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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
January 28, 1993

FROM/APPROVAL: Paul M. Pak Date 02/24/93
Paul M. Pak, 200 Aggregate Area Unit Manager, RL (A5-19)

APPROVAL: Pamela A. Innis for Date 02/24/93
Douglas R. Sherwood, 200 Aggregate Area Unit Manager, EPA (B5-01)

APPROVAL: Nancy Wrenbler for Date 2/24/93
Dib Goswami, 200 Aggregate Area Unit Manager, WA Dept of Ecology

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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 Aggregate Area Management Study Program
Attachment #6	-	200 AAMS Groundwater Field Characterization Report
Attachment #7	-	200 AAMS Borehole Geophysics Field Characterization Report

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Prepared by: Kay Kimmel Date: 2/24/93
Suzanne Clarke, Kay Kimmel, GSSC (A4-35)

Concurrence by: Curt Wittreich Date: 2/24/93
Curt Wittreich, WHC Coordinator (H6-03)

Attachment #1
Unit Manager's Meeting: 200 Aggregate Area/200 Area Operable Units
January 28, 1993

Meeting and Summary of Commitments and Agreements

1. SIGNING OF THE NOVEMBER 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 (before January meeting):

   All Action Items are closed.

3. NEW ACTION ITEMS (INITIATED January 28, 1993):

   No new action items were initiated.

4. STATUS 200 AGGREGATE AREA MANAGEMENT STUDY PROGRAM

   - 200 AAMS Reports Status - Curt Wittreich provided the reports status (see Attachment #5). The following AAMSRs have gone through the final regulator comment disposition process and are ready to be finalized: U-Plant, Z-Plant, T-Plant and 200 West Groundwater.

5. INFORMATION ITEM:

   - 200 West Groundwater AAMSR - Bruce Ford gave the status of the 200 West Groundwater AAMSR. Disposition of regulator comments is nearing completion. The remaining issue involves the format of the contour maps showing groundwater contaminant distribution (see attachment #6). Contouring contaminant plumes at the detection limit does not provide meaningful or interpretable information for most constituents. An alternative approach of optimizing the contouring on a constituent-by-constituent basis was proposed. Using this approach, various contour intervals (e.g., one-half the regulatory limit, one-quarter the regulatory limit) would be evaluated to determine the contour that is best representative of the data and provides interpretable results. An example of this approach was presented for uranium contamination in the 200 West area. Bruce Ford noted that superimposing the 200 West hydraulic conductivity map on top of the uranium plume map provides an even better look at where contamination exists and where it is moving.

   - 200 AAMS Borehole Logging Data - John Brodeur presented results of the spectral gamma borehole logging (see attachment #7) for the "200 AAMS Borehole Geophysics Field Characterization Report", WHC-SD-EN-TI-021. This document has been prepared in parallel with the AAMSR and will be used to assess site mobility (not site stability), as well as update the list of possible sources for groundwater contaminants.

Attachment #2

~~200~~ Aggregate Area
200 ~~Aggregate Area~~ Unit Manager's Meeting
Official Attendance Record
January 28, 1993

Please print clearly and use black ink

PRINTED NAME	SIGNATURE	ORGANIZATION	O.U. ROLE	TELEPHONE
Karen Jones		Dames & Moore	GSSC	946-0176
S.W. Clark	S.W. Clark	WHC	Eng. Support	376-1513
Nancy Lane	N Lane	WHC	Risk Assessment	372-3975
Diana Sickle	Diana Sickle	WHC	ER Program	372-3141
D.L. PARKER	Danny L Parker	WHC	200 GW AAMSR	372-1031
D.B. Erb	David B Erb	WHC	200E AAMSR	372-1402
Charles S. Cline	CHARLES S. CLINE	ECOLOGY	HYDROGEO.	206 438-7556
Bill Lum	W Lum	USGS	EPA Support	206 593 6510
Audrey DeAngelo		PRC	EPA Support	2066242692
Paul Beaver		EPA	O. Unit Mgr	6-8665
Paul M. Pak	Paul M. Pak	DOE-RL	200 Areas UMM	509-376-4798
CURT WITTREICH		WHC	WHC 200 Area	6-1062
MICHAEL J GALGOUL	Michael J Galgoul	WHC	200 UPZ TECH COORD	376-2038
H.D. Downey	H.D. Downey	WHC	ER Program Office	376-0569
PAMELA INNIS		EPA	O.U. MANAGER	376-4919
John Brodeur	J. K. Fix	WHC	Geophysics	6-9689
Tom JONES	T E Jones	PNL	OHE	375-2210
GS JONES	GS Jones	WHC	ER PROGRAM OFFICE	2-2871
NANCY H. UZIEMBLO	Nancy H. Uziemblo	Ecology	OUM	736-3014
D. GOSWAMI	D. Goswami	Ecology	OUM	736-3015
KAY KIMMEL		DAMES & MOORE	GSSC TO RL	376-1985
Suzanne Clarke	Suzanne Clarke	Dames & Moore	GSSC to RL	376-8189

