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Final

Meeting Minutes Transmittal/Approval
Unit Manager's Meeting: 200 Aggregate Area/200 Area Operable Units
740 Stevens Center, Room 1200, Richland, Washington
March 25, 1993

FROM/APPROVAL: *Paul M. Pak* Date *4-29-93*
 Paul M. Pak, 200 Aggregate Area Unit Manager, RL (A5-19)

APPROVAL: *David R. Sherwood* Date *29 Apr 93*
 Douglas R. Sherwood, 200 Aggregate Area Unit Manager, EPA (B5-01)

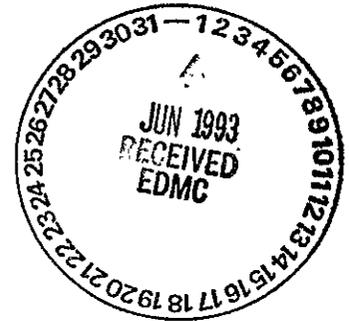
APPROVAL: *Nancy Goswami* Date *4/29/93*
 Dib Goswami, 200 Aggregate Area Unit Manager, WA Dept of Ecology

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

- Attachment #1 - Meeting Summary
- Attachment #2 - Attendance Sheet
- Attachment #3 - Agenda
- Attachment #4 - Action Item Status List
- Attachment #5 - 200 Area Activities
- Attachment #6 - 200-ZP-1 TPA Change Request
- Attachment #7 - Aquifer Testing
- Attachment #8 - 200-UP-1 Vertical Profiling Activity
- Attachment #7 - 200 Area Ecological Characterization Study Description of Work Summary

Prepared by: *Kay Kimmel* Date: *4/29/93*
 Suzanne Clarke, Kay Kimmel, GSSC (A4-35)

Concurrence by: *MD Wittrich* Date: *4-29-93*
 Curt Wittrich, WHC Coordinator (H6-03)



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**Attachment #1
Unit Manager's Meeting: 200 Aggregate Area/200 Area Operable Units
March 25, 1993**

Meeting and Summary of Commitments and Agreements

1. SIGNING OF THE FEBRUARY 200 AREA UNIT MANAGER'S MEETING MINUTES:

Meeting minutes were reviewed and approved with no changes.

2. ACTION ITEM UPDATE. See Attachment 4 for status:

All Action Items are closed.

3. NEW ACTION ITEMS (INITIATED March 25, 1993):

No new action items were initiated.

4. STATUS 200 AGGREGATE AREA MANAGEMENT STUDY PROGRAM

- 200 AAMS Reports Status - Curt Wittreich provided the status of the 200 Area work (see attachment #5).

5. INFORMATION ITEMS:

- Curt Wittreich introduced three presentations regarding DOWs; aquifer testing and groundwater profiling DOWs supporting the 200-UP-1 work plan and on overall 200 Area ecological study DOW to support IRM decisions.
- Craig Swanson described aquifer testing activities planned for Fiscal Year 1993 (see attachment #7). The timing of and the need for the aquifer slug tests were discussed, however, no agreement was reached on when to perform the tests.
- Bruce Ford described the vertical profiling activity for 200-UP-1 (see attachment #8).
- Dan Parker summarized the 200-ZP-1 TPA Change Request (see Attachment #6). The change request recommends combining both 200-ZP-1 and 200-ZP-2 OUs and creating only one source, 200-ZP-2, and one groundwater, 200-ZP-1, OU. The scope of 200-ZP-1 will address the groundwater investigations associated with the 200-ZP-1, 200-ZP-2, 200-TP-2 and 200-TP-4 OUs. Initially these four OUs were designated as both source and groundwater, covering the groundwater beneath the Z and T Plants.
- Steve Weiss presented an overview of the DOW describing the 200 Area Ecological Characterization Study (see attachment #9).
- Work Scope - The Regulators would prefer to be involved in scoping the work plans. The indication was that by working together at this level, the work plans would be reviewed and approved in a more timely fashion. There was also discussion on the timing of various

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activities, such as receiving a DOW for approval before the work plan has been received. No consensus was reached on how best to accommodate each party's needs.

- Doug Sherwood stated that no CERCLA activities may commence without EPA approval and approval cannot be granted in the absence of approved Work Plans or DOWs.
- **Ecological Investigation** - RL proposed to perform field activities related to the 200 Area ecological investigation in support of LFI Work Plans. The work scope will be described in a DOW. Doug Sherwood stated that no CERCLA activities may commence without EPA approval and approval cannot be granted in the absence of approved Work Plans or DOWs. EPA suggested that Westlake and the proposed ERSDF site be included in the investigation.

6. AGREEMENT:

- It was agreed that a schedule containing dates associated with each major task would be included in the Draft A 200-ZP-1 and 200-UP-1 work plans.

