

18100  
Agenda  
January 11, 1994  
Landfill Closure/Seep Collection Team



1) Landfill Closure

Presentation of Option 5

ARARs - discussion postponed until next week when Laura Brooks can attend.

O & M costs

2) Seep collection system

Results of design meeting

3) Phase II field investigation

bury in a grades -

3ft - frost protection  
- evaporation-transpiration  
version 3 - substantial drainage off  
still require some foundation layer

ADMIN RECCRD

BZ-A-000426

1A

1/9

January 16, 1995  
2510-95/07

Ms. Laurie Peterson-Wright  
EG&G Rocky Flats, Inc.  
P.O. Box 464, Bldg. 080  
Golden, Colorado 80402-0464

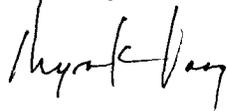
Subject: Submittal of January 11, 1995, Meeting Minutes  
Technical Working Group Meeting for Operable Unit No. 7  
(MTS Contract 353017TB3)

Dear Ms. Peterson-Wright:

Enclosed are meeting minutes to document the January 11, 1995, technical working group meeting for the OU 7 Phase II field investigation and seep collection and landfill closure interim measure/interim remedial actions.

If you have any questions, please contact me at your convenience.

Sincerely,



Myra K. Vaag  
Project Manager

Enclosure

cc:	W. Bartholomew w/o	EG&G	B. Caruso	Stoller
	L. Brooks	EG&G	A. Crockett	Stoller
	R. Cygnarowicz	EG&G	M. Eisenbeis	Stoller
	T. Lindsay	EG&G	S. Franklin	Stoller
	P. Martin	EG&G	C. Gee	Stoller
	P. Corser	TerraMatrix	J. Jankousky	Stoller
	J. Kendall	TerraMatrix	D. Palmer	Stoller
			L. Ross w/o	Stoller
			B. Stephanus w/o	Stoller
			MKV Chron w/o	Stoller
			B. Stephanus w/o	Stoller
			OU7 Project File	

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Minutes for the OU 7 Leachate/Landfill Closure  
Technical Working Group Meeting  
January 11, 1995

TerraMatrix distributed handouts showing three cover sections and five capping options. The following topics were discussed:

**Landfill Closure IM/IRA**

**Cover Section Design** - RTG questioned if 3 feet of vegetative cover is necessary for the cover section. TerraMatrix stated that 3 feet is necessary for frost protection and evapotranspiration. Using the new version of the HELP model (3.0), a smaller amount of water is lost to evapotranspiration and more water reaches the drainage layer. For this reason, a 3-foot vegetative cover is necessary to allow for more evapotranspiration to occur. RTG asked if a thinner vegetative layer could be used if lateral drainage was provided by the drain layer. TerraMatrix suggested that frost would be a concern and might prevent the drain layer from operating effectively.

RTG asked if a cover section consisting of a GCL (Claymax) only had been considered. TerraMatrix suggested that the GCL would not adequately control landfill gas when dry because the gas could diffuse through the cover. Diffusion of landfill gas could be a problem because gas emissions are regulated by the Clean Air Act and by recent landfill regulations.

Additional runs of the HELP model indicate that the geocomposite below the FMC can be removed from cover section option 2. A minimum of 1 foot of soil is required between the waste material and the FMC. Options for the FMC include 60-mil HDPE or 30-mil PVC. PVC is attractive if it is not in contact with the waste because it is more flexible, uses a double-fusion weld instead of a chemical weld, and is less expensive.

**Description of Swale Option** - The swale option is designed with a maximum cut of 6 to 8 feet into the waste, 6 to 8 feet of fill in a horseshoe shape around the outside, and a 2 to 3 percent slope of the drainage layer. Approximately 10 percent (60,000 cubic yards) of the total waste volume would be moved; waste to be moved was disposed in the 1970s and 1980s. Moving waste within the landfill will not trigger land disposal restrictions. Construction costs for this option may be lower than costs for the other four options; however, operation and maintenance costs will be higher. This innovative design is contrary to EPA guidance, which assumes that the cap will be convex with slopes greater than 5 percent to divert water away from the landfill. Potential problems with the design include increased residence time of surface water on the cap that may infiltrate through the cover as a result of the concave design, and the cover layers are in tension instead of compression.

