

**ENVIRONMENTAL RESTORATION AND WASTE MANAGEMENT
DOCUMENT CHANGE NOTICE (DCN)**

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DOCUMENT NUMBER 21100-WP-OU 02.1,RO

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TITLE		DATE	DCN NUMBER
Phase II RFI/RI Work Plan (Alluvial)		November 22, 1991	OU2-91-2
EXPIRES: <u>February 25, 1991</u>			
LIMITATIONS: _____			
Item Number	Page	Step or Paragraph	Changes (Use DCN CONTINUATION SHEET for additional space)
(1)	5-17	Section 5.2.2 Paragraph 2	"If a saturated subcropping sandstone greater than 3 feet in thickness ..." will be changed to say, "If a fluvial sandstone sequence greater than 3 feet in thickness ...".
(2)	5-17	Section 5.2.2 Paragraph 2	<p>The requirement to set surface casing and complete the borehole as a bedrock well if a 3-foot thick fluvial sandstone sequence is encountered will be changed. If a fluvial sandstone sequence having a minimum thickness of 3 feet is encountered while drilling the required six feet into bedrock, the field geologist may decide to backfill the hole and complete the well as an alluvial monitoring well. The completion requirements are dependent on the stratigraphy of the overlying material and the depth to the top of the water table.</p> <p>Cases A through D in the attached diagram illustrate the anticipated subcropping conditions.</p> <p>Case A: A subcropping fluvial sandstone sequence is in contact with the overlying alluvium. Under this condition, the field geologist may continue drilling through the sandstone sequence until approximately 6 feet of claystone is encountered. The hole will then be backfilled and a bedrock monitoring well installed without setting surface casing. If the subcropping sandstone sequence has a saturated thickness greater than 10 feet, two bedrock monitoring wells will be installed. Screens will be set such that the upper and lower portions of the sand sequence is monitored. If the overlying alluvium is saturated, the bedrock monitoring well(s) will be offset with an alluvial monitoring well.</p> <p>If the field geologist decides to complete the first hole as an alluvial monitoring well, the bedrock should not be penetrated beyond six feet. The alluvial monitoring well will be offset with a bedrock monitoring well(s) as described above.</p> <p>Case B: Approximately three to five feet of claystone separate the alluvium from the fluvial sandstone sequence. Under this condition, drilling should stop at six feet into bedrock, the hole should be backfilled and completed as an alluvial monitoring well. If the sandstone is saturated, the alluvial well will be offset with a bedrock monitoring well(s). If the sandstone is not saturated, only the alluvial well will be installed. If the claystone separating the alluvium from the saturated bedrock sandstone is less than 3 feet thick, complete the sandstone monitoring well as if the sandstone was in contact with the alluvium (Case A).</p> <p>Case C: The top of the water table is within the upper 6 feet of the bedrock. Regardless of the stratigraphy, if the top of the water table is within the upper 6 feet of the bedrock, a bedrock monitoring well will be installed.</p> <p>Case D: No water in the hole. If no water is encountered within the hole after six feet of the bedrock has been penetrated and no subcropping sandstone sequence has been encountered, only an alluvial monitoring well will be installed. If the alluvium is too thin to allow the installation of an alluvial monitoring well, the hole may be abandoned and an alluvial monitoring well installed approximately 15 feet from the original location, or an upper bedrock well may be installed. If a subcropping sandstone sequence is present, continue drilling through the sandstone as described in Case A.</p> <p>The placement of offset wells will be determined by the EG&G hydrogeologist and confirmed by the EG&G project manager.</p>

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(Continued)

