			-		U	13309
SIA	NGINEERING C	HANGE NOTICE			1. ECN	16987
			Page	1 of <u>4</u>	Proj. ECN	
2. ECN Category (mark one)	3. Originator's Na	ame, Organization, MSIN, a	and Telephone	No.	4. Date	
Supplemental X Direct Revision	L.C. Swanson, Geosciences, H6-06, 6-1438			4/09/93	3	
Change ECN dCgOG- Temporary 4//6/43 Standby Supersedure Cancel/Void D	 S. Project Title/No./Work Order No. Interim-Status Groundwater Monitoring Plan for the Grout Treatment Facility 8. Document Numbers Changed by this ECN (includes sheet no. and rev.) WHC-SD-EN-AP-006, Rev. 0 		9. Related ECN No(s).		30	
					10. Related PO No.	
					N/A	
<pre>11a. Modification Work [] Yes (fill out Blk.</pre>	11b. Work Package 11c. Modification Work Complete 11d. Restortion (Temp. No. N/A N/A N/A		ed to Original Condi- or Standby ECN only)			
11b) [X] No (NA Biks. 11b,		Cog. Engineer Signatu	Cog. Engineer Signature & Date Cog. Engi		ineer Signature & Date	
12. Description of Change						
compliance: two well apart and the 1993 w compliance that exten	s in 1992 and ells 350 ft ap nds southeast	three in 1993. Th art. The wells wi and then east of w	e 1992 we 11 contin e11 299-E	lls will b ue along t 25-38, wit	e spaced he line h the ex	250 ft of ception
compliance: two well apart and the 1993 w compliance that extend of well 299-E25-1000 The line of compliand (WMA), but has been excavation activities located so that a stat the WMA will be immed Continued on page 3.	s in 1992 and ells 350 ft ap nds southeast (Figure 3.1). ce was origina extended an ad s during vault atistically sid diately detect	three in 1993. Th art. The wells wi and then east of w lly located 140 ft ditional 110 ft to construction. Th gnificant amount o ed in the proposed	e 1992 we 11 contin well 299-E south of the sout e modifie f hazardo wells.	lls will b ue along t 25-38, wit the Waste h to accomu d line of us waste m	e spaced he line h the ex Managem modate complian igrating	1 250 ft of ception ment Area ce is from
compliance: two well apart and the 1993 w compliance that exter of well 299-E25-1000 The line of compliand (WMA), but has been excavation activities located so that a stat the WMA will be immed Continued on page 3.	s in 1992 and ells 350 ft ap nds southeast (Figure 3.1). ce was origina extended an ad s during vault atistically sid diately detect	three in 1993. Th art. The wells wi and then east of w lly located 140 ft ditional 110 ft to construction. Th gnificant amount o ed in the proposed	e 1992 we 11 contin well 299-E south of the sout e modifie f hazardo wells.	lls will b ue along t 25-38, wit the Waste h to accomm d line of us waste m	e spaced he line h the ex Managem modate complian igrating	[X]
compliance: two well apart and the 1993 w compliance that exte. of well 299-E25-1000 The line of complian (WMA), but has been excavation activitie: located so that a sta the WMA will be immed Continued on page 3. 13a. Justification Criter (mark one) As-Found [] Facili	s in 1992 and ells 350 ft ap nds southeast (Figure 3.1). ce was origina extended an ad s during vault atistically sid diately detect	three in 1993. Th art. The wells wi and then east of w lly located 140 ft ditional 110 ft to construction. Th gnificant amount o ed in the proposed Design Improvement Const. Error/Omissic	<pre>1992 we 11 contin 299-E south of the sout e modifie f hazardo wells. [] on []</pre>	lls will b ue along t 25-38, wit the Waste h to accom d line of us waste m Environmenta Design Error	e spaced he line h the ex Managem modate complian igrating	[X]
compliance: two well apart and the 1993 w compliance that exte of well 299-E25-1000 The line of compliant (WMA), but has been excavation activities located so that a stat the WMA will be immed Continued on page 3. 13a. Justification Criter (mark one) As-Found [] Facili 13b. Justification Details To update the Groundw 1993 drilling program (DOE/RL-88-27, Rev. 2 Continued on page 3. 14. Distribution (include nam R.L. Jackson H6- J.F. Keller L4- K.D. Reynolds H6- L.C. Swanson H6-	s in 1992 and ells 350 ft ap nds southeast (Figure 3.1). ce was origina extended an ad s during vault atistically sid diately detect "ia Change [] itate Const. [] water Monitorin m. Locations a 2), and discuss me, MSIN, and no. of -06 [1] -03 [1] -06 [3]	three in 1993. Th art. The wells wi and then east of w lly located 140 ft ditional 110 ft to construction. Th gnificant amount o ed in the proposed Design Improvement Const. Error/Omission ng Plan to documen are based on the P sions with Washing	e 1992 we 11 contin vell 299-E south of the sout e modifie f hazardo wells. [] t monitor art B Dang ton State	Ils will b ue along t 25-38, wit the Waste h to accomm d line of us waste m Environmenta Design Error ing well p gerous Was Departmenta	e spaced he line h the ex Managem modate complian igrating (/Cmission lacement te Permi t of Eco ELEASE STAN AL RELE WHC	(250 ft of ception ent Area ce is from [X] [] for the t logy.

