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0018306

Meeting Minutes Transmittal and Approval
RCRA Groundwater Monitoring Program
Ecology's Office, Conference Room
Kennewick, Washington
November 6, 1991

Approval: M. J. Furman Date: 12/16/91
M. J. Furman, U.S. Department of Energy
Field Office, Richland

Approval: K. Kowalik Date: 12/16/91
K. Kowalik, State of Washington
Department of Ecology

Attendees

U.S. Department of Energy-Field
Office, Richland

M. J. Furman A5-60
J. J. Broderick A5-18

State of Washington Department of Ecology

K. Kowalik

Westinghouse Hanford Company

R. L. Jackson H4-56
J. F. Keller R3-27
B. A. Williams H4-56
R. R. Thompson L4-88
L. L. Powers B2-35
M. G. Gardner N3-06
K. R. Fecht H4-56
J. S. Schmid H4-56

Distribution

Attendees
M. R. Adams H4-55
L. C. Brown H4-51
F. A. Ruck III H4-57
D. G. Horton H4-56
M. Marratt H4-56
S. M. Price H4-57
W. H. Price N3-05
D. S. Takasumi R3-27
EDMC H4-22



Meeting minutes are attached. Meeting minutes are comprised of the following:

- Attachment 1 - Summary Meeting Minutes
- Attachment 2 - Agenda
- Attachment 3 - RCRA Drilling Status
- Attachment 4 - Overview of Well Maintenance, Remediation, and Abandonment
- Attachment 5 - Strategy for Completing Tri-Party Agreement Milestone M-24-00

SUMMARY MEETING MINUTES

1. **Agenda** - Refer to Attachment 2 for the agenda of the meeting. The primary purpose of this meeting was to:
- o Provide an overview of RCRA well maintenance, remediation, and abandonment activities,
 - o Finalize plans for drilling CY 1992 RCRA wells, and
 - o Present a strategy for completing the TPA milestone M-24-00.
2. **1990 and 1991 Drilling Status** - Mr. Rex Thompson provided the drilling status. The following progress has been made towards RCRA monitoring well installation (see Attachment 3).

CY 1991 RCRA Drilling Milestone Status (as of November 6, 1991):

- o Milestone M-24-12, install 18 wells at LLBG - Drilling is complete. Six wells are undergoing completion activities, ten wells are sample ready.
- o Milestone M-24-13, install 3 wells at S-10 Pond and Ditch - This activity is complete.
- o Milestone M-24-14, install 4 wells at 100D Ponds - Two of the wells have reached total depth and the other two are being drilled.
- o Milestone M-24-15, install 10 wells at Single Shell Tank Farms - Two wells are currently being drilled, 5 wells require casing to be installed, and three wells are waiting for pump installation.
- o Milestone M-24-16, install 7 wells at the B-Pond System - four wells require development and sample pump installation and three wells are sample ready.
- o Milestone M-24-17, install four wells at the 100-N area - All four wells have been completed, one well is sample ready.
- o Milestone M-24-18, install four wells at A-29 Ditch - This activity is complete.

DOE-RL: MAF 12/16/91
Ecology: K. Green 12/16/91

3. **Calendar Year 1992 Well Drilling Plans** - A change request (M-24-91-4) identifying 21 wells to be drilled in CY 1992 was formally submitted to State of Washington Department of Ecology (Ecology) on October 3, 1991. In addition to the 21 wells, an additional 6 wells have been identified for drilling. A draft change request (M-24-91-5) for the additional wells was informally provided to the Ecology in late October. Ms. Kowalik agreed to provide formal approval of the 21 well change request by November 13.

4. **RCRA Well Remediation and Abandonment Program** - Mr. Gardner of WHC Environmental Field Services provided a presentation on the well maintenance and remediation program (see Attachment 4). The RCRA well services are currently performed in response to problem conditions identified by the users. All activities are performed in accordance with approved internal procedures. Most services are maintenance related activities.

Ms. Kowalik of Ecology expressed interest in prioritizing well remediation activities for RCRA purposes. She inquired about the documentation utilized for accomplishing remediation and abandonment (fitness for use investigations). There appears to be no formal system for RCRA applications in place. Mr. Rex Thompson has made a request to Westinghouse Hanford Company management for funds for this program. The issue was tabled for future discussions.

