

## ENGINEERING CHANGE NOTICE

Page 1 of ~~6~~ <sup>3</sup>

1. ECN **603877**

Proj.  
ECN

2. ECN Category (mark one) <input checked="" type="checkbox"/> Supplemental <input type="checkbox"/> Direct Revision <input type="checkbox"/> Change ECN <input type="checkbox"/> Temporary <input type="checkbox"/> Standby <input type="checkbox"/> Supersedeure <input type="checkbox"/> Cancel/Void	3. Originator's Name, Organization, MSIN, and Telephone No. G.G. Kelty, Geoscience, H6-06, 376-6341		4. Date 1/25/94
	5. Project Title/No./Work Order No. Description of Work for Vadose Borings in Support of 200-UP-2 Operable Unit	6. Bldg./Sys./Fac. No. 216-U-10 Pond 200-UP-2	7. Impact Level 3 Q
	8. Document Numbers Changed by this ECN (includes sheet no. and rev.) WHC-SD-EN-AP-147, Rev. 0 <sup>JE</sup>		9. Related ECN No(s). N/A

11a. Modification Work <input type="checkbox"/> Yes (fill out Blk. 11b) <input checked="" type="checkbox"/> No (NA Blks. 11b, 11c, 11d)	11b. Work Package No. NA	11c. Modification Work Complete NA Cog. Engineer Signature & Date	11d. Restored to Original Condition (Temp. or Standby ECN only) NA Cog. Engineer Signature & Date
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12. Description of Change  
 In support of characterization activities for the 200-UP-2 operable, an additional borehole in the 216-U-10 pond will be drilled and sampled, (# 299-W23-231). Required information for performing field activities are presented below.

1. Section 1.0, pg.3; add, Section 1.1.4 216-U-Pond  
 The U-10 Pond was constructed in 1944 to receive low-level liquid effluent from the various chemical reprocessing facilities within the 200 West Area. The U-10 Pond covered 30 acres and received approximately  $4.3 \times 10^{10}$  gal of contaminated liquid. Sampling conducted in 1980 indicated that the most significant radionuclides detected were Strontium-90, Cesium-137, and plutonium and uranium (DOE-RL 1993b). The pond was deactivated and stabilized in 1985 with clean fill. The thickness of the stabilization cover is variable across the former pond and ranges between 2 ft near the pond margins and delta area to 8 ft in the deepest section of the pond.

13a. Justification (mark one) As-Found <input type="checkbox"/>	Criteria Change <input type="checkbox"/>	Design Improvement <input type="checkbox"/>	Environmental <input checked="" type="checkbox"/>
Facilitate Const. <input type="checkbox"/>	Const. Error/Omission <input type="checkbox"/>	Design Error/Omission <input type="checkbox"/>	

13b. Justification Details  
 A test pit constructed previously in the U-10 pond indicated that the control of radiologically contaminated spoils cannot be assured and sample quality maybe lacking due to sloughing from the test pit walls. Therefore it has been determined that the second test pit (216-UP-10-TP1) will not be constructed and will be replaced with a single vadose boring (# 299-W23-231) which will be drilled and sampled to the top of the caliche layer. This borehole will assure greater worker safety and the collection of quality soil samples. The document describing test pit activities is presented in "Description of Work for 216-U-10 Pond Test Pits," WHC-SD-EN-141, Rev 0.

14. Distribution (include name, MSIN, and no. of copies)

J.A. Bultena, N3-05, 1  
 G.G. Kelty, H6-06, 1  
 A.J. Knepp, H6-0, 1  
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 M.J. Galgoul, H6-03, 1  
 P.M. Pak, A5-19, 1  
 N. Uziemblo, WDOE, 1 <sup>B5-18</sup>  
 EDMC, H6-08, 1  
 Central Files, LB-04, 2  
 D.R.Einan, EPA, B5-01, 1

B.J. Hobbs (N3-06)  
 M.A. Tredway (R3-54)

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 BY WHC  
 DATE **MAR 03 1994**  
*Station # 12*



9413199, 1999

**ENGINEERING CHANGE NOTICE**

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1. ECN (use no. from pg. 1)

603877

15. Design Verification Required [ ] Yes [X] No	16. Cost Impact		CONSTRUCTION		17. Schedule Impact (days)	
	ENGINEERING					
	Additional	[ ] \$NA	Additional	[ ] \$NA	Improvement	[NA]
	Savings	[ ] \$NA	Savings	[ ] \$NA	Delay	[NA]

18. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 12. Enter the affected document number in Block 19.