Attachment #3
Unit Manager's Meeting: 200 Aggregate Area/200 Area Operable Units
January 28, 1993

Agenda

200 Aggregate Area Management Study Program:

- 200 AAMS Reports Status - Curt Wittreich
- 200 AAMS Groundwater Field Characterization Report - Bruce Ford
- 200 AAMS Borehole Geophysics Field Characterization Report - John Brodeur

Attachment #4

Action Item Status List
Unit Manager's Meeting: 200 Aggregate Area/200 Area Operable Units
January 28, 1993

Item No.	Action/Source of Action	Status

No Action Items.

200 AGGREGATE AREA MANAGEMENT STUDY PROGRAM

Curtis D. Wittreich
Technical Coordinator

Bruce Ford
Groundwater Field Activity Lead

John Brodeur
Geophysics Field Activity Lead

January 28, 1993

Status
200 Aggregate Area Management Study Program

01/28/93

Area	Aggregate Area	AAMS Type	AAMS Report	Regulator Comments Due	M-27-00 Milestones
200 West	U Plant	Source	Issued Rev. 0		1/92
	Z Plant	Source	Issued Rev. 0		2/92
	S Plant	Source	Preparing Rev. 0		3/92
	T Plant	Source	Issued Rev. 0		4/92
	200 West	Groundwater	Issued Rev. 0		8/92
200 East	PUREX	Source	Preparing Rev. 0		5/92
	B Plant	Source	Preparing Rev. 0		6/92
	Semi-Works	Source	Preparing Rev. 0		7/92
	200 East	Groundwater	Preparing Rev. 0		9/92
200 North	200 North	Source	Preparing Rev. 0		8/92

200 AAMS GROUNDWATER FIELD CHARACTERIZATION REPORT

- REPORT IS READY FOR FINALIZATION PENDING RESOLUTION OF MAP DISPLAY (TECHNICAL COMMENT 67)

- TECHNICAL COMMENT 67 (11/24/92)
  - MCL CONTOURS ✓
  - SMALLER CONTOUR INTERVALS ✓
  - DETECTION LIMIT CONTOURS

ATTACHMENT #6

200 AAMS GROUNDWATER FIELD CHARACTERIZATION REPORT

- PROBLEM WITH DETECTION LIMIT CONTOUR WHEN MCL IS SIGNIFICANTLY GREATER THAN THE DETECTION LIMIT OR WITH SPARSE WELL DENSITY
- RECOMMEND INDIVIDUAL PLUME EVALUATION SIMILAR TO URANIUM EXAMPLE FOR INCLUSION IN REPORT

ATTACHMENT #7

200 AAMS BOREHOLE GEOPHYSICS FIELD CHARACTERIZATION REPORT

(WHC-SD-EN-TI-021)

Purpose

Locate radionuclides

Determine species

Assess site ~~stability~~ MOBILITY

Determine GW contamination

Method

RLS logging in 47 boreholes at 39 sites

Review old and new gross gamma data

Collect and review existing site data

Assess site conditions

Results

Site specific information provided in Appendix A

Radionuclide migration characteristics
cesium, cobalt, europium, antimony, plutonium, uranium, neptunium, americium

