

Environmental  
Restoration  
Contractor **ERC Team**  
**Meeting Minutes**

Job No. 22192  
Written Response Required? NO  
Closes CCN: N/A  
OU: 200-ZP-2  
TSD: N/A  
ERA: CCM  
Subject Code: 4170, 4170

**SUBJECT** 200-ZP-1 and 200-ZP-2 Status

**TO** Distribution

**FROM** V. J. Rohay

**DATE** May 14, 1997

**RECEIVED**

MAY 15 1997

**DOE-RL/DIS**

**ATTENDEES**

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

**DISTRIBUTION**

Attendees  
Document and Info Services H0-09



A meeting on the above subject was held on May 7, 1997, at the Bechtel Office Building, 3350 GWW, room 2D03. The agenda is included as Attachment 1.

200-ZP-2 Rebound Study

The status of the Rebound Study, the proposed Tri-Party Agreement milestone change to defer restart of the soil vapor extraction systems, and the proposed mini-tests and FY97 field operations schedule were presented by K. M. Thompson to the regulators, DOE, and BHI at a brownbag lunch meeting on 4/8/97. The TPA milestone change request to extend the soil vapor extraction system restart date from 4/30/97 to 7/31/97 was approved and signed at the Inter Agency Management Integration Team meeting on 4/22/97. (Attachment 2). The change request specifies that continued system operations will be determined at the TPA Project Manager level (i.e., A. C. Tortoso and D. A. Faulk).

The status of the Rebound Study and the proposed mini-tests and FY97 field operations schedule were presented by A. C. Tortoso to the Environmental Restoration Committee of the Hanford Advisory Board on 4/24/97. D. A. Faulk reported that R. Patt, chair of the Environmental Restoration Committee, in turn briefed the full Hanford Advisory Board and expressed the ER Committee's very positive review of the 200-ZP-2 vapor extraction project.

M. A. Buckmaster stated that after this fiscal year, soil vapor extraction operations may consist of moving the 14.2 m<sup>3</sup>/min (500 ft<sup>3</sup>/min) soil vapor extraction system from site to site rather than operating all three systems at 200-ZP-2.

V. J. Rohay provided a graph illustrating the maximum carbon tetrachloride rebound concentration, as of 4/17/97, at each monitoring point as a function of depth (Attachment 3). During the first five months of the

rebound study, carbon tetrachloride concentrations have remained less than 10 ppmv at monitoring points between the ground surface and approximately 10 m depth in the area remediated using soil vapor extraction. The highest carbon tetrachloride concentrations, between 100 and 700 ppmv, have been observed at wells and monitoring probes between approximately 26 and 40 m below ground surface, near the Plio-Pleistocene fine-grained soils and "caliche layer." Carbon tetrachloride vapor concentrations near the water table, between 56 and 64 m below ground surface, have not exceeded 40 ppmv. Concentrations at some monitoring locations exhibit fluctuations which appear to be related to fluctuations in barometric pressure.

During March and April 1997, all wells and soil gas probes identified for use in the rebound study were monitored once per month. In addition, 15 wells/probes with widely fluctuating carbon tetrachloride concentrations were monitored twice per month. Carbon tetrachloride monitoring during May 1997 will follow the same monthly/semimonthly schedule.

Six additional deep wells in the 216-Z-9 area were added to the monthly sampling schedule to provide a soil gas baseline for 200-ZP-1 Phase III pump & treat operations (Attachment 4). The wells will be sampled, if possible, using the "barometric" technique on low pressure days.

V. J. Rohay provided summary information on the five mini-tests to address data gaps in the Rebound Study (Attachment 5). Each mini-test would support at least one of the seven DQO issues. Three mini-tests include collection and analysis of additional field data; two mini-tests involve only analysis of previously collected field data. In conjunction with the mini-tests, monitoring will be continued at selected Rebound Study wells and probes. The baseline change proposal to support implementation of the tests and continued monitoring was approved 4/22/97.

