Department of Energy
Grand Junction Projects Office
Post Office Box 2567
Grand Junction, Colorado 81502-2567

FEB 12 1997

Ms. Charlotte Abrams, Project Manager
Uranium Recovery Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards
Two White Flint North
11545 Rockville Pike
Mail Stop 7J9
Rockville, MD 20852

SUBJECT: DOE Responses to CDPHE Grand Junction SOWP Rev.0 Comments

Dear Charlotte:

Please find enclosed the DOE responses to the CDPHE comments on the Grand Junction, Colorado, Site Observational Workplan (SOWP) Rev.0.

I am sending these to you per our NRC/DOE conference call (February 11, 1997). I hope these responses to CDPHE are relevant to the comments NRC had generated, but not yet transmitted to DOE.

If you have questions or need further clarification, please call me at (970) 248-7612.

Sincerely,

Donald Metzler P.Hg.
Technical Manager

Enclosure

m:\drm\nrcgrj

MLO4 1/
WM-54

Department of Energy
Grand Junction Projects Office
Post Office Box 2567
Grand Junction, Colorado 81502-2567

JAN 10 1997

Ms. Wendy Naugle
UMTRA Project Manager
Hazardous Materials & Waste Management Division
Colorado Department of Public Health and the Environment
4300 Cherry Creek Drive South
Denver, CO 80222-1530

SUBJECT: DOE Responses to CDPHE Grand Junction Site Observational Work Plan (SOWP), Rev 0 Comments

Dear Wendy:

The U.S. Department of Energy (DOE) has completed its responses to CDPHE's comments on the Grand Junction, Colorado SOWP Rev 0. Comments were transmitted to DOE on October 29, 1996.

The UMTRA document review form was useful and effective as a tracking protocol for jointly resolving formal comments. We believe that joint resolution is within reach. The next step after comment resolution is for DOE and CDPHE to jointly discuss the critical elements for field data collection and develop a work plan.

At this time DOE is not asking for CDPHE approval of Supplemental Standards. We fully agree that the validity of that approach to meeting the EPA ground water standards cannot be determined until the additional data is collected, analyzed, and jointly discussed.

I hope you find our response positive and appropriate. Please call me at (970) 248-7612 if you have any questions.

Sincerely,

Donald Metzler, P.Hg.
Technical Manager

cc:
Paul Oliver, CDPHE-GJ
R. Plieness, DOE-GJO

m:\drm\grjsowp3

Metzler/tlp
1/9/97

Plieness
1/10/97

File # GWGRJ 1.1

not a record copy.
Record Copy located in UMM File

UMTRA DOCUMENT REVIEW FORM

SITE: Grand Junction, Colorado
DOCUMENT: Site Observational Work Plan (SOWP)
DATE: March, 1996
COMMENT NO: 1
COMMENTOR: Colorado Department of Public Health and Environment (CDPHE)

COMMENT: General Comment, Use of Supplemental Standards

The argument that there is widespread ambient contamination needs to be further developed. As it stands now, this site probably does not qualify for supplemental standards based solely on the argument that TDS exceeds 10,000 mg/l, especially in light of the fact that DOE's monitor wells at the mill site do not exceed this criterion. Therefore, more emphasis should be placed on the distribution of other contaminants in background groundwater. However, DOE needs to be cautious about relying too heavily on data from the Butler study, as we question the QA/QC of some of the data contained in that report. Throughout the SOWP (page 3-10, 3-35, and 3-57) the maximum detected uranium concentration from the Butler study is cited, 0.45 mg/l. However, careful analysis of the Butler study shows that this data point is somewhat suspect as two other samples from this same well were below 0.010 mg/l.

RESPONSE

RESPONSE BY: Donald R. Metzler

The DOE agrees that widespread ambient contamination needs to be further developed. The final SOWP will not attempt to justify supplemental standards on TDS > 10,000 mg/l. Rather, the DOE proposes to develop a work plan for further characterization of the upper most aquifer at the site. This work plan will identify data quality objectives to better understand background ground water conditions. The USGS open-file report 94-110 will continue to be referenced, however, the additional characterization of background conditions will negate heavy reliance of the study for the basis of background ground water quality.

SOWP Rev. 0 references uranium concentrations as identified in the ope-file report, as "up to 0.45 mg/l". Each citation in the SOWP with respect to referencing uranium concentrations also cites ranges.

It would be helpful, if you could be more specific as the basis for questioning the "QA/QC of source of the data" contained in the open-file report.

PLANS FOR IMPLEMENTATION:

The DOE will develop a work plan for further data collection. The work plan will be transmitted to you as draft and data collection needs will be determined jointly.

