

Meeting Minutes

SUBJECT 200-ZP-1/2 Unit Manager Meeting

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FROM M. A. Buckmaster

DATE March 16, 1998

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ATTENDEES

M. A. Buckmaster H0-19
D. A. Faulk B5-01
V. J. Rohay H9-02
M. H. Sturges H9-01
A. C. Tortoso H0-12

DISTRIBUTION

Attendees
R. L. Jackson H9-02
L. M. Johnson H9-03
M. R. Knudsen H9-01
L. C. Swanson H9-02
R. C. Wilson H9-01
Document and Information Services H0-09



A 200-ZP-1 and 200-ZP-2 ERA Unit Manager Meeting was held on March 3, 1998, in conference room 2C58 at 3350 George Washington Way. The agenda is included as Attachment 1.

200-ZP-2 Soil Vapor Extraction Systems

Status of Non-Operational Monitoring

Carbon tetrachloride concentrations are being monitored monthly at 25 subsurface locations while the soil vapor extraction systems are non-operational (October 1997 through March 1998). The 20 soil vapor probes range in depth from 1.5 to 18.3 m below ground surface and were selected to monitor concentration changes in the near-surface. The 5 wells range in depth from 56.1 to 61.9 m below ground surface and were selected to monitor concentration changes near the water table. V. J. Rohay provided a table comparing the maximum concentration at each location to the maximum observed at that location during the rebound study (November 1996 through July 1997) and a table of all the non-operational monitoring data as of 2/26/98 (Attachment 2). The concentrations monitored since October 1997 are similar to those monitored during the rebound study. It should be noted that the non-operational monitoring locations were selected to be near the upper and lower interfaces of the vadose zone whereas the rebound study monitoring locations were selected to be distributed throughout the vadose zone.

Plans for FY 98 Soil Vapor Extraction System Operations

Soil vapor extraction (SVE) to remove carbon tetrachloride from the vadose zone is scheduled to resume 4/1/98. V.J. Rohay provided a summary of the strategy and schedule for operations (Attachment 3). D. A. Faulk agreed that, whenever possible, extraction wells should be selected for both protection of the groundwater and mass removal, but that the highest priority is protection of the groundwater.

Soil vapor monitoring will be conducted at the on-line wells to characterize the rate of decline in carbon tetrachloride concentrations with continued extraction. Soil vapor monitoring, including monitoring near the groundwater, will be continued at the site not undergoing active SVE. Additional soil vapor monitoring locations will be added in the Z-9 area during April through June to measure carbon tetrachloride concentrations near the lower permeability silt and caliche zone. This additional data is expected to provide an indication of the potential magnitude of the inlet concentrations that could be expected when SVE begins.

The magnitude and rate of concentration decrease during FY98 SVE operations and increase during non-operations will be compared to similar data collected during the FY97 rebound study. The data from both FY97 and FY98 operating cycles will be used to recommend an SVE operating cycle for FY99. D. A. Faulk agreed with the strategy of operating cyclically rather than continuously and of modifying the SVE operating schedule as necessary to respond to changing rates of carbon tetrachloride rebound and removal. A. C. Tortoso will document the FY98 SVE operating strategy in a formal letter to D. A. Faulk.

D. A. Faulk agreed with the plan to use only the 500 ft³/min SVE system for carbon tetrachloride removal during FY98. The 500 ft³/min SVE system is being modified so that it can be moved between the Z-1A/Z-18 and Z-9 sites. M. A. Buckmaster reported that the design changes are complete with the exception of plug-in modifications required for the Z-9 site before SVE operations resume there on 7/1/98. Work packages have been prepared for crews to complete the on-site modifications (e.g., electrical).

The 1000 ft³/min and 1500 ft³/min SVE systems are currently in standby mode. A. C. Tortoso agreed to a request by D. A. Faulk that these two systems not be decommissioned or excessed until both DOE and EPA are confident that they are no longer needed for carbon tetrachloride remediation at 200-ZP-2 and agree on their disposition.

V. J. Rohay noted that PNNL will be conducting geophysical logging at selected Z-1A, Z-12, and Z-9 wells prior to restart of SVE operations.

Status of Expedited Response Action

A. C. Tortoso and D. A. Faulk agreed to maintain the current expedited response action framework for continued carbon tetrachloride remediation using SVE. The alternative, an interim response measure for continued carbon tetrachloride remediation, was viewed as unnecessary because the current remediation and decision-making processes are satisfactory and sufficient.

A. C. Tortoso and D. A. Faulk expressed interest in future studies to conduct additional characterization of the carbon tetrachloride site and to evaluate enhancements for SVE operations. Potential enhancements mentioned included installation of additional wells, pneumatic fracturing of the caliche layer, and use of surface covers. D. A. Faulk suggested a year-long, controlled test of passive extraction would help determine whether it is feasible as an alternative to active extraction at the site. V. J. Rohay will contact J. W. Massmann at the University of Washington regarding the status of current and potential studies funded through the Consortium for Risk Evaluation and Stakeholder Participation (CRESP). A. C. Tortoso will explore opportunities for additional studies and enhancements through the DOE science and technology (EM-50) program.