#### 200-ZP-1

M. A. Buckmaster provided an update on the 200-ZP-1 pump-and-treat remediation (Attachment 6). To date, the 200-ZP-1 Treatment System has removed 505 kg of carbon tetrachloride. During the past week, the flow rate from the three extraction wells averaged 148 gallons per minute, or 0.5 million gallons per week; and current (4/29/97) carbon tetrachloride influent concentrations (Tank T-01) averaged 3500 ppb. After operating at nearly 100% availability for the past three months, the 200-ZP-1 system availability dropped to 54% for the past week due to leak detection hardware manufacturing problems; these problems are being addressed with the manufacturer. Granular activated carbon (GAC) in all GAC canisters was replaced two weeks ago to support the change of GAC vendors. Installation of the piping system for Phase III operations has been completed. Modifications to manifolds and pumps within the extraction manifold building are expected to be completed in June. The last three extraction wells are scheduled to be on-line by August 31, 1997 to complete initiation of 200-ZP-1 Phase III operations. Prior to full-scale extraction operations, individual extraction wells may be pumped on a limited basis for clean-out.

M. A. Buckmaster proposed that future 200-ZP-1 operations data be provided at the 200-ZP-1/ZP-2 status meetings in lieu of quarterly reports. The data would continue to be included in the annual report.

The strategy for disposal of several waste types related to 200-ZP-1 were discussed by D. A. Faulk, A. C. Tortoso, M. A. Buckmaster, and B. L. Vedder: (1) the 200-ZP-1 pump & treat water downstream of the treatment system; (2) the drilling wastes created by decommissioning of well 299-W15-5; and (3) the drums of waste generated by several 200 West groundwater projects and currently located in a storage area

near the 216-Z-1A site. For the pump & treat water, options include pursuing a contained-in determination for carbon tetrachloride that will allow the water to be injected upstream of the extraction wells; for the drilling wastes and drum wastes, options include pursuing an Investigation Derived Waste designation and disposal of wastes that do not exceed Land Disposal Restrictions (LDR) standards at the Environmental Restoration Disposal Facility (ERDF). If possible, final dispositions will be determined by the next 200-ZP-1/ZP-2 status meeting.

Future Status Meetings

The next status meeting on the 200-ZP-1 and 200-ZP-2 projects is scheduled for June 11.