50

	CINCERING (CHANGE NOT	ICE	Page 2 of	169879	
15. Design Verification	16. Cost Impac ENGI	NEERING	CONST	RUCTION	17. Schedule Impact (days)
	Additional	r1 s	Additional	2 51	Improvement []	
[v] vo	Savings	[] •	Savings		Delay []	
18 Change Impact P	evieus Indicate	the related do	imente (other then	the empirementing	decumente identified en l	cide 11
that will be af	fected by the ch	ange described	in Block 12. Enter	the affected doci	ument number in Block 19.	•
SDD/DD	[]	Seismic	Stress Analysis	[]	Tank Calibration Manual	[
Functional Design Criteria	• []	Strees/I	Design Report	[]	Health Physics Procedure	[
Operating Specification	[]	Interfac	e Control Drawing	[]	Spares Multiple Unit Listing	[
Criticality Specification	[]	Calibrat	ion Procedure	[]	Test Procedures/Specification	n [
Conceptual Design Repor	۳ []	Installat	ion Procedure	r1	Component Index	Ĩ
Equipment Spec.	Ē	Mainter	ance Procedure	ĨĨ	ASME Coded Item	Ĩ
Const. Spec.	[]	Enginee	ring Procedure	rī .	Humen Fector Consideration	r
Procurement Spec.	ři	Operati	ng Instruction	ři	Computer Software	ř
Vendor Information	řī.	Operatio	ng Procedure	ri	Electric Circuit Schedule	ř
OM Manual	[]	Operatio	anal Safety Requirement	[]	ICRS Procedure	r
FSAR/SAR	[]	IEFD Dr	prive	[]	Process Control Manual/Plan	ſ
Sefety Equipment List		Cell Arra	angement Drawing	[]	Process Flow Chart	ſ
Radiation Work Permit		Essentia	Material Specification		Purchase Requisition	L T
Environmental Impact Sta		Fac. Pro	c. Samo, Schedule			L
Environmental Report		Inspecti	on Plan		N/A	L
all a second a second a second a second a						L
Environmental Permit 19. Other Affected I indicate that the Document Num N/A	[] Documents: (NOTH he signing organ ber/Revision	Inventor E: Documents li ization has been Do	y Adjustment Request sted below will not notified of other cumment Number/Revis	[] t be revised by th affected document tion	nis ECN.) Signatures bel s listed below. Document Number Revis	.ow sion
Environmental Permit 19. Other Affected I indicate that th Document Num N/A	[] Documents: (NOT he signing organ ber/Revision	Inventor E: Documents Li ization has been Do	y Adjustment Request sted below will not notified of other cument Number/Revis	[] : be revised by th affected document ion	nis ECN.) Signatures bel s listed below. Document Number Revis	ow sion
Environmental Permit 19. Other Affected I indicate that th Document Num N/A 20. Approvals	[] Documents: (NOT he signing organ ber/Revision	Inventor E: Documents Li ization has been Do	y Adjustment Request sted below will not notified of other cument Number/Revis	[] : be revised by th affected document tion	nis ECN.) Signatures bel s listed below. Document Number Revis	[.ow sion
Environmental Permit 19. Other Affected I indicate that the Document Num N/A 20. Approvals OPERATIONS AND ENGIN	[] Documents: (NOT he signing organ ber/Revision Signature NEERING	Inventor E: Documents li ization has been Do	y Adjustment Request sted below will not notified of other cumment Number/Revis Date	[] : be revised by th affected document tion Sign RCHITECT-ENGINEER	nis ECN.) Signatures bel s listed below. Document Number Revis	[.ow sion Date
Environmental Permit 19. Other Affected I indicate that the Document Num N/A 20. Approvals OPERATIONS AND ENGIN Cog Engineer K.D. 5	[] Documents: (NOT he signing organ ber/Revision Signature NEERING Revnolds	Inventor E: Documents Li ization has been Do	V Adjustment Request sted below will not notified of other cumment Number/Revis Date Rifach for pe	[] : be revised by th affected document tion Sign RCHITECT-ENGINEER	nis ECN.) Signatures bel s listed below. Document Number Revis	[ow sion Date
Environmental Permit 19. Other Affected I indicate that th Document Num N/A 20. Approvals OPERATIONS AND ENGIN Cog Engineer K.D. F Cog. Mgr. R.L. Jack	[] Documents: (NOT he signing organ ber/Revision Signature NEERING Reynolds con Bould	Inventor E: Documents Li ization has been Do	Date Adjustment Request sted below will not notified of other cument Number/Revis Date Adjustment for per Adjustment for per Adjustment Request	[] : be revised by th affected document tion Sign CHITECT-ENGINEER E	nis ECN.) Signatures bel s listed below. Document Number Revis	[.ow sion Date
