECIAL MASTER: What was that?	
19		THE WITNESS: 18.5.	
20	Q	(By Mr. White) One eight point five?	
21	A Q	Yes.	
22	Q	Isn't it true that Field 46 is also located	
23		in an area shown on Exhibit C-51 as being white	
24		or Class 6 or nonarable?	
25	mesghinna-cross-white		

1	A	Let me check that one.
2		(Brief pause.
3	A	Yes. Fifty, 46 is.
4	Q	And what is the field acreage for 46?
5	A	It's 55.1.
6	Q	Isn't it true that the north part of Field 41
7		is within an area shown on Exhibit C-51 as
8		white, Class 6 or nonarable?
9	A	I would like to check the
10	Q	Why don't you check that one as well as 40, 41
11		and 48.
12	A	I would like to check the gravity irrigation.
13	Q	Okay. I don't have it. I may have a copy.
14		I think
15	A	If they were included there, then
16	Q	We'll bring that this afternoon. My recollection,
17		Wold, is there is nothing over in Township 6
18		East, 2 North that is classified for gravity.
19		THE SPECIAL MASTER: Is this a convenient
20		time for a lunch break?
21		MR. WHITE: I can keep going as long as
22		you want to. I'd like to keep going.
23		THE SPECIAL MASTER: I want to eat. We have
24		to leave early because well, the Judge wants
25	me	esghinna-cross-white

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to use these chambers at 1:15, so let's adjourn
for lunch until 1:30 and maybe we can have a
chance to visit informally after we break now
for a few minutes about a little informal
discussion about examining the subject matter
you have left, Mr. White, and the days left
in May that you want to, you feel that you will
be using for cross-examination.
When do you anticipate your next witness,
United States, and who is it?

MR. WHITE: I can tell the Court now, Your

MR. WHITE: I can tell the Court now, Your Honor. I have approximately -- approximately 30 areas, general areas of inquiry.

THE SPECIAL MASTER: You have approximately 30 general areas of inquiry. Each one substantively take about the same time to look at them?

MR. WHITE: Some will be very short, Your Honor.

THE SPECIAL MASTER: Some will be longer?

MR. WHITE: Some longer. If Dr. Mesghinna
answered all my leading questions, yes, which
I'm not sure that he would, it could take no
more than say by tomorrow noon. If we end up
going through the bits and pieces for some of

the first of the second second

1	those areas, it could take, say to the middle
2	of next week or so.
3	THE SPECIAL MASTER: But you feel that
4	reasonably adequate with the way we're progressing
5	so far that you think it's possible you just
6	might be completed with him by the middle of
7	next week?
8	MR. WHITE: That would be my best guess
9	right now, Your Honor.
10	THE SPECIAL MASTER: That's what I want
11	to know.
12	Who is your next witness, United States?
13	MR. ECHOHAWK: Mr. Dornbusch the economist.
14	THE SPECIAL MASTER: And when do you
15	reasonably anticipate that he would be on?
16	MR. ECHOHAWK: Well, as soon as Mr. White's
17	done, depending on whether we have redirect.
18	THE SPECIAL MASTER: You're not ready to
19	put him on any sooner than that?
20	MR. ECHOHAWK: We're ready as soon as Mr.
21	White's done.
22	THE SPECIAL MASTER: I see.
23	MR. ECHOHAWK: We're ready to proceed.
24	THE SPECIAL MASTER: Let's go to lunch now
25	and let's come back at 1:30 and continue.