SDD/DD	[ ]	Seismic/Stress Analysis	[ ]	Tank Calibration Manual	[ ]
Functional Design Criteria	[ ]	Stress/Design Report	[ ]	Health Physics Procedure	[ ]
Operating Specification	[ ]	Interface Control Drawing	[ ]	Spares Multiple Unit Listing	[ ]
Criticality Specification	[ ]	Calibration Procedure	[ ]	Test Procedures/Specification	[ ]
Conceptual Design Report	[ ]	Installation Procedure	[ ]	Component Index	[ ]
Equipment Spec.	[ ]	Maintenance Procedure	[ ]	ASME Coded Item	[ ]
Const. Spec.	[ ]	Engineering Procedure	[ ]	Human Factor Consideration	[ ]
Procurement Spec.	[ ]	Operating Instruction	[ ]	Computer Software	[ ]
Vendor Information	[ ]	Operating Procedure	[ ]	Electric Circuit Schedule	[ ]
OM Manual	[ ]	Operational Safety Requirement	[ ]	ICRS Procedure	[ ]
FSAR/SAR	[ ]	IEFD Drawing	[ ]	Process Control Manual/Plan	[ ]
Safety Equipment List	[ ]	Cell Arrangement Drawing	[ ]	Process Flow Chart	[ ]
Radiation Work Permit	[ ]	Essential Material Specification	[ ]	Purchase Requisition	[ ]
Environmental Impact Statement	[ ]	Fac. Proc. Samp. Schedule	[ ]		[ ]
Environmental Report	[ ]	Inspection Plan	[ ]		[ ]
Environmental Permit	[ ]	Inventory Adjustment Request	[ ]		[ ]

19. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number/Revision
NA FOR ALL		

20. Approvals

Signature	Date	Signature	Date
OPERATIONS AND ENGINEERING		ARCHITECT-ENGINEER	
Cog Engineer G.G. Kelty <i>G.G. Kelty</i>	<u>2/22/94</u>	PE	_____
Cog. Mgr. A.J. Knepp <i>A.J. Knepp</i>	<u>2-11-94</u>	QA	_____
QA W.R. Thackaberry <i>W.R. Thackaberry</i>	<u>2-10-94</u>	Safety	_____
Safety	_____	Design	_____
Security	_____	Environ.	_____
Environ.	_____	Other <i>H.D. Doney</i> <i>H.D. Doney</i>	<u>2/16/94</u>
Projects/Programs	_____		_____
Tank Waste Remediation System	_____		_____
Facilities Operations	_____	DEPARTMENT OF ENERGY	
Restoration & Remediation	_____	Signature or Letter No.	
Operations & Support Services	_____		
IRM	_____	ADDITIONAL	
Other	_____	P.M. PAK	<i>Paul Pak</i> <u>2/15/94</u>
M.J. Galgoul <i>Michael Galgoul</i> <u>2/10/94</u>		N. Uziemblo	<i>N. Uziemblo</i> <u>2/22/94</u>
R.A. Carlson <i>R.A. Carlson</i> <u>2/10/94</u>		per telecom.	
J.A. Bultena <i>J.A. Bultena</i> <u>2-11-94</u>		<i>G. Kelty</i> / <i>G. Kelty</i>	

0002-661314

ENGINEERING CHANGE NOTICE CONTINUATION SHEET

Page 3 of 3

1. ECN

603877

Boring 299-W23-231 will be drilled near the southeast corner of the U-10 Pond to the top of the caliche layer (Figure 2e). The boring will be used to characterize the vertical extent of contamination. The majority of contaminants should occur at the former pond bottom.

After completing borehole 299-W23-231, a data evaluation will be performed with the regulatory agencies to determine if additional characterization activities will need to be performed in the 216-U-10 Pond.