DOE stated that it would be more work to sell option 5 to CDPHE and EPA, primarily because it goes against EPA guidance. In addition, health and safety costs and considerations would increase, and dust might be a problem during hauling of the waste material.

**Groundwater Collection System** - Stoller will determine if there is contamination in the lower hydrostratigraphic unit downgradient of the dam, using analytical results from well 53094, to determine how deep the groundwater collection system should be. DOE asked if the seep would still be flowing after the landfill has been capped. Stoller suggested that the seep will be covered by the landfill cap, thus, seep water will become groundwater. The amount of groundwater will decrease through time because the cap and the slurry wall will prevent recharge. RTG suggested that the seep could be hooked up to the groundwater collection system.

**Slurry Wall** - DOE asked about the impacts of the inferred fault near OU 7 on the slurry wall and the landfill cap. Stoller will evaluate the possible affects of the fault on design of the new slurry wall. EG&G or DOE will provide Stoller with a copy of the report regarding seismicity at Rocky Flats based on trenching of the fault. This information will be used to determine the stability of the proposed cover design. The inferred fault must be addressed to some extent in the IM/IRA decision document. DOE asked if there is a way to evaluate the performance of the new slurry wall after it is in place if there are no wells within the landfill. Stoller and TerraMatrix will look at methods to investigate performance and will also evaluate the existing slurry wall.

**Operation and Maintenance Costs** - Stoller asked EG&G/DOE to provide costs per gallon for treating groundwater at the existing OU 1 facility and Rocky Flats standard interest rate, contingency percentage, and escalation costs. The cost comparison of the capping options will be presented at the meeting next week.

### **Seep Collection and Treatment System PAM**

A design-review meeting for the seep collection and storage system Title II design was held at EG&G on January 10. Final comments on the design concern the way pipe is mounted to the tanks and the organization of the tank drawings. Stoller will revise the drawing; tabs will be used so the tank does not have to be cut. The organization of tank drawings will not be changed; however, a thorough QA of the tank supplier "shop drawings" or submittals will be required. Rob Anderson will be leaving Stoller this month. Stoller will assign another engineer to be responsible for the seep collection and storage system design.

DOE asked RTG to conduct a cost analysis of onsite versus offsite treatment options. Costs for treatment at the existing OU 1 facility are lower than costs for an onsite treatment facility; labor costs involved with trucking seep water are the majority of offsite treatment costs. RTG suggested renting a tractor (\$600/month) and buying a tank trailer (\$5,000). Add-ons necessary for the existing treatment system at OU 1 will justify action to combine the OU 1 and OU 2 treatment systems.

EG&G continued making progress on the leachate action construction process. RTG requested a review copy of the statement of work, the independent government estimate will be completed on January 12, and the Davis-Bacon determination will be completed next week. A notice-to-proceed is required from DOE before actual construction can begin.

### **Phase II Field Investigation**

Analytical data for groundwater samples should be available January 19. Preliminary geotechnical data will be available later in January.

Stoller will transfer custody of field equipment to EG&G, develop and print core photographs, transmit coordinates for sampling locations, and transmit field files in January. Electronic (Loggit) borehole logs were transmitted to EG&G on January 11.

### **Agency Meeting**

The next agency meeting will be at 1:00 p.m. on February 2, 1995, at the EPA conference center. Stoller and TerraMatrix will present the status of the options analysis for the landfill closure IM/IRA decision document. EG&G will present the preferred treatment alternative for the OU 7 seep water.

## Action Items

The formal meeting minutes are the forum for tracking action items. A list of the action item, the person responsible for the action, and the status of the action item is included below. The list will be updated weekly. When an action has been completed, it will be stated as such, and the item will be removed from the action item list the following week.