Correlation with release records and gross gamma-ray logs

Confirmation of groundwater contamination sources

Migration assessment

Future AAMS Work

Focus LFI

Refine conceptual model

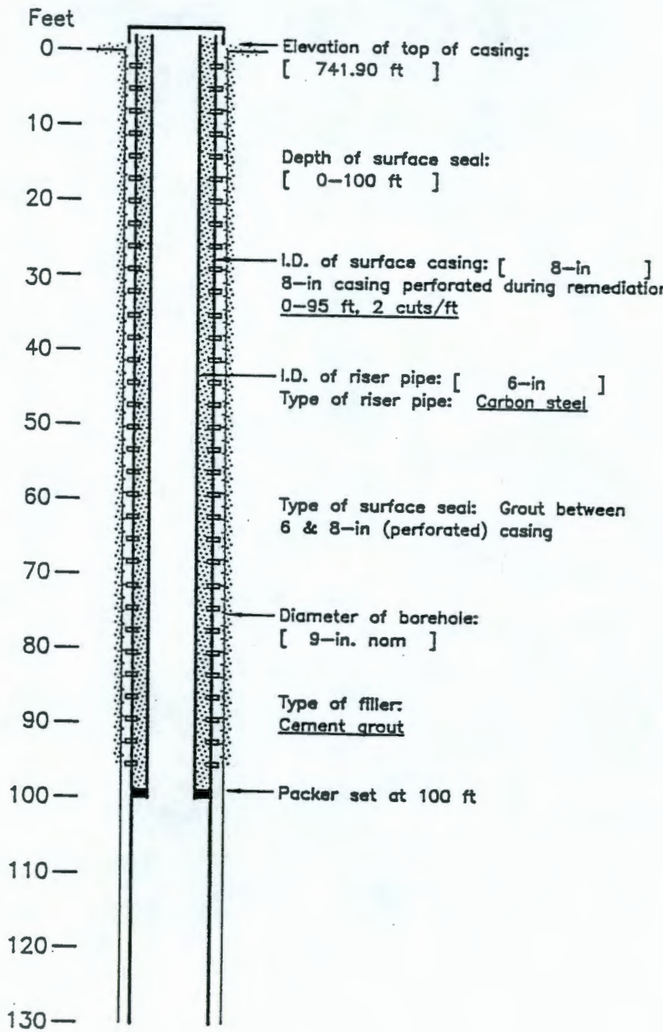
RLS Spectral Gamma Ray Borehole Survey

Well 299–E13–1

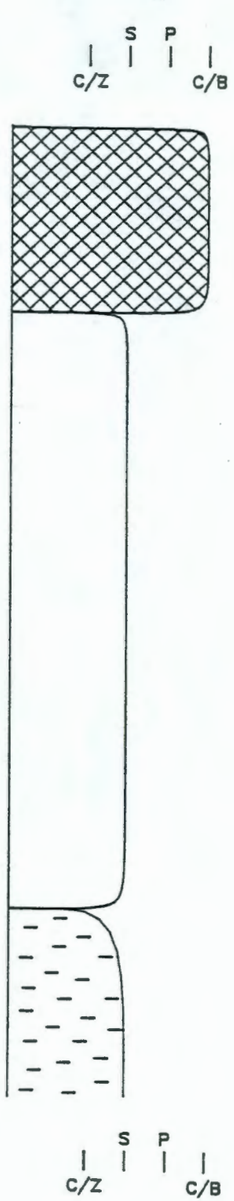
Cribs B–C

Log Date 8/31/92

Well Construction

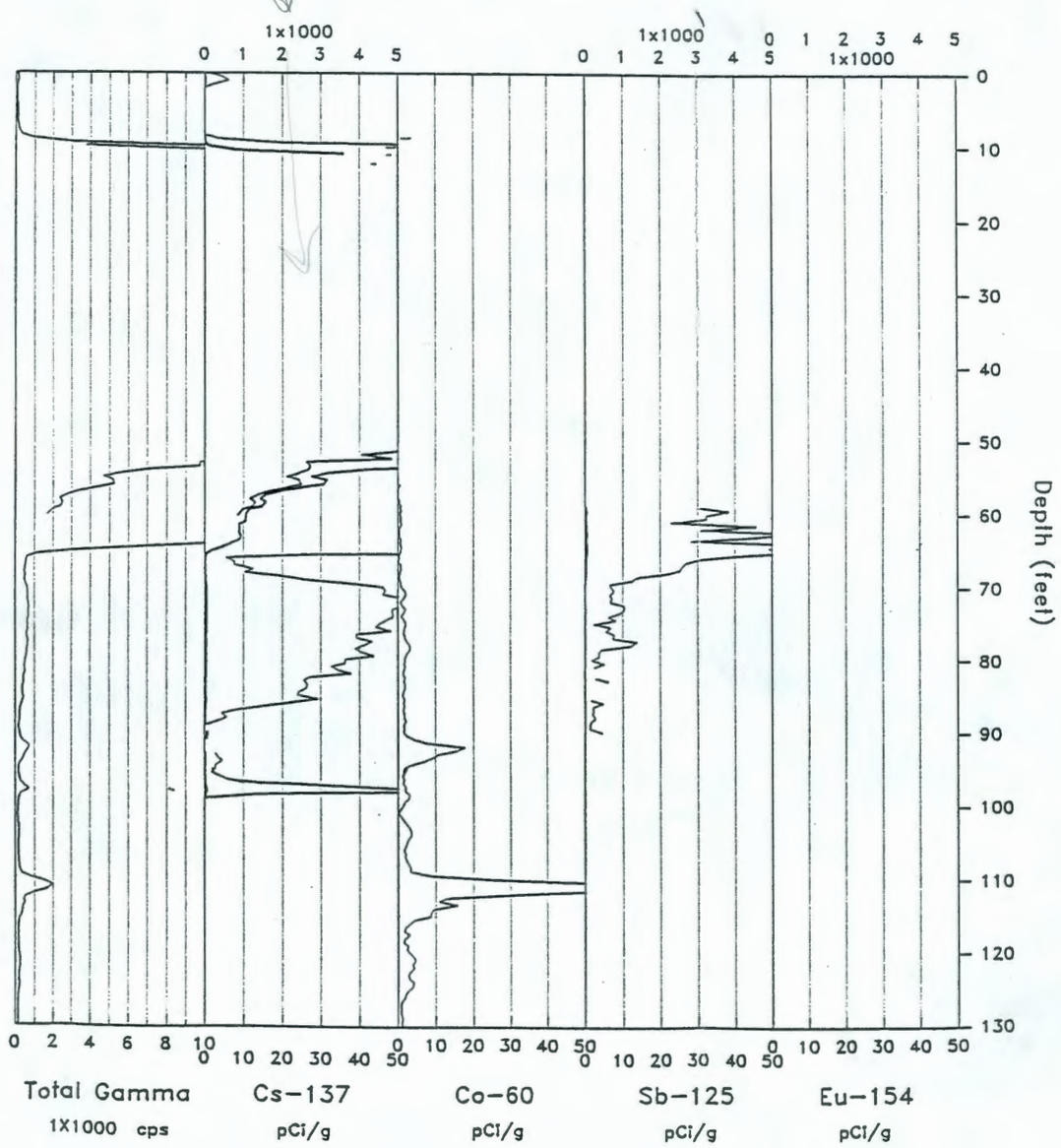


Lithology



Spectral Gamma Log

very hot off scale



WELLS\E13–1A

RLS Spectral Gamma Ray Borehole Survey (Page 2)