5. **Strategy for Completing TPA Milestone M-24-00** - Mr. Karl Fecht gave the strategy for completing TPA milestone M-24-00. This presentation is included as attachment 4. The RCRA groundwater monitoring networks are nearly completed in accordance with existing regulations, and the need for additional wells is greatly reduced. The presentation was prefaced with the idea that a "rate driven" program (i.e., 50 wells installed per year) is not the most efficient use of resources. Ms. Kowalik agreed with the basic approach. However, Ecology is concerned that other monitoring efforts and characterization may not be performed if milestone M-24-00 is eliminated. Ms. Powers indicated that there are other mechanisms for ensuring additional work such as under the permitting process.

Mr. Fecht gave the history of the milestone, provided the wording of the milestone, and referenced the regulatory requirements directing the activities. The RCRA groundwater monitoring networks are deemed to be in compliance with the requirements for a detection monitoring system.

DOE-RL: MJ 12/16/91
Ecology: AK 12/16/91

Ms. Kowalik requested that this presentation be made in a subsequent meeting to other members of the regulatory staff.

6. **Past Action Items**

- o Submit CY 1992 change request of 21 wells to Ecology by mid-October (Assigned to R. R. Thompson - **COMPLETE**).
- o Submit final change request to Ecology at next RCRA monthly meeting (Assigned to R. R. Thompson/R. L. Jackson - change request was informally submitted).
- o Prepare and submit technical liaison letter to Ecology (Assigned to R. R. Thompson/M. J. Furman - **In Progress**).
- o Prepare well variance protocols by next RCRA monthly meeting (Assigned to K. Kowalik - **COMPLETE**).
- o Prepare letter approving longer well screens around the SST WMA S-SX and U by October 11, 1991 (Assigned to K. Kowalik - **COMPLETE**).

7. **Action Items This Meeting**

- o Prepare and submit formal approval of the October 3, 1991 change request by November, 13, 1991 (Assigned to K. Kowalik).
- o Complete and formally submit the final change request for 27 wells (Assigned to R. R. Thompson/R.L. Jackson).
- o Working meeting on establishing criteria for closing milestone M-24-00 to be held on November 14, 1991 (Ecology, Kennewick Office).

8. **Next Meeting and Agenda** - The next monthly meeting will be held at Ecology's Kennewick office on December 17, 1991.

DOE-RL: WJF 12/16/91
Ecology: K. G. 12/16/91

1990 AND 1991 RCRA DRILLING STATUS
Hanford Federal Facility Agreement
And Consent Order
(NOVEMBER 5, 1991)

1990 DRILL STATUS

<u>Milestone Number</u>	<u>Facility</u>	<u>Proposed Wells</u>	<u>Status*</u>
M-24-05	GROUT	1	1AC
M-24-06	LLBG	6	6AC
M-24-07/M-24-00B	SST	11	2R, 9AC
M-24-08	B-63	4	4AC
M-24-09	S-10	3	3AC
M-24-10	U-12	4	4AC
M-24-11	B POND	1	1AC
		Total	30
			30 Sample Ready 28 AC

1991 DRILL STATUS

<u>Milestone Number</u>	<u>Facility</u>	<u>Proposed Wells</u>	<u>Status*</u>
M-24-12	LLBG	18	6TD, 2CI, 10R
M-24-13	S-10	3	3AC
M-24-14	100-D	4	2D, 1TD, 1CI
M-24-15	SST	10	2D, 5TD, 3CI
M-24-16	B-POND	7	4CI, 3R
M-24-17	100-N	4	3CI, 1R
M-24-18	A-29	4	4R
		TOTAL	50
			21 Sample ready 3 AC

TWENTY ONE 1991 WELLS ARE SAMPLE READY

* ND = Not Drilling
D = Drilling in Progress
TD = At Total Depth

CI = Casing/Screen Installed
DV = Developed
R = Ready for Sampling
AC = Milestone completed-Accepted
and sample ready