- 01-121 Completed.
- 122 Determine possible trucking route from Western Aggregates to the present landfill east of Colorado Highway 93 (T. Lindsay, EG&G). EG&G is investigating options for a trucking route including improving existing roads or constructing new roads in the buffer zone between Western Aggregates and OU 5 and OU 7. In progress.
- 123-148 Completed.
- 149 Obtain a copy of the cover design for the solar ponds at OU 4 (T. Lindsay, EG&G). EG&G provided Stoller and TerraMatrix a copy of the 100-year cap from the Hanford Reservation. This cover design will be used at OU 4. Completed.
- 150 Obtain information regarding cover designs for Lowry Landfill, Marshall Landfill, and RMA (T. Lindsay, EG&G). EG&G provided Stoller with information on cover designs from Hanford and Los Alamos. In progress.
- 151-157 Completed.
- 158 Determine allowable activities for radiological contaminants in soils/sediments (L. Peterson-Wright, EG&G). The no-rad-added policy is being reconsidered based on the reorganization of the cognizant professionals. In progress.
- 159-161 Completed.
- 162 Provide RUST with input parameters for the HELP model and interface angles and other parameters for the stability analysis in order to maintain consistency in landfill cover design between OUs (J. Kendall, TerraMatrix). TerraMatrix compiled a table that lists input parameters for the HELP model; Stoller faxed the table to RUST. TerraMatrix is re-running cover sections using the new version of HELP to determine if there are any differences. TerraMatrix will not conduct any detailed stability analyses for the cover or the waste fill materials until the conceptual grading plan has been selected. Completed.
- 163 Obtain a value for ground acceleration and information on the frequency of earthquake events from the Seismic Investigation Program for use in the stability analysis at OU 7 and OU 5 (L. Peterson-Wright, EG&G). EG&G has requested a copy of the report from the Seismic Investigation Program. In progress.
- 164 Determine if Claymax has been approved by EPA Region VIII for cap designs at other sites (P. Pigeon, RTG for DOE).
- 165 Determine how many surface soil sampling locations have concentrations of arsenic that exceed the PPRG and/or exceed background. Of these locations, investigate how many

fall under the proposed landfill cap (M. Vaag, Stoller). All surface soil sampling locations have concentrations of arsenic that exceed the PPRG. Completed.

- 166 Check with the OU 1 project manager to determine if arsenic and beryllium have been remediated to background or to the PPRG (L. Peterson-Wright, EG&G). The contaminants of concern at OU 1 were manganese and beryllium, not arsenic. This action item is no longer applicable because the distribution of arsenic in surface soils is widespread and hot-spot removal is not appropriate. Completed.
- 167 Follow up on the sample of seep water collected for TOC analysis (P. Pigeon, RTG for DOE).
- 168-169 Completed.
- 170 Transfer Phase II field equipment from Stoller to EG&G (S. Lynn, Stoller, and L. Peterson-Wright, EG&G). Field equipment will be transferred to EG&G during the week of January 16. The water in the purge tank was disposed on January 13. In progress.
- 171 Determine the location of radionuclides in soils and groundwater within the landfill to see if capping option 5 will encounter radionuclides when cutting waste material (J. Jankousky, Stoller).
- 172 Brainstorm how the inferred fault near OU 7 will affect the movement of groundwater and the cap and slurry wall design (M. Vaag, Stoller).
- 173 Investigate the nature of contamination, if any, in the LHSU downgradient of the landfill using analytical results from well 53094 (J. Jankousky, Stoller).
- 174 Provide Stoller with O&M costs for groundwater treatment at the existing OU 1 facility (P. Pigeon, RTG).
- 175 Provide Stoller and TerraMatrix with the Rocky Flats standard interest rate, contingency percentage, and escalation (T. Lindsay and L. Peterson-Wright, EG&G).
- 176 Assign a new engineer to replace Rob Anderson on the seep collection and storage system design (M. Vaag, Stoller). John Jankousky will replace Rob Anderson. Completed.
- 177 Investigate why the existing slurry wall at OU 7 is not functioning properly, and compile information regarding the success/failure rate of other slurry walls (P. Corser, TerraMatrix).
- 178 Determine how to evaluate the performance of the new slurry wall after it is in place (J. Jankousky, Stoller, and P. Corser, TerraMatrix).