Well 299-E13-1 | Cribs B-C | Log Date 8/31/92

Well Construction

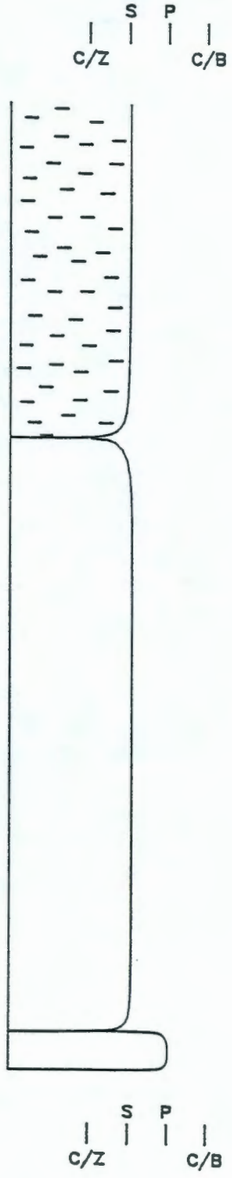
Feet

120 — 130 — 140 — 150 — 160 — 170 — 180 — 190 — 200 — 210 — 220 — 230 — 240 — 250 —

I.D. of surface casing: [8-in]
8-in casing perforated during remediation:
0-95 ft, 2 cuts/ft