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200 Aggregate Area Unit Manager's Meeting
 Official Attendance Record
 March 25, 1993

Please print clearly and use black ink

PRINTED NAME	ORGANIZATION	O.U. ROLE	TELEPHONE
KAY KIMMEL	DAMES & MOORE	GSSC TO RL	376-1985
Suzanne Clarke	DAMES & MOORE	GSSC TO RL	376-8189
Nancy Uziemlo	Ecology	UM	736 2014
Jeff Phillips	Ecology	UM	736-3011
CHUCK CLINE	"	Hydrology Support	(206) 438-7556
Richard Carlson	WHC	200 Area	(509) 376-9027
Paul Pak	DOE-RL	200 Area	(509) 376-4798
Doug Sherwood	EPA	Unit Manager	(509) 376-9529
Paul Belmer	EPA	" "	6-8665
Dib Goswami	Ecology	" "	509-736-2015
H.I. Downey	WHC	ER - Programs	376-0568
Pamela Innis	EPA	Unit Manager	376-4919
DAN PARKER	WHC	ZPI	372-1031
TOM JONES	PNL	OHE	375-2710
Larry Gadbois	EPA	Unit Manager	376-9884
Diana Sickle	WHC	ER/Program	372-3141
Bruce Ford	WHC	GEOSCIENCES	376-6465
L. Craig Swanson	WHC	GEOSCIENCES	376-1439
J.J. Consort	DAMES + MOORE	GSSC to RL	3765011
Steve Cross	Ecology	Support	206 459 6675
Brian Drost	USGS	EPA Support	206-593-6510
Nancy Lane	WHC	Risk Assessment	372-3975
Sandra Stubecki	PRC	EPA Support	(206) 624-2682
David Erb	WHC	WHC - 200 East - NAMS	372-7402
Michael J GALCOUL	WHC	TECHNICAL COORDINATOR	376-2038

200-UP-2

091 205 791 93

Attachment #3
Unit Manager's Meeting: 200 Aggregate Area/200 Area Operable Units
March 25, 1993

Agenda

200 Area Activities

- **Status of AAMS Reports**
- **200-UP-1 Groundwater DOWs**
- **200 Areas Ecological Characterization DOW**

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Attachment #4

**Action Item Status List
Unit Manager's Meeting: 200 Aggregate Area/200 Area Operable Units
March 25, 1993**

Item No.	Action/Source of Action	Status
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No Action Items.

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200 AREA ACTIVITIES

Curtis D. Wittreich

March 25, 1993

AGENDA

- 200 AGGREGATE AREA MANAGEMENT STUDY REPORTS
- 200-UP-1 GROUNDWATER OPERABLE UNIT WORK PLAN
 - Aquifer Testing DOW -- Craig Swanson
 - Groundwater Profiling DOW -- Bruce Ford
- 200-ZP-1 GROUNDWATER OPERABLE UNIT WORK PLAN
 - TPA Change Request -- Dan Parker
- 200 AREA ECOLOGICAL CHARACTERIZATION STUDY
 - DOW -- Steve Weiss

DESCRIPTION OF WORK SCHEDULE

- REGULATORY REVIEW PERIOD APRIL 17 - 30
- FINALIZE AND ISSUE DOW MAY 1 - 5

200-ZP-1 TPA CHANGE REQUEST

- o MOVE ALL WASTE MANAGEMENT UNITS AND UNPLANNED RELEASES LISTED UNDER 200-ZP-1 TO 200-ZP-2**
- o 200-ZP-1 GROUNDWATER OPERABLE UNIT WILL ADDRESS THE GROUNDWATER INVESTIGATIONS ASSOCIATED WITH THE 200-ZP-2, 200-TP-2, AND 200-TP-4 OPERABLE UNITS**

AQUIFER TESTING

PURPOSE: Provide estimates of aquifer hydraulic conductivity to support the 200 UP-1 data needs

OBJECTIVES:

1. Determine hydraulic conductivities for the top of the unconfined aquifer.
2. Confirm estimated hydraulic conductivities from past tests (primarily slug tests).

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WELL LOCATION CRITERIA

1. Only existing wells will be tested (efficient use of resources).
2. The wells must be screened or perforated in the top of the unconfined aquifer.
3. Testing near the U-1 and U-2 cribs is desired (this is the focus of the interim remedial measure).
4. The test results should provide confirmatory values of hydraulic conductivity to refine the conceptual model.
5. Testing will be performed primarily in the eastern portion of 200 West, which is poorly defined with respect to aquifer properties and downgradient of the 200 West Area.
6. Testing should provide lateral definition of an east-west trending high hydraulic conductivity zone just north of the U-1 and U-2 cribs.
7. Multiple wells should be used if possible.