**AGENDA**  
**200-ZP-1 and 200-ZP-2 STATUS**  
**MAY 7, 1997**

**200-ZP-2 Rebound Study**

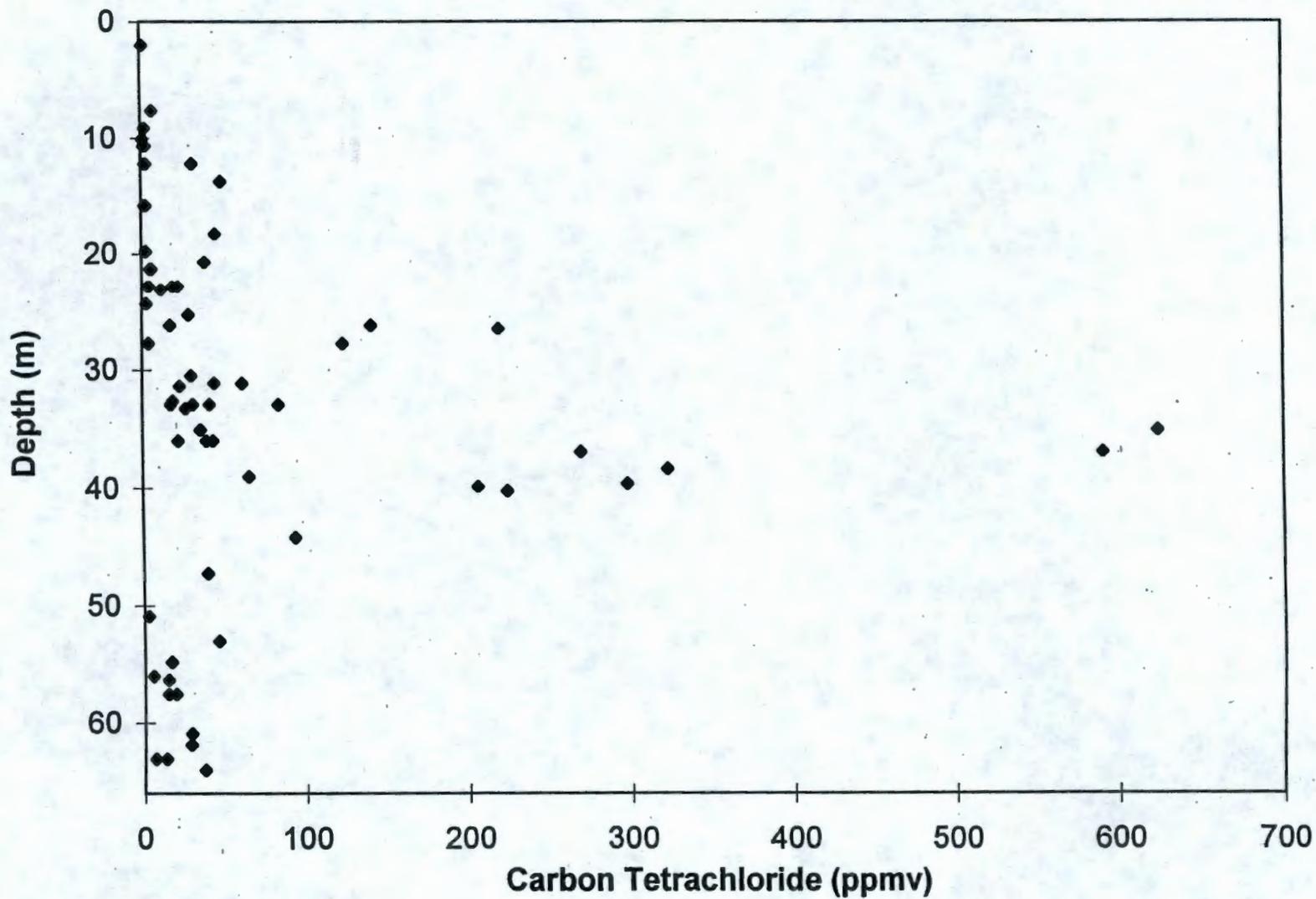
- **Review of Rebound Study Data**
- **Additional Wells and Probes for Continued Monitoring**
- **Review of Proposed Rebound Study "Mini-Tests"**
- **Status of TPA Milestone for Soil Vapor Extraction Restart**

**200-ZP-1 Pump-and-Treat Remediation**

Change Number  M-15-97-01	Federal Facility Agreement and Consent Order Change Control Form <small>Do not use blue ink. Type or print using black ink.</small>	Date <b>0461</b> March 13, 1997
Originator A. C. Tortoso		Phone (509) 373-9631
Class of Change <input type="checkbox"/> I - Signatories <input checked="" type="checkbox"/> II - Executive Manager <input type="checkbox"/> III - Project Manager		
Change Title: REVISED 200-ZP-2 REBOUND STUDY RESTART		
Description/Justification of Change  TPA milestone M-15-36 was established in November 1996 to restart the vapor extraction systems no later than April 30, 1997. The April 30, 1997 date was established based on conclusion of a rebound study. As indicated in Agreement change request M-15-96-12, "the Tri-Party Agreement milestone date may be modified based on the results of the rebound study. The 90 day change notification will not apply." Results of the rebound study to date indicate very little rebound of carbon tetrachloride concentrations. Concentrations at the near surface and saturated/unsaturated interface remain low and indicate minimal change which would impact worker safety or further degradation of the aquifer. Selected wells/probes will continue to be monitored for carbon tetrachloride rebound. This change request extends the restart date from April 30, 1997 to July 31, 1997. Continued system operations will be determined at the Project Manger level.  Therefore, Milestone M-15-36 is modified as follows:  NOTE: <del>Struckout</del> text indicates text to be removed and shaded text indicates text to be added.  M-15-36 Restart the 200-ZP-2 Vapor Extraction System. <del>April 30, 1997</del> <span style="background-color: #cccccc;">July 31, 1997</span>		
Impact of Change  Restart of the 200-ZP-2 vapor extraction systems will be extended from April 30, 1997 to July 31, 1997.		
Affected Documents  Hanford Federal Facility Agreement and Consent Order Action Plan, Appendix D.		
Approvals  <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 30%;"> <p><i>Tim K. Bauer</i> DOE</p> <p><i>Douglas R. Sheward</i> EPA</p> <p>_____ Ecology</p> </div> <div style="width: 30%;"> <p><u>4/17/97</u> ✓ Date</p> <p><u>4/27/97</u> ✓ Date</p> <p>_____ Date</p> </div> <div style="width: 30%;"> <p>Approved    ___ Disapproved</p> <p>Approved    ___ Disapproved</p> <p>Approved    ___ Disapproved</p> </div> </div>		