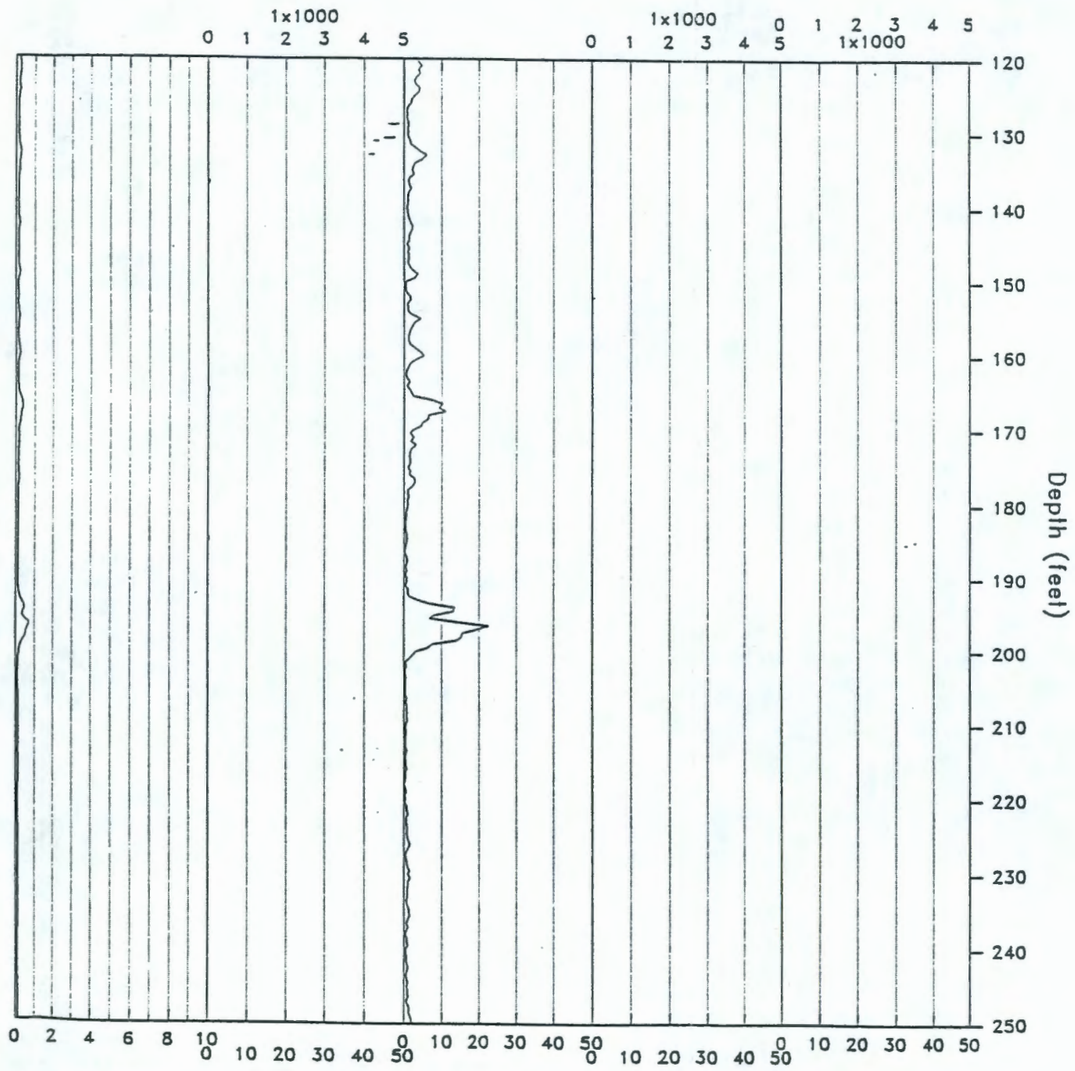
Lithology

S P
C/Z C/B



S P
C/Z C/B

Spectral Gamma Log