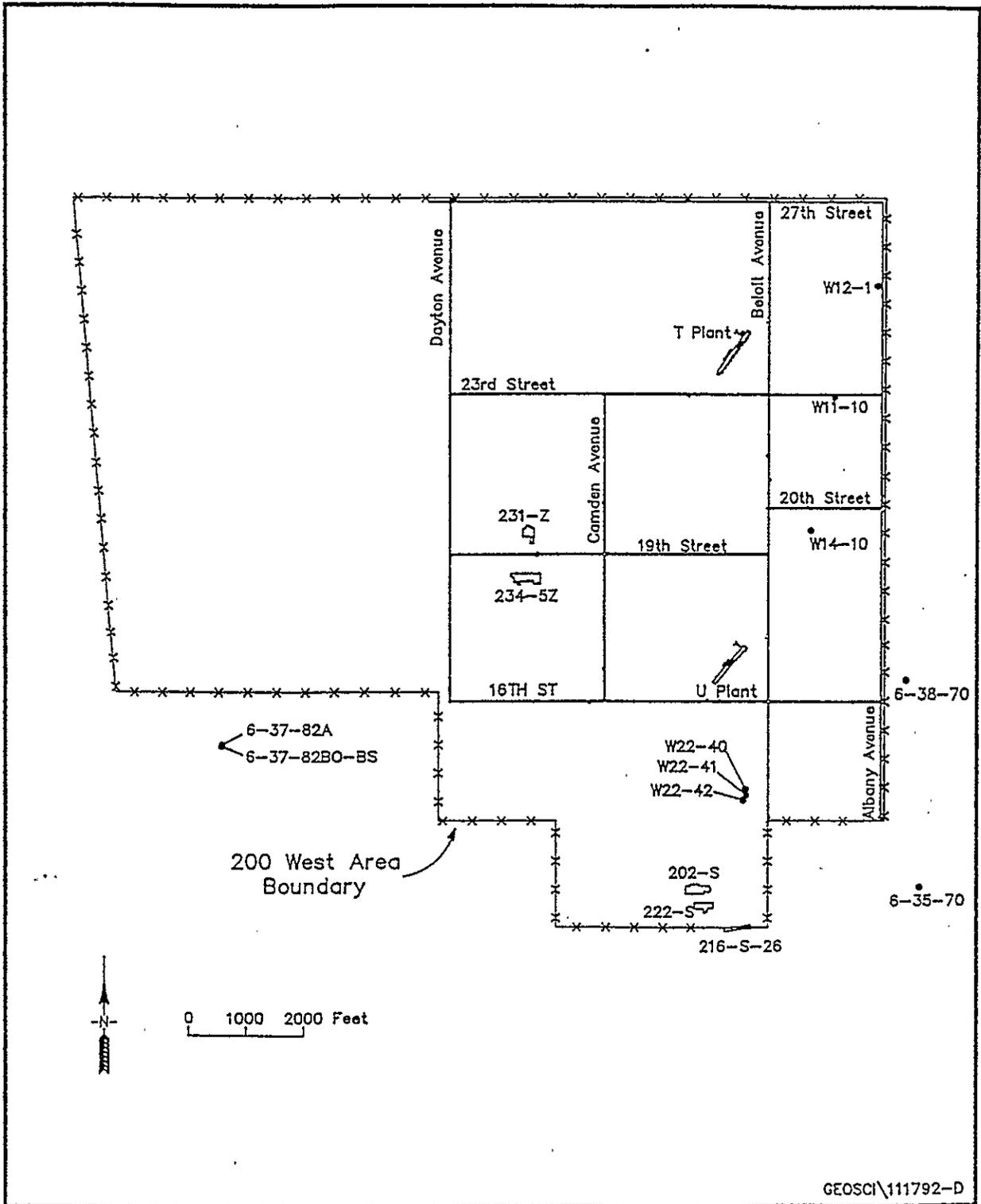
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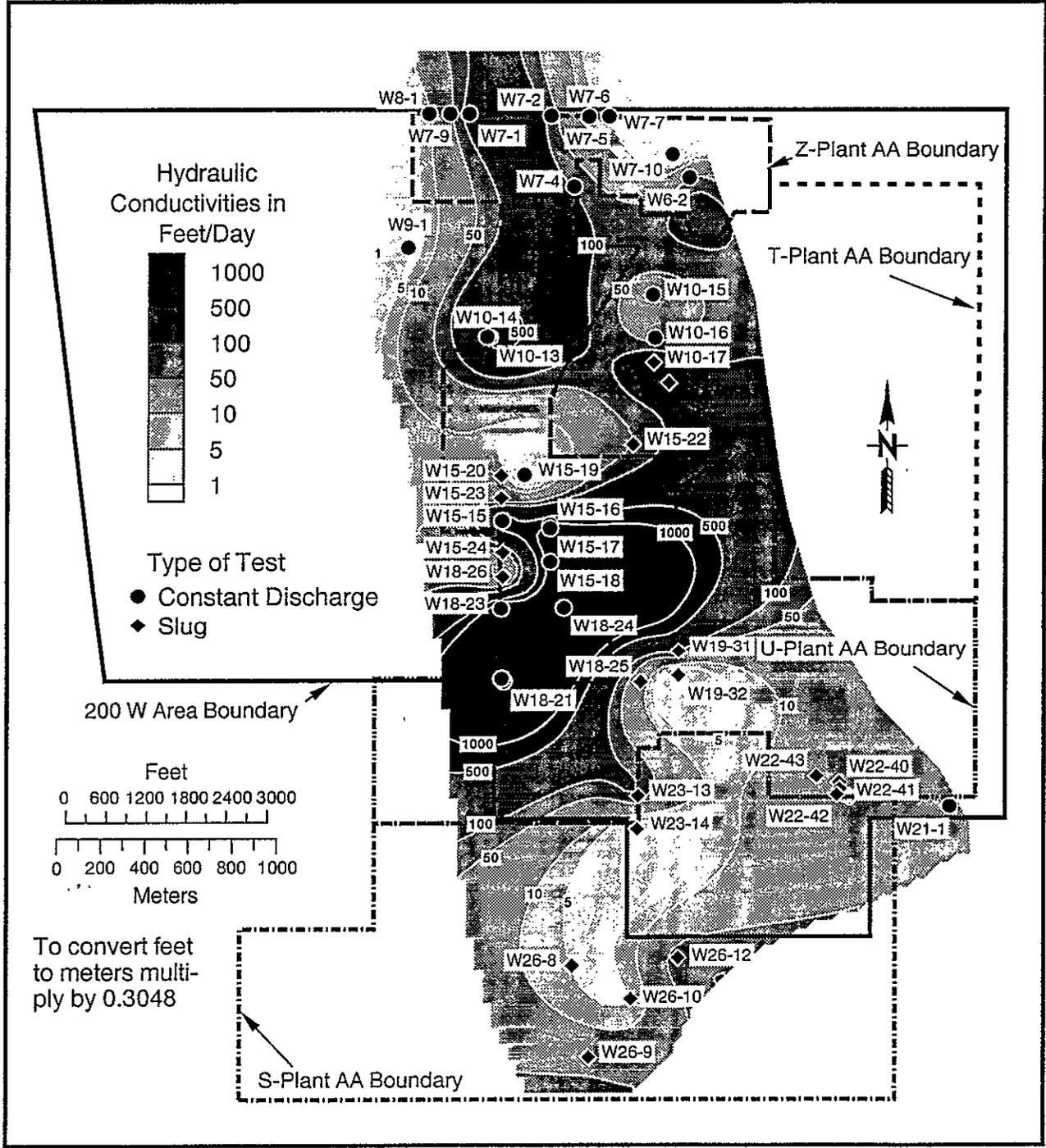
Table 2. Summary Table of Criteria for Selecting Test Wells.