UMTRA DOCUMENT REVIEW FORM

SITE: Grand Junction, Colorado
DOCUMENT: Site Observational Work Plan (SOWP)
DATE: March, 1996
COMMENT NO: 2
COMMENTOR: Colorado Department of Public Health and Environment (CDPHE)

COMMENT: Page 3-10, government Highline Canal

If the relationship to the Government Highline Canal is used as further justification for Supplemental Standards, DOE needs to establish a connection between recharge from the canal and the mill site. Although the canal is a regional feature, if it does not directly affect ground water conditions near the mill site, we question whether analysis of the canal's impacts are really applicable to the site conditions.

RESPONSE

RESPONSE BY: Donald R. Metzler

In general, the DOE agrees with your comment. However, we believe that background water quality can be characterized in a general sense from a regional ground water hydrology scale, in addition to the localized scale.

DOE will place much heavier reliance on the localized scale for quantitatively determining background ground water quality. Although, we will not neglect the background water quality conditions in the regional scale. The Government Highline Canal is an integral element of the regional scale conceptual model. Referencing the qualitative impact it has on the regional ground water is important.

The DOE will not quantitatively establish a connection between recharge from the canal and mill site. Rather, DOE will place the most reliance on determining background water quality on the localized system, and secondary reliance on the regional system.

PLANS FOR IMPLEMENTATION:

A draft work plan for data collection will be forthcoming.

UMTRA DOCUMENT REVIEW FORM

SITE: Grand Junction, Colorado
DOCUMENT: Site Observational Work Plan (SOWP)
DATE: March, 1996
COMMENT NO: 3
COMMENTOR: Colorado Department of Public Health and Environment (CDPHE)

COMMENT: Section 3.6.3, page 3-42

in the original draft of the SOWP this section contained a partial summary of the suction lysimeter data from the tailings pile. CDPHE had questioned why only a partial summary was supplied. In this current draft, all reference to the lysimeter data has been removed. Since the data are available in the UMTRA database, they should at least be referenced in this section.

RESPONSE

RESPONSE BY: Donald R. Metzler

Agreed.

PLANS FOR IMPLEMENTATION:

Not only will all suction lysimeter data be referenced. The data will be presented in a table in the final SOWP

UMTRA DOCUMENT REVIEW FORM

SITE: Grand Junction, Colorado
DOCUMENT: Site Observational Work Plan (SOWP)
DATE: March, 1996
COMMENT NO. 4
COMMENTOR: Colorado Department of Public Health and Environment (CDPHE)

COMMENT: Page 3-43

This section discusses time-series trends in several monitor wells. We believe that this section would be greatly enhanced by the inclusion of graphs to illustrate these trends. The text should also include a discussion of the time/distance relationship between the source term and the wells being analyzed

RESPONSE

RESPONSE BY: Donald R. Metzler

Agreed.

PLANS FOR IMPLEMENTATION:

Chemical hydrographs illustrating time-series trends will be presented in this section.

Additional text discussing time-distance relationships between source term and monitor well will be added. The DOE will use the GANDT Model to simulate the relationship between source release and plume concentrations.

UMTRA DOCUMENT REVIEW FORM

SITE: Grand Junction, Colorado
DOCUMENT: Site Observational Work Plan (SOWP)
DATE: March, 1996
COMMENT NO: 5
COMMENTOR: Colorado Department of Public Health and Environment (CDPHE)

COMMENT: Table 3.7, page 3-49

Based on our review of the Baseline Risk Assessment for the Grand Junction Site, we believe that Nitrate and Bromide should be included in the list of Constituents of Potential Concern.

RESPONSE

RESPONSE BY: Donald R. Metzler

DOE has reviewed all well data for all samplings at the mill site. Except for three wells 633, 634 and 635, nitrate concentrations are below the MCL; with the exception of early year data associated with a number of the wells. Generally, these wells were sampled multiple times and the concentrations were not consistently above the MCL. The QA/QC associated with those early years was often questionable. Because wells 633, 634 and 635 formally located at the processing site showed high concentrations of nitrate when sampled in 1990, DOE will include nitrate as a constituent of concern.

DOE disagrees that bromide be listed as a condition of potential. The BLRA provides somewhat misleading information in Table 3.2 for bromide. Monitor well 586 was sampled only once for bromide in 1985. This analysis is most likely not representative of bromide concentrations in ground water. Although the DOE has not conducted extensive sputinal and temporal bromide sampling, it is reasonable, based on knowledge of tailings characteristics and bromide distribution in downgradient wells, that bromide is not a constituent of potential concern.

PLANS FOR IMPLEMENTATION:

DOE will include nitrate as a constituent of potential concern.

See attached tables.