2. Section 3.2, third paragraph, "Borings 299-W19-94..." change to "Borings 299-W23-231, 299-W19-94..."
3. Section 3.2, third paragraph, first bullet, "...below the bottom of the crib or french drain.." change to " below the bottom of the crib, pond bottom or french drain.."
4. Section 5.0, table with well numbers and drilling dates; add to bottom of table "299-W23-231 Early Mar. 1994 - Mid Apr. 1994"
5. Page 22, Insert Figure 2e, attached.
6. Page 32, Table 4. Proposed Sampling Intervals (two page table).

Append attachment "A" to Table 4. Proposed Sampling Intervals (3 of 3).

7. Appendix B, page ~~B-8~~ B-13. GK 2/22/94

Append attachment "B" to document.

9413199.2001  
1007.6613146

9413199.2002

Complete for all Types of Release

<b>Purpose</b> <input type="checkbox"/> Speech or Presentation <input type="checkbox"/> Full Paper (Check only one suffix) <input type="checkbox"/> Summary <input type="checkbox"/> Abstract <input type="checkbox"/> Visual Aid <input type="checkbox"/> Speakers Bureau <input type="checkbox"/> Poster Session <input type="checkbox"/> Videotape	<input type="checkbox"/> Reference <input checked="" type="checkbox"/> Technical Report <input type="checkbox"/> Thesis or Dissertation <input type="checkbox"/> Manual <input type="checkbox"/> Brochure/Flier <input type="checkbox"/> Software/Database <input type="checkbox"/> Controlled Document <input type="checkbox"/> Other	ID Number (include revision, volume, etc.) <b>WHC-SD-EN-AP-147, Rev. 0-B</b>  List attachments. <b>N/A</b>  Date Release Required <p style="text-align: center;"><b>February 28, 1994</b></p>
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Title Description of Work for Vadose Borings in Support of 200-UP-2 Unit	Unclassified Category <b>UC-630</b>	Impact Level <b>3Q</b>
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New or novel (patentable) subject matter? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If "Yes", has disclosure been submitted by WHC or other company? <input type="checkbox"/> No <input type="checkbox"/> Yes Disclosure No(s).	Information received from others in confidence, such as proprietary data, trade secrets, and/or inventions? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Identify)
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Copyrights? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If "Yes", has written permission been granted? <input type="checkbox"/> No <input type="checkbox"/> Yes (Attach Permission)	Trademarks? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Identify)
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Complete for Speech or Presentation

Title of Conference or Meeting <b>N/A</b>	Group or Society Sponsoring		
Date(s) of Conference or Meeting	City/State	Will proceedings be published? <input type="checkbox"/> Yes <input type="checkbox"/> No	Will material be handed out? <input type="checkbox"/> Yes <input type="checkbox"/> No

Title of Journal

CHECKLIST FOR SIGNATORIES

<u>Review Required per WHC-CM-3-4</u>	Yes	No	Reviewer - Signature Indicates Approval
			Name (printed)                      Signature                      Date
Classification/Unclassified Controlled Nuclear Information	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Patent - General Counsel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>no review required per OAC memo 2/4/93 MKR 2-25-94</i>
Legal - General Counsel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Applied Technology/Export Controlled Information or International Program	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
WHC Program/Project	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Communications	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
RL Program/Project	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>P.M. Pak Review not required per PKR mlk 2-25-94</i>
Publication Services	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>M.R. Knight MK Knight 2-25-94</i>
Other Program/Project	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Information conforms to all applicable requirements. The above information is certified to be correct.