Selection Criteria	299-W12-1	299-W11-10	299-W14-10	299-W22-41	699-W38-70	699-W35-70	699-37-82A
Existing Well	X	X	X	X	X	X	X
Screened at Top of Aquifer	X	X	X	X	X	X	X
Near U-1/ U-2 Crib			X	X	X	X	
Confirms Conductivity				X			X
Fills Data Gap	X	X	X		X	X	X
Eastern Side of 200 West	X	X	X		X	X	
Defines High Conductivity Area			X				X
Multiple Wells				X			X

*A slug test and single-well test is proposed for all wells. Multiple-well tests are possible at 299-W22-41 and 699-37-82A.

Figure 1. Location Map for the Proposed Aquifer Test Wells in the 200 West Area.





GSTEC032692-STR

Current 200 West Conceptual Model

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TESTING METHODS AND SEQUENCE

- o Slug Test- confirm previous values; compare to constant discharge test results.
- o Step-Drawdown Test- determine optimum pumping rate (as applicable).
- o Constant Discharge Test- single-well or multiple-well tests to estimate the hydraulic conductivity of the aquifer.
- o Final Slug Test- determine changes in well conditions from testing activities.

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**200-UP-1
VERTICAL PROFILING
ACTIVITY**

B.H. Ford

**Geosciences Function
Westinghouse Hanford Company**

Requirement for Testing Activity

- **200-UP-1 Work Plan (Draft, DOE/RL 1993) calls for field activity to define the vertical extent of groundwater contamination.**

Test Constraints

- Use only existing wells.
- Focus on the vertical contaminant distribution associated with the 200-UP-1 IRM plume (Nitrate, Tc-99, Uranium).