1991 RCRA DRILLING ACTIVITY

CY 1991 Wells

NOVEMBER 5, 1991

KEY TO ACTIVITY

K = KAISER RIG

A = ACTIVE

R = REMEDIATION NECESSARY

C = COMPLETED OPERATION

* - ACCEPTED DURING FINAL WALKTHROUGH

@TD Scrn/Csg
Installed Developed Pump Set/Tested SMPLD LAB/FG

S-10 POND AND DITCH

W26-7	C	C	C	C*	8/21/91
W26-10	C	C	C	C*	8/21/91
W26-12	C	C	C	C*	8/28/91

No. Wells = 3

LL BURIAL GROUNDS

LLWMA1

E32-6	C	C	C	C	
E32-7	C	C	C	C	
E32-8	C	C	C	C	
E32-9	C	C	C	C	

LLWMA2

E34-9	C	A			
E34-10	C	C			
E27-17	C	A			

LLWMA3

W7-11	C	C	C	C	
W7-12	C	C	C	C	

LLWMA4

W18-27	C	C	C	C	
W18-28	C	C	C	C	
W18-29	C	C	C	C	

LLWMA5

W6-3	C				
W6-4	C	A			
W6-5	C				
W6-6	C				
W6-7	C	C	C	C	
W6-8	C	C	A (COLLAPSED CASING)	C	

No. Wells = 18

@TD Scrn/Csg
Installed Developed Pump Set/Tested SMPLD LAB/FG

A-29 DITCH

E25-42	C	C	C	C
E25-43	C	C	C	C
E26-12	C	C	C	C
E26-13	C	C	C	C

No. Wells = 4

100-N

199-N-71	C	C		
199-N-72	C	C		
199-N-73	C	C	A	
199-N-74	C	C	C	C

No. Wells = 4

B-POND

699-43-41G	C	C		
(BP91-2)	C	C	C	C
(BP91-3)	C	C	C	C
699-40-40A	C	C	A	
699-40-40B	C	C	A	
699-42-41	C	C	C	C
699-43-40	C	C		

No. Wells = 7

SST

B-BX-BY

E33-42	C	C		
E33-43	C	C		

S-SX

W22-44	C			
W22-45	WILL NOT DRILL IN 1992			
W22-46	C	A		
W23-15	C			

I

W11-27	A (@ 197')			
W11-28	A (@ 225')			

24142151

Scrn/Csg
@TD Installed Developed Pump Set/Tested SMPLD LAB/FG

SST CONTINUED

TX-TY
W14-12 C C

U
W18-30 C
W18-31 C

No. Wells = 11

100-D

D8-4 A (@ 33')
D8-5 C C
D8-6 A (@ 30')
D5-13 C

No. Wells = 4

20110112132

Wells Drilled and Outfitted for CY 1990 TPA Milestone

- 30 Total TPA Wells
- 30 Total Completed 1990 Wells
- 11 Total 1990 TPA Wells Completed in 1991

Scrn/Csg
@TD Installed Developed Pump Set/Tested SMPLD LAB/FG

LERF

LF1 (E35-2)	C*	3/21/91
LF2 (E26-9)	C*	3/21/91
LF3 (E26-10)	C*	3/20/91
LF4 (E26-11)	C*	3/20/91

S-10 Ditch and Pond

W26-8	C*	8/28/91
W26-9	C*	8/20/91
W26-11	C*	

No. Wells = 3

Grout Facility

E25-39	C*	6/26/91
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No. Wells = 1

SSTs

<u>UF</u>		
W18-25	C*	4/11/91
W19-31	C*	10/01/91
W19-32	C*	10/01/91
<u>IF</u>		
W10-17	C*	5/08/91
W10-18	C*	9/24/91
W15-22	C*	4/18/91

<u>SF</u>		
W23-13	C*	10/03/91
W23-14	C*	10/09/91
W22-39	C	

<u>BF</u>		
E33-41	C	7/25/91

<u>AF</u>		
E24-20	C*	

No. Wells = 11

92124142163

Scrn/Csg
@TD Installed Developed Pump Set/Tested SMPLD LAB/FG

LL Burial Grounds

LLBG1

E28-28	C*	3/26/91
(E10-MW1)		
E33-34	C*	8/02/91
(E10-MW7)		
E33-35	C*	7/30/91
(E10-MW8)		

LLBG3

W7-9	C*	8/09/91
(W5-MW1)		
W7-10	C*	8/09/91
(W3-MW4)		

LLBG4

W15-23	C*	8/05/91
(W4-MW3)		

No. Wells = 6

B-63 Crib

E34-08 (1)	C*	
E27-16 (4)	C*	9/09/91
E33-36 (2)	C*	8/21/91
E33-37 (3)	C*	9/09/91

No. Wells = 4

U-12 Crib

W22-40	C*	9/03/91
W22-41	C*	9/03/91
W22-42	C*	9/03/91
W22-43	C*	9/04/91

No. Wells = 4

B Pond

BP-9 (43-41F)	C*	5/01/90
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No. Wells = 1

