

STATE OF COLORADO

COLORADO DEPARTMENT OF HEALTH

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Roy Romer
Governor

Thomas M. Vernon, M.D.
Executive Director

December 17, 1990

Mr. Mark L. Matthews
Project Manager
U.S. Department of Energy
UMTRA Project Office
First National Bank Building
5301 Central Ave N.E., Suite 1720
Albuquerque, NM 87108

Attn: Don Leske

Re: CDH comments on the Preliminary Final Remedial Action Plan and Site Design for Grand Junction, Colorado dated August, 1990. File GRJ-IX.A.1.

Dear Mr. Matthews:

The Colorado Department of Health has reviewed the Preliminary Final Remedial Action Plan and Site Design for the Grand Junction UMTRA site, dated August, 1990. The comments contained herein are primarily in response to the extensive site characterization work and recent data obtained at the New Cheney disposal site. Previously, we provided comments on: Grand Junction Phase II Final Design for Review, dated February, 1988, in our letter dated April 29, 1988; and Grand Junction Final Remedial Action Plan and Site Design, dated March, 1988, in our letter dated June 24, 1988.

CDH understands and appreciates that the compilation of data and publication of this document was a monumental task. It was the end result of a successful cooperative effort between many parties, including DOE, NRC, all of the contractors, and ourselves. Each party can be proud of their effort. Also, we appreciate DOE's attempt to incorporate CDH's previous and on-going concerns into the RAP, dating back to earlier designs and plans.

From review of the subject documents and ongoing meetings and discussions with DOE, TAC, and MK-F, there are just a few issues which still need to be addressed prior to the State's approval of the Remedial Action Plan.

First, since the RAP was published in August, 1990, we have been informed that the cell cover, as proposed in the RAP, will be redesigned to reflect a simpler, more economical cover capable of meeting the mandated EPA and UMTRA criteria. At a meeting in Grand Junction on November 5, 1990, three alternate cover designs were presented by MK-F and discussed. The consensus of the meeting participants was to adopt the "Case No. 3" alternative, which included a rock cover rather than a vegetative cover.

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At the meeting, CDH concluded that the feasibility of the "Case No. 3" approach was acceptable, provided that specific technical and material issues could be satisfied. We were assured that existing data and calculations will soon be available for review to support the new alternative. At present, we have not seen this documentation.

From our experience, the conceptual cover design will probably be modified prior to finalization. Since we have based our tentative cover approach approval on the "Case No. 3" alternative, we recommend that the final cover design be as close to the selected approach as possible. We would like to be kept current when and if any design changes occur.

The second general issue concerns the lack of a Point of Compliance (POC) in the disposal cell area. CDH feels that a formal POC may not be necessary, but rather some type of monitoring may be appropriate. For example, a useful well placement may be within the unsaturated zone of the Mancos Shale, at an elevation below the bottom of the excavation, downgradient from the cell. By obtaining water level measurements (if any), the well could serve as an indicator of anomalous ground water conditions near the cell. An "observational approach" technique can be utilized in determining the level of data needed and any response to that data.

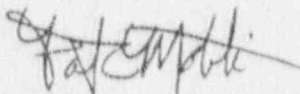
Thirdly, many of the specific comments on the attached pages concern the project contract documents. We understand that the bid was awarded some time ago and project remedial action activities are well under way. However, our comments are still provided to document our concerns and to suggest modifications, should revisions to the specifications or change orders during construction become warranted.

Finally, we would like to comment on the document format and transmittal. Although the entire document is massive, we feel that better "quality control" should have been utilized prior to distribution. Some of the problems we encountered during our review were typographic errors, extremely difficult pages to read caused by many generations of reproduction, and referenced calculations not easily located. In addition, the document transmittal should have been better executed. Our recent review of the Draft TER by the NRC pointed out that we have yet to receive the Remedial Action Inspection Plan (RAIP). Other document omission, including not receiving Attachment 3 until about 3 weeks ago, also occurred.

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We appreciate the opportunity to comment on the Preliminary Final RAP for Grand Junction, and look forward to your responses and preparation of the Final RAP. If you have any questions, please call me at (303) 331-4828, Larry Bruskin of my staff at (303) 331-4422, or our Site Manager, Paul Oliver, in Grand Junction at (303) 248-7171.