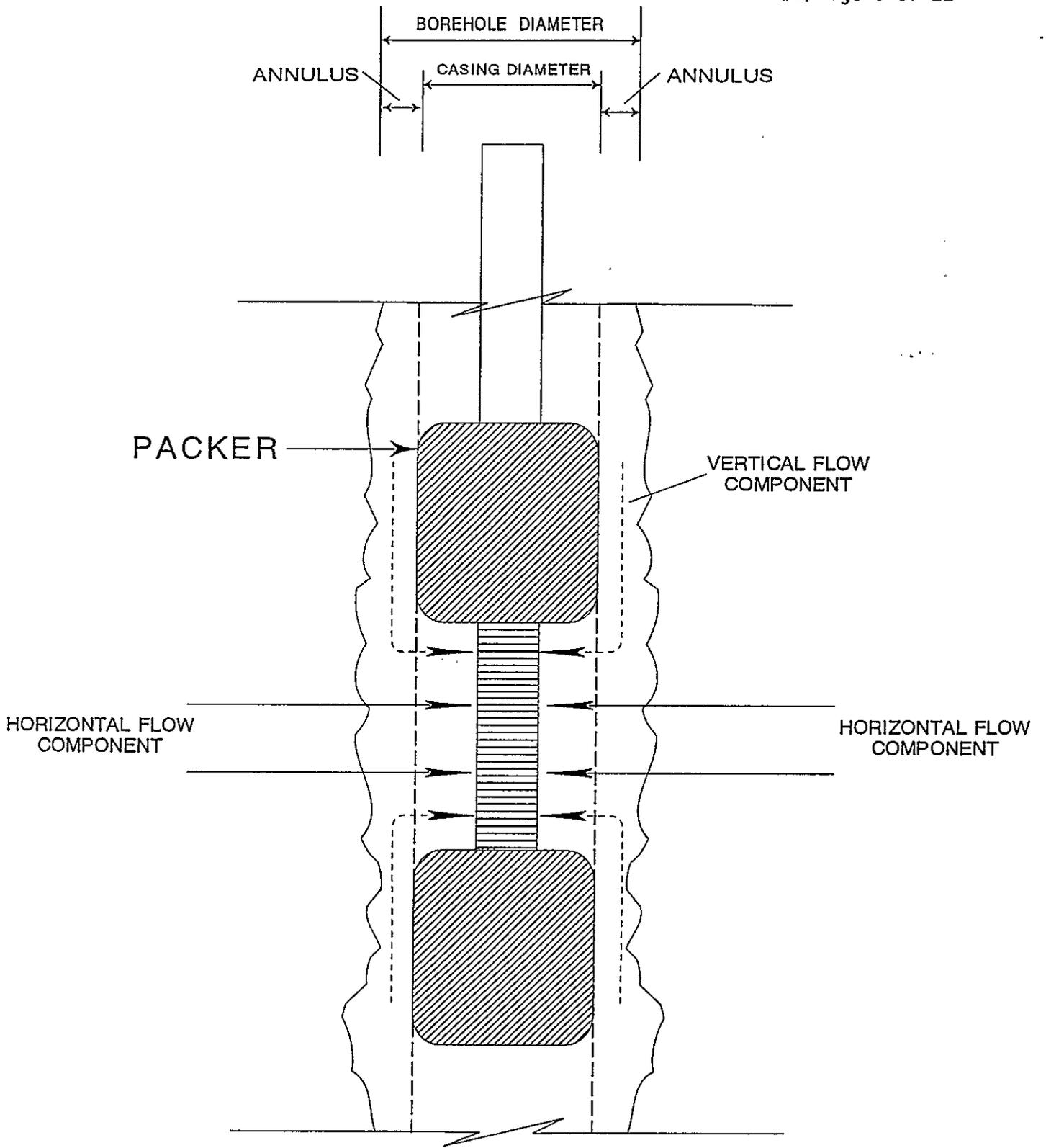
Conceptual Basis for Test

- Primary concern is the ability to isolate and sample discrete intervals of the aquifer using existing wells with long screened intervals.

- Four steps will be taken to minimize the potential for nonrepresentative vertical flow or to allow for recognition and characterization of the amount of mixing of vertical with horizontal flow:
 - Use of straddle packer to isolate sample intervals,
 - Well maintenance to allow for best possible sealing surface for straddle packer,
 - ○ Tagging of the wellbore and annular space with a tracer to allow recovery determinations, and
 - Employment of very low pumping rates to promote horizontal, laminar flow.

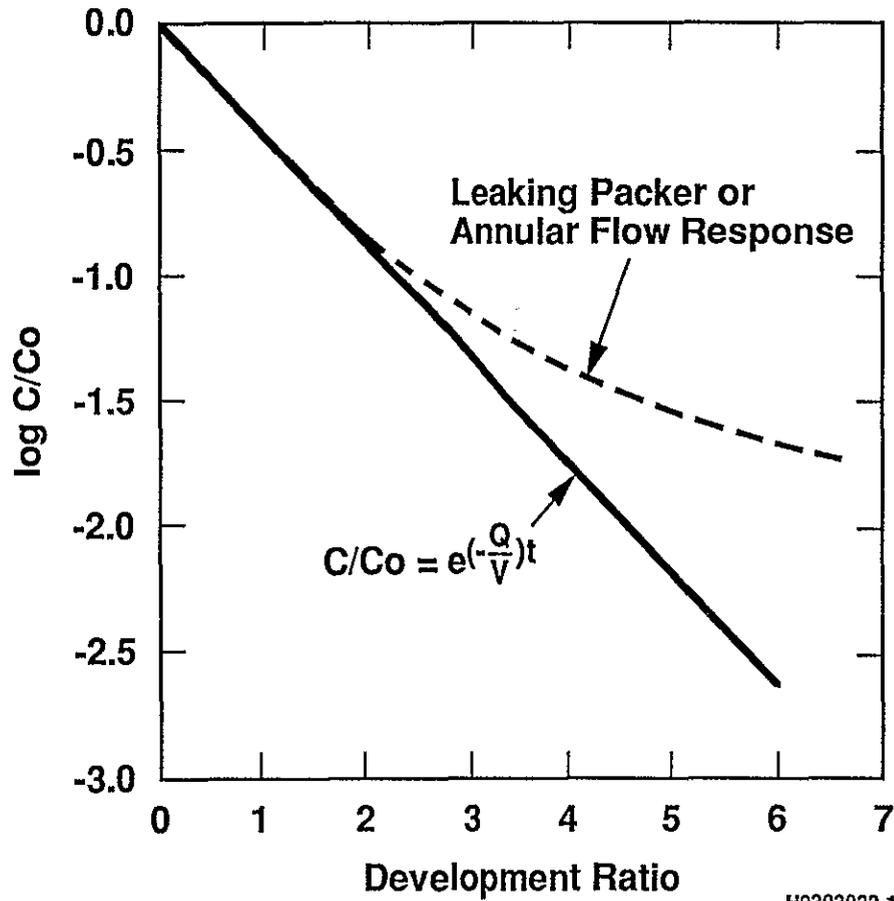
Tracer Testing

- Packed-off interval of borehole and the aquifer immediately adjacent to the borehole can be viewed as a mixing-cell.
- Recovery of tracer during low-volume purge can be plotted versus the predicted recovery curve.
- Vertical flow due to packer bypass and/or annular flow will result in a non-linear "tailing" of the curve or the curve will have a very shallow slope.



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Theoretical Tracer Concentration-Time Response Curve During Purging of the Packered Interval