Total Wells = 34

92124142164

Wells Drilled and Outfitted for CY 1989 TPA Milestone

29 Total Completed 1989 Wells

26 Sampled as of Nov, 11 1991

B Pond (5 Wells)

- BP-1 (43-45)
- BP-2 (44-43B)
- BP-4 (43-41E)
- BP-5 (40-39)
- BP-6 (41-40)

Grout Facility (2 Wells)

- E25-37
- E25-38

SS Tanks (12 Wells)

AF

- E24-19
- E25-40
- E25-41

BF

- E33-31
- E33-32
- E33-33

CF

- E27-12
- E27-13
- E27-14
- E27-15
- (E27-11)

TF

- W10-15
- W10-16

LL Burial Grounds (10 Wells)

LLBG1

- E32-5*
- (E10-MW2)

LLBG2

- E27-11K
- (E12-MW8)
- E34-7
- (E12-MW9)
- E35-1*
- (E12-MW10)
- (E34-8)

LLBG3

- W7-7
- (W3-MW2)
- W7-8*
- (W3-MW3)

LLBG4

- W15-19K
- (W4-MW1)
- W15-20
- (W4-MW2)

LLBG4 (cont)

- W15-21*
- (W4-MW4)
- W15-24 (Redrill)
- (W4-MW4A)
- W18-26
- (W4-MW5)

Total Wells = 29

RCRA RESOURCE PROTECTION WELL MAINTENANCE, REMEDIATION, AND ABANDONMENT

Martin G. Gardner
Environmental Field Services Group
November 6, 1991

This Presentation will Address:

- Requirements To Perform Maintenance, Remediation and Abandonment of Wells (Well Services)
- Controls
- Overview of Current Programs

The Environmental Field Services Group
Of The Westinghouse Hanford Company Is
Responsible For Conducting The Maintenance,
Remediation and Abandonment of Wells Utilized
In The RCRA Monitoring Program

Currently RCRA Well Services Are Performed In Response To Problem Conditions Identified By Users

- In "Reactive Mode" to problems only; no proactive routine well maintenance, remediation or abandonment due to resource limitations

- Requests for Well Service Actions Originate through User and Surveillance Organizations and are Coordinated for "Joint Use"
 - Well Services Request Form
 - Environmental Protection Surveillance and Compliance Report

Regulatory Requirements Provide The Guidelines For Performing Well Services

- WAC 173-160, Minimum Standards for Construction and Maintenance of Wells
- Data Quality Objectives and Remediation Criteria for RCRA and CERCLA Wells at the Hanford Site, June 1990, T.L. Nord, Ecology, and P.T. Day, EPA
- OSWER Directive 9950, RCRA Groundwater Monitoring Technical Enforcement Guidance Document

Internal WHC Procedures Control The Performance Of Well Services Tasks

WHC-CM-7-7, Environmental Investigations and Site Characterization Manual

- EII 6.4, Resource Protection Well Services
- EII 8.3, Remediation of Groundwater Wells
- EII 6.10, Abandoning/Decommissioning Groundwater Wells
- EII 5.4, Field Decontamination of Drilling, Well Development and Sampling Equipment
- EII 4.2, Interim Control of Unknown, Suspected Hazardous and Mixed Waste
- EII 10.3, Purge Water Management

Maintenance Has Been Performed On More Than 100 RCRA Wells Over The Past Year

Tasks Performed Have Included:

- Repair, Replacement or Installation of Groundwater Sampling Pump Systems
- Removal of Debris From the Well
- Repairs to the Well Casing and/or Cap
- Repositioning Sampling Pumps in Wells
- Cleaning and Development of Wells

Extensive Planning Is Conducted Prior to Performing Well Maintenance Field Activities

- Data File Review
- Field Inspections
- Health and Safety
- Health Physics
- Waste Generation (incl. Purgewater)
- Quality Assurance
- Task Requirements

Complete Documentation Is Maintained Of All Well Services Performed

- Hard Copies Are Transmitted And Stored In Accordance With Procedures
- Data is Entered into an Extensive Data Base

**STRATEGY FOR COMPLETING TRI-PARTY AGREEMENT
MILESTONE M-24-00**

**INSTALLATION OF RCRA GROUNDWATER
MONITORING WELLS**

K. R. Fecht/R. L. Jackson

November 6, 1991

TPA MILESTONE M-24-00

M-24-00

Install RCRA groundwater monitoring wells at the rate of 29 in CY 1989, 30 in CY 1990, and 50 per year thereafter until all land disposal units and single-shell tanks are determined to have RCRA compliant monitoring systems

U.S. DOE will install groundwater monitoring wells around RCRA land disposal units and the single-shell tanks at the rate described above until Ecology determines that all such groundwater monitoring systems meet the requirements of WAC 173-303-645

TPA MILESTONE M-24-00 (Cont.)