Sincerely,



Patricia Martinek
Acting UMTRA Technical Manager
Hazardous Materials and
Waste Management Division

PM:lh:PC

Attachments

cc w/attachments:

D. Leske, DOE
P. Lohaus, NRC ✓
R. Portillo, JEG
J. Oldham, MK-F
P. Oliver, CDH-GJ

UMTRA DOCUMENT REVIEW FORM

SECTION 1

Site: Grand Junction, Colorado, Date: August, 1990

Document: Preliminary Final RAP

Commentor: Colorado Department of Health

Comment: Remedial Action Selection Report, pg. 6, 26-30, 47
Attachment 4, pg. 1, 5

Since this report has been published, a complete redesign of the cover has been proposed and discussed. The new conceptual cover design, as proposed, will consist of a rock cover rather than a vegetated cover and Mancos Shale instead of the topsoil, choked rock, and biointrusion layers. Please provide detailed drawings, sections, calculations, explanations, and other pertinent information in order to properly evaluate the new cover with respect to its design purpose. In addition, a reevaluation of the geotechnical engineering properties, including settlement, cover cracking, slope stability, and liquefaction potential, should be demonstrated.

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UMTRA DOCUMENT REVIEW FORM

SECTION 1

Site: Grand Junction, Colorado, Date: August, 1990

Document: Preliminary Final RAP

Commentor: Colorado Department of Health

Comment: Remedial Action Selection Report, pg. 42
Attachment 4, pg. 16, pg. 21

The DOE proposes no Point of Compliance (POC) monitoring of groundwater. Without POC monitoring, we will not be alerted to potential cell failure. Thus, some type of monitoring is still necessary. We agree that the "upper most aquifer" is the Dakota, and we agree with DOE that monitoring the Dakota is not appropriate. Alternatively, a monitoring program should be implemented that can qualitatively and more quickly indicate if cell failure has occurred. Options may include installation of monitoring systems in the unsaturated zone of the Mancos Shale, or shallow alluvial aquifers (including reconstructed paleochannel) near the cell for change in moisture content, water level measurements, and/or water quality. An "observational approach" can be used to evaluate field data collected from these wells and determine appropriate follow-up information or action needed. The decision-making protocol and contingencies should be established in the monitoring plan. This protocol should indicate how the data will be interpreted (i.e. what change in water level or quality constitutes the need for further investigations?). Please revise the document to include a sub-surface monitoring plan and the decision-making protocol that will be used to interpret the data.

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UMTRA DOCUMENT REVIEW FORM

SECTION 1

Site: Grand Junction, Colorado, Date: August, 1990

Document: Preliminary Final RAP

Commentor: Colorado Department of Health

Comment: Attachment 1, pg. 00310-7

With a proposed cell cover redesign, the quantity of material shown on the Bid Schedule will obviously change. Can the new quantities be recalculated and shown, without additional unit cost increases?

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UMTRA DOCUMENT REVIEW FORM

SECTION 1

Site: Grand Junction, Colorado , Date: August, 1990
Document: Preliminary Final RAP
Commentor: Colorado Department of Health

Comment: Attachment 1, pg. 00800-7

SC-3.I states that "Noise levels shall not exceed 80 dB (A) (average) on the bluff in Orchard Mesa." The word "average" should either be defined or eliminated from the statement.

SECTION 2

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UMTRA DOCUMENT REVIEW FORM

SECTION 1

Site: Grand Junction, Colorado, Date: August, 1990

Document: Preliminary Final RAP

Commentor: Colorado Department of Health

Comment: Attachment 1, pg. 00800-8

SC-3.K states that "No work shall be allowed on Sundays and holidays."
The statement should continue with "without prior approval by the
Contractor." If special operations, testing, or other circumstances would
benefit working on Sundays or holidays, it should be allowed.

SECTION 2

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UMTRA DOCUMENT REVIEW FORM

SECTION 1

Site: Grand Junction, Colorado, Date: August, 1990
Document: Preliminary Final RAP
Commentor: Colorado Department of Health

Comment: Attachment 1, pg. 00800-16

In SC-7.I.4, the words "by an experienced Railroad Construction contractor or inspector, approved by the Contractor" should be inserted after the words "thoroughly inspected". This would prevent a safety inspection of the railroad tracks by an unqualified party.