LOCATION_CODE	ANALYTE	RESULT	DATE_SAMPLED
0736	Bromide	0.7	18-Nov-91
0736	Bromide	0.5	22-Feb-92
0736	Bromide	5	16-Jul-92
0736	Nitrate	25	22-Mar-85
0736	Nitrate	34	07-Jun-85
0736	Nitrate	19	10-Sep-85
0736	Nitrate	1	28-Feb-89
0736	Nitrate	2.5	03-Aug-89
0736	Nitrate	0.1	02-Nov-89
0736	Nitrate	1.3	25-Jan-91
0736	Nitrate	0.22	27-Aug-91
0736	Nitrate	7.3	18-Nov-91
0736	Nitrate	35.4	22-Feb-92
0736	Nitrate	20.1	16-Jul-92
0736	Nitrate	10.5	07-Oct-92
0736	Nitrate	7	02-Feb-93
0736	Nitrate	21	27-Jun-93
0736	Nitrate	34.7	08-Dec-93
0736	Nitrate	11	23-Jun-94
0736	Nitrate	7.9	06-Jan-95
0736	Nitrate	8	06-Jan-95
0736	Nitrate	17.4	03-Jun-95
0737	Nitrate	1	22-Mar-85
0737	Nitrate	1	07-Jun-85
0737	Nitrate	1	06-Sep-85
0737	Nitrate	0.4	17-Sep-87
0737	Nitrate	1	22-Sep-88
0737	Nitrate	1	04-Mar-89
0737	Nitrate	1	07-Aug-89
0738	Nitrate	1	25-Mar-85
0738	Nitrate	1	07-Jun-85
0738	Nitrate	1	09-Sep-85
0739	Nitrate	1	22-Mar-85
0739	Nitrate	1	07-Jun-85
0739	Nitrate	1	05-Sep-85
0740	Bromide	4	28-Aug-91
0740	Bromide	0.6	17-Nov-91
0740	Bromide	1	21-Feb-92
0740	Bromide	5	16-Jul-92
0740	Nitrate	2	22-Mar-85
0740	Nitrate	1	07-Jun-85
0740	Nitrate	1	09-Sep-85
0740	Nitrate	2.2	24-Sep-87
0740	Nitrate	2	28-Feb-89
0740	Nitrate	0.4	27-Jan-91
0740	Nitrate	0.22	28-Aug-91
0740	Nitrate	0.2	17-Nov-91
0740	Nitrate	1	21-Feb-92
0740	Nitrate	6.1	16-Jul-92
0740	Nitrate	31.9	07-Oct-92
0740	Nitrate	2	02-Feb-93
0740	Nitrate	6	28-Jun-93
0740	Nitrate	7	29-Jun-93
0740	Nitrate	1	08-Dec-93
0740	Nitrate	1	24-Jun-94
0740	Nitrate	1	06-Jan-95
0740	Nitrate	1.3	04-Jun-95
0740	Nitrate	1.4	04-Jun-95
0741	Bromide	6	02-Nov-89
0741	Bromide	7.4	28-Aug-91

LOCATION CODE	ANALYTE	RESULT	DATE SAMPLED
0712	Nitrate	1	07-Jun-85
0712	Nitrate	2.6	06-Sep-85
0713	Nitrate	50.2	05-Aug-80
0714	Nitrate	217	21-May-82
0722	Nitrate	0	17-Jul-78
0724	Bromide	1.7	02-Nov-89
0724	Nitrate	1	30-Mar-85
0724	Nitrate	1	07-Jun-85
0724	Nitrate	1	13-Sep-85
0724	Nitrate	1	25-Jul-86
0724	Nitrate	3.5	21-Sep-87
0724	Nitrate	1	22-Sep-88
0724	Nitrate	1	04-Mar-89
0724	Nitrate	1	07-Aug-89
0724	Nitrate	0.1	02-Nov-89
0725	Nitrate	1	29-Mar-85
0725	Nitrate	1	07-Jun-85
0725	Nitrate	1	12-Sep-85
0725	Nitrate	1	27-Jul-86
0725	Nitrate	1	02-Mar-89
0725	Nitrate	1	07-Aug-89
0726	Bromide	5.2	02-Nov-89
0726	Nitrate	1	25-Jul-86
0726	Nitrate	1	02-Mar-89
0726	Nitrate	0.1	02-Nov-89
0727	Nitrate	1	29-Mar-85
0727	Nitrate	1	07-Jun-85
0727	Nitrate	1	16-Sep-85
0727	Nitrate	0.1	21-Sep-87
0728	Nitrate	18	25-Mar-85
0728	Nitrate	1	07-Jun-85
0728	Nitrate	6.7	09-Sep-85
0728	Nitrate	6.8	09-Sep-85
0729	Nitrate	1	01-Apr-85
0729	Nitrate	1	07-Jun-85
0729	Nitrate	1	16-Sep-85
0729	Nitrate	1	04-Mar-89
0731	Nitrate	1	26-Mar-85
0731	Nitrate	1	07-Jun-85
0731	Nitrate	1	13-Sep-85
0732	Nitrate	1	26-Mar-85
0732	Nitrate	1	07-Jun-85
0732	Nitrate	1	06-Sep-85
0733	Bromide	1	02-Nov-89
0733	Nitrate	1	25-Mar-85
0733	Nitrate	1	07-Jun-85
0733	Nitrate	1	06-Sep-85
0733	Nitrate	0.4	17-Sep-87
0733	Nitrate	1	22-Sep-88
0733	Nitrate	1	28-Feb-89
0733	Nitrate	4	03-Aug-89
0733	Nitrate	0.1	02-Nov-89
0735	Bromide	1.5	02-Nov-89
0735	Nitrate	1	29-Mar-85
0735	Nitrate	1	07-Jun-85
0735	Nitrate	1	16-Sep-85
0735	Nitrate	1	03-Mar-89
0735	Nitrate	0.1	02-Nov-89
0736	Bromide	1.2	02-Nov-89
0736	Bromide	4	27-Aug-91