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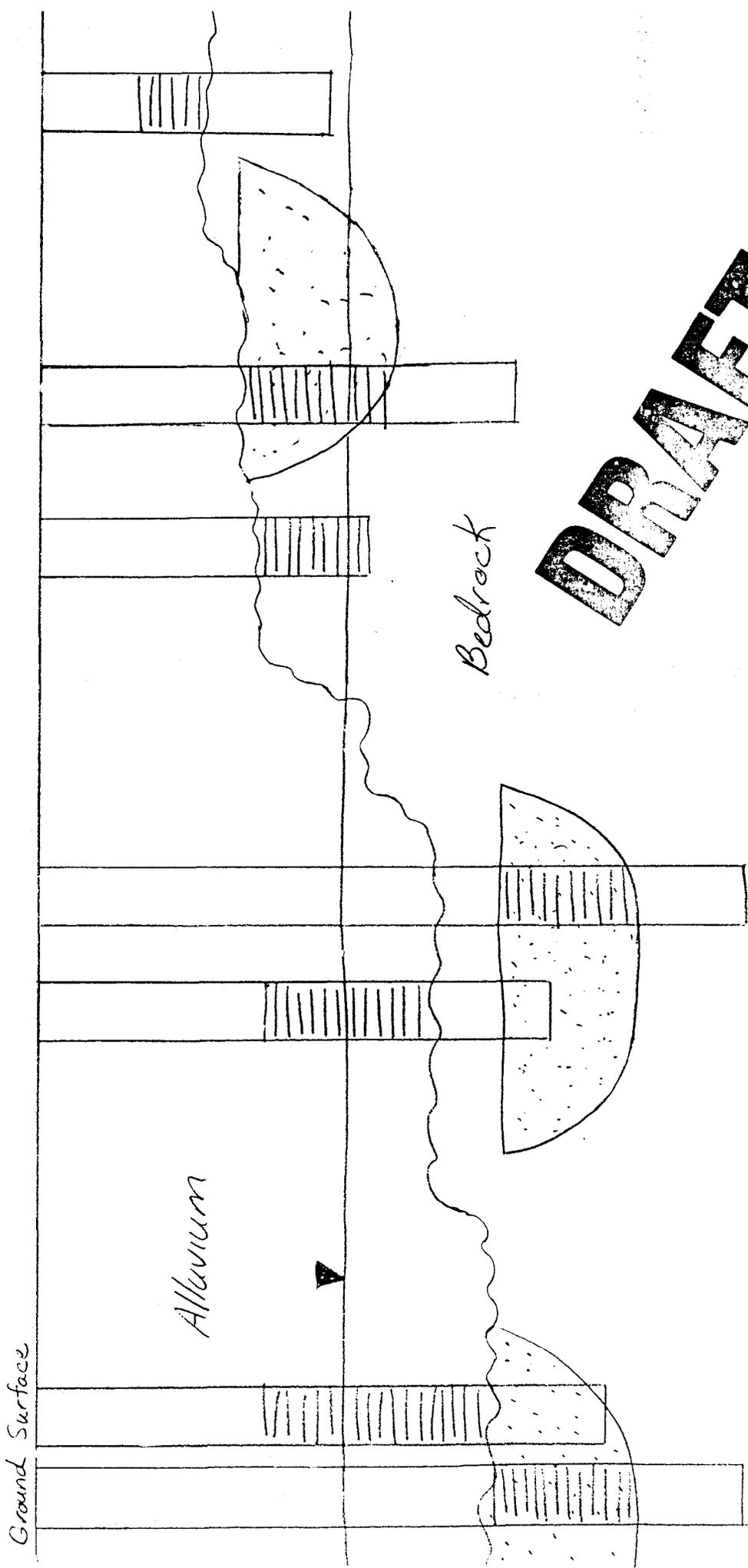
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TITLE Phase II RFI/RI Work Plan (Alluvial)				DATE November 22, 1991		DCN NUMBER OU2-91-2		
EXPIRES: <u>February 25, 1991</u>								
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Item Number	Page	Step or Paragraph	Changes (Use DCN CONTINUATION SHEET for additional space)					
<p>Justification (Reason for change - Provide numbers to reference corresponding items above.)</p> <p>(1) The anticipated subcropping bedrock "sandstones" is a fluvial sequence composed of predominantly fine-grained sands, silts, and overbank clays. Several channel sequences may be stacked together in a zone rather than a single channel (see Phase II RFI/RI Work Plan [Bedrock] for a discussion of the Arapahoe Formation depositional model). As a result, not all of the rock within the bedrock sandstone channel sequences will classify as sand according to the Wentworth classification method.</p> <p>(2) The first hole drilled should not have to be completed as the bedrock monitoring well if the bedrock fluvial sandstone sequence is encountered. The decision to complete as an alluvial or bedrock well is dependent on the stratigraphy encountered and the depth to the top of water. In addition, it is not necessary to set surface casing when completing a bedrock well if the bedrock zone of interest is in communication with the overlying alluvium.</p>								
Concurrence	Organization	Req.	Date	Concurrence	Organization	Req.	Date	
	QAPM	X			User			
13. Approval of Responsible Manager			Date	15. Is Posting Required		16. if Yes, by what date		17. Date Posted
				Yes No				

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Subcropping Sandstones Cases



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C D

A B

Vertical Scale