SECTION 2

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UMTRA DOCUMENT REVIEW FORM

SECTION 1

Site: Grand Junction, Colorado, Date: August, 1990
Document: Preliminary Final RAP
Commentor: Colorado Department of Health

Comment: Attachment 1, pg. 00800-27

SC-14 discusses adjustments in unit prices where actual quantities vary by 10% of the estimated quantity. Since publication of this document, many of the estimated quantities have already changed significantly. The latest and most accurate quantities should appear in any revisions to this document.

SECTION 2

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UMTRA DOCUMENT REVIEW FORM

SECTION 1

Site: Grand Junction, Colorado , Date: August, 1990
Document: Preliminary Final RAP
Commentor: Colorado Department of Health

Comment: Attachment 1, pg. 01010-7

1.5-D.3.M: Any revisions to this document should reflect the new cover design.

SECTION 2

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UMTRA DOCUMENT REVIEW FORM

SECTION 1

Site: Grand Junction, Colorado, Date: August, 1990
Document: Preliminary Final RAP
Sponsor: Colorado Department of Health

Comment: Attachment 1, p, 01010-9

1.9-B: The statement "at no additional cost to the Contractor" should be added to the end of the paragraph.

SECTION 2

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UMTRA DOCUMENT REVIEW FORM

SECTION 1

Site: Grand Junction, Colorado, Date: August, 1990
Document: Preliminary Final RAP
Commentor: Colorado Department of Health

Comment: Attachment 1, pg. 01010-10

1.12-A.3: CDH, "Radiation Control Division," should be changed to CDH,
"Hazardous Materials and Waste Management Division."

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UMTRA DOCUMENT REVIEW FORM

SECTION 1

Site: Grand Junction, Colorado , Date: August, 1990
Document: Preliminary Final RAP
Commentor: Colorado Department of Health

Comment: Attachment 1, pg. 01030-4

1.7-A: A statement such as "Notification of spills shall be given to the Contractor as soon as possible" should be included in this paragraph.

SECTION 2

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UMTRA DOCUMENT REVIEW FORM

SECTION 1

Site: Grand Junction, Colorado, Date: August, 1990
Document: Preliminary Final RAP
Commentor: Colorado Department of Health

Comment: Attachment 1, pg. 02050-1

1.1-C.5: Is it known whether the Transformer listed to be demolished contains PCB? If so, details should be provided as to safety or hazardous waste handling concerns.

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UMTRA DOCUMENT REVIEW FORM

SECTION 1

Site: Grand Junction, Colorado, Date: August, 1990
Document: Preliminary Final RAP
Commentor: Colorado Department of Health

Comment: Attachment 1, pg. 02090-5

4.1: The words "the sealed portion of the" should be inserted between "bottom of" and "well".

SECTION 2

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UMTRA DOCUMENT REVIEW FORM

SECTION 1

Site: Grand Junction, Colorado, Date: August, 1990
Document: Preliminary Final RAP
Commentor: Colorado Department of Health

Comment: Attachment 1, pg. 02168-8

3.3: The compaction requirement for the top of the completed slurry trench should be specified. Typically, 95% of the maximum Standard Proctor Density (ASTM D-698) at or above the optimum moisture content should be suitable for this purpose.

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UMTRA DOCUMENT REVIEW FORM

SECTION 1

Site: Grand Junction, Colorado, Date: August, 1990
Document: Preliminary Final RAP
Commentor: Colorado Department of Health

Comment. Attachment 1, pg. 02200-16

3.5-B.3: The sentence "No additional costs to the Contractor will be allowed for moisture conditioning" should be inserted at the end of this paragraph.

SECTION 2

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UMTRA DOCUMENT REVIEW FORM

SECTION 1

Site: Grand Junction, Colorado, Date: August, 1990
Document: Preliminary Final RAP
Commentor: Colorado Department of Health

Comment: Attachment 1, pg. 02200-18

3.5-C.4: The statement "at no additional cost to the Contractor" should be added at the end of this paragraph.

SECTION 2

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UMTRA DOCUMENT REVIEW FORM

SECTION 1

Site: Grand Junction, Colorado, Date: August, 1990

Document: Preliminary Final RAP

Commentor: Colorado Department of Health

Comment: Attachment 1, pg. 02200-19

3.6-B.4: The statement "at or below the optimum moisture content" should be added at the end of this paragraph.