200-ZP-1 Pump and Treat System

M. A. Buckmaster reported that the 200-ZP-1 pump-and-treat system is operating with no problems. BHI provided the annual report on the 200-ZP-1 operations to DOE in late February 1998. In December, the carbon tetrachloride concentrations in the effluent exceeded operating limits. The problem was not conclusively determined to be caused by algae on the packing material in the stripping tower; but no alternative explanation seems reasonable. The "algae scenario" is: (1) during the cold weather, the algae died and sloughed off the packing material into the system; (2) when the pump-and-treat system was restarted, the algae were flushed out with the effluent; and (3) the algae contained carbon tetrachloride, which temporarily raised the effluent concentration above the operating limit.

Action Items

1. A. C. Tortoso will document the FY98 operating strategy for 200-ZP-2 in a letter to D. A. Faulk.
2. V. J. Rohay will contact J. W. Massmann at the University of Washington regarding CRESP support for future studies at 200-ZP-2.
3. A. C. Tortoso will contact R. M. Rosselli at DOE regarding EM-50 support for future studies at 200-ZP-2.

AGENDA
200-ZP-1 and 200-ZP-2 UNIT MANAGERS MEETING

MARCH 3, 1998

200-ZP-2 SOIL VAPOR EXTRACTION REMEDIATION

- Status of Non-Operational Monitoring
- Plans for FY 98 Soil Vapor Extraction System Operations
- Status of Expedited Response Action
- Plans for Outyear Operations