LOCATION_CODE	ANALYTE	RESULT	DATE_SAMPLED
0744	Bromide	0.3	17-Nov-91
0744	Bromide	0.5	19-Feb-92
0744	Bromide	1	15-Jul-92
0744	Nitrate	1	21-Mar-85
0744	Nitrate	1	07-Jun-85
0744	Nitrate	3.4	04-Sep-85
0744	Nitrate	3.6	04-Sep-85
0744	Nitrate	3.7	04-Sep-85
0744	Nitrate	3.8	04-Sep-85
0744	Nitrate	4	04-Sep-85
0744	Nitrate	1	05-Mar-89
0744	Nitrate	29	03-Aug-89
0744	Nitrate	1.5	02-Nov-89
0744	Nitrate	1.3	27-Jan-91
0744	Nitrate	31	27-Aug-91
0744	Nitrate	3.4	17-Nov-91
0744	Nitrate	9.3	19-Feb-92
0744	Nitrate	13.9	15-Jul-92
0744	Nitrate	3.2	09-Oct-92
0744	Nitrate	7	01-Feb-93
0745	Bromide	0.2	02-Nov-89
0745	Bromide	4	27-Aug-91
0745	Bromide	0.3	17-Nov-91
0745	Bromide	0.5	20-Feb-92
0745	Bromide	2	15-Jul-92
0745	Nitrate	1	30-Mar-85
0745	Nitrate	1	07-Jun-85
0745	Nitrate	1	05-Sep-85
0745	Nitrate	3.5	17-Sep-87
0745	Nitrate	1	22-Sep-88
0745	Nitrate	1	05-Mar-89
0745	Nitrate	1	03-Aug-89
0745	Nitrate	0.1	02-Nov-89
0745	Nitrate	0.4	28-Jan-91
0745	Nitrate	0.22	27-Aug-91
0745	Nitrate	0.3	17-Nov-91
0745	Nitrate	1	20-Feb-92
0745	Nitrate	7.1	15-Jul-92
0745	Nitrate	1.7	07-Oct-92
0745	Nitrate	1	02-Feb-93
0745	Nitrate	1	27-Jun-93
0745	Nitrate	1	08-Dec-93
0745	Nitrate	1	22-Jun-94
0745	Nitrate	1	05-Jan-95
0745	Nitrate	1	02-Jun-95
0746	Bromide	0.1	02-Nov-89
0746	Bromide	4	28-Aug-91
0746	Bromide	0.6	17-Nov-91
0746	Bromide	1	21-Feb-92
0746	Bromide	4	16-Jul-92
0746	Nitrate	1	22-Mar-85
0746	Nitrate	1	07-Jun-85
0746	Nitrate	1	05-Sep-85
0746	Nitrate	0.1	17-Sep-87
0746	Nitrate	0.4	17-Sep-87
0746	Nitrate	3.5	17-Sep-87
0746	Nitrate	1	22-Sep-88
0746	Nitrate	1	05-Mar-89
0746	Nitrate	1	03-Aug-89
0746	Nitrate	0.1	02-Nov-89

LOCATION CODE	ANALYTE	RESULT	DATE SAMPLED
0746	Nitrate	1.9	26-Jan-91
0746	Nitrate	8	28-Aug-91
0746	Nitrate	8.5	17-Nov-91
0746	Nitrate	9.7	21-Feb-92
0746	Nitrate	16.4	16-Jul-92
0746	Nitrate	13.2	07-Oct-92
0746	Nitrate	11	03-Feb-93
0746	Nitrate	11	27-Jun-93
0746	Nitrate	9.3	08-Dec-93
0746	Nitrate	10	23-Jun-94
0746	Nitrate	13.4	05-Jan-95
0746	Nitrate	13.1	02-Jun-95
0747	Nitrate	2	22-Mar-85
0747	Nitrate	1	07-Jun-85
0747	Nitrate	1	05-Sep-85
0755	Nitrate	1100	07-Jun-85
0975	Bromide	1.1	14-Nov-89
0975	Bromide	0.8	15-Nov-89
1000	Nitrate	2.6	08-Jan-95
1001	Nitrate	3.7	07-Jan-95
1001	Nitrate	1.7	03-Jun-95
1002	Nitrate	2.8	08-Jan-95