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Response: Page _____ By: _____ Date: _____

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UNTRA DOCUMENT REVIEW FORM

SECTION 1

Site: Grand Junction, Colorado, Date: August, 1990

Document: Preliminary Final RAP

Commentor: Colorado Department of Health

Comment: Attachment 1, Sketch No. 02230-A

The appropriate ASTM test (i.e. D-698 or D-1557) should be shown or described for the various components of the section.

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SECTION 1

Site: Grand Junction, Colorado, Date: August, 1990
Document: Preliminary Final RAP
Committer: Colorado Department of Health

Comment: Attachment 1, pg. 02278-7

3.4-C.2: The statement "shall be performed" should be inserted at the end of this paragraph.

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UMTRA DOCUMENT REVIEW FORM

SECTION 1

Site: Grand Junction, Colorado , Date: August, 1990
Document: Preliminary Final RAP
Commentor: Colorado Department of Health

Comment: Attachment 3, pg. 5

The third bullet on this page describes the occurrence of groundwater beneath the site. The last sentence in this bullet says, "The Dakota Sandstone/Burro Canyon Formation... ranks fourth and last...". Only 3 aquifers are described in this paragraph. Please clarify the various groundwater occurrences at the site.

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UMTRA DOCUMENT REVIEW FORM

SECTION 1

Site: Grand Junction, Colorado, Date: August, 1990
Document: Preliminary Final RAP
Commentor: Colorado Department of Health

Comment: Attachment 3, pg. 7

The sentence on the top of the page lists the range of flows in the encountered paleochannels from 0.25 to 3 gpm. Please explain how these flows were measured, or cross-reference another section of the RAP where this information can be found.

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UMTRA DOCUMENT REVIEW FORM

SECTION 1

Site: Grand Junction, Colorado, Date: August, 1990
Document: Preliminary Final RAP
Commentor: Colorado Department of Health

Comment: Attachment 3, pg. 32

The second paragraph on this page states that "Results of borehole tests in the alluvium and Mancos Shale yielded hydraulic conductivities varying by five orders of magnitude,..." Five orders of magnitude seems excessive. Please explain if some of the tests were not accurate, or the general reasons as to the large variation in tested hydraulic conductivities.

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SECTION 1

Site: Grand Junction, Colorado, Date: August, 1990
Document: Preliminary Final RAP
Commentor: Colorado Department of Health

Comment: Attachment 3, pg. 38

The second paragraph describes some properties of a "silt-clay" sample. Is this material silt or clay, and was it described on the basis of gradation, PI, or other means? Please clarify or refer to other sections of the RAP where this information may be found.

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UMTRA DOCUMENT REVIEW FORM

SECTION 1

Site: Grand Junction, Colorado , Date: August, 1990
Document: Preliminary Final FAP
Commentor: Colorado Department of Health

Comment: Appendix A to Attachment 3, Vol I-IV

Some of the data sheets and calculations are unreadable. The following are just some examples:

Vol. I: Calc GRJ-07-89-14-01, pg. 11, 35, 41
Borehole Log 835, pg. 1
939, pg. 1
975, pg. 7
976, pg. 9
979, pg. 5
982, pg. 2, 3

Vol. II: Calc. GRJ-02-90-13-01-00, pg. 33, 37, 38, 39, 41, 42, 43, 48,
49, 53
GRJ-03-90-01-02(b)-00, pg. 3, 45, 47
GRJ-03-90-13-01-000, Hole # 912, pg. 2
920, pg 2,3
921, pg 1,2
922, pg 1,2
926, pg 1

Vol. III: Calc. GRJ-03-90-13-03-00, pg. 68, 73, 81, 82, 83, 84, 85

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SECTION 1

Site: Grand Junction, Colorado , Date: August, 1990
Document: Preliminary Final RAP
Commentor: Colorado Department of Health

Comment: ment 4, pg. 3

In describing cleanup of existing groundwater contamination, the point is made that "By deferring cleanup of existing groundwater contamination at the Grand Junction processing site, the DOE is not presenting a potential risk to human health or the environment." Even though active contamination is not occurring today, potential health and environmental risks are still present. The statement should be modified to reflect the existing risks.

SECTION 2

Response: Page _____ By: _____ Date: _____

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