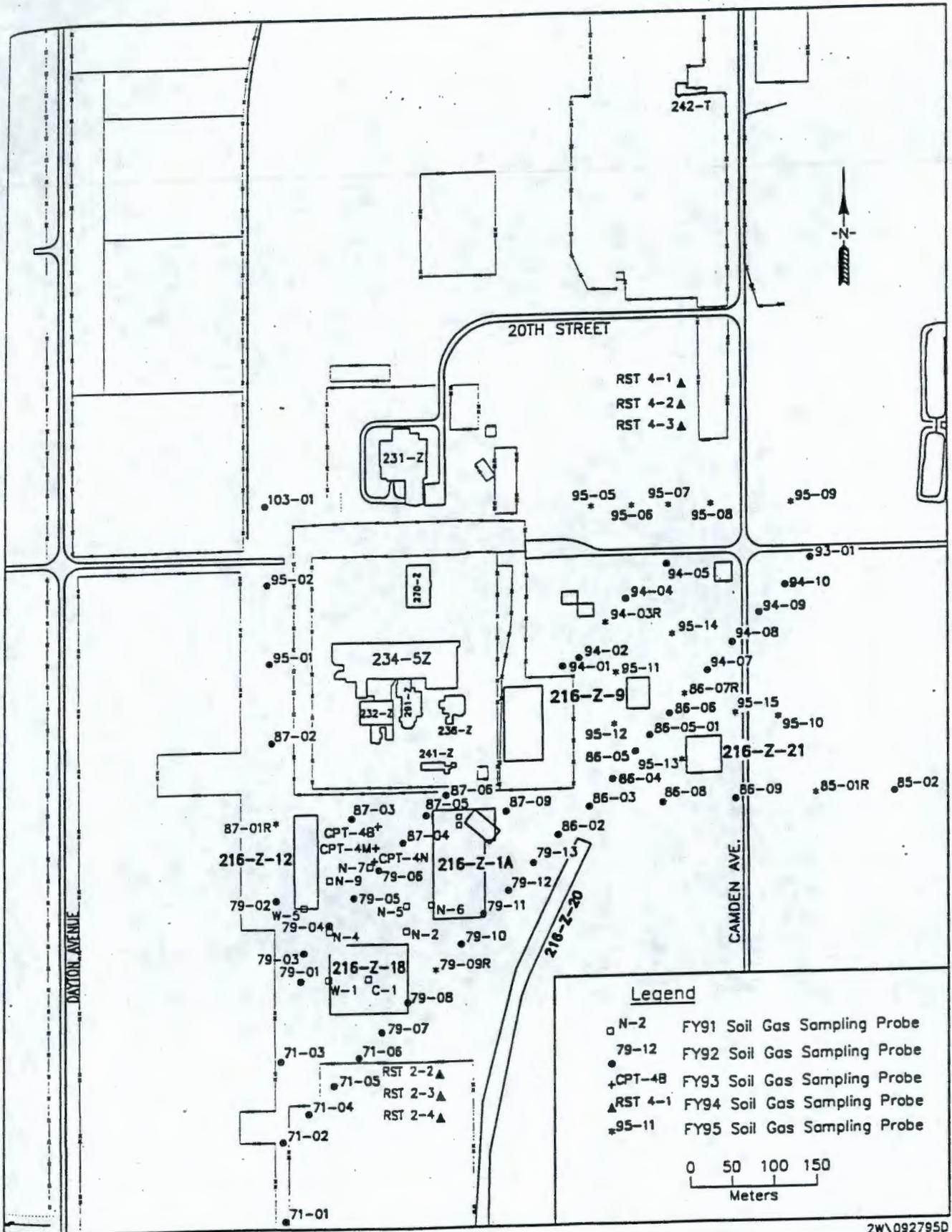
200-ZP-1 PUMP-AND-TREAT REMEDIATION

- Summary of Pump-and-Treat Operations

		November 1996 - July 1997	October 1997 - February 1998
Location (Well or Probe) /feet bgs	Zone	Maximum Rebound Carbon Tetrachloride (ppmv)	Maximum Rebound Carbon Tetrachloride (ppmv)
86-06/ 5 ft	1	1.3	0
94-09/ 5 ft	1	1.4	1.3
95-11/ 5 ft	1	0	0
95-12/ 5 ft	1	1.1	0
87-01R/ 5 ft	1	3.5	0
N-6/ 5 ft	1	not measured	0
79-11/ 5 ft	1	0	0
87-09/ 5 ft	1	not measured	0
CPT-28/ 40 ft	2	40.1	21.6
CPT-9A/ 60 ft	2	45.5	40.9
CPT-17/ 10 ft	2	not measured	0
CPT-18/ 15 ft	2	not measured	0
CPT-16/ 10 ft	2	not measured	0
CPT-21A/ 45 ft	2	65.6	37.1
CPT-1A/ 35 ft	2	2.0	0
CPT-7A/ 32	2	not measured	2.3
CPT-13A/ 9 ft	2	not measured	0
CPT-31/ 25 ft	2	not measured	0
CPT-32/ 25 ft	2	not measured	6.6
CPT-33/ 40 ft	2	not measured	1.8
W15-216L/ 184	5	16.7	15.5
W15-6L/ 189 ft	6	22.6	16.1
W15-9L/ 189 ft	6	18.3	14.6
W18-6L/ 201 ft	6	36.0	31.3
W18-7/ 203 ft	6	28.5	15.7

		November 1996 -				
Location		July 1997	12/1/97	1/10/98	1/29/98	2/26/98
(Well or Probe)	Zone	Maximum Rebound				
/feet bgs		Carbon Tetrachloride	CCl4	CCl4	CCl4	CCl4
		(ppmv)	(ppmv)	(ppmv)	(ppmv)	(ppmv)
86-06/ 5 ft	1	1.3	0	0	0	0
94-09/ 5 ft	1	1.4	1.3	0	0	1.3
95-11/ 5 ft	1	0	0	0	0	0
95-12/ 5 ft	1	1.1	0	0	0	0
87-01R/ 5 ft	1	3.5	0	0	0	0
N-6/ 5 ft	1	not measured	0			
79-11/ 5 ft	1	0	0	0	0	0
87-09/ 5 ft	1	not measured	0	0	0	0
CPT-28/ 40 ft	2	40.1	17.0	19.1	21.6	19.2
CPT-9A/ 60 ft	2	45.5	35.8	37.5	39.1	40.9
CPT-17/ 10 ft	2	not measured	0	0	0	0
CPT-18/ 15 ft	2	not measured	0	0	0	0
CPT-16/ 10 ft	2	not measured	0	0	0	0
CPT-21A/ 45 ft	2	65.6	18.5	30.5	37.1	21.5
CPT-1A/ 35 ft	2	2.0	0	0	0	0
CPT-7A/ 32	2	not measured	0	0	1.9	2.3
CPT-13A/ 9 ft	2	not measured	0	0	0	0
CPT-31/ 25 ft	2	not measured	0	0	0	0
CPT-32/ 25 ft	2	not measured	0	0	5.1	6.6
CPT-33/ 40 ft	2	not measured	0	1.8	1.8	1.3
W15-216L/ 184	5	16.7		14.1	15.5	15.0
W15-6L/ 189 ft	6	22.6		15.2	16.1	16.1
W15-9L/ 189 ft	6	18.3		13.3	14.6	8.7
W18-6L/ 201 ft	6	36.0		24.0	25.8	31.3
W18-7/ 203 ft	6	28.5		12.6	14.4	15.7

Figure 1-5. Location of Shallow Soil Vapor Probes at the Carbon Tetrachloride Site.



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Plans for FY 98 Soil Vapor Extraction System Operations at 200-ZP-2
Use only the 500 ft ³ /min system
Operate 3 months (April-June) at the Z-1A/Z-18/Z-12 wellfield
Characterize after 6 weeks to allow for reconfiguration
Monitor 3 months (April-June) at the Z-9 wellfield
Operate 3 months (July-September) at the Z-9 wellfield
Characterize after 6 weeks to allow for reconfiguration
Monitor 3 months (July-September) at the Z-1A/Z-18/Z-12 wellfield
Priority is protection of groundwater and mass removal; wells selected to distribute coverage throughout area