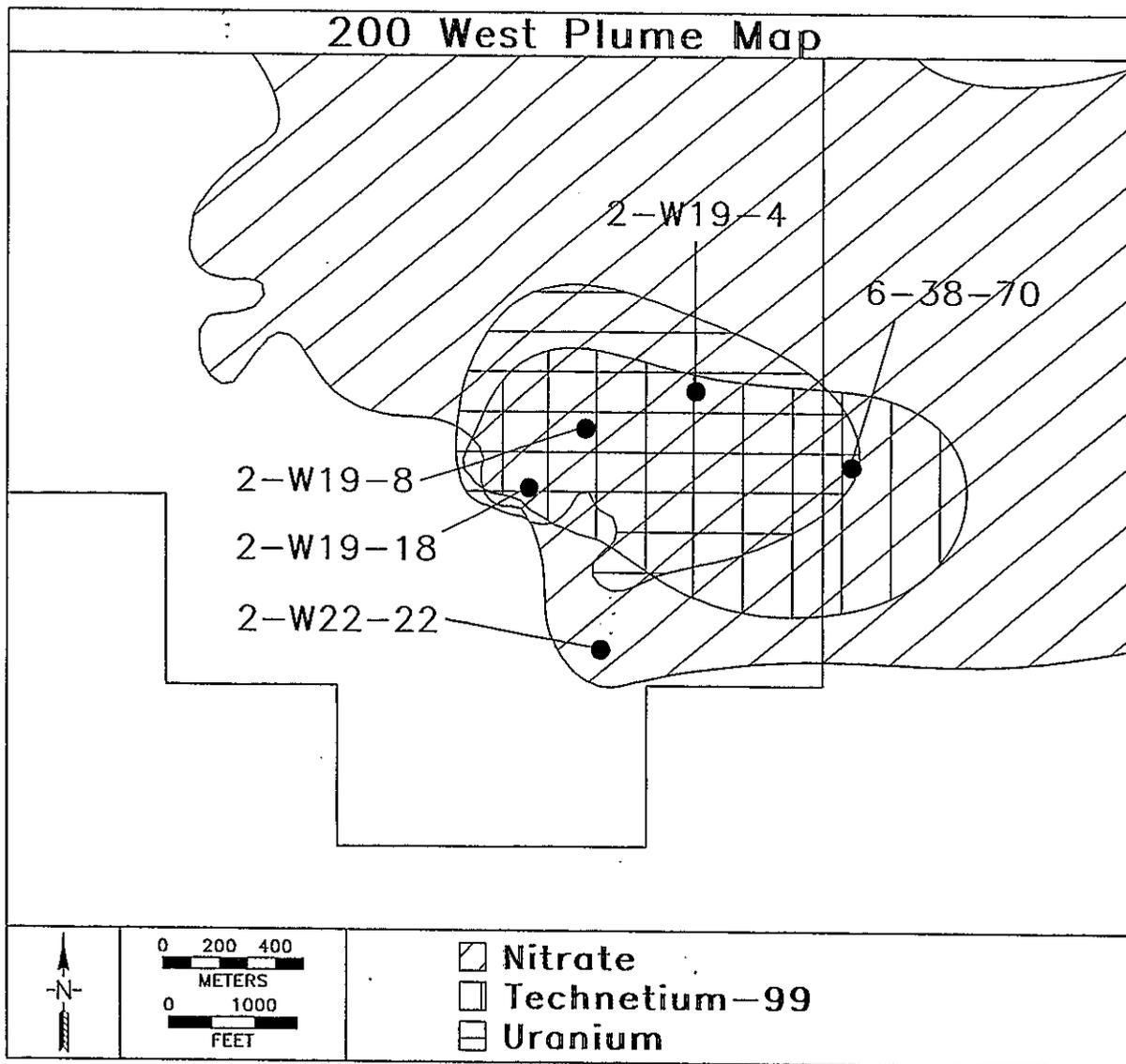


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Wells Selected for Testing

Selection Criteria	299- W19-4	299- W19-8	299- W19-18	299- W22-22	699- 38-70
Existing Well	X	X	X	X	X
Min. 40-ft. of casing below present WT	X	X ¹	X ¹	X	X
Screen/perforations at top and bottom of well (or capable)	X	X ²	X	X	X
Beneath/associated with the IRM plumes	X	X	X	X	X
Fills Data Gap	X	X	X	X	X

- ¹ Removal of well fill material will be necessary.
² Well perforation will be required.