Environmental Permit 19. Other Affected I indicate that th Document Num N/A 20. Approvals OPERATIONS AND ENGIN Cog Engineer K.D. F Cog. Mgr. R.L. Jack	[] Documents: (NOT he signing organ ber/Revision Signature NEERING Reynolds cson Bonud y The sale	Inventor E: Documents Li ization has been Do	Date 246-93 046-93	[] : be revised by th affected document ion Sign RCHITECT-ENGINEER E A afery	nis ECN.) Signatures bel ts listed below. Document Number Revis nature	[.ow sion Dat
Environmental Permit 19. Other Affected I indicate that th Document Num N/A 20. Approvals OPERATIONS AND ENGIN Cog Engineer K.D. S Cog. Mgr. R.L. Jack GA W.R. Thackaberry Safery	[] Documents: (NOT he signing organ ber/Revision Signature NEERING Reynolds con Boruld (V.P. The column	Inventor E: Documents Li ization has been Do	Date Adjustment Request sted below will not notified of other cument Number/Revis Date Adjust A	[] : be revised by th affected document ion Sign RCHITECT-ENGINEER E A afety esign	nis ECN.) Signatures bel s listed below. Document Number Revis nature	[.ow sion Dat
Environmental Permit 19. Other Affected I indicate that th Document Num N/A 20. Approvals OPERATIONS AND ENGIN Cog Engineer K.D. F Cog. Mgr. R.L. Jack GA W.R. Thackaberry Safety Security	[] Documents: (NOT he signing organ ber/Revision Signature NEERING Reynolds Reynolds coon Romuld W.R. Therealth	Inventor E: Documents li ization has been Do	Date 4.16-93 4.16-93 Date	[] : be revised by th affected document tion Sign RCHITECT-ENGINEER E A afety esign pyicon.	nis ECN.) Signatures bel s listed below. Document Number Revis nature	[.ow sion Dat
Environmental Permit 19. Other Affected I indicate that th Document Num N/A 20. Approvals OPERATIONS AND ENGIN Cog Engineer K.D. S Cog. Mgr. R.L. Jack GA W.R. Thackaberry Safety Security Environ.	[] Documents: (NOT he signing organ ber/Revision Signature NEERING Reynolds con Boruld Keynolds	Inventor E: Documents li ization has been Do	Date Date <u>Aligent</u> for per <u>A-16-93</u> Det <u>A-16-93</u> Det <u>A-16-93</u> Det <u>Aligent</u> Det <u>Aligent</u> Det <u>A</u>	[] : be revised by th affected document ion Sign RCHITECT-ENGINEER E A afety esign nviron. ther	nis ECN.) Signatures bel ts listed below. Document Number Revis nature	E Date
Environmental Permit 19. Other Affected I indicate that the Document Num N/A 20. Approvals OPERATIONS AND ENGIN Cog Engineer K.D. M Cog Engineer K.D. M Cog. Mgr. R.L. Jack GA W.R. Thackaberry Safety Security Environ. Projects (Program	[] Documents: (NOT he signing organ ber/Revision Signature NEERING Reynolds con Boruld (V.R Thereadure (Inventor E: Documents li ization has been Do	Date Date A-16-93 Date	[] : be revised by th affected document ion Sign RCHITECT-ENGINEER E A afety esign nviron. ther	nis ECN.) Signatures bel s listed below. Document Number Revis nature	[.ow sion Date
Environmental Permit 19. Other Affected I indicate that th Document Num N/A 20. Approvals OPERATIONS AND ENGIN Cog Engineer K.D. S Cog. Mgr. R.L. Jack GA W.R. Thackaberry Safety Security Environ. Projects/Programs Tank Vaste Permitient	[] Documents: (NOT he signing organ ber/Revision Signature NEERING Reynolds coon Romuld W.R. Harabur Coon System	Inventor E: Documents li ization has been Do	Date Date A-16-93 A-16-93 Date Date Date A-16-93 Date Date Date Date A-16-93 Date Date Date Date A-16-93 Date	[] : be revised by th affected document tion Sign CHITECT-ENGINEER E A afety esign hviron. ther	nis ECN.) Signatures bel s listed below. Document Number Revis nature	Date
Environmental Permit 19. Other Affected I indicate that th Document Num N/A 20. Approvals OPERATIONS AND ENGIN Cog Engineer K.D. F Cog. Mgr. R.L. Jack GA W.R. Thackaberry Safety Security Environ. Projects/Programs Tank Waste Remediati Environ	[] Documents: (NOT he signing organ ber/Revision Signature REERING Reynolds cson Rould W.R. Harbohu Con System	Inventor E: Documents li ization has been Do	Date Date Alford of other Current Number/Revis Date Alford for pr <u>4-16-93</u> De Er Dot Date	[] : be revised by th affected document ion Sign RCHITECT-ENGINEER E A afery esign nviron. ther ERAPTMENT OF ENER	nis ECN.) Signatures bel ts listed below. Document Number Revis	Date