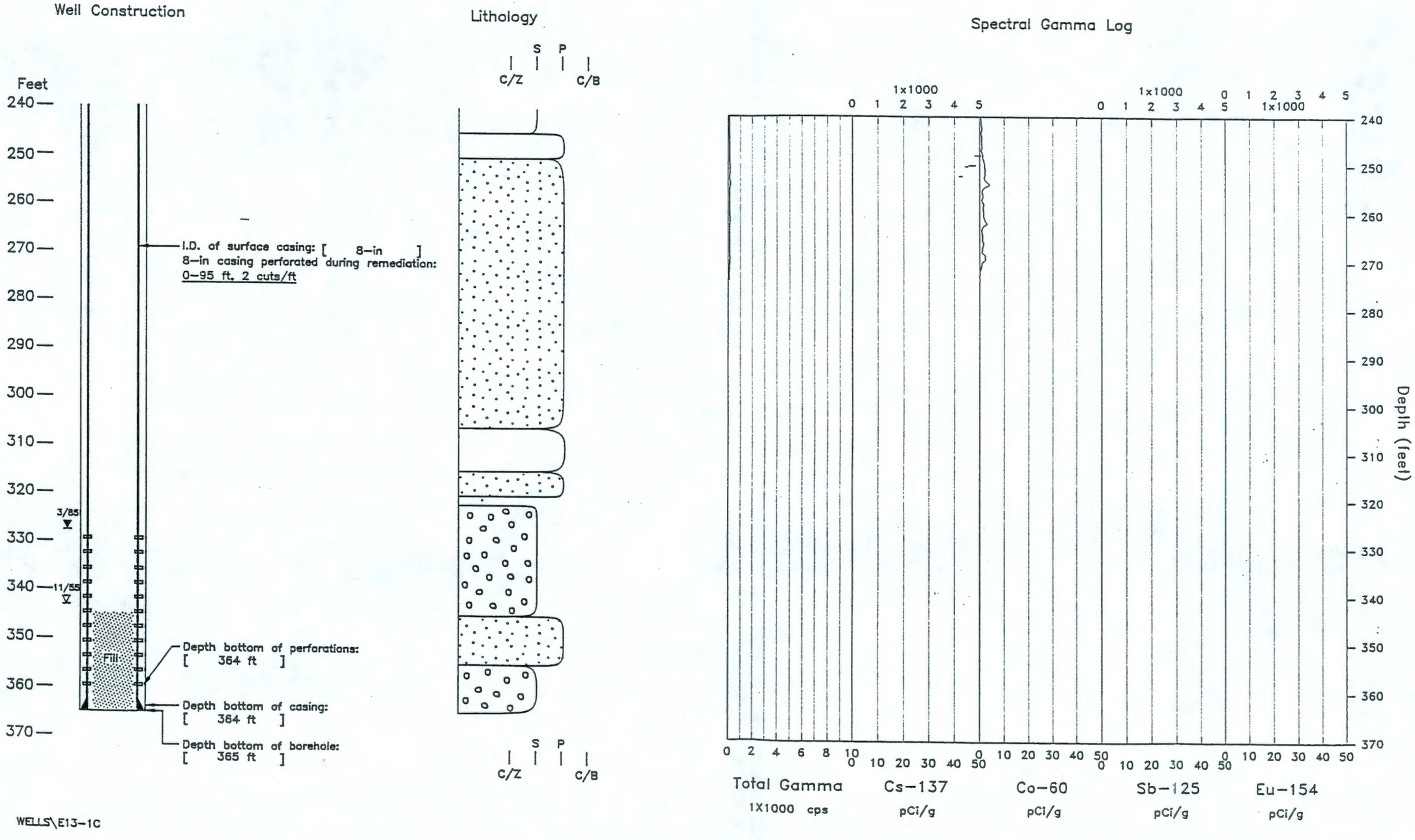


Total Gamma 1X1000 cps | Cs-137 pCi/g | Co-60 pCi/g | Sb-125 pCi/g | Eu-154 pCi/g