Proposed Schedule

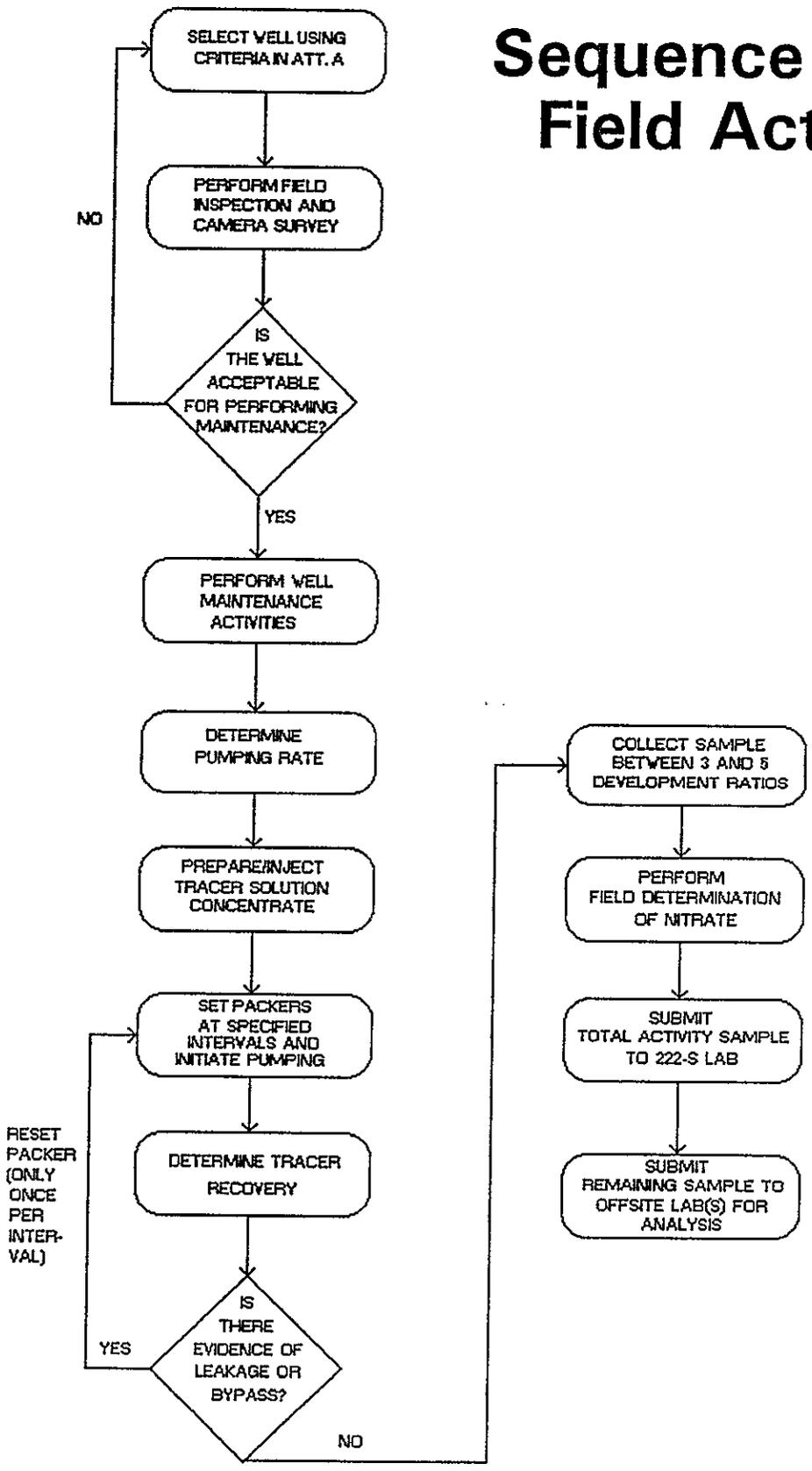
- **Description of Work**

WHC Review/Comment Incorporation	3/24 - 3/30
DOE Review	3/31 - 4/10
DOE Comment Incorporation	4/11 - 4/16
Regulator Review	4/17 - 4/30
Final Comment Incorporation/Document Approval/Release	5/1 - 5/5
Notify Parties of Field Work	5/5
Commence Field Work	5/10

Proposed Schedule (cont)

WELL	WELL ASSESSMENT	WELL MAINTENANCE	PUMPING RATE	WELL TEST
299-W19-4	MAR-APR 93	APRIL 93	MAY 93	MAY 93
299-W19-8	MAR-APR 93	APRIL 93	MAY 93	MAY 93
299-W19-18	MAR-APR 93	APRIL 93	MAY 93	MAY 93
299-W22-22	MAR-APR 93	APRIL 93	MAY 93	JUNE 93
699-38-70	MAR-APR 93	APRIL 93	MAY 93	MAY 93

Sequence of Field Activities



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**200 Area Ecological Characterization
Study
Description of Work Summary**