LOCATION CODE	ANALYTE	RESULT	DATE SAMPLED
0741	Bromide	7.2	19-Nov-91
0741	Bromide	4	21-Feb-92
0741	Bromide	15	15-Jul-92
0741	Nitrate	1	26-Mar-85
0741	Nitrate	1	07-Jun-85
0741	Nitrate	1	13-Sep-85
0741	Nitrate	1	25-Jul-86
0741	Nitrate	0.1	24-Sep-87
0741	Nitrate	1	22-Sep-88
0741	Nitrate	1	03-Mar-89
0741	Nitrate	1	07-Aug-89
0741	Nitrate	0.1	02-Nov-89
0741	Nitrate	0.4	26-Jan-91
0741	Nitrate	0.22	28-Aug-91
0741	Nitrate	0.2	19-Nov-91
0741	Nitrate	1	21-Feb-92
0741	Nitrate	6	15-Jul-92
0741	Nitrate	1.6	09-Oct-92
0741	Nitrate	1	03-Feb-93
0742	Bromide	4	28-Aug-91
0742	Bromide	0.7	19-Nov-91
0742	Bromide	2	21-Feb-92
0742	Bromide	7	15-Jul-92
0742	Nitrate	1	22-Mar-85
0742	Nitrate	2	07-Jun-85
0742	Nitrate	1	10-Sep-85
0742	Nitrate	1	03-Mar-89
0742	Nitrate	0.9	26-Jan-91
0742	Nitrate	0.22	28-Aug-91
0742	Nitrate	0.4	19-Nov-91
0742	Nitrate	1	21-Feb-92
0742	Nitrate	5.7	15-Jul-92
0742	Nitrate	1.6	09-Oct-92
0742	Nitrate	1	03-Feb-93
0742	Nitrate	2	27-Jun-93
0742	Nitrate	1	08-Dec-93
0742	Nitrate	1	23-Jun-94
0742	Nitrate	1	05-Jan-95
0742	Nitrate	1	03-Jun-95
0743	Bromide	0.2	02-Nov-89
0743	Bromide	4	28-Aug-91
0743	Bromide	0.8	17-Nov-91
0743	Bromide	0.5	19-Feb-92
0743	Bromide	4	15-Jul-92
0743	Nitrate	1	21-Mar-85
0743	Nitrate	1	07-Jun-85
0743	Nitrate	1	10-Sep-85
0743	Nitrate	1	25-Jul-86
0743	Nitrate	1	05-Mar-89
0743	Nitrate	1	03-Aug-89
0743	Nitrate	0.1	02-Nov-89
0743	Nitrate	0.9	27-Jan-91
0743	Nitrate	0.22	28-Aug-91
0743	Nitrate	0.2	17-Nov-91
0743	Nitrate	1	19-Feb-92
0743	Nitrate	9.7	15-Jul-92
0743	Nitrate	1.5	09-Oct-92
0743	Nitrate	1	01-Feb-93
0744	Bromide	0.1	02-Nov-89
0744	Bromide	4	27-Aug-91