Installation of groundwater wells shall mean that wells have been drilled, adequately sealed, and screened over no more than 15 feet of the aquifer unless otherwise approved by Ecology, that all pumps and associated sampling equipment have been installed, and that such wells have been developed sufficiently to provide satisfactory samples for all parameters to be analyzed

Specific units to receive groundwater wells and the number of wells to be installed at each unit will be identified in Appendix D in two-year intervals (i.e., CY 1989 and CY 1990 now, CY 1990 and CY 1991 at the next annual update, etc.). Such schedules will be enforceable as interim milestones.

REQUIREMENTS

WAC-173-303-645(8)(a)

General ground water monitoring requirements.

The owner or operator must comply with the requirements of this subsection for any ground water monitoring program developed to satisfy subsections (9), (10), or (11) of this section.

(a) The ground water monitoring system must consist of a sufficient number of wells, installed at appropriate locations and depths to yield ground water samples from the uppermost aquifer that:

(i) Represent the quality of background water that has not been affected by leakage from a regulated unit; and

(ii) Represent the quality of ground water passing the point of compliance.

REQUIREMENTS (Cont.)**WAC-173-303-645(8)(c)**

All monitoring wells must be cased in a manner that maintains the integrity of the monitoring well bore hole. This casing must allow collection of representative ground water samples. Wells must be constructed in such a manner as to prevent contamination of the samples, the sampled strata, and between aquifers and water bearing strata.

WAC-173-303-645(9)(b)

The owner or operator must install a ground water monitoring system at the compliance point, as specified under subsection (6) of this section. The ground water monitoring system must comply with subsection (8)(a)(ii), (b), and (c) of this section.

BASIS FOR COMPLIANCE

Requirements

Compliance Actions

Appropriate Locations -

Shallow detection monitoring system is compliant with ~90% monitoring efficiency using MEMO and professional judgement

Depths -

Shallow monitoring system is adequate for initial groundwater detection system

Quality of Background Water -

RCRA facility or waste management area must have at least one "immediately" upgradient well

BASIS FOR COMPLIANCE (Cont.)