#### Next Meeting

The next meeting will be at 1:00 p.m. on January 18, 1995, in the EG&G small west conference room.

### List of Attendees

<b>Name</b>	<b>Organization</b>	<b>Phone</b>
Pat Corser	TerraMatrix	(303) 879-6260
Mary Eisenbeis	Stoller	546-4474
John Jankousky	Stoller	546-4412
John Kendall	TerraMatrix	763-5140
Tom Lindsay	EG&G	966-6985
Peter Martin	EG&G	966-8695
Kurt Muenchow	DOE	966-2184
Laurie Peterson-Wright	EG&G Project Manager	966-8553
Paul Pigeon	RTG/RFFO-AMPME	966-5611
Paul Singh	DOE/ORNL	966-3490
Myra Vaag	Stoller Project Manager	546-4417

January 20, 1995  
2510-95/10

Ms. Laurie Peterson-Wright  
EG&G Rocky Flats, Inc.  
P.O. Box 464, Bldg. 080  
Golden, Colorado 80402-0464

Subject: Addendum to January 11, 1995, Meeting Minutes  
Technical Working Group Meeting for Operable Unit No. 7  
(MTS Contract 353017TB3)

Dear Ms. Peterson-Wright:

Enclosed is an addendum to the meeting minutes for the January 11, 1995, technical working group meeting for the OU 7 leachate and landfill closure interim measure/interim remedial actions. Please attach this to the original meeting minutes.

If you have any questions, please contact me at your convenience.

Sincerely,



Myra K. Vaag  
Project Manager

Enclosure

cc:	W. Bartholomew w/o	EG&G	B. Caruso	Stoller
	L. Brooks	EG&G	A. Crockett	Stoller
	R. Cygnarowicz	EG&G	M. Eisenbeis	Stoller
	T. Lindsay	EG&G	S. Franklin	Stoller
	P. Martin	EG&G	C. Gee	Stoller
	P. Corser	TerraMatrix	J. Jankousky	Stoller
	J. Kendall	TerraMatrix	D. Palmer	Stoller
			L. Ross w/o	Stoller
			B. Stephanus w/o	Stoller
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			B. Stephanus w/o	Stoller
			OU7 Project File	

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Addendum to Meeting Minutes  
OU 7 Leachate/Landfill Closure  
January 11, 1995

Replace second paragraph of **Seep Collection and Treatment System PAM** with the following:

DOE asked RTG to conduct a cost analysis of separate treatment facilities at the OU 7 seep collection tanks site ("onsite" treatment) versus trucking the seepage to existing treatment facilities at B891, the OU 1 treatment building, with planned modifications ("offsite" treatment). Although the analysis is not complete, preliminary information indicates that onsite treatment will not offer cost savings over offsite treatment, which has been proposed by EG&G's OU 1/OU 2 treatment project team. The costs of trucking water to OU 1 for offsite treatment are largely labor costs, which are offset by operating costs of the onsite OU 7 system. The modifications to the OU 1 treatment facility could involve installation of an interim iron removal system for pre-treatment of the seepage; however, an action to combine part of the OU 2 trailer-mounted treatment system with OU 1 is also under study and would accomplish the necessary pre-treatment in lieu of iron removal equipment.

For the IM/IRA options analysis for groundwater treatment, information on trucking equipment costs obtained from the ER Operations Group (Roger Wisehart) may be helpful--purchase of a 3,000-gallon tank trailer @ \$5,000 and rental of a tractor to haul the trailer @ \$600/month.

9/19