Environmental Permit 19. Other Affected I indicate that th Document Num N/A 20. Approvals OPERATIONS AND ENGIN Cog Engineer K.D. F Cog. Mgr. R.L. Jack GA W.R. Thackaberry Safety Security Environ. Projects/Programs Tank Waste Remediati Facilities Operation	[] Documents: (NOT he signing organ ber/Revision Signature NEERING Reynolds con Fould W.R The solution W.R The solution on System	Inventor E: Documents li ization has been Do	Date Date Alford for providence Alford for	[] : be revised by th affected document ion Sign RCHITECT-ENGINEER E A afety esign nviron. ther EPARTMENT OF ENERG	nis ECN.) Signatures bel s listed below. Document Number Revis nature	[.ow sion Date
Environmental Permit 19. Other Affected I indicate that th Document Num N/A 20. Approvals OPERATIONS AND ENGIN Cog Engineer K.D. F Cog. Mgr. R.L. Jack GA W.R. Thackaberry Safety Security Environ. Projects/Programs Tank Waste Remediati Facilities Operation Restoration & Remedia	[] Documents: (NOT he signing organ ber/Revision Signature WEERING Reynolds coon Romid W.R Harsaha on System as ation	Inventor E: Documents li ization has been Do	Date Date A-16-93 A-16-93 Dete Date Date Date Date Date A-16-93 Dete Date	[] : be revised by th affected document ion Sign RCHITECT-ENGINEER E A afety esign nviron. ther EPARTMENT OF ENERG ignature or Letter	nis ECN.) Signatures bel s listed below. Document Number Revis nature	[.ow sion Date
Environmental Permit 19. Other Affected I indicate that th Document Num N/A 20. Approvals OPERATIONS AND ENGIN Cog Engineer K.D. F Cog. Mgr. R.L. Jack GA W.R. Thackaberry Safety Security Environ. Projects/Programs Tank Waste Remediati Facilities Operation Restoration & Remedia	[] Documents: (NOT he signing organ ber/Revision Signature REERING Reynolds con Browld W.R. Harbahar on System is iation : Services	Inventor E: Documents li ization has been Do	Date Adjustment Request sted below will not notified of other cument Number/Revis Date Adjust for per Adjust for per A	[] : be revised by th affected document ion Sign RCHITECT-ENGINEER E A afety esign nviron. ther EPARTMENT OF ENERG ignature or Letter	nis ECN.) Signatures bel s listed below. Document Number Revis nature	Date
Environmental Permit 19. Other Affected I indicate that th Document Num N/A 20. Approvals OPERATIONS AND ENGIN Cog Engineer K.D. S Cog. Mgr. R.L. Jack GA W.R. Thackaberry Safety Security Environ. Projects/Programs Tank Waste Remediati Facilities Operation Restoration & Remedia Operations & Support IRM	[] Documents: (NOT he signing organ ber/Revision Signature NEERING Reynolds con System is ation : Services	Inventor E: Documents li ization has been Do	Date Date Adjustment Request sted below will not notified of other cument Number/Revis Date Adjush for per <u>Adjush for per</u> <u>Adjush for per</u> <u>Adju</u>	[] : be revised by th affected document ion Sign RCHITECT-ENGINEER E A afety esign nviron. ther EPARTMENT OF ENERG ignature or Letter DDITIONAL	nis ECN.) Signatures bel s listed below. Document Number Revis	[.ow sion Date
Environmental Permit 19. Other Affected I indicate that th Document Num N/A 20. Approvals OPERATIONS AND ENGIN Cog Engineer K.D. F Cog. Mgr. R.L. Jack GA W.R. Thackaberry Safety Security Environ. Projects/Programs Tank Waste Remediation Restoration & Remediation Restoration & Remediation Restoration & Remediation IRM Other L.C. Swanson	[] Documents: (NOT he signing organ ber/Revision Signature NEERING Reynolds con System is iation : Services & Julanery	Inventor E: Documents (i ization has been Do	Date Date Adjustment Request sted below will not notified of other cument Number/Revis Date Adjustment Rumber/Revis Adjustment Rumber/Revis Adjustment Rumber/Revis Adjustment Rumber/Revis Adjustment Request Adjustment Request Adjustm	[] : be revised by th affected document ion Sign RCHITECT-ENGINEER E A afety esign hviron. ther EPARTMENT OF ENERG ignature or Letter DDITIONAL	nis ECN.) Signatures bel s listed below. Document Number Revis nature	[.ow sion Date