## Maximum Carbon Tetrachloride Rebound 11/4/96 - 4/17/97

sand
gravel
sand
gravel
silt
caliche
gravel



04614

Author: Virginia J Rohay at BHIO10  
Date: 4/16/97 10:16 AM  
Subject: additional deep sampling

04614

## ----- Message Contents -----

Mark, there are 6 deep wells in the Z-9 area that I would like to add to our rebound sampling schedule to provide a soil gas baseline for ZP-1 Phase III pump&treat operations. To minimize cost and effort, they will be sampled using the "barometric" technique on low pressure days when Rick samples the other barometric wells. Some ZP-1 wells have slots cut into the side of the casing through which the transducers are inserted; some have access holes through the wellcap. If these cannot be readily sampled (either because the configuration is incompatible with our sampling method, or because other ZP-1 testing or construction is being conducted), then we would skip them. Please let me know if you see any problems with proceeding. Thanks. Virginia

Wells: W15-36, W15-38, W15-39, W15-218L, W15-219L, W15-220L

<b>MINI-TEST</b>	<b>PURPOSE</b>	<b>DQO</b>
Carbon Tetrachloride-Packer Test	evaluate rebound sampling method and vadose zone well design	1, 5, 6, 7
Carbon Tetrachloride-Barometric Pressure Test	establish relationship between fluctuations in barometric pressure and carbon tetrachloride concentration	1, 3, 6, 7
Passive Vapor Extraction Valve Test	determine relationship between valve type and carbon tetrachloride removal rate	5, 7
Evaluation of Existing In Situ Soil Gas Concentration Data	evaluate relationship between vapor and groundwater carbon tetrachloride concentrations (data collected in 1992-1993)	3
Evaluation of Existing Surface Cover Data	evaluate impact of surface cover on extraction well radius of influence (data collected in 1995)	5, 7

04614



**200-ZP-1  
WEEKLY OPERATION SUMMARY**

System Runtime (hrs)	Avg. Flow (gpm)	Avg. Flow (gpm)	Avg. Flow (gpm)	Weekly Process (gals)	Avg. RH (%)	Avg. Airflow (scfm)	Avg Air Temp (F)	CCI <sub>4</sub> Removed kg/ (lbs)	Sys. Avail Week Total (%)	Sys. Avail Apr.TD Total (%)	Sys. Avail PTD Total (%)	CCI <sub>4</sub> PTD Total kg/ (lbs)	Groundwater Treated YTD Total (gals)
61	<u>WE01</u> 28.7	<u>WE02</u> 42.5	<u>WE03</u> 76.8	541,680	50	545	68.8	7.2/ (15.8)	54.2	88.2	82.7	505.2/ (1111.5)	43,836,702

046140



**200-ZP-1  
WEEKLY SAMPLING SUMMARY**

<b>Sample Date</b>	<b>WE01 W15-33 Conc. (ppb)</b>	<b>WE02 W15-34 Conc. (ppb)</b>	<b>WE03 W15-35 Conc. (ppb)</b>	<b>T-01 Ext Tank Conc. (ppb)</b>	<b>V-01 Stripper Conc. (ppb)</b>	<b>T-02 Inj. Tank Conc. (ppb)</b>	<b>H-01 Inf. Vapor Conc. (ppm)</b>	<b>A-3 Eff. Vapor Conc. (ppm)</b>
4-29-97	5400 CCl <sub>4</sub> 24 TCM 9.7 TCE	3200 CCl <sub>4</sub> 13 TCM 10 TCE	4000 CCl <sub>4</sub> 18 TCM 4.3 TCE	3500 CCl <sub>4</sub> 16 TCM 6.2 TCE	<2 CCl <sub>4</sub> <2 TCM <2 TCE	<2 CCl <sub>4</sub> <2 TCM <2 TCE	13	<1

046146