<table style="width: 100%;"> <tr> <td style="width: 50%;">References Available to Intended Audience</td> <td style="width: 50%;">Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></td> </tr> <tr> <td colspan="2">Transmit to DOE-HQ/Office of Scientific and Technical Information</td> </tr> <tr> <td>Author/Requestor (Printed/Signature)</td> <td style="text-align: center;">Date</td> </tr> <tr> <td><b>G.G. Kelty</b> <i>G.G. Kelty</i></td> <td style="text-align: center;"><b>2/25/94</b></td> </tr> <tr> <td colspan="2">Intended Audience</td> </tr> <tr> <td colspan="2"><input type="checkbox"/> Internal <input type="checkbox"/> Sponsor <input checked="" type="checkbox"/> External</td> </tr> <tr> <td>Responsible Manager (Printed/Signature)</td> <td style="text-align: center;">Date</td> </tr> <tr> <td><b>A.J. Knepp</b> <i>A.J. Knepp</i></td> <td style="text-align: center;"><b>2-25-94</b></td> </tr> </table>	References Available to Intended Audience	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Transmit to DOE-HQ/Office of Scientific and Technical Information		Author/Requestor (Printed/Signature)	Date	<b>G.G. Kelty</b> <i>G.G. Kelty</i>	<b>2/25/94</b>	Intended Audience		<input type="checkbox"/> Internal <input type="checkbox"/> Sponsor <input checked="" type="checkbox"/> External		Responsible Manager (Printed/Signature)	Date	<b>A.J. Knepp</b> <i>A.J. Knepp</i>	<b>2-25-94</b>	<p style="text-align: center; border: 1px solid black; padding: 5px;"><b>INFORMATION RELEASE ADMINISTRATION APPROVAL STAMP</b></p> <p style="font-size: small;">Stamp is required before release. Release is contingent upon resolution of mandatory comments.</p> <div style="text-align: center; border: 2px solid black; border-radius: 50%; padding: 20px; width: 150px; margin: 10px auto;"> <p style="margin: 0;">APPROVED FOR RELEASE</p> <p style="margin: 0; font-size: 2em; font-weight: bold;">NS</p> <p style="margin: 0; font-size: 1.5em;">3/1/94</p> </div> <p style="margin-top: 20px;">Date Cancelled                      Date Disapproved</p>
References Available to Intended Audience	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																
Transmit to DOE-HQ/Office of Scientific and Technical Information																	
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Responsible Manager (Printed/Signature)	Date																
<b>A.J. Knepp</b> <i>A.J. Knepp</i>	<b>2-25-94</b>																

SUPPORTING DOCUMENT

1. Total Pages 78

2. Title

Description of Work for Vadose Borings in Support of 200-UP-2 Unit

3. Number

WHC-SD-EN-AP-147

4. Rev No.

0-B

5. Key Words

Limited field investigation, vadose zone, borings, U Plant

6. Author

Name: G.G. Kelty

*George Kelty*  
Signature

Organization/Charge Code 81320/PT2BH

APPROVED FOR  
PUBLIC RELEASE  
3/1/94 D. J. Sells

7. Abstract

Kelty, G.G., 1993, *Description of Work for Vadose Borings in Support of 200-UP-2, WHC-SD-EN-AP-147, Rev. 0, Westinghouse Hanford Company, Richland, Washington.*

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10. RELEASE STAMP

OFFICIAL RELEASE BY WHC (11)  
DATE MAR 03 1994  
*Station #12*

9. Impact Level 3Q

9403199.2003

# RECORD OF REVISION

(1) Document Number

WHC-SD-EN-AP-147,  
Rev. 0 -B

Page 1

(2) Title

Description of Work for Vadose Borings in Support of 200-UP-2 Operable Unit

### CHANGE CONTROL RECORD

(3) Revision	(4) Description of Change - Replace, Add, and Delete Pages	Authorized for Release		
		(5) Cog. Engr.	(6) Cog. Mgr.	Date
	(7)			
0	Initial Issue-EDT 600818	G.G. Kelty 8/27/93	A.J. Knepp 8/27/93	
0-A	Page B-7 replaced (no changes on B-8) per ECN 169724	M.A. Wasemiller 10/4/93	R.A. Carlson 10/4/93	
0-B RS	pg 3, replaced. (Addition to last paragraph in Section 1.1.4.)			
	pg 3a, addition.			
	pg 7, replaced. (Changes to Section 3.2, paragraph 3 and bullet f1			
	pg. 13, replaced. (Addition to table in Section 5.0)			
	21a, addition. (New figure [2e])			
	33a, addition. (Add page 3 of 3 to Table 4)			
	B-13, addition (Add figure to appendix B) Per ECN 603877	G.G. Kelty 3/3/94	A.J. Knepp 3/3/94	
		<i>G.G. Kelty</i>	<i>A.J. Knepp</i>	

9413199.2004  
H002.6613146

well operated from 1947 to 1955 and received acidic plutonium and fission product waste from the 222-U Laboratory. The U-4 Reverse Well became plugged in 1955 and was replaced with the 216-U-4A french drain.