WELLS\E13-1B

RLS Spectral Gamma Ray Borehole Survey (Page 3)

Well 299-E13-1 | Cribs B-C | Log Date 8/31/92



WELLS\E13-1C

Summary of Screening for Potential to Contribute Contaminants to the Unconfined Aquifer.

Liquid discharge source	Service years	Potential based on pore volume screening	Potential based on geophysical logs	Potential based on spectral gamma-ray logs	Potential to contribute contaminants to groundwater
PUREX Plant Aggregate Area					
216-A-10 Crib	1956-1987	Yes	Yes	Yes	Yes
216-A-21 Crib	1957-1965	Yes	No	-	Yes
216-A-24 Crib	1958-1966	Yes	Yes	-	Yes
216-A-27 Crib	1965-1970	Yes	Yes	Yes	Yes
216-A-30 Crib	1961-1991	Yes	No	-	Yes
216-A-36A Crib	1965-1966	Yes	Yes	Yes	Yes
216-A-36B Crib	1966-1987	Yes	No	Yes	Yes
B Plant Aggregate Area					
216-B-7A&B Cribs	1946-1967	Yes	No	Yes	Yes
216-B-9TF Crib	1948-1951	Yes	No	-	Yes
216-B-12 Crib	1952-1973	Yes	Yes	Yes	Yes
216-B-14 Crib	1956	Yes	Yes	Yes	Yes
216-B-15 Crib	1956	Yes	No	Yes	Yes
216-B-16 Crib	1956	Yes	Yes	Yes	Yes
216-B-17 Crib	1956	No	No	Yes	No
216-B-18 Crib	1956	Yes	No	Yes	Yes
216-B-19 Crib	1957	Yes	No	Yes	Yes
216-B-57 Crib	1968-1973	Yes	No	Yes	Yes
216-B-62 Crib	1973-Present	Yes	No	Yes	Yes

Summary of Screening for Potential to Contribute Contaminants to the Unconfined Aquifer.

Liquid discharge source	Service years	Potential based on pore volume screening	Potential based on geophysical logs	Potential based on spectral gamma-ray logs	Potential to contribute contaminants to groundwater
216-B-51 French Drain	1956-1958	No	No	Yes	No
216-B-5 Reverse Well	9145-1947	Yes	Yes	Yes	Yes
216-B-11 A&B Reverse Wells	1951-1954	Yes	No	Yes	Yes
216-B-35 Trench	1954	No	No	Yes	No
216-B-36 Trench	1954	Yes	No	Yes	Yes
216-B-37 Trench	1954	Yes	No	Yes	Yes
216-B-38 Trench	1954	No	No	Yes	No
216-B-39 Trench	1953-1954	No	No	Yes	No
216-B-40 Trench	1954	Yes	No	Yes	Yes
216-B-41 Trench	1954	No	No	Yes	No
Semi-Works Aggregate Area					
216-C-10 Crib	1964-1969	Yes	No	Yes	Yes
216-C-9 Pond	1953-1985	Yes	No	No	Yes

Summary of Screening for Potential to Contribute Contaminants to Unconfined Aquifer.