7 -10 * 4

ECN 169879

Block 12 Continued:

The third well (299-E25-1000) will be situated 250 ft from the proposed eastern most vault, and drilled to basalt for characterization. The borehole will then be backfilled and the well completed as a shallow groundwater monitoring well at the top of the uppermost aquifer in accordance with RCRA requirements.

Characterization data from this well are needed to identify potential pathways of contaminant migration (in case the vaults leak) and to confirm the hydrogeology in this area (there is a facies change between the GTF and B-Pond). It will also provide an upgradient monitoring point now, and in the future an important monitoring point when the groundwater flow direction reverts to the natural eastward direction.

2. Modifications to Table 3.4 on page 55 should contain the 1992 and 1993 wells:

Well Number	Type of Well	Approximate Hanford Coordinates	Approximate Depth to Water (ft)	Approximate Depth of Borehole (ft)	Screen Below Water Table (ft)
299-E25-44	Shallow Monitoring	N39956 W45219	265	282	15
299-E25-45	Shallow Monitoring	N39956 W44969	265	280	15
299-E25-49	Shallow Monitoring	N39956 W44619	265	285	15
299-E25-50	Shallow Monitoring	N39956 W44269	265	285	15
299-E25-1000 ¹	Shallow Monitoring	N40185 W44020	350	285	15

' This well will be drilled to the top of basalt and then backfilled and completed as a standard shallow groundwater monitoring well.

3. Another revision of Figure 3.1 (attached), page 50, should replace the one in the groundwater monitoring plan.

Block 13b Continued:

Characterization data from this well are needed to identify potential pathways of contaminant migration (in case the vaults leak) and to confirm the hydrogeology in this area (there is a facies change between the GTF and B-Pond). It will also provide an upgradient monitoring point now, and in the future an important monitoring point when the groundwater flow direction reverts to the natural eastward direction.



Map Showing the Locations of Existing and Planned Monitoring Wells at the Grout Treatment Facility.-

9413094.0559

1 4 1 4 70