LOCATION_CODE	ANALYTE	RESULT	DATE SAMPLED
0423	Bromide	2	10-Sep-91
0423	Bromide	0.2	19-Nov-91
0423	Bromide	0.1	19-Feb-92
0423	Bromide	1	17-Jul-92
0424	Bromide	2	26-Aug-91
0424	Bromide	0.2	19-Nov-91
0424	Bromide	0.1	20-Feb-92
0424	Bromide	1	17-Jul-92
0425	Bromide	2	26-Aug-91
0425	Bromide	0.2	19-Nov-91
0425	Bromide	0.1	20-Feb-92
0425	Bromide	1	17-Jul-92
0426	Bromide	2	26-Aug-91
0426	Bromide	0.2	20-Nov-91
0426	Bromide	0.1	22-Feb-92
0426	Bromide	1	17-Jul-92
0581	Nitrate	0.12	07-Feb-83
0581	Nitrate	0.19	22-Sep-83
0581	Nitrate	1	26-Mar-85
0581	Nitrate	1	07-Jun-85
0581	Nitrate	1	11-Sep-85
0581	Nitrate	1	07-Mar-89
0582	Nitrate	0.1	08-Feb-83
0582	Nitrate	1	30-Mar-85
0582	Nitrate	1	07-Jun-85
0582	Nitrate	1	11-Sep-85
0582	Nitrate	1	07-Mar-89
0583	Nitrate	0.19	07-Feb-83
0583	Nitrate	50	21-Sep-83
0583	Nitrate	1	26-Mar-85
0583	Nitrate	1	07-Jun-85
0583	Nitrate	4.4	11-Sep-85
0584	Nitrate	0.3	08-Feb-83
0584	Nitrate	41	21-Sep-83
0584	Nitrate	1	26-Mar-85
0584	Nitrate	1	07-Jun-85
0584	Nitrate	23	11-Sep-85
0585	Nitrate	0.1	03-Feb-83
0585	Nitrate	0.01	20-Sep-83
0585	Nitrate	1	25-Mar-85
0585	Nitrate	1	07-Jun-85
0585	Nitrate	1	10-Sep-85
0585	Nitrate	1	01-Mar-89
0586	Bromide	471	10-Sep-85
0586	Nitrate	0.19	02-Feb-83
0586	Nitrate	0.1	20-Sep-83
0586	Nitrate	1	25-Mar-85
0586	Nitrate	1	07-Jun-85
0586	Nitrate	1	10-Sep-85
0586	Nitrate	1	01-Mar-89
0587	Nitrate	0.64	31-Jan-83
0587	Nitrate	0.1	21-Sep-83
0588	Bromide	2	27-Aug-91
0588	Bromide	0.4	18-Nov-91
0588	Bromide	0.1	20-Feb-92
0588	Bromide	1	15-Jul-92
0588	Nitrate	0.1	01-Feb-83
0588	Nitrate	1	07-Jun-85
0588	Nitrate	1.6	04-Sep-85
0588	Nitrate	1	06-Mar-89

LOCATION_CODE	ANALYTE	RESULT	DATE_SAMPLED
0588	Nitrate	1.8	28-Jan-91
0588	Nitrate	0.22	27-Aug-91
0588	Nitrate	0.8	18-Nov-91
0588	Nitrate	1	20-Feb-92
0588	Nitrate	6.6	15-Jul-92
0588	Nitrate	1.6	09-Oct-92
0588	Nitrate	1	01-Feb-93
0589	Bromide	0.6	18-Nov-91
0589	Bromide	2	21-Feb-92
0589	Bromide	5	16-Jul-92
0589	Nitrate	0.98	01-Feb-83
0589	Nitrate	0.1	22-Sep-83
0589	Nitrate	39	25-Mar-85
0589	Nitrate	1	07-Jun-85
0589	Nitrate	1	09-Sep-85
0589	Nitrate	1	01-Mar-89
0589	Nitrate	1	03-Aug-89
0589	Nitrate	0.9	26-Jan-91
0589	Nitrate	0.4	18-Nov-91
0589	Nitrate	1	21-Feb-92
0589	Nitrate	4.7	16-Jul-92
0589	Nitrate	1.5	08-Oct-92
0590	Bromide	0.1	02-Nov-89
0590	Bromide	4	27-Aug-91
0590	Bromide	0.6	18-Nov-91
0590	Bromide	2	22-Feb-92
0590	Bromide	5	16-Jul-92
0590	Nitrate	3.6	02-Feb-83
0590	Nitrate	0.11	22-Sep-83
0590	Nitrate	12	25-Mar-85
0590	Nitrate	1	07-Jun-85
0590	Nitrate	7.4	09-Sep-85
0590	Nitrate	5.7	22-Sep-88
0590	Nitrate	2	01-Mar-89
0590	Nitrate	1	03-Aug-89
0590	Nitrate	0.1	02-Nov-89
0590	Nitrate	3.3	27-Aug-91
0590	Nitrate	5.6	18-Nov-91
0590	Nitrate	4	22-Feb-92
0590	Nitrate	8.3	16-Jul-92
0590	Nitrate	5.8	07-Oct-92
0590	Nitrate	6	02-Feb-93
0590	Nitrate	2	27-Jun-93
0590	Nitrate	3.8	07-Dec-93
0590	Nitrate	1	24-Jun-94
0590	Nitrate	1.6	06-Jan-95
0590	Nitrate	1	03-Jun-95
0633	Nitrate	930	16-Jan-90
0634	Nitrate	606	16-Jan-90
0635	Nitrate	1080	17-Jan-90
0710	Nitrate	3	21-Mar-85
0710	Nitrate	1	07-Jun-85
0710	Nitrate	1	04-Sep-85
0710	Nitrate	1	06-Mar-89
0711	Nitrate	6.8	16-Aug-82
0711	Nitrate	2	27-Mar-85
0711	Nitrate	1	07-Jun-85
0711	Nitrate	3.6	10-Sep-85
0712	Nitrate	22.3	16-Aug-82
0712	Nitrate	8	26-Mar-85