The 216-U-4A french drain (U-4A french drain) is a 130-cm (51-in.) diameter concrete pipe extending to a depth of 1.2 m (4 ft). The drain rests on undisturbed soil and is not gravel filled. The drain operated from 1955 to 1970.

Boring 299-W19-98 will be placed between the U-4 Reverse Well and the U-4A french drain and drilled to the top of the caliche layer (Figure 2d). The discharge points for these two waste units are separated vertically by 21 m (64 ft). This boring will be used to characterize the vertical concentration of contaminants between the two waste management units. Elevated levels of contamination are expected in the rear surface below the U-4A french drain and should decrease in concentration with depth. Contaminant concentrations should increase again near the depth of the discharge point for the U-4 Reverse Well and then should decrease with depth. The final location for the boring is contingent upon the proximity of buried and overhead utilities.

The U-10 pond was constructed in 1944 to receive low-level liquid effluent from the various chemical reprocessing facilities within the 200 West Area. The U-10 Pond covered 30 acres and received approximately  $4.3 \times 10^{10}$  gal of contaminated liquid. Sampling conducted in 1980 indicated that the most significant radionuclides detected were  $^{90}\text{Sr}$ ,  $^{137}\text{Cs}$ , plutonium, and uranium (DOE-RL 1993b). The pond was deactivated and stabilized in 1985 with clean fill. The thickness of the stabilization cover is variable across the former pond and ranges between 2 ft near the pond margins and delta area to 8 ft in the deepest section of the pond. Boring 299-W23-231 will be drilled near the southeast corner of the U-10 Pond to the top of the caliche layer (Figure 2e) The boring will be used to characterize the vertical extent of contamination. The majority of contaminants should occur at the former pond bottom. After completing borehole 299-W23-231, a data evaluation will be performed with the regulatory agencies to determine if additional characterization activities will need to be performed in the 216-U-10 Pond.

## 1.2 GENERAL SITE GEOLOGY AND HYDROLOGY

The central UP-2 Area is underlain from the surface downwards by Holocene eolian sands, the Hanford formation, the early Palouse/Plio-Pleistocene interval, and the Ringold Formation. These strata overlie basalts of the Columbia River Basalt Group. The geology of this area is outlined in the following text. More detailed discussions of Hanford Site and 200 West Area geology can be found in Myers et al. (1979), Tallman et al. (1979, 1981), Reidel and Fecht (1981), DOE (1988), Delaney et al. (1991), Lindsey (1991), Lindsey et al. (1992), and Connelly et al. (1992). A generalized stratigraphic column for the 200-UP-2 Operable Unit is presented in Figure 3.

Holocene-aged deposits form the uppermost unit in the area. These deposits consist of eolian silt and sand that forms a thin (<10 ft), discontinuous sheet across the site.

The uppermost laterally continuous unit in the area is the Hanford formation. The Hanford formation consists of an upper, gravelly interval (25 to 100 ft thick) and a lower, finer interval (10 to 100 ft thick). Stratified, open-framework, and largely uncemented granule to cobble gravel deposits typical of the gravel-dominated facies (see Lindsey et al. 1992) dominate the upper interval. Localized interbeds of the sand- and silt-dominated facies also may be present in the upper interval. Interstratified strata typical of both the sand-dominated and silt-dominated facies form the Touchet bed-like strata of the lower interval. Silt-rich horizons within the lower interval may be well compacted and partially cemented by calcium carbonate. The lower interval also may contain pebbly horizons up to 5 ft thick. Examination of recently drilled (FY 1993), closely spaced borehole geologic logs in the U-14 Ditch area and outcrops of analogous strata indicate that individual beds may be very discontinuous, commonly pinching out over a distance of a few hundred feet.