MEETING MINUTES
Attachment 5
Page 7 of 11

Requirements

Compliance Actions

Quality of groundwater
passing point of
compliance

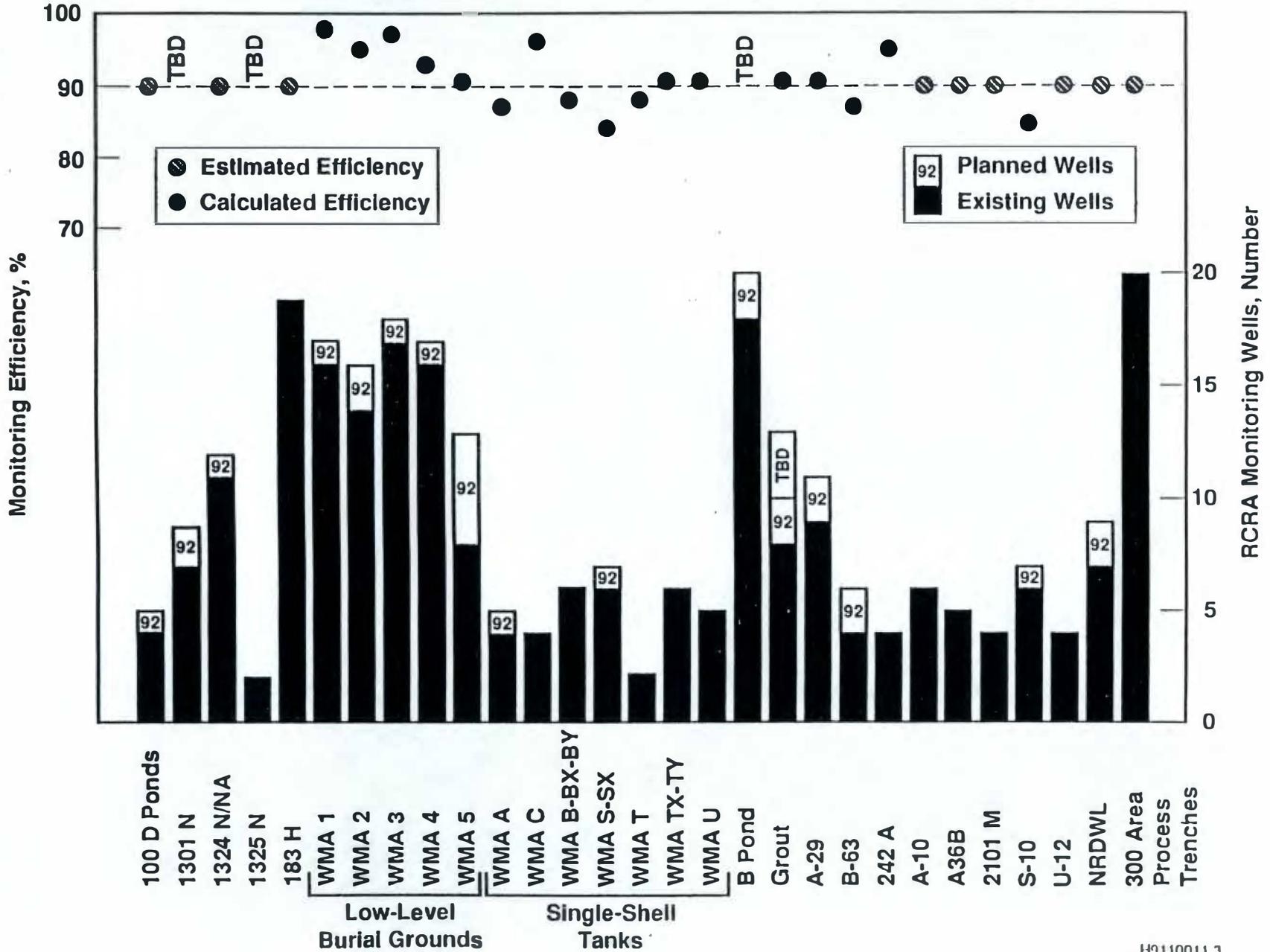
Location of downgradient
detection wells are installed at point
of compliance and documented in
groundwater monitoring plans

For water quality see monitoring
well construction

Monitoring Well Construction -

Wells constructed to WAC 173-160
requirements and documented in
groundwater monitoring plans, and
borehole completion data packages

RCRA Monitoring System Status



PLAN

- o Negotiate about 30 wells in CY 1992 for M-24-00
- o Develop compliance criteria for completing initial facility groundwater detection system
- o Notify Ecology as criteria are met for individual facility(s) at Waste Management Areas
- o Milestone M-24-00 completed when last notification is submitted to and approved by Ecology
- o Negotiate additional RCRA characterization, assessment/compliance/site wide monitoring with Ecology as separate commitment(s)

INITIAL RCRA COMPLIANCE GROUND WATER MONITORING STATUS							
FACILITY	COMPLIANCE						COMPLETE
	90% MONITORING EFFICIENCY	UPGRADIENT WELL (MINIMUM 1)	DOWN GRADIENT WELL (MINIMUM 3)	CONSTRUCTION STANDARDS	TURBIDITY (<5NTU)	1 YEAR BACKGROUND	
100D							
1301N							
1324N/NA							
1325N							
183H							
LLBG WMA 1							
LLBG WMA 2							
LLBG WMA 3							
LLBG WMA 4							
LLBG WMA 5							
SST WMA A							
SST WMA B-BX-BY							
SST WMA C							
SST WMA S-SX							
SST WMA T							
SST WMA TX-TY							
SST WMA W							

INITIAL RCRA COMPLIANCE GROUND WATER MONITORING STATUS							
FACILITY	COMPLIANCE						COMPLETE
	90% MONITORING EFFICIENCY	UPGRADIENT WELL (MINIMUM 1)	DOWN GRADIENT WELL (MINIMUM 3)	CONSTRUCTION STANDARDS	TURBIDITY (<5NTU)	1 YEAR BACKGROUND	
B-POND							
GROUT							
A-29							
B-63							
242 A							
A-10							
A36B							
2101M							
S-10							
U-12							
NRDWL							
300PT							
TOTAL							