UMTRA DOCUMENT REVIEW FORM

SITE: Grand Junction, Colorado
DOCUMENT: Site Observational Work Plan (SOWP)
DATE: March, 1996
COMMENT NO: 6
COMMENTOR: Colorado Department of Public Health and Environment (CDPHE)

COMMENT: Table 3.9, Page 3-58

It is unclear why proposed National Primary Drinking Water Standards were removed from this table. We suggest that they be added back in. While they may not apply directly to the UMTRA ground water project at this time, they provide a frame of reference and comparison for the other standards listed. (This applies to radium, sulfate, and uranium.)

RESPONSE

RESPONSE BY: Donald R. Metzler

To be jointly determined.

PLANS FOR IMPLEMENTATION:

DOE will contact the U.S. EPA's, Office of Ground Water and Drinking Water and determine the course of action that EPA is taking with the drinking water program redirection with respect to establishing NPDWS MCLs for radium, sulfate, and uranium.

If proposed NPDWS MCLs for these constituents are still applicable, these will be added back to the table.

UMTRA DOCUMENT REVIEW FORM

SITE: Grand Junction, Colorado
DOCUMENT: Site Observational Work Plan (SOWP)
DATE: March, 1996
COMMENT NO: 7
COMMENTOR: Colorado Department of Public Health and Environment (CDPHE)

COMMENT: Section 3.7, Human Health Risk Assessment Summary

As we discussed in our recent meeting regarding the compliance standards for the groundwater project, the issue of establishing Supplemental Standards at levels protective of potential uses needs to be addressed in the SOWP. This will involve the identification of potential exposure pathways, and quantitative evaluation of the risk posed to the potential receptors. This will be compared incrementally against the risk posed by background ground water, and the incremental risk must be managed by DOE through the use of institutional controls. For this reason, we disagree with the approach currently used in the SOWP of describing the risks from background ground water deterministically, while describing the site-related risks probablistically. The deterministic calculation for the site-related impacts should be included in the SOWP and compared against the same calculations for the same pathways as background.

RESPONSE

RESPONSE BY: Donald R. Metzler

Agreed. As discussed in the meeting in Denver on October 8th and 9th.

PLANS FOR IMPLEMENTATION:

For sites targeted for supplemental standards (subpart B) compliance. The DOE will evaluate incremental risk above background water quality for each constituent of concern. DOE will use the risk code precise for determining incremental risk probabilitiscally, and will perform the same risk calculation deterministically, using RAGS. Unacceptable incremental risk would be addressed by ensuring an appropriate institutional control is in place.

These calculations will be included in the final SOWP.

UMTRA DOCUMENT REVIEW FORM

SITE: Grand Junction, Colorado
DOCUMENT: Site Observational Work Plan (SOWP)
DATE: March, 1996
COMMENT NO: 8
COMMENTOR: Colorado Department of Public Health and Environment (CDPHE)

COMMENT: Table 3.10, page 3-60

In the previous version of this document we questioned the use of the maximum detected uranium value of 0.45 mg/l from the Butler study in the risk calculations included in this table due to the fact that the value appears to be suspect and an obvious outlier. This version of the document appears to have re-evaluated this issue, and now an even higher value 0.72 mg/l is listed for regional background. However, the exposure dose appears to be based on a lower concentration.

Also, no information is provided on the distribution of the regional data and using the maximum observed may introduce bias, if the distribution is not normal. The QA/AC of the data must be verified if the "observed maximum" is to be used.

RESPONSE

RESPONSE BY: Donald R. Metzler

Agreed. The 0.45 mg/l uranium concentration does appear to be an outlier. In addition the 0.72 mg/l concentration cannot be identified in the Butler study. This value must be an error in the SOWP. A more reasonable uranium concentration to represent "maximum constituent concentration" is 0.074 mg/l.

PLANS FOR IMPLEMENTATION:

Table 3.10 in the SOWP will be revised.

UMTRA DOCUMENT REVIEW FORM

SITE: Grand Junction, Colorado
DOCUMENT: Site Observational Work Plan (SOWP)
DATE: March, 1996
COMMENT NO: 9
COMMENTOR: Colorado Department of Public Health and Environment (CDPHE)

COMMENT: Section 3.9, page 3-63

The previous version of this document attempted to address the need for interim control measures if a pond were to be established downgradient that might be fed by contaminated ground water. It is unclear why this was deleted from this version of the document. In our mind, this is a perfect example of the need for some type of interim or institutional control. The discussion from the previous version should be added back in, and probably should include more detailed information about how the interim controls should be implemented.