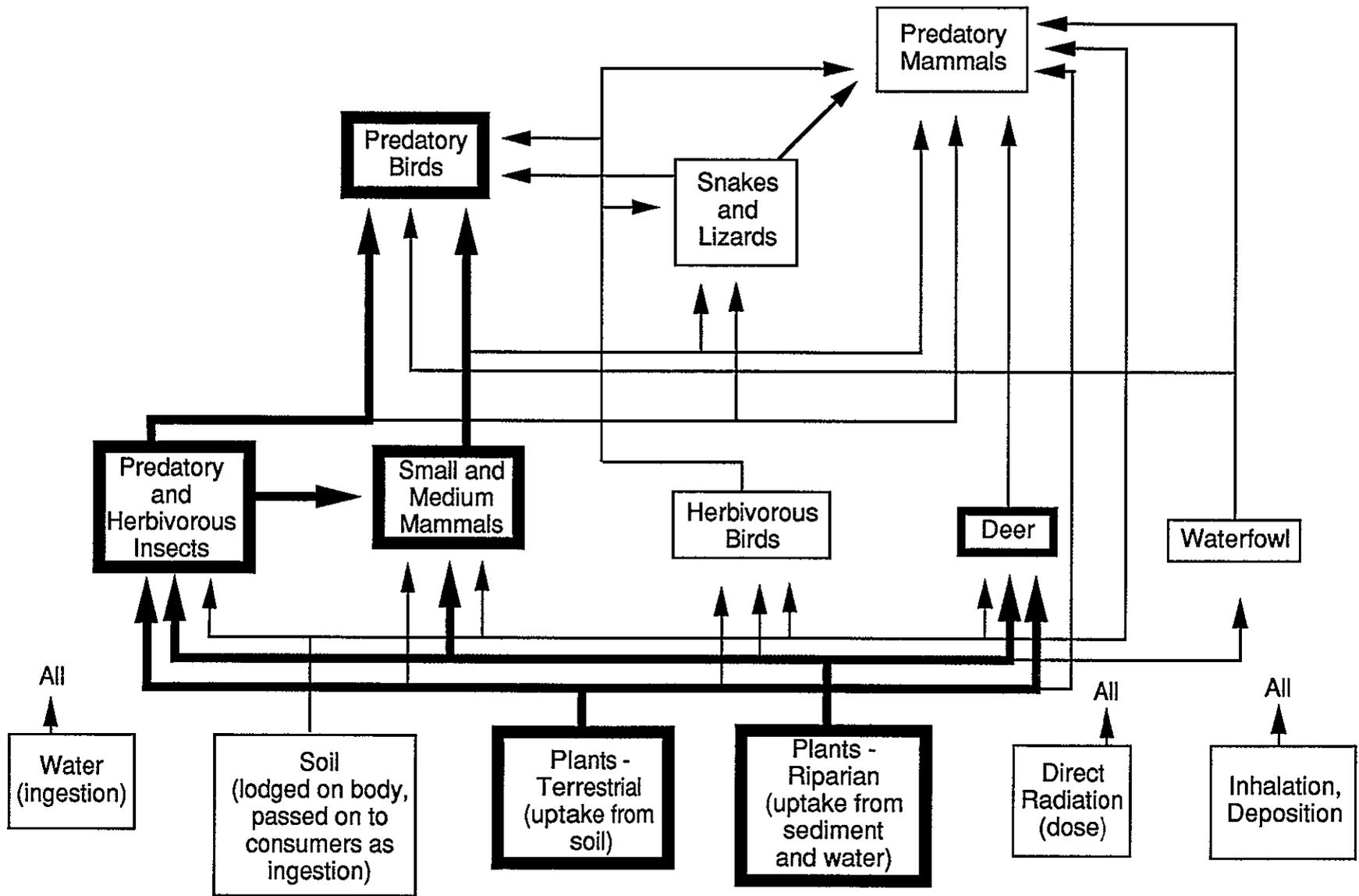
**Steve Weiss
March 24, 1993**

Scope and Objectives:

**Limited field investigations
to support IRM decisions
in the 200 Areas**

Field Activities are based on:

- **Qualitative risk assessment methodology data needs**
- **Experience gained from 100 area ecological sampling**



Biota Pathways, Emphasizing Assessment and Measurement Endpoints and Pathways

Field Activities Focused with

- Ecological WMU Analogs**
- Reasonably large WMUs**
- WMUs with high HRS score**
- WMUs with greatest potential for biota pathway
(documented history of contamination,
and sufficient vegetation present)**

Summary of Waste Sites Selected for
Ecological Investigations

Area	Site Designation	Facility Type	Habitat Type	HRS Score	EP Score
200E	216-B-3	Pond	Riparian	"High"	-
200W	216-U-14	Ditch	Riparian	45.3	13
200E	216-B-12	Crib	Terrestrial	62.9	-
200W	216-U-11	Trench	Terrestrial	37.8	-

Alternate sites include: 216-A-24, 216-A-40, 216-S-4, 216-S-17, 216-S-21

Sample Collection Data

LOCATION/MEDIA	ANALYTE	METHOD	HOLDING TIME	CONTAINER/ VOLUME
Vegetation	TAL (inc. Mercury)	CLP	6 Months	P 300 ml
	Gamma Spec. Sr-90 Tc-99	Lab SOP	28 Days 6 Months	P 300 ml
	Total Activity	N/A	6 Months	G or P, >1ml
Insects	TAL (inc. Mercury)	CLP	6 Months	P 300 ml
	Gamma Spec. Sr-90	Lab SOP	28 Days 6 Months	P 300 ml
	Total Activity	N/A	6 Months	G or P, >1ml
Small Mammals	TAL (inc. Mercury)	CLP	6 Months	Will be submitted as whole organisms
	Gamma Spec. Sr-90	Lab SOP	28 Days 6 Months	
	Total Activity	N/A	6 Months	

G = Glass SOP = Standard Operating Procedures TAL = Target Analyte List
P = Plastic CLP = Contract Laboratory Program

Sampling Summary

Sample Media	Number Sites	Number Samples	Total	Sample Type	Collection Method	Control Samples
Mammals	4	4	16	small	snap traps Sherman	2
Vegetation	4	4	16	Riparian: bulrush, willows, cattails Terrestrial: sagebrush, rabbitbrush, tumbleweed	clipping	2
Insects	4	2*	8*	all	Sweep nets, pit- can traps, aspirators	1

Final product:

**Limited field investigation report summarizing
existing hanford-specific information and
results of the field data collection activities**

Distribution

Unit Manager's Meeting: 200 Aggregate Area/200 Area Operable Units
March 25, 1993

Roger D. Freeberg /Julie K. Erickson /Paul Pak DOE-RL, ERD (A5-19)
Mike Thompson DOE-RL, EAP/RPB (A5-15)
Diane Clark DOE-RL, TSD/SSB (A5-55)
Mary Harmon DOE-HQ (EM-442)

Doug Sherwood 200 Aggregate Area Manager, EPA (B5-01)
Ward Staubit USGS, Support to EPA
Audree DeAngeles PRC, Support to EPA

Dib Goswami WDOE (Kennewick)
Larry Goldstein WDOE (Lacey)

Lynn Albin Washington Dept. of Health

Curt Wittreich WHC (H6-03)
Tom Wintczak Program Manager, WHC (H6-27)
Mel Adams (Please route to:) WHC (H6-01)
 Rich Carlson WHC (H6-03)
 M.J. Galgoul WHC (H6-03)
L.D. Arnold WHC (B2-35)
Diana Sickle WHC (H6-27)
Chris Widrig (Please route to:) PNL (K1-21)
 Wayne Martin PNL (K1-19)
 Mark Hanson PNL (K1-51)
 Roy Gephart PNL (K1-22)
 Steve Slate PNL (K1-19)
 Joan Keller PNL (K1-21)
 Ben Johnson PNL (K1-78)

Original Sent To: ADMINISTRATIVE RECORD: 200 AAMS; Care of EDMC, WHC (H6-08)

Please inform Suzanne Clarke (376-8189) or Kay Kimmel (376-1985) of Mactec/Dames & Moore (A4-35) of deletions or additions to the distribution list.

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