Liquid discharge source	Service years	Potential based on pore volume screening	Confirmed by geophysical logs (gross gamma-ray)	Confirmed by spectral gamma-ray logs	Criteria indicates possible contribution to uppermost aquifer
U Plant Aggregate Area					
216-S-21 Crib	1954-1969	Yes	No	No	Yes
216-U-1 and 216-U-2 Cribs	1951-1968	Yes	No	Yes	Yes
216-U-12 Crib	1960-1968	Yes	No	No	Yes
Z Plant Aggregate Area					
216-Z-7 Crib	1946-1967	Yes	Yes	Yes	Yes
216-Z-12 Crib	1959-1973	Yes	No	No	Yes
216-Z-18 Crib	1969-1973	Yes	No	No	Yes
216-Z-9 Trench	1955-1962	Yes	No	Yes	Yes
S Plant Aggregate Area					
216-S-5 Crib	1954-1957	Yes	No	No	Yes
216-S-6 Crib	1954-1972	Yes	No	Yes	Yes
216-S-7 Crib	1956-1965	Yes	Yes	Yes	Yes
216-S-13 Crib	1952-1972	Yes	No	Yes	Yes
216-S-20 Crib	1952-1973	Yes	No	No	Yes
T Plant Aggregate Area					
216-T-6 Crib	1946-1952	Yes	No	No	Yes
216-T-18 Crib	1953	Yes	No logs	No	Yes
216-T-19TF Crib and Tile Field	1951-1980	Yes	No logs	-	Yes
216-T-26 Crib	1955-1956	Yes	Yes	Yes	Yes
216-T-27 Crib	1965	Yes	Yes	Yes	Yes
216-T-28 Crib	1960-1966	Yes	Yes	Yes	Yes
216-T-34 Crib	1966-1967	Yes	No	No	Yes
216-T-35 Crib	1967-1968	Yes	No	No	Yes
216-T-3 Reverse Well	1945-1946	Yes	No	Yes	Yes
216-T-14 Trench	1954	No	No	-	No
216-T-15 Trench	1954	No	No	-	No
216-T-16 Trench	1954	No	No	-	No
216-T-17 Trench	1954	No	No	-	No
216-T-21 Trench	1954	No	No logs	-	No

Summary of Screening for Potential to Contribute Contaminants to Unconfined Aquifer.

Liquid discharge source	Service years	Potential based on pore volume screening	Confirmed by geophysical logs (gross gamma-ray)	Confirmed by spectral gamma-ray logs	Criteria indicates possible contribution to uppermost aquifer
216-T-22 Trench	1954	Yes	No	-	Yes
216-T-23 Trench	1954	Yes	No	-	Yes
216-T-24 Trench	1954	Yes	No	-	Yes
216-T-25 Trench	1954	Yes	No	-	Yes

Distribution

Unit Manager's Meeting: 200 Aggregate Area/200 Area Operable Units
January 28, 1993

Julie K. Erickson . . . . . Chief, DOE-RL, ERD/ERB (A5-19)
Roger D. Freeberg . . . . . Chief, Rstr. Br., DOE-RL, ERD/EPB (A5-19)
Mike Thompson . . . . . DOE-RL, EAP/RPB (A5-15)
Diane Clark . . . . . DOE-RL, TSD/SSB (A5-55)
Mary Harmon . . . . . DOE-HQ (EM-442)
Suzanne Clarke . . . . . D&M, GSSC to DOE-RL (A4-35)

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

Dib Goswami . . . . . WDOE (Kennewick)
Darci Teel . . . . . WDOE (Kennewick)
Larry Goldstein . . . . . WDOE (Lacey)

Lynn Albin . . . . . Washington Dept. of Health

Richard D. Wojtasek . . . . . WHC, Program. Manager (H6-27)
Curt Wittreich . . . . . WHC (H6-03)
Tom Wintczak . . . . . WHC (H6-27)
Mel Adams . . . . . WHC (H6-01)
L.D. Arnold . . . . . WHC (B2-35)
Rich Carlson . . . . . WHC (H6-03)
M.J. Galgoul . . . . . WHC (H6-03)
Diana Sickle . . . . . WHC (H6-27)
Chris Widrig . . . . . 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)
Dennis Kreid . . . . . PNL (K1-22)
Ben Johnson . . . . . PNL (K1-78)

Chris Abraham . . . . . GAO (A1-80)

ADMINISTRATIVE RECORD: 200 AAMS; Care of EDMC, WHC (~~H4-22~~) H6-08

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