RESPONSE

RESPONSE BY: Donald R. Metzler

Disagree. Ponds proposed in an earlier master use plan for the former well site had been "wiped out" in an unexcepted flooding event. I understand the ponds no longer exist nor are there plans for reconstruction. Without plans for the reconstruction of site ponds, an exposure pathway would not exist that would warrant an institutional control.

PLANS FOR IMPLEMENTATION:

None.

UMTRA DOCUMENT REVIEW FORM

SITE: Grand Junction, Colorado
DOCUMENT: Site Observational Work Plan (SOWP)
DATE: March, 1996
COMMENT NO: 10
COMMENTOR: Colorado Department of Public Health and Environment (CDPHE)

COMMENT: Section 5.1.5, page 5-3

This section addresses investigation of the availability of treatment technologies as required for the evaluation of widespread ambient contamination. However, it is unclear why the document discusses the availability of such technologies locally. The UMTRA ground water standards require evaluation of whether or not the contamination can be cleaned up "using treatment methods reasonably employed in public water systems". This means any technology that is available for use, not necessarily only technologies available in the area.

RESPONSE

RESPONSE BY: Donald R. Metzler

Disagree. The DOE has always interpreted the standard's requirement of a demonstration that "there is widespread surrounding contamination that cannot be cleaned up using treatment methods reasonably employed in public water supply systems" as meaning, typically used as a pubic supply in Colorado or in the region. The basis for this interpretation is the term "reasonably employed in public water supply systems".

PLANS FOR IMPLEMENTATION:

For example, it would not be reasonable to evaluate a treatment technology employed in Sandia Arabia or Seattle, WA. Common sense and practicable applicability will be used to evaluate existing treatment technologies. In summary, the basis will be made on demonstrating that the treatment technology cannot reasonably be put into practice at Grand Junction, CO, which differs from a conclusion derived from the balancing of costs and benefits.

No action required.

UMTRA DOCUMENT REVIEW FORM

SITE: Grand Junction, Colorado
DOCUMENT: Site Observational Work Plan (SOWP)
DATE: March, 1996
COMMENT NO: 11
COMMENTOR: Colorado Department of Public Health and Environment (CDPHE)

COMMENT: Section 5.1.7, page 5-4

Another screening criteria that should be used in evaluating the potential for a vicinity property to have ground water contamination is the employment of Supplemental Standards during the surface cleanup phase of the project. A substantial number of properties have remaining deposits, which may continue to cause ground water contamination.

RESPONSE

RESPONSE BY: Donald R. Metzler

Agreed.

The DOE agrees that in evaluating the potential for a VP to have caused significant ground water contamination, the criteria for determining if supplemental standards was previously applied to RRM will use utilized.

PLANS FOR IMPLEMENTATION:

Another criteria will be added to section 5.7 of the final SOWP. This criteria of determining if supplemental standards were previously applied will be used with the other identified criteria in developing a work plan for screening the VP's associates with the Grand Junction, CO UMTRA site.

UMTRA DOCUMENT REVIEW FORM

SITE: Grand Junction, Colorado
DOCUMENT: Site Observational Work Plan (SOWP)
DATE: March, 1996
COMMENT NO: 12
COMMENTOR: Colorado Department of Public Health and Environment (CDPHE)

COMMENT: Section 5.3.6, page 5-7

If it is determined that a residual source of contamination may be present at the mill site, this section should also include a discussion of geochemical evaluation of that source term.

RESPONSE

RESPONSE BY: Donald R. Metzler

Agreed.

PLANS FOR IMPLEMENTATION:

Should a residual source of continued contamination be identified as being significant to ground water cleanup, the DOE will expand greatly on the geochemical source-term evaluation. This section will be detailed in the final SOWP.

UMTRA DOCUMENT REVIEW FORM

SITE: Grand Junction, Colorado
DOCUMENT: Site Observational Work Plan (SOWP)
DATE: March, 1996
COMMENT NO: 13
COMMENTOR: Colorado Department of Public Health and Environment (CDPHE)

COMMENT: Section 5.3.9, page 5-9

Since institutional controls may be needed as an interim measure to protect against adverse exposure in a pond constructed within the contaminant plume, and may also be needed to address incremental risk to potential beneficial uses of ground water, we believe that this section should be moved to the Primary Data needs portion of the document. In addition, the document does not address specifically how institutional controls will be implemented. More detail should be included, for example who will be responsible for developing the institutional controls, what are the time frames, etc.

RESPONSE

RESPONSE BY: Donald R. Metzler

The DOE believes that IC's association with beneficial uses is a moot point. This is based on no ponds existing at the site and existing IC's that prohibit private well installation in the area. This subject should be jointly discussed.

PLANS FOR IMPLEMENTATION:

No action, other than verbal discussion.