9403199.2006



### 3.2 GENERAL DRILLING ACTIVITIES

The following sections describe the general drilling activities that will be conducted at each drill site. All drilling will be conducted utilizing the specifications and guidance presented in the *Washington Administrative Code* (WAC) 173-160 Part Three--"Resource Protection Wells," the "Generic Well Specification," WHC-S-014, and the "Drilling Geotechnical Test Borings Specification," WHC-S-0105. It should be noted that the requirements presented in the WAC in Section 173-160-500, Item 2 (No resource protection well shall interconnect saturated formations or aquifers) are not being violated when casing is carried through perching layers above the caliche layer. Previous drilling conducted in the area and the site conceptual model have shown that perching layers above the caliche layer are discontinuous and the water reported can be treated as a single hydrologic unit. No technical purpose would be served by attempting to seal individual silt or clay beds that occur in the lower fine-grained units of the Hanford formation (Touchet-like beds) (Attachment 1). The perching units expected are typically several centimeters to no more than 0.305 m (1 ft) thick and are laterally discontinuous (see Appendix B for cross sections). Layers thicker than 1.5 m (5 ft) are not expected; however, if they occur and perched water is reported, the Washington State Department of Ecology (Ecology) will be informed and an evaluation will be performed to determine if casing will be downsized.

In support of the 200-UP-1 Operable Unit field investigations, six borings will be constructed and sampled. The borings will be drilled using the cable-tool method. The drilling operations will be conducted according to EII 6.7, "Resource Protection Well and Test Borehole Drilling," and EII 5.4, "Field Decontamination of Drilling, Well Development, and Sampling Equipment" (WHC 1988a). All waste will be handled according to EII 4.3, "Control of CERCLA and other Past-Practice Investigation Derived Waste" (WHC 1988a). A temporary casing will be used to minimize slough in the borehole and limit transport of gross contamination within the vadose zone; it will be telescoped as contaminant concentrations decrease.

Borings 299-W23-231, 299-W19-94, 299-W19-96, 299-W19-98, and 299-W22-78 will be constructed in areas where contamination is expected in the near surface and again in the lower fine unit of the Hanford formation. These boreholes will be drilled in the following manner (Figure 4):

- Casing string #1. Large-diameter casing will be run to a minimum of 2.1 m (7 ft) below the bottom of the crib, pond bottom, or french drain and will not be carried deeper than 12.2 m (40 ft) below ground surface. If radiological contamination drops below 5000 cpm before the 12.2 m (40 ft) maximum, casing string #2 can then be installed.
- Casing string #2. Smaller diameter secondary casing will be telescoped through casing string #1 and carried to a total depth of no greater than 30.5 m (100 ft) below ground surface. If radiological contamination drops below the established background level for the site prior to the 30.5 m (100 ft) maximum, casing string #3 can be installed.

943199-2008

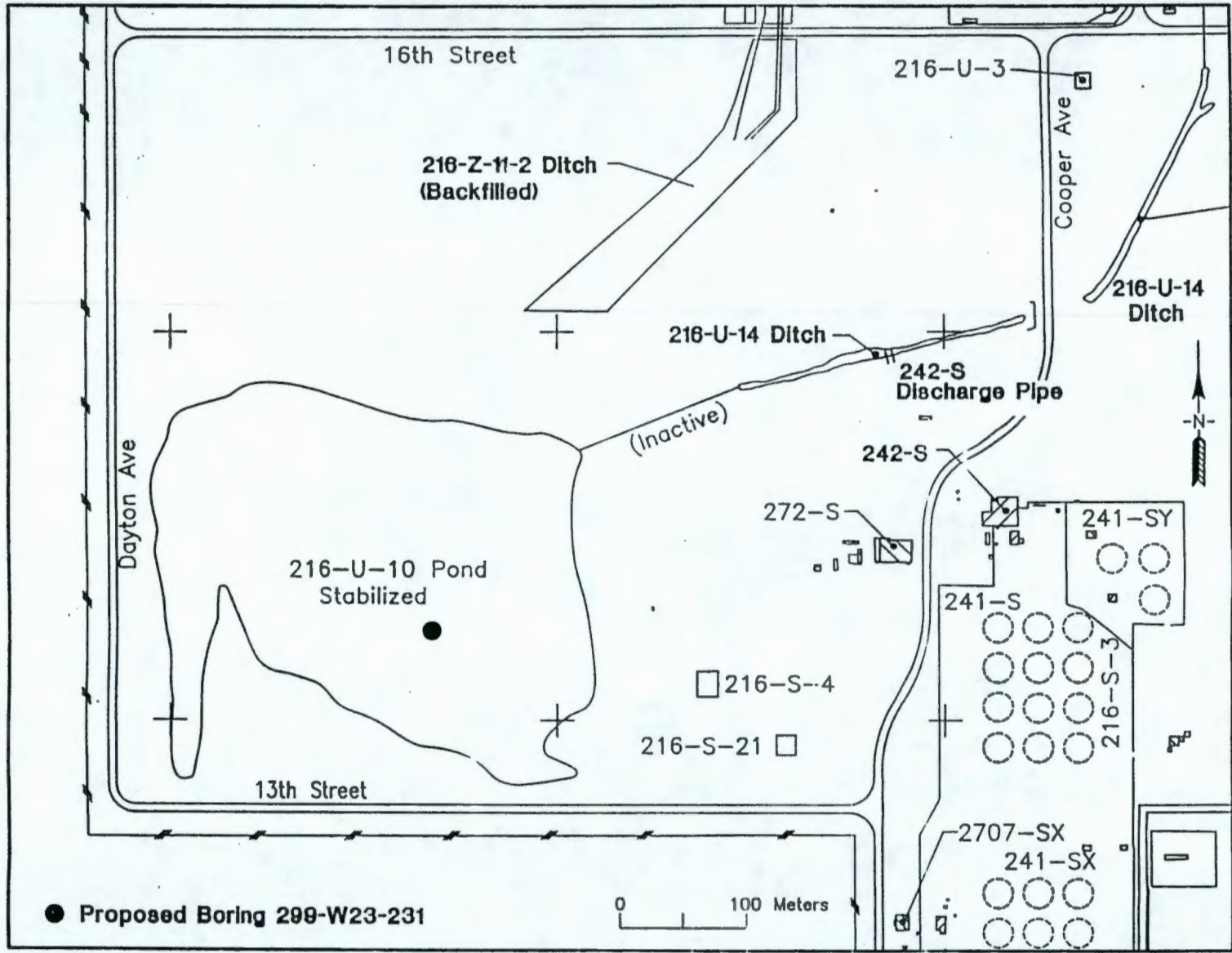
- Split samples. At the direction of the cognizant engineer, and if a laboratory is designated, split samples shall be collected at the same frequency as duplicate samples.
- Field Blanks. Field blanks shall consist of silica sand transferred into clean sample containers at the site. Field blanks are used as a check on environmental contamination and shall be collected for each borehole, or one for every 20 samples, whichever is greater.
- Equipment Rinsate Blanks. Equipment rinsate blanks consist of pure deionized distilled water or silica sand (depending on the media being collected) that is run through decontaminated sampling equipment and placed in clean sample containers. Equipment blanks are used to verify the adequacy of sampling equipment decontamination procedures and shall be collected at the same frequency as field duplicate samples where applicable.
- Volatile organic analysis (VOA) trip blanks. The VOA trip blanks consist of silica sand added to clean sample containers accompanying each batch of coolers shipped to the analytical facility. Trip blanks shall be returned unopened to the laboratory and are prepared as a check on possible contamination originating from container preparation methods, shipment, handling, storage, or site conditions. The trip blank shall be analyzed for volatile organic compounds (EPA's target compound list).

### 5.0 SCHEDULE

The following schedule is for drilling in the 200-UP-1 Operable Unit for 1994. This schedule is subject to change and the operable unit coordinator should be contacted for the current status. An agreement Activity Notification form will be issued at least 5 days before the start of field work.

Well Number	Drilling Dates
UP1-4	Early February -- Mid April
UP1-3	Early February -- Late March
UP1-2	Late March -- Early May
UP1-7	Mid April -- Mid May
UP1-6	Early May -- Mid June
UP1-1	Mid May -- Late June
299-W23-231	Early March 94 - Mid April 94

Figure 2e. Proposed Borehole Location Map 299-W23-231.



GEOSCI\071093A2

21a

Table 4. Proposed Sampling Intervals. (sheet 3 of 3)

Borehole Location		299-W23-231 216-U-10 Pond	
Chemical Sample Depth (Ft)		Physical Sample Depth (Ft)	
2		NA	
4		NA	
6		NA	
8		NA	
15		NA	
NA		16	
25		NA	
NA		26	
40		NA	
NA		41	
75		NA	
NA		76	
110		NA	
NA		111	
135		NA	
NA		136	
144		NA	
NA		146	
155		NA	
NA		156	
Total: 12		Total: 8	
Caliche layer at ~144-146 ft			

0102.661946

299-W23-231

9